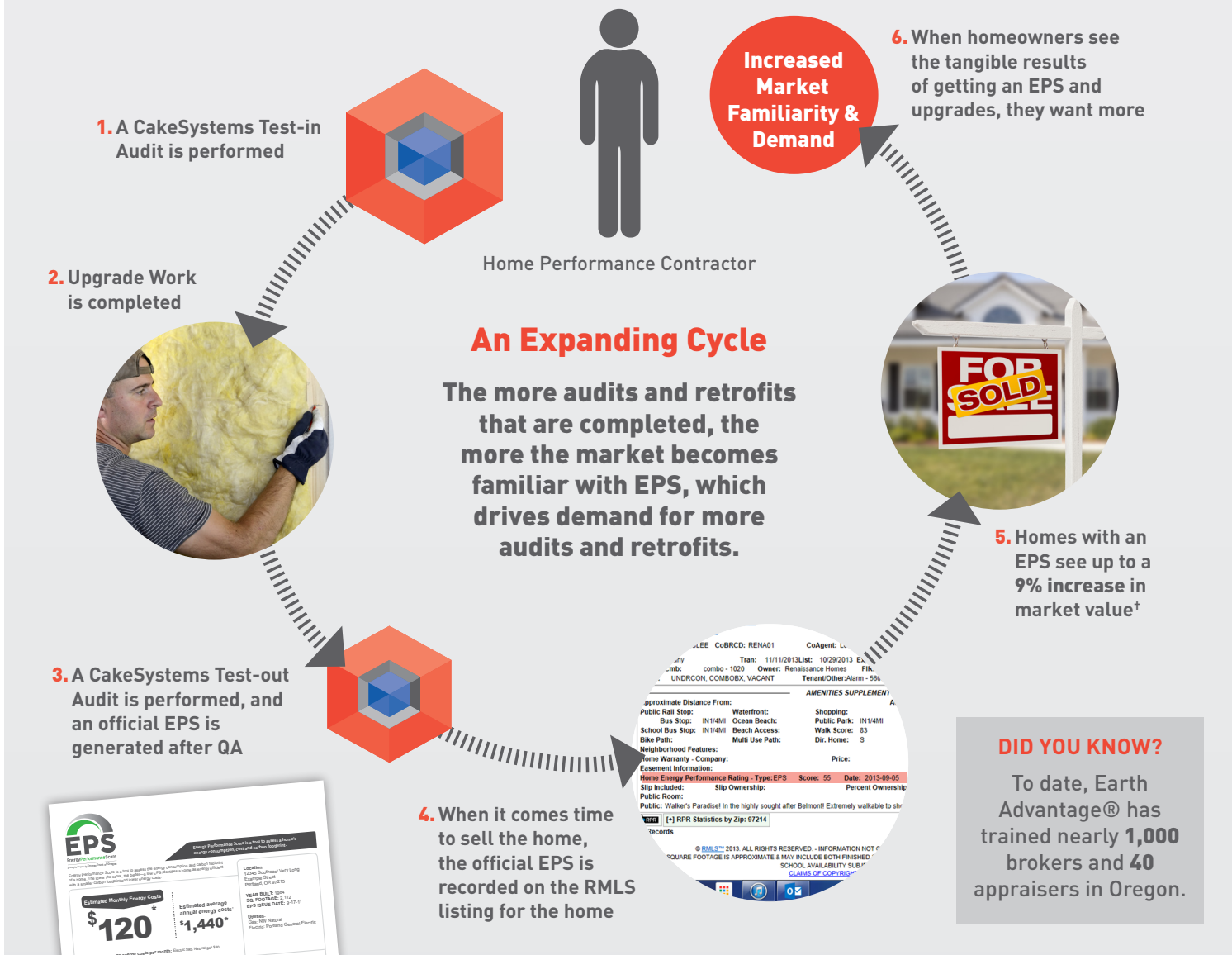


What Drives the Demand for Energy Efficiency Upgrades?

<p>Savings or Performance Value?</p>	<p>Homeowner behavior can influence savings.</p>	<p>EPSTM makes tangible the increased value of a home with performance upgrades.</p>
---------------------------------------------	--------------------------------------------------	--------------------------------------------------------------------------------------



70% Of homeowners considering energy efficiency improvements would find energy label information useful.*

95% Of homeowners familiar with energy labels would like to see them when they go to buy a home.*

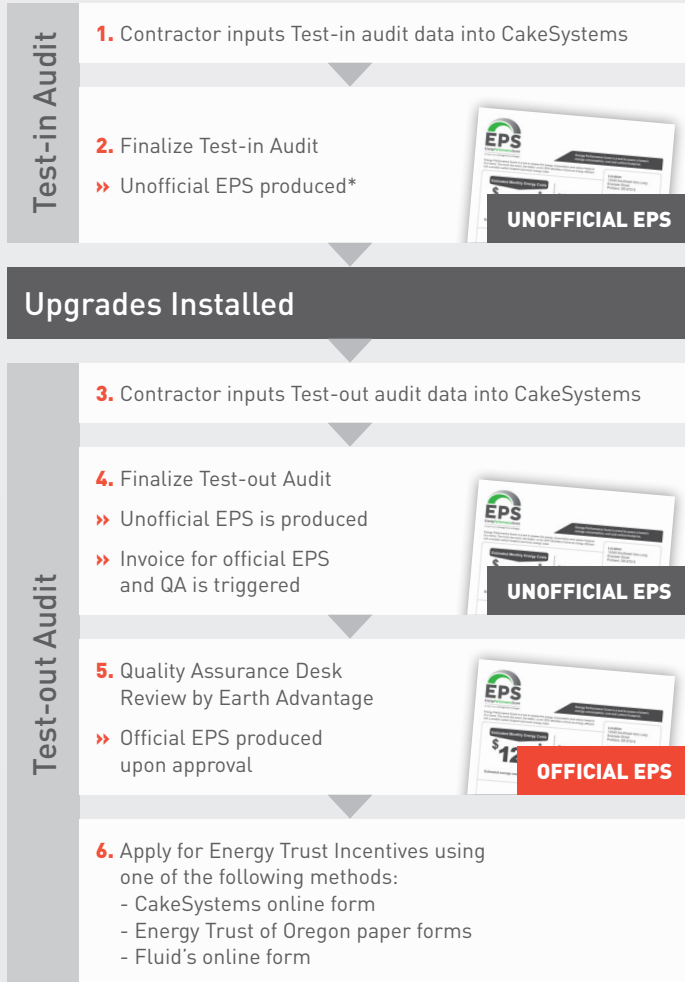
cakesystems.com

*2012 LBNL Study + "The Value of Green Labels in California Housing Market", July 2012, Nils Koc & Mathew Kahn and "Certified Home Performance, Assessing the Market Impacts of a Third-Party Certification on Residential Properties", May 2009, Ann Griffin, Ben Kaufman, and Sterling Hamilton

EPS Workflows for Existing Homes in Oregon

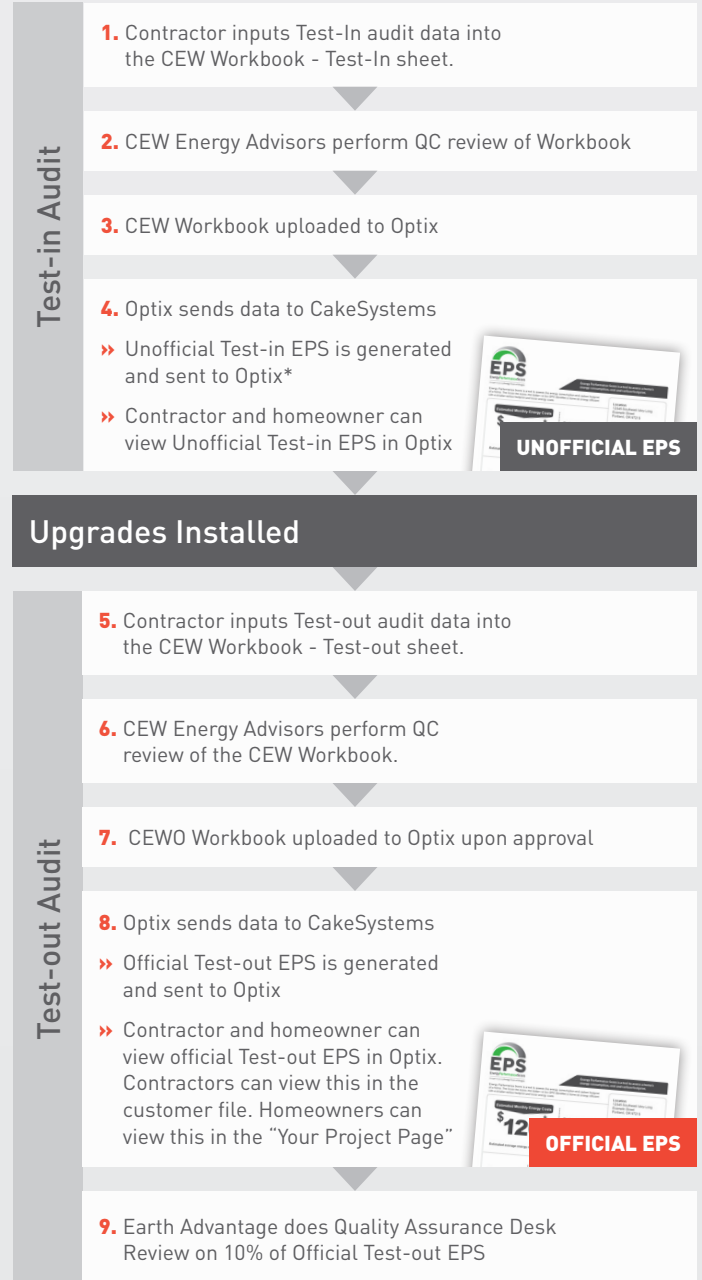
Energy Trust of Oregon

Contractor uses CakeSystems directly to produce EPS.
Contractor shares the EPS with homeowner directly.



Clean Energy Works Oregon

CEW Workbook populates CakeSystems to create the EPS. CakeSystems sends the EPS to Optix to be provided to the contractor and homeowner.



*Official Test-in EPS available upon contractor request to Earth Advantage.

Frequently Asked Questions

Why is the EPS scorecard considered an asset rating & how is this different than just looking at utility bills?

The EPS scorecard provides data on the measured performance of a homes' energy consumption and carbon footprint under standard operating conditions. The EPS is able to be listed on the RMLS allowing real estate professionals and appraisers a verifiable measurement of a home's energy performance that can translate to more fair valuation of a home's energy efficiency improvements.

What is the main sales advantage to creating an official EPS scorecard?

The EPS allows you as a contractor to sell the value of comfort and savings outside of a conversation about exact utility bill savings. Measuring energy performance of a home on a label that is verified and maintained by a third-party (Earth Advantage) gives you credibility in communicating the added value of savings and comfort a home can realize through your work. Lower EPS scores equate to energy savings and more affordable comfort.

How is the value of an EPS verified in Oregon?

The value is verified through use on the RMLS. Only official EPS scores can be listed on the RMLS by a Realtor. Over time as familiarity and usage grows the specific value of better EPS scores can be proven. This has been the case with the inclusion green building certifications on the RMLS.

Are there statistics to support homeowner demand for the EPS?

It has been shown in at least two separate reports on homes from Seattle to California, that green labeling such as the EPS adds value to homes at the point of resale. The value added ranges from 3 – 9% depending on the market.*

What is the value of an EPS to a homeowner?

The homeowner with an official EPS can use that to capture the added value that would otherwise be invisible to a potential future buyer. It also provides them with a clear metric outside of their utility bills, which are behaviorally dependent, to measure their home's performance. 70% of surveyed Seattle homeowners[†] considering energy improvements thought EPS data was useful in making decisions, although nearly all considered comfort and savings as more important.

What happens if the homeowner loses their scorecard? How do they get another one?

Earth Advantage maintains records of all official EPS scorecards ever issued for new and existing homes across the country. By contacting Earth Advantage a homeowner can receive a new digital copy of their official EPS.

How many EPS scorecards have been issued in Oregon to date?

Over 3,000 EPS scorecards issued have been issued for new and existing homes in Oregon.

Continued »

What are the differences/similarities between EPS for existing homes vs. new homes?

Similarities:

- › EPS is always the measured under standard operating conditions, regardless of the occupant.
- › Visually, the Scoresheet looks the same.
- › The Official EPS is third-party verified
- › The Official EPS can be listed in the RMLS
- › Contractors providing the EPS are required to be an Energy Trust Trade Ally

Differences:

- › Different energy modeling engine produces the New Home vs Existing Homes EPS.
- › In New Homes, the Homeowner will only see the Test-Out EPS. For Existing Homes, the Homeowner has the ability to see the change in the EPS before and after energy upgrades.
- › Homeowners will receive the EPS differently depending on the process. The new homes builder can send the homeowner the EPS. For existing homes, the home performance contractor or CEWO can send the homeowner an EPS. Benchmarks are different on the New Homes vs Existing Homes EPS.

How does a homeowner find a Realtor/ appraiser who knows about EPS?

Earth Advantage maintains a large database on their website that lists all the real estate professionals and appraisers who have taken our training. Simply visit: earthadvantage.org/our-partners/find-a-professional.html

How does an EPS get on the RMLS?

Only Realtors can upload an EPS score onto the RMLS. The Realtor code of ethics requires them to verify that the information is accurate and they need to have the homeowner's permission.

As a contractor, how do I use the EPS to explain "savings" effectively?

Every customer is interested in potential savings. The estimated savings provided on the EPS allows the contractor to indicate likely levels of savings without promising exact amounts. The contractor can state that these savings are based on a typical weather year and standard operating conditions. If a homeowner wants to know what "their" savings would be next year the contractor can point out it is up to how they operate the home and how severe the weather will be next year. "Your mileage may vary" analogy is an effective way to frame the conversation with the homeowner.

* "The Value of Green Labels in the California Housing Market", July 2012, Nils Kok & Matthew Kahn. and "Certified Home Performance, Assessing the Market Impacts of Third-Party Certification on Residential Properties", May 2009, Ann Griffin, Ben Kaufman, and Sterling Hamilton.

† National Association of Realtors 2012 Report.



Energy Performance Score

brought to you by Energy Trust of Oregon

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

EPS™ is an energy performance score that measures and rates the energy consumption and carbon footprint of an existing 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

\$203

Estimated average annual energy costs: \$2,431*

Location: 1935 House, Portland, OR 97214

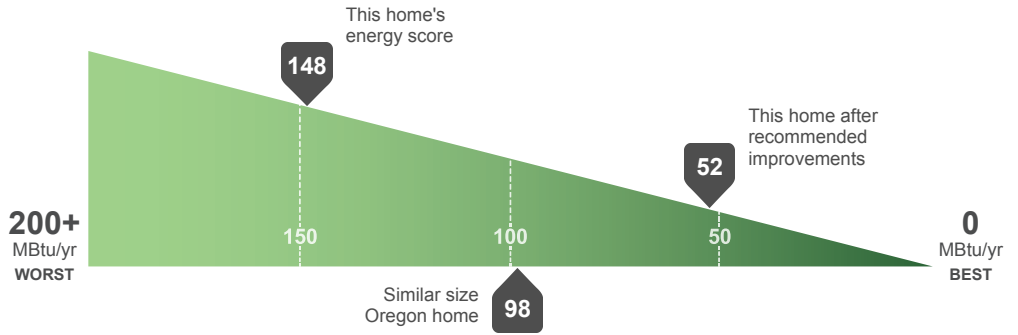
YEAR BUILT: 1935, SQ. FOOTAGE: 1,800, EPS ISSUE DATE: 09-18-2013

Utilities: Gas: NW Natural, Electric: Portland General Electric

Estimated average energy costs per month: Electric \$42, Natural gas \$161

ENERGY CONSUMPTION: Measured in millions of Btu per year (MBtu/yr). One million Btu = 293 kWh or 10 therms.

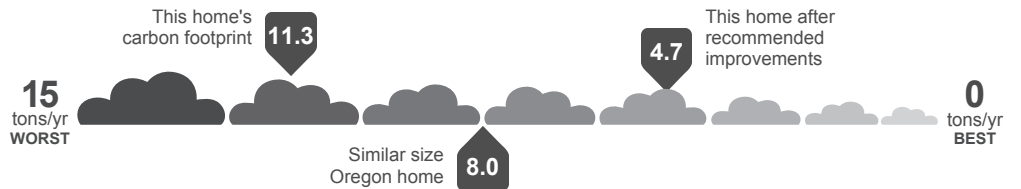
Energy Score 148



Estimated average energy usage: Electric (kWh): 7,135*, Natural gas (therms): 1,485

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).



*Actual energy costs may vary and are based on many factors such as occupant behavior, weather and utility rates. 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.

UNOFFICIAL





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

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

Attic Insulation: None	Wall Insulation: None	Floor Insulation: None
Envelope Tightness: 4250 cfm50	Windows: Single Pane	Lighting: 15% Efficient
Space Heating: Furnace - Inefficient	Water Heating: Tank Standard	

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, additions and updates made to the home after the issue date of this score sheet may change the energy score, carbon footprint and estimated energy costs for this home. EPS does not factor in occupant behavior, and as a result, your actual energy costs may vary.

USEFUL TERMINOLOGY	<p>Energy-efficient features R-Value: Rates the efficiency of insulation; a higher R-Value signals improved performance of ceiling, wall and floor insulation.</p> <p>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.</p> <p>CFM50: Measures air leakage in Cubic Feet per Minute at 50 Pascals; this measurement is taken during a blower door test. The higher the measurement number, the more likely there is a high rate of air leakage occurring in your home.</p> <p>EF: Energy Factor for water heaters or appliances; the higher the EF, the more energy efficient the model.</p>	<p>Energy score EPS is displayed in millions of Btu per year.</p> <p>A Btu or British Thermal Unit is a measurement of the heat content of fuel. One Btu ≈ the energy produced by a single wooden match.</p> <p>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.</p>	<p>Similar size Oregon home Energy: The energy consumption of an average Oregon home of similar square footage, heating type and geographical region.</p> <p>Carbon: The carbon footprint of an average Oregon home of similar square footage, heating type, geographical region and utility mix.</p>
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Brought to you by Energy Trust of Oregon
 Energy Trust developed EPS to educate about energy efficiency and provide a tool to help inform energy-efficiency improvement decisions.

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





Energy Performance Score

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

EPS™ is an energy performance score that measures and rates the energy consumption and carbon footprint of an existing 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

\$164*

Estimated average annual energy costs:

\$1,971*

Location:

1975 House
Portland, OR 97214

YEAR BUILT: 1975

SQ. FOOTAGE: 1,800

EPS ISSUE DATE: 09-18-2013

Utilities:

Gas: NW Natural

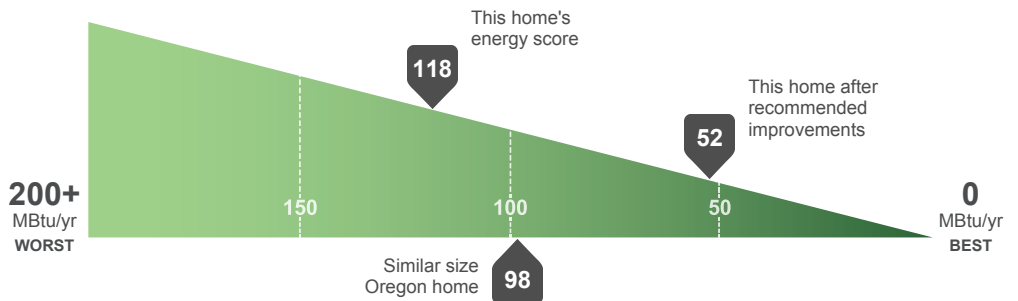
Electric: Portland General Electric

Estimated average energy costs per month: Electric \$41, Natural gas \$123

ENERGY CONSUMPTION: Measured in millions of Btu per year (MBtu/yr). One million Btu = 293 kWh or 10 therms.

Energy Score

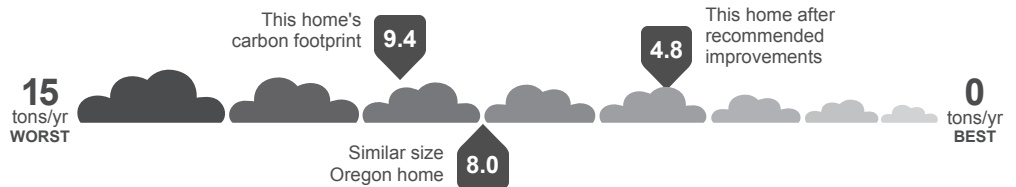
118



Estimated average energy usage: Electric (kWh): 6,993*, Natural gas (therms): 1,140

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).



*Actual energy costs may vary and are based on many factors such as occupant behavior, weather and utility rates. 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.

UNOFFICIAL





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

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

Attic Insulation: Partial	Wall Insulation: Insulated	Floor Insulation: Insulated
Envelope Tightness: 3100 cfm50	Windows: Single Pane	Lighting: 15% Efficient
Space Heating: Furnace - Inefficient	Water Heating: Tank Standard	

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, additions and updates made to the home after the issue date of this score sheet may change the energy score, carbon footprint and estimated energy costs for this home. EPS does not factor in occupant behavior, and as a result, your actual energy costs may vary.

USEFUL TERMINOLOGY	<p>Energy-efficient features R-Value: Rates the efficiency of insulation; a higher R-Value signals improved performance of ceiling, wall and floor insulation.</p> <p>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.</p> <p>CFM50: Measures air leakage in Cubic Feet per Minute at 50 Pascals; this measurement is taken during a blower door test. The higher the measurement number, the more likely there is a high rate of air leakage occurring in your home.</p> <p>EF: Energy Factor for water heaters or appliances; the higher the EF, the more energy efficient the model.</p>	<p>Energy score EPS is displayed in millions of Btu per year.</p> <p>A Btu or British Thermal Unit is a measurement of the heat content of fuel. One Btu ≈ the energy produced by a single wooden match.</p> <p>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.</p>	<p>Similar size Oregon home Energy: The energy consumption of an average Oregon home of similar square footage, heating type and geographical region.</p> <p>Carbon: The carbon footprint of an average Oregon home of similar square footage, heating type, geographical region and utility mix.</p>
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EnergyPerformanceScore

brought to you by Energy Trust of Oregon

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

EPS™ is an energy performance score that measures and rates the energy consumption 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

\$69*

Estimated average annual energy costs:

\$825*

Estimated average energy costs per month: Electric \$37, Natural gas \$32

Location

1935 Home Street
Portland, OR 97201

YEAR BUILT: 2013

SQ. FOOTAGE: 1,800

EPS ISSUE DATE: 09-25-13

Utilities:

Gas: NW Natural

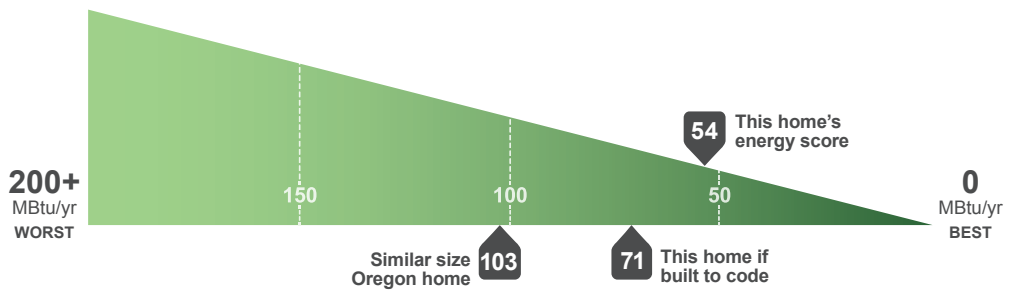
Electric: Portland General Electric

ENERGY CONSUMPTION:

Measured in millions of Btu per year (MBtu/yr). One million Btu = 293 kWh or 10 therms.

Energy Score

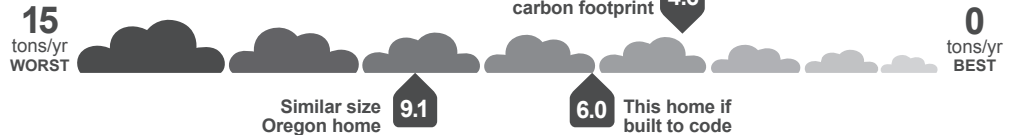
54



Estimated average energy usage: Electric (kWh): 4,407*, Natural gas (therms): 389

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): 2.3, Natural gas (tons/yr): 2.3

*Actual energy costs are based on many factors such as occupant behavior and weather. A home's EPS takes into account the energy-efficient features installed in the home, but does not account for occupant behavior.

PRELIMINARY





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

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

Insulated Ceiling: R-49	Efficient Windows: U-0.30	Space Heating: 94.0% AFUE Furnace
Insulated Walls: R-23	Efficient Lighting: 100.0%	Envelope Tightness: 4.0 ACH @ 50Pa
Insulated Floors: R-30	Water Heater: Tankless 0.82 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

<p>Energy-efficient features R-Value: Rates the efficiency of insulation; a higher R-Value signals improved performance of floor, ceiling and wall insulation.</p> <p>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.</p> <p>ACH @ 50Pa: Total air changes per hour at 50 pascals; a low number signifies a properly-sealed home with fewer air leaks.</p> <p>EF: Energy Factor for water heaters or appliances; the higher the EF, the more energy efficient the model.</p>	<p>Energy score EPS is displayed in millions of Btu per year.</p> <p>• A Btu or British Thermal Unit is a measurement of the heat content of fuel. • One Btu ≈ the energy produced by a single wooden match.</p> <p>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.</p>	<p>Similar size Oregon home Energy: The energy consumption of an average Oregon home of similar square footage, heating type and geographical region.</p> <p>Carbon: The carbon footprint of an average Oregon home of similar square footage, heating type, geographical region and utility mix.</p> <p>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.</p>
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Energy Trust of Oregon is an independent nonprofit organization dedicated to helping utility customers benefit from saving energy and tapping renewable resources. Our services, cash incentives and energy solutions have helped participating customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas save on energy costs. Our work helps keep energy costs as low as possible, creates jobs and builds a sustainable energy future. **Printed with vegetable-based inks on paper that contains 100% post-consumer waste.**

High Performance Home Valuation Addendum

In order to evaluate the energy efficiency and high performance additions of the dwelling improvements, and in the absence of comparable sales or other traditional database, the appraiser has reviewed the estimate of energy efficiency component costs as presented below.

The High Performance Value premium, based on the incremental installation costs of the energy-efficiency features, is \$_____, which represents an added value to the market value conclusion set forth in the appraisal report.

Adjusted Value Conclusion	
Market Value	\$
Energy Efficiency Value	\$
TOTAL ESTIMATED VALUE	\$
DATE	Appraiser Signature

In providing the total estimated value, the appraiser suggests an incremental High Performance Value to the property based on the incremental cost of the upgrades listed below versus a code built home or standard practice, when no code exists for the measure. The appraiser has used acceptable valuation methodology in including the Energy Efficiency Value Increment in the absence of comparable market data on energy efficient properties as stipulated by FNMA and FHMLC.

Builder/Realtor/Owner to Fill Out with Data from Pages 2 and 3

Home Asset Label

Label:	Score:
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Home Certification Information

Certification:	Level:
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Summary of High Performance Features and Incremental Costs Above a Code-Built Home or Standard Practice

	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
	\$
TOTAL	\$

The following responsible planning, energy efficient or green features were added to this home under the below categories. Each respective category has been assigned a respective value according to construction, installation, process or procurement costs.

Home Asset Label	Score
Energy Performance Score (EPS)	
Home Energy Rating System (HERS)	
Home Energy Score (HES)	
Other (please specify):	

Third-Party Certification	Level (ex. Gold)
Earth Advantage®	
ENERGY STAR®	
LEED® for Homes	
Other (please specify):	

Fill out Incremental Cost Above Code or Standard Practice

Durability Strategies

1. Plywood (versus OSB)	\$
2. Rainscreen Wall System with 3/8" Air Space	\$
3. Window and Door Sill Pan Flashing System	\$
4. 40-Year Roofing Materials	\$

Wall Framing and Insulation

5. Exterior Foam Insulation	\$
6. Structural Insulated Panel System (SIPS)	\$
7. Insulated Concrete Forms System (ICF)	\$
8. Ceiling Insulation – Upgraded	\$
9. BIBS (blown-in fiberglass or cellulose insulation) versus cost of batt insulation	\$
10. Spray Foam Insulation	\$

Heating and Cooling Systems

11. Air Conditioning	Efficiency:	\$
12. Furnace	Efficiency:	\$
13. Heat Pump	Efficiency:	\$
14. Ductless Heat Pump System	Efficiency:	\$
15. Heat Pump: Geothermal or Water Source	Efficiency:	\$
16. Integrated Space/Water Heating System: Turbonic/Hydronic		\$
17. Sealed and Tested Ductwork		\$
18. Heat or Energy Recovery Ventilators		\$

Appliances

19. Water Heater - Tankless	Efficiency:	\$
20. Water Heater	Efficiency:	\$
21. Clothes Washer		\$
22. Refrigerator		\$
23. Dishwasher		\$

Air Quality

24. Air Filtration System		\$
25. Mechanical Ventilation	Type:	\$
26. Green-Labeled Carpet and Pad		\$
27. Central Vacuum		\$

Indoor Water

28. High-Efficiency Toilet (1.28 gpf or dual flush)		\$
29. On-Demand Hot Water		\$

Irrigation

30. Low-Volume Irrigation System		\$
31. Rainwater Collection		\$

Solar Thermal and Photovoltaic

32. Photovoltaic (solar electric system)		\$
33. Photovoltaic: Pre-wired photovoltaic for future hookup		\$
34. Solar Hot Water System		\$
35. Solar Hot Water: Pre-Plumbed		\$

Innovative Measures

36.		\$
37.		\$
38.		\$
	TOTAL	\$