

ENERGY TRUST OF OREGON

ANNUAL REPORT

2017

INNOVATING FOR THE FUTURE

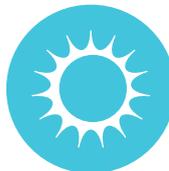
Photo: Vigor, Portland


EnergyTrust
of Oregon

FROM THE EXECUTIVE DIRECTOR



Cost-effective energy efficiency and clean renewable energy are the most important energy resources available to Oregon and Southwest Washington utility customers. Our work to deliver these resources helps keep costs low for customers and builds a more sustainable energy future for our communities, and 2017 was an outstanding year for achieving these goals. Last year, we helped customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista save more electricity than ever before and maintain record natural gas savings—at even lower costs than the year before.



We also pursued new program strategies while taking steps to prepare the organization for future years. Our focus on innovation and readiness will be particularly important as we achieve success in transforming the lighting market, which will mean LEDs—some of the lowest-cost and highest-volume sources of savings—will no longer need our support. While accelerating market transformation in lighting is a remarkable success for Energy Trust, it presents challenges for sustaining high levels of electric savings in the years ahead.



Expanding participation is key to meeting goals as we seek to fulfill our mission. In 2017, we prioritized outreach to moderate-income, rural and underserved customers through a variety of efforts, such as collaboration with the Oregon Department of Energy to increase access to solar energy for low- and moderate-income communities.



We recognize there is more we can do to serve Oregon and Southwest Washington customers. In 2018, we plan to gather data, understand where participation gaps exist, learn from diverse communities—including communities of color, rural communities and people with low and moderate incomes—and develop new approaches to effectively engage all eligible customers.

Michael T. Colgrove
Executive Director

YEAR IN REVIEW

This report highlights our achievements through the stories of our customers who upgraded to LEDs, installed high-efficiency heating systems, renovated historic buildings, added solar panels and attended do-it-yourself weatherization workshops. These stories are a small sampling of the tens of thousands of homeowners, renters, businesses, factories and farms we served in coordination with utilities in 2017.



6.5 million
energy-saving LEDs installed



1,796
solar systems producing clean energy



1.8 million
views of solutions and services on our website



1,466
industrial and agricultural projects saving energy



1.6 million
customers of PGE, Pacific Power, NW Natural, Cascade Natural Gas and Avista served



724
Savings Within Reach incentives provided to moderate-income customers



5,800
smart thermostats saving energy in homes



59
Path to Net Zero buildings en route to energy and cost savings



3,096
EPS homes built with high-performance energy features that save year after year



46
hydropower and biopower projects receiving project development assistance



2,300
trade and program allies connecting customers to solutions



4
quarterly and annual reports submitted to the Oregon Public Utility Commission detailing program and financial performance

ENDURING PAST, FUNCTIONAL FUTURE



REDMOND CITY HALL

REDMOND

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED
CUSTOMERS SAVE

\$23 MILLION

ON UTILITY BILLS IN 2017

Central Oregon served by:

- ✓ Pacific Power
- ✓ Cascade Natural Gas

The City of Redmond gave new purpose to a 95-year-old gem—the former Evergreen Elementary school building—transforming 35,000 square feet into a city hall that's a model of historic preservation and energy efficiency. Renovation of the building honors the school's past by showcasing historic features such as chalkboards, original wood window frames with brass hardware and original wooden stair banisters.

To help meet its energy-efficiency goals, the City of Redmond took advantage of Energy Trust's Market Solutions initiative, which offers expert guidance and flexible incentive packages for new construction and remodeling projects under 70,000 square feet. The city installed high-performance insulation, a variable refrigerant flow heating and cooling system, old-fashioned schoolhouse lights with LED lamps, programmable lighting controls and high-performance windows that fit into the original frames.

Energy Trust provided \$39,000 in cash incentives toward the renovation, which is saving an estimated \$15,700 in annual energy costs.

“Energy Trust's help made a huge difference in this project penciling out and freed up general fund dollars we can use for services like public safety or road maintenance.”

- Jason Neff, budget and financial planning director, Redmond City Hall





SMALL BUSINESS, BIG ADVANTAGE

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED
CUSTOMERS SAVE

\$38 MILLION
ON UTILITY BILLS IN 2017

Southern Oregon served by:

- ✓ Pacific Power
- ✓ NW Natural
- ✓ Avista

“By lowering their upfront cost, customers can more easily afford energy-efficient technology, and they don’t have to fill out any paperwork.”

- Kate Barber, Grover Electric & Plumbing Supply, Energy Trust trade ally retailer

GROVER ELECTRIC & PLUMBING SUPPLY

GRANTS PASS, KLAMATH FALLS, MEDFORD

When it comes to customer service, Energy Trust trade ally retailer Grover Electric & Plumbing Supply strives to maintain the high level of quality started in 1954 when the family opened its first store. “We take pride in knowing our products and working one-on-one with customers, guiding them through decision-making to arrive at the best product,” said Kate Barber, lighting and bath coordinator, Grover.

That personal approach has made Grover highly successful at helping customers see the long-term advantages of heat pump water heaters. With Energy Trust’s incentives provided to retailers, Grover discounts the sale of qualifying heat pump water heaters by \$300—taking the value of the Energy Trust cash incentive directly off the sticker price. Grover, in turn, gets that \$300 back from Energy Trust.

“We’ve been discounting the sale of LED bulbs for several years,” said Barber. “It made sense to extend the arrangement to heat pump water heaters, where we spend time with customers explaining the true value of the product. Lowering the upfront cost of energy-efficient products helps us increase sales and stay competitive.”

In 2017, trade allies like Grover sold more than 1,100 heat pump water heaters using Energy Trust incentives, representing a growing and efficient way to reach more customers statewide.

CHRIS AND SHARI HEGLIN GRANTS PASS

A ductless heat pump changed the lives of Chris and Shari Heglin, who live on Social Security benefits supplemented by part-time work. The new heat pump keeps them comfortable year-round—replacing electric baseboards, which had cost them up to \$400 a month in energy costs while still leaving them cold.

“Now, our electric bills are \$120 per month, and that includes a \$40 loan payment for the system cost,” said Shari. “We feel like we’ve died and gone to heaven.”

It all started when the Heglins attended a home show at Josephine County fairgrounds, where Energy Trust trade ally Indoor Airman signed them up to receive free LEDs. “They made the house brighter with the long-lasting bulbs,” said Shari. “Then Indoor Airman asked how much we spend on heating.”

Indoor Airman explained the benefits of ductless heat pumps and determined the Heglins qualified for Energy Trust’s Savings Within Reach offering, which provides increased cash incentives to help moderate-income households make energy-efficient upgrades. As part of Savings Within Reach, Indoor Airman received a \$1,000 cash incentive from Energy Trust on behalf of the customer, and deducted \$1,000 from the Heglin’s invoice. The Heglins financed the system with a low-interest loan paid on their monthly electric bill.

“Our heat pump is more than paying for itself through monthly energy savings.”

- Shari Heglin, Grants Pass resident



**AFFORDABLE COMFORT,
PEACE OF MIND**

BOISE CASCADE KINZUA LUMBER

PILOT ROCK

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED CUSTOMERS SAVE

\$7.2 MILLION
ON UTILITY BILLS IN 2017

Eastern Oregon served by:

- ✓ Pacific Power
- ✓ NW Natural
- ✓ Avista

In the 14 years that Boise Cascade Kinzua Lumber has worked with Energy Trust, the sawmill slashed 4.7 million kilowatt hours from its annual electricity use. “We’ve cut energy costs by about \$10,000 a month, which keeps us viable in a region where many sawmills have closed,” said Dave Minkler, maintenance supervisor.

What’s most impressive about Boise Cascade’s efforts is that 47 percent of the savings resulted from simple behavioral changes and no- or low-cost operations and maintenance improvements. Participating in Energy Trust’s Strategic Energy Management initiative, the sawmill received technical support and cash incentives that helped employees uncover hidden savings and develop strategies to ensure the savings persist.

“In our first year of SEM, we set a goal to save 14 percent through simple changes like turning off equipment during lunch,” said Minkler. “We developed an energy policy and energy team and got employees very involved. They know the equipment and schedule and have the best ideas.”

When Energy Trust expanded to offer a Continuous SEM option that helps graduates of first-year SEM further reduce energy waste, Boise Cascade was quick to sign up. “We’re in our second year of Continuous SEM and are seeing positive results,” said Minkler.



**CUTTING COSTS,
GROWING BUSINESS**

“We’re a big employer in the local economy. The more we save on utility bills, the better. Energy savings help keep us resilient.”

- Dave Minkler, Boise Cascade Kinzua Lumber

RENEWABLE POWER, RURAL RESILIENCY



VERN AND MARTI SPAUR

WALLOWA

With a 160-acre irrigated ranch plus an automotive repair business, Vern and Marti Spaur faced hefty electric bills. But not anymore. Today, two micro-hydropower turbines on their property put irrigation water and gravity to work to generate 157,000 kilowatt hours a year—enough to meet all their power needs. “It’s a great feeling,” said Vern. “I’m donating excess power to local charities, and I have a clean carbon footprint.”

Their project came about after the Spaur’s tapped into Energy Trust’s Irrigation Modernization offering, which helps irrigation districts and farmers find funding and resources to create state-of-the-art irrigation systems that save water and leave more water in-stream for fish and wildlife. A \$137,470 cash incentive from Energy Trust, plus grants from the U.S. Department of Agriculture’s

Rural Energy for America Program, helped the Spaur’s convert an open irrigation ditch into pressurized pipe and install two micro-hydropower turbines. The excess pressure generates power. And with less evaporation, they still have plenty of water for irrigation.

“After I return the water to the ditch, it travels four miles before it reaches the Wallowa River,” said Vern. “There’s enough gravity in that stretch that other landowners could do the same thing, using the same water to generate power over and over. It’s like a big recycling project.”

“People come from all over to see our hydropower system. I’m proud to show it off.”

- Vern Spaur, Wallowa ranch owner

2017 LOCAL BENEFITS

STATEWIDE SITES SERVED



46,000

Residential sites served



7,400

Commercial sites served



1,200

Industrial and agricultural sites served

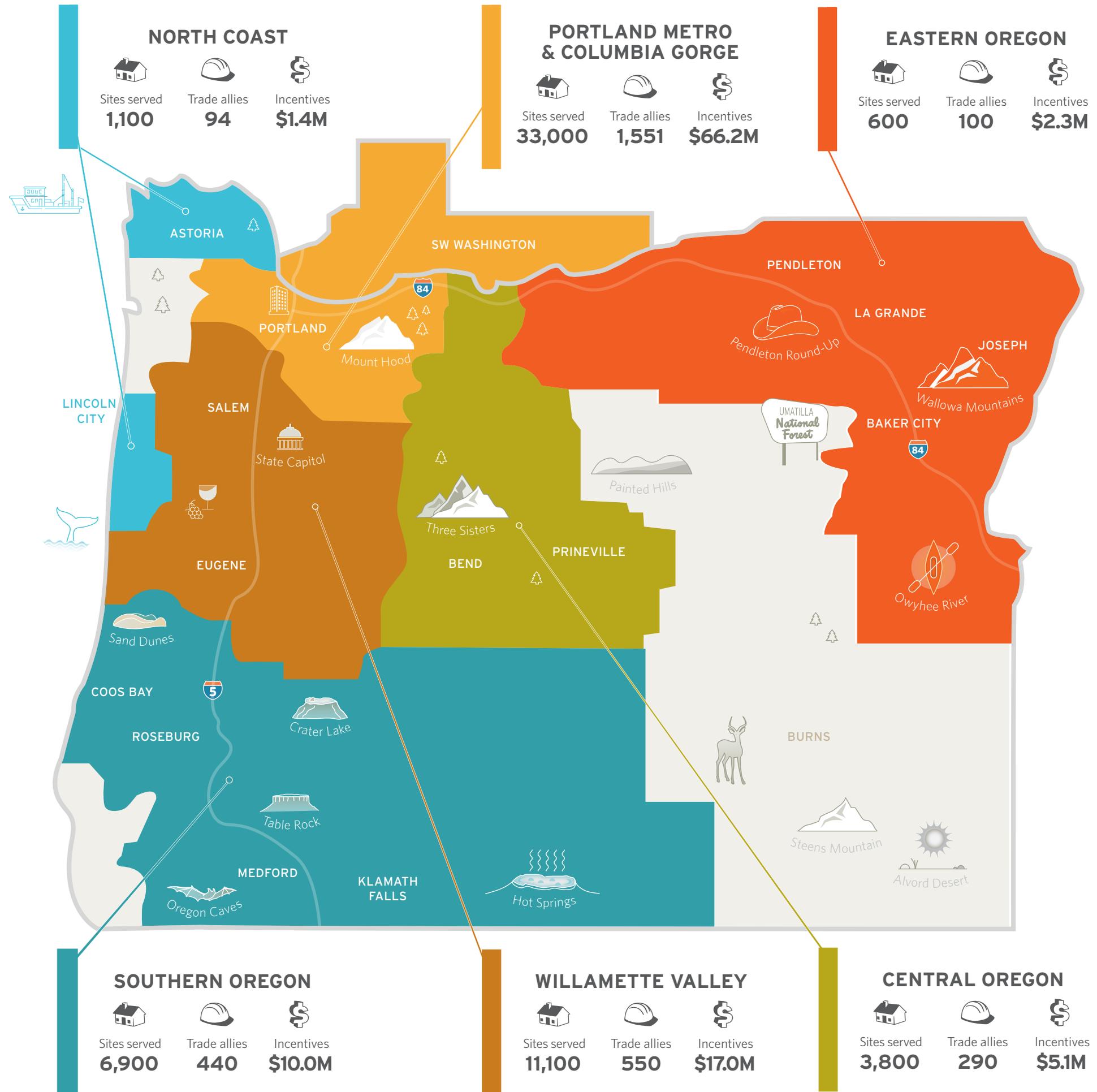


1,900

Sites installed renewable energy systems

56,500 TOTAL

Sites served statewide in 2017



RESTORING HISTORY,
SERVING COMMUNITY

CLATSOP COMMUNITY COLLEGE PATRIOT HALL

ASTORIA

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED
CUSTOMERS SAVE

\$6.6 MILLION
ON UTILITY BILLS IN 2017

North Coast served by:

- ✓ Pacific Power
- ✓ NW Natural

Patriot Hall has been a fixture in Astoria since 1921. Proving that it's possible to pay tribute to yesterday while pursuing tomorrow, Clatsop Community College redeveloped the building into a community centerpiece that is 70 percent more efficient than the national standard for buildings of its type.

The reimagined space features a multipurpose gymnasium, classrooms, community space, fitness center, an indoor track overlooking the Columbia River and a historic plaque dedicated to Clatsop County soldiers of all wars, for whom Patriot Hall is named.

The college leveraged local bonds to fund the renovation and enrolled in Energy Trust's Path to Net Zero—an innovative offering that helps customers maximize energy-efficiency and solar potential at the outset of planning for new construction or a major renovation project.

Energy Trust's technical assistance helped identify design strategies and technologies that make the space comfortable, airy and a wise use of resources. Daylighting, natural ventilation and low-speed ceiling fans cut annual energy costs by \$25,000—money that can be invested back into students and the community. Energy Trust cash incentives totaling \$57,400 reduced the initial cost of opting for efficiency.

“ It's important for us to be good stewards of taxpayer dollars and of the environment. ”

- Chris Breitmeyer, president,
Clatsop Community College



CLEAN POWER, EXPANDING MARKETS



NORTHWEST HAZELNUT COMPANY

HUBBARD

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED
CUSTOMERS SAVE

\$176 MILLION
ON UTILITY BILLS IN 2017

Willamette Valley served by:

- ✓ Portland General Electric
- ✓ Pacific Power
- ✓ NW Natural

With consumers increasingly interested in the sustainability of their food, Northwest Hazelnut Company saw an opportunity to gain a competitive advantage. By replacing inefficient halogen lighting with LEDs and installing 1,000 solar electric panels, the company is able to produce all of its own energy from a clean, renewable source.

“We’ve begun highlighting sustainability efforts in our marketing and have seen a big increase in sales,” said Larry George, vice president. “Companies like Kraft Foods and Ferrero, the Italian company that produces Nutella, take sustainability seriously. They visit suppliers and conduct sustainability audits.”

Thanks to a 30 percent federal investment tax credit for the solar system and Energy Trust cash incentives equaling \$151,000, George expects the investments to pay for themselves through energy savings within six years.

But the bigger advantage is what increased sustainability means for 800 local hazelnut growers. “Oregon’s hazelnut acreage has doubled in the last 10 years and is likely to triple in the next three,” said George. “Sustainability will help the industry expand into new markets and be more competitive, especially internationally where we still represent only 4 percent of the market.”



Hazelnuts could become a \$300-million Oregon industry in the next few years. Sustainability will help ensure Oregon nuts are highly sought after worldwide and command a premium price.

- Larry George, Northwest Hazelnut Company

MATT DISHMAN COMMUNITY CENTER

PORTLAND

REGIONAL BILL SAVINGS



ENERGY TRUST HELPED CUSTOMERS SAVE

\$289 MILLION
ON UTILITY BILLS IN 2017

Portland Metro and Columbia Gorge customers served by:

- ✓ Portland General Electric
- ✓ Pacific Power
- ✓ NW Natural

Located in Portland's inner eastside, Matt Dishman Community Center serves everyone from infants to seniors who use the center's gymnasium, game room, fitness center, multipurpose classroom, neighborhood preschool and pool. With energy costs at the 1950s-era building rising, Portland Parks & Recreation (PP&R) made energy-efficiency improvements, recently installing two natural gas-fired condensing boilers that heat the buildings and pool and upgrading to computerized controls.

Energy Trust provided a cash incentive of \$91,990 to help pay for the project, which trimmed energy costs by an estimated \$27,000 annually. "We're likely saving an equal amount on reduced maintenance costs because we're not spending so much time repairing old boilers," said Brian Ulrich, utility analyst, PP&R. "The cumulative savings help stretch our overall budget, allowing us to deliver more services to the community."

"Energy Trust provided PP&R with \$267,000 in rebates in 2017 for energy efficiency. The bureau will use the funds to embark on yet more energy- and water-saving projects," said City of Portland Commissioner Amanda Fritz, who oversees PP&R. "We are reinvesting these funds through an Energy Savings Performance Contract Pilot Project at 48 sites. The pilot project goals are to reduce energy and water consumption by 20 percent or more at these sites, reduce the maintenance gap, identify a feasible path toward the city's net-zero goal, and demonstrate the scalability of this project delivery model so we can eventually apply it to all PP&R sites."



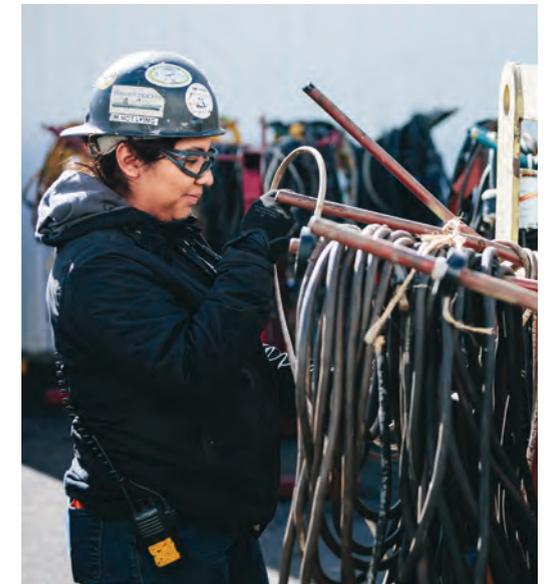
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- Commissioner Amanda Fritz,
City of Portland

STRETCHING BUDGETS, EXPANDING SERVICES



SAFETY, SAVINGS, SUSTAINABILITY



VIGOR

PORTLAND AND CLACKAMAS

Vigor's Swan Island shipyard is one of the largest on the West Coast, spanning 60 acres and providing jobs for up to 700 employees. The safety of those employees is one reason Vigor embarked on a \$2.1 million upgrade to replace antiquated lighting at Swan Island as well as its Clackamas fabrication facility with brighter, more efficient LEDs. "We have twice the light we had before, making it much safer, particularly for our graveyard and swing shifts," said Shawn Steele, facilities manager.

In addition to safer working conditions, Vigor is experiencing significant savings. Annual energy costs are down by about \$600,000, allowing Vigor to invest in new equipment that contributes to product quality. "We've also seen a 10-fold reduction in maintenance needed to change bulbs, allowing employees to focus on other maintenance," said Steele.

Vigor had another objective in mind when opting for LEDs. "Sustainability is very important to us. We like to set the standard and adopt green technology wherever we can," said Steele.

Energy Trust cash incentives of \$1.2 million helped offset the cost. According to Steele: "Without those incentives, we may not have been able to make this upgrade, which I believe has had the most dramatic positive impact on employees and the environment of projects implemented in the seven years I've been here."

Energy Trust's experts go through our facility and show us how to be more innovative and efficient.

- Shawn Steele, Vigor

RESULTS AT A GLANCE

ENERGY SAVINGS AND GENERATION RESULTS

- ✓ Exceeded electric savings goal
- Nearly met gas savings goal
- ✓ Exceeded renewable generation goal

ELECTRIC EFFICIENCY

63.4 aMW saved (112%)

56.41 aMW goal

NATURAL GAS EFFICIENCY

6.8 MMTh saved (95%)

7.1 MMTh goal

RENEWABLE ENERGY

4.49 aMW generated (157%)

2.86 aMW goal

ACCOUNTABLE AND TRANSPARENT

Energy Trust is governed by a volunteer board of directors and is overseen by the Oregon Public Utility Commission. Two advisory councils guide our work.

- ✓ Every dollar received and invested is accounted for in monthly, quarterly and annual financial statements
- ✓ Financial statements are audited annually by an independent auditor
- ✓ All major programs are evaluated by a third party
- ✓ Each kilowatt hour and therm acquired is reported in quarterly and annual reports
- ✓ We contract for an independent management audit every five years

Note: aMW is average megawatts and MMTh is million annual therms

THE LOWEST-COST ENERGY WE CAN BUY

Energy efficiency is the lowest-cost energy that utilities can buy at a fraction of the cost they would otherwise pay for other energy sources. For every \$1 we invest in energy efficiency, customers will save nearly \$3.

ENERGY TRUST'S COST TO SAVE OR GENERATE ENERGY



2.5 cents/kWh

(compared to 7.6 cents/kWh utilities pay for energy from other sources)



27.3 cents/therm

(compared to 47 cents/therm utilities pay for energy from other sources)

-  Energy Trust cost
-  Cost utilities would have paid for other energy sources

REVENUES AND EXPENDITURES ON TARGET

- ✓ Revenues totaled \$194.2 million, on target with budget
- ✓ Expenditures totaled \$180.3 million, roughly 8 percent under budget
- ✓ Delivered \$102.6 million in incentives, with most of the remainder for delivery of customer services
- ✓ Maintained low administrative and program support costs at 5.2% (\$10.1 million) of revenue
- ✓ Achieved an unmodified financial opinion from an independent auditor, available online at www.energytrust.org/financials

EXCEEDED PERFORMANCE MEASURES SET BY THE OREGON PUBLIC UTILITY COMMISSION

The full list of Energy Trust's performance measures and results is available in our 2017 Annual Report to the OPUC at www.energytrust.org/reports.

- ✓ Achieved 93 percent customer satisfaction
- ✓ The benefits of all programs far exceeded the costs
- ✓ Kept staffing expenditures at 6.8 percent of total expenditures on a three-year rolling average
- ✓ Paid \$1.9 million and committed nearly \$2.6 million in early-stage support to help 46 hydropower and biopower projects overcome development barriers

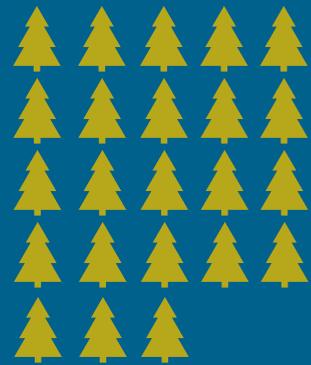
POWERED BY LOCAL BUSINESSES

Energy Trust works with 2,300 trade ally contractors and other allied professionals who are part of our on-the-ground network that connects customers to incentives and services. We provide resources, funding and training to help these businesses build skills and expertise in new areas of opportunity. By connecting customers to informed contractors in their communities, we support the growth of local businesses.

UTILITY PARTNERS

Our programs are available to 1.6 million utility customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista. Together, they represent 74 percent of electricity customers and nearly all natural gas customers in Oregon. We also serve customers of NW Natural in Washington.

CUMULATIVE IMPACT SINCE 2002



**\$7.6
BILLION** 

SAVED ON UTILITY BILLS

Since 2002, Energy Trust has invested \$1.7 billion to help participants save \$3.2 billion on their energy bills. Over time, the savings from these investments will add up to \$7.6 billion.

**\$6.3
BILLION** 

ADDED TO OUR ECONOMY

Energy Trust investments have cumulatively spurred \$6.3 billion in local economic activity since 2002, including \$1.9 billion in wages, \$343 million in small business income and employment equivalent to 51,000 full-time jobs lasting a year.

**22.8
MILLION
TONS** 

CARBON DIOXIDE AVOIDED

Projects supported by Energy Trust have kept 22.8 million tons of carbon dioxide out of the atmosphere, equal to removing 4 million cars from Oregon roads for a year.

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

To see more of our 2017 achievements, customer success stories and financial information, visit www.energytrust.org/annualreport.

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