



## site planning

How your home interacts on your site can greatly enhance your lifestyle, and save resources too. For example, you may be able to site your home for natural daylighting. Depending on your local codes, you can harvest rain water or use french drains to keep gray water on site and out of the waste system. You can design a landscaping plan using plants that require little water, plant trees and bushes for summer shading, install drip irrigation systems, or start a little garden.

measure	description
<b>Orientation</b>	Locate home to maximize daylighting
<b>Solar</b>	Solar domestic hot water, Photovoltaics for energy production
<b>Wind</b>	Residential wind turbines generate power anytime the wind blows, day or night.
<b>Site Impact</b>	Minimize disruption to site on home installation
<b>Recycling</b>	Recycle construction debris
<b>Water Harvesting</b>	Capture rain water from roof, use french drains; gray water collection (check local codes)
<b>Landscaping</b>	Consider low water vegetation, summer time shading



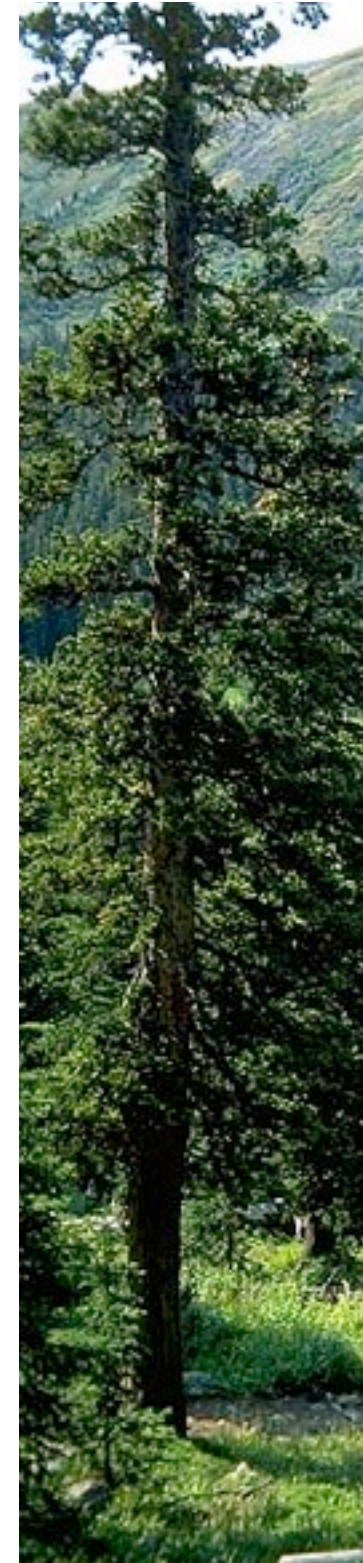
**Northwest Energy Efficient Manufactured Housing Program & eco-rated engineered green home program is presented by:** Oregon Department of Energy, Idaho Office of Energy Resources, Montana Department of Environmental Quality, WSU Energy Program, and the USDOE Building America Industrialized Housing Partnership

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for more information call:  
888-355-6277



# Welcome to a Better House



## Building a Better Life

The **eco-rated engineered green home program** is a partnership between your builder, building scientists, and state energy offices who evaluate every aspect of construction practice. To build an eco-rated home your builder must select from a selected set of green measures in five key areas;

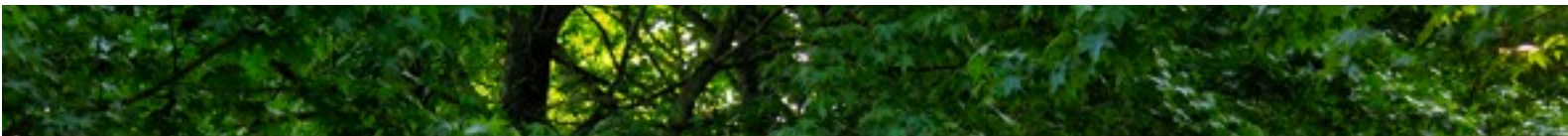
- **Energy Efficiency**
- **Construction Practice**
- **Material Efficiency**
- **Indoor Air Quality**
- **Water Efficiency**

Certified eco-rated homes are built using engineered construction systems and deliver consistent, reliable, tested and inspected green homes.

*Make sure your new home is eco-rated!  
It's better for you - and - the rest of us.*

The eco-rated engineered green home program is designed and managed by the Northwest Energy Efficient Manufactured Housing Program (NEEM). NEEM is the longest running and most successful program of its kind in the country.

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## energy efficiency

Energy efficiency is a very important building block of a green program. Using energy efficiently lowers your energy bills and reduces the amount of energy necessary to be generated, which reduces greenhouse gases and the use of natural resources.

Your eco-rated builder goes beyond the ENERGY STAR standard. Your builder uses the latest in efficient window technology, efficient lighting, more efficient furnaces, and efficient appliances. They even test the ductwork to make sure it is tight.

*“The key to both global warming and energy security is energy conservation.”*

Joseph W. Lstiburek, Ph.D., P.Eng.

assembly	application
<b>Ceilings</b>	R 40
<b>Walls</b>	R 21 HD
<b>Floors</b>	R 33 batt or R 38 blown
<b>Windows</b>	U = 0.31
<b>HVAC &amp; Ductwork</b>	90% AFUE furnace
<b>Water Heater</b>	0.93 EF electric water heater
<b>Appliances</b>	ENERGY STAR dishwasher & clothes washer installed at building center. ENERGY STAR refrigerator recommended
<b>Air Sealing</b>	Ceilings to walls, walls to floors, outlets, etc.
<b>Ventilation</b>	Low sone, low wattage whole house fans. Mechanical exhaust to the outside
<b>Lighting</b>	50% CFL or 100% dedicated CFL fixtures in kitchen and dining
<b>Envelope Leakage</b>	Built tight - ventilated right
<b>Solar</b>	Optional solar hot water, Photovoltaic panels

## construction practice

Your eco-rated builder minimizes the amount of materials needed to build a home. Framing lumber is ordered to length and sheet goods to size. At every opportunity, suppliers are local or regional to minimize transportation.

The result is minimal construction waste - and what little is left is recycled.

area	application
<b>Waste Factor</b>	Less than 3.5%
<b>Supply Sources</b>	Local or regional preference
<b>Recycling</b>	Everything (that can be)
<b>Material Ordering</b>	Framing ordered to length, sheet goods to size, just in time delivery.

## material efficiency

Using materials made from renewable or recycled components, eco-rated builders extend natural resources.

Renewable products are those materials not permanently depleted when used.

Recycled products are those that use otherwise waste materials in the production of a new material.

## indoor air quality

Breathe deep! Minimizing the use of volatile organic compounds (VOC) in a house make it healthier to live in. Using low to no VOC paints, carpets, pads, cabinets and adhesives makes the air inside your home healthier. Kitchen and bath fans, clothes dryers, and ventilation systems exhaust to the outside, and make your home will be fresher,

## water efficiency

Water is a valuable resource. With high performance low-flow shower heads you can enjoy your shower using a fraction of the water. Duo-flush toilets use just what you need. And ENERGY STAR dishwashers and clothes washers use little water and deliver cleaner dishes and clothes.

exterior materials	description
<b>Siding</b>	Recycled / renewable content
<b>Exterior Vapor Retarder or Barrier</b>	House wrap required
<b>Roofing</b>	Selective low-e coatings, cool roofs
interior materials	
<b>Flooring</b>	Examples include: recycled or renewable content carpets, linoleums, tiles; FSC certified wood flooring
<b>Counters</b>	Solid surface, low-voc substrates, laminates
<b>Paints</b>	Low VOC / no VOC
<b>Cabinets</b>	Wood cabinets, low VOC substrate MDF, wheat or straw boards,

measure	description
<b>Ventilation</b>	All fans: kitchen (90 cfm), bath (50 cfm), whole house fan & clothes dryers* exhaust to the outside.
<b>Interior Paints</b>	Low to no VOC
<b>Cabinets</b>	Hardwood or alternative low VOC substrates
<b>Adhesives</b>	Carpet pad, wood flooring, and sub-flooring adhesives

measure	description
<b>Toilets</b>	Duo-flush (.75 min / 1.4 max)
<b>Shower heads</b>	Low-flow shower heads 1.75 gal/minute
<b>Appliances</b>	ENERGY STAR dishwasher & ENERGY STAR clothes washer recommended

