

# Evolving lifecycle and raw material requirements: what we can learn by previewing LEED® v4



*By Bill Griese, LEED AP BD+C, Standards and Green Initiative Manager, Tile Council of North America*

After much anticipation, the final approval of LEED® v4 was announced this past July. Set to officially launch this November at Greenbuild, the rating system will have many new provisions and look quite different from past versions.

Undoubtedly, LEED v4 will have a profound impact on the green building marketplace as it has in years past, but in fact, the substantially revamped credits for materials are indicative of the already ongoing evolution of green product requirements. In general, today's requirements focus more broadly on lifecycle benefits, raw materials, and transparency.

## **Building lifecycle analyses and product selection**

Today, there is a big push for "whole building lifecycle assessments (LCAs)." While simple in theory, whole building LCAs are very difficult to standardize. Given today's marketplace – which is heavily reliant on the prescriptive checklist approach of green building standards and rating systems – it would be unreal-

istic to expect that whole building LCAs could be fully and exclusively adopted all at once. However, whole building LCAs are widely embraced, and the transition towards their partial implementation is already taking place.

In LEED v4, MR Credit 1 "Building lifecycle impact reduction" addresses building lifecycle analyses in a number of ways, including the direct rewarding of points for buildings which demonstrate reduction in materials use through whole building LCA. Alternatively, points are awarded via MR Credit 1 for the salvageability of inherently-durable interior elements (e.g. walls, doors, floor coverings, ceiling systems). It will become increasingly important that manufacturers begin presenting their products' lifecycle benefits and supporting LCA data.

## **Environmental Product Declarations (EPDs)**

The trend towards an increased need for product lifecycle information is also evidenced by today's demand for Environmental Product

Declarations (EPDs). An EPD is a report of quantified environmental impacts of a product, based on its LCA. Similar in concept to a nutrition label, an EPD tells a product's full environmental story in a familiar reporting format so an end user can make an informed decision.

EPDs have been common worldwide for quite some time, but they just recently began making their way into the North American green building marketplace. It can be expected that EPDs will be in high demand in the years ahead, especially since requirements for them are already written into green building standards and rating systems, including LEED.

In LEED v4, products with EPDs can contribute towards points under MR Credit 2 "Building product disclosure and optimization – EPDs" if at least 20 products are used which have LCA and EPD information readily available. Products for which a third party LCA was performed offer 25% contribution; products whose data are integrated into an industry-wide EPD offer 50% contribution; and products for which a proprietary EPD is read-

ily available offer 100% contribution. These contributions can be used in aggregate (e.g. a single ceramic tile product counts 1.75 towards the 20-product goal if it has an LCA, participated in the creation of an industry-wide EPD for “tile”, and has a proprietary EPD). Additionally, a second point can be earned via MR Credit 2 if 50% of a building’s products have EPDs with environmental impacts lower than their respective industry-wide EPDs.

This in-depth approach to awarding points for products with EPDs is an indication of USGBC’s intent to motivate industries to jump on board with EPD initiatives.

### **New perspective on raw materials**

Another revamped initiative in the North American green building industry involves an expanded look into raw material characterization. LEED v4 includes several new provisions in this regard, addressed by MR Credit 3 “Building product disclosure and optimization – sourcing of raw materials,” and MR Credit 4 “Building product and optimization – material ingredients.”

Under MR Credit 3 the use of recycled materials can in part contribute toward earning a point, but so too can the use of products whose raw material suppliers publicly report their extraction locations and commitment to long-term sustainability and/or participate in established leadership extraction programs.

MR Credit 4 sets requirements for the ingredients which make up raw materials. Under this credit, points are awarded for the use of products whose suppliers effectively demonstrate the chemical inventory of their raw materials, participate in benchmarking or certification programs associated with minimization of haz-

ardous chemicals, and/or engage in supply chain sustainability efforts.

Both MR Credit 3 and 4 are a strong indication of a rapidly-growing trend toward expanded requirements for raw-material transparency.

### **Multi-attribute sustainability standards for products**

Previously, many manufacturers were promoting single environmental attributes (recycled content, low VOCs, etc.) represented by different labels across different industries. This resulted in an unorganized and often confusing marketplace. Today, many industries recognize that there are a wide variety of concepts to consider when evaluating product sustainability, and have taken it upon themselves to write multi-attribute sustainable product standards.

Today, green building programs are increasingly taking advantage of the fact that many industries have “go-to” standards and certification programs for multi-attribute product sustainability. Several green building standards and rating systems already offer points for the use of conforming products. Additionally, USGBC has been considering different strategies for specifying such standards and/or certification programs in LEED. In fact, the wheels are already in motion to make this happen. Recently, LEED MR Pilot Credit 80 was established, under which a point can be earned for the use of interior finishes and furnishings with third party multi-attribute sustainability certification. Currently, USGBC is seeking input from its stakeholders on which representative program to include from each industry.

### **Tile industry relevance**

Today’s trending requirements, as well as new MR criteria in the soon-

to-be released LEED v4, will have a profound impact on the way tiles are specified and marketed for green building projects. In the future, there will be less specificity with regard to exact green building points and credits under which products can contribute, and a broader focus on lifecycle benefits, raw material reporting, transparency, and multi-attribute sustainability. What does this mean for tile? New initiatives with regard to EPDs, and the continued growth of Green Squared®.

Currently, the tile industry is exploring the possibility of an industry-wide EPD, i.e., a generic EPD for tile. Such an EPD would be helpful in establishing baseline data and a common foundation upon which future EPD and LCA initiatives could grow in a consistent and organized fashion. Also, it can be expected that more and more attention will be given to the tile industry’s multi-attribute standard and certification program for tile sustainability, Green Squared. Conforming to a wide spectrum of sustainability criteria, from raw-material extraction through end-of-product-life management, hundreds of Green Squared Certified® products are already in the marketplace. Use of these products can contribute toward points in some green building standards and rating systems and help fulfill several other material requirements.

Given today’s ongoing industry initiatives and the newfound focus on inherent properties and lifecycle benefits of products, the tile industry has a lot to look forward to. As demands for product standardization and organized environmental reporting evolve, the industry will continue to expand its efforts and raise the bar with respect to sustainability.