Lafarge Canada Inc.’s new Innovation Hub in Edmonton is not just another building claiming to be green; it has posted its performance data for all to see. The Athena Sustainable Materials Institute measured the building footprint using Life Cycle Assessment (LCA) and created an Environmental Building Declaration (EBD).

An EBD is a document that states the environmental footprint data about a building – similar to the nutrition label on food packaging, explain the staff at Athena. This performance data is posted publicly in Lafarge’s Hub and on Athena’s website.

“Lafarge recently built a LEED® Platinum NetZero Energy Precast Concrete Duplex in conjunction with Habitat for Humanity. For our own Hub we wanted to go even further on sustainability leadership by using LCA to document and share our footprint,” commented Federico Tonetti, Vice President, Edmonton for Lafarge.

The Lafarge Hub is constructed of precast concrete, providing a highly efficient building envelope. The precast sandwich panels eliminate thermal bridges and, when combined with an intelligent building management system, deliver strong energy performance.

The building houses a world-class laboratory on the ground floor where radiant in-floor heating combined with a south facing design keep Lafarge’s materials experts warm and bathed in natural light.

The Hub is a showplace for other sustainable materials, like concrete floors incorporating reflective white pigment and concrete walls to engage thermal mass. The polished concrete floors are low maintenance and eliminate the need for floor coverings or paint, keeping VOCs down for a healthy work environment.

Another feature of a precast concrete building is that it contains open architecture with long clear spans; this allows the building to be repurposed or even disassembled and reassembled at another location. Considering the building’s full life cycle, at a minimum the concrete could be crushed and reused at end of life.

The Hub was built on a current Lafarge industrial site requiring no further development of the area. Industrial and rain water are managed across the site via a reclamation system. In the Hub’s parking lot, Lafarge’s decorative concrete has been employed.

“Lafarge is setting a great example for building owners and designers” says Athena President Jennifer O’Connor. “In using LCA to transparently disclose the environmental performance of their new building, they’re extending the concrete industry’s commitment to sustainability right through the value chain.”

Well beyond the laboratory function, the building is slated for use as a construction community hub by post-secondary students as well as associations and local project teams. “Brainstorming about innovative materials application in building and infrastructure construction will occupy the second floor of the Hub, while the ideas can be readily tested downstairs in our lab, explained Mr. Tonetti.

Lafarge supports the use of LCA to measure the environmental footprint of products and buildings – viewing it as a mechanism to keep the organization accountable and to find ways to reduce the footprint of the built environment. As a leader in sustainability since 2007 when the Lafarge Group established its first Ambitions, the company has been challenging itself and its peers to accelerate environmental, social and economic efforts to build better cities.
ABOUT LAFARGE CANADA INC.

Lafarge Canada Inc. is Canada's largest provider of solutions to the construction and development industry. With more than 6,000 employees across Canada, our mission is to provide construction solutions that build better cities and communities. The cities where Canadians live, work, and raise their families along with the infrastructure that supports their communities such as roads, bridges, transportation links, water, and waste management benefit from the solutions provided by Lafarge.

Through our Sustainability Ambitions for 2020, Lafarge is committed to providing solutions using sustainable manufacturing practices and improving the environment in and around its operations. At locations across Canada, we have worked to reduce carbon dioxide emissions, restore wetlands for native plants and animals, and identify waste materials that can be recycled and used in our operations. For more information: www.lafarge-na.com

ABOUT THE LAFARGE GROUP

A world leader in building materials, Lafarge employs 64,000 people in 62 countries, and posted sales of €15.2 billion in 2013. As a top-ranking player in its Cement, Aggregates and Concrete businesses, it contributes to the construction of cities around the world, through its innovative solutions providing them with more housing and making them more compact, more durable, more beautiful, and better connected. With the world’s leading building materials research facility, Lafarge places innovation at the heart of its priorities in order to contribute to more sustainable construction and to better serve architectural creativity. For more information: www.lafarge.com

ABOUT THE ATHENA INSTITUTE

The Athena Sustainable Materials Institute is a non-profit consultancy and think tank in LCA for the built environment. The Athena Institute has continuously maintained its free Impact Estimator software tools since 2002, as part of its mandate to bring LCA to the construction sector for a verifiably sustainable future. For more information: www.athenasmi.org

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