Canadian Wood Council / Conseil canadien du bois

WOOD WORKS! engineered for strength and style...naturally!

QUICK FACTS - SUSTAINABLE BUILDING SERIES 2

WOOD and the Greening of Commercial Buildings

BACKGROUND

The growing interest in sustainable building design and construction has seeded many green building programs whose initial focus has been on commercial and multi-residential buildings. The goal of these programs is to reduce the impact these buildings have on the environment by encouraging energy efficient, responsible choices in the design and build process.

Nicola Valley Institute of Technology, Merritt, British Columbia

Since sustainable design is in its infancy in building practice, and knowledge is incomplete in many areas, no single program is able to offer a comprehensive rating system. Each green building program has advantages and disadvantages. At this stage, it is important to keep green building options open to encourage exploration and further research into energy efficient, sustainable design, and to consider all viable approaches.

ISSUE

Building rating systems have been developed as proactive voluntary measures that could eventually lead to regulation. The intent is to transform the market by increasing demand for "green" buildings that have a reduced impact on the environment. It should be noted that these rating systems lack deeper environmental assessments such as life cycle analysis.

Life Cycle Assessment (LCA) is important because it measures exactly how a building product or system affects the environment during each phase of its life: extraction, production, installation, use and disposal (or re-use).

Green building rating systems endeavour to reduce the impact buildings have on the environment, but their current method of measurement (points assigned to "steps" toward addressing environmental effects) can sometimes produce "point worthy" choices that are actually counter to the spirit of the rating system.

While point based rating systems can be easier to implement than LCA, they have the potential to fall short of their desired outcomes. For example, some point systems offer credits for the use of a local resource in order to reduce the impact of transportation. While good in theory, point systems may inadvertently reward the use of a material that is not as environmentally responsible as an alternative product that may come from further a field. Conversely, if the material selection is based on a more comprehensive LCA, the total impact of the material is considered, rather than just one facet such as transportation.

WHAT YOU NEED TO KNOW

Life Cycle Assessment demonstrates that the environmental profile of wood offers a clear advantage over other major building materials. Current rating systems, however, do not incorporate LCA.

Fortunately, as practical experience grows, so do the building rating systems. In December 2004, the US Green Building Council proposed changes to the LEED credits relating for the use of certified wood. The existing Rapidly Renewable Materials credit is expected to be replaced with a Renewable Materials credit that will award one point for the use of bio-based materials, including wood products, which are "grown or harvested under a recognised sustainable management system."

In time, LCA will likely contribute to the evolution of building rating systems and programs to a performance-based approach that will more accurately reflect the "green" properties of wood.

At the time of writing, the commercially developed assessment systems used throughout Canada are:

- BREEAM (Building Research Establishment Environmental Assessment Method)
- LEED (Leadership in Energy & Environmental Design)
- BREEAM Green Leaf
- Green Globes

BREEAM and Green Globes assessments also apply to multi-residential units and they both take an inclusive approach to forest certification.

FOR MORE INFORMATION

The Canadian Wood Council is actively involved in promoting the attributes and environmental properties of wood in green design. Please visit the Canadian Wood Council's website at www.cwc.ca.