# OREGON SINGLE-FAMILY HOMES

## State Summary Statistics

2014
Full RBSA Dataset: *http://bit.ly/1rTVSjg*
*neea.org*

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# EXECUTIVE SUMMARY

The purpose of this report is to provide a summary of Oregon's single-family home energy use based on the Northwest Energy Efficiency Alliance's (NEEA) 2011 Residential Building Stock Assessment (RBSA) findings. It is accompanied by three other state-specific reports for Idaho, Montana and Washington. Each state-specific report includes overall housing utility and energy statistics, and details the type and efficiency of housing components including windows, insulation, appliances and heating fuel types within each region of each state. The state-specific report findings are largely from the 2011 RBSA study, except where supplemental data sources have been noted.

The RBSA is sponsored by NEEA and was conducted by Ecotope, Inc. with support by Ecova™, Delta-T, Inc., and ORC International. The primary objective of the RBSA is to develop an inventory and profile of the Northwest's existing residential building stock based on field data from a representative, random sample of existing homes. The RBSA establishes the 2011 regional housing stock baseline for three residence categories: single-family homes, manufactured homes, and multi-family homes.

The results will guide future planning efforts and provide a solid base for assessing residential program energy savings throughout the Northwest. Ecotope designed the RBSA sample to include all public and investor-owned utilities in Idaho, western Montana, Oregon and Washington. The final RBSA sample included 99 utilities: 89 public utilities, seven investor-owned utilities, and three natural gas-only utilities. Field surveys were conducted on more than 1,850 sites across the Northwest, including more than 1,400 single-family homes.

The regional single-family, manufactured, and multi-family homes RBSA reports, and other state-specific single-family summary reports are available on NEEA's RBSA website. Also on the website is the RBSA Metering study, which studied 101 sites from the single-family home sample with a full set of instruments designed to assess electric and other energy uses across a variety of residential end uses.

Any questions or comments can be directed to Aaron James or the Market Research and Evaluation department at NEEA.

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*The Northwest Energy Efficiency Alliance (NEEA) is an alliance of more than 140 Northwest utilities and energy efficiency organizations working on behalf of more than 13 million energy consumers. NEEA leverages its strong regional partnerships to effect market transformation by accelerating the adoption of energy-efficient products, services and practices.*

Note: All RBSA data used in this report is weighted. The initial RBSA reports only have raw, un-weighted numbers so in some cases this will result in different numbers being reported.

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# QUICK DEMOGRAPHIC OVERVIEW

As of 2012, the state of Oregon had an estimated population of 3.9 million, growing at about the same rate as the rest of the United States between 2010 and 2012. Oregon had 1.68 million housing units with 1.51 million households. More than 10 percent of Oregon's housing units are second homes and/or vacant, compared to 13.3 percent nationwide. Oregon has 2.46 persons per household compared to 2.61 nationally. The median value of owner-occupied housing units in Oregon is $252,600 and the median household income is $49,850, compared to $186,200 and $52,762 respectively nationwide. The vast majority of Oregon's population is concentrated within about 50 miles of Interstate 5.

| People Quick Facts[1] | Oregon | REGION | USA |
|---|---|---|---|
| Population, 2012 estimate | 3,899,353 | 13,395,755 | 313,873,685 |
| Population, percent change, April 1, 2010 to July 1, 2012 | +1.80% | +2.85% | +1.70% |
| Language other than English spoken at home, percent of persons age 5+, 2007-2011 | 14.60% | 15.20% | 20.50% |
| Mean travel time to work (minutes), workers age 16+, 2007-2011 | 22.30 | 23.36 | 25.40 |
| Housing units, 2011 | 1,684,193 | 5,757,995 | 132,452,405 |
| Homeownership rate, 2007-2011 | 63.10% | 64.70% | 66.10% |
| Housing units in multi-unit structures, percent, 2007-2011 | 23.30% | 24.03% | 25.90% |
| Median value of owner-occupied housing units, 2007-2011 | $252,600.00 | $247,641.00 | $181,400.00 |
| Households, 2007-2011 | 1,509,554 | 5,112,705 | 115,226,802 |
| Persons per household, 2007-2011 | 2.46 | 2.51 | 2.61 |
| Per capita money income in the past 12 months (2011 dollars), 2007-2011 | $26,561.00 | $28,080.00 | $28,051.00 |
| Median household income, 2007-2011 | $49,850.00 | $54,085.00 | $53,046 .00 |
| Persons below poverty level, percent, 2007-2011 | 14.80% | 13.86% | 14.90% |

[1] Staff, "State & County QuickFacts." U.S. Census Bureau Website. U.S. Department of Commerce, 17 Dec 2013. Web. 8 Jan 2014. *quickfacts.census.gov/qfd/states/41000.html*

# UTILITY AND ENERGY STATISTICS[2]

There are 1.9 million utility customers in Oregon, 1.64 million of which are residential accounts. Residential customers in Oregon account for 2,152 average megawatts (aMW) of demand and 18.9 million megawatt hours (MWh) of usage. More than 73 percent of residential accounts are with Investor Owned Utilities (IOUs). IOU customers pay 20 to 40 percent more per kilowatt-hour (kWh) than other utilities, but use 15 to 22 percent less kWh per month. While IOU customers make up nearly 74 percent of accounts, they represent up 69 percent of total usage.

| Customers by Utility Type (2012) | Cooperatives | Municipalities | Public Utility Districts | Investor Owned Utilities | Total |
|---|---|---|---|---|---|
| Residential | 172,326 | 159,925 | 99,728 | 1,210,579 | 1,642,557 |
| Commercial & Industrial | 20,924 | 20,106 | 12,844 | 194,618 | 248,492 |
| Public Street & Highway Lighting | 297 | 124 | 1,483 | 767 | 2,671 |
| Other Public Authorities | - | 904 | - | - | 904 |
| Interdepartmental | - | 97 | - | - | 97 |
| Irrigation | 7,536 | 462 | 673 | - | 8,671 |
| Other Sales to Retail Energy Customers | - | 1,732 | - | - | 1,732 |
| **Total Customers** | **201,083** | **183,350** | **114,728** | **1,405,964** | **1,905,125** |

| Residential Electricity Costs | Cooperatives | Municipalities | Public Utility Districts | Investor Owned Utilities | Total |
|---|---|---|---|---|---|
| Average Cost per kWh | 8.7¢ | 7.8¢ | 7.53¢ | 10.52¢ | 9.78¢ |
| Average Monthly Cost | $99.83 | $81.92 | $85.92 | $94.83 | $93.58 |
| Average Annual Cost | $1,198.00 | $983.00 | $1,031.00 | $1,138.00 | $1,123.00 |
| Average Monthly kWh | 1,147.67 | 1,050.50 | 1,141.67 | 901.5 | 956.42 |
| Average Annual kWh | 13,772 | 12,606 | 13,700 | 10,818 | 11,477 |
| Total Annual MWh | 2,373,336 | 2,016,031 | 1,366,240 | 13,096,104 | 18,851,710 |
| Total Annual aMW | 271 | 230 | 156 | 1,495 | 2,152 |

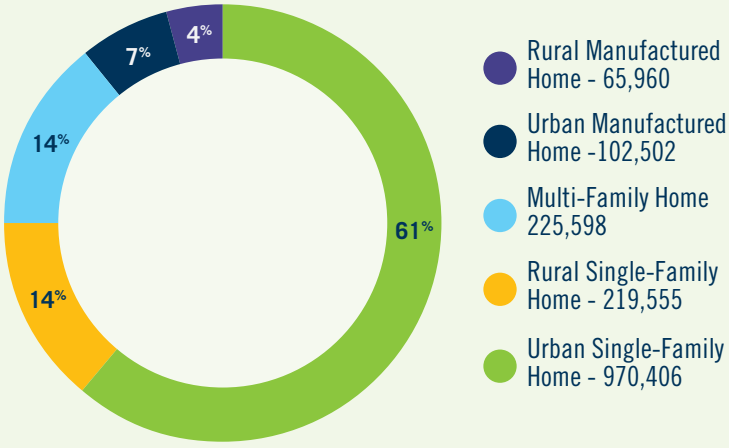
[2]Ackerman, Susan, Steven Bloom, and John Savage. "Oregon Utility Statistics Books." Oregon Public Utility Commission. Oregon Public Utility Commission, n.d. Web. 2 Jan 2014. www.puc.state.or.us/docs/statbook2012.pdf

# HOUSING FACTS
## Location

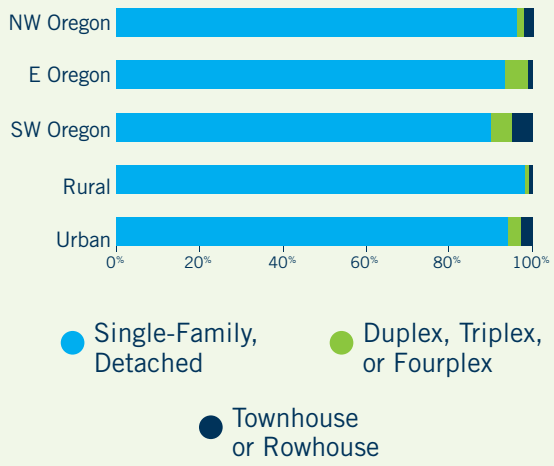
Seventy-five percent of housing units in Oregon are Single-Family homes; most of those are in 'urban' counties[3] - (81 percent). Nearly all Single-Family homes are detached, with less than six percent being either townhouse/rowhouses or duplex/triplex/quadplexes.

Overall, housing in 'rural' counties tends to be older than urban counties, with an average age of 58 years, and nearly half being built before 1969. More than one-quarter of urban county housing was built before 1969, with an average age of 43 years. However, because of an urban housing boom in the 1960s and 1970s, there is also a higher percentage of rural homes built after the first energy codes in 1978. Over 40 percent of all rural homes were built after the 1993 energy codes were implemented, compared to more than 25 percent of urban homes built during the same period. Urban homes also tend to be slightly larger (1,906 ft$^2$ vs. 1,772 ft$^2$).

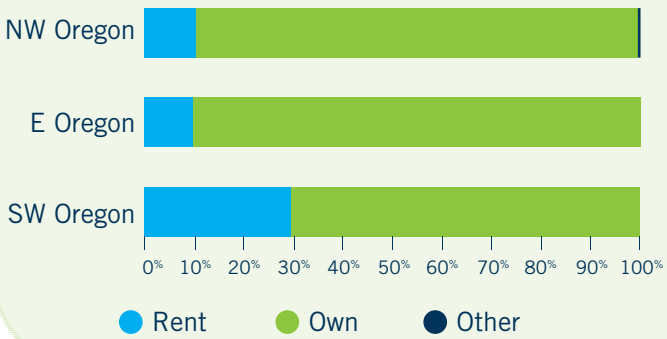
### Housing Type



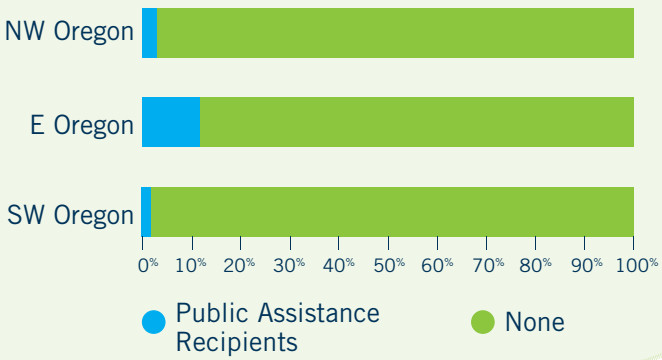

### Single-Family Homes
(by Type and Region)




### Renters vs. Owners
(by Region)

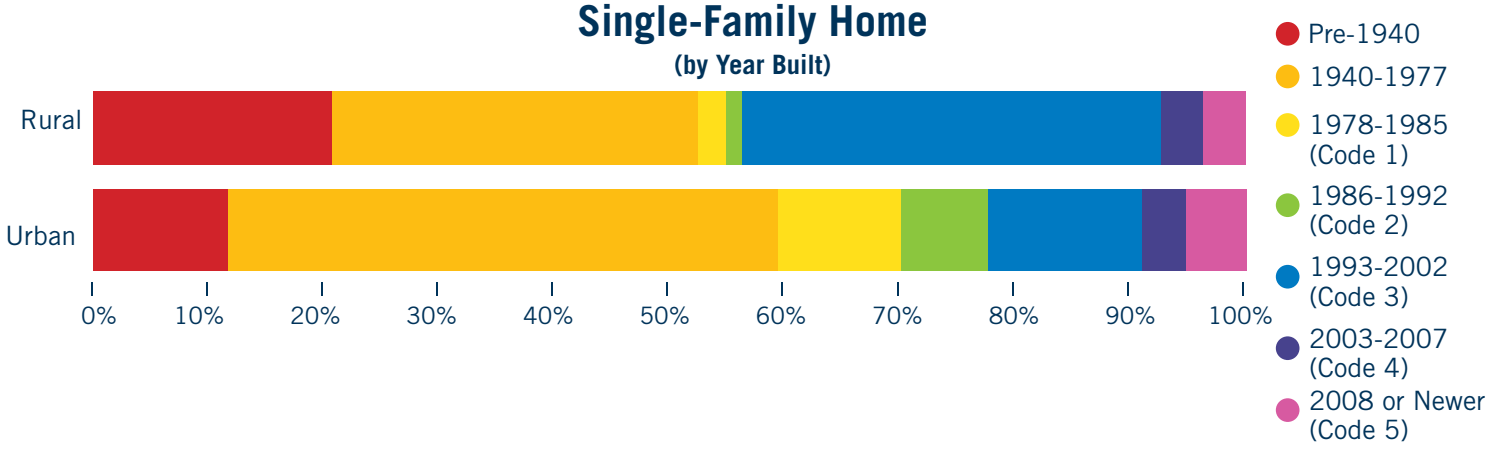



### Public Assistance Recipients
(by Region)

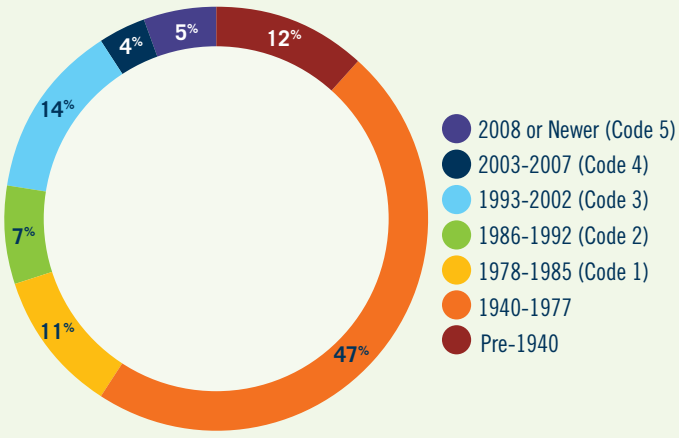



[3]Urban/Rural is based on the 2013 USDA Rural-Urban Continuum Codes with those counties in codes 1-3 considered to be urban and all others considered to be rural. http://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx

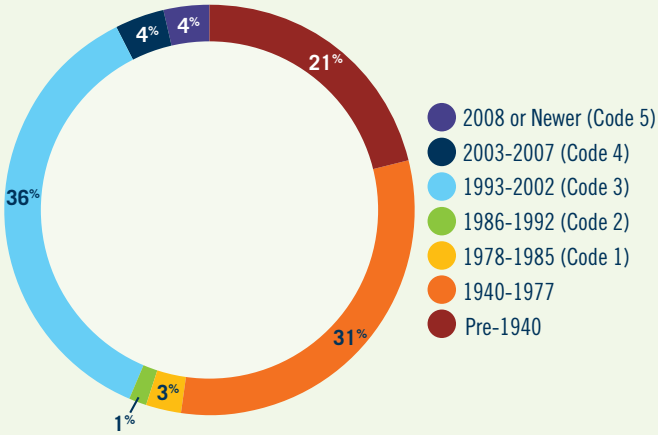
## Single-Family Home
(by Year Built)



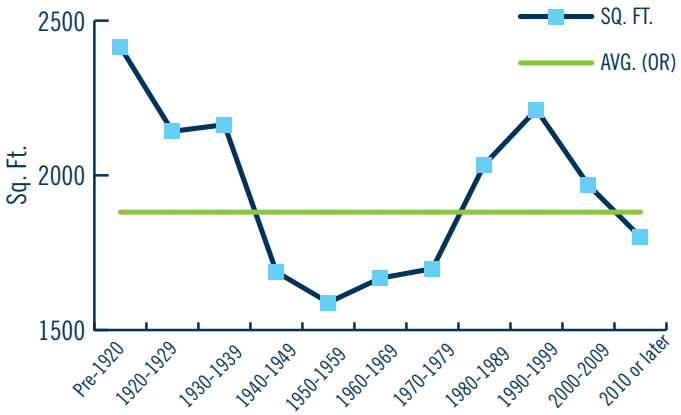

## Urban Single-Family Home
(Year Built)




## Rural Single-Family Home
(Year Built)




## Average Home Size
(by Year Built)




## Single-Family Home Statistics

| | Avg. Age (Years) | Avg. Square Feet | Avg. # Rooms | Avg. # of Floors |
|---|---|---|---|---|
| Urban | 43 | 1,906 | 12.3 | 1.3 |
| Rural | 58 | 1,772 | 9.9 | 1.3 |
| Oregon | 46 | 1,881 | 11.9 | 1.3 |

# TYPICAL HOUSE BY REGION[4]

## NW Oregon

**Built in 1968/Moved in: 1996**
**1,982 ft² -- 3.2 Bedrooms/2.3 Bath**
**1.4 floors, 12.8 rooms**

*Heating:*
Gas Forced Air Heat (1999)

*Refrigerator:*
20 ft³/Built in 2001

*Air Conditioning (AC):*
47% have AC
Most Common: Central AC (40%)

*Television:*
Primary: 36"- 2005 (On for 6 hrs daily)
Secondary: 30"- 2004

*Water Heater:*
54g Electric/Built in 2001 or
48g Gas/Built in 2001

*Washer:*
Top-Load-1998 or
Front-Load-2005
*Dryer:*
Electric-2000

## Eastern Oregon

**Built in 1961/Moved in: 1994**
**1,840 ft²-- 2.9 Bedrooms/1.9 Bath**
**1.3 floors, 10.8 rooms**

*Heating:*
Gas Forced Air (1998) or
Electric Plug-in Heat (2000)

*Refrigerator:*
19 ft³/Built in 1999

*Air Conditioning (AC):*
54% have AC
Most Common: Heat Pump (31%)

*Television:*
Primary: 35"- 2006 (On for 5 hrs daily)
Secondary: 24"- 2002

*Water Heater:*
50g Electric/Built in 1998

*Washer:*
Top-Load-1998
*Dryer:*
Electric-1998

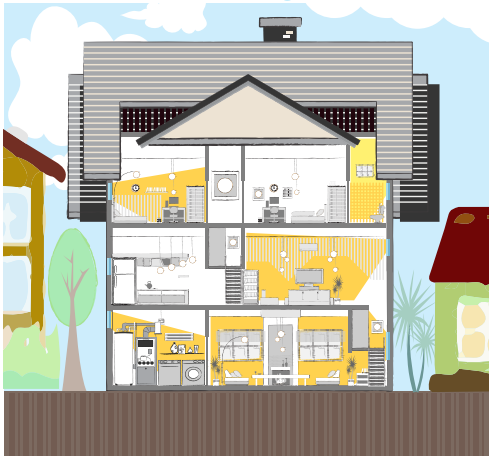
## SW Oregon

**Built in 1967/Moved in: 2001**
**1,420 ft² -- 2.4 Bedrooms/1.7 Bath**
**1.1 floors, 8.4 rooms**

*Heating:*
Electric Heat Pump (2003) or
Baseboard/Plug-in Heat (1986)

*Refrigerator:*
19 ft³/Built in 2000

*Air Conditioning (AC):*
67% have AC
Most Common: Heat Pump (57%)



*Television:*
Primary: 35"- 2006 (On for 6.6 hrs daily)
Secondary: 29"- 2003

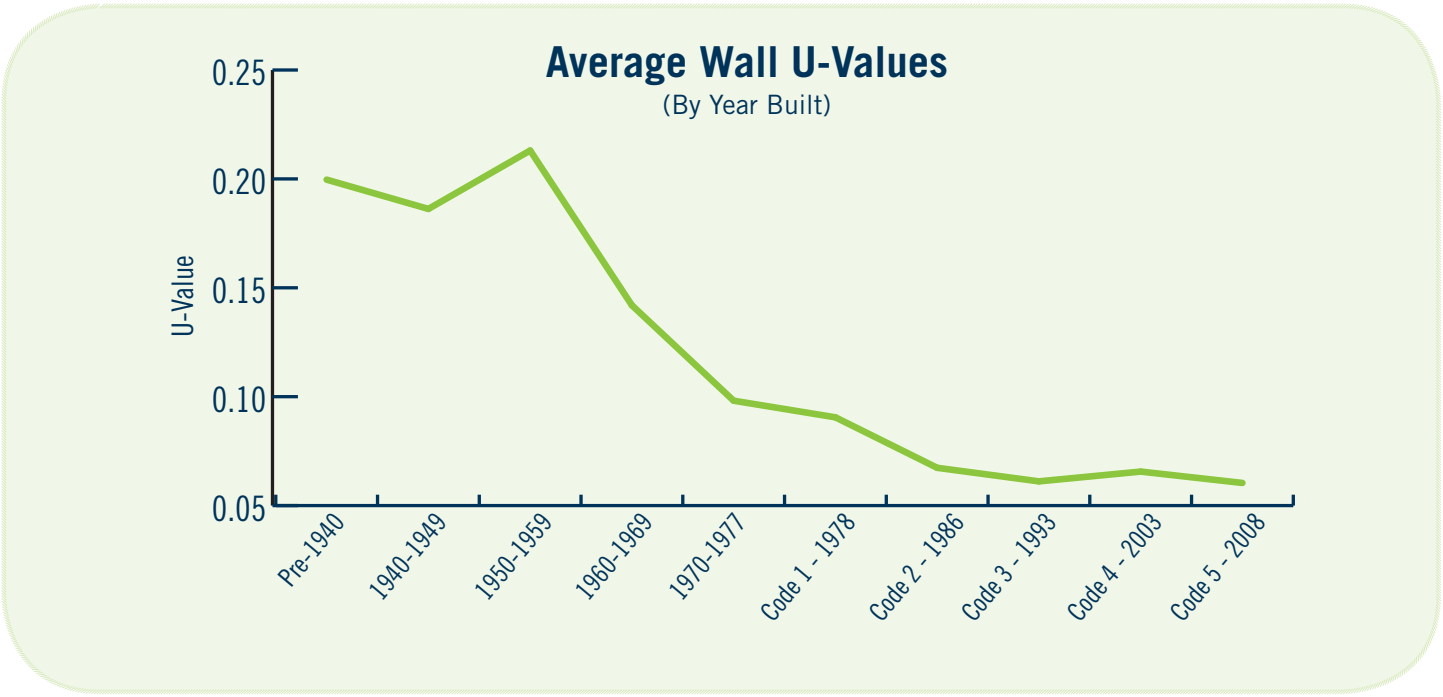
*Water Heater:*
49g Electric/Built in 2002

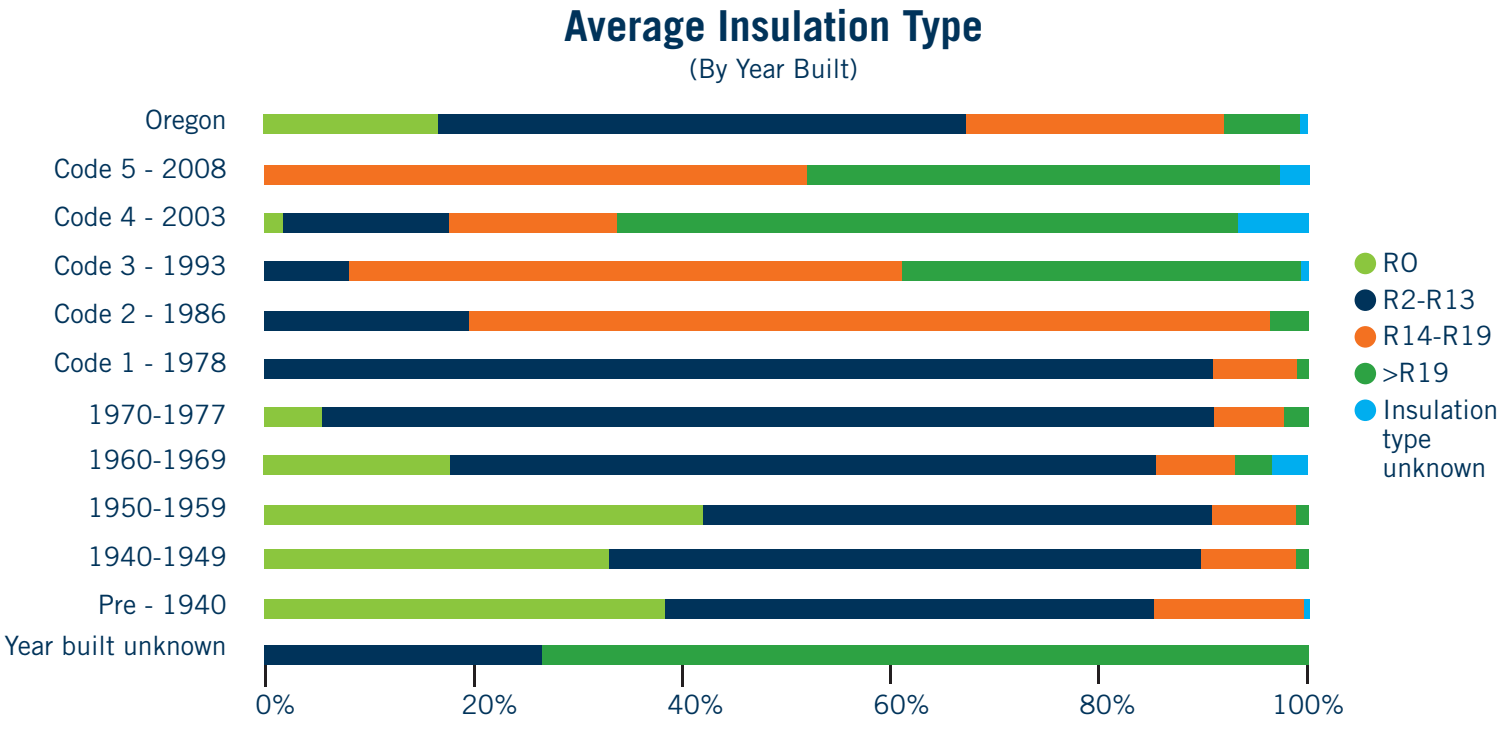
*Washer:*
Top-Load-2004
*Dryer:*
Electric-2003

[4]There were 314 total observations in Oregon.
The Northwest Region includes all counties west of the Cascades from Lane County North and includes 218 observations.
The Southwest Region includes all counties west of the Cascades south of Lane County North and includes 37 observations.
The East Region includes all counties east of the Cascades and includes 59 observations.

# INSULATION

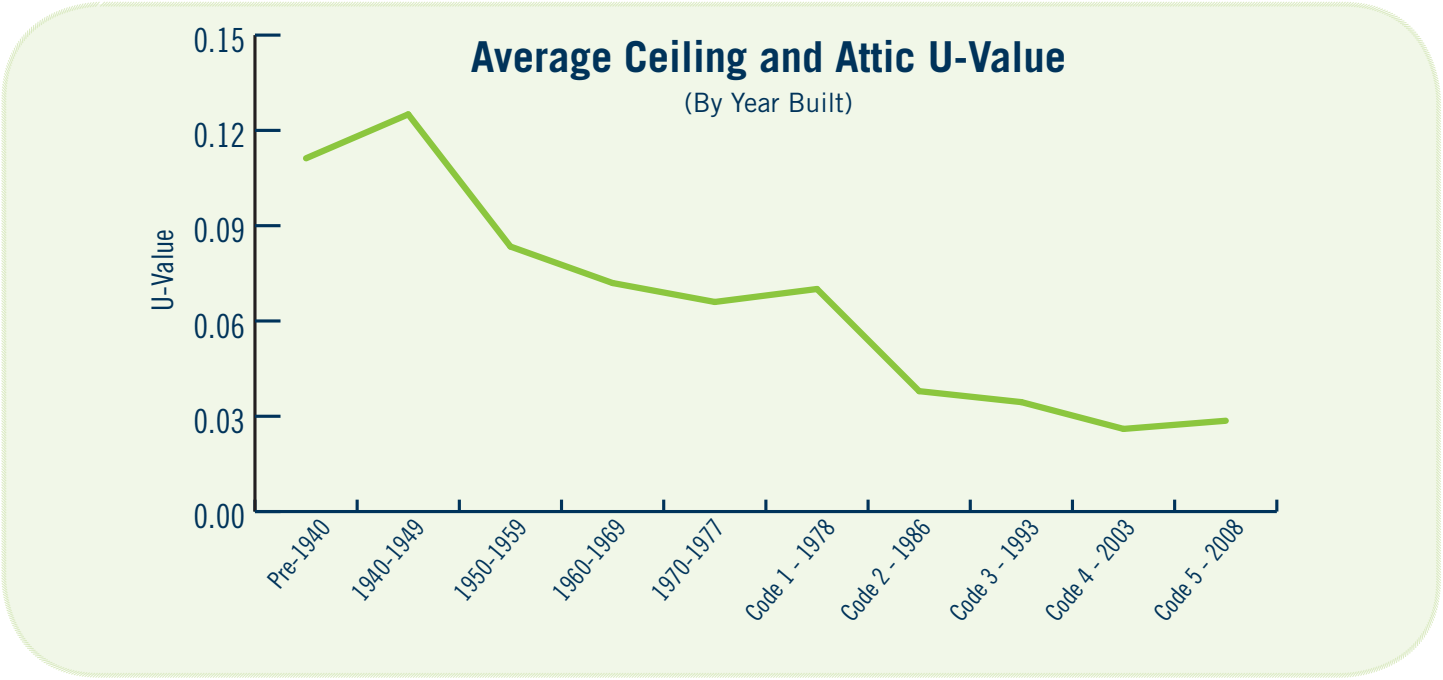
The average U-value for walls, which describes how well a building element conducts heat, has decreased significantly, to around 0.06 since the 1990s – as building codes have required better wall insulation. Houses built prior to 1978 had lower R-values. R-value is a measure of thermal resistance and is expressed as the thickness of the material (U-value is the inverse of R-value). Prior to 1978, homes had insulation of less than R-13, though some have since been upgraded. Most houses built after 2003 have insulation of R-19 or better.

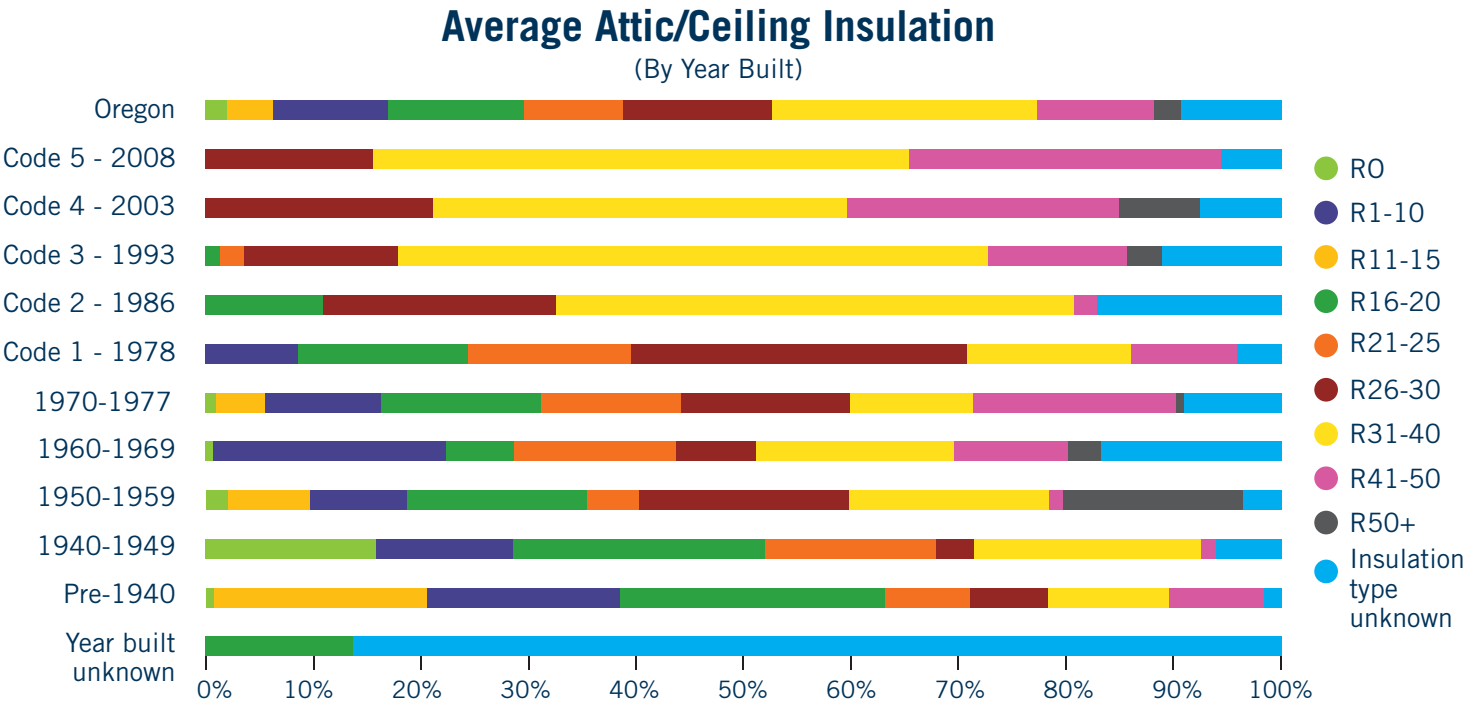


# CEILINGS AND ATTICS/ FLOORS

As with walls, the average U-value for ceilings has dropped significantly as building codes have increased ceiling insulation requirements. A significant proportion of houses built prior to the first building codes in 1978 had floor insulation of less than R-19, with many as low as R-0. While many have since been upgraded, houses built after the first building codes in 1978 have significantly better ceiling/attic insulation. More than 70 percent of houses built after 1993 have ceiling/attic insulation of at least R-30, with a growing number at R-50 or better. While floor insulation has likely seen similar trends, surveyors were only able to collect data on about 13 percent of homes in the RBSA study, so similar statistics are not available.

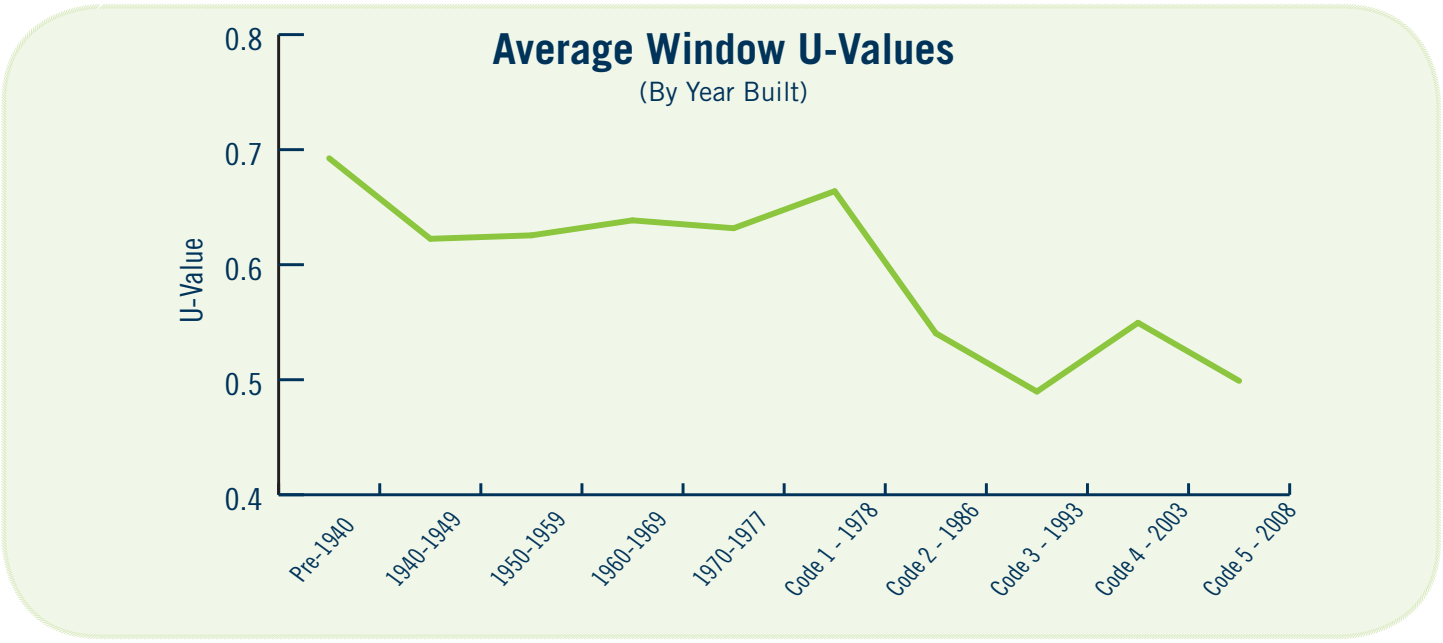


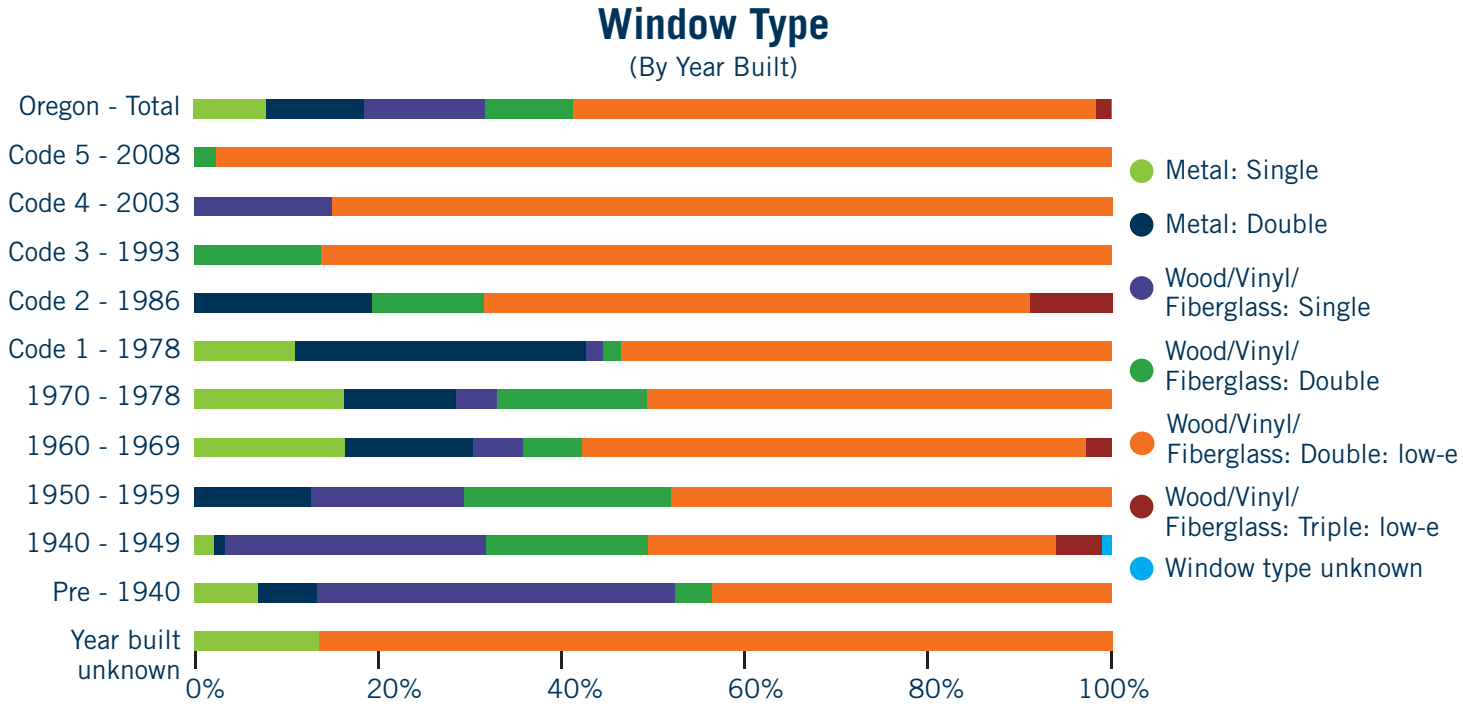



# WINDOWS

Prior to 1978, most houses were built with wood, and later, aluminum, single-pane windows. Building codes and new technologies brought in double-pane, insulated windows, as well as vinyl and fiberglass frames, which significantly dropped window U-values. While many windows in homes built before 1978 have subsequently been improved, average U-values have nonetheless dropped significantly since building codes were introduced in 1978, averaging about 0.50 in most homes built since the mid-90s.

Nearly all windows since the mid-90s are low-e insulated double-panes, with wood/vinyl/fiberglass frames. Some triple-pane windows are also making their way into the market.



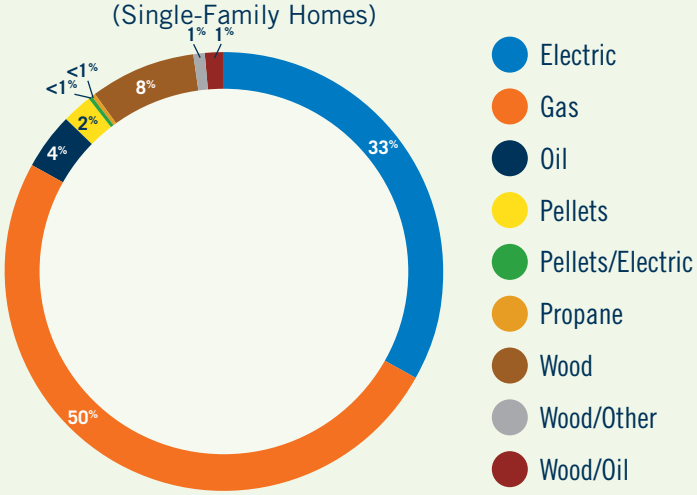



# HEATING

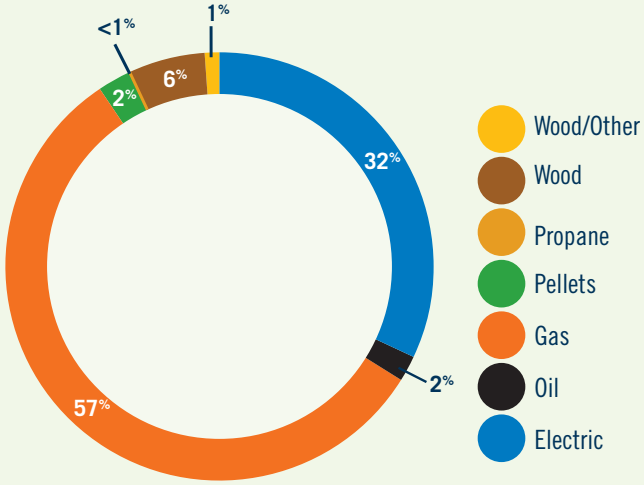
The most prevalent heating fuel for Single-Family homes in Oregon is gas (50 percent) followed by electric heat (33 percent). In urban counties, gas is slightly more prevalent, with 57 percent of all homes using gas heat and 89 percent using either gas or electric. Rural counties are much more diverse in their heating, with 39 percent using electric heat, and more homes using wood heat (24 percent) compared to those using gas heat (21 percent). Oil is also much more prevalent in rural than urban counties (13 vs. 2 percent).

## State Heating Fuel Type

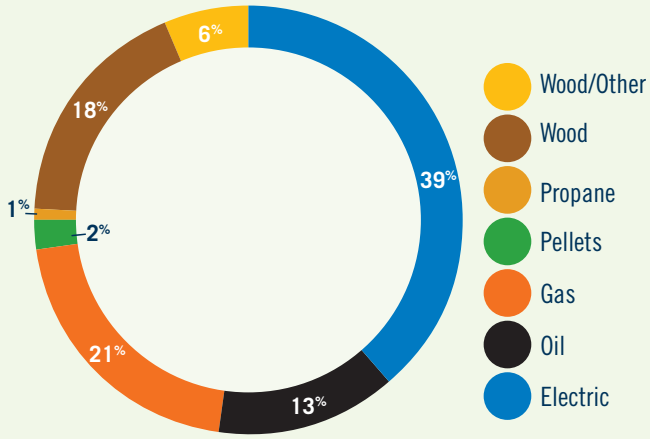
(Single-Family Homes)




## Urban Single-Family Home/ Heating Fuel Type

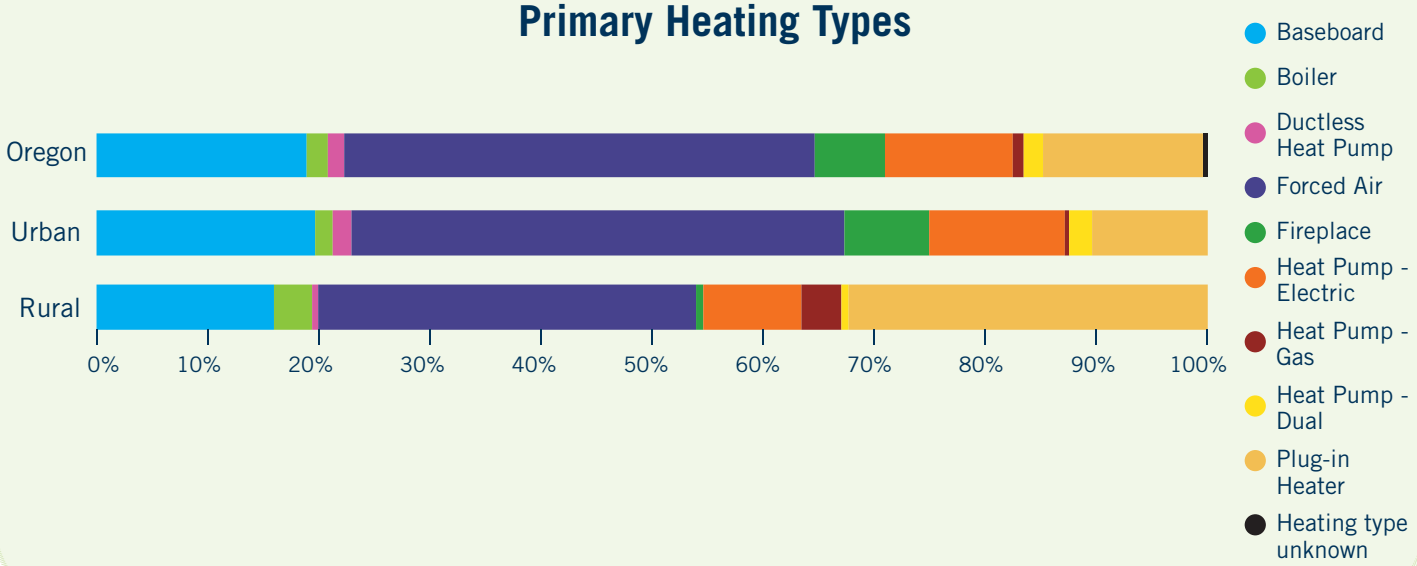



## Rural Single-Family Home/ Heating Fuel Type



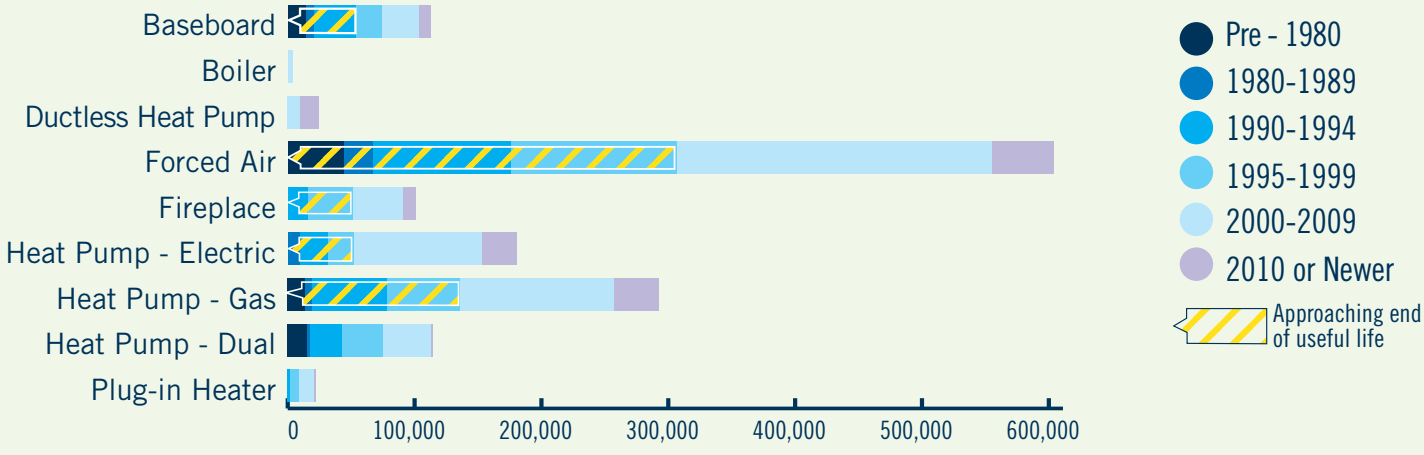
The dominant heat source in Oregon is forced air, followed by baseboard and heat pumps. In rural counties, plug-in heating is the second most popular heat source after forced air. Three percent of respondents plan to replace their heating system in the near future. Roughly half of all forced air units, baseboard units, and heat pumps are at or nearing the end of their estimated useful lives (15 years, 20 years and 15 years respectively).

## Primary Heating Types




## Primary Heat Source Age

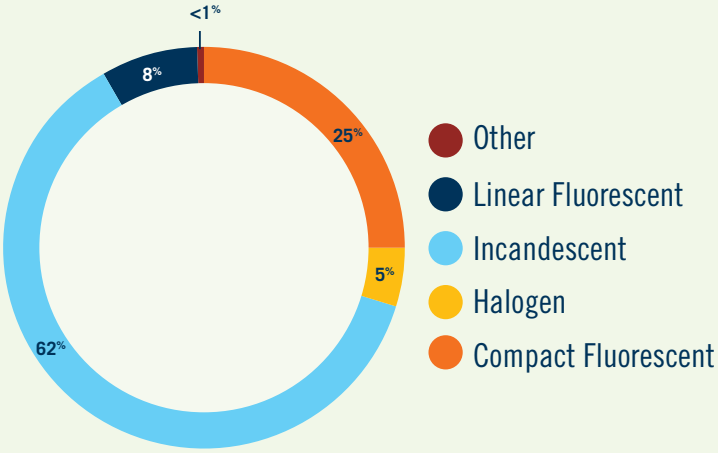
**(by Total Number of Units)**



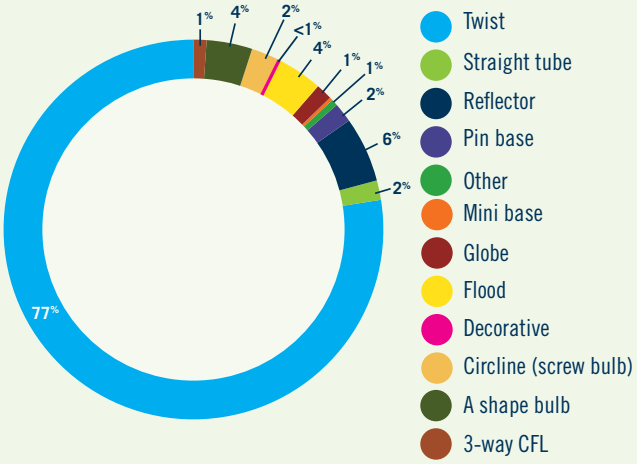
# LIGHTING

Compact Fluorescent Bulbs (CFLs) now account for 25 percent of all Single-Family home lighting in Oregon, while incandescent bulbs remain the dominant light source, making up 62 percent of all bulbs. 60W incandescent bulbs are the most populous bulb, making up nearly half of all incandescents (49 percent), and 30 percent of lamps overall. 60W incandescent bulbs also number more than all CFLs combined. Of CFLS, 77 percent are twisted bulbs. LED lights were too new to register before 2012.

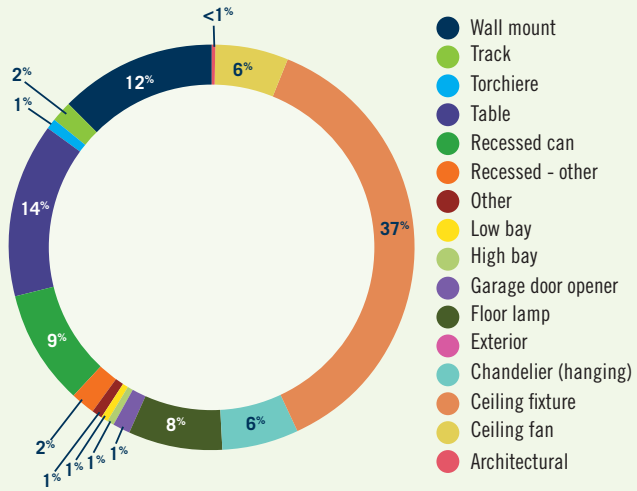
## Lamp Type



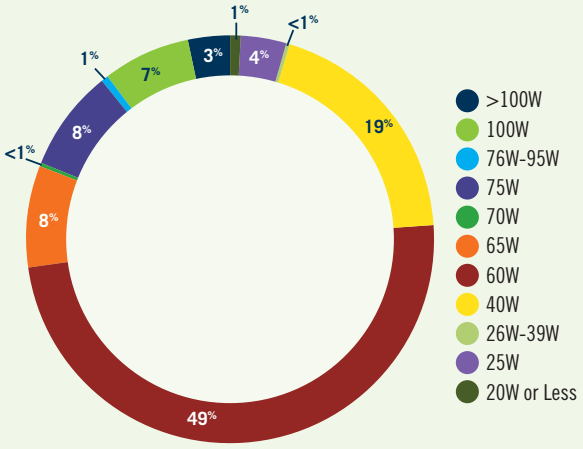

## CFL Bulb Type




## Fixture Type




## Incandescent Wattage



## Single-Family Home: Lamp Category by Lighting Lamp Type – Total Lamps

| | Compact Fluorescent | Halogen | Incandescent | Linear Fluorescent | Other | Total | % of Total* |
|---|---|---|---|---|---|---|---|
| 3-Way CFL | 86,023 | 0 | 0 | 0 | 0 | 86,023 | 0.3% |
| 3-Way incandescent | 0 | 0 | 451,377 | 0 | 0 | 451,377 | 1.7% |
| A shape bulb | 253,421 | 0 | 0 | 0 | 0 | 253,421 | 1.0% |
| Circline (Screw bulb) | 162,706 | 0 | 0 | 0 | 0 | 162,706 | 0.6% |
| Clear | 0 | 0 | 389,276 | 0 | 0 | 389,276 | 1.5% |
| Colored | 0 | 0 | 1,613 | 0 | 0 | 1,613 | 0.0% |
| Decorative | 11,803 | 0 | 1,140,151 | 0 | 0 | 1,151,954 | 4.4% |
| Flood | 248,277 | 0 | 0 | 0 | 0 | 248,277 | 0.9% |
| Fluorescent other | 0 | 0 | 0 | 41,767 | 0 | 41,767 | 0.2% |
| Fluorescent unknown | 0 | 0 | 0 | 25,370 | 0 | 25,370 | 0.1% |
| Globe | 84,957 | 0 | 817,638 | 0 | 0 | 902,595 | 3.4% |
| Heat lamp | 0 | 0 | 200,993 | 0 | 0 | 200,993 | 0.8% |
| High pressure | 0 | 0 | 0 | 0 | 6,933 | 6,933 | 0.0% |
| LED interior | 0 | 0 | 0 | 0 | 61,240 | 61,240 | 0.2% |
| Multifaceted reflector | 0 | 318,016 | 0 | 0 | 0 | 318,016 | 1.2% |
| Mercury vapor | 0 | 0 | 0 | 0 | 8,559 | 8,559 | 0.0% |
| Metal halide | 0 | 0 | 0 | 0 | 1,613 | 1,613 | 0.0% |
| Mini base | 17,854 | 0 | 714,199 | 0 | 0 | 732,054 | 2.8% |
| Other | 43,124 | 83,831 | 104,794 | 0 | 5,038 | 236,787 | 0.9% |
| Parabolic Aluminized Reflector | 0 | 544,873 | 0 | 0 | 0 | 544,873 | 2.1% |
| Pin base | 105,670 | 0 | 0 | 0 | 0 | 105,670 | 0.4% |
| Quartz tube | 0 | 307,251 | 0 | 0 | 0 | 307,251 | 1.2% |
| Reflector | 371,734 | 0 | 1,753,806 | 0 | 0 | 2,125,541 | 8.1% |
| Standard A lamp | 0 | 0 | 10,760,000 | 0 | 0 | 10,760,000 | 40.9% |
| Straight tube | 111,687 | 0 | 0 | 0 | 0 | 111,687 | 0.4% |
| T-12 | 0 | 0 | 0 | 1,288,259 | 0 | 1,288,259 | 4.9% |
| T-4 | 0 | 0 | 0 | 25,650 | 0 | 25,650 | 0.1% |
| T-5 | 0 | 0 | 0 | 89,988 | 0 | 89,988 | 0.3% |
| T-8 | 0 | 0 | 0 | 575,600 | 0 | 575,600 | 2.2% |
| Twist | 5,116,487 | 0 | 0 | 0 | 0 | 5,116,487 | 19.4% |
| Total | 6,613,744 | 1,253,970 | 16,340,000 | 2,046,632 | 83,383 | 26,330,000 | 100% |
| | 25.1% | 4.8% | 62.0% | 7.8% | 0.3% | 100% | |

*Rounded to the nearest tenth

## Single-Family Home: Lamp Category by Lighting Lamp Type – Total Lamps

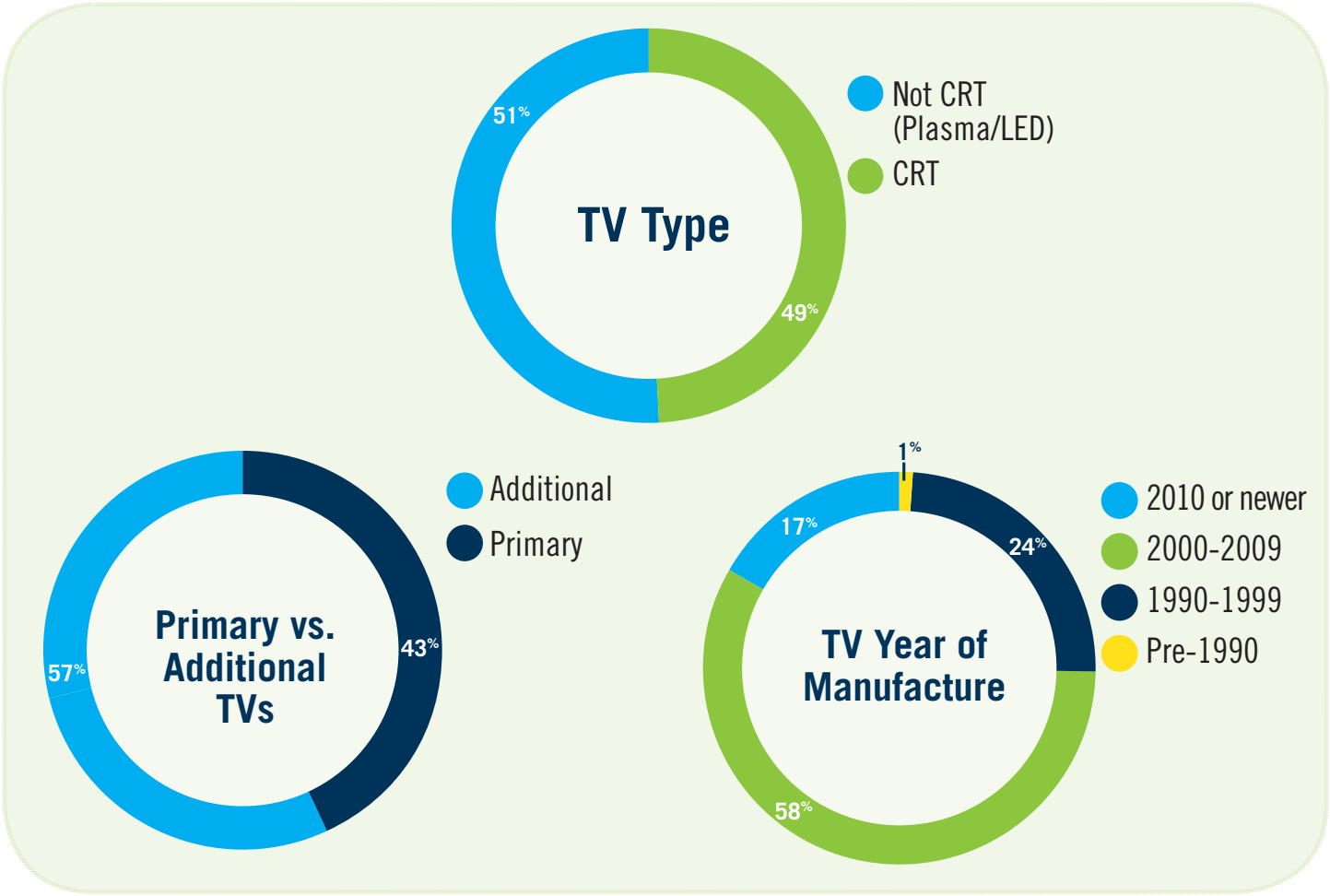
| Lighting Fixture Type | Compact Fluorescent | Halogen | Incandescent | Linear Fluorescent | Other | Total | % of Total* |
|---|---|---|---|---|---|---|---|
| Architectural | 5,914 | 19,016 | 16,528 | 42,897 | - | 84,355 | 0.32% |
| Ceiling fan | 502,528 | 30,545 | 1,052,803 | 1,188 | - | 1,587,065 | 6.03% |
| Ceiling fixture | 2,525,604 | 171,337 | 5,574,146 | 1,421,460 | 32,039 | 9,724,585 | 36.92% |
| Chandelier (hanging) | 309,260 | 36,281 | 1,238,234 | - | 6,933 | 1,590,709 | 6.04% |
| Exterior | 1,613 | - | 6,933 | 8,858 | - | 17,403 | 0.07% |
| Floor lamp | 729,742 | 78,442 | 1,153,416 | 1,613 | 13,866 | 1,977,079 | 7.51% |
| Garage door opener | 14,884 | - | 309,815 | - | - | 324,699 | 1.23% |
| High bay | 14,572 | 3,225 | 23,149 | 141,398 | - | 182,344 | 0.69% |
| Low bay | - | - | 35,996 | 117,872 | - | 153,868 | 0.58% |
| Other | 17,685 | 19,481 | 108,407 | 53,619 | - | 199,192 | 0.76% |
| Recessed - other | 59,466 | 76,104 | 302,296 | 48,732 | 9,309 | 495,907 | 1.88% |
| Recessed can | 732,452 | 270,985 | 1,426,809 | 3,989 | - | 2,434,235 | 9.24% |
| Table | 933,927 | 71,795 | 2,584,925 | 51,319 | 8,265 | 3,650,231 | 13.86% |
| Touchiere | 73,765 | 96,639 | 90,641 | 1,188 | - | 262,233 | 1.00% |
| Track | 42,046 | 239,938 | 130,025 | - | 8,559 | 420,568 | 1.60% |
| Wall mount | 650,287 | 150,653 | 2,281,179 | 152,499 | 4,413 | 3,239,031 | 12.30% |
| Total | 6,613,744 | 1,264,440 | 16,340,000 | 2,046,632 | 83,383 | 26,340,000 | 100% |
| | 25.1% | 4.8% | 62.0% | 7.8% | 0.3% | 100% | |

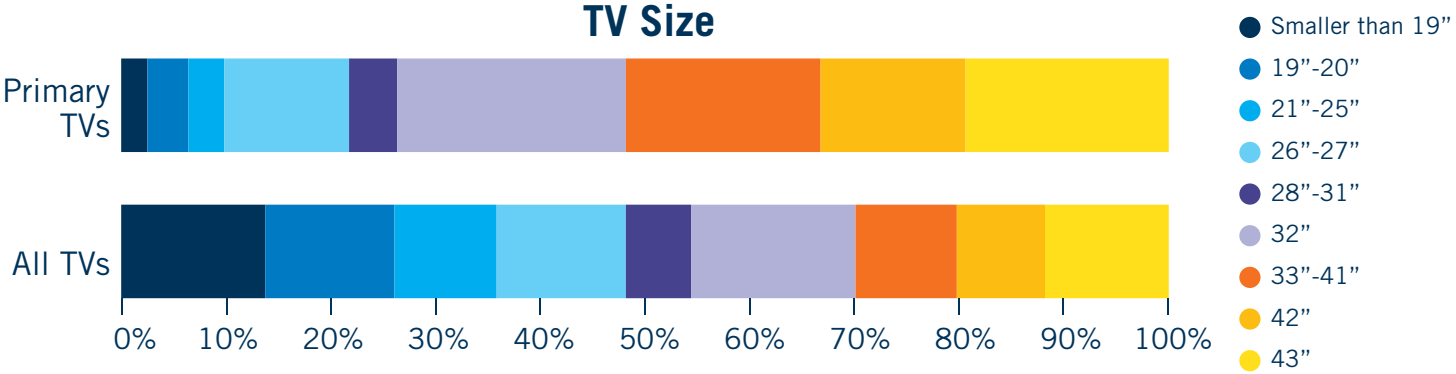
*Rounded to the nearest tenth

# MAJOR HOUSEHOLD APPLIANCES

## Televisions

TVs in Single-Family homes are split nearly evenly between Cathode Ray Tube (CRT) and non-CRT (Plasma or LED). Fifty-seven percent of the TVs in Single-Family homes are not primary use TVs, they are secondary or 'additional' TVs. Seventy-five percent of TVs were manufactured in 2000 or later, and 17 percent were made in 2010 or later. The most popular screen size overall is 32". Although 70 percent of TVs are 32" or smaller, 73 percent of primary TVs are bigger than 32". Primary use TVs are reported to be on for an average of 5.4 hours each day.



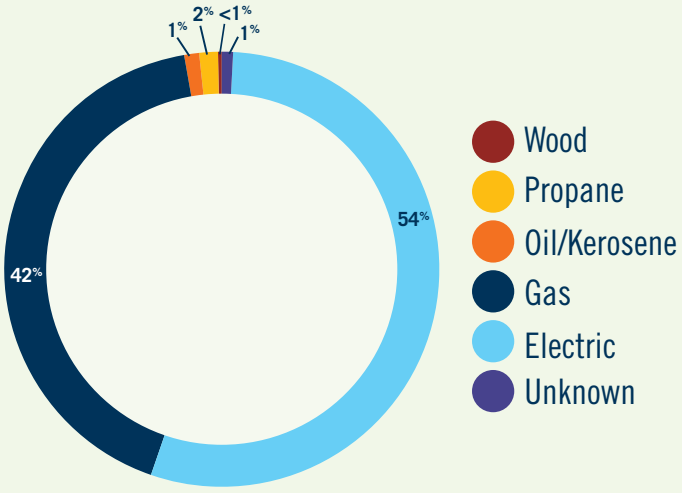



## Water Heaters

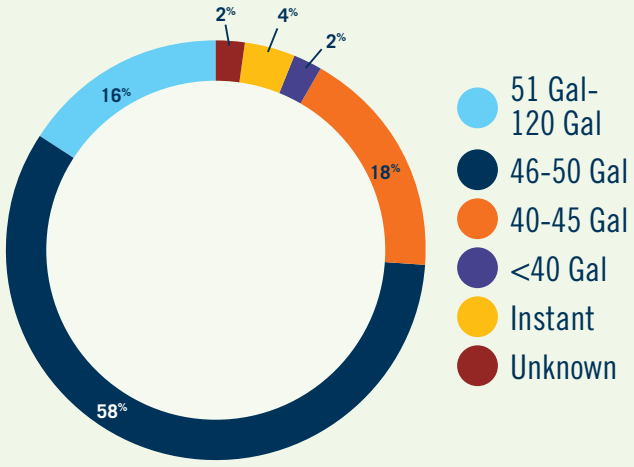
Electric water heaters are slightly more prominent than gas water heaters in Oregon Single-Family homes (54 vs. 42 percent). The remaining four percent are other types or unknown. Fifty gallon water tanks are by far the most common (58 percent), followed by 40 gallon tanks (18 percent). Instant water heaters make up four percent of Single-Family home water heaters.

According to Lowes[5], water heater life expectancy is estimated to be about 8 to 12 years, based on the manufacturer's suggested service life. While life expectancy varies with local weather, unit design, installation quality and maintenance level, more than half of all Single-Family water heaters are 10 years or older (52 percent), and potentially need to be replaced. Forty-eight percent of electric water heaters and 53 percent of gas water heaters are older than 10 years, and are potential candidates for replacement. This does not count those whose year of manufacture is unknown (9.4 and 7.3 percent respectively). Four percent of respondents plan to change their water heater in the near future.

### Water Heater Fuel

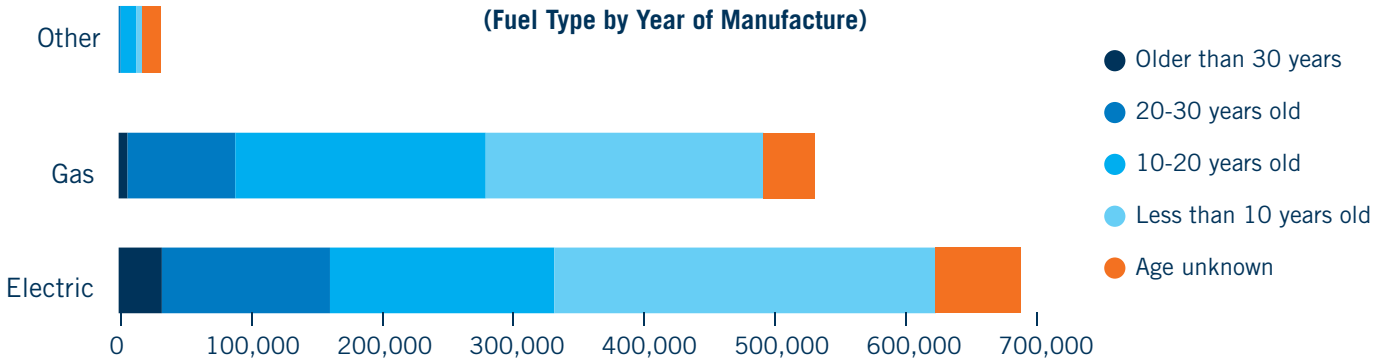



### Water Heater Size




### Total Water Heater Count

**(Fuel Type by Year of Manufacture)**

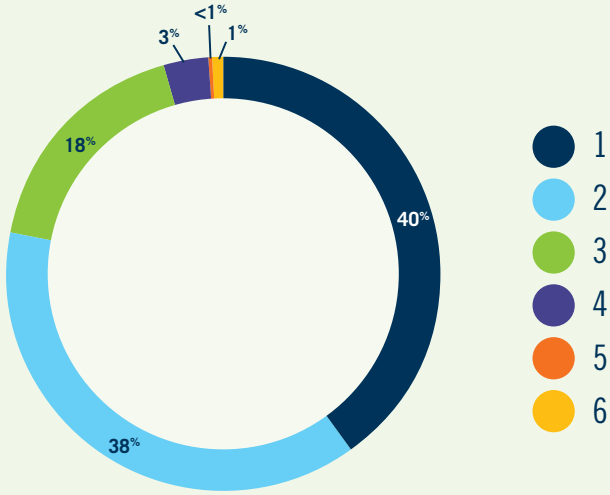



[5]"When to Replace a Water Heater." Lowes Web Site. N.p., n.d. Web. 8 Jan 2014. *www.lowes.com/cd_Install a Water Heater_495279775*

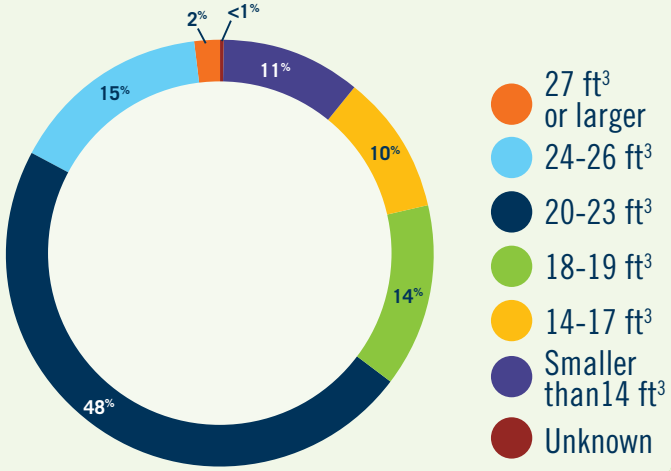
## Refrigerators/Freezers

Sixty percent of Single-Family homes have more than one refrigerator/freezer, which includes refrigerators, freezers, wine coolers, and small refrigerators. Nearly half of all refrigerators are 20 to 23 ft$^3$ (48 percent). Nearly all refrigerators have been manufactured since the National Appliance Energy Conservation Act (NAECA) of 1987, though most were built before 2010. Approximately 780,000 refrigerators are older than 14 years old - which is near or past the estimated product life expectancy for refrigerators.[6] The dominant model for both freezers and refrigerators remains the single-door upright.

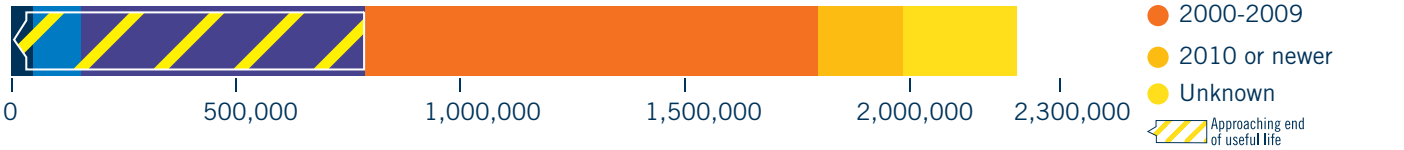
### Number of Refrigerators/Freezers per Home



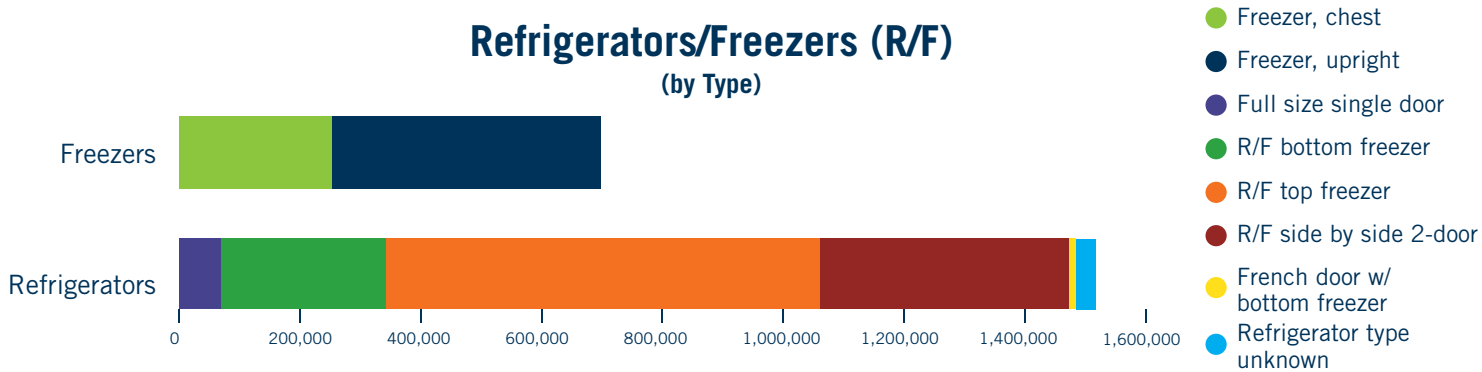

### Refrigerator/Freezer Size




### Total Refrigerator Count
(by Year of Manufacture)




### Refrigerators/Freezers (R/F)
(by Type)

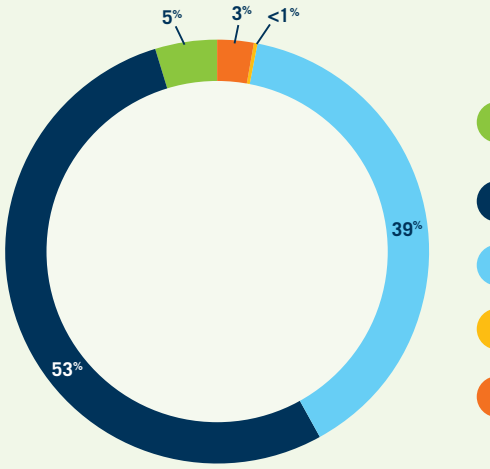



[6]Appliance Statistical Review via *www.oldhouseweb.com/how-to-advice/life-expectancy.shtml*

## Clothes Washers/Dryers

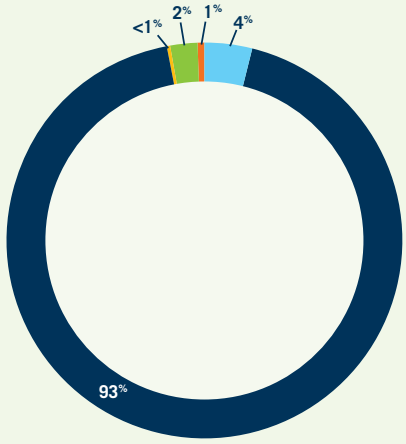
Top-load washing machines are dominant in Single-Family homes, making up 60 percent of all washing machines. Despite gas being available in a great number of homes and being a popular fuel for heat and hot water, nearly all dryers are electric (93 percent). Dryers tend to be older than washing machines in Single-Family homes. While nearly half of all washing machines are less than 10 years old (47 percent), 60 percent of all clothes dryers are older than 10 years. More than 400,000 dryers and 330,000 washers are past their estimated normal life expectancies, which are 14 years and 13 years respectively.[7]

### Washer Type





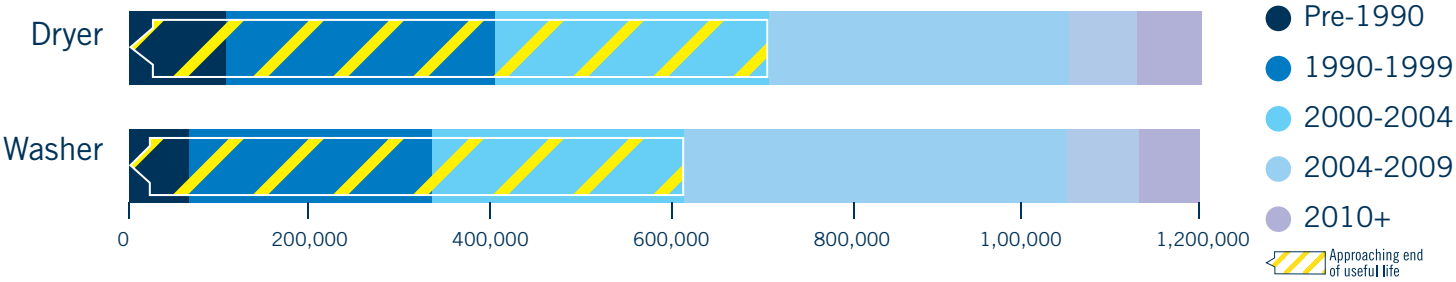
### Dryer Fuel Type





### Total Washer/Dryer Count

**(by Year of Manufacture)**

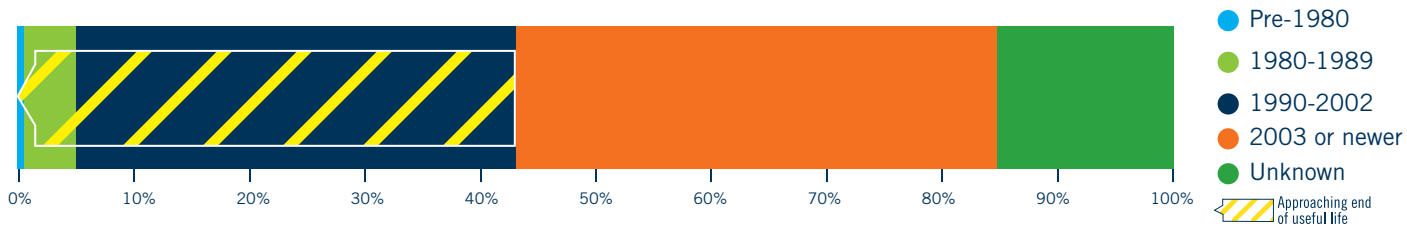



[7]Appliance Statistical Review via http://www.oldhouseweb.com/how-to-advice/life-expectancy.shtml

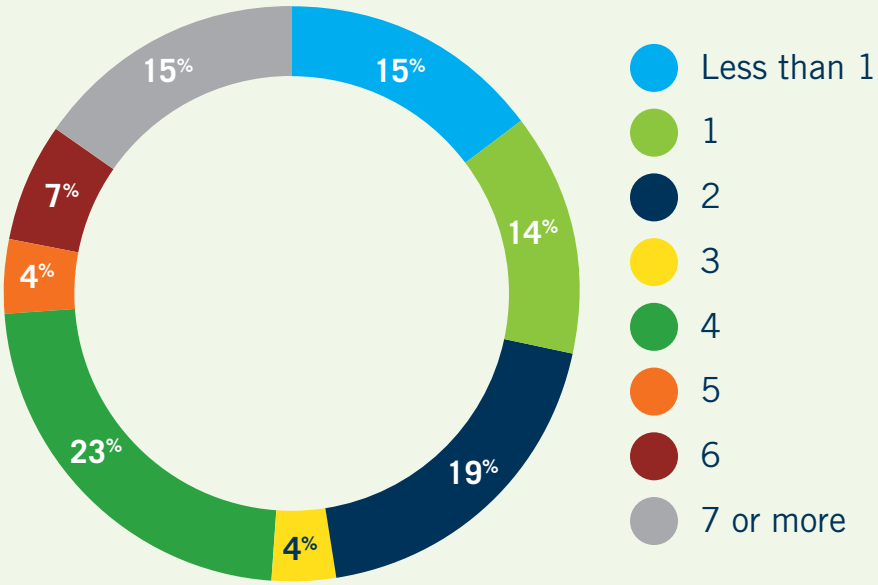
# Dishwashers

Forty-three percent of households (around 500,000) have a dishwasher older than 10 years – which is the estimated life expectancy for dishwashers. Most households run three dishwasher loads or less per week.

## Dishwashers
**(Year of Manufacture)**




## Loads per Week*




*Very small sample – only 58 homes reported load per week data