Energy Efficiency and Historic Homes

Yes, they can work together!

Oregon State Historic Preservation Office

Already a Step Ahead!

Older buildings were built to last, and many historic buildings are energy efficient. The U.S. Energy Information Agency has found that buildings constructed before 1920 are more energy-efficient than those built during the rest of the 20th century.

Already a Step Ahead!

- Utility costs for historic buildings can be 30% less than for more modern ones.
- Built when heating and cooling were more difficult, many older homes incorporate passive energy-saving features, such as south-facing facades for solar gain, deep eaves for summer shade, and cross-ventilating halls and operable windows.

Other Passive Measures

- Reduce the number of lights needed by using windows, shutters, awnings and vents to get fresh air in and keep heat out in the summer, and to allow heat through in winter.
- Lower room thermostats in the winter and raise them in the summer to control the temperature according to use.
- Have mechanical equipment serviced and cleaned regularly

Even my house!

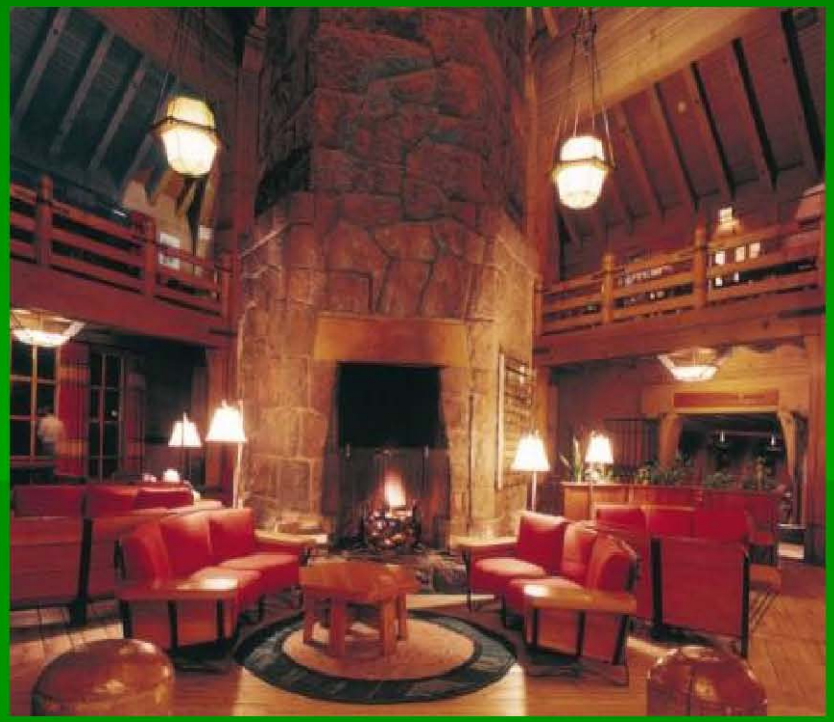
The energy performance in these older homes can be increased even further with basic, modern weatherization techniques. Remember that you are looking at the building as a whole.

Value of Historic Preservation

Oregon's historic homes and neighborhoods are familiar and comforting sights for our residents and visitors. They are irreplaceable resources, and thoughtful care is needed to preserve them.

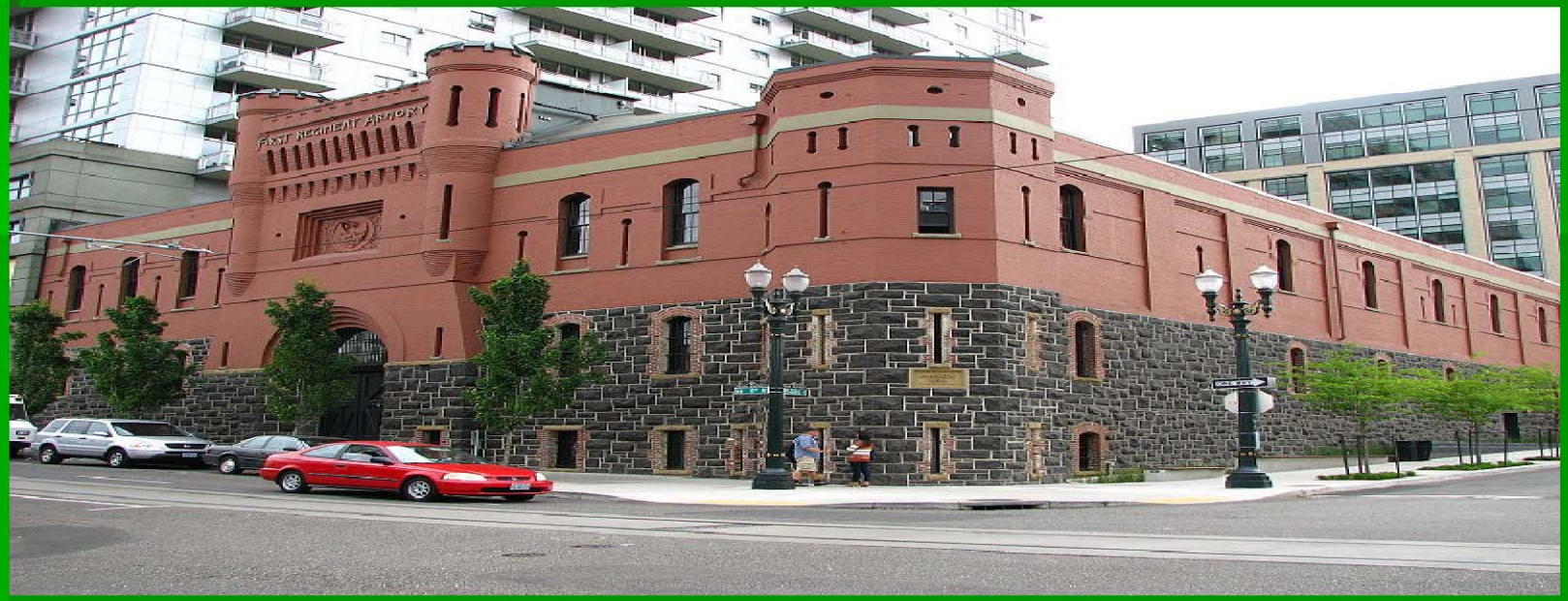
The greenest building is the one already built.

The craftsmanship and materials - heavy timbers, granite, handmade bricks, old-growth wood – used to construct historic homes are unavailable today, or only available at great cost. When lost to the landfill, they are gone forever.



Historic Preservation and LEED

Appropriate weatherization measures can both provide energy savings and protect a property's historical and economic values.



Where to Begin?

Where is the most energy lost in your home?

Adding up all the small cracks and holes in exterior of your house can be like leaving a window open all winter in your house.

Think of your house as a body

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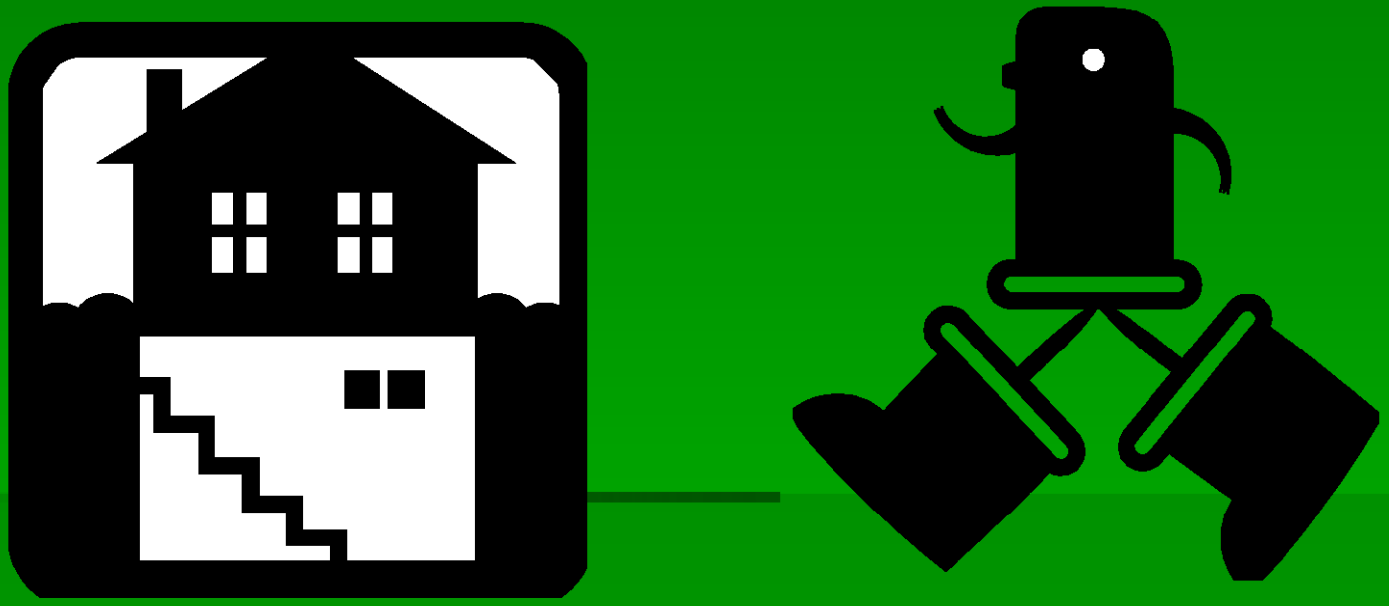


Weatherization measures that protect value, rather than destroy.

- Sealing cracks and adding insulation are the most efficient ways to weatherize your home.
- Add weather stripping to all doors and windows and install foam insulation gaskets under cover plates on all outlets and switches.
- Seal the basement by insulating bulkhead doors leading to the basement, sealing all cracks in the foundation wall, inside and out.
- Add insulation to attic floor and floors above unheated crawlspaces and basements. Vapor barriers should always face the heated space.

Ventilation

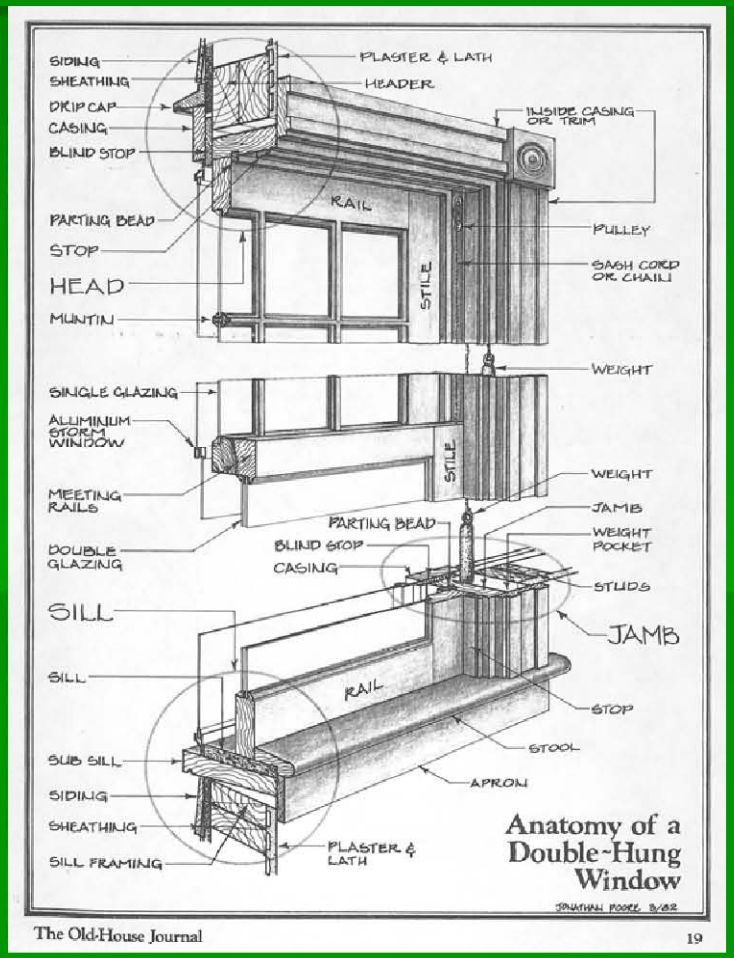
- Old buildings must breath just like us.
- Bathrooms, kitchens and laundry area should be ventilated to the exterior.
- Open a window or install a wall or ceiling mounted exhaust fan.
- Moisture and mold problems can occur from vents that empty into attics or crawlspaces.

Wood windows

- Research shows that most traditionally designed wood-frame buildings lose more heat through the roof and un-insulated walls than through the windows.
- Studies also show that historic wood windows, properly maintained and fitted with a storm window, are just as energy efficient as a new window.

Save America's Windows

- A repaired wood window can easily last more than 100 years. The life of a new window is far shorter.
- Manufacturing, transporting and installing replacement windows consumes large amounts of energy.
- Many historic wood windows can be repaired, especially those dating before 1940. These were constructed with individual parts, each of which can be repaired or replaced. The wood is more dense and of a higher quality; it is generally more rot and warp resistant.



Storm Windows are not always a bad thing.

Insulate exterior walls or not?

- The dead air space in wall cavities was meant to be empty.
- Adding insulation can lead to paint failure, termites and structural damage in exterior walls.
- Not a cost effective measure
- Previous products have failed
- Lathe and plaster walls are better insulation then drywall walls.
- Most new insulating products have not been around long enough to be able to determine long term effects.

National Trust for Historic Preservation

The National Trust for Historic Preservation is a private, nonprofit organization dedicated to saving historic places and revitalizing America's communities.

The Trust has led in promoting the links between sustainability and historic preservation. To learn ten steps to greening your home while maintaining its historic value, visit

www.preservationnation.org/issues/sustainability/green-home-tips

Historic preservation can – and should – be an important component of any effort to promote sustainable development. The conservation and improvement of our existing built resources, including re-use of historic and older buildings, greening the existing building stock, and reinvestment in older and historic communities, is crucial to combating climate change.

More Online Sources

- The National Trust continually expands its weatherization information at www.preservationnation.org/issues/sustainability.
- National Trust Window Tip Sheet http://www.preservationnation.org/issues/sustainability/additional-resources/July2008WindowsTipSheet.pdf.
- The latest issue of Preservation magazine is devoted to saving energy and going green. It is available on newsstands or online at www.preservationnation.org/magazine.
- National Park Service – Weatherizing and Improving the Energy Efficiency of Historic Buildings http://www.nps.gov/history/hps/tps/weather/index.html
- Preservation Brief 3: Conserving Energy in Historic Buildings www.nps.gov/hps/tps/briefs/brief03.

More Measures

- Seal and insulate all attic door hatches.
- Add exterior storm windows to single glazed windows. Make sure they are properly sealed and caulked and have weep holes at the sill to allow moisture to escape.
- Add compatible storm doors if warranted.
- Wrap all hot water pipes and air ducts. Check all pipes and ductwork for leaks.
- When not in use, shut fireplace flues tightly and fill the throat with insulation, if the fireplace is not often used.
- Consider planting trees or using shading devices on south and west elevations.