The Claudette MacKay-Lassonde Pavilion

With a rapidly increasing number of countries instituting policies and legislation to mandate energy conservation and environmental protection, The University of Western Ontario is spearheading many initiatives to address these challenges and meet global goals for environmental sustainability. One of these pioneering initiatives is the construction of The Claudette MacKay-Lassonde Pavilion, Western's first 'green' building.

Western's Claudette MacKay-Lassonde Pavilion

What is The Claudette MacKay-Lassonde Pavilion?

Researchers in Western's Department of Engineering are building a structure that will serve as a model for environmental stewardship and will help meet the growing need for pollution reduction and clean energy alternatives. This new $22-million project is being undertaken to create a modern, state-of-the-art, environmentally friendly and energy-efficient building that will be home to advanced green engineering research.

The building has been named after Claudette MacKay-Lassonde—a pioneer in the field of engineering—as the result of a generous $5-million donation to help fund the initiative from the Lassonde Family Foundation. This substantial gift will make it even easier for Western to achieve Leadership in Energy and Environmental Design (LEED) certification, which is a green building rating system that provides a list of criteria for achieving environmentally sustainable construction. If Western's green building attains this, it will be one of only 15 such buildings in Canada to do so. The Pavilion will be the first of its kind on campus with the vision of using all facets of teaching, learning and research to embrace and promote environmental conservation. It will embody environmental accountability and will be a leading Canadian facility for revolutionizing the field of green technologies.

What will it do?

The green pavilion will address short and long-term environmental concerns and will integrate modern technology with environmental conservation. The building is really a multifaceted green structure, being developed with environmentally sustainable technology but also housing research with the same emphasis—the advancement of green technologies to protect the environment and foster sustainability. It will be energy-efficient and environmentally friendly by incorporating sustainable construction technologies and features such as solar panels and green space on the roof, rain and snow harvesting capabilities and a mini biosphere. The building will also feature a living wall, a vertical garden in the atrium that will be both an aesthetic and practical reminder of the building's focus.

The research that will take place at the Claudette MacKay-Lassonde Pavilion is broad, but all of it will be undertaken with the goal of developing environmentally friendly products and processes. One research focus will be global warming and the removal of carbon dioxide from the atmosphere. Another priority will be to develop technology to use solar energy and use hydrogen to fuel cars. Scientists associated with the building have prioritized four main research areas:

Environmentally friendly fuels. This includes developing new green biorefineries, energy sources with few greenhouse gas emissions or smog-causing gases, biofuels such as bio-diesel from crops, and biofuels and bioproducts from agricultural byproducts.

Green technology. Researchers will develop green technologies for stationary electricity generation, new semiconductors and photocatalytic reactors, and air and water treatment and hydrogen production.

Fuel and biofuel cell technology. Researchers will work on generating electricity using biofuel cells and fuel cells that don't emit carbon dioxide. They will also work on developing new, large-scale biofuel cell systems and producing hydrogen from water and agricultural resources.

Novel materials for green processes and products. This area includes developing new green materials that eliminate the use of hazardous solvents, developing environmentally friendly chemical processes, finding ways to remove pollutants from air and water using solar technology, and exploring nanomaterials to make self-cleaning coatings and zeolite to remove sulphur from gasoline.

For more information, please visit: www.eng.uwo.ca/cmlp/

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