

Materials & Resources

COMPONENT GOALS

01

UBC will prioritize the use of building materials that have net positive environmental impacts.

02

UBC will support marketplace transformation by designing buildings with materials that are not harmful to human and ecological health.

03

UBC will support the development of the circular economy by promoting the adaptation, reuse and recycling of materials and products during a building's lifetime.

CONTEXT

UBC has policy in place to reduce the environmental footprint in its material choices, the handling of these materials and the waste products generated during construction and occupancy (UBC LEED Implementation Guide and UBC Technical Guidelines).

To work towards the materials and resources component area goals, policy will need to be implemented incrementally over the GBAP time frame to update to current practice and to reflect continuous improvement.

Pathway to Net Positive

Between 2004 and 2014, UBC had an average yearly expenditure of approximately \$64 million worth of construction materials. By shifting material choices based on environmental and health impacts, UBC can continue to reduce the negative environmental and health impacts of the University's buildings and play a significant role in moving the marketplace towards net positive impacts.

Local wood products and low emitting seats are featured at the CIRS auditorium.

ARCHITECT: PERKINS+WILL

PHOTOGRAPHER: PHILIP BERTOGG



Key Directions

In the Materials and Resources component area UBC will incrementally reduce the environmental footprint of buildings through building material choices, construction techniques and diversion of waste from landfill during construction and occupancy. The GBAP will require material transparency through environmental product declarations as they become more available and will track and prioritize materials with low levels of embodied carbon. An approach to identifying and eliminating building materials considered harmful to health will be developed based on reviews of best practices and a market supply analysis. In the long term, an integrated approach to policy that balances environment impact and includes embodied carbon and healthy building material requirements based on a life cycle assessment approach will be developed.



At Ponderosa Commons the overhang protects students from the rain and has a warm wood soffit, the wall above is a durable precast concrete sandwich panel.

ARCHITECT: KPMG ARCHITECTS AND
HCMA ARCHITECTURE + DESIGN

FIVE-YEAR IMPLEMENTATION PLAN — SHORT-TERM PRIORITY ACTIONS

- Review current operational waste recycling infrastructure guidelines to maximize adaptability over time and improve diversion rates (e.g., location, access, frequency, size, etc.).
- Review current metrics and benchmarks for construction waste in order to reduce total amount of waste produced. Consider project size, structure, and typology.
- Undertake staff and faculty engagement to develop a targeted and realistic approach to the use of life cycle assessments for new construction projects (based on experience gained with Brock Commons Tallwood House's full life cycle assessment and life cycle cost pilot).
- Develop guidelines for making building material choices through research (level 2) that are informed by health impacts based on a review of best practices, market supply, and stakeholder engagement (i.e., list commonly used building materials considered harmful to health in the sourcing, manufacturing, installation, occupancy or end-of-life phase).
- Develop guidelines for building design adaptability and deconstructability.
- Develop a process for piloting and monitoring innovative building products in design and construction practices that reduce life cycle impacts.
- Mandate the incremental reduction of environmental impact in building materials through pilots and best practice review.
- Implement policies for reduced embodied carbon in buildings, starting with a requirement to report embodied carbon, followed by incremental reductions.

TARGETS AND INDICATORS

Target: Eliminate 100% of UBC-identified building materials in new construction that are known to be detrimental to human and ecological health by 2035.

Target: Require all new buildings to be Zero Waste Ready¹³ by 2020.

Target: Divert 100% of construction and demolition waste from landfill by 2035.

¹³ Buildings fully meet the most recent version of the [Recycling Infrastructure Guidelines for UBC Buildings](#) and the UBC Technical Guidelines related to waste and recycling requirements.