

Pathway to a Net Positive Campus

UBC'S GREEN BUILDING ACTION PLAN



Pathway to a Net Positive Campus

The University of British Columbia's (UBC's) Green Building Action Plan (GBAP) outlines a holistic pathway for academic and residential buildings at the UBC Vancouver campus to advance towards making net positive¹ contributions to human and natural systems by 2035.

The GBAP plays a key role in pursuit of an exceptional built environment, one that will support the academic mission of teaching, learning and research and contribute to our sustainability goals on the academic campus and within residential neighbourhoods. To implement the GBAP a series of goals, targets and actions have been developed that will direct work towards achieving the GBAP vision: *By 2035, UBC's buildings will make net positive contributions to human and natural systems.*

UBC is growing rapidly, and it is expected to significantly increase the number of new building projects and existing-building retrofit projects over the next 20 years. How these buildings are designed, constructed and operated will have significant impact on sustainability of the campus as well as the wellbeing of the people who study, work and live here. The GBAP is intended to provide guidance to ensure the design and construction of new buildings, renovations and retrofits achieve high levels of performance that advance the campus toward the net positive vision and lower the total cost of ownership.

Top left: **Brook Commons Tallwood House** showcases the innovative use of a mass timber hybrid structure in a high-rise building.

ARCHITECT: ACTION OSTRY ARCHITECTS INC.
PHOTOGRAPHER: BRUDDER/NATURALLY:WOOD

Top right: **Centre for Interactive Research on Sustainability** demonstrated a net positive approach to building design.

ARCHITECT: PERKINS + WILL ARCHITECTS
PHOTOGRAPHER: PHILIP BERTOGG

Bottom left: **Earth Sciences Building** is a lab building with exemplary energy performance.

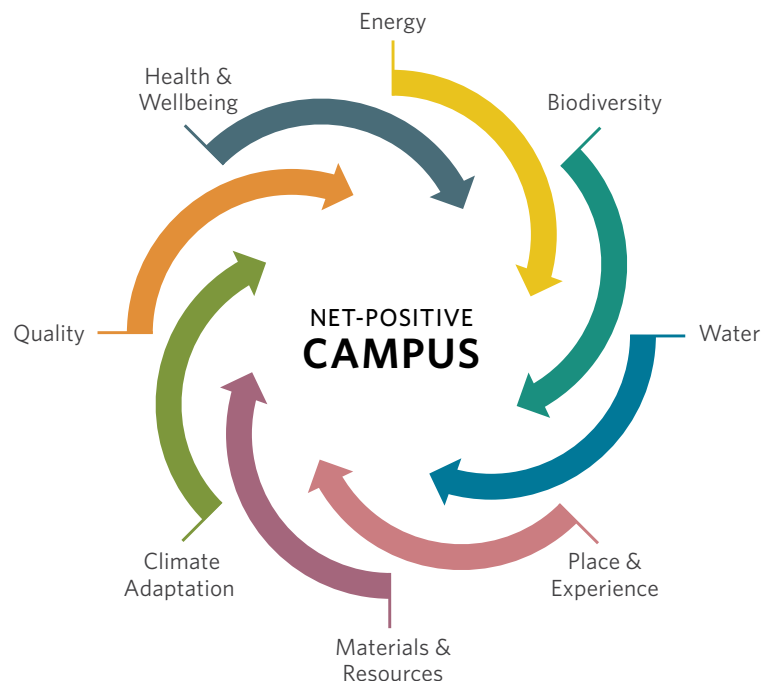
ARCHITECT: PERKINS + WILL ARCHITECTS
PHOTOGRAPHER: PHILIP BERTOGG

Bottom right: **Sail** is a private residential development in Wesbrook Place which features an innovative sewage heat recovery system.

ARCHITECT: ROSITCH HEMPHILL
PHOTOGRAPHER: COURTESY ADERA

PLAN STRUCTURE AND COMPONENT AREAS

For both institutional and residential buildings, the GBAP provides ambitious goals, targets and actions in eight distinct but interrelated component areas: energy, water, materials and resources, biodiversity, health and wellbeing, quality, climate adaptation, and place and experience. The component areas represent an integrated approach to building design which promote whole system thinking and which leverage multiple benefits for single investments. Incremental improvements in each of these component areas will advance UBC towards a net positive campus.



¹ **Net positive:** A mode of development that contributes more to human and ecological systems than it takes. This approach focuses on generating mutual benefits to human and the environment as opposed to only attaining net zero or negative impacts.



Operations Linked to Teaching, Learning and Research

The Green Building Action Plan provides an opportunity to harness expertise not only from various operational units but also from academic research. Teaching, learning and research opportunities have been identified within the GBAP's framework to help frame policy and investigate technical issues and large scale challenges, such as climate change. Through the Campus as a Living Lab approach, UBC provides unique opportunities for academic engagement with buildings via the processes of planning, design, construction and operations which can help provide innovative operational solutions.

Policy and Process

The Green Building Action Plan works across different scales, from building to district, in conjunction with other UBC plans that together support UBC's strategic goals. The implementation of the GBAP will be informed and complemented by these other UBC plans, such as the Campus Plan and Climate Action Plan, as well as relevant provincial and federal policies. At the same time, the GBAP will provide direction to future UBC policies.

Making It Happen

The development of the GBAP has included extensive engagement with UBC students, faculty, staff and residents as well as green building experts to develop ideas for the future and better understand stakeholder aspirations linked with green building practices. With continuing engagement, the implementation of the GBAP will be an ongoing and evolving process over the next 20 years, involving collaborations between multiple planning and operational departments at UBC and with academic researchers and external partners in order to implement new or update existing policies.

The success of the Green Building Action Plan is dependent on creating capacity with key agents of change, including developers and UBC departments. Successful implementation will require sustained leadership, activity and investment. The GBAP lays the foundation and continued stewardship is required.

Description of Success

By 2035, the UBC Vancouver campus buildings will contribute towards a vibrant and sustainable campus that supports the academic mission. The physical campus will exhibit Campus as a Living Lab demonstration projects firmly tied to teaching, learning, and research, with an increased potential to lead to broader market transformation. A trajectory will be set for the building design, construction and operation along the pathway to achieving a net positive campus for human and natural systems. Long term costs will be optimized taking advantage of: lower utility consumption, avoided environmental control and damage costs and reduced health costs. An iterative process, incorporating learning and experience between projects, will be established to advance performance targets and try new ideas, reinforcing an adaptive long term approach to operational planning. UBC will be a global leader in innovative green building design and construction which will inspire people.²

² "Inspire people" from UBC's Strategic Plan Vision



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