# Energy Trust of Oregon Briefing

## Resilient, Efficient Buildings Task Force

May 3, 2022

Energy Trust of Oregon

# About Energy Trust of Oregon

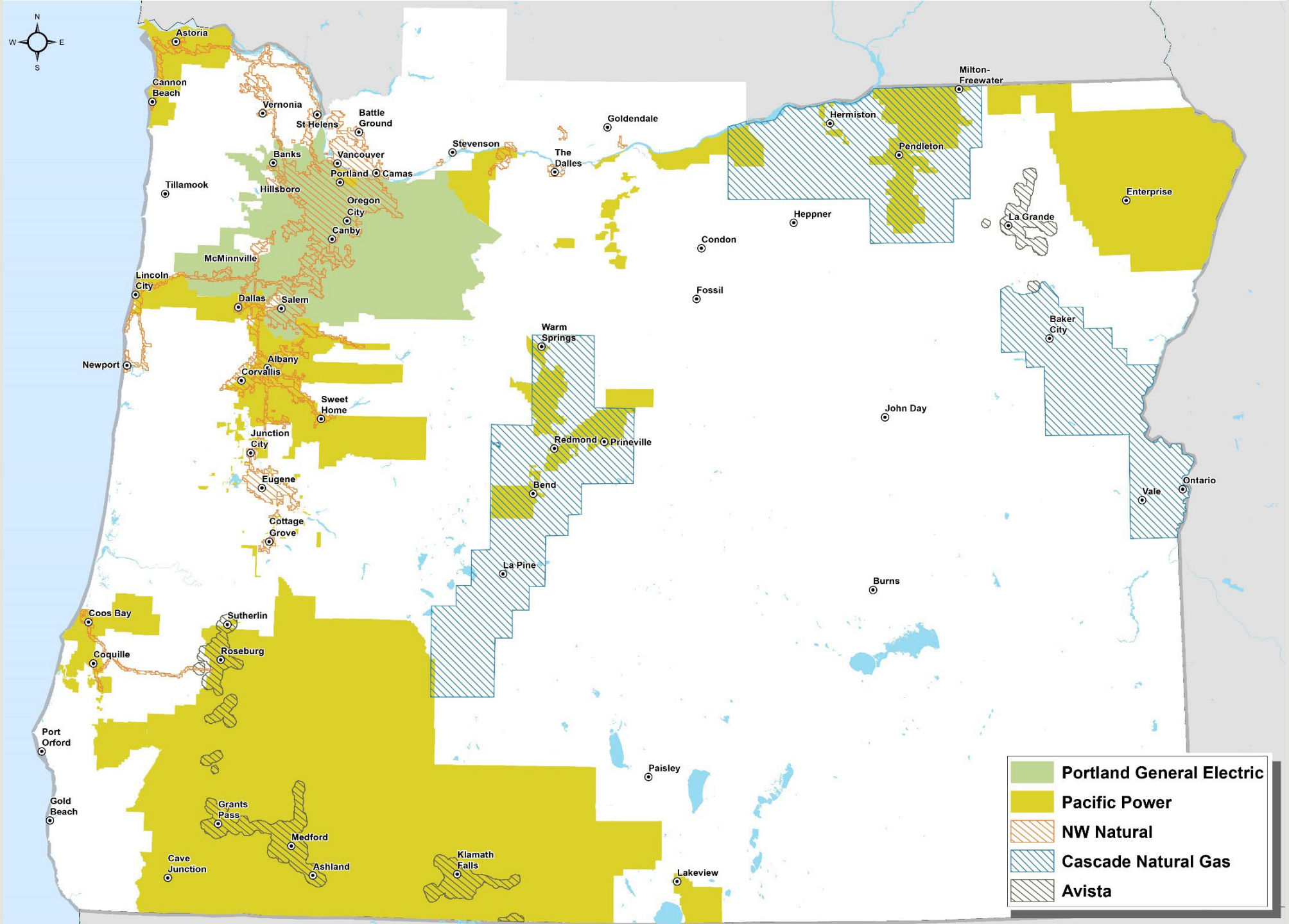
Independent nonprofit

Serving 1.8 million customers of Portland General Electric, Pacific Power, NW Natural, Cascade Natural Gas and Avista

Helping make energy more affordable

Investing in renewable power and grid-connected resiliency

Delivering benefits for all customers and communities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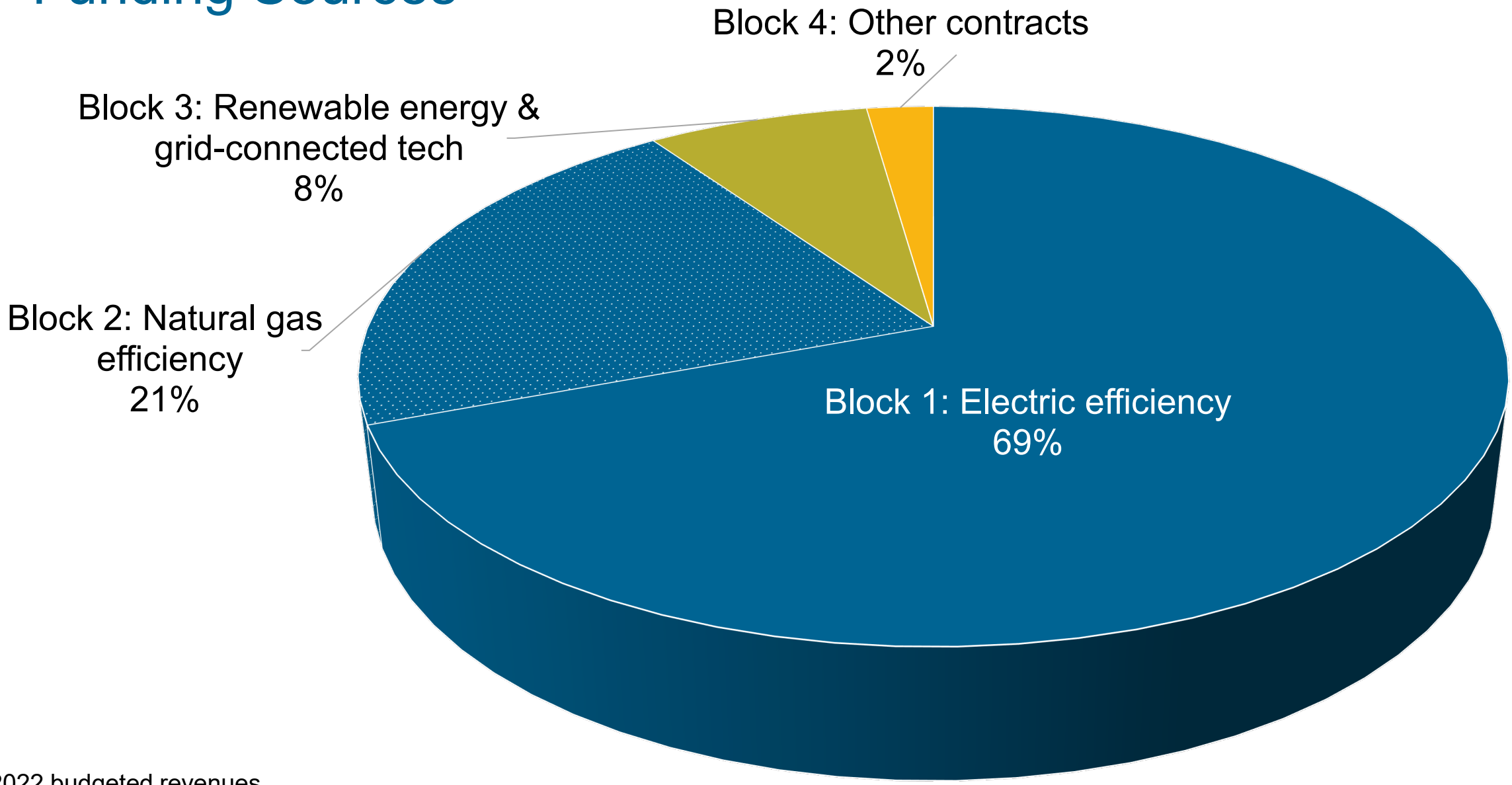
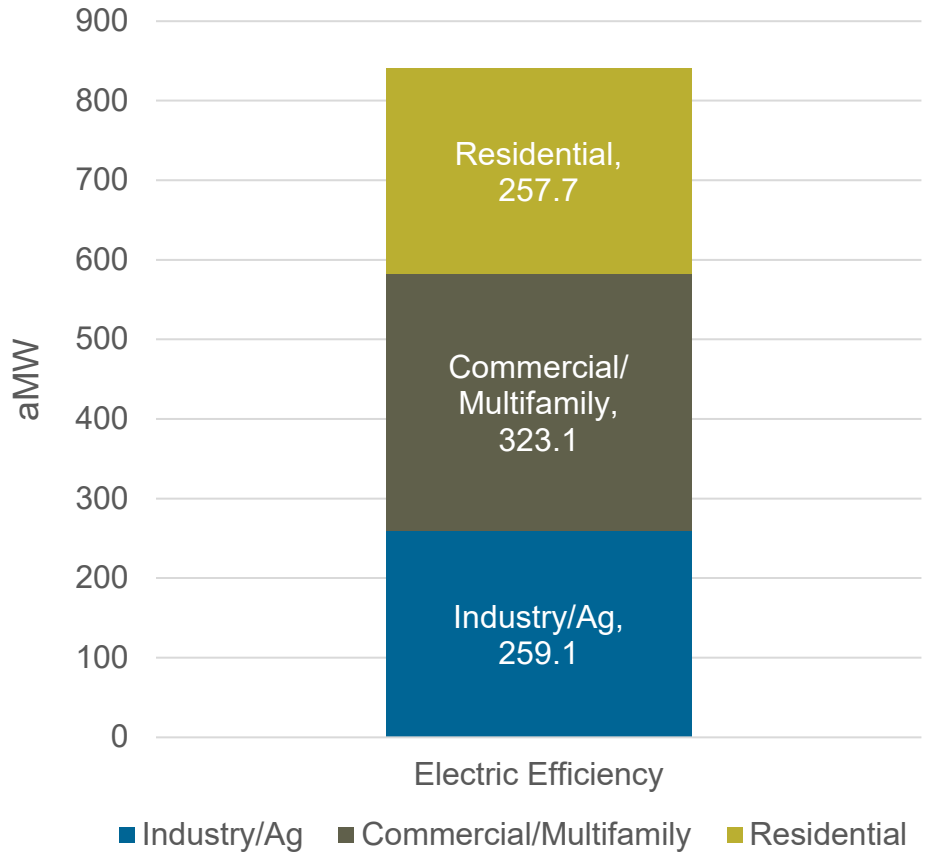
Astoria
Cannon Beach
Vernonia
St Helens
Battle Ground
Banks
Vancouver
Portland
Camas
Tillamook
Hillsboro
Oregon City
Canby
McMinnville
Lincoln City
Dallas
Salem
Newport
Albany
Corvallis
Sweet Home
Junction City
Eugene
Cottage Grove
Coos Bay
Sutherlin
Coquille
Roseburg
Port Orford
Gold Beach
Grants Pass
Medford
Cave Junction
Ashland
Klamath Falls
Lakeview
Paisley
La Pine
Warm Springs
Redmond
Prineville
Bend
Goldendale
Stevenson
The Dalles
Fossil
Condon
Heppner
Hermiston
Pendleton
Milton-Freewater
Enterprise
La Grande
Baker City
John Day
Burns
Ontario
Vale
Portland General Electric
Pacific Power
NW Natural
Cascade Natural Gas
Avista

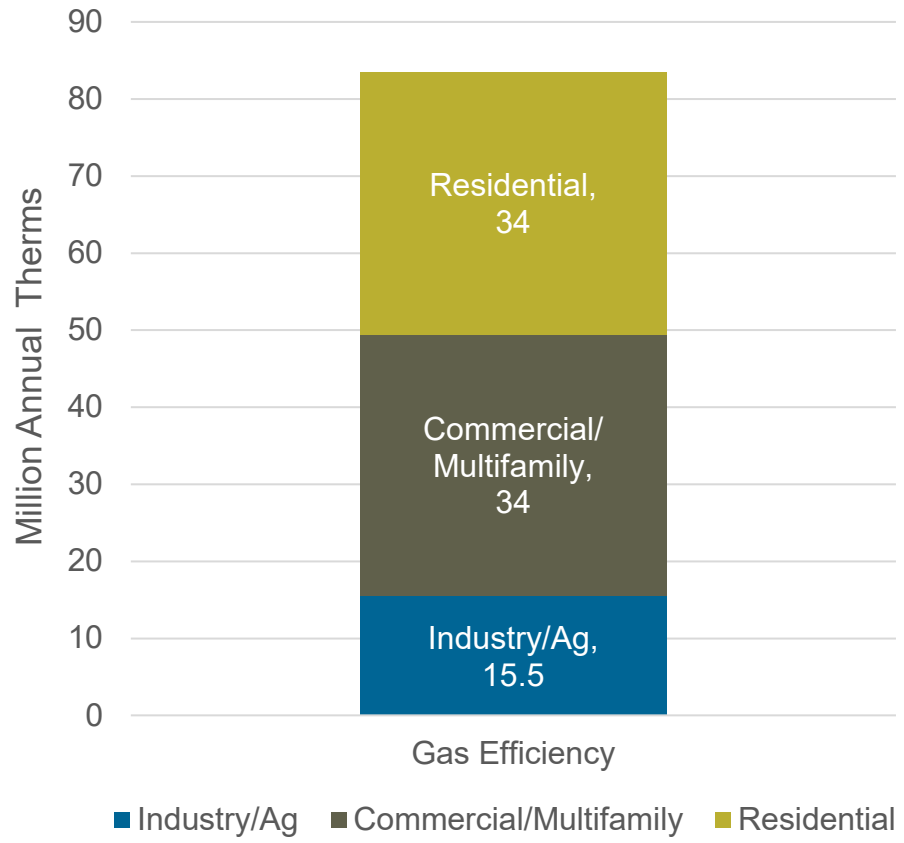
# Funding Sources




2022 budgeted revenues
Blocks 1, 2 and 3 funding via OPUC grant agreement

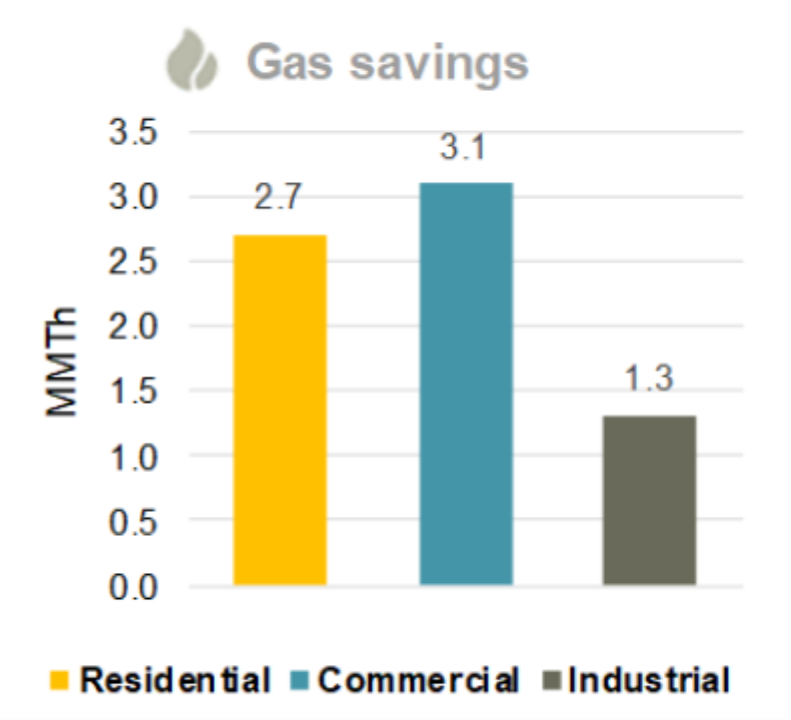
# Energy Efficiency Results Since 2002

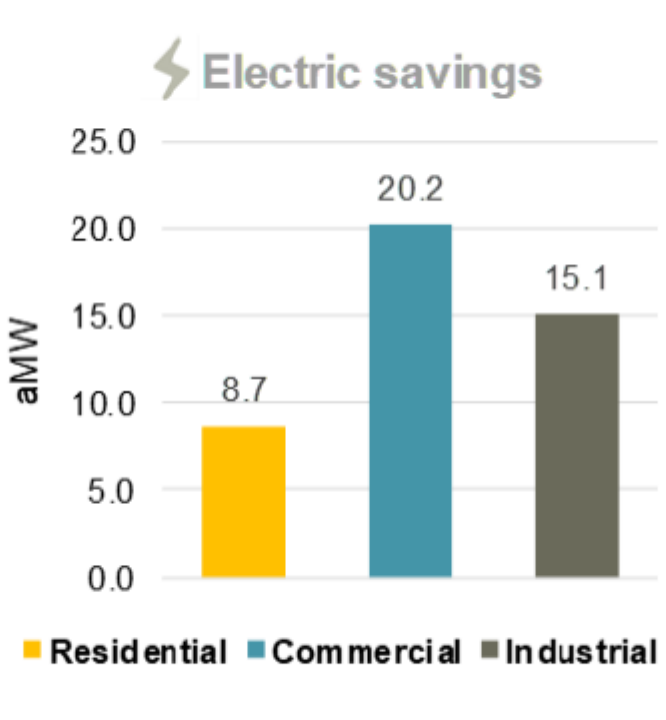


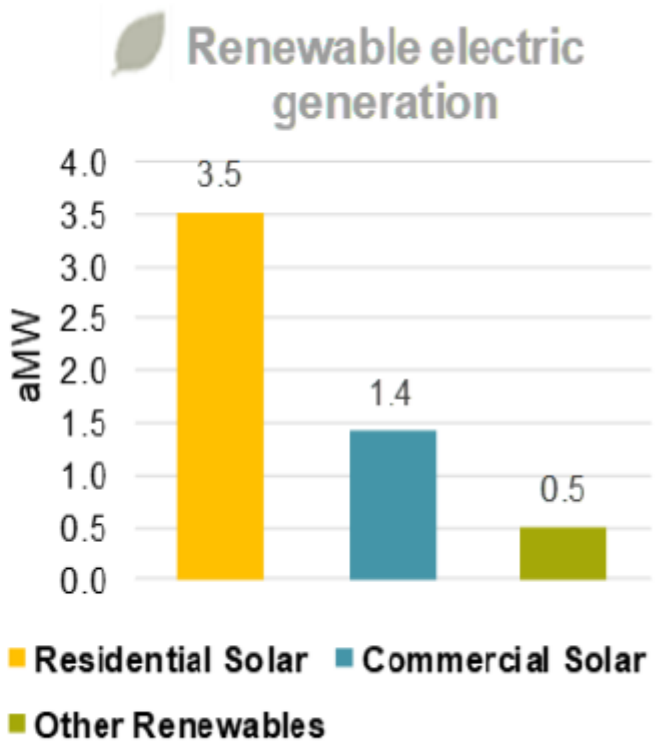




Results from 2002-2021

# Annual Energy Efficiency and Renewables Results




Results from 2021

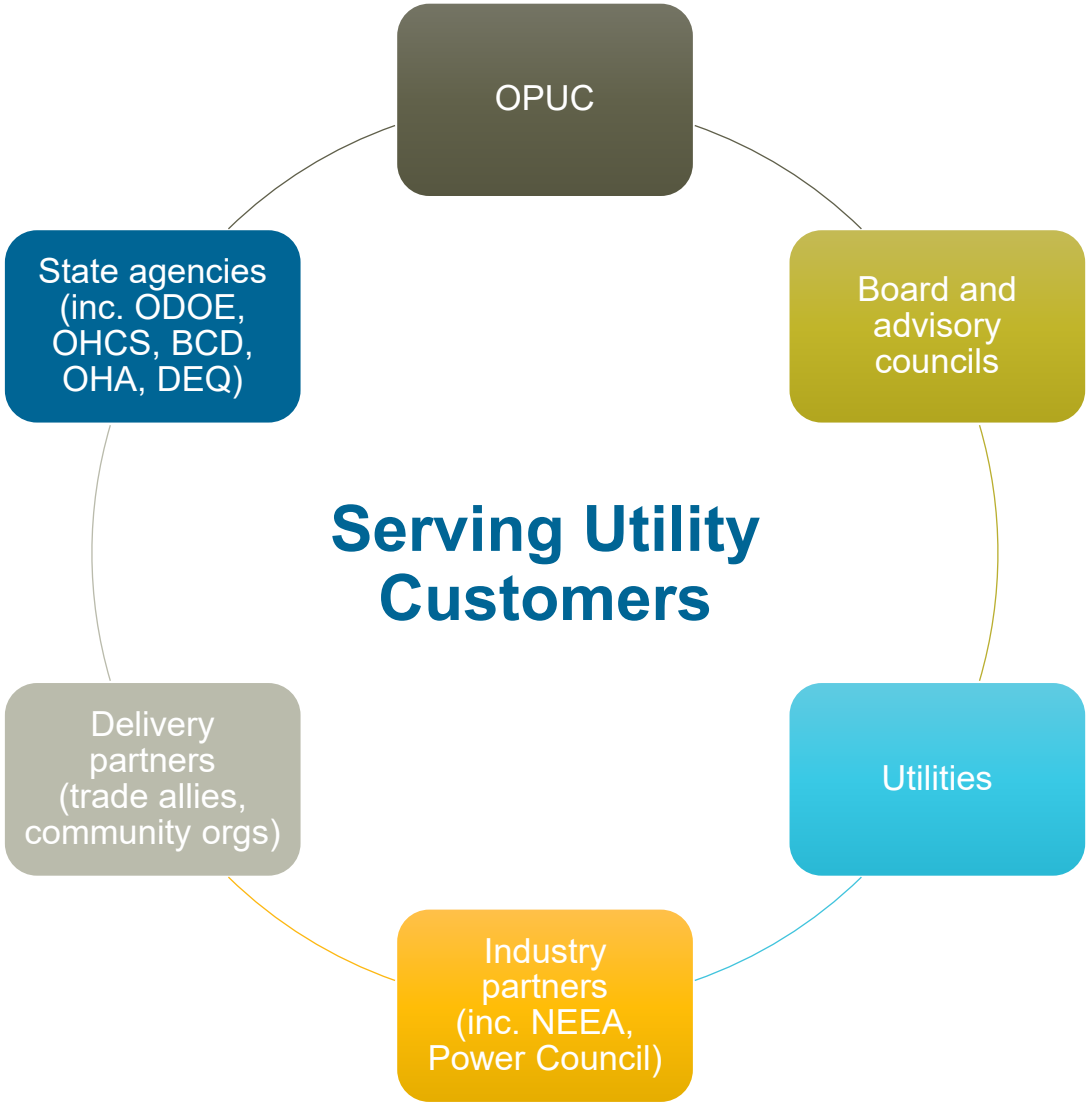
# 2022 Goals and Objectives

- Save 50.6 aMW and 7.6 MMTh
- Deliver highly cost-effective energy efficiency
  - 3.4 cents/kWh levelized
  - 48.0 cents/therm levelized
- Generate 4.1 aMW of renewable power
- Distribute $121.5 million in incentives
- Leverage local businesses and community partners to reach and serve customers
- Lower energy bills for participants, with a focus on people of color, rural customers and customers with lower incomes

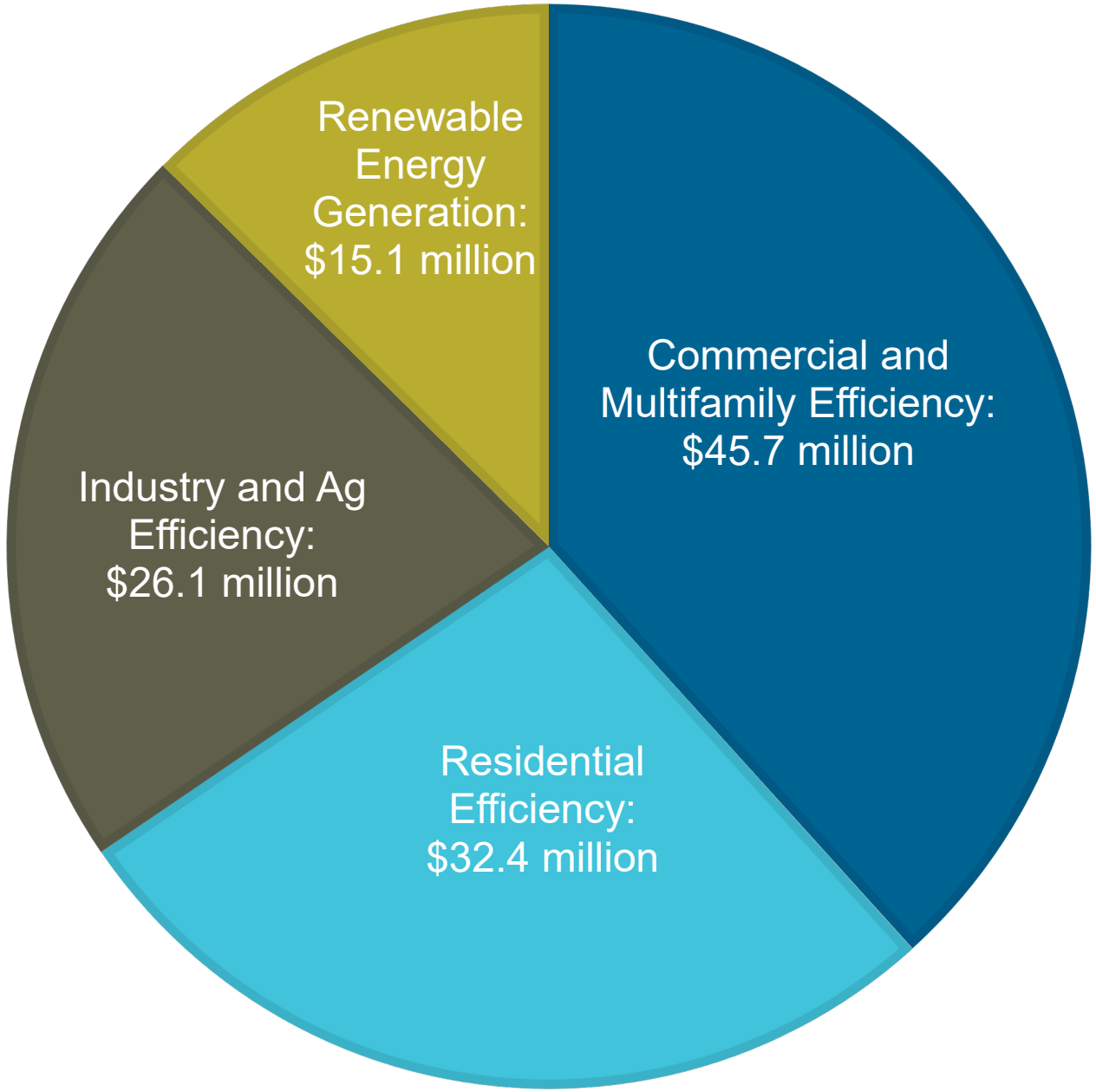
aMW: average megawatts (of electricity)
MMTh: million annual therms (of natural gas)

# Programs and Collaborations

- Serving customers
  - Renters and homeowners
  - Commercial and multifamily property owners
  - Industrial, agricultural businesses
- Information and technical services
  - No- and low-cost strategies
  - Expert guidance
  - Walk-through services
  - Technical trainings
- Cash incentives and discounts
  - Energy-efficient upgrades
  - Renewable energy systems
  - Grid-connected technologies
- Market transformation



# 2022 Incentive Budgets by Sector



# Clean Energy Incentives for the Retrofit Market

## Residential (single-family, manufactured)

- Heating and cooling (heat pumps, gas furnaces, central a/c)
- Water heating
- Insulation
- Air/duct sealing
- Appliances
- Windows
- Smart thermostats
- Solar

## Commercial (buildings, multifamily)

- HVAC equipment
- Lighting
- Controls
- Insulation
- Operations/maintenance
- Energy kits (multifamily)
- Solar

## Industry and Ag (manufacturing to farming)

- HVAC equipment
- Motors
- Compressed air
- Greenhouses
- Lighting
- Operations/maintenance
- Irrigation
- Solar

# Residential New Construction

**Support**

- Prepare the construction industry for code changes
  - Training, technical resources, marketing
- Work with trade allies (builders, verifiers, etc.) from design phase through final verification

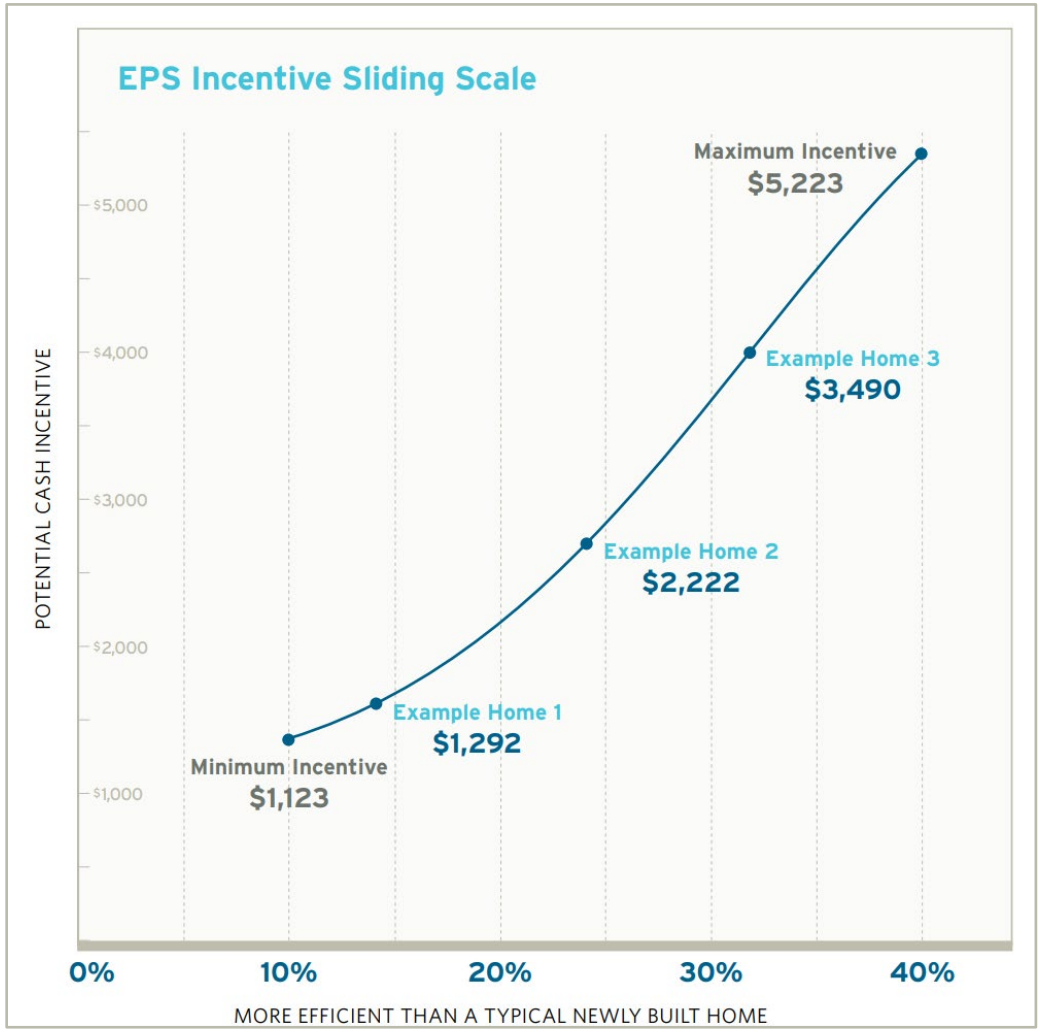
**Offers**

- Energy Performance Score (EPS™) incentives for energy-efficient improvements *beyond* code
  - Whole-home approach
- Solar installed
- Solar ready, storage ready, EV ready
- Smart home components
- Net Zero electricity

# EPS Program and Results

- Performance-based incentives
  - Minimum 10% more efficient than code
  - Range averages from 10% - 35%
  - Sliding scale based on energy improvements
  - 3rd party verified
- Trade ally builders
  - 200 builders in program
  - Production and custom
- Manage an EPS public dataset
  - 20,000+ homes

**35% of homes are built with EPS in Energy Trust service area**



# Commercial New Construction

**Support**

- Prepare the industry for code changes
  - Training, technical resources, marketing
  - Cost-effectiveness analysis allowing owners and their teams to make informed decisions
- Early design assistance
- Energy modeling assistance
- Training and research

**Offers**

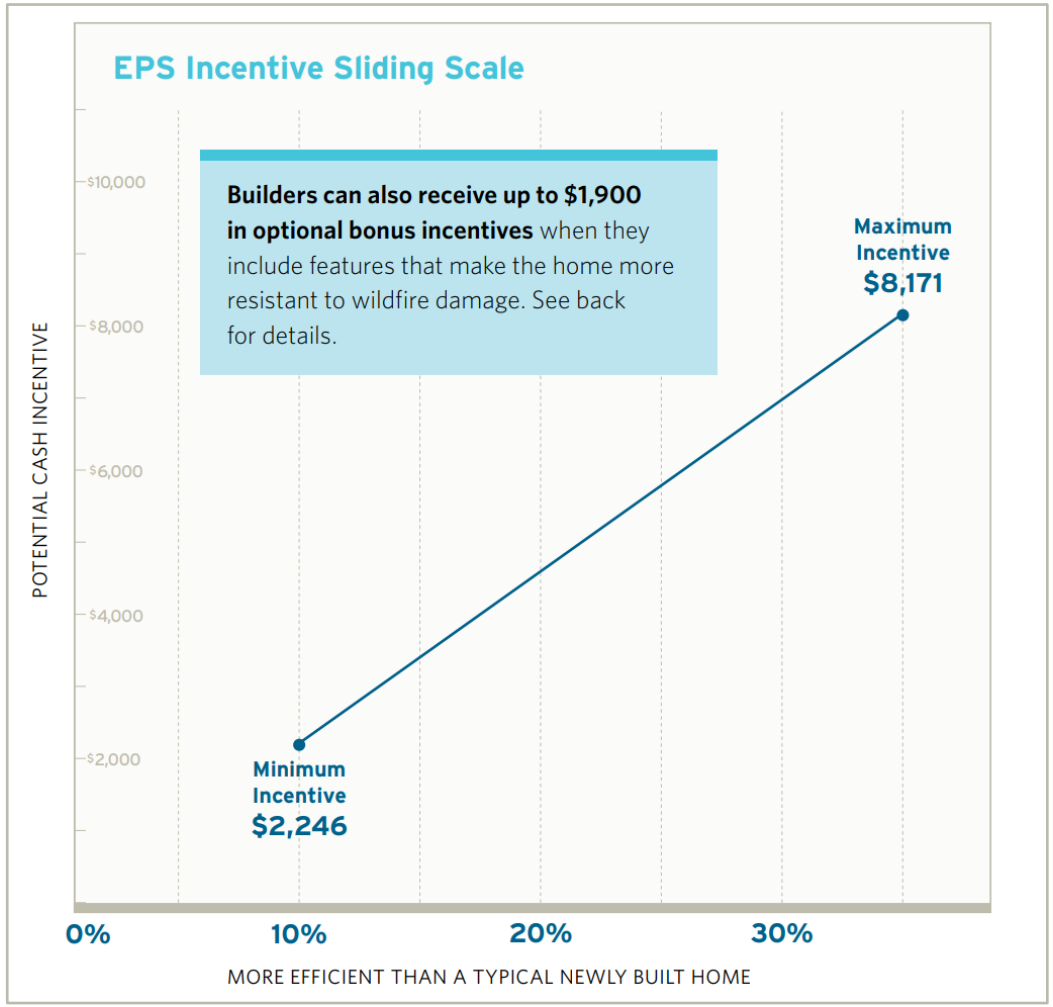
- Standard incentives for technologies that are more efficient than code
- Whole-building incentives
  - Standard and custom incentive packages
  - Path to Net Zero custom incentives
- Solar installed, solar ready

# New Buildings Program Insights

- Engaging architects, engineers, general contractors, developers
- Strong participation for multifamily, especially for low-income housing
- Steady increase in Path to Net Zero despite code and Architecture 2030 advancements
- Design teams needing support in navigating code and executive orders

# Rebuilding After Wildfires

- Enhanced incentives for survivors rebuilding
- Residential fire-hardening incentives
  - Triple-paned windows
  - Exterior insulation
  - Unvented attics
- Manufactured home replacement
- Commercial early design assistance and offers
- Coordinated efforts with Oregon Building Codes Division, Oregon Department of Energy and Oregon Housing & Community Services



# Rationale for Energy Efficiency Incentives

- We provide incentives to help customers invest in cost-effective energy efficiency solutions
- Guided by state policy that energy efficiency is a resource used to meet utility system and customer energy needs
- Cost effectiveness is central to how we plan and deliver energy efficiency programs
  - Managed by Oregon Public Utility Commission
  - Calculated using benefit/cost tests
    - Sometimes includes quantifiable non-energy benefits
  - Does not usually fund standard or required practices
  - Ensures all ratepayers benefit from investment of their funds

# How Are Non-Energy Benefits Considered?

- When they are quantifiable (into dollars per year)
- When they benefit the household or building owner

**Quantifiable and applied**

- Water and sewer savings
- Prevented replacement and maintenance
- Other avoided fuel costs (wood, propane)
- Cooling comfort

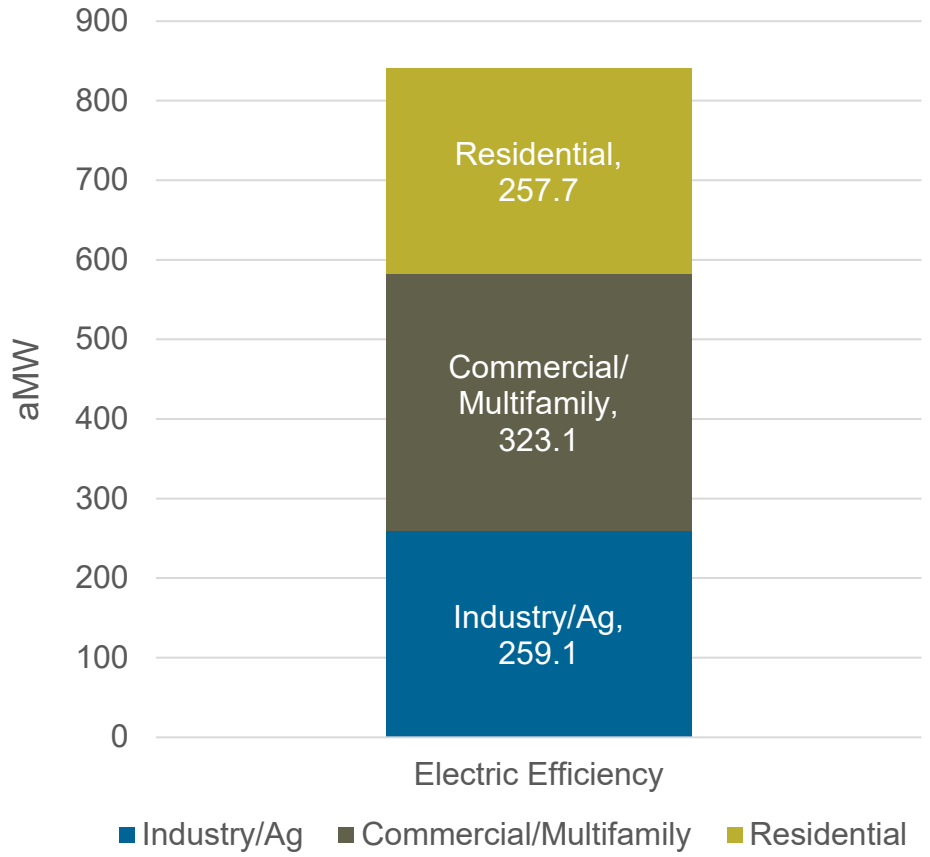
**Sometimes quantifiable**

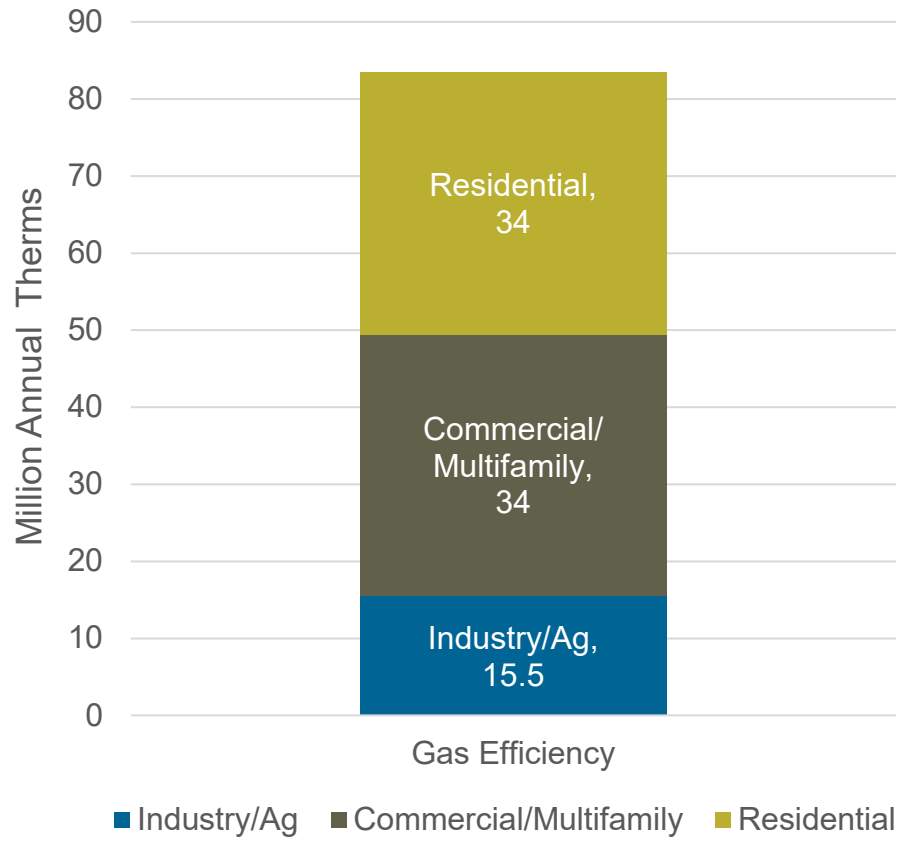
- O&M and labor savings
- Health and safety
- Avoided fees

**Not quantifiable**

- Space savings
- Workplace productivity or educational outcomes
- Comfort (not cooling)

# Energy Efficiency Results Since 2002



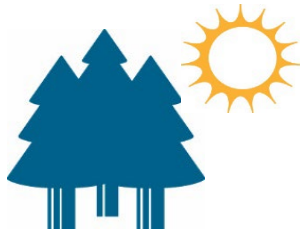




Results from 2002-2021

# Clean and Affordable Energy Since 2002

**From Energy Trust's investment of $2.38 billion in utility customer funds:**

**Nearly 789,000** homes and businesses made more energy efficient



**20,750 clean energy systems** generating renewable power from the sun, wind, water, geothermal heat and biopower

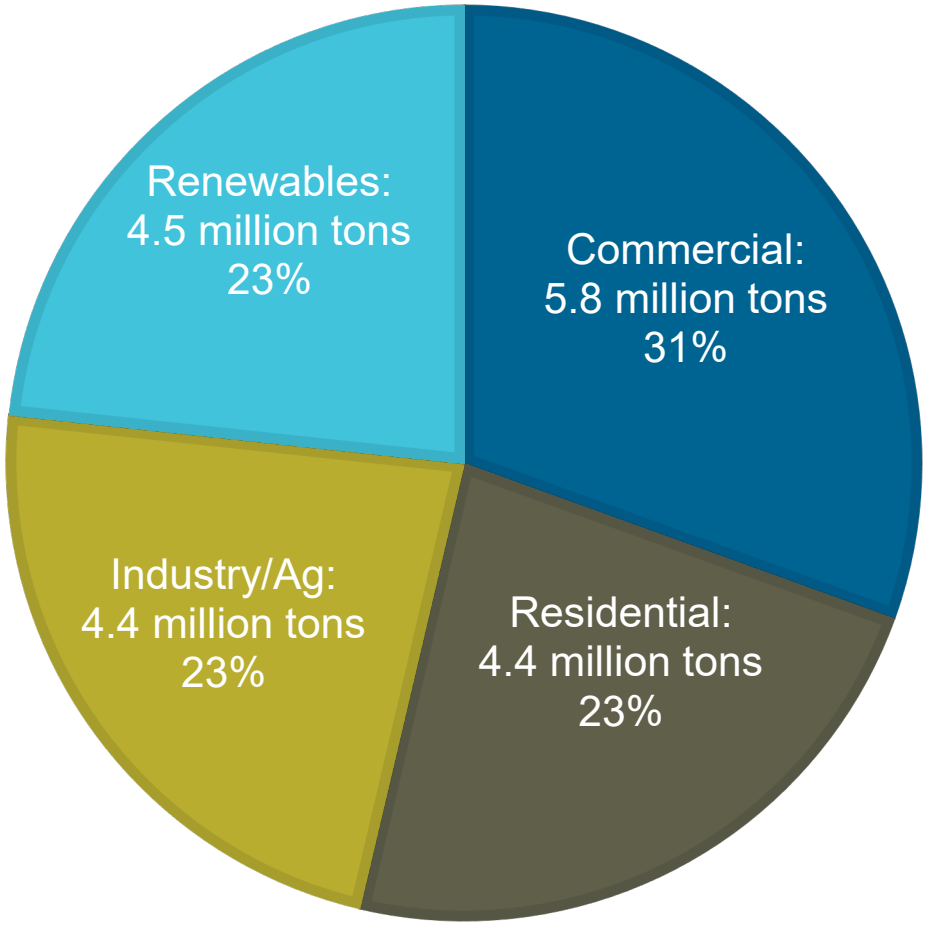

**$9.7 billion in utility bill savings** over time, and generating **$10.4 billion in economic activity**

**22.3 million metric tons** of carbon dioxide avoided

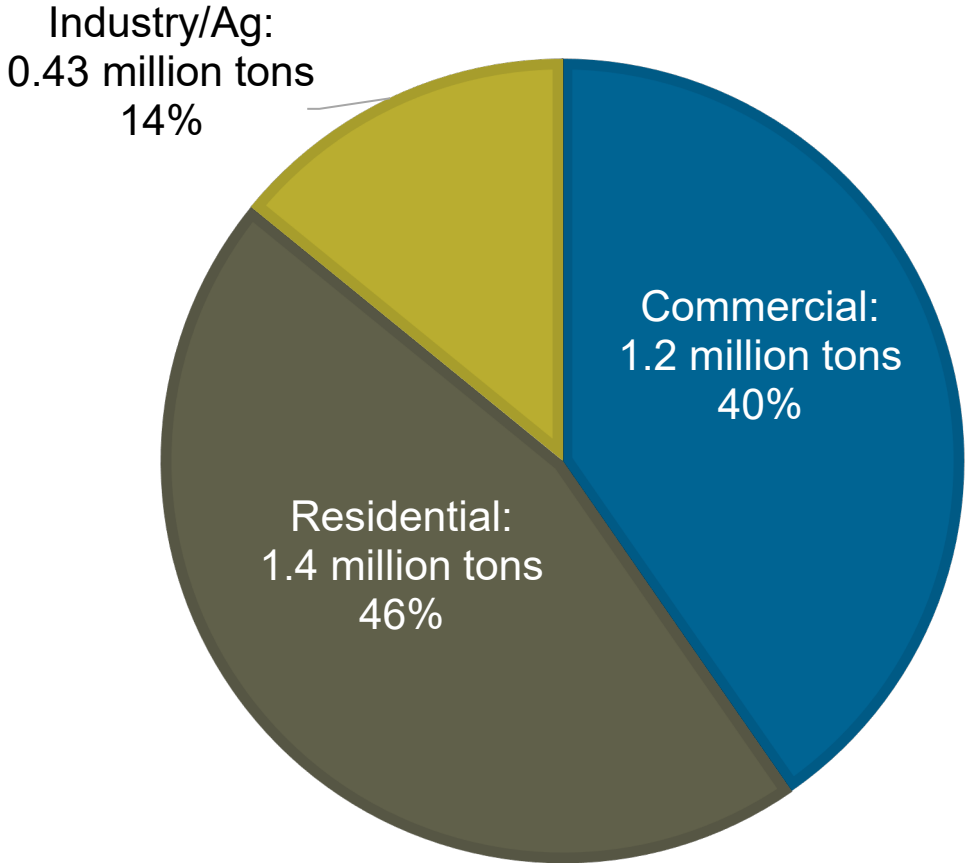
Results from 2002-2021

# Cleaner Air by Avoiding Carbon Dioxide Emissions

## ELECTRIC EFFICIENCY AND RENEWABLE GENERATION




## GAS EFFICIENCY




Results in metric tons, 2002-2021; size of pie charts not proportional

# Looking Forward: Broadening the Reach of Clean Energy Benefits

- Targeting efficiency and solar to meet utility and customer needs
- Reducing customer energy burden
  - OPUC cost-effectiveness exceptions pathway
- Increasing equity, improving environmental justice
- Leveraging non-ratepayer funding
- Exploring non-energy benefits to projects
  - Improved health outcomes, for example
- Grid-interactive, efficient and resilient buildings
  - Including continuing to inform upcoming code changes

# Thank You

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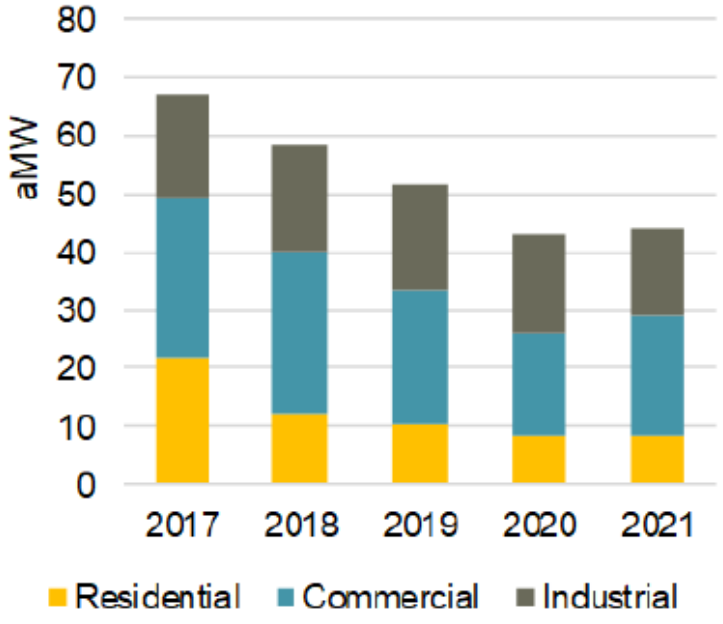
Energy Trust of Oregon

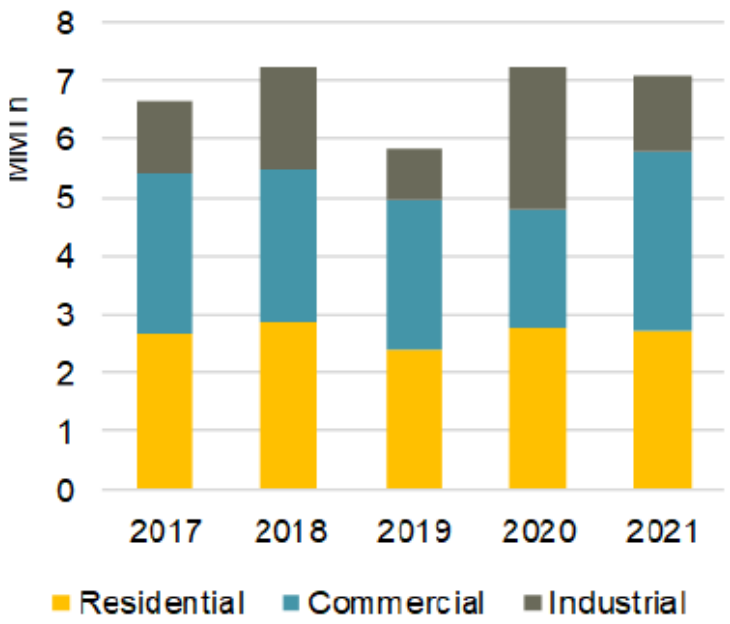
# Reference

# 5-Year Energy Efficiency and Renewables Results

**Electric savings by sector (2017-2021)**




**Gas savings by sector (2017-2021)**




**Renewable electric generation by program (2017-2021)**