

Home Energy Scores in Eugene

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June 27, 2019
Low Income Energy Efficiency Workgroup



Overview

- Eugene at a glance
- Development of the Home Energy Score program for rentals
- Program results
- Next steps for Home Energy Score in Eugene



Eugene at a glance

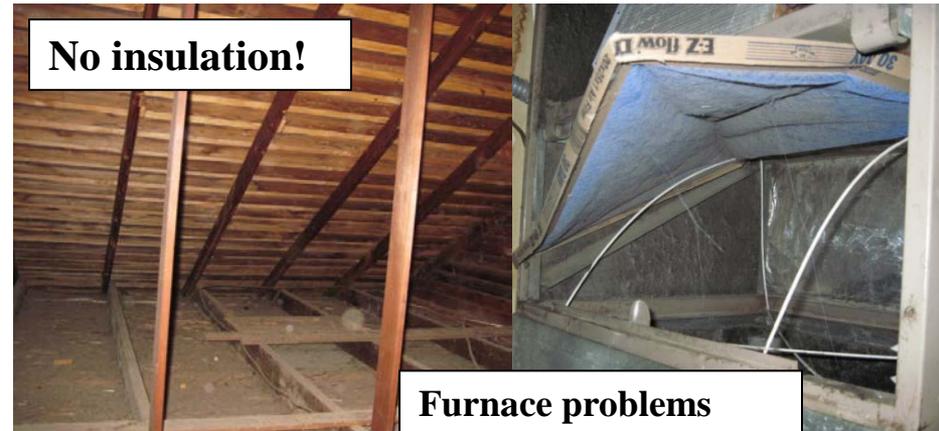


- Population 166,000 (University of Oregon enrollment 23K)
- EWEB: public utility, provides electricity & water from the McKenzie River
- The Eugene community is relatively progressive, has historically valued conservation & stewardship
- Eugene passed a Climate Recovery Ordinance in 2014
- Eugene is facing a housing shortage*

* 2017 article by realtor.com: Eugene is the #2 most-constrained housing market, behind Seattle

Eugene's Rental Housing

- Around half of housing units are rentals
- Thousands of rental properties still in need of energy upgrades*
- Renters often move into a home without any idea of what the utility costs will be
- Renters pay for energy efficiency in their rates, but often do not receive any benefits or services



* A 2017 study by the UO Business Consulting Group identified over 6000 Eugene rentals in need of upgrades. The housing shortage means landlords can rent properties easily, without making upgrades.

Rental Support in Eugene



- Offers consumption education, efficiency programs
- Rebates or 0% interest loans for energy & water efficiency improvements in rentals



- Offers many resources and services for renters
- Engages with broader community while integrating sustainability

City of Eugene



- Rental Housing Code protects health, safety & welfare of tenants
- Funds a variety of services for rentals

City of Portland

State of Oregon

Lane County

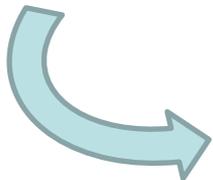
Rental Owners Association



Home Energy Score in Oregon

2012: EWEB became a Home Energy Score Partner with U.S. Department of Energy (1st Partner in Oregon)

2016: State of Oregon defined how Home Energy Scores are to be used in Oregon



Info on single-page, with utility-specific pricing

EWEB HOME ENERGY SCORE
 U.S. DEPARTMENT OF ENERGY
 THIS HOME'S ENERGY COSTS: **\$1,718** PER YEAR
 THIS HOME'S SCORE: **3** OUT OF 10

HOME PROFILE
 LOCATION: 123 Main St, Eugene, OR 97405
 YEAR BUILT: 1952
 HEATED FLOOR AREA: 1200 sq. ft.
 NUMBER OF BEDROOMS: 3

ASSESSMENT
 ASSESSMENT DATE: 2016-02-04
 ASSESSOR: Emily Ryles, University of Oregon

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?
 Electrical: 5,000 kWh / \$908
 Natural Gas: 450 therms / \$762
 Other: 0 gal/yr / \$0
 TOTAL ENERGY COSTS PER YEAR: \$1,718

THIS HOME'S CARBON FOOTPRINT:
 This Home: **3.83** tons/year
 WORST: 8+ tons/year
 BEST: 0 tons/year

Nutrition Facts	
Serving Size 1/2 cup (115g) Servings Per Container About 4	
Amount Per Serving	
Calories 250	Calories from Fat 130
% Daily Value*	
Total Fat 14g	22%
Saturated Fat 9g	45%
Cholesterol 55mg	18%
Sodium 75mg	3%
Total Carbohydrate 26g	9%
Dietary Fiber 0g	0%
Sugars 26g	
Protein 4g	
Vitamin A 10%	Vitamin C 0%
Calcium 10%	Iron 0%
* Percent Daily Values are based on a 2,000 calorie diet.	



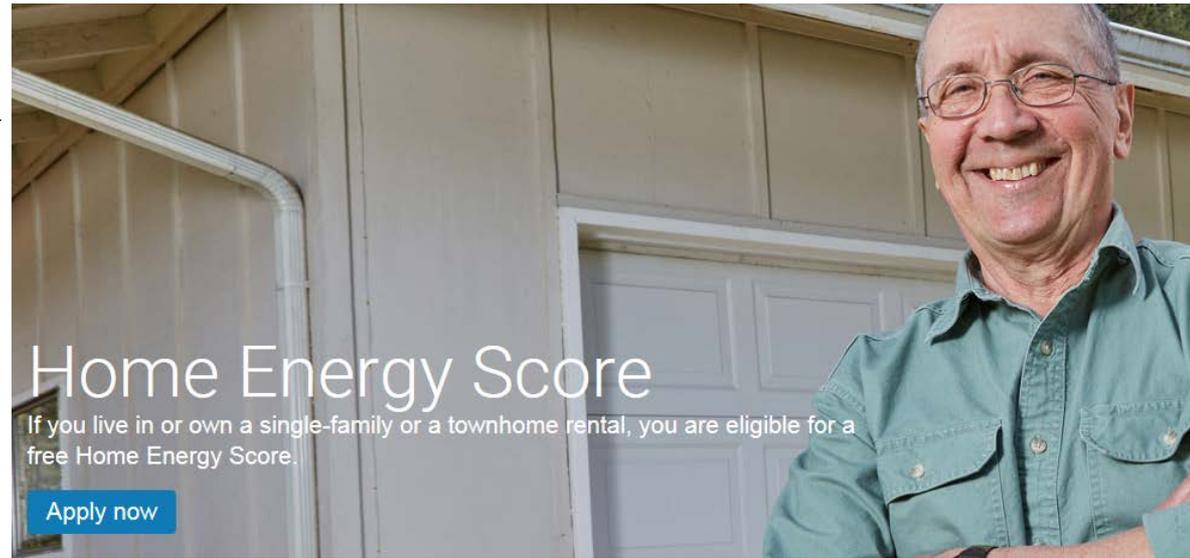
Rental HES Program Development

- In 2016, EWEB partnered with UO's Office of Sustainability and the City of Eugene
- The City pays student wages
- Students trained as State-approved Home Energy Assessors
- 18 assessors trained so far



Home Energy Score in Eugene

- Currently offering **FREE** Home Energy Scores for rental properties
- Owners or tenants can apply
- ~1-hour assessment
- Tenants and property owners receive a report, program info



HOME ENERGY SCORE
 THIS HOME'S SCORE: **3** OUT OF 10

THIS HOME'S ESTIMATED ENERGY COSTS
\$1,718 PER YEAR

HOME PROFILE
 LOCATION: 123 Main St, Eugene, OR 97401
 YEAR BUILT: 1982
 HEATED FLOOR AREA: 2000 sq. ft.

ASSESSMENT
 ASSESSMENT DATE: 2/18/2024
 COMPLETION DATE: 2/18/2024
 ASSESSOR: Emily Pyles, University of Oregon

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric:	8,856 kWh	\$556
Natural Gas:	40K therm/yr	\$762
Other:	0 gal/yr	\$0

TOTAL ENERGY COSTS PER YEAR: \$1,718

THIS HOME'S CARBON FOOTPRINT:
 38.83 tons/year

Apply now to learn more or improve this score and save money!

Score today:	Score with improvements:	Estimated energy savings with improvements:	Estimated carbon reduction with improvements:
3	8	\$545 PER YEAR	41%

TACKLE ENERGY WASTE TODAY!
 Enjoy the rewards of a comfortable, energy efficient home that saves you money.

- Get your home energy assessment (Done!)
- Choose which energy upgrades to address first.
- Get a bid. Find an EWEB participating contractor by visiting our list online at [bi3y/EWEB/contractor](#).
- Complete energy improvements. For eligible measures, EWEB may be able to offer a rebate or a 0% interest loan. For more details, visit [web.org/homeenergy](#) or call EWEB at 541-685-7088.

PRACTICAL ENERGY IMPROVEMENTS - COMPLETE NOW OR LATER

To achieve the "Score with Improvements," all recommended improvements listed below must be completed. Improvements may have a simple payback of ten years or less and may be eligible for EWEB financing and possible mortgage financing. For a more detailed explanation of costs and payment, please get a bid from a contractor.

FEATURE	TODAY'S CONDITION	RECOMMENDED IMPROVEMENTS
Attic insulation	R-8	Add insulation to R19 or space above
Floor insulation	R-6	Insulate floors to R10 or as space allows
Wall insulation	R-7	Insulate from the inside professionally or sealed
Exterior/air Sealing	Not professionally air sealed	Seal air leaks
Windows	Double-pane sealed	Seal or replace windows
Doors	None	Seal or replace doors
Roofing system	Center Gutter, Goe	Install an efficient heat pump
Cooling system	No cooling system	Seal ductwork
Duct insulation	Not fully insulated	Insulate important ducts to R11
Draft sealing	Drinks not fully sealed	Seal ducts sealed for leaks & heat if necessary
Water heater	Electric storage	Install a heat pump water heater
Water PV	None	Install a heat pump water heater

WATER EFFICIENCY FEATURES

FEATURE	TODAY'S CONDITION	RECOMMENDED IMPROVEMENTS
Toilet Flush (WATC)	Toilet #1 = 5 gal/flush Toilet #2 = 1.6 gal/flush	Replace toilets with water-efficient low-flow toilets (using 1.28 gal or less)
Water leaks	Number of toilet leaks = 1 Number of non-toilet leaks = 1	Repair water leaks. Consider upgrading your meter to an advanced meter with leak detection.

For more information about how EWEB can help with water efficiency improvements, visit [bi3y/EWEB/water](#).

Home Energy Score in Eugene

Score



Energy costs



Carbon footprint



EWEB HOME ENERGY SCORE
Know the score. Outsmart energy waste.

U.S. DEPARTMENT OF ENERGY
THIS HOME'S SCORE **3** OUT OF 10

THIS HOME'S ESTIMATED ENERGY COSTS
\$1,718 PER YEAR

Better Buildings Home Energy Score

Your home's current score **3**

Uses more energy 1 2 3 4 5 6 7 8 9 10 Uses less energy

Official Assessment ID# 100001

The Home Energy Score is a national rating system developed by the U.S. Department of Energy. The Score reflects the energy efficiency of a home based on the home's structure and heating, cooling, and hot water systems. The average score is a 5. Learn more at HomeEnergyScore.gov.
Made possible through a partnership between EWEB, University of Oregon, and the City of Eugene.

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric:	8,695 kWh	\$956
Natural Gas:	406 therms/yr	\$762
Other:	0 gal/yr	\$0

TOTAL ENERGY COSTS PER YEAR \$1,718

THIS HOME'S CARBON FOOTPRINT:
as measured in metric tons of CO₂ equivalent per year

This Home **3.83**

tons/year WORST 8+ tons/year BEST 0

What should my home's carbon footprint be? Oregonians should reduce carbon pollution per household to 7.1 tons per year by 2020, and to 1.9 tons per year by 2050 to reach our climate goals.

- Actual energy use and costs may vary based on occupant behavior and other factors.
- The carbon footprint is based only on estimated building energy use.
- Carbon emissions are calculated based on utility- and fuel-specific emissions factors provided by the Oregon Department of Energy.
- Estimated energy costs are calculated based on current utility prices (\$0.11/kWh for electricity; \$1.09/therm for natural gas).
- This report meets Oregon's Home Energy Performance Score Standard

HOME PROFILE
LOCATION:
123 Main St
Eugene, OR, 97405
YEAR BUILT:
1952
HEATED FLOOR AREA:
1250 sq. ft.
NUMBER OF BEDROOMS:
3

ASSESSMENT
ASSESSMENT DATE:
2018-02-04
EXPIRATION DATE:
2026-02-04
ASSESSOR:
Emily Ryba
University of Oregon
PHONE:
541-346-0709
EMAIL:
scoreprogram@uoregon.edu
CCB LICENSE #:
(Public institution, exempt from licensure)

Flip over to learn how to improve this score and use less energy!

Home Energy Score in Eugene

Score with improvements



Score today: 3	Score with improvements:* 8	Estimated energy savings with improvements: \$545 per year	Estimated carbon reduction with improvements: 41%
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TACKLE ENERGY WASTE TODAY!
Enjoy the rewards of a comfortable, energy efficient home that saves you money.

- Get your home energy assessment (Done!)
- Choose which energy upgrades to address first.
- Get a bid. Find an EWEB-participating contractor by visiting our list online at bit.ly/EWEBcontractor.
- Complete energy improvements. For eligible measures, EWEB may be able to offer a rebate or a 0% interest loan. For more details, visit eweb.org/saveenergy or call EWEB at 541-685-7088.

*** PRACTICAL ENERGY IMPROVEMENTS - COMPLETE NOW OR LATER**

To achieve the "score with improvements," all recommended improvements listed below must be completed. Improvements likely will have a simple payback of ten years or less and may be eligible for EWEB funding and possible mortgage financing. For a more detailed explanation of costs and payment, please get a bid from a contractor.

FEATURE	TODAY'S CONDITION	RECOMMENDED IMPROVEMENTS
Attic insulation	R-9	Add insulation to R49 as space allows
Floor insulation	R-0	Insulate floors to R30 or as space allows
Wall insulation	R-7	-
Envelope/Air Sealing	Not professionally air sealed	Have the home professionally air sealed
Windows	Double-pane wood	-
Skylights	None	-
Heating system	Central furnace, Gas	Install an efficient heat pump
Cooling system	No cooling system	-
Duct insulation	Not fully insulated	Insulate exposed ducts to R11
Duct sealing	Ducts not fully sealed	Have ducts tested for leaks & seal if necessary
Water heater	Electric storage	Install a heat pump water heater
Solar PV	None	Visit bit.ly/EWEBsolar for more info

The above energy improvements are recommended by EWEB to improve the score and lower the home's carbon footprint. Some improvements may not be recommended by the U.S. Department of Energy due to cost-effectiveness or fuel conversion reasons. USDOE recommendations may be provided upon request.

WATER EFFICIENCY FEATURES		
FEATURE	TODAY'S CONDITION	RECOMMENDED IMPROVEMENTS
Toilet flush rate(s) (gal/flush)	Toilet #1 = 5 gpf; Toilet #2 = 1.6 gpf	Replace toilet(s) with water-efficient low-flow toilet(s) using 1.28 gpf or less.
Water leaks	Number of toilet leaks = 1; Number of non-toilet leaks = 1	Repair water leaks. Consider upgrading your meter to an advanced meter with leak detection.

For more information about how EWEB can help with water efficiency improvements, visit bit.ly/EWEBwater.

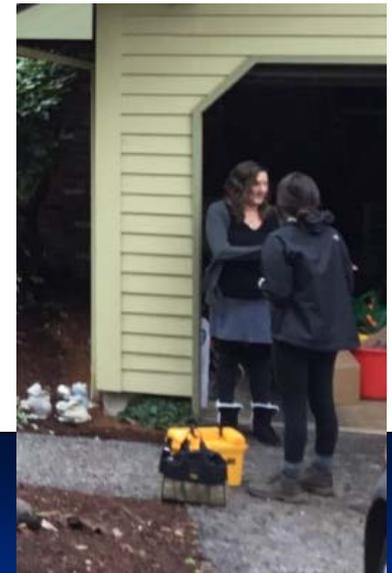
Recommended improvements



Home Energy Score in Eugene



- Students conduct research on each home first
- Students visit homes in 2-person teams
- 5-15 assessments completed per week



Home Energy Score in Eugene



Home Energy Score in Eugene





Results

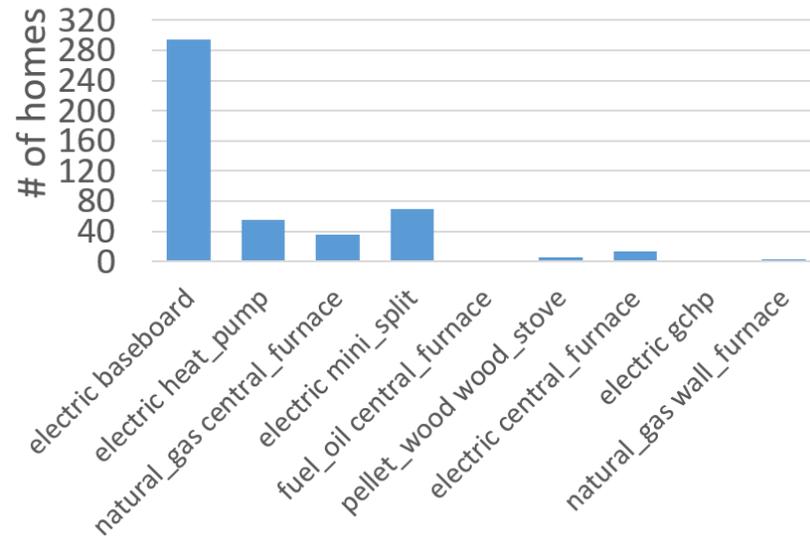
- 468 homes assessed since 2017
- Student assessors find the program beneficial
 - General satisfaction (80%) based on end-of-term surveys
 - 4 students returned again for second and third years
- Tenants find the program beneficial
 - 73% of assessments were initiated by tenants.
 - 89% agreed it “helped me understand my consumption” and “helped me determine the efficiency of my rental”
 - 100% agreed the information would help when choosing a rental
 - 33% discussed results with their landlord
- Some rental owners were motivated to take action
 - ~9% of rental owners made improvements, invested \$188K+
 - 80% agreed it “helped me determine the efficiency of my rental”
 - Most rental owners could not make upgrades due to timing, cost, etc.



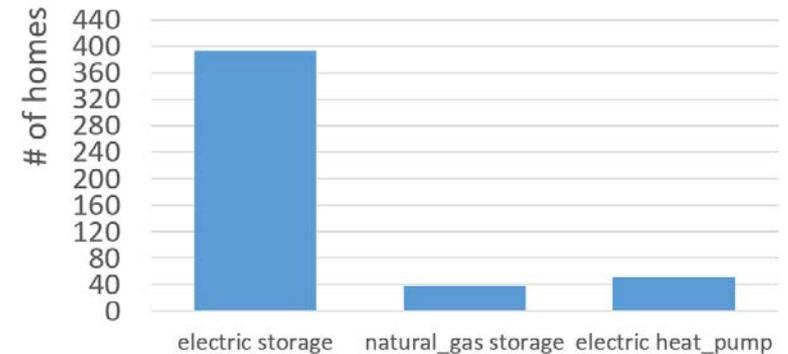
Results

A glance at the rental housing stock, taken from HES data

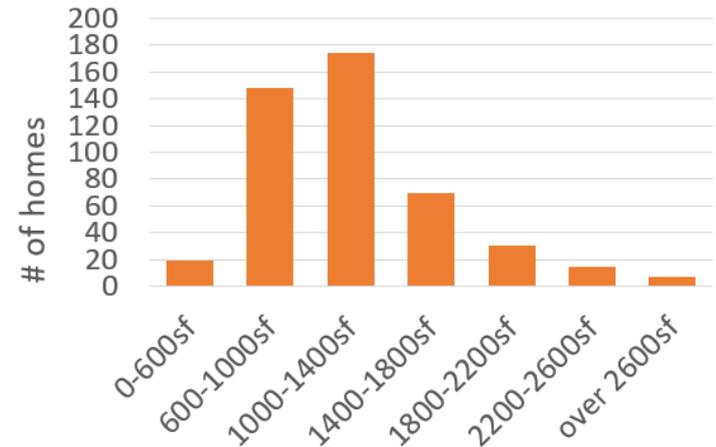
Variation in Heating Systems



Variation in Water Heating Systems



Variation in Home Size

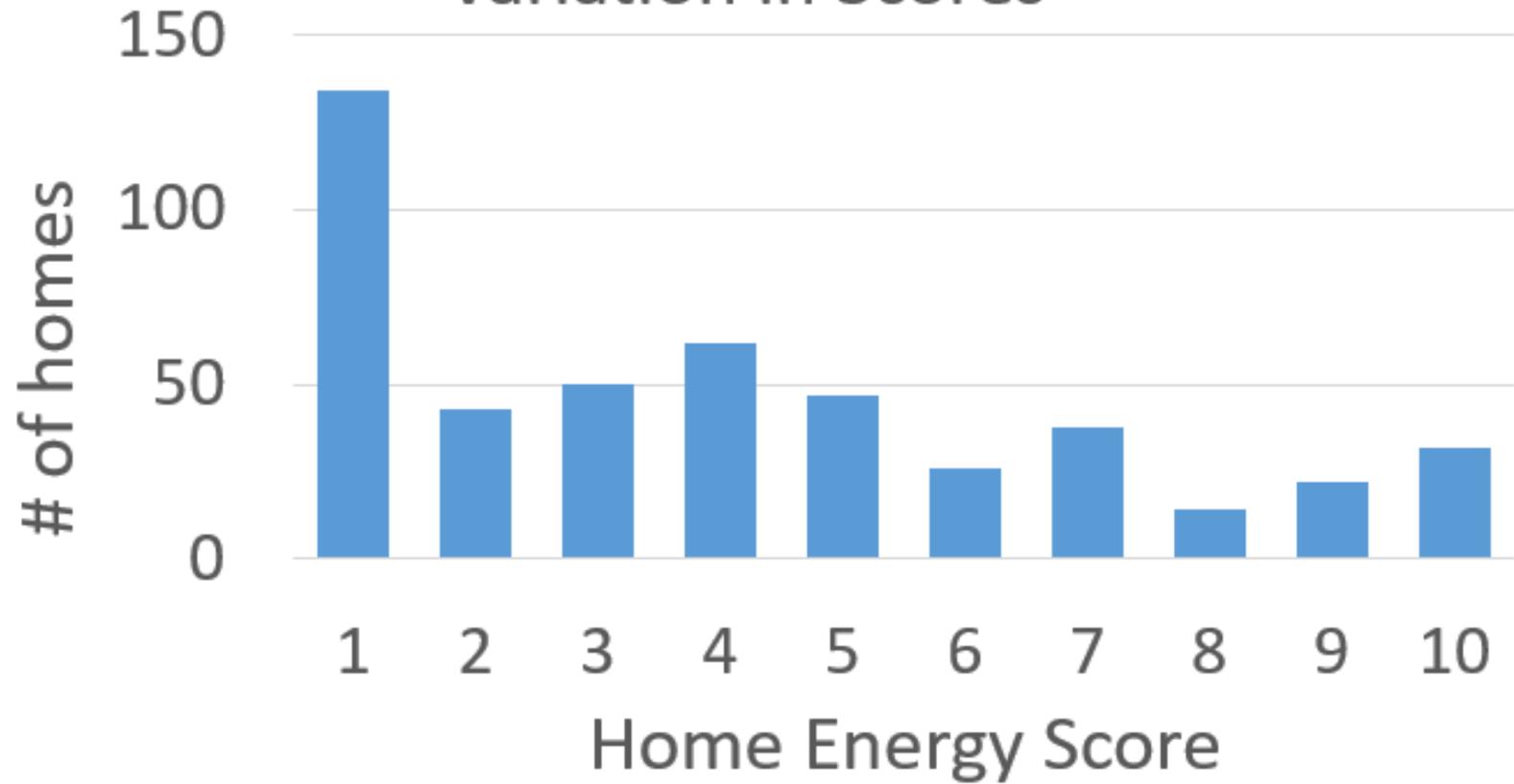




Results

Variation in Scores

Average score = 4.1

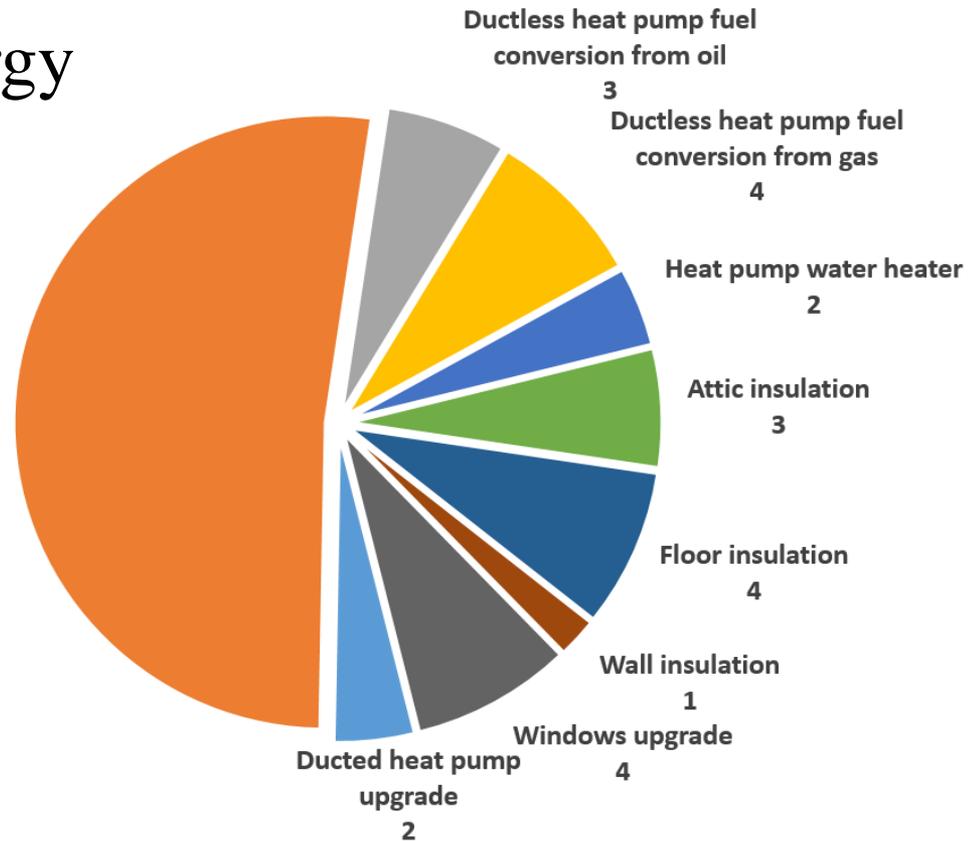


Results

What measures were installed as a result of the Home Energy Score program?

Ductless heat pump conversion from electric
25

EWEB contributed ~\$30,000 in rebates, plus additional 0% interest loan funding, to help these measures get installed.

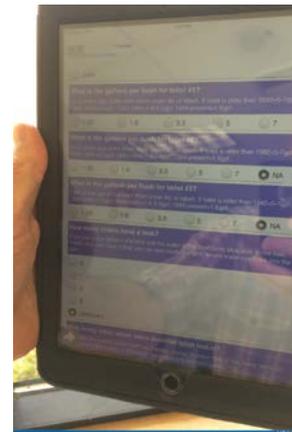
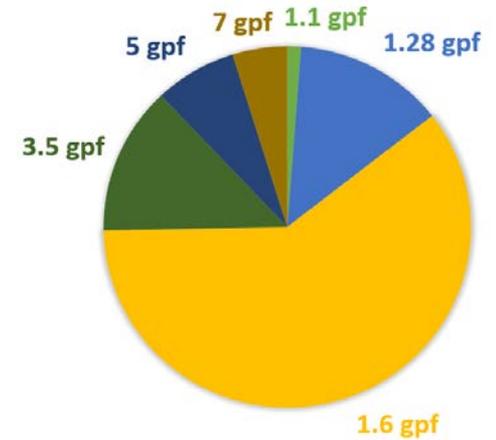


Program Evolution

- Collecting water efficiency data
 - Leaks, toilet flush rates
 - Results show new toilets have potential to save Eugene renters \$2.3 million per year
- Using iPads to streamline process, collect photos, helps with QA
- Added a page to the report providing low-cost tips to lower your bills



TOILET FLUSH RATES



EWEB

LOW-COST TIPS TO LOWER YOUR BILL

These actions can save you:

\$325

<input type="checkbox"/>	\$45	Adjust your thermostat by two degrees. Turn it down in winter, up in summer. Dress for the season.
<input type="checkbox"/>	\$35	Reduce your hot water use: (1) Take showers & not baths, (2) shorten showers, (3) wash clothes with cold water, (4) install low-flow shower heads and faucet aerators.
<input type="checkbox"/>	\$45	Heat and cool a smaller space by closing off unused rooms & turn off the heating & cooling in those rooms.
<input type="checkbox"/>	\$70	Get rid of your television.
<input type="checkbox"/>	\$45	Replace your most commonly-used lights with LEDs.
<input type="checkbox"/>	\$25	Unplug electronics when not in use. Avoid standby power use by unplugging devices or using smart power strips.
<input type="checkbox"/>	\$60	Set your thermostat back at night or while you are away. Adjust manually, or use a programmable Tstat. (Myth-buster: It does not cost you more to get the space back to temperature.)

Total: \$325 per year in potential savings

YOUR HOME'S ENERGY USE *

* The chart above shows where your energy dollars go: mostly space and water heating. Included with "Other electric loads" are your stove, clothes washer & dryer, and other devices.

OTHER WAYS TO MANAGE YOUR BILLS

ACTION	POTENTIAL RESULTS
<input type="checkbox"/> Use a thermometer <small>For a reality check and better control, purchase a thermometer and check the space temperature before adjusting the thermostat.</small>	Some energy savings
<input type="checkbox"/> Reduce drafts <small>Seal up gaps around windows and doors with weatherstripping or even towels. Close chimney damper between fires, or seal it off if not used. Avoid heating with a fireplace, they heat poorly and bring cold air into the house.</small>	Better comfort, some savings
<input type="checkbox"/> Limit your use of space heaters <small>Electric space heaters can be expensive to run, costing around ten cents an hour.</small>	Some energy savings
<input type="checkbox"/> Lower water use to save on water <i>and</i> wastewater bills <small>Fix any water leaks, and limit irrigation or plant water-efficient plants.</small>	Water & wastewater savings
<input type="checkbox"/> Monitor your consumption each month <small>Compare your actual energy bills with the estimates above. Your actual electricity bills were \$688 over the last 12 months.</small>	Smarter consumption



Next Steps

- Publish scores online, to help renters as they shop for affordable housing
 - Earth Advantage's Green Building Registry
 - PDF on eweb.org website
- HES to help with climate goals
 - Eugene's revised Climate Action Plan (the CAP2.0) may include HES as one of the proposed actions
- Integrate a customer feedback survey
- Improve recruitment of new assessors
- Improve outreach



Thanks!
Questions?

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Eugene Water & Electric Board
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Extra slides

What EWEB provides
to our customers along
with the Score report

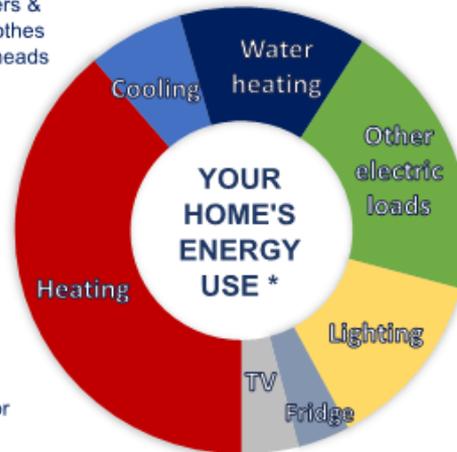


LOW-COST TIPS TO LOWER YOUR BILL

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Total: \$325 per year in potential savings

OTHER WAYS TO MANAGE YOUR BILLS

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<input type="checkbox"/> Monitor your consumption each month Compare your actual energy bills with the estimates above. Your actual electricity bills were \$688 over the last 12 months.	Smarter consumption



2019 Residential Customer Solutions Programs, Rebates and Loans

Program	Rebates Available	Loans Available (0% interest)	Program Requirements
Ducted Heat Pump	\$1,000 in lieu of loan	Up to \$12,000 for site-built homes	EWEB customers eligible for loan OR rebate. Air-source heat pumps only. Learn more at bit.ly/EWEBductedhp
		Up to \$7,000 for manufactured homes	
Ductless Heat Pump	\$650 in lieu of loan	Up to \$4,000, plus \$1500 per add'l head installed	EWEB customers eligible for loan OR rebate. Learn more at bit.ly/EWEBdhp
Insulation	\$0.40/Sq. ft. of insulation, up to 50% of job cost in lieu of loan	Up to \$4,000	Home must have electric heat and be poorly insulated. EWEB customers eligible for loan OR rebate. Learn more at bit.ly/EWEBwindowsinsul
Windows	\$4.00/Sq. ft. of glass with U-factor $\leq 0.22^*$ in lieu of loan	Up to \$4,000 for U-factor $\leq 0.25^*$	Home must have electric heat and have single pane wood windows, single pane metal windows, or double pane metal windows. EWEB customers eligible for loan OR rebate. Learn more at bit.ly/EWEBwindowsinsul
		Up to \$6,000 for U-factor $\leq 0.22^*$	
Heat Pump Water Heater	\$400 for Tier 3 units in lieu of loan	N/A	Install a qualified heat pump water heater and submit the required documentation. Learn more at bit.ly/EWEBhpwh
Solar Electric Net Metering	\$0.40/AC output watt up to \$2,500	N/A	Site must have at least an 85% total solar resource fraction to receive rebate. 25 kW max. Direct generation option available in lieu of net meter. Power purchase agreement must be approved before install. Learn more at eweb.org/solar
New Construction	\$1000 for a ducted or ductless heat pump	N/A	EWEB encourages homes to be built with efficient low-carbon electric heating and water heating systems. Custom rebates may be available as well. Learn more at bit.ly/EWEBnewconst
	\$750 for a heat pump water heater		
	\$600 for a NEEEM certified manufactured home		

* See program information sheet on website for details on window performance requirements.

1. All rebates and loans require that the homeowner submit an application. For most programs, apply online at <https://secure.eweb.org/ProgramApp.aspx>.
2. Program restrictions may apply. Rebate and loan amounts are subject to change at any time, please contact EWEB at 541-685-7088 for the most current program information.
3. Loan funding may be used to cover costs of labor from participating contractors. See lists of contractors online at bit.ly/EWEBcontractor.
4. Information about all of EWEB's rebate and loan offerings can be found at <http://www.eweb.org/saveenergy>.
5. Aggregate loan limit is \$20,000 per customer. The term for an EWEB loan is 48 months when borrowing under \$5,000, or 60 months when borrowing \$5,000 or more.



2019 Residential Customer Solutions Programs, Rebates and Loans

Program	Rebates Available	Loans Available (0% interest)	Program Requirements
EWEB Greenpower	N/A	N/A	Support clean energy & encourage renewable energy projects in our community by assigning 100% of your electricity to Greenpower, or choosing blocks of Greenpower for as little as \$1.50 per month. Learn more at eweb.org/greenpower
Electric Vehicles	\$300	N/A	Enjoy lower fuel costs, lower maintenance costs, lower emissions, and an exciting driving experience by upgrading to an electric vehicle. See qualification details and additional information at eweb.org/ev
Home Energy Score	FREE	N/A	For rentals and limited income households only. Receive a FREE home energy assessment and report. Tenants are welcome to apply. Apply before June. Learn more and apply online at eweb.org/rentalresources
Backup Generator	N/A	Up to \$2,000	Installation must include a transfer switch and be permitted. Applicant must be an EWEB electric customer and be the owner of the property. Learn more at eweb.org/generatorloan
		Up to \$4,000 for properties with a well for domestic use	
Toilets	\$50 bill credit per toilet	N/A	New toilet must be WaterSense and use 1 gallon per flush or less and must replace an existing toilet using 1.6 gallons per flush or more. Learn more at eweb.org/waterconservation
Hand Valve	Free valve (or \$75 bill credit) and \$75 bill credit for installation	N/A	Shut-off valve to be installed on customer side of water meter by a plumber. Valves may be provided by plumber or EWEB. Learn more at eweb.org/waterconservation
Water Service Line Replacement	N/A	Up to \$5,000	Replacement of a leaking water service line between the meter and the house only. Must be done by a qualifying plumber. Learn more at eweb.org/leakassistance
Septic	\$250 to inspect and pump out septic system	Up to \$10,000 for repair or replacement of septic system	Property must be within the McKenzie River Pure Water Partners Boundary. Learn more at eweb.org/septic
Electric Service Upgrade	N/A	Up to \$20,000	Property must be in EWEB electric service territory. Examples include electric panel or meter base replacement, underground service work, or new services. Learn more at eweb.org/service-upgrade



Plus a recent bonus in 2019:

Additional \$100 rebate

On Heat Pumps, Windows,
Insulation and More



Rental property owners:
Apply for an EWEB efficiency
rebate within 45 days of this
report and you can take
advantage of an extra incentive
to upgrade your property.

Property Owner Special Offer

