Spring Trade Ally Forums
April 2018
Energy Trust Highlights
Spring Trade Ally Forums
April 2018
2017 Accomplishments: Statewide

64.3 aMW saved
Most savings to date

6.8 million annual therms saved
Ties most savings to date

4.42 aMW renewable energy generated

$102 million+ incentives paid

56,000 sites served
2017 Accomplishments: Klamath and Lake Counties

- $1.2M incentives paid
- 984 total sites
- 6.6M kWh saved
- 30K+ therms saved
2018: What’s Ahead

• New-and-improved Find-a-Contractor tool

• Trade ally survey
Growth Areas

• Small business sector
  • Small sites = >20,000 sq. ft.
  • 32 percent have worked with Energy Trust
  • 70 percent of small sites unserved

• Large business sector
  • 30 percent remaining market share

• Medium business sector
  • 46 percent remaining market share
Mike Colgrove
Executive Director,
Energy Trust of Oregon
Trade ally forums
2017 Residential Home Retrofit & EPS™ New Construction
2017 Drivers: Gas

- **2015**
  - Gas fireplace: 35%
  - HVAC: 15%
  - Weatherization: 17%
  - Windows: 30%

- **2016**
  - Gas fireplace: 23%
  - HVAC: 19%
  - Weatherization: 10%
  - Windows: 30%

- **2017**
  - Gas fireplace: 16%
  - Gas fireplace ignition: 24%
  - HVAC: 27%
  - Weatherization: 7%
  - Windows: 25%
EPS Market Share

![EPS Market Share Chart]

- 2015: 2,521
- 2016: 3,335 (35% market share)
- 2017: 3,096

EPS homes and Market share trends over the years.
Southern Oregon Trends
Home Retrofit – Southern Oregon (projects)
Home Retrofit – Southern Oregon (incentives)

**Southern Elec. Incentive**
- Ductless heat pump: High incentive
- Heat pump upgrade: Moderate incentive
- Heat pump replacement: Lower incentive
- Insulation: Lower incentive
- Windows: Lower incentive
- Air sealing: Lower incentive
- Heat pump advanced cont.: Lower incentive
- Heat pump water heater: Lower incentive

**Elec. incentive**
- Ranges from $0 to $350,000

**Southern Gas Incentive**
- Gas furnace: Highest incentive
- Windows: Moderate incentive
- Insulation: Moderate incentive
- Air sealing: Lower incentive
- Gas fireplace: Lower incentive

**Gas incentive**
- Ranges from $0 to $80,000
Home Retrofit – Southern Oregon (savings)

**Southern OR Elec. Measures**
- Ductless heat pump
- Heat pump replacement
- Heat pump upgrade
- Heat pump commissioning
- Insulation
- Duct sealing
- Windows
- Heat pump advanced controls

**Southern OR Gas Measures**
- Gas furnace
- Windows
- Insulation
- Duct sealing
- Air sealing
Number of Homes by % improvement and home configuration: Southern Oregon

![Bar chart showing the number of homes by percentage improvement and home configuration.](image-url)
2018 Priorities
2018 Priorities

• Expand Participation
  • Targeted Marketing
• New Opportunities: Manufactured Homes
• Efficient Controls
• Supply-Chain Offerings
Existing Multifamily Program
Trade Ally Forums
April 2018
Multifamily Prescriptive Incentive Trends

1,804 prescriptive projects in 2017
$1.7M prescriptive incentives paid
2017 Existing Multifamily Savings

Prescriptive Electric Savings

- Appliances: 87,648 kWh
- Water Heaters: 109,785 kWh
- Insulation: 168,357 kWh
- Windows: 1,369,178 kWh
- HVAC: 2,371,803 kWh

Prescriptive Gas Savings

- Insulation: 1,834 therms
- Appliances: 2,073 therms
- Windows: 5,730 therms
- HVAC: 8,250 therms
- Boilers: 13,774 therms

2017 Electric Savings by Track

- Lighting: 39%
- Direct Install: 33%
- Prescriptive: 25%
- Custom: 3%

Total: 16,052,407 kWh

2017 Gas Savings by Track

- Prescriptive: 62%
- Direct Install: 24%
- Custom: 14%

Total: 181,642 therms
2017 Prescriptive Incentives
Southern Oregon

- HVAC: 59%
- Windows: 8%
- Boilers: 5%
- Insulation: 4%
- Appliances: 3%
- Water Heaters: 21%
2018 Priorities
2018 Priorities

- **Expand** participation across all territories served by Energy Trust
- **Enhance** relationships with trade allies, distributors and manufacturers
- **Optimize** program offerings to provide actionable services to participants and trade allies
- **Utilize** data driven tools to identify areas of targeted outreach
- **Seek** new savings opportunities by conducting field tests and pilots
Thank you
Kate Scott, Existing Multifamily Program Manager
kate.scott@energytrust.org
ADDITIONAL SLIDES
Multifamily Electric Savings – Statewide

2017 Electric Savings by Track

<table>
<thead>
<tr>
<th>Track</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Custom</td>
<td>3%</td>
</tr>
<tr>
<td>Direct Install</td>
<td>33%</td>
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<tr>
<td>Lighting</td>
<td>39%</td>
</tr>
<tr>
<td>Prescriptive</td>
<td>25%</td>
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</tbody>
</table>

Total Electric Savings: 16,052,407 kWh

Incentives paid for prescriptive electric projects in 2017: $3,250,301

Prescriptive projects in 2017: 2790
Multifamily Gas Savings – Statewide

2017 Gas Savings by Track

<table>
<thead>
<tr>
<th>Track</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Custom</td>
<td>14%</td>
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<td>24%</td>
</tr>
<tr>
<td>Prescriptive</td>
<td>62%</td>
</tr>
<tr>
<td>Total</td>
<td>181,642 therms</td>
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Incentives paid for prescriptive gas projects in 2017 $592,807

Prescriptive gas projects in 2017 611
2017 Prescriptive Savings - Statewide

**Bar Chart**

- **HVAC**: 2,371,803 kWh
- **Windows**: 1,369,178 kWh
- **Insulation**: 168,357 kWh
- **Water Heaters**: 109,785 kWh
- **Appliances**: 87,648 kWh

**Line Graph**

- **Insulation**: 1,834 therms
- **Appliances**: 2,073 therms
- **Windows**: 5,730 therms
- **HVAC**: 8,250 therms
- **Water Heaters**: 13,774 therms
- **Boilers**: 80,190 therms
Prescriptive Incentives - Statewide

Top Prescriptive Measures 2017
- Ductless heat pumps – 1, 1.5 & 2 ton
- Windows – stacked structure single pane
- Condensing boiler
- Condensing tank water heater

Prescriptive projects submitted in 2017
3401
2015-2017 Incentives by sector – Statewide

Top Measures 2015-2017
1. Windows
   • $2,023,350
2. HVAC
   • $1,637,750
3. Boilers
   • $512,231
Incentives by Market Sector 2015-2017

- Market Rate: 52%
- Condo/Townhouse: 14%
- Affordable: 14%
- Assisted Living: 6%
- HOA: 2%
- Campus Living: 12%
Southern Oregon
Prescriptive Electric Savings – Southern OR

- **2015**: 167,724 kWh
  - HVAC: 156,000 kWh
  - Insulation: 2,000 kWh
  - Water Heaters: 1,000 kWh
  - Windows: 2,000 kWh
- **2016**: 856,959 kWh
  - HVAC: 840,000 kWh
  - Insulation: 30,000 kWh
  - Water Heaters: 2,000 kWh
  - Windows: 1,959 kWh
- **2017**: 220,391 kWh
  - HVAC: 208,000 kWh
  - Insulation: 10,000 kWh
  - Water Heaters: 2,000 kWh
  - Windows: 1,959 kWh
Prescriptive Gas Savings – Southern OR

<table>
<thead>
<tr>
<th>Year</th>
<th>Gas Savings (Therms)</th>
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<tr>
<td>2015</td>
<td>-</td>
</tr>
<tr>
<td>2016</td>
<td>125</td>
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<tr>
<td>2017</td>
<td>3,106</td>
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</table>

- Other
- Boilers
- HVAC
- Insulation
- Water Heaters
- Windows
2015-17 Incentives by sector – Southern OR

Top Measures 2015-17
1. HVAC  
   • $241,163
2. Windows  
   • $73,413
3. Water Heaters  
   • $9,550
PM2.5 and Wood Heating Programs
12 April 2018

Peter Brewer, Eastern Region AQ Attainment Coordinator / Wildfire Smoke Response Coordinator
Oregon Department of Environmental Quality
What is PM2.5

https://www.airnow.gov/

**Fine particles** (PM$_{2.5}$) are 2.5 micrometers in diameter or smaller, and can only be seen with an electron microscope. Fine particles are produced from all types of combustion, including motor vehicles, power plants, residential wood burning, forest fires, agricultural burning, and some industrial processes.
What is PM2.5

PM2.5 Speciation

- Organic carbon: 54%
- Sulfate: 13%
- Ammonium: 3%
- Elemental carbon: 6%
- Nitrate: 7%
- Other: 13%
- Crustal component: 4%
- Other: 13%

Total: 100%
Why We Monitor for PM2.5

– National Ambient Air Quality Standard
  – Compliance demonstration
  – Other state and federal needs

– Air Quality Index (Revised 2018) / AirNow information
  – Public notification and information
  – Woodstove advisories
  – Air Stagnation Advisories (generally winter time events)

Used for forecasting and tracking of conditions:
  – Forest burning (all)
  – Ag burning
  – Health Advisories
NAAQS – National Standard

**National Ambient Air Quality Standard**

Pre-2000: main concern was PM10; after 2000: PM2.5

More health studies confirm the issues related to fine particulate and smaller than PM2.5. Future standards could be tighter.

Two levels of the PM2.5 standard:

**Daily** – 35.5 ug/m3

Annual – 12 ug/m3 micrograms per cubic meter of air
Not Meeting the National Standard?

What does this mean:

**HEALTH impacts!** These can be both acute and chronic
Health impacts increase costs for people, the community

The health of all people can be compromised.
Particularly challenging to:
- young and older population in general
- persons with respiratory challenges and heart conditions
- people with challenges such as asthma, COPD

**This results in regulatory restrictions in development and economic growth due to no more ‘room’ in the air**
Winter Time PM2.5 Strategy: Reduce Wood Smoke

Winter Time weather patterns are the big challenge: older wood stoves have higher rates of PM emissions.

- Strategy to improve winter time air quality:
  
  change out older wood stoves (non-certified and certified alike) to more efficient heating units of any type + weatherization of homes = less pollution, less fuel burned.
Winter Inversion
Change-out Programs in PM Challenged Cities

Wood stove change-out programs and AQ Advisories (some): Klamath Falls, Oakridge, Lakeview, Washington County

Burns/Hines, Pendleton
Multnomah County – developing one
Prineville

Other areas of concern or work to reduce PM levels: La Grande, Medford/Ashland, Eugene/Springfield
John Day
Baker City, Roseburg, Sisters
DEQ appreciates past (and future) partnerships with you and your help to improve the quality of our air and energy efficiency of our homes!

Questions?
Community Implementation of Change-Out

https://maps.ci.klamath-falls.or.us/woodstove/
Tom Beverly
Trade Ally & Customer Service Manager
Energy Trust of Oregon