*Fast*Facts

About Passive Energy-Saving Features of Older Buildings

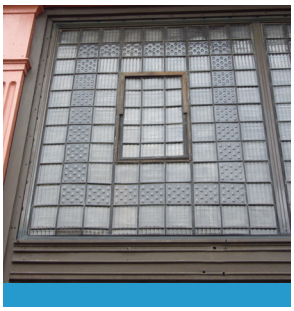
by Nathan Bevil

Wait!! Before you flip that switch or adjust that thermostat, take a careful look at your older building and see how you can save money by using its built-in energy-saving features. Early builders took advantage of the local climate and used practical design features to make their buildings comfortable year-round using little or no electricity. Those who occupied the buildings took advantage of non-electric, or passive, technology to regulate temperature and provide interior lighting, and you can use these same early green technologies to save money today!

CLIMATE AND ENVIRONMENT

Climate and environment have typically been important considerations in the design of buildings. Historically, homes in the South had wide, wrap-around porches, tall floor-to-ceiling windows and fireplaces on exterior walls—designs that helped keep a building cool during long, hot summers. In the North, houses had smaller windows; few windows on the north side of the building; heavier, more compact construction; and often fireplaces on interior walls—features that help maintain a warm temperature during long, cold winters. In some buildings the layout of the rooms was a reaction to climate—everyday functions might be clustered around a chimney stack in a Northern house, but spread out and separated by hallways in the South. Thick brick or masonry walls also aided with insulating buildings from extreme temperature shifts, helping maintain a more constant interior temperature.

Diamond Block, East Liverpool, showing prism glass transom



Details from glass prism transom, Wilmington

Exterior landscaping, including trees and shrubs, was also useful in controlling the environment inside buildings. The leaves of deciduous trees planted on the south and west sides of a building blocked much of the strongest sunlight, providing cooling shade. The same trees that provided shade in the summer shed their leaves in the winter, allowing sunlight to warm the interior. Evergreen trees on the north and west sides of the house created windbreaks from cold winter winds. While these strategic plantings may not be quite as common in the city, they were—and still are—visible around farmhouses across Ohio.

EXTERIOR FEATURES

Other prominent exterior features helped to regulate interior building temperatures. Wide overhangs and balconies provide shade in the summer and protection from winter winds and snow. Awnings and shutters provide ventilation and shade in the summer. In the winter, awnings could be retracted or removed, and shutters opened, allowing available winter sunlight to reach the interior. Some homes were equipped with sleeping porches, which are screened rooms on the rear of houses. You could bunk "outside" for the night, surrounded by the cooler night air. The most popular way to beat summer heat, though, was the porch. In addition to being attractive, shading the building and providing a windbreak in the winter, porches served as outdoor gathering places—perfect for rocking chairs and conversation.

INTERIOR FEATURES

Ventilation and air circulation were key factors in keeping any building comfortable, especially in the summer. Opening windows and doors, especially at either end of a passageway, created a constant flow of air to cool things off. You could also close off infrequently used rooms in the winter, keeping the warm air in commonly used areas. Operable transom windows—those rectangular windows above exterior and interior doors—combined with high ceilings helped to circulate air in entire buildings while providing light, security and privacy to occupants.

Commercial buildings, too, have a number of passive energy-efficient features in addition to those mentioned above. The bulk of these features helped to increase the amount of daylight that reached a building's interior. Prism-glass transoms on a storefront were for more than just decoration—they helped to refract sunlight further into the building. They were quite popular when electric lights were expensive, fairly weak and unreliable. Pressed metal ceilings also helped reflect more light inward. In larger buildings such as warehouses, department stores, office buildings, hotels, apartment buildings and other multi-story buildings, skylights, clerestory windows, atriums and light wells provided air and sunlight from above. Operative windows in these areas also served as vents for warm air.

MAINTENANCE AND PROTECTION

Interior, Metropolitan Block, Lima, shows light refracted by prism glass panes

Today, when working on your older building, take some time to stop and think about how it functions. Do you have transom windows painted shut? Do you have operable shutters that have been nailed open? Repair and return existing historic features to active use before taking on expensive and irreversible alterations.

Porches along Wheeling Street, Lancaster

Regular maintenance, as outlined in other *Fast*Facts, will help ensure that you can capitalize on these passive energy-saving elements. Beware of adding new features to your building that create a false sense of history. For example, not all buildings were designed for skylights or awnings.

All of these green historic features provide passive ways to decrease your older building's energy use. They also help define the look of your building. Porches, awnings and prism-glass transoms can help define a building and set it apart from its neighbors. Basic maintenance of these features will ensure that they both save money and continue to enhance the owner's and user's experience for years to come.

For more information about passive energy-saving features of old buildings, contact the Ohio History Connection's State Historic Preservation Office.

Nathan Bevil is Community Planning and Preservation Manager for the Ohio History Connection's State Historic Preservation Office. He has a master's degree in historic preservation from the University of Georgia.

8/12

OHIO HISTORY CONNECTION
800 E. 17th Ave.
Columbus, OH 43211-2474
614.298.2000
ohiohistory.org/shpo

This publication is made possible in part by a grant from the U.S. Department of the Interior's Historic Preservation Fund, administered by the Ohio History Connection's State Historic Preservation Office. U.S. Department of the Interior regulations prohibit unlawful discrimination in departmental federally assisted programs on the basis of race, color, national origin, age or disability. Any person who believes he or she has been discriminated against in any program, activity or facility operated by a recipient of federal assistance should write to: Office of Equal Opportunity, National Park Service, 1849 C St., N.W., Washington, DC 20240.