

## THE DO'S & DON'TS OF PRESERVATION & SUSTAINABILITY

### Do:

- Get an energy audit to determine the best use of your renovation dollars.
- Contact Historic Charleston Foundation & Sustainability Institute to assist in finding a qualified contractor or auditor.
- Protect the value and integrity of your historic home by making sure you hire certified energy auditors and contractors with experience in historic buildings.
- Seal up the leaks or "bypasses" in your house before you purchase a new HVAC system.

### Don't:

- Do not obscure, radically change, damage or destroy historic features in the process of making your house more energy efficient.
- Do not replace historic wood windows with any other type of energy efficient windows, unless they are unsalvageable.
- Do not insulate the walls of your historic house. Many commonly used wall insulation methods can trap moisture or damage historic fabric.



Historic Preservation

## 5 EASY STEPS TO MAKE YOUR HOME MORE ENERGY EFFICIENT

1. Use interior shades or exterior shutters to minimize heat intake through windows.
2. Keep the thermostat at a maximum of 68 degrees in winter and a minimum of 78 degrees in the summer.
3. Turn on ceiling fans and lights only when rooms are occupied and keep them off when unoccupied.
4. Replace your incandescent light bulbs with Compact Fluorescent Bulbs.
5. Unplug electronic equipment that is not in use, including chargers for cell phones, etc.

### HELPFUL RESOURCES

*The following websites offer further information on ways to improve the efficiency of your historic house.*

- [www.preservationnation.org/issues/sustainability](http://www.preservationnation.org/issues/sustainability)
- [www.historiccharleston.org/preservation/green.html](http://www.historiccharleston.org/preservation/green.html)
- [www.sustainabilityinstitutesc.org](http://www.sustainabilityinstitutesc.org)
- [www.energy.sc.gov](http://www.energy.sc.gov)
- [www.energystar.gov](http://www.energystar.gov)



## HOW TO MAKE YOUR HISTORIC HOUSE MORE ENERGY EFFICIENT

### WHAT YOU NEED TO KNOW ABOUT PRESERVATION & SUSTAINABILITY

- Energy Audits
- Typical Problem Areas
- Insulation
- Secretary of Interior's Standards
- Windows & Doors
- Heating, Ventilation & Air Conditioning Systems (HVAC)
- The Do's and Don'ts of Preservation & Sustainability
- 5 Easy Steps to Making Your Home More Energy Efficient
- Helpful Resources



## PRESERVATION & SUSTAINABILITY

You can save money and make your house more comfortable and healthy by joining the millions of people who are making their houses more energy efficient. With a little investment up front, you can begin to reduce your energy costs almost immediately. Historic houses are no exception but they do require more care to ensure that the energy efficiency goals are accomplished without damaging the historical or structural integrity of the building. This guide provides some basic information to get you started.

## ENERGY AUDITS

An energy audit conducted by a certified professional will tell you how much air your house is leaking and where the leaks can be found. Blower Door and Duct Blasting tests allow energy auditors to pinpoint problem areas in your house. They will document problem areas in a written report so that a contractor certified by the Building Performance Institute can address them. This audit should be done before you begin your rehabilitation or any upgrades because the audit will provide a specific set of recommendations to improve the efficiency of your house .

## TYPICAL PROBLEM AREAS

It is likely that the HVAC, electricity and plumbing were added to your historic house after it was constructed. Holes, or “bypasses,” were made to bring in pipes and run ductwork, usually thru the basement, attic or crawlspaces. The cause of most leakage in residential dwellings are these bypasses, which allow conditioned air to flow out and unconditioned air to flow in. When making updates to your historic house, you should ask your contractor to make sure pipe and duct leakage is limited to a reasonable level (~4%). Have them tested to make sure!

## INSULATION

Adding insulation to crawl spaces, basements and attics after the bypasses have been sealed is also a good idea. Attic insulation should have an R-Value (Resistance Value) of 30 or above and crawl space insulation should have an R-Value of 19. It should be properly installed in both areas so that there are no gaps. Insulation should not be added to the walls of a historic house, especially if historic plaster will need to be removed in order to install the insulation.

### SECRETARY OF THE INTERIOR STANDARDS

The Secretary of the Interior's Standards for historic properties state that all work on historic buildings should be done in a manner that can be reversed. Any changes made to your house to improve its energy efficiency should be undertaken by a certified contractor who is familiar with these preservation

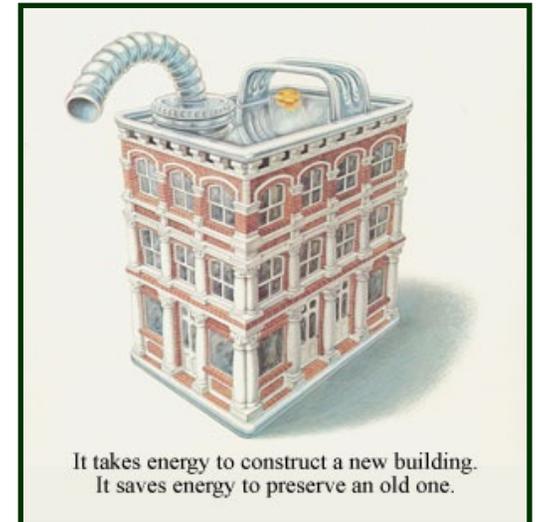
## WINDOWS & DOORS

Contrary to popular belief, windows and doors are not the main cause of leakage in most houses. See the “Typical Problem Areas” section. **Replacing windows and doors in historic houses is expensive and in most cases unnecessary.** Historic windows and doors are significant features of your historic property. Repairing rather than replacing windows will retain the value of your house and avoid unnecessary damage to its historic fabric. Sealing leaks around windows and doors with proper caulking and weather stripping will help reduce leakage.

## HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS (HVAC)

Because many historic houses are not properly sealed, they are sometimes improperly outfitted with oversized HVAC systems to compensate for the leakage. Oversized HVAC systems are prone to “short-cycling,” a process by which the system activates, quickly cools a space and then deactivates in a short period of time. Short-cycling does not effectively remove moisture and may shorten the lifespan of the equipment.

If your system is oversized, you may be able to lengthen the cycles and therefore maintain proper humidity control. When replacing an HVAC system however, always make sure you have properly sealed the leaks in your house first. Then ask the HVAC contractor to provide you with a “Load Calculation” to determine the amount of heating and cooling necessary for a comfortable home environment. HVAC ducts and piping should also be sized appropriately and be as short and straight as possible.



It takes energy to construct a new building.  
It saves energy to preserve an old one.