

# GREEN BUILDING CODES & STANDARDS



*Green affordable housing project developed by Rural Development Inc, Franklin County*

## **What are the objectives of green building codes and standards?**

To increase the efficiency of buildings and their use of energy, water, and materials, and reduce building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal.

## **Why do we need green building codes and standards?**

Massachusetts is a leader in the rapidly growing green building movement. Buildings consume 70% of the nation's electricity and a large part of the materials, water and waste used and generated in our economy. Buildings have traditionally been

viewed as a relatively static sector of the economy experiencing relatively little change in technology or resource consumption patterns, but that is not the case. According to Ed Mazrin, founder of Architecture 2030, and international movement to transition to zero energy buildings by 2030, greening the building sector is a key to combating global climate change. Codes and standards are increasingly being used to encourage the development of renewable energy, energy-efficient technologies, and high-performance buildings in Massachusetts. In addition to state requirements, codes and standards for specific building types and individual municipalities are in development to encourage a breadth of clean and green features in building projects.

## **How do green building codes and standards work?**

"Green" or "sustainable" buildings use key resources like energy, water, materials, and land more efficiently than buildings that are just built to code. With more natural light and better air quality, green buildings typically contribute to improved employee and student health, comfort, and productivity. In addition, they use less energy and other essential resources, therefore saving more money. Through zoning and other regulatory measures, communities can require that new and rehabilitated buildings are built to meet green building standards. The green building standard most used is the Leadership in Energy and Environmental Design (LEED) System, developed by the United States Green Building Council. LEED is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

## **DID YOU KNOW...**

Although the US is home to only 4.5 percent of the global population, it is responsible for over 15 percent of the world's consumption of wood.

*(Source: [www.GreenBuilding.com](http://www.GreenBuilding.com))*

## EXAMPLES FROM THE PIONEER VALLEY



### **Kittredge Business and Technology Center at Holyoke Community College**

Holyoke Community College's Kittredge Center is a 54,000 square foot building on the current HCC campus providing educational opportunities, workforce training, and business development services. The new Kittredge Center for Business and Workforce Development is the first state-owned building with a green roof. Green roofs are part of an important design trend to produce buildings that are more sustainable in that they reduce storm water impacts to nearby rivers and streams, provide better insulation to buildings, and reduce the amount of energy needed for heating and cooling. The 2,500 square foot roof—with 6 inches of soil planted up with drought-tolerant sedums—intercepts and soaks up rainfall. As a result, the amount of storm water running off the built surfaces is greatly reduced.

## EXAMPLES FROM OUTSIDE THE PIONEER VALLEY

### **The City of Boston**

The City of Boston recently amended their Zoning Code to require all projects over 50,000 square feet to be designed and planned to meet the "certified" level using the US Green Building Council's and Leadership in Energy and Environmental Design (LEED) building rating systems. The Article also provides incentives by allowing up to four of the required LEED points to be obtained from the Boston Green Building Credits. One point can be obtained if the proposed project includes and on-site combine electrical and heat generation; one point for the historic renovation of an existing structure; one point for on-site groundwater re-charge; and one point for sustainable transportation options for residents, such as public transit passes and car-sharing options. The City of Cambridge is also developing Green Building standards for buildings over 25,000 square feet.

### **Maine State Housing Authority**

The Maine State Housing Authority (MSHA) has developed a set of green building standards for designers, developers, and constructors who apply for MSHA funding. These standards are a requirement for all projects that apply for funding, including rehab and renovation projects. A copy of the standard can be found [here](#).

### ADDITIONAL LINKS:

["Leading by Example: An Action Plan for Green Building in Massachusetts State Construction Projects", Massachusetts Sustainable Design Roundtable.](#)

### MODEL GREEN BUILDING STANDARDS