

Maine Preservation

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W & S Maine

Guidelines for Improving Energy Efficiency in Historic Buildings

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Maine Downtown Center
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The annual carbon footprint of operating buildings in the US is estimated to be:

? %

“The greenest building is the one currently standing...?”

Why?

“...It takes 10 to 80 years for a new building that is 30% more efficient than an average-performing existing building to overcome, through efficient operations, the negative climate change impacts related to the construction process.”

Source: Preservation Green Lab - National Trust for Historic Preservation: The Greenest Building: Quantifying the Environmental Value of Building Reuse. 2011. p. viii

Part of the answer lies within the concept of:

Embodied Energy

Consider:

- *1 billion sf of building stock* is demolished in the US annually
- Between 2005 – 2030 Brookings Institution estimates *82 billion sf of structure* will be razed or 25% of today's existing buildings

To date, little thought has been given to the *environmental cost* of demolition

The last time the US began to confront an issue of this magnitude was 36 years ago – when the Tax Reform Act of 1976 was passed...

- First time ever – gave preferential tax treatment to *rehabilitation*
- Disallowed deducting \$\$ costs of demolition

New Momentum

- Maine's 2008 "...best historic rehab tax legislation in the nation... (from keynote address – MEREDA Conf. 2012)

Vector for the Future:
“The *Unsustainable* Community”

Options:

- Reducing Consumption
- Energy Conservation
- Creativity
- Innovation
- Standards

2012

Guidelines for Improving Energy Efficiency in Historic Buildings

- What is the need?
- Designated historic buildings exempt from Maine's Energy Code
- Historic rehabs – 1000 projects/year = \$4 B
- Maine 2008-2011: 34 projects / \$150 M
- DOE funded through ME State Planning
- Benefit to Maine's CEO's (KVCC Program)

HP Guidelines for Energy Efficiency & Sustainable Practices:

1. Identify & Evaluate Historic Features
2. Conduct a Building Performance Eval.
3. Retain features designed to save energy
4. Determine the most cost-effective energy-saving strategies
5. Develop long-term EE Plan

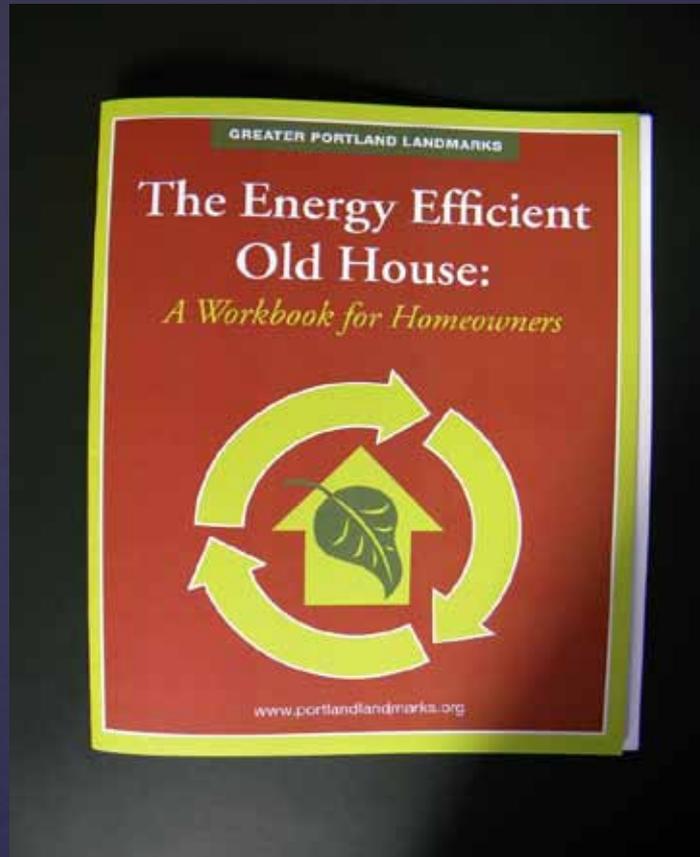
6. Employ Durable & Repairable Materials with 30+ years lifespan
7. Employ only Reversible changes, which can be monitored, inspected and maintained; scrutinize un-proven materials
8. Control and manage moisture – especially in walls and basement; IAQ !!!

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