Fall Trade Ally Forums

October 2018

Energy Trust of Oregon

Breakout Topics & Locations

Breakout Session A: 9:40 – 10:40

Fireside Room	Bethany House (This Room)
Energy Code Options: Making it Simple Howard Asch will provide training that gives an overview of the energy code options, how it works and when it may be beneficial.	Residential and Multifamily Program Updates Join our residential and existing multifamily program staff as they present on 2019 program and incentive changes. Multifamily market insights will also be reviewed during this breakout.
Howard Asch	Scott Leonard – Sr Project Manager, Residential Kate Wellington – Multifamily Program Manager

Breakout Topics & Locations

Breakout Session B: 11:00 – 12:00

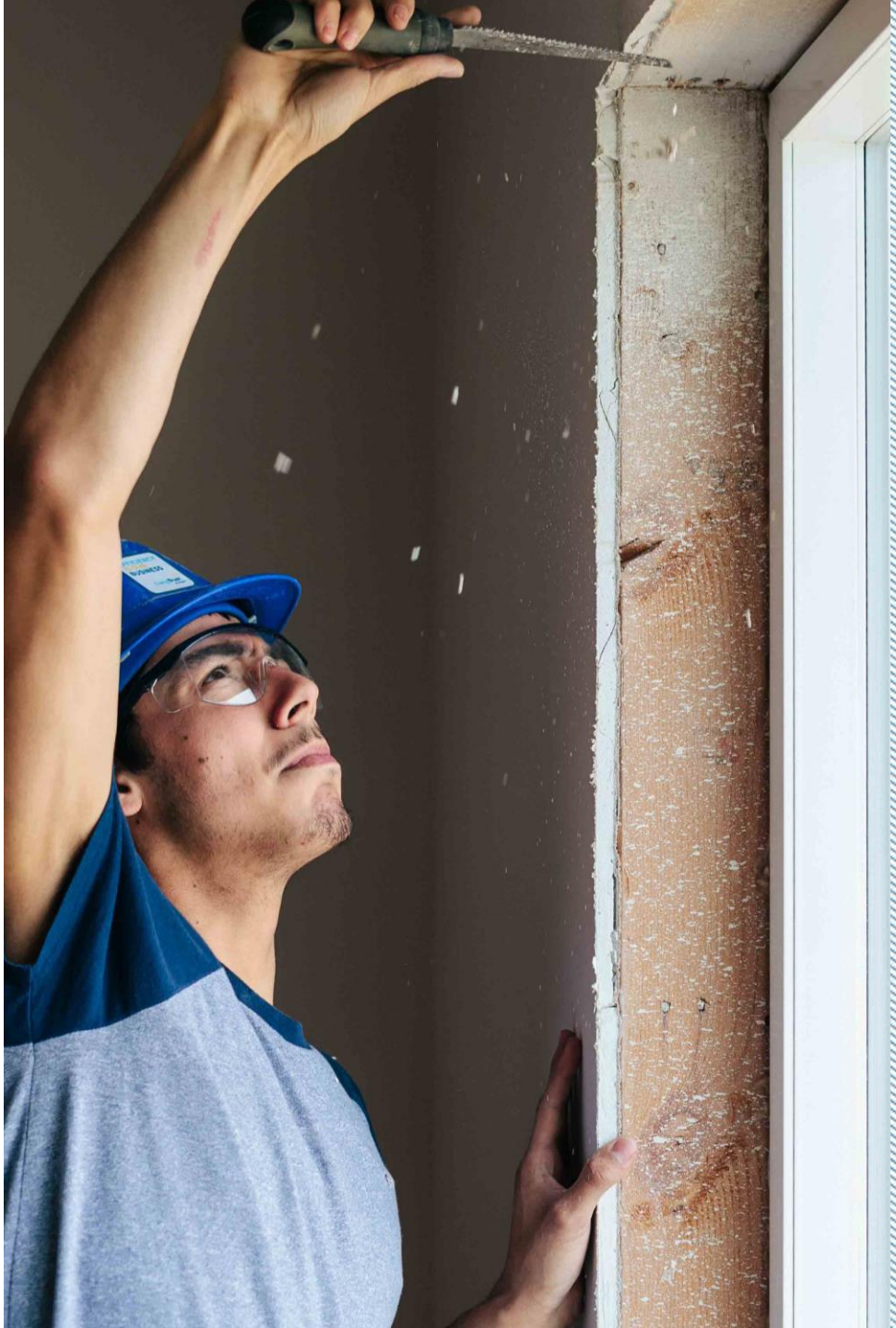
Fireside Room	Bethany House (This Room)
Northwest Energy Efficiency Alliance – Ductless Heat Pump Market Opportunity Join this session to learn about existing market opportunity for ductless heat pumps in electrically heated homes.	Residential and Multifamily Program Updates Join our residential and existing multifamily program staff as they present on 2019 program and incentive changes. Multifamily market insights will also be reviewed during this breakout.
Jonathan Moscatello	Energy Trust Program Managers

What's Underway?

- Trade ally survey
- Insider email improvements
- Residential Business Development Fund redesign
- Increased outreach to diverse and rural communities
- Trade Ally promotions web page
- Five year strategic plan
- Forum schedule changes

Opportunity Revisited

- Manufactured Home Heat Pump increased incentive opportunity reopened
- Open to trade allies serving region 6
- Key dates:
  - Announced 10/15
  - Opens on 10/17
  - Closes on 10/31
  - Interviews in early November




Carrier
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DAIKIN
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EnergyTrust
of Oregon

Tom Beverly

Trade Ally & Customer Service Manager

Energy Trust of Oregon

Residential Energy Certifications

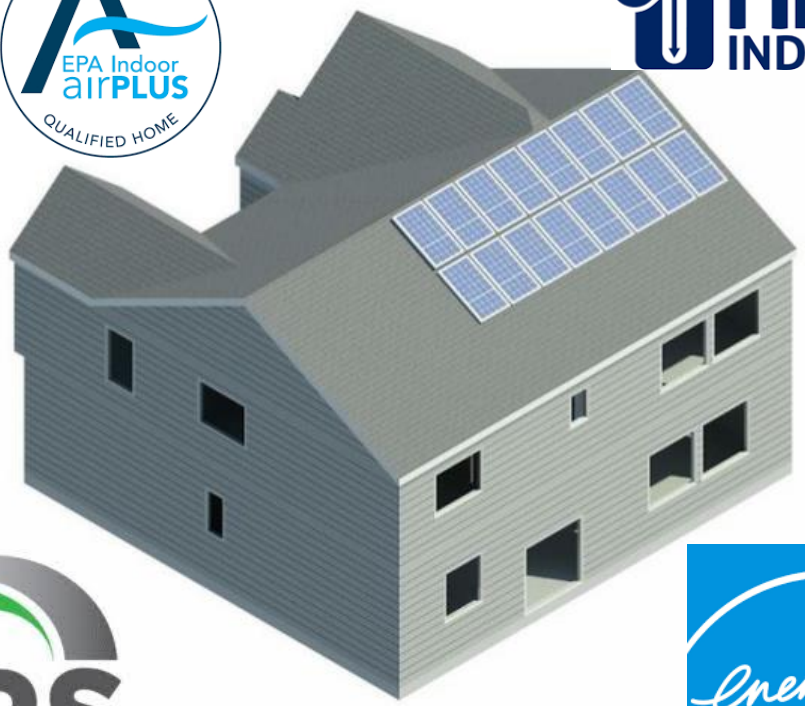
Presenter(s): Scott Leonard/Fred Gant
Content: Tyler Moffet

Questions to answer during presentation

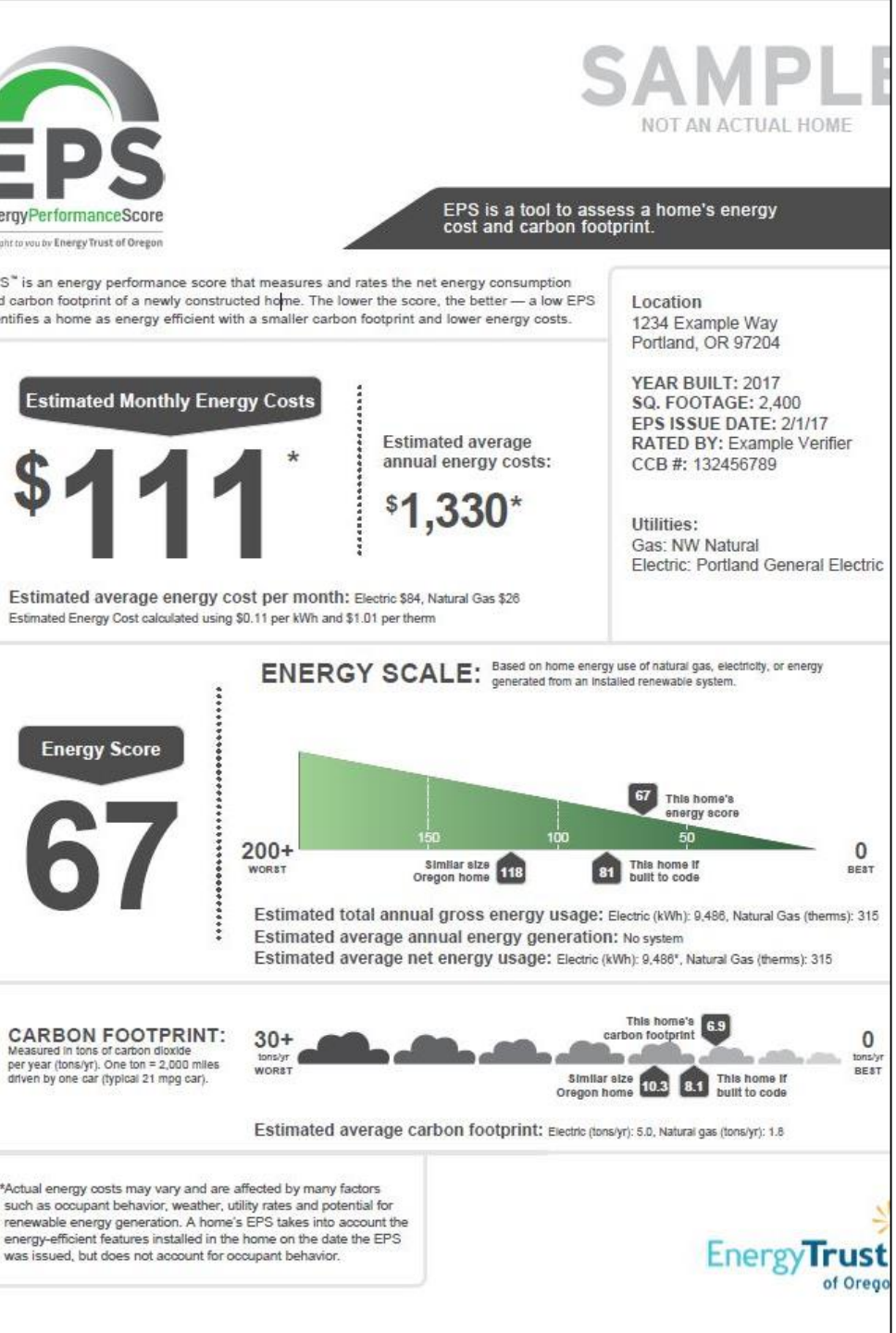
MEM
MOFFETT ENERGY MODELING

- What certifications are available in Oregon?
- How prevalent are these certifications?
- What are the requirements for each certification?
- How much do this stuff cost?
- Real world example

Which certs are available?



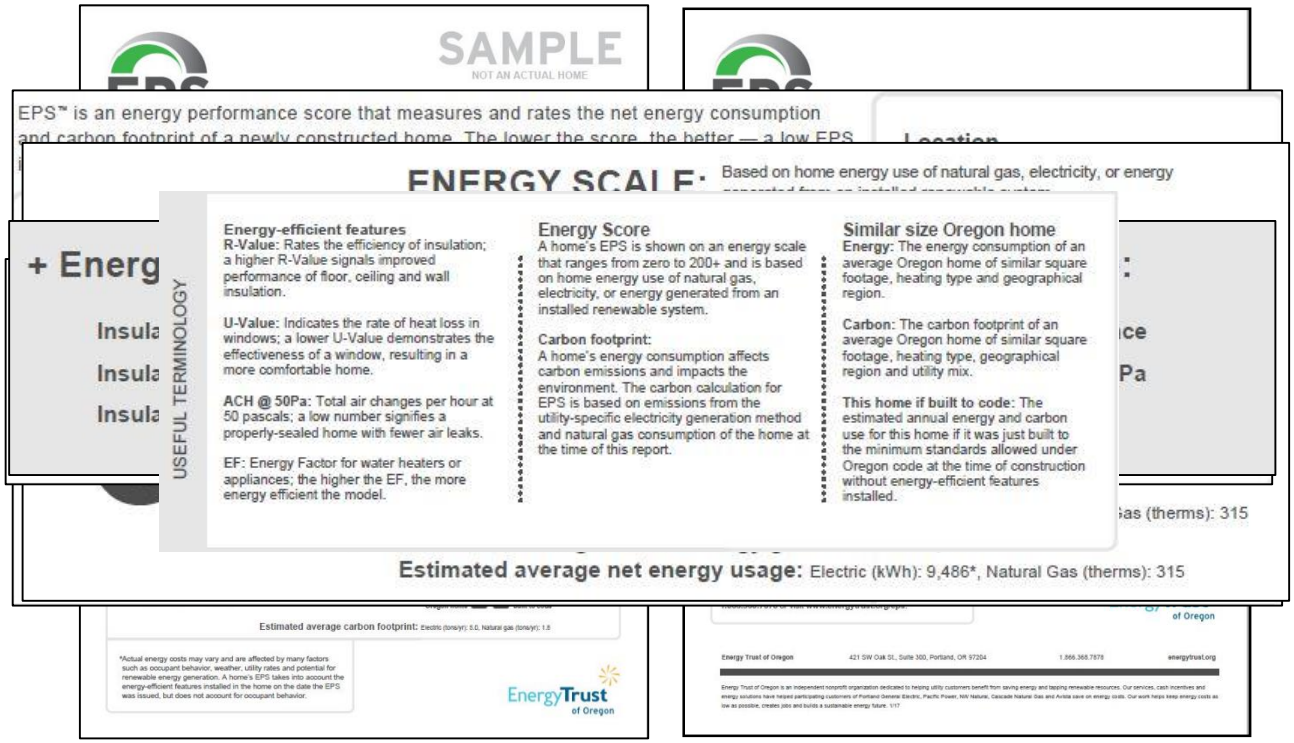
Program	Oregon Homes Certified	
	2017	2018 YTD (8/31/18)
EPS	3086	1803
ENERGY STAR	42	20
Earth Advantage	577	544
HERS	220	384
Portland Home Energy Score	N/A	TBD
LEED for Homes	?	?



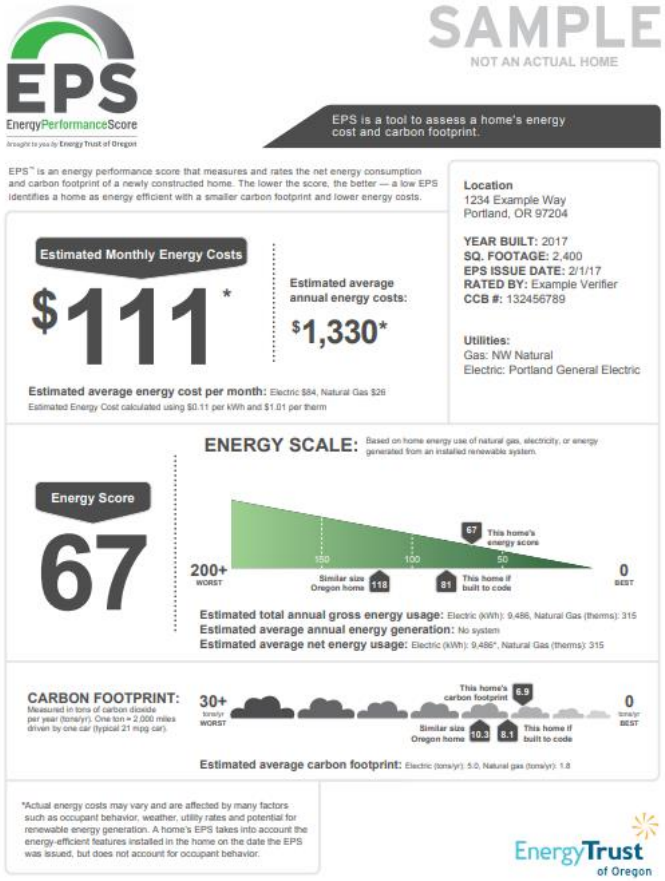
EPS Overview

- Launched in 2009
- Low scores are best
- Energy score
- Estimated energy costs
- Carbon footprint
- More than 16,000 homes to date

What does EPS tell you?



Program Overview	Only program to offer cash incentives to help builders with upfront costs of efficiency measures
Goal	Encourages the construction of highly efficient homes as well as long term sustainability
Calculation Method	Energy usage of actual home compared to the identical home if built to code
Scoring System	0 to 200 (0 being most efficient, 200 being least)
Program requirements	Framing/Insulation/Ducting/Air Sealing/10% above Oregon code minimum
Verification Process	2 site visits and an energy model in Rem/rate
Other notes	Only applicable in the territories of the certain utilities



Program Overview	Most widely recognized label, incorporates energy efficiency as well as water management
Goal	Encourages efficient building with a brand recognized by everyone
Calculation Method	List of requirements that must be met or an energy model showing the overall energy usage is greater than the energy star baseline home
Scoring System	Pass or fail
Program requirements	Water management, framing, insulation, air barrier, HVAC
Verification Process	5 forms must be filled out and submitted
Other notes	Must be an Energy Star builder (free and easy)

Required from the Builder

1. Water Management Checklist

Required from the Rater

1. Rater Design Review
2. Rater Field Checklist

Required from the HVAC Designer

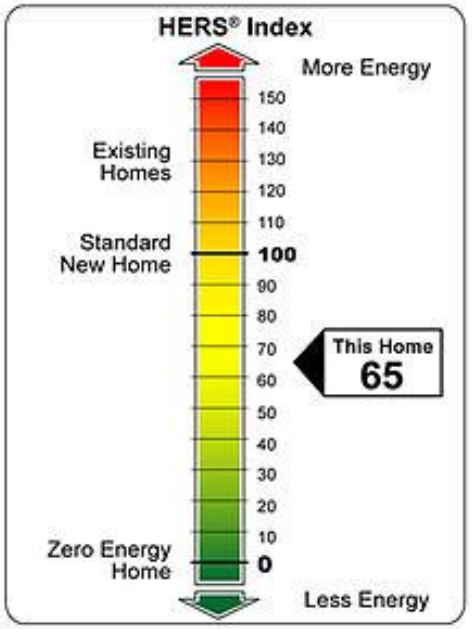
1. HVAC Design Report

Required from the HVAC Contractor

1. HVAC Commissioning Checklist

RESNET HERS® INDEX

Program Overview	Nationally recognized scoring system for both new and existing homes
Goal	Provides a standard for all homes to assess their energy usage
Calculation Method	Energy of actual home compared to a similar reference home
Scoring System	0 to 150 (0 being net zero, 150 showing a home uses 50% more energy than reference home)
Program requirements	None
Verification Process	Site visit inspecting HVAC/weatherization/etc. and an energy model using Rem/rate
Other notes	Code built home in Oregon has a HERS rating of about 70



Program Overview	While not a direct energy efficiency program, there is a lot of overlap between air quality and energy efficiency
Goal	To provide homes with clean air and to promote healthy living as homes get more air-tight
Calculation Method	Checklist
Scoring System	Pass or fail
Program requirements	Water management, construction debris, HVAC, radon, building materials
Verification Process	1 form must be filled out by builder and rater
Other notes	Must also be an Energy Star home

Program Overview	3rd party verification system, very prestigious certification
Goal	To promote healthier homes, increase energy efficiency, limit land impact, and increase water efficiency
Calculation Method	Scoring Sheet with Silver, Gold, or Platinum rankings
Scoring System	Checklist
Program requirements	Must meet a minimum number of points in 5 categories: Energy-15 / Helath-10 / Land-10 / Materials-15 / Water-10 as well as various prerequisites in each category
Verification Process	Builder must become an Earth Advantage Builder, get their project registered with EA, and complete an online points worksheet
Other notes	Must use Earth Advantage – no outside verifiers

Program Overview	3rd party verification system developed by USGBC – widely considered the most prestigious green certification
Goal	To promote sustainability by focusing on 8 main categories: location and transportation, sustainable site, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality, innovation, and regional priority
Calculation Method	Scoring Sheet with Bronze, Silver, Gold, or Platinum rankings
Scoring System	Checklist – may also include an energy model
Program requirements	Must meet a minimum number of points in the following categories: sustainable site-5 / water efficiency-3 / materials and resources-2 / indoor environmental quality-6 as well as various prerequisites in each category
Verification Process	Rater must be LEED certified and will perform onsite verifications throughout the project to ensure program compliance. The rater completes a checklist and provides various paperwork / reports for each category
Other notes	136 total points, minimum to receive certification is 40

Program Overview	Required in Portland
Goal	Encourage energy improvements on older homes
Calculation Method	Overall Energy Usage
Scoring System	1 to 10 (10 being most efficient)
Program requirements	None
Verification Process	Site visit inspecting insulation values/HVAC/etc. and an energy model using DoE online software

=1

Energy Inputs	
Windows	Double Pane
Walls	R-5
Floor	R-0
Attic	R-6
HVAC	80% efficiency
Water Heater	0.55 energy factor
Ducting	R-0

Energy Inputs	
Windows	Double Pane
Walls	R-21
Floor	R-38
Attic	R-49
HVAC	96% efficiency
Water Heater	0.8 energy factor
Ducting	R-8

=6

=10

Energy Inputs	
Windows	Triple Pane
Walls	R-38
Floor	R-38
Attic	R-60
HVAC	99% efficiency
Water Heater	2.50 energy factor
Ducting	R-8

Program Overview	National rating that is run through the Department of Energy
Goal	To promote the construction of homes that are ready to generate just as much energy as they consume
Calculation Method	Checklist
Scoring System	Pass or fail
Program requirements	Energy star label, all appliances must be Energy Star, Indoor Air Plus, Solar Ready, Ducting within conditioned space
Verification Process	1 form to be filled out and submitted as well as a site verification of installed measures
Other notes	Shooting for a HERS score of 50 or lower

Cost Comparison

Program	Cost of Certification ($)	Cost of Verifier ($)
Portland HES	0.00	99 – 275
HERS	0.00	200 – 600
EPS	0.00	300 – 750*
Energy Star	0.00	200 – 350
EPA Air Plus	0.00	50 – 100
Earth Advantage	500.00	200 - 800
LEED	525 or 350 if batch submission	500 – 1500
Net Zero Ready	0.00	50 – 100

*does not include net incentive from Energy Trust of Oregon

Net zero energy

- Energy Trust pathway
- National Zero Energy Ready Home
- Earth Advantage
- Future of codes

- Critical to choose a rater and model efficiency

Project Spotlight

1534 Butler Creek Rd. Ashland, OR

- Fred Gant
- Southern Oregon Green Rating Services

EnergyTrust of Oregon

EPS
EnergyPerformanceScore
brought to you by Energy Trust of Oregon

EPS is a tool to assess a home's energy cost and carbon footprint.

EPS™ is an energy performance score that measures and rates the net energy consumptions and carbon footprint of a newly constructed home. The lower the score, the better — a low EPS identifies a home as energy efficient with a smaller carbon footprint and lower energy costs.

Estimated Monthly Energy Costs

$0*

Estimated average annual energy costs:

$0*

Estimated average energy cost per month: Electric $0, Natural Gas $0

Estimated Energy Cost calculated using $0.1 per kWh and $1.06 per therm

Location
1534 Butler Creek Rd
Ashland, OR 97520

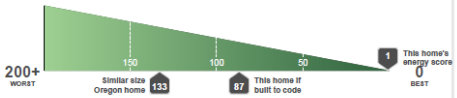
YEAR BUILT: 2016
SQ. FOOTAGE: 2,342
EPS ISSUE DATE: 2016-05-09
RATED BY: Southern Oregon Green Rating Services, LLC
CCB #: None

Utilities:
Gas:
Electric: Pacific Power

Energy Score

1

ENERGY SCALE: Based on home energy use of natural gas, electricity, or energy generated from an installed renewable system.



Estimated total annual gross energy usage: Electric (kWh): 10,749, Natural Gas (therms): 0
Estimated average annual energy generation: Electric (kWh): 10,774
Estimated average net energy usage: Electric (kWh): 0*, Natural Gas (therms): 0

CARBON FOOTPRINT:
Measured in tons of carbon dioxide per year (tons/yr). One ton = 2,000 miles driven by one car (typical 21 mpg car).

Estimated average carbon footprint: Electric (tons/yr): 0.3, Natural gas (tons/yr): 0.0

*Actual energy costs may vary and are affected by many factors such as occupant behavior, weather, utility rates and potential for renewable energy generation. A home's EPS takes into account the energy-efficient features installed in the home on the date the EPS was issued, but does not account for occupant behavior.

OFFICIAL

EnergyTrust of Oregon

EPS
EnergyPerformanceScore
brought to you by Energy Trust of Oregon

EPS is a tool to assess a home's energy cost and carbon footprint.

+ Energy-efficient features that contribute to this home's score:

Insulated Ceiling: R-60	Efficient Windows: U-0.18	Space Heating: Heat Pump
Insulated Walls: R-36	Efficient Lighting: 100.0 %	Envelope Tightness: 0.6 ACH @ 50Pa
Insulated Floors: R-20	Water Heater: Storage 0.95 EF	

What was considered in developing this score?

A home's EPS is based on the energy-efficient features listed above as well as the home's size and specific design. Improvements and updates made to the home after the issue date will impact its EPS. EPS does not factor in occupant behavior, and as a result, actual energy costs may vary.

USEFUL TERMINOLOGY

Energy-efficient features
R-Value: Rates the efficiency of insulation; a higher R-Value signals improved performance of floor, ceiling and wall insulation.

U-Value: Indicates the rate of heat loss in windows; a lower U-Value demonstrates the effectiveness of a window, resulting in a more comfortable home.

ACH @ 50Pa: Total air changes per hour at 50 pascals; a low number signifies a properly-sealed home with fewer air leaks.

EF: Energy Factor for water heaters or appliances; the higher the EF, the more energy efficient the model.

Energy Score
A home's EPS is shown on an energy scale that ranges from zero to 200+ and is based on home energy use of natural gas, electricity, or energy generated from an installed renewable system.

Carbon footprint:
A home's energy consumption affects carbon emissions and impacts the environment. The carbon calculation for EPS is based on emissions from the utility-specific electricity generation method and natural gas consumption of the home at the time of this report.

Similar size Oregon home
Energy: The energy consumption of an average Oregon home of similar square footage, heating type and geographical region.

Carbon: The carbon footprint of an average Oregon home of similar square footage, heating type, geographical region and utility mix.

This home if built to code: The estimated annual energy and carbon use for this home if it was just built to the minimum standards allowed under Oregon code at the time of construction without energy-efficient features installed.

Brought to you by Energy Trust of Oregon

Energy Trust developed EPS to educate about energy efficiency and provide a tool to help inform home-buying decisions.

For more information about EPS, contact Energy Trust at **1.866.368.7878** or visit **www.energytrust.org/eps.**

EnergyTrust of Oregon

Energy Trust of Oregon 421 SW Oak St, Suite 300, Portland, Oregon 97204 1.866.368.7878 503.546.6862 fax **energytrust.org**


ALPEN

Calls to action

- If you are a city, municipality
- If you are a builder
- If you are a subcontractor
- If you are a solar contractor
- If you are interested in verification

Questions

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Fred Gant
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541.840.8302

City	Southern Oregon Homes Certified														
	2016					2017					2018 YTD (8/31/18)				
	Total	EPS	ENERGY STAR	Earth Advantage	HERS	Total	EPS	ENERGY STAR	Earth Advantage	HERS	Total	EPS	ENERGY STAR	Earth Advantage	HERS
Ashland	**6**	6	N/A	N/A	0	**41**	30	4	0	7	**87**	20	0	67	0
Grants Pass	**18**	18	N/A	N/A	0	**0**	0	0	0	0	**1**	1	0	0	0
Klamath Falls	**0**	0	N/A	N/A	0	**0**	0	0	0	0	**0**	0	0	0	0
Medford	**19**	19	N/A	N/A	0	**82**	82	0	0	0	**57**	57	0	0	0
Roseburg	**0**	0	N/A	N/A	0	**1**	1	0	0	0	**1**	1	0	0	0

Break

Breakout Session A Begins at: 9:40

Fireside Room	Bethany House (This Room)
Energy Code Options: Making it Simple Howard Asch will be providing training that gives an overview of the energy code options, how it works and when it may be beneficial.	Residential and Multifamily Program Updates Join our residential and existing multifamily program staff as they present on 2019 program and incentive changes. Multifamily market insights will also be reviewed during this breakout.
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