

Part 7: Low Income Weatherization Program

Energy Efficiency Plans

For the 2013 Cycle, Low Income Weatherization (LIW) funding will only be available for projects located in **PGE and PPL Service Areas**. LIW Program funds are available for energy efficiency improvements on projects submitted for funding through **the NOFA**. For new construction projects, all work must exceed the minimum required by the local or Oregon Residential Energy Code. For existing housing, funds may be used to bring current conditions up to code. Energy efficient appliances and energy saving lighting may also be eligible uses of the funds. The following outlines the current Oregon Residential Energy Code:

Building Components	
Maximum Allowable Window Area	No Limit
Window Class	U=0.35
Exterior Doors	U=0.20
Wall Insulation	R-21
Underfloor Insulation	R-30
Flat Ceilings	R-38
Vaulted Ceilings	R-38
Skylight Class	U=0.60
Skylight Area	<2%
Basement Walls	R-21
Slab Floor Edge Insulation	R-15
Forced Air Duct Insulation	R-8

It is highly recommended that all applicants refer to the Oregon DOE website for accurate code requirements and qualifying appliances and applications: <http://www.energy.state.or.us/>.

Please describe all the energy efficient measures proposed for this project.

Calculating Energy Savings

To assist you in completing the Energy Efficiency Plan worksheets, the Department has developed two spreadsheets (calculators) for calculating energy savings for new construction and rehabilitation.

You may choose to use this tool or any other U.S. Department of Energy (DOE) approved tool. The calculator in this application is designed for most weatherization activities. It reflects the kWh savings for the first year.

It is recommended that you contact an energy consultant if unsure of weatherization measures that need to take place in the construction or rehabilitation of your proposed project. A listing of possible contractors for Weatherization application assistance can be found at: www.ohcs.oregon.gov/OHCS/HD/HRS/LIW/WXContactList.doc.

The compilation of this list does not imply that the State of Oregon or Oregon Housing and Community Services Department (OHCS) endorses or recommends any particular contractor, nor does it imply the selection of any contractor is any guarantee of project feasibility or receipt of funding. This list is NOT an all-inclusive list of qualified energy analysts or energy technicians. OHCS reserves the right to review any analysis submitted with the Weatherization application as well as the qualifications of the preparer, when application forms have been completed by an outside independent third party.

Rehabilitation Worksheet Instructions

Proposed R/U Value: Refer to the Manufacturer's Info Tag

Increased R/U Value: Difference between existing and proposed R/U Values

Square Feet: Square footage (footprint) of the total conditioned area to be weatherized.

Cost: Labor and materials for weatherization activities only.
For appliances, the cost of the appliance only
For CFLs, cost of installed Energy Star approved pin-based fixtures and lamps.

Energy saved: From Excel "CFC Wx Calculator Spreadsheet" provided on the website.

Analysis: The OHCS goal is to allow Weatherization funding of one dollar for every kilowatt hour (kWh) saved the first year or the cost of installation, whichever is less.

Appliances

- REFRIGERATORS 1) must be metered (10% sample required of each type in a multi-family complex). OR 2) supply usage value from refrigerator usage reference available in the CFC Wx spreadsheet of each type of refrigerator within the units.
- CLOTHES WASHERS must be 8 years or older for eligibility in replacement. Please supply annual usage of the model in kWh and use calculator. See instructions.
- DISHWASHERS must be 8 years or older for eligibility requirements. Please supply annual usage of the existing and proposed model in kWh and use calculator. See instructions.

New Construction Worksheet Instructions

Code or Minimum Standard:	On windows, insulation, etc., self-explanatory. On appliances and Energy Star Compact Fluorescent Lighting fixtures (CFLs), use normal rating from the yellow tag (energy guide) on the appliance or manufacturer's information and subtract the baseline KWh usage to determine savings.
Proposed R or U-Value	On anything rated in U-values, a lower number is better. R-values must exceed code to increase energy savings. U / R values are the reciprocal of each other.
Square Footage	Total only the conditioned area that is improved. Square footage is not applicable for appliance calculations.
Increased Cost:	Labor and materials for weatherization activities only. For appliances, the cost of the appliance only. For CFLs, cost of installed Energy Star approved pin-based fixtures and lamps.
Kilowatts Saved:	Use the CFC Wx spreadsheet or any DOE approved tool to project your energy savings.
Appliances	<ul style="list-style-type: none">• REFRIGERATORS must be new. The kWh can be found on the energy guide for the appliance• CLOTHES WASHERS must be new. The kWh can be found on the energy guide for the appliance.• DISHWASHERS must be new. The kWh can be found on the energy guide for the appliance.

NOFA Wx Workbook (Excel spreadsheet) Instructions

For electrically heated units, shell measures must be calculated in kWh savings.

Insert information into the BLUE cells only, when entering data into the CFC Wx calculator.

CFC Wx Calculator:

Project Name: Insert name of project

Location: Insert street address and city

Degree Days/Design Temp: These are the heating degree days for the climate location of the project. By selecting the geographic region from the drop down box, the degree days and design temperature will automatically change to coincide with that area.

Salem area = 4740 degree days/design temp 22
Redmond area = 6746 degree days/design temp 6
Portland area = 4693 degree days/design temp 22
North Bend area = 4664 degree days/design temp 32
Medford = 4803 degree days/design temp 23
Astoria = 5250 degree days/design temp 29
Pick an area closest to your located project and apply.

Air Heat Capacity: Leave as is. Worksheet will not allow changes

Project Volume: Remember, volume is square foot time's height. You can do the entire complex or one unit of each type depending on design differences, as long as each unit is represented and modeled. If the entire complex has units that are all the same, then you can do one unit in the calculator and multiply the savings by the amount of total units OR do the whole facility as one unit. If you have multiple buildings and each one is different design you will need to run the calculations on each building.

Heat Pump: Please insert "1" if a heat pump exists (rehab) or is being proposed. "0" is the default.

Component: These are the measures that this tool can consider. If you have other measures, i.e. GFX systems, solar systems or heating recovery systems, etc., another DOE approved tool will need to be used.

Area: Total square footage of project.

U-Values: Existing and Proposed values must be indicated in U-values. U-values and R-values are related in that they are a reciprocal of one another. R-Values can be added together. U-values are numbers needed for the calculator. You can convert R-values to

U-values by $1/R$ (1 divided by R). Example: The R-value of the batt of insulation is R-19. The U-value of this would be 1 divided by 19=.052. Therefore the U-value is .052. When entering your U-values please only round to the thousandth position.

Table of Values: Worksheet will not allow you to alter numbers or formulas.

Totals: Will be displayed via category and total in KWH's at the bottom.

For more information or technical assistance with the NOFA Wx workbook spreadsheet or the Low Income Weatherization Program, contact your [Regional Advisor to the Department](#) (RAD).