



Maine Real Estate &
Development Association

Supporting Responsible Development



Mainebiz Real Estate Insider, featured by MEREDA

Green Building Systems - What is out there

March 17, 2015

By Asha Echeverria, Shareholder, Bernstein Shur

With continued national concern regarding energy costs and environmental efficiency, green building systems allow owners and the public to increase, assess, and understand the environmental and energy efficiency of a project. Green building systems offer both cost savings to owners and benefits to occupants, including reduced operating costs, increased property value, reduced construction waste and greenhouse gas emissions, reduced energy and water consumption, healthier air quality, and possibly tax and financing incentives. Several systems exist, and examples of these systems can be seen in projects around Maine.

- **LEED® (Leadership in Energy and Environmental Design)** was developed in 1998 and is administered by the U.S. Green Building Council. It is the most widely used and known rating system for commercial buildings. LEED provides standards, and assesses points, for environmentally sustainable building construction and operations in several broad categories, including sustainable sites, water efficiency, energy and atmosphere, materials and resources, and air quality. LEED certification is available at four levels: certified, silver, gold and platinum. LEED's market success has resulted in several municipalities, institutions, such as colleges and hospitals, and the federal General Services Administration requiring LEED certification for new building construction. Example projects: New Portland Jetport Terminal (Gold), Elm Terrace in Portland (Platinum) and *Coastal Maine Botanical Gardens'* Bosarge Family Education Center in Boothbay (Platinum).
- **Green Globes™ US** is a web-based interactive self-assessment protocol offered by the Green Building Institute (GBI) for commercial buildings. The U.S. program was adapted from the Green Globes Canada rating system in 2004. For certification and receipt of a rating of one to four Green Globes, GBI requires third-party verification by a GBI-approved trained professional. The Green Globes protocol focuses on life cycle assessment and provides immediate feedback of a project's sustainability strengths and weaknesses. Though the protocol evaluates projects in several areas, the primary emphasis is on energy efficiency, which accounts for over one-third of the possible points in the system. Green Globes is not as widely used as LEED, in Maine and throughout the country, but it is less expensive than LEED, making it a viable alternative for smaller projects. Example projects: Several Buildings on the VA Maine Healthcare System Togus Campus in Augusta, including the Primary Care Building 205

and the Theater Building 210.

- **ENERGY STAR** is a free program developed for existing buildings by the federal Environmental Protection Agency and the U.S. Department of Energy. Unlike other systems, the ENERGY STAR program focusses exclusively on energy performance. The system compares a particular building's energy performance with that of similar buildings. Using at least one year of utility information, the ENERGY STAR system models a building's energy consumption based on building size and type, occupancy, and location. With one hundred points possible, projects with 75 points or more can apply to receive the ENERGY STAR label. Projects can continue to utilize the system to monitor utility consumption and performance during the life of the building. ENERGY STAR example projects: Brookside Village (32 units in certification process) in Farmington, ME and four, soon to be eight, Habitat for Humanity homes in Freeport.
- **Living Building Challenge** was launched in 2006 by the International Living Future Institute. The challenge determines rankings based upon achievement in seven "petals": site, water, energy, health, materials, equity and beauty. Within each petal, various criteria must be met. After one year of operation and use, a project can be certified as "living" if it proves it meets all program requirements. A project can also receive Petal Recognition, or partial program certification, if it achieves all of the requirements of three petals or more, one of which must be either the water, energy or, materials petal. In relation to the challenge, the institute also publishes a Materials Red List, identifying, and hoping to eliminate from building construction the worst chemicals and materials from a human and ecological health standpoint.
- Other green building systems, such as **Net Zero** and **Passive House**, are also active in Maine. Net Zero buildings minimize energy use through high-energy efficiency and then offset any remaining energy needs through on-site renewable energy production, usually photovoltaic solar cells. The goal for a Net Zero building is that over the course of its lifetime, it will produce as much energy as it consumes. Net Zero example projects: BrightBuilt Barn in Rockport, *Coastal Maine Botanical Gardens'* Bosarge Family Education Center in Boothbay, and Viridescent House in Falmouth (Net Positive). Passive building utilizes design of airtight envelopes, superinsulation and high performance windows and doors, resulting in buildings with exceptionally low energy use, even for heating and cooling. Passive House example projects: Go Home Passive House in Belfast and Viridescent House in Falmouth.