

Conserve or Preserve

DO YOU HAVE TO CHOOSE?

AS SOMEONE DEDICATED to preserving old houses, energy efficiency makes me nervous. Images of mass-destruction of historic architecture appear in my mind: dumpsters piled high with hand-crafted wooden windows, insulation company vans in every driveway, original iron radiators cast out into the mud. One can't turn on the television or turn a page in any news publication without seeing talk of energy consumption and what we all "should" do to become more energy efficient.

Maine's Governor's Initiative promises one-stop shopping for correcting a home's energy problems, and our legislature just passed a law requiring landlords to disclose energy efficiency efforts to tenants in hopes of "encouraging landlords who want to stay competitive in the rental market to upgrade systems, insulation and appliances."

Of course, energy conservation is important – both for the planet and our pocketbooks – but the blanket approach most often suggested in promotion of these efforts is disturbing. Older homes were built to last – some are 200

years old and going strong – and now many are at great risk in the hands of quick-fix solutions and those taking advantage of timely business opportunities.

Slow down and step back from the hype. In most cases, there is no need to make dramatic changes to an existing, older structure. Rather, very basic modifications and enhancements can have a big return without a major loss of historic fabric. The fact is you can do plenty to make your older home more energy efficient and preserve it at the same time.

LIFECYCLE COSTS

It is easy to get bogged down in what seems like an immediate, resolvable issue and miss the long-term implications of a decision. Major overhauls to architecture not only have costs associated with the project, but costs down the road in lifecycle and environmental costs. It may seem a no-brainer to replace your wooden windows, but considering that vinyl replacement windows have an average lifespan of 12 to 20 years (the cheaper the window the shorter the lifespan) and are not repairable, you are not saving money in the long run. Those wooden windows (and your replacements in little more than a decade) also must be disposed of at great cost to the environment. Restored and maintained wooden windows will last another 100 years.

By the same token, a tankless hot water heater may cost nearly twice its storage tank counterpart, but it has nearly three times the lifespan and uses 50 to 70 percent less energy. Blown-in insulation may seem like a quick, sensible fix but is widely known to cause major timber rot, blow plaster off lath, and settle below major heat loss areas so that it is not even doing what you invested in it to do. Whereas, insulating your attic floor and sealing air loss and drafts is projected to save 10 to 30 percent on energy bills!

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BY NOELLE LORD

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Marc Bagala holds a window in progress of being restored which will keep it going strong for many more years to come.

ENERGY AUDITS

Before jumping into action, it might be useful to assess exactly how your particular home consumes energy. One way to do this is to get an energy audit. Residential energy audits can uncover energy waste and leave homeowners with a plethora of ideas on how to button up the building and save money on utility bills. An audit should help you determine the efficiency of your home's heating and cooling systems, show you ways to conserve hot water and electricity, and leave you with a to-do list of improvements you can make.

To a certain degree you can perform an energy audit yourself, or you can have a professional energy auditor carry out a more thorough audit. Many utility companies provide auditing services, although many of them focus only on utility issues, missing broader building envelope improvements that can make significant differences in consumption.

A professional auditor uses a variety of techniques and equipment to determine the energy efficiency of a structure. Thorough audits often use equipment such as blower doors, which measure the extent of leaks in the building envelope, and infrared cameras, which detect areas of air infiltration and missing insulation. An auditor should provide you with a written report

recommending practical improvements that can be done to weatherize your home and changes that can be made to make it more comfortable and less expensive to heat and cool. A professional audit usually costs between \$250-\$450.

As always, buyer beware and be smart. I spoke with several auditors in the course of writing this article, and most offered me "typical" advice that I would not personally implement in my old house as we are also committed to its preservation, however, an audit can give you a useful punch list of improvements from which to pick and choose.

You can easily evaluate loss through air leaks yourself. On a windy day, light an incense stick and hold it in front of various areas and openings (don't forget utility access points) where your interior meets your exterior. Drifting smoke indicates drafty air leaks. Additionally, take smart measures like installing weatherstripping around windows and doors, and sealing attic chimney and fireplace accesses, which are major air leak culprits. ■

Noelle Lord operates Old House C.P.R., Inc. with husband Peter, and specializes in restoring historic surfaces and helping folks take good care of their older homes. She writes from her own old house in Limington, and can be reached at (207) 793-2957 or www.oldhousecpr.com.

REPLACE	VS.	RESTORE
Replace 20 wooden windows with quality vinyl replacements (\$400 per window, installed): \$8,000		Restore and weatherstrip 20 wooden windows (\$300 - \$400 per window to restore plus \$50 to \$100 each to weatherstrip): \$7,000 - \$9,000
Projected lifespan: 20 years		Projected lifespan (with maintenance): 100 years
Amortized cost per year: \$400		Amortized cost per year: \$80
REPLACEMENT WINDOWS	VS.	ORIGINAL WINDOWS WITH STORMS
Annual energy savings offered by double-glazed replacement window over single-glazed wooden window: 635,922 BTU		Annual energy savings by adding a storm window to a single-glazed wooden window: 722,218 BTU
Annual energy savings comparing a single-glazed wooden window with a storm window to a new "low-e" double glazed thermal replacement window: 132,407 BTU		
Annual savings per double-glazed replacement (heating cost @ \$0.95/Therm): \$9.65 per year		Annual savings per window (heating cost @ \$0.95/Therm): \$11.72 per year
Annual savings per "low-e" replacement (heating cost @ \$0.95/Therm): \$2.03 per year		
Payback based on cost of \$400 for quality replacement window installed: 41 1/2 years		Payback based on \$50 per storm window: 4 1/2 years
Payback based on cost of \$450 per "low-e" replacement: 222 years		

SOURCES: CITY OF PORTLAND HISTORIC PRESERVATION OFFICE AND COLLINGSWOOD

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