Green Certification: obtaining green certification for existing buildings in VA

06.12.2015

?Revaluing building reuse is not just an environmental issue, it?s an economic opportunity. One that will reduce our dependence on foreign oil and one that creates American jobs. Because renovation projects use less material, it is good for the environment, but it requires more labor, which has to be local. That?s good for America.?

--- Elizabeth Hider, Chief Sustainability Officer at Skanska USA, Inc.

On June 19, 2014, the U.S. Energy Information Administration released its preliminary results for the 2012 Commercial Buildings Energy Consumption Survey (CBECS). According to the CBECS, the United States currently has 87 billion square feet of commercial floorspace. Only 14% of that commercial floorspace (12.2 billion square feet) was constructed within the past 10 years; that is, built pursuant to current green construction standards. By contrast, 50% of the commercial buildings in the United States were built prior to 1980.[i]

The U.S. Green Building Council does not view increased construction of new green buildings as a practical solution to the glut of energy inefficient commercial floorspace. In fact, the U.S. Green Building Council estimates that it takes up to 80 years to offset the environmental impact of demolishing an old building and constructing a new, albeit more efficient, one.[ii] In light of an average new construction replacement rate of 2% per year in the United States, we will maintain an incredibly large supply of low efficiency commercial floorspace for the foreseeable future.[iii]

The tremendous supply of energy inefficient commercial space coupled with the increased public demand for green properties has led to the recognition by owners and contractors of the profit potential in ?greening? existing commercial buildings.[iv] Various studies demonstrate that green buildings have longer usable lives, command premium rental rates, enjoy higher tenant occupancy, present a lower lending risk to financial institutions and sell for approximately twenty percent more per square foot when compared to similar ?non-green? properties.[v] Further enhancing green construction, the Federal

Government and various states, including Virginia, offer incentives to owners and contractors for buildings that can be certified as green. These incentives primarily take the form of tax credits, tax exemptions and green mortgages.[vi]

What organizations offer certification for refurbished green building in Virginia? The three most prominent organizations offering green certification are:

1. The Environmental Protection Agency and its ENERGY STAR certification program begun in 1999;
2. The U.S. Green Building Council and LEED (Leadership in Energy and Environmental Design), a multi-tiered green building certification program begun in 2000; and
3. The Green Building Initiative and the Green Globes program, which was implemented in the United States in 2004.[vii]

For the purposes of tax incentives, Virginia delegates the statutory certification of ?energy efficient? commercial construction to, among others, these same three organizations.

Each utilizes a unique and competing green verification system. Until recently, green certification by the U.S. Green Building Council and the Green Building Initiative focused primarily on new commercial construction; *i.e.*; the initial design, materials and methods used in the construction of a new structure. To address the certification of refurbished buildings, LEED and Green Globes each created new verification programs that specifically address existing buildings, or ?EBs.?

An EB certification focuses on the operation and maintenance of a structure. A brief summary of the EB certification options offered by LEED and Green Globes follows. The Environmental Protection Agency?s ENERY STAR program is also addressed:

LEED EB:O&M

The U.S. Green Building Council certification program for existing buildings is referred to as LEED EB:O&M (Existing Building: Operations & Maintenance). Much like LEED?s multi-tiered certification program for new construction, LEED EB:O&M rates an existing structure as certified, silver, gold or platinum. In order to apply for LEED EB:O&M certification, the EB and its owner must meet certain threshold requirements including: the EB must be in compliance with all applicable environmental laws; the EB must consist of at least one existing commercial structure; the owner must employ a reasonable site boundary on its application of all lands affected or disturbed by the EB; the EB must be at least 1000 square feet in size; the EB must be operating currently at typical physical capacity and have been doing so for at least twelve continuous months; the EB owner must commit to provide whole building energy and water data; and the EB must occupy no less than 2% of the site area.

Assuming these minimum requirements are satisfied, the applicant must then complete a request for review and submit historical performance data, calculations and analysis. The U.S. Green Building Council will evaluate the application to determine if certification is warranted. LEED EB:O&M certification is valid for five years, but annual recertification is encouraged.

Green Globe CIEB

Green Globes refers to its EB program as Green Globe CIEB (Continual Improvement of Existing Buildings). Green Globes CIEB rates EBs on a ?Globe? scale from 1 to 4 with 4 Globes the highest possible rating. Green Globes requires the EB to be at least 400 square feet in size, have twelve consecutive months of operational and water data, and have conditioned space.

Assuming the minimum requirements are met, the next step is to complete an on-line environmental assessment. Green Globes scores the assessment on a 1,000 point scale focusing on energy, water, resources, emissions, indoor environment and environmental management. For an EB to be eligible for Green Globe certification, the online assessment must achieve a minimum score of 350 and meet threshold scores in each assessment area. The self-assessment is then verified by a third-party with expertise in green building design, engineering, construction and facility operations. The third party assessor makes the final determination as to certification and rating of the EB.

ENERGY STAR

The ENERGY STAR program has always focused on building performance. ENERGY STAR certifies that a qualifying building is within the top twenty-five percent of the most energy efficient buildings in the United States. Unlike LEED and Green Globes, ENERGY STAR does not rate EBs at various levels of certification. ENERGY STAR scores an EB on a 1-100 scale. Similar to Green Globe CIEB, the EB?s preliminary ENERGY STAR score is established through an online self-assessment protocol referred to as a Portfolio Manager, which focuses on energy consumption, water consumption and greenhouse gas emissions. A preliminary Portfolio Manager score of 75 is required to proceed with the certification process. Assuming a minimum Portfolio Manager score, ENERGY STAR requires verification of an EB?s application by a licensed Professional Engineer or Registered Architect. ENERGY STAR verification is good for one year and must be recertified annually.

Future Green Trends

Regardless of the rating system employed, the purpose of these certification programs is to verify that a qualifying building operates with greater energy efficiency, reduced water consumption, enhanced stormwater management and better indoor air quality than a traditional structure. While the current focus is on achieving a smaller carbon footprint, the future of green construction is sustainability. A sustainable building causes a ?net-zero? impact on the environment by generating and collecting on-site as much energy and water as it consumes.

The Living Building Challenge? gives us a glimpse of the coming sustainability movement. Launched in 2006, the Living Building Challenge? certifies that a building ?lives? off the land by using solar, wind and geothermal energy and rain for all of its operating needs. Currently only 4 projects in the world have achieved full certification under the Living Building Challenge. the Chesapeake Bay Foundation?s Brock Environmental Center in Virginia Beach is the first, and to date only, registered Living Building Challenge? project in Virginia. The Brock Environmental Center boasts an indefinite life expectancy, designed to operate through loss of power and withstand a 500 year storm event.

[i] U.S. Energy Information Administration, *Commercial Buildings Energy Consumption Survey 2012* (June 19, 2014), available at http://www.eia.gov/consumption/commercial/reports/2012/preliminary/index.cfm

[ii] Preservation Green Lab, National Trust for Historic Preservation, *The Greenest Building: Quantifying the Environmental Value of Building Reuse* (2011), available at http://www.preservationnation.org/information-center/sustainable-communities/green-lab/lca/The_Greenest_Building_lowres.pdf

[iii] U.S. Energy Information Administration, *Commercial Buildings Energy Consumption Survey 2012* (June 19, 2014), available at http://www.eia.gov/consumption/commercial/reports/2012/preliminary/index.cfm

[iv] Unless indicated to the contrary, a ?commercial building? generally refers to any structure ?greater than 1,000 square feet that devotes more than half of its floorspace to activity that is neither residential, manufacturing, industrial, nor agricultural? as defined by the U.S. Energy Information Administration.

[v] Norm Miller, Jay Spivey, Andy Florance, *Does Green Payoff?* (July 12, 2008), available at https://www.*energystar* .gov/sites/default/files/buildings/tools/DoesGreenPayOff.pdf

[vi] U.S. Department of Energy, *DSIRE Database of State Incentives for Renewables & Efficiency* (October 6, 2014), available at http://www.dsireusa.org/incentives/index.cfm; Eric Gies, Forbes, *Green Building Financing Offers More Profits, Fewer Risks* (June 14, 2011) available at http://www.forbes.com/sites/ericagies/2011/06/14/green-building-financing-offers-more-profits-fewer-risks;

[vii] Virginia Code § 58.1-3221.2.

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