



SUBJECT	UBC SUSTAINABILITY: CURRENT STATUS AND STRATEGIC OPPORTUNITIES
MEETING DATE	DECEMBER 5, 2019

Forwarded on the Recommendation of the President

APPROVED FOR
SUBMISSION

Santa J. Ono, President and Vice-Chancellor

FOR INFORMATION

Report Date	October 22, 2019
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EXECUTIVE SUMMARY

The attached report “UBC Sustainability: Current Status and Strategic Opportunities” is intended to brief the Board of Governors on the status of implementing UBC’s sustainability agenda. It is accompanied by the UBC Annual Sustainability Report submitted under separate title.

The report is framed and structured around three core questions:

1. What are UBC’s key accomplishments in sustainability over the past 10 years?

§ The first part of the attached report is focused on *UBC’s Recent Sustainability Achievements*, and provides highlights of where UBC has made significant advancement in developing and implementing innovative plans, policies and projects over the past 10 years that have elevated UBC’s reputation as a global leader in sustainability. Key highlights include:

- UBC’s aggressive Climate Action Plan
- Strategic Partnerships with the community, institutions, governments, and agencies
- The growing Sustainability Scholars Program
- Hundreds of sustainability focused courses and a diversity of student engagement
- Campus as a Living Lab projects
- Progressive campus and transportation planning Initiatives
- Sustainable engagement and behaviour change programs
- New appointments such as the Biodiversity Excellence Chair
- Focused responsible investment programs

2. What are the strategic areas where UBC should be focusing its resources and efforts?

- § The second part of the report entitled *Looking Forward: Strategic Opportunities* builds on the areas of strength across both Vancouver and Okanagan campuses and identifies areas of opportunity where UBC can achieve greater sustainability success going forward.
- § A new organizing frame for sustainability advancement at UBC is based on the UN's Sustainable Development Goals (SDGs). The attached brief outlines a governance structure that would help guide local and global pathways to sustainability including the creation of an executive Sustainable Development Goals Steering Committee. The Committee would provide direction on SDG focus areas based on mapped areas of strength (for example, Climate Action, Sustainable Cities and Communities, and Partnerships), as well as investigating areas that UBC has potential to grow its leadership (for example, Good Health and Well-Being, Life on Land, and Responsible Consumption and Production).
- § Within the SDG framework, the report elaborates on specific areas of focus including:
 - Sustainability Governance at UBC
 - Indigenous Engagement
 - Campus as A Living Lab
 - Teaching, Research, and Student Engagement
 - Educational Program, Research and International
 - Operations and Infrastructure
 - Operational Sustainability Implementation
 - Community
 - Communications and Engagement
 - Government Alignment and Engagement
 - Responsible Investment

3. What are the next steps for advancing the sustainability agenda?

- § The last section of the report *Looking Forward: Next Steps* proposes that the administration undertake the following immediate actions:
 - i. Confirm the Terms of Reference for the SDG Steering Committee
 - ii. Facilitate the setting of SDG goals in a number of areas
 - iii. Create a 2 year Sustainability pathway that will set forward discrete items for action and/or investment in the areas of strategic priority
 - iv. Prepare associated financial needs and/or reallocations as part of the 2020/21 budget process
 - v. Prepare for the 2020 submission process to the Times Higher Education Impact Rankings framed on the UN Sustainable Development Goals
 - vi. Prepare a communications framework and narrative for UBC as a global leader in sustainability

Attachments

1. "UBC Sustainability: Current Status and Strategic Opportunities"

STRATEGIC CORE AREAS SUPPORTED

a People and Places a Research Excellence a Transformative Learning a Local / Global Engagement

DESCRIPTION & RATIONALE

Please see attachment.

BENEFITS

Learning, Research,
Financial,
Sustainability &
Reputational

UBC has been widely regarded as a global leader in sustainability, as supported by the recent Times Higher Education University Impact Rankings assessed against the United Nations Sustainable Development Goals. UBC ranked as the number one university for climate action and third for overall impact. Maintaining this leadership role benefits the university in numerous ways, including:

- § Helping to attract and retain highly qualified faculty, students and staff to the university
- § Creating and fostering new research, innovation and practices that become the model for market transformation and civil society
- § Demonstrating commitment to implementing UBC's Strategic Plan
- § Attracting and securing partnership funding from various levels of government, foundations, businesses and industries
- § Providing new opportunities for awards and recognition through continued sustainability leadership research, innovation and practice
- § Building a positive brand and reputation for the university on its commitments to fulfilling its sustainability goals
- § Building sustainability capacity (knowledge, skills and abilities) for next generations of students to have positive impacts beyond the university (UBC as an agent of positive change)
- § Continuing to build a strong culture and commitment to the core values of advancing sustainability

RISKS

Financial,
Operational &
Reputational

A number of risks are effectively managed by ensuring UBC's continued global leadership role in sustainability, including:

- § Building strong business cases and rationale for sustainability initiatives to ensure economic sustainability aligns with environmental and social objectives
- § Creating a cohesive sustainability governance structure to ensure alignment across the university and effective use of resources/funding to achieve positive impacts
- § Enhance communications of UBC's leadership across all aspects of the sustainability agenda to support UBC's reputation locally, nationally and internationally
- § Supporting policies, initiatives and programs that increase UBC's resiliency to Climate Change through mitigation and adaptation measures

- § Ensuring that budgeting and funding decisions take into consideration the total life-cycle costs and environmental impacts to prevent short term efficiency at the cost of longer term benefits
- § Create a robust monitoring and reporting system that ensures transparency and accountability
- § Leveraging partnership funding and support to distribute costs/investments

COSTS Capital & Lifecycle Operating	Costs for individual initiatives and programs will be reported out separately as described in this report.
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FINANCIAL Funding Sources, Impact on Liquidity	The university's exploration in new areas of responsible investment continues with an anticipated report back on status and next steps in December, 2019.
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SCHEDULE Implementation Timeline	<p>The administration will convene the UBC Sustainable Development Goals Steering Committee to undertake the following immediate actions:</p> <ul style="list-style-type: none"> i. Confirm the Terms of Reference for the SDG Steering Committee ii. Facilitate the setting of SDG goals in a number of areas iii. Create a 2 year Sustainability pathway that will set forward discrete items for action and/or investment in the areas of strategic priority iv. Prepare associated financial needs and or reallocations as part of the 2020/21 budget process v. Prepare for the 2020 submission process to the Times Higher Education Impact Rankings framed on the UN Sustainable Development Goals vi. Prepare a communications framework and narrative for UBC as a global leader in sustainability
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CONSULTATION Relevant Units, Internal & External Constituencies	This report was prepared through an inter-disciplinary team with representation from research faculty and the UBC Sustainability Initiative; the teams supporting the: Indigenous Strategic Plan, International Strategy, Campus as a Living Lab, Campus and Community Planning, Facilities and Operations, UBC Okanagan; and UBC administration including VP Research and Innovation, Provost Office, VP Finance and Operations, VP Students, and VP External Relations.
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THE UNIVERSITY OF BRITISH COLUMBIA

UBC Sustainability – Current Status and Strategic Opportunities

DECEMBER 2019

Summary and Overview

Universities play a pivotal role in advancing sustainability through knowledge production, engaged learning and research, convening dialogues, forging partnerships, catalyzing innovation through demonstration projects and being an agent of change that helps scale-up sustainability beyond the campus boundaries. UBC's leadership in sustainability has helped to elevate its brand and reputation globally which has, in turn, helped efforts in recruitment and retention of high quality students, faculty and staff, as well as securing a range of research and infrastructure funding.

UBC is consistently recognized as a global leader in sustainability through teaching, learning and research, campus as a living lab projects, as well as progressive policies and plans to guide sustainable operations, infrastructure and community development. Sustainability defined broadly encompasses many areas at UBC: the impact of human activity on the physical and natural environment; supporting health and wellbeing; direct and indirect influence of human activity on biodiversity; the development of mitigation and adaptation strategies against adverse effects through technology, public policy or conservation measures. Building on this success and supporting Shaping UBC's Next Century Strategic Plan's emphasis on indigenous engagement, thriving communities, research excellence, transformative learning and expanded local and global engagement, this briefing memo provides an update to the Board of Governors on the directions proposed to leverage these unique strengths and take advantage of current opportunities to address challenges. These proposed directions include an enhanced governance structure and clarity on where investments are needed to optimize impacts and take UBC to a higher level of sustainability leadership.

The key strengths to build on include climate action, the Campus as a Living Lab platform; the initiation of a responsible investment policy; innovative federally funded sustainability research projects; contributing to strong networks for sustainability in higher education; a range of research, learning and community partnerships including Sustainability Scholars and SEEDS (Social, Ecological Economic Development Studies); educational programs and research in climate science, natural resource stewardship, environmental studies and biodiversity, and clean technologies for energy and manufacturing; a host of sustainable building, neighbourhood and green infrastructure planning projects; and deeply integrated pathways for sustainability education and engagement that has created a highly informed and demanding constituency for even greater sustainability leadership.

Areas of need and greater investment include rethinking UBC's overall sustainability governance structure which is in need of greater alignment and coordination across the University. A new organizing frame for this structure could be based on the UN's Sustainable Development Goals (SDGs). The UN SDGs set out an ambitious agenda and transformational vision. Universities play a pivotal role in helping to advance the SDGs and UBC, in particular, is well-positioned to demonstrate leadership in advancing a number of these goals across all dimensions of the institution—through knowledge production, education and capacity building, demonstration projects, systems change, investment policy, operations, governance and finally through strong partnerships and collaborations across local, national and global scales. This brief identifies a conceptual governance structure that would enable UBC to advance the SDGs across every dimension of the institution and help chart a pathway for continued global leadership in sustainability.

Specific areas of need and greater investment include alignment and integration with UBC's emerging Indigenous Strategic Plan, deepening the scope of the Campus as a Living Lab platform to open greater opportunities for partnership including in the area of social sustainability; developing stronger links from around the university including UBC's new School of Public Policy and Global Affairs and a restructured UBC Sustainability Initiative; a deeper exploration of UBC's commitment to responsible investment; coordination

and alignment with parallel initiatives such as the International Strategy, Wellbeing Framework, Housing Action Plan, etc.; supporting the implementation of operational policies such as the Climate Action Plan, Green Building Action Plan and the Rapid Transit Strategy, UBCO's Whole Systems Infrastructure Plan; coordinating the storytelling and communications around UBC's sustainability leadership; and systemizing the pursuit of partnership funding and engagement outside of the university.

A reinvigorated approach and new investments also align well with government strategies around sustainability, particularly the CleanBC climate and clean energy plan, potentially enabling new opportunities for partnerships and funding for innovative projects and initiatives that contribute to provincial and federal governments' sustainability goals and priorities. The university is increasingly considered a valuable resource and partner for governments' advancement of their sustainability priorities, demonstrated by UBC's success in securing funding for research and demonstration projects and through government officials regularly seeking out policy, program and technology advice from UBC faculty and staff.

UBC's Recent Sustainability Achievements

The Annual Sustainability Report (2018-19), which is submitted separately to the Board of Governors for information, highlights UBC's progress on sustainability. The extensive list of achievements in Attachment 1 provides selected highlights. A few of these achievements are worth special mention as they set foundations that can be built upon and leveraged in the coming years. The first is UBC's recent recognition in the Times Higher Education University Impact rankings as the number one university for climate action and third for overall impact assessed against a subset of the United Nations' Sustainable Development Goals. More than 450 universities from 76 countries were included in the rankings. UBC's leadership position has been a result of key initiatives such as:

- **UBC Climate Action Plan:** sets forward aggressive targets and actions to reduce greenhouse gas emissions to achieve carbon neutrality by 2050. UBC investments have achieved a 38% reduction to date and we will be close to meeting our 67% reduction target by the end of 2020 through expansion of the Bioenergy Research and Demonstration Facility ("BRDF" or "Bioenergy Facility").
- **Strategic Partnerships:** UBC has been proactively collaborating through strategic partnerships with government, NGOs, businesses, First Nations and other universities that is helping to catalyze and accelerate climate action. Recent notable examples include the Presidential Round Table on Climate Action and the University Climate Change Coalition (UC3) Vancouver Summit. UBC also plays a key role as BC's largest public service organization in helping to implement the new Clean BC Plan through our faculty research and technological advancements, innovative operations to advance clean energy, high performance buildings, sustainable transportation, carbon sequestration research, zero waste and circular economy initiatives. UBC is a member of the Pacific Institute for Climate Solutions (PICS) collaborating on the cogeneration of climate research that can actively be used by decision makers to develop effective mitigation and adaptation policies in BC. UBC staff also participate in the Provincial Energy Step Code Council which is helping to advance energy efficiency in the Provincial Building Codes across new construction and eventually addressing building retrofits.
- **Sustainability Scholars Program:** places UBC graduate students as paid interns with partner organizations that provides innovative applied research on projects that advance sustainability across the region.
- **Student Engagement:** the UBC student body is actively engaged in advancing sustainability through student led groups and initiatives including:

- [UBC Climate Hub](#) – a new student initiative funded by UBC to action and address climate change.
- [UBCC350](#) – is a political climate action group that aims to hold UBC accountable to its students and the University’s sustainability vision.
- [AMS Sustainability Projects Fund](#) – provides funding for student-led projects that support and advance sustainability.
- [Common Energy](#) – is UBC’s largest student-run sustainability organization.
- **Campus as a Living Lab:** UBC is integrating operational sustainability with learning and research by using the physical infrastructure of our campuses (buildings, utilities, and public realm) as a test bed for innovative projects and research. Projects include: Centre for Interactive Research on Sustainability (CIRS), BRDF, Brock Commons Tallwood House, future Okanagan Skeena Residence Water Sustainability at UBC Farm, and the Clean, Connected & Safe Transportation Testbed.
- **Sustainable campus and transportation planning initiatives:** through progressive land use and transportation planning UBC has achieved more than two thirds of trips being made by sustainable modes of transportation.
- **Sustainable Engagement Programs:** initiatives including the award-winning Green Labs Program, Sustainability in Residence, Sustainability Coordinators are building awareness and capacity for people to make more sustainable choices that align with UBC’s ambitious sustainability vision. UBC’s student engagement programs including the Sustainability Ambassadors, the Student Sustainability Network and the Student Sustainability Council are building leadership capacities and enabling students to bring their voice to UBC’s plans and priorities.
- **Faculty Engagement Programs:** the Sustainability Fellowship program and associated curriculum grants directly support the development of new courses and programs and foster a cross-disciplinary community of educators to bolster sustainability learning on campus.
- **New hire of Biodiversity President’s Excellence Chair:** Faculty of Science new hire, Claire Kremen, a UBC ecologist and biologist whose research involves reconciling agricultural land use with biodiversity conservation, has been awarded an honorary degree by the American Museum of Natural History (AMNH). Claire is President’s Excellence Chair in Biodiversity with a joint appointment in IRES and Zoology at University of British Columbia.
- **Responsible Investment.** UBC established the Sustainable Future Pool (SFP) to provide donors with a sustainable investment alternative to the Main Endowment Pool and are actively promoting the SFP with donors. There have been only two donors to date. The spend rate has recently been increased to make the pool more attractive to donors. The SFP has reached a market value of \$31 million (as of August 31st), largely due to the internal allocation of Trek land lease proceeds.
- IMANT is a member of the Canadian Coalition of Good Governance and regularly monitors environmental, social and governance (ESG) factors by undertaking a bi-annual study (Mercer) and ensures all investment managers include ESG as a selection criteria for investments.

Attachment 1 highlights a number of recent announcements and awards given to faculty and departments that are doing innovative work to advance sustainability research and campus as a living lab projects.

Looking Forward: Strategic Opportunities

With a theme as all-encompassing as sustainability, it can be difficult to single out any single area for discussion across both the academy and operations, especially in light of the unique governance status of the Vancouver campus in which UBC is both a university and quasi-municipality. Nevertheless, to begin the discussion, the focus can start on the areas of strength, both within the academy and operations, and across both Vancouver and Okanagan campuses, and also on the areas of opportunity where there have been some identified gaps for achieving greater sustainability success.

Sustainability Governance at UBC

- There is an opportunity to rethink overall Sustainability governance at UBC. As the first university in Canada to develop a sustainable development policy, UBC has incorporated sustainability into every aspect of campus life: from our infrastructure, operations and services, to our research, teaching, training and innovation programs. UBC teams (from research, planning, operations, procurement, teaching, etc.) work together to develop solutions for sustainable societies. Such effective collaboration enables accelerated (and concurrent) innovation and deployment models. UBC's well-documented leadership in these areas represents a competitive advantage globally. Supporting and enhancing the current processes and structures will make it possible to incorporate them explicitly into the UBC narrative and brand.
- The opportunity currently being explored is to create a Sustainable Development Goals Steering Committee to provide high level strategy, prioritization and oversight of the sustainability agenda at UBC as described in Attachments 2 and 3. Currently, the UBC Sustainability Initiative (USI) provides some guidance for the integration of sustainability across teaching, learning and research platforms, as well as performing some communication and outreach roles. The VP Research & Innovation portfolio provides leadership with facilitating opportunities for research collaborations and external partnerships. Operational units on both campuses such as Campus and Community Planning, Facilities (Infrastructure Development, Building Operations, Energy & Water Services), Student Housing, etc. provide leadership in developing and implementing capital projects, operational policies, behavior change programs and outward facing communications and engagement.
- A refreshed governance arrangement will be needed at UBC to provide stronger alignment across the institution to enable it to engage and advance the SDGs (locally and globally) through knowledge production, educating future contributors and implementers of the SDGs, investment, demonstration projects, and impactful partnerships. It can also provide oversight on monitoring and reporting frameworks to ensure accountability, progress and transparency. See attachment 4 for the full list of SDGs.

Indigenous Engagement [SDG #10]

- As a top priority within the UBC Strategic Plan, the university's Indigenous Strategic Plan is in its final stages of development. An action plan is being developed to provide clear, implementable steps to enhance Indigenous engagement at UBC Vancouver, while also providing an overarching UBC-wide plan to be implemented across both campuses. This plan intends to build upon UBC Okanagan's recent Declaration of Truth and Reconciliation Commitments.
- The UBC-wide strategy will look to integrate UBCO's current commitments while recognizing the unique contexts and strengths of each campus. This includes the current discussions underway with the Musqueam to deepen the relationship between UBC and Musqueam through a renewed Memorandum of Affiliation.

Campus as A Living Lab [SDG #4 Quality Education; SDG #9 Industry, innovation and Infrastructure]

- Review and invest in the Campus as a Living Lab program, at its 10-year anniversary, for opportunities to enhance support for a broad range of UBC sustainability goals including projects that accelerate climate action (both mitigation and adaptation), improve the health and wellbeing of the campus community (social sustainability), support implementation of UBC's Green Building Action Plan and help build digital platforms to support data analytics to optimize operations of its infrastructure ecosystem of buildings, utilities and public realm. Key resource needs include program coordination & facilitation, partner network development, communications & branding, data management & governance, and project evaluation.
- Build stronger partnerships between operations staff, faculty and researchers. This has been an area of strength and needs to be continuously reinforced.
- Scope the development of Campus as a Living Lab tailored to the UBCO campus.

Teaching, Research, and Student Engagement [SDG#4 Quality Education]

- Refine and expand SEEDS interdisciplinary research model with focus on three signature initiatives: Campus Biodiversity Initiative: Research & Demonstration (CBIRD); UBC Food System Project; Climate Crisis & Urban Biodiversity (CCUB).
- Diversify and expand project partners for the Sustainability Scholars program to increase the breadth and number of applied research opportunities for UBC graduate students and to build program resiliency.
- Renew USI's co-curricular student engagement programs to deliver a strengthened portfolio of opportunities for students to build their sustainability knowledge and skills and explore perspectives and values, including launching a new program Stamina for Sustainability.
- Contribute to best practice for higher education sustainability/SDG inventories (e.g., courses, programs, researchers) through peer reviewed publications.
- Incentivise and support faculty to develop sustainability curriculum through the USI Fellowship and Interdisciplinary Education Grants programs to help achieve UBC's ambitious goal to integrate sustainability throughout the curriculum.
- Develop regional partnerships to expand interdisciplinary and applied research opportunities around urban development and climate change.
- Continue to engage and support student led initiatives to advance UBC's sustainability strategy.

Educational Programs, Research and International [SDG #4 Quality Education; SDG #17 Partnerships for the Goals; SDG #15 Life on Land; SDG #14 Life below Water; SDG #12 Responsible Consumption and Production]

- The emerging International Strategy will provide a strategic framework that fosters responsible global citizenship of UBC and its students that responds to issues of global relevance and builds capacity to respond to critical issues through effective and sustainable partnerships and programs. The strategy aims to develop strong global networks that weave together complimentary knowledge and expertise to address pressing global issues and help advance the SDGs.
- Bring together the leadership of academic and research units in areas of climate science, biodiversity, environmental studies, clean technology and public policy to explore synergies, especially related to faculty hiring and educational programming.

- Enable shared research infrastructure that can lessen duplication of equipment and extend the longevity of equipment to lessen impact on the environment once it has reached its end of life.
- Access federal funding towards the UN SDG announced in budget 2018.¹
- Support bridging appointments for faculty (who have a policy dimension to their work) into SPPGA from other disciplines.

Operations and Infrastructure [SDG #13 Climate Action; SDG #11 Sustainable Cities and Communities; SDG #12 Responsible Consumption and Production; SDG #7 Affordable and Clean Energy]

Vancouver

- Complete expansion of Bioenergy Facility which is projected to achieve ~62% reduction in GHG emissions over 2007 baseline.
- Implement new Zero Waste Food Ware Strategy and Existing Zero Waste Action Plan.
- Continue to implement UBC Green Building Action Plan with a focus on aggressive carbon and energy reductions, climate adaptation, biodiversity, health and wellbeing.
- UBC Neighbourhoods Low Carbon Energy Strategy—as UBC neighbourhoods continue to grow, it is important to have a robust strategy in place to aggressively reduce green house gas emissions in new development and existing building retrofits.
- UBC Campus Climate Action Plan 2050—Scope and launch UBC Climate Action Plan 2050 which will assess and identify opportunities and measures to accelerate achieving net zero emissions prior to 2050, identify climate adaptation responses to increase the campus resiliency to the impacts of climate change and address Scope 3 emissions from business travel, commuting, etc.
- Sustainability Engagement Programming and Implementation: program development, capacity building and engagement of students, faculty and staff is key to achieve aggressive sustainability targets set for water, energy, carbon and waste. These programs include Sustainability in Residences, Green Labs and Green Offices.

UBCO

- Complete a Net Zero Carbon Energy Strategy that will support campus growth and the achievement of net positive performance in operational energy and carbon by 2050.
- Complete a Climate Action Plan focused on climate change mitigation and adaptation strategies to minimize impacts and ensure resiliency against future climate events.
- Continued investment in UBCO's Integrated Rainwater Management systems.
- Complete construction of Nechako LEED Gold and Skeena Passivehaus Residences.
- Continue district energy optimization and operational efficiency projects.

Operational Sustainability Implementation

The continued success of advancing sustainability priorities requires clear policy and implementation capacity for UBC's operational units. There are a range of implementation barriers and factors that operational units are dealing with in achieving full implementation of our plans and targets.

¹ The Canadian Federal government had budgeted nearly \$60 million to be allocated over 13 years to organizations (including Higher Education Research Institutions) that demonstrate a plan to advance the SDGs and build capacity and awareness. <https://www.canada.ca/en/employment-social-development/news/2019/06/canada-makes-important-strides-towards-a-2030-agenda-national-strategy.html>

Examples of issues and barriers

- Energy conservation and GHG reduction targets for new building design have a strong impact in reducing life cycle costs. However, constrained capital budget allocations for new buildings often fall short of funding for the energy efficiency and carbon reduction (both operational and embodied carbon) measures needed. This requires a greater understanding of the lifecycle costs of projects versus the up-front capital costs and careful consideration of the infrastructure needed to enable more sustainable performance such as space for waste reduction and diversion. Cost-cutting on projects often impacts building performance in the long term, including energy, water and waste and the associated operating costs.
- Legacy policies and processes are often not adequate to gain efficiencies in overall operations. For example, an asset reuse program (to enable reuse of office furniture, equipment, supplies) has the potential to save UBC many hundreds of thousands of dollars per year. However, the savings will mainly accrue across many individual faculties and departments, and there is no mechanism by which a single coordinating department can recover the cost savings to fund program delivery, leaving a gap in funding the program.
- Research operations policies and practices are needed to support sustainability targets and reduce operating costs. For example, some laboratories continue to use tap water to cool equipment, in order to continue their research while minimizing costs to their research program. In some cases these installations can cost UBC tens of thousands of dollars per year in tap water.
- The breadth and complexity of UBC's policies and guidelines can be potentially overwhelming to stakeholders, causing some elements to get overlooked or lost.
- Models that can be explored to address gaps
 - More consideration given to life cycle costs in all projects, relative to capital costs, and ensuring that all projects are designed responsibly to consider future costs and performance, with adequate funding.
 - Flexible funding models that consider UBC's costs as a whole, rather than each department's costs being in a silo. This would allow new efficiencies to be gained that leverage cost savings and sustainability benefits across UBC as a whole.
 - Exploring alternative economic incentives and financial signals that facilitate sustainable behaviors and benefit UBC, such as internal carbon pricing and internal GHG offsets for business travel.
 - Look for ways to consolidate and simplify sustainability related policies, plans and guidelines to avoid confusion and make it easier for campus stakeholders and external design consultants to understand specific objectives and requirements.
- Other opportunities
 - Increase alignment between campuses and the mandates across operational units and subsidiaries within each campus (Student Housing, Facilities, Athletics, Finance and Procurement, Building Operations, UBC Properties Trust, etc.) on sustainability plans and guidelines.
 - Seek ways to continuously improve how sustainability requirements are communicated to stakeholders and projects to increase uptake and literacy.

Community [SDG #11 Sustainable Cities and Communities; SDG #3 Health and Well-being; SDG #15 Life on Land]

Vancouver

- Implement the recommendations of the Housing Action Plan and emerging Stadium Neighbourhood Plan to support housing opportunities for faculty, students and staff and continue to explore ways to enhance and

accelerate delivery of those opportunities as being separately reported to Board through the Housing Action Plan Working Group.

- Scope and initiate the update to the Campus Plan / UBC Land Use Plan (“Campus Plan 2050”) that incorporates directions from academic, research, and capital planning as well as integrating with strategies for rapid transit, affordable housing, biodiversity and the renewed Memorandum of Affiliation with Musqueam.
- Lead and inform actions to promote human and ecological wellbeing, guided by the *Okanagan Charter for Health Promoting Universities* and focusing on targets within *UBC’s Wellbeing Strategic Framework*. UBC Wellbeing is a university-wide initiative to connect efforts across health, health promotion, and social sustainability.
- Completion of fast-tracked childcare facilities that support the delivery of new childcare spaces on campus ahead of targets in the Childcare Expansion Plan.
- Develop an Integrated Health Services Centre in the new Nursing + Kinesiology Building at the Gateway site to provide a consolidated, easily-accessible facility for Health Promotion & Education, Counselling Services and Student Health Services that will enhance the health and wellbeing of UBC students.
- Continue expansion of community programs with a focus on enhancing the campus experience through temporary art installations, low-barrier events for historically underrepresented communities, and new streams of small grants.

UBCO

- Host the National Campus Commuter Challenge in partnership with the City of Kelowna, BC Transit and key collaborating units across campus.
- Continue to advocate for improvements to local public transportation systems as well as developing strategies to encourage more sustainable transportation choices for faculty, staff, and students.
- Develop additional shared mobility strategies in cooperation with City of Kelowna (e.g. car shares, bike shares, e-bike shares, e-scooters).
- Develop Faculty/Staff U-Pass System.
- Actively engage in the Okanagan Gateway Transportation Study (OGTS) and Central Okanagan Regional Transportation Strategy and engage with regional partners (e.g. Okanagan College, School District, Interior Health Authority, City of Kelowna, etc.) to advocate for aggressive, long-term transportation GHG goals and strategies.

Communications and Engagement [SDG #17 Partnership for the Goals; supports building awareness and capacity to advance many of the SDGs locally and globally]

Vancouver

- Develop a refreshed communications strategy for UBC sustainability initiatives and programs, incorporating new strategic directions, and including consideration for a new #rippleeffect campaign in 2020/21.
- Increase frequency and depth of engagement with regional leaders in sustainability, building on the success of President’s Climate Action Roundtable and hosting the UC3 Summit.
- Support sustainability engagement programs and communication efforts related to Green Labs, Green Office Program and Sustainability in Residence.
- Complete the renewal of the Campus and Community Planning website and other communication assets to support community engagement and opportunities for capacity building.

- Consider hosting the THE Impact Summit to enhance awareness of UBC's leadership position on several of the SDGs.

UBCO

- Continue 'Power of You' conservation and awareness behavior change program, with a focus on green labs and waste reduction.
- Engage the campus in the BC Cool Campus Challenge in collaboration with participating post-secondary institutions across the Province to reduce natural gas consumption.

Government Alignment and Engagement [SDG # 17 Partnership for the Goals]

- Continue advocacy and planning to bring SkyTrain to the Vancouver campus through engagement with various levels of government, participation in the project planning work led by TransLink, and ongoing strategic communications.
- Pursue opportunities for the university to engage with the provincial government in helping them reach their GHG reduction targets and other goals identified in the CleanBC climate and clean growth plan. In Budget 2019, the provincial government invested \$902 million in a broad set of new initiatives over three years, including the transition to cleaner transportation, making buildings more energy efficient, helping large industries reduce greenhouse gas emissions and working with Indigenous and remote communities to move to cleaner energy sources. The plan also includes \$299 million over three years in 'contingency funding for initiatives under development', and the government will need to find new solutions beyond what is indicated in the plan in order to reach its 2030 goal of reducing GHG emissions by 40 per cent over 2007 levels.
- Engagement with the federal government after the October 2019 election to explore opportunities for sustainability investments including federal grant funding to advance the SDGs through capacity building projects, partnership and network development and research; and continuing to monitor and apply for funding opportunities via existing and new program streams

Responsible Investment [SDG #12]

- UBC is currently working through a process to refine our approach to responsible investing and will be coming back to the Endowment Responsible Investing Policy Working Group with a tangible action plan at the December 2019 Board of Governors Committee meeting. Included in that assessment will be a closer examination of the recent announcement by the University of California investment management system that recently announced the divestment of \$150 m of fossil fuels from their \$13.4 billion endowment and pension funds, along with other possible approaches UBC could adopt.
- As part of the analysis, UBC will be looking at the following dimensions of responsible investing that as an asset owner, UBC could take action:

Possible actions by UBC as an asset owner	UBC current status
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Divestment	Pure divestment of fossil fuel investments identified as contrary to responsibility of fiduciary duty. In the donor funded portion of the main endowment we are examining carbon emission targets as possible alternative approach
Low carbon portfolios	Established Sustainable Futures Pool ("SFP") in 2017. Examining ability to shift some or all of the Trek related land revenues into SFP to further bolster fund size and demonstrate commitment
Protecting portfolio from climate risk	Future opportunity following refinement of responsible investing approach
Identifying financial opportunities to benefit from climate transition	Future opportunity following refinement of responsible investing approach
Setting targets for reduction of carbon intensity per dollar invested	Under consideration as part of re-examination of approach to responsible investing
Forceful engagement and proxy voting	Under consideration as part of re-examination of approach to responsible investing
Advocating for public policy and regulatory action	Future opportunity following refinement of responsible investing approach

Looking Forward: Next Steps

For UBC to continue to be a global thought-leader in sustainability, we must commit to an even bolder vision. Next generation sustainability leadership in higher education requires a new model of addressing some of the greatest social and environmental challenges facing humanity this century. UBC is well positioned to leverage the UN SDG framework as an approach to inform our sustainability initiatives, transcend organizational silos, and focus diverse disciplines on providing solutions to society's grand challenges in partnership with students, faculty, staff and the broader community.

Using the organizing frame of the SDGs and building on UBC's widely recognized leadership role across the academy, operations, and community, the administration will convene the UBC Sustainable Development Goals Steering Committee this fall to:

- Confirm the Terms of Reference for the Sustainable Development Goals Steering Committee;
- Facilitate the setting of SDG goals in a number of areas and develop a 2 Year Sustainability Roadmap to outline the discrete items for action and / or investment in the areas of:
 - Indigenous Engagement;
 - Teaching, Research and Student Engagement;
 - Educational Programs, Research and International;
 - Campus as a Living Lab;
 - Responsible Investment;
 - Climate 2050;
 - Operations and Infrastructure;
 - Community Engagement/Communications.
- Prepare the associated financial needs and/or re-allocations associated within these areas of emphasis as part of the 2020/2021 budget process;
- Prepare for the 2020 submission to the Times Higher Education UN Sustainable Development Goals ranking;
- Prepare a communications framework and narrative for UBC as a global leader in sustainability.

Attachments

1. UBC's Sustainability Achievements and Initiatives
2. Refreshed UBC Sustainability Governance Structure
3. Terms of Reference for UBC Sustainable Development Goals Steering Committee
4. 2030 Agenda: UN Sustainable Development Goals

ATTACHMENT 1: UBC's Sustainability Achievements and Initiatives

I. TEACHING, LEARNING, RESEARCH, and STUDENT ENGAGEMENT

- **Supported faculty collaborations through grants and fellowships – including the launch of the Interdisciplinary Education Grant program.** Six grants were awarded this year, with each project co- led by two faculty members. Examples include a field course from the Faculties of Land and Food Systems and Education focused on traditional cultures and resources, and an undergraduate course linking the Faculties of Arts and Applied Science to explore tangible, sustainable, humanitarian engineering solutions.
- **Received \$12 million in federal, provincial and industrial funding (40%/40%/20%) for the “Clean, Connected and Safe Transportation Testbed.”** A first in the world project under the Canada Foundation for Innovation program ([weblink](#)).
- **Received \$1 million in federal funding for carbon capture and synthetic fuel production.** Under a Statement of Cooperation with Carbon Engineering, the Municipality of Squamish, and the Squamish First Nation ([weblink](#))
- **Received \$1.5 million** from the Pacific Institute for Climate Solutions to develop “Transportation Futures for British Columbia.” ([weblink](#))
- **Received \$2.3 million in federal funding for solar-powered charging stations for electric cars.** A joint project with BC Hydro and Cypress Power, it will include 24 electric vehicles and “guidelines” for wireless charging.
- **Developed UBC's first Food Insecurity Action Symposium,** hosted by the SEEDS Sustainability Program and UBC Wellbeing to bring students together with diverse stakeholders to share research and identify tangible actions.
- **Placed the largest ever cohort of Sustainability Scholars Program participants with regional organizations** – the number of graduate students grew by 34% this year, mainly due to an increased number of projects investigating social sustainability issues. Last year, the Scholars program produced 51 projects working with 12 external partners and produced 16 projects with units across the Vancouver Campus.
- **Supported Sustainability Ambassador Program participants to deliver the first student led Sustainable Development Goals (SDG) Roundtable at UBC,** attracting over 40 student-led organizations and groups, and leading to the development of a new Student Directed Seminar on SDGs.
- **Launched an interdisciplinary Urban Data Analytics research group** - a collaboration between faculty, post-doctoral fellows, students, and operations staff to consolidate, structure and share data in order to support campus as a living lab research and sustainable campus management.
- **Developed a new partnership to help advance zero-carbon-emissions building** – through the Zero Emission Building exchange, UBC is developing new collaborations to connect academic research and student projects with industry challenges.

- **Joined a regional network to advance city and university partnerships** – UBC and the City of Vancouver are one of four university-city pairs working on more effective ways to collaborate on major regional issues like climate change and affordable housing.
- **Launch of the Student-led UBC Climate Hub** - this new student-driven university-wide initiative funded by UBC, aims to connect and empower university and community stakeholders to take bold climate action. Since forming the Climate Hub, Students have started a climate mentorship program, hosted a climate solutions showcase, designed a UBC Climate Asset Map to support awareness .
- **UBC Sustainability Collective organized the first student-led Climate Town Hall** – attracting over 300 student, faculty and staff to come together to discuss climate actions and climate justice.

II. OPERATIONS AND INFRASTRUCTURE

(a) Vancouver Campus

- **UBC ranked #1 university in the world under United Nations' Sustainable Development Goal #13** for taking urgent action to combat climate change and its impacts, according to Times Higher Education (THE).
- **Green Building Action Plan approved to ensure higher levels of building performance** that advance the campus toward our net positive sustainability vision, and lower the total cost of ownership. So far, 39 out of 246 action plan items have been completed.
- **Approval to expand the Bioenergy Facility.** Expected to eliminate an annual average of 13 to 15 thousand tonnes of GHG emissions and take UBC to a ~62% reduction of GHG emissions over 2007 levels, the expansion is supported with \$7.6M in funding from the Government of Canada Low Carbon Economy Fund. The expanded facility will also include a Biorefinery research lab separately funded through the Canada Foundation for Innovation (CFI) and part of the UBC Campus as a Living Lab program.
- **Energy retrofits and building recommissioning save UBC \$2.3M a year and nine percent in campus GHG emissions** compared to 2007 levels. As a result, UBC Energy & Water Services received the Association of Energy Engineers Institutional Energy Management Award this year.
- **Campus buildings win national and international awards for sustainable performance.** The Aquatic Centre has received fourteen national/international awards for high-performance, community use, and sustainability, while the Campus Energy Centre was recognized for leading-edge sustainable design from the Royal Architectural Institute of Canada. The Brock Commons Tallwood House has garnered eleven design awards for its innovative mass timber design and has been the subject of many news articles and feature stories around the world.

(b) Okanagan Campus

- **In 2018, the Campus began implementing a Five-Year Strategic Energy Management Plan (SEMP).** The SEMP provides a suite of energy conservation measures targeted to reduce energy consumption and GHG emissions.
- **Campus's absolute greenhouse gas emissions at the same level as 2007** despite a roughly quadrupling of floor space and tripling of the size of the student body on campus.

- **District Energy System (DES) upgraded to increase capacity and reduce GHG emissions.** The DES was upgraded to increase the system's cooling capacity, and expanded to include the new Commons building – designed to rely solely on the DES for heating. These upgrades significantly reduced the campus' consumption of natural gas and associated GHG emissions.
- **Systems Optimization projects where buildings were recommissioned to improve ventilation, and reduce energy use.** Recommissioning projects this year resulted in significantly improved building ventilation, reduced energy consumption, and improvements in cold weather operation – estimated at approximately 44% decrease in energy consumption in key academic buildings.
- **Net Zero Carbon District Energy Strategy and Climate Action Plan under development.** A Net Zero Carbon District Energy Strategy is being prepared to guide future district energy system development and investments. In addition, a specific Climate Action Plan will ensure a proactive response to climate change that minimizes GHG impacts and helps prepare the campus for future adaptation measures.
- **Reduced campus printing equipment fleet** and replaced older inventory with new, more efficient machines, for an overall 33 per cent reduction in fleet size.

III. COMMUNITY

(a) Vancouver Campus

- **UBC ranked #1 university in Canada under United Nations' Sustainable Development Goal #11** for making communities inclusive, safe, resilient and sustainable, according to Times Higher Education (THE).
- **Launched external relations plan to support UBC's rapid transit strategy,** winning endorsement from City of Vancouver Council and TransLink's Mayors' Council on Regional Transportation. UBC continues to advocate for the project with various levels of government, participate in the project planning work led by TransLink, and generate positive media coverage.
- **Housing and childcare fast tracked to meet growing campus demand.** A total of 149 new childcare spaces and 243 additional rental units in development this year means UBC is on track to deliver on our Child Care Expansion Plan and Housing Action Plan targets.
- **Recognized Vancouver Pride in style with a celebration of diversity, inclusion** and UBC's Positive Space campaign. The event featured a partnership with Vancouver's Public Disco, a pop-up queer library, slam poetry, a mural painting, and a live show featuring UBC's own drag queen talent.
- Continued growth in partnerships and programs that help build community, including community grants, Walk n' Roll to School and events like *Harvest Festival* and Chef Challenge.

(b) Okanagan Campus

- **New campus entrance, bike lane, transit routes, and pedestrian overpass completed** as part of the John Hindle Drive extension project. Together, these updates provide quick and easy access from Glenmore Road for all modes of transportation including transit, relieving congestion on the east side of the campus.

- **Expanded electric vehicle charging including six new Level 2 chargers**, adding to the capacity provided by standard charging points.
- **New cycling routes improved connections between the campus and neighbouring communities.** Moved from a single highway route to three alternative routes to campus with significant safety improvements. We also increased bike storage to 452 – adding 55 two-bike racks and eight secure bike lockers in under serviced areas around campus.

IV. COMMUNICATIONS AND ENGAGEMENT

(a) Vancouver Campus

- **Hosted a UBC President’s Roundtable on Climate Action, convening nearly 50 climate action leaders and thinkers** from business, government, first nations, utility and the non-profit sector, alongside UBC’s senior leaders and researchers, to explore resilient partnerships for climate action in the Metro Vancouver region.
- **Launched a new Sustainability Leadership course**, training 60+ employees on how to foster more sustainable behaviours in the workplace and funding eight projects to pilot new sustainability innovations in workplaces and laboratories. Included a textiles recycling project, and a new hazardous waste reduction initiative for laboratories.
- **Engagement programs reached over 8,000 UBC employees**, with the Green Labs program receiving an international award for efforts to promote sustainable procurement.
- **Celebrated 20 years of Sustainability Coordinators**, with over 122 Sustainability Coordinators participating from 42 operational and academic departments this year.
- **UBC’s new event – Turn it Up, Disrupt – helped mark and celebrate International Women’s Day**, featuring three days of creative and bold engagement programming. Performances, workshops, exhibitions and presentations celebrated all women, including transwomen, and members of historically and traditionally marginalized communities, including LGBTQ2SIA+, Indigenous, newcomer and refugee, and people with disabilities.
- **Kids Take Over UBC!** Young volunteers from the UBC community took on adult-sized roles to help host an exciting day of arts and culture activities. Over 1,000 people attended events including a Theatre Lab at the Frederic Wood Theatre, Culture Kids at the Museum of Anthropology, instrument petting zoo at the School of Music, and tours of the Longhouse with the First Nations House of Learning and local Musqueam students.

(b) Okanagan Campus

- **The Power of You conservation and awareness behaviour change program** engaged the campus in education and awareness campaigns targeting multiple performance areas – energy, carbon, water, waste, and ecology. The results this year include a 48% increase in reusable food ware use, 40% increase in sustainability pledges collected, and a 40% reduction in hot water use at Nicola residence building.

V. FUNDING ANNOUNCEMENTS AND AWARDS

Forestry

UBC Forestry Department of Forest & Conservation Sciences professor, Dr Scott Hinch, received the Award of Excellence from the American Fisheries Society (AFS) at an October 2019 conference held in Reno, Nevada and hosted by the AFS and Wildlife Society.

The Award of Excellence is presented to a living person for original and outstanding contributions to fisheries and aquatic biology. It is the Society's highest award for scientific achievement.

<https://forestry.ubc.ca/2019/10/scott-hinch-receives-2019-award-of-excellence-from-american-fisheries-society/>

The University of British Columbia (UBC) was front and centre at the 15th annual Wood Design Awards in BC held earlier this month winning 2 prominent awards that included the Jury's Choice award for a large-scale robotically fabricated temporary timber installation.

Cited by the jury as having distinguishing detail and textural features, the winning project pavilion, entitled the "Wander Wood" installation, was designed during a workshop hosted by UBC Forestry's Centre for Advanced Wood Processing (CAWP) and the School of Architecture and Landscape Architecture (SALA) in the fall of last year.

UBC also received the Institutional Wood Design Award: Large for its Campus Energy Centre which features renewable, locally-sourced cross-laminated timber panels supported by glulam columns and 20-metre clear-span beams. The facility also has a Douglas-fir glulam timber post-and-beam frame.

<https://forestry.ubc.ca/2019/03/ubc-recognized-at-15th-annual-wood-design-awards-in-bc/>

The Faculty of Forestry at the University of British Columbia (UBC) recently signed a ground-breaking Memorandum of Understanding (MoU) with India's Ministry of Environment, Forests and Climate Change (MoEF&CC). The signing marks a significant step in the further development of existing collaboration between the Faculty and 18 forestry research and education institutes based in India.

<https://forestry.ubc.ca/2019/03/ground-breaking-mou-signed-between-india-ubc-faculty-of-forestry/>

Science

Prof. Claire Kremen, a UBC ecologist and biologist whose research involves reconciling agricultural land use with biodiversity conservation, has been awarded an honorary degree by the American Museum of Natural History (AMNH).

Kremen received the degree Doctor of Science Honoris Causa from the AMNH Richard Gilder Graduate School in "recognition of her extraordinary contributions to science, education and society."

<https://science.ubc.ca/news/ubc-ecologist-honored-american-museum-natural-history>

Two Canadian mines will pilot University of British Columbia-led research that combats greenhouse gas emissions by trapping carbon dioxide in mine tailings, the waste left over from ore mining.

The technology could drastically reduce the greenhouse gas emissions of mining operations and result in the world's first greenhouse gas neutral mine.

The project—a collaboration between UBC, the University of Alberta, Trent University and Institut national de la recherche scientifique (INRS) and three leading mining companies—heads to the field this summer with a \$2-million boost from Natural Resources Canada's (NRCan) Clean Growth Program. The funding was announced today in Yellowknife, N.W.T., as part of the program's investments into clean technology research and development in the Canadian mining sector.

<https://science.ubc.ca/news/ubc-led-project-combats-emissions-locking-carbon-dioxide-mine-waste-%C2%A0>

Applied Science

Transportation is the largest source of greenhouse gas emissions in British Columbia. Researchers at the University of British Columbia have developed a hydrogen supply chain model that can enable the adoption of zero-emission, hydrogen-powered cars — transforming them from a novelty into everyday transportation in just 30 years.

In a new study published this week, UBC researchers provide an analysis of the infrastructure needed to support hydrogen cars, SUVs and mini vans in British Columbia. They recommend a refuelling infrastructure extending from Prince George in the north to Kamloops and Vancouver in the south and Victoria in the west. Production plants would capture by-product hydrogen from chemical plants or produce it from water electrolysis and steam methane reforming. A network of refuelling stations would be established to serve consumers in major urban centres.

<https://apsc.ubc.ca/news/2019/09/ubc-researchers-design-roadmap-for-hydrogen-supply-network-across-b-c>

Land and Food Systems

UBC student research helping to improve services at the Greater Vancouver Food Bank Faculty of Land and Food Systems Associate Professor Dr. Jennifer Black led a collaborative project with the Greater Vancouver Food Bank (GVFB), as well as students and researchers from UBC and SFU, to better understand food bank use in Vancouver. Results from this work are informing GVFB's strategies to offer more nutritious foods, and to develop evidence-based advocacy for its members that considers the wide range of factors that shape food insecurity — such as financial and health challenges, housing, and food costs.

Applied Science

Engineering

Combining forces to teach new perspectives on sustainability Students today are faced with unprecedented global challenges, such as climate change, that will require solutions that reach across disciplines. Building on our reputation as a global leader in sustainability teaching and research, UBC is providing Interdisciplinary Education Grants for professors from different fields collaborating on new sustainability-related courses. One example is Humanitarian Engineering — Politics and Practice, which

brings together political science and engineering students to explore the application of technical engineering solutions to humanitarian issues.

SCARP

World's first Haida-language feature film premieres at TIFFSGaawaay K'uuna (Edge of the Knife), the first full-length feature shot entirely in the Haida language, premiered at the Toronto International Film Festival. The film's concept was developed by the Council of the Haida Nation, in partnership with UBC's School of Community and Regional Planning and Inuit video production company IsumaTV. The film transports audiences to 19th-century Haida Gwaii and shows them a way of life unknown to many outside the B.C. archipelago.

Public Relations - Institute for Resources Environment and Sustainability

Awards

Sep, 2019. [Claire Kremen - UBC ecologist and biologist awarded an honorary degree by the American Museum of Natural History \(AMNH\).](#)

Oct , 2019. Kai Chan is a Clean16 Honouree for 2020. The 2020 Clean16 are truly the leaders of the leaders in sustainability in Canada. www.clean50.com.

Feb, 2018. [IRES faculty members Mark Johnson and Kai Chan are recipients of 2017 UBC Faculty Research Awards](#)

Institute of Fisheries and Oceans

Awards

Sep, 2019. [Rashid Sumaila named Fellow of Royal Society of Canada](#)

June, 2019. [Dr. Sumaila and Dr. Auger-Méthé named as Canada Research Chairs](#)

May, 2019. [Carl Walters appointed to the Order of British Columbia](#)

April, 2019. [Rashid Sumaila wins Murray A. Newman Research Award](#)

March, 2019. [Nathan Bennett named Chair of IUCN People and the Ocean Specialist Group](#)

March, 2019. [Curtis Suttle named Wall Scholar](#)

Feb, 2019. [Rashid Sumaila wins UBC's President's Award for Public Education through Media](#)

Funding

March, 2019. [\\$2.9 million in funding, under the Whale Science for Tomorrow initiative.](#)

Sep 2018. [Hakai Coastal Initiative's Marine Food Webs Working Group. \\$unknown.](#)

Aug, 2014. [UBC receives \\$3.5M for research into Canada's oceans, new projects](#)

Aug, 2014. [The Paul G. Allen Family Foundation grants \\$2.6 million to improve data on world fisheries.](#)

Clean Energy Centre

Funding

July 2019. [Transportation Futures has recently received \\$11.6M to further expand the campus as a city-scale test bed for transportation energy systems](#)

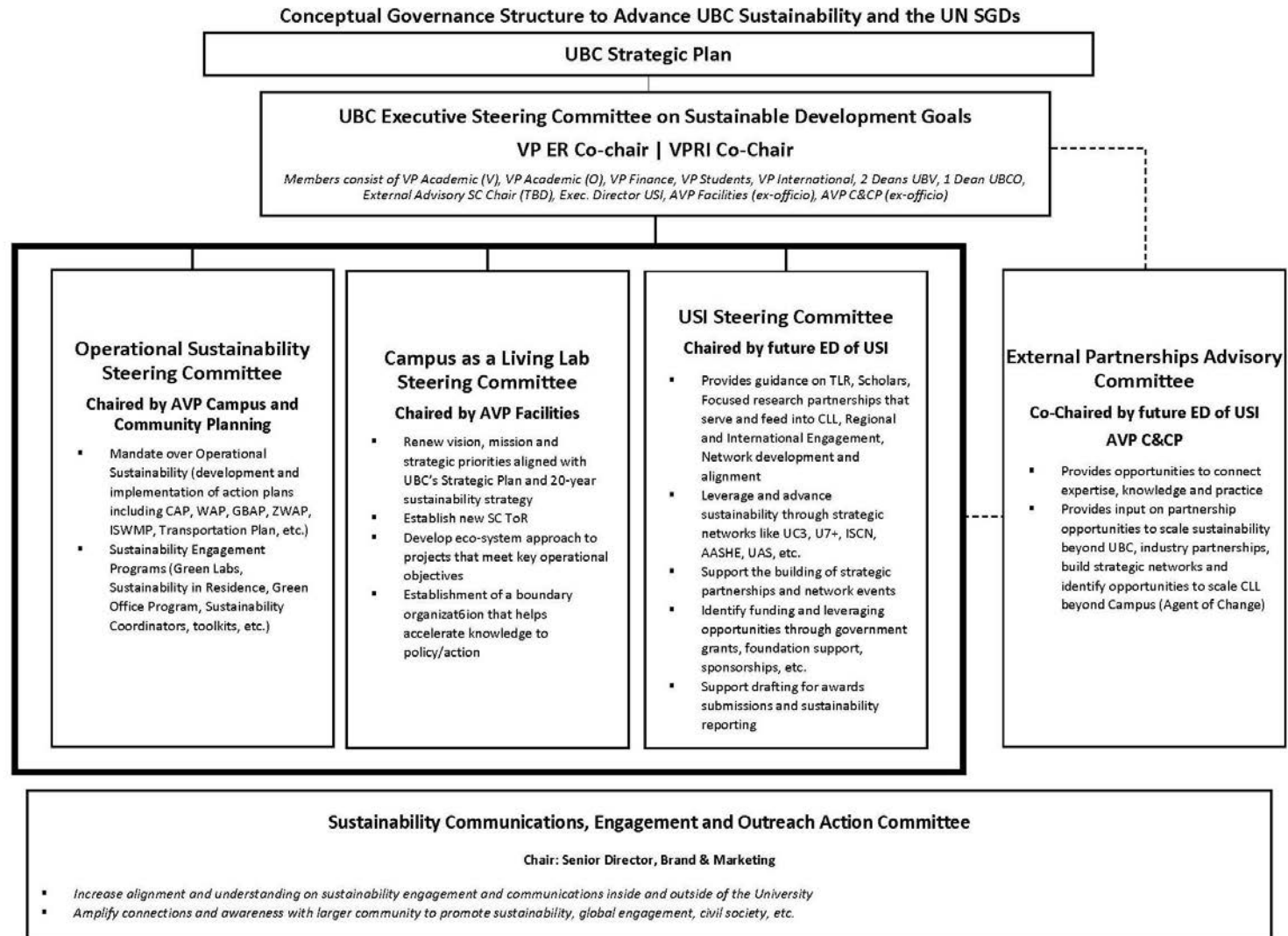
Sep, 2019. [UBC researchers design roadmap for hydrogen supply network across B.C.](#)

July, 2019. [\\$5.8 million from the Government of Canada for green energy projects on campus.](#)

Oct, 2017. [\\$4,6M. Beyond Traffic: Supporting innovative research to enable Clean, Connected, and Safe Transportation](#)

Oct, 2017. [Bioproduct and Transportation Research at UBC Engineering Gets \\$10m Boost from Canada Foundation for Innovation](#)

ATTACHMENT 2: REFRESHED UBC SUSTAINABILITY GOVERNANCE STRUCTURE



ATTACHMENT 3: DRAFT TERMS OF REFERENCE FOR THE UBC SUSTAINABLE DEVELOPMENT GOALS STEERING COMMITTEE

Draft Terms of Reference

UBC Sustainable Development Goals Steering Committee

Purpose and Scope

The Steering Committee helps the University to advance its sustainability leadership and impact, as outlined in the UBC Strategic Plan, and as guided by the United Nation's Sustainable Development Goals (SDGs). The scope covers UBC's globally recognized role in research, teaching, learning, and student engagement; indigenous engagement; Campus as a Living Lab; municipal like operations and infrastructure; responsible investment; community development and wellbeing; and wide-ranging strategic partnerships (local to global).

Committee Objectives

- To provide strategic advice to the UBC Executive on which SDG goals to focus, ensuring alignment and integration between UBC Strategic Plan implementation and the SDG focus areas
- To help align and effectively coordinate the allocation of resources, mandates, and initiatives across the institution including communications and engagement, to advance SDG focus areas
- To help identify and foster relationships with partners (within and outside the institution) to further UBC's SDG activities
- To provide guidance on the Campus as Living Lab mandate to support sustainability research and the advancement of SDGs
- To provide guidance and direction on how best to provide meaningful education around the SDGs across the University

Membership and Procedures

- VP External Relations (Co-Chair)
- VP Research and Innovation (Co-Chair)
- VP Finance and Operations
- VP Academic (Vancouver)

- VP Academic (Okanagan)
- VP Students
- VP International
- 2 Deans from Vancouver
- 1 Dean from Okanagan
- External Advisory Committee member (TBD)
- AVP Campus and Community Planning (ex-officio)
- AVP Facilities (ex-officio)
- Executive Director from USI (ex-officio)

The Committee Co-Chair is responsible for the conduct of meetings, including agendas, information processes, and oversight of reporting and action items.

The Committee will receive (through the office of the Vice President, External Relations) additional and reasonable support for the assembly, assessment and reporting of information.

Meetings and Quorum

The committee shall meet on a quarterly basis (or more frequently as required). The timing of the committee meetings will be scheduled in order to provide timely guidance and advice to advance sustainability goals as articulated in the UBC Strategic Plan and to review monitoring and annual reporting progress as relates to both UBC's strategic sustainability goals, as well as the UN's SDGs.

Attendance by at least 35% of the members of the committee to establish quorum.

ATTACHMENT 4: UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



UBC SUSTAINABILITY – CURRENT STATUS AND STRATEGIC OPPORTUNITIES SUMMARY PRESENTATION

UBC Board of Governors
December 2019



OUTLINE



1. Purpose of this session
2. The Strategic Importance of the Sustainability Agenda
3. SWOT Analysis
4. UBC's Recent Sustainability Achievements
 - Presentation: ***Lab for Environmental Assessment and Policy Sustainability Research Highlights:*** Dr. Amanda Gian
 - Presentation: ***Working Together to Enhance Ecosystem Sustainability: A Syilx/Settler Science Collaboration:*** Dr. Lael Parrott & Dr. Jeannette Armstrong
 - ***Campus as a Living Lab:*** John Metras
 - ***Student Engagement and Climate Action:*** Grace Nosek
5. The UN Sustainable Development Goals Framework
6. Looking Forward: Strategic Opportunities
7. Next Steps

PURPOSE

1. What are UBC's key accomplishments in sustainability?
2. What are the strategic areas where UBC should be focusing its resources and efforts?
3. What are the next steps for advancing the sustainability agenda?



THE STRATEGIC IMPORTANCE OF THE SUSTAINABILITY AGENDA

Next Century Strategic Plan: *“Pursuing excellence in research, learning and engagement to foster global citizenship and advance a sustainable and just society across British Columbia, Canada and the world”*



Aggressively pursuing UBC's sustainability agenda:

- Helps strengthen UBC's global leadership in addressing societies most urgent needs
- Helps advance many of UBC's Strategic Plan and the UN Sustainable Development Goals
- Builds capacity of students to become positive change makers and influencers
- Continues to attract and retain high caliber students, staff and faculty
- Helps advance regional, provincial and federal sustainability policy goals
- Elevates UBC's brand and reputation as a sustainability leader (locally and globally)
- Attracts investment, funding and partnerships
- Creates an 'ecosystem' of Campus as a Living Lab projects that advance research, applied learning and operational sustainability which can be scaled beyond the campus

STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS



STRENGTHS

- Global leader in GHG emission reductions
- Campus as a Living Lab platform
- Innovative federal funded research projects
- Student engagement and learning (Scholars and SEEDs)
- Student leadership (e.g. Climate Hub)
- Many sustainable building, neighborhood and green infrastructure planning projects
- Large # of courses related to sustainability
- Reputation on sustainability
- Initial responsible investment policy

WEAKNESSES

- Coordination of efforts between offices
- Lack of policies and metrics embedding sustainability goals across portfolios
- Areas of activity may be under reported / coordinated
- Coordination with faculties and research institutes
- Weak (loose) framework of local versus global sustainability work

OPPORTUNITIES

- Re-invigorate sustainability agenda & Governance
- Deepen CLL to enable more partnerships
- Strategic support for UN SDGs advancement
- Enhanced communications of successes
- Enhanced support of operational policies (Climate Action Plan, Green Building Action Plan, Rapid Transit Strategy)
- Additional partnerships and funding related to social sustainability & community well-being
- Opportunity to influence faculty hiring through academic renewal
- Potential for interaction with industry on green goals

THREATS

- Implementation speed of rapid transit
- Up front costs for more sustainable development (vs. life cycle costs)
- Long term sustained funding and future changes to government priorities

2018/19 Fast Facts

VANCOUVER



reduction in absolute
GHG emissions since
2007



additional below-
market rental units
under construction



reduction in absolute
water use since 2000



wellbeing projects
supported through
strategic initiatives fund



sustainability-related
courses



of trips by sustainable
modes of transportation



faculty researching
sustainability-related
topics



student-led groups
participated in Student
Sustainability Council

OKANAGAN



reduction in absolute
GHG emissions
since 2013



reduction in absolute
water use since 2013



increase in waste
diversion rate since
2010



of trips by sustainable
modes of transportation



SELECT ACHIEVEMENTS: ACADEMIC /ENGAGEMENT

Teaching, Learning and Research

- Launch of the Interdisciplinary Education Grant program
- Creation of the Biodiversity Excellence Chair
- **Federal funding received:**
 - **\$1 million by Clean Energy Research Centre for carbon capture and synthetic fuel production**
 - **\$2.3 million for solar-powered charging stations for electric cars,** including 24 electric vehicles and “guidelines” for wireless charging

Student Engagement

- Launch of the student-led UBC Climate Hub
- First student led Sustainable Development Goals (SDG) Roundtable at UBC
- Developed UBC’ s first Food Insecurity Action Symposium
- Expansion of SEEDs and Scholars programs to provide experiential sustainability learning

Partnerships

- Partnership with Zero Emission Building Exchange
- UBC leadership in sustainability networks – ISCN, UC3, U7+, President’ s Roundtable



SELECT ACHIEVEMENTS: OPERATIONS AND INFRASTRUCTURE

UBC Vancouver:

- **Ranked #1 globally for advancing United Nations' Sustainable Development Goal #13** for taking urgent action to combat climate change and its impacts (a 38% decrease of GHGs over 2007 levels)
- **Approval to expand the Bioenergy Facility (BRDF)** which will help advance UBC towards achieving its 67% GHG reduction target below 2007 levels
- **Green Building Action Plan** approved to ensure higher levels of building performance
 - Energy retrofits and building recommissioning save UBC \$2.3M a year and 9% in campus GHG emissions compared to 2007 levels.

UBC Okanagan:

- **District Energy System (DES) upgraded to increase capacity and reduce GHG emissions**
- **Systems Optimization projects where buildings were recommissioned** to improve ventilation & reduce approximately 44% in energy consumption in academic buildings.



SELECT ACHIEVEMENTS: COMMUNITY

UBC Vancouver:

- **UBC ranked #1 university in Canada under United Nations' Sustainable Development Goal #11** for making communities inclusive, safe, resilient and sustainable
- **Planning for SkyTrain to UBC** approved by City of Vancouver Council and TransLink's Mayors' Council on Regional Transportation.
- **Housing and childcare fast tracked** to meet growing campus demand & deliver on our Child Care Expansion Plan and Housing Action Plan targets.

UBC Okanagan:

- **Improved** access for all modes of transportation and relieving traffic congestion on campus
- **Expanded electric vehicle charging including six new Level 2 chargers**, adding to the capacity provided by standard charging points.



RESPONSIBLE INVESTMENT

- The Board is asking the Administration to conduct the necessary legal and financial analysis to explore full divestiture from fossil fuels of all endowment and other funds under the Board's control, and bring that analysis back to the Board in an expedient manner;
- On November, 22nd, the Endowment Responsible Investment Policy Committee recommended the transfer of \$381 million from the Great Trek Endowment into the low-carbon, fossil fuel-free Sustainable Future Pool (SFP), which currently holds \$30 million;
- The transfer is conditioned on the Board receiving an asset-liability financial study and legal opinion that assures the move won't cost UBC money and is legally permissible.



LOOKING FORWARD: A NEW FRAMEWORK BASED ON THE UN'S SUSTAINABLE DEVELOPMENT GOALS (SDGS)

- Next generation sustainability leadership in higher education requires a new model of addressing some of the greatest social and environmental challenges facing humanity this century.
- A new organizing frame for this structure could be based on the UN's Sustainable Development Goals (SDGs). The UN SDGs set out an ambitious agenda and transformational vision.



LOOKING FORWARD: STRATEGIC OPPORTUNITIES

STRENGTHS TO BUILD UPON

- **Climate Action Plan (the pathway to carbon neutrality by 2050)**
- World-leading research (e.g. Biodiversity, Clean Energy, transportation, etc.)
- Campus as a Living Lab Program to advance UBC's sustainability goals for:
 - Climate action
 - Health and Wellbeing
 - Green Buildings
 - Digital Platforms
 - Applied learning such as SEEDs and Scholars
- Community and Student Engagement (e.g. UBC Climate Hub)
- UBC International Strategy
- Operational sustainability action plans (Buildings, Water, Foodware, Waste)



LOOKING FORWARD: STRATEGIC OPPORTUNITIES

OPPORTUNITIES FOR GREATER LEADERSHIP

- ***Strategy for Divestment***
 - Indigenous Strategic Plan implementation
 - Increasing support and incentives for faculty research that advance SDGs
 - Partnerships - locally and globally (UC3, ISCN, U7+, MOU's with CoV, Metro Vancouver, BC Hydro, etc.)
- ***Coordinated and expanded sustainability communications and marketing***



LOOKING FORWARD: GOAL SETTING BASED ON THE SDGS

- UBC is well positioned to leverage the UN SDG framework to elevate UBC's leadership; a new executive SDG Steering Committee is being convened to:
 - Provide an overall convening function for UBC's sustainability agenda
 - Identify SDG focus area/goal setting
 - Achieve better alignment and coordination across the institution and campuses
 - Help prioritize resource allocations, partnerships, reporting, and communications



SAMPLE MAPPING OF GOALS TO SDGS



- Currently 38% GHG reduction at UBC Vancouver; tracking to over 60% within 2 years (target 67% by 2020)
- Need to develop CAP 2050 for carbon neutrality



- Currently support successful partnerships (e.g. UC3, U7, BC Hydro, City of Vancouver, etc.) and need to prioritize future opportunities



- Currently have a minor responsible investment portfolio;
- Need a strategy towards full divestment from fossil fuels



- Numerous successful Living Lab projects over the last decade;
- Need to expand Living Lab and grow partnerships with research, industry and operations to advance in priority SDG areas



- Currently 66% of trips to UBC Vancouver made by walking, cycling or transit (target was 66% by 2040)
- Need extension of SkyTrain by 2030 to maintain this shift



- Accelerated delivery of childcare resulting in 975 childcare spaces on campus; target of 1200 by 2041



- Currently 54% waste diversion; target is 80% waste diversion rate by 2020

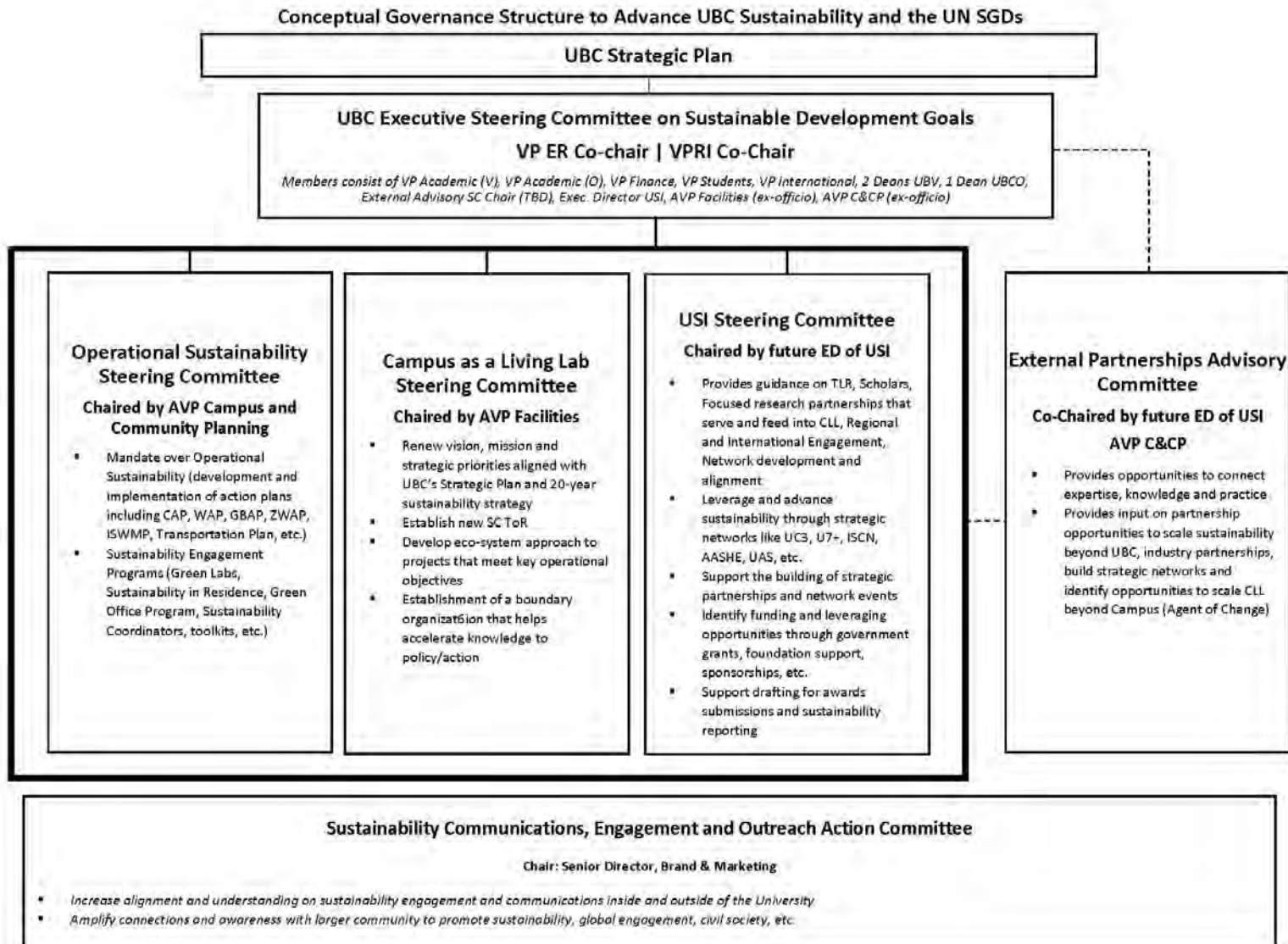


NEXT STEPS

- Convene the first meetings of the executive Steering Committee to Identify SDG focus areas mapped against:
 - Teaching, Research and Student Engagement;
 - Educational Programs, Research and International;
 - Indigenous Engagement;
 - Campus as a Living Lab;
 - **Responsible Investment;**
 - **Climate 2050;**
 - Operations and Infrastructure;
 - **Community Engagement/Communications.**
- Report back to the Board in February, 2020, with the prioritized SDG focus areas and next steps for implementation, including any institutional needs, including financial and organizational requirements or re-allocations;
- Prepare for the 2020 submission to the Times Higher Education UN Sustainable Development Goals ranking;
- Prepare a communications framework and narrative for UBC's growing leadership role in sustainability.



THE UBC SUSTAINABILITY GOVERNANCE STRUCTURE



UBC SUSTAINABILITY – CURRENT STATUS AND STRATEGIC OPPORTUNITIES

Presentation to UBC Board of Governors
December 2019



OUTLINE



1. Purpose of this session
2. The Strategic Importance of the Sustainability Agenda
3. SWOT Analysis
4. UBC's Recent Sustainability Achievements
 - Presentation: ***Lab for Environmental Assessment and Policy Sustainability Research Highlights:*** Dr. Amanda Gian
 - Presentation: ***Working Together to Enhance Ecosystem Sustainability: A Syilx/Settler Science Collaboration:*** Dr. Lael Parrott & Dr. Jeannette Armstrong
 - ***Campus as a Living Lab:*** John Metras
 - ***Student Engagement and Climate Action:*** Grace Nosek
5. The UN Sustainable Development Goals Framework
6. Looking Forward: Strategic Opportunities
7. Next Steps

PURPOSE

1. What are UBC's key accomplishments in sustainability?
2. What are the strategic areas where UBC should be focusing its resources and efforts?
3. What are the next steps for advancing the sustainability agenda?



THE STRATEGIC IMPORTANCE OF THE SUSTAINABILITY AGENDA

Next Century Strategic Plan: *“Pursuing excellence in research, learning and engagement to foster global citizenship and advance a sustainable and just society across British Columbia, Canada and the world”*



Aggressively pursuing UBC's sustainability agenda:

- Helps strengthen UBC's global leadership in addressing societies most urgent needs
- Helps advance many of UBC's Strategic Plan and the UN Sustainable Development Goals
- Builds capacity of students to become positive change makers and influencers
- Continues to attract and retain high caliber students, staff and faculty
- Helps advance regional, provincial and federal sustainability policy goals
- Elevates UBC's brand and reputation as a sustainability leader (locally and globally)
- Attracts investment, funding and partnerships
- Creates an 'ecosystem' of Campus as a Living Lab projects that advance research, applied learning and operational sustainability which can be scaled beyond the campus

STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS



STRENGTHS

- Global leader in GHG emission reductions
- Campus as a Living Lab platform
- Innovative federal funded research projects
- Student engagement and learning (Scholars and SEEDs)
- Student leadership (e.g. Climate Hub)
- Many sustainable building, neighborhood and green infrastructure planning projects
- Large # of courses related to sustainability
- Reputation on sustainability
- Initial responsible investment policy

WEAKNESSES

- Coordination of efforts between offices
- Lack of policies and metrics embedding sustainability goals across portfolios
- Areas of activity may be under reported / coordinated
- Coordination with faculties and research institutes
- Weak (loose) framework of local versus global sustainability work

OPPORTUNITIES

- Re-invigorate sustainability agenda & Governance
- Deepen CLL to enable more partnerships
- Strategic support for UN SDGs advancement
- Enhanced communications of successes
- Enhanced support of operational policies (Climate Action Plan, Green Building Action Plan, Rapid Transit Strategy)
- Additional partnerships and funding related to social sustainability & community well-being
- Opportunity to influence faculty hiring through academic renewal
- Potential for interaction with industry on green goals

THREATS

- Implementation speed of rapid transit
- Up front costs for more sustainable development (vs. life cycle costs)
- Long term sustained funding and future changes to government priorities

2018/19 Fast Facts

VANCOUVER



reduction in absolute
GHG emissions since
2007



additional below-
market rental units
under construction



reduction in absolute
water use since 2000



wellbeing projects
supported through
strategic initiatives fund



sustainability-related
courses



of trips by sustainable
modes of transportation



faculty researching
sustainability-related
topics

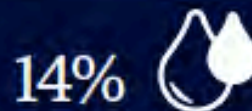


student-led groups
participated in Student
Sustainability Council

OKANAGAN



reduction in absolute
GHG emissions
since 2013



reduction in absolute
water use since 2013



increase in waste
diversion rate since
2010



of trips by sustainable
modes of transportation



SELECT ACHIEVEMENTS: ACADEMIC /ENGAGEMENT

Teaching, Learning and Research

- Launch of the Interdisciplinary Education Grant program
- Creation of the Biodiversity Excellence Chair
- **Federal funding received:**
 - **\$1 million by Clean Energy Research Centre for carbon capture and synthetic fuel production**
 - **\$2.3 million for solar-powered charging stations for electric cars,** including 24 electric vehicles and “guidelines” for wireless charging

Student Engagement

- Launch of the student-led UBC Climate Hub
- First student led Sustainable Development Goals (SDG) Roundtable at UBC
- Developed UBC’ s first Food Insecurity Action Symposium
- Expansion of SEEDs and Scholars programs to provide experiential sustainability learning

Partnerships

- Partnership with Zero Emission Building Exchange
- UBC leadership in sustainability networks – ISCN, UC3, U7+, President’ s Roundtable



LAB FOR ENVIRONMENTAL ASSESSMENT AND POLICY SUSTAINABILITY RESEARCH HIGHLIGHTS



Amanda Giang

Institute for Resources, Environment and Sustainability
and Department of Mechanical Engineering



MODELLING AIR POLLUTION AND TOXIC CHEMICALS FROM SOURCES TO IMPACTS TO INFORM DECISION-MAKING



Anthropogenic
Sources



Fate and
Transport



Human Impacts
and Responses

Tools and Methods for Decision
Support

Air quality co-benefits and tradeoffs of decarbonizing maritime shipping for coastal communities.



Air quality co-benefits and tradeoffs of decarbonizing maritime shipping for coastal communities.

3 GOOD HEALTH
AND WELL-BEING



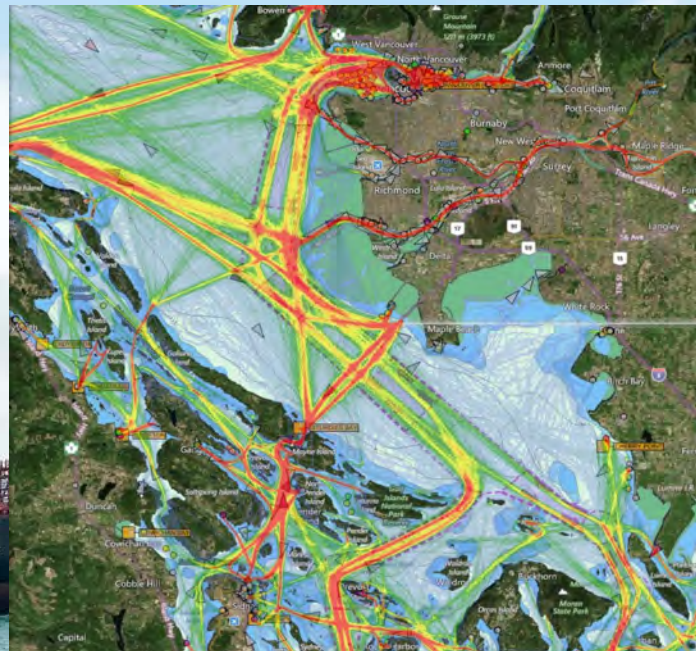
13 CLIMATE
ACTION



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Air quality co-benefits and tradeoffs of decarbonizing maritime shipping for coastal communities.



ECCC 2018

3 GOOD HEALTH
AND WELL-BEING



13 CLIMATE
ACTION



9 INDUSTRY, INNOVATION
AND INFRASTRUCTURE



Influences of climate change and policy on contaminants in the Beaufort beluga food web.



4

Funded by



**NSERC
CRSNG**

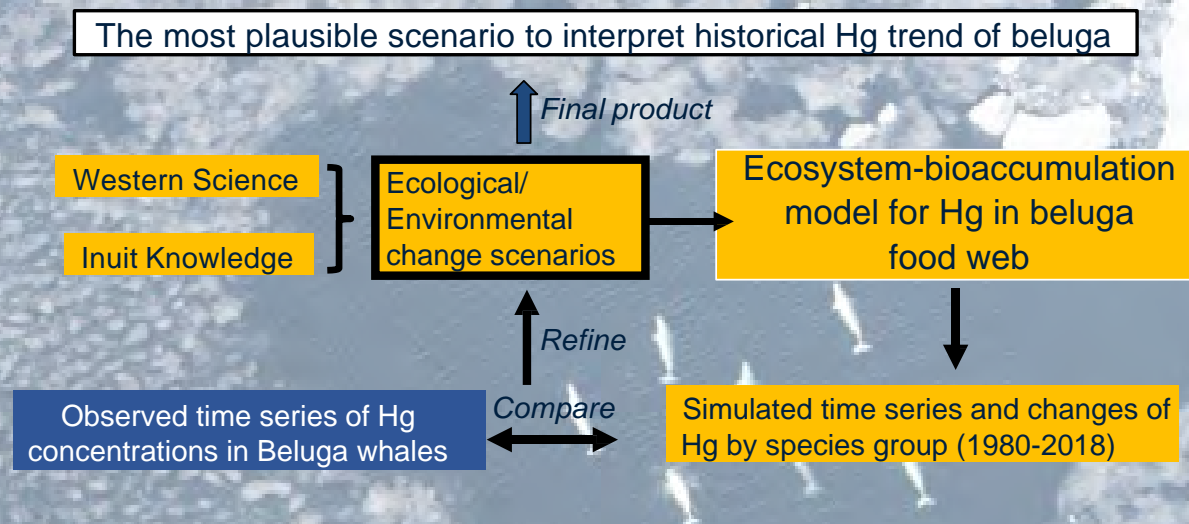
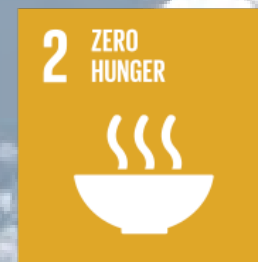
With support of



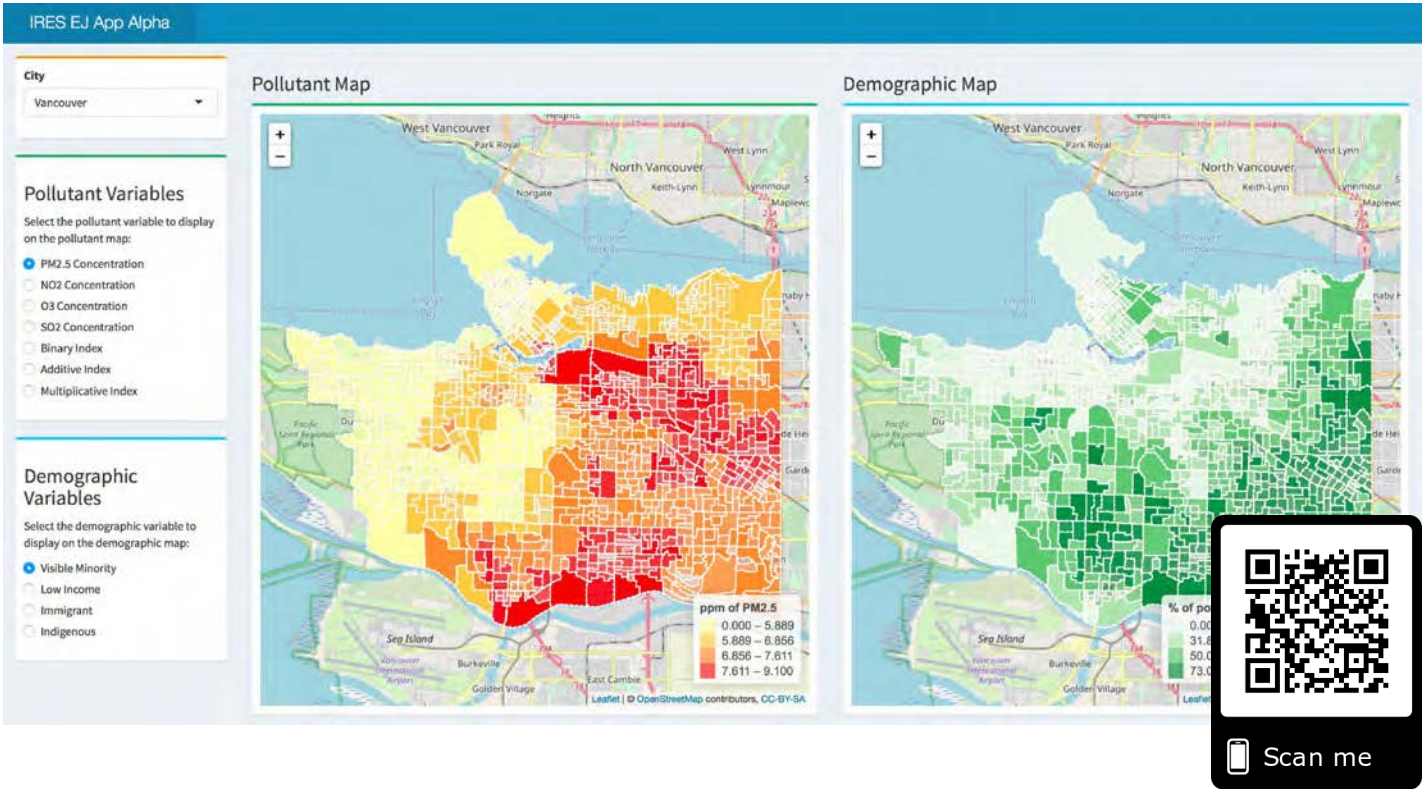
Influences of climate change and policy on contaminants in the Beaufort beluga food web.



Influences of climate change and policy on contaminants in the Beaufort beluga food web.

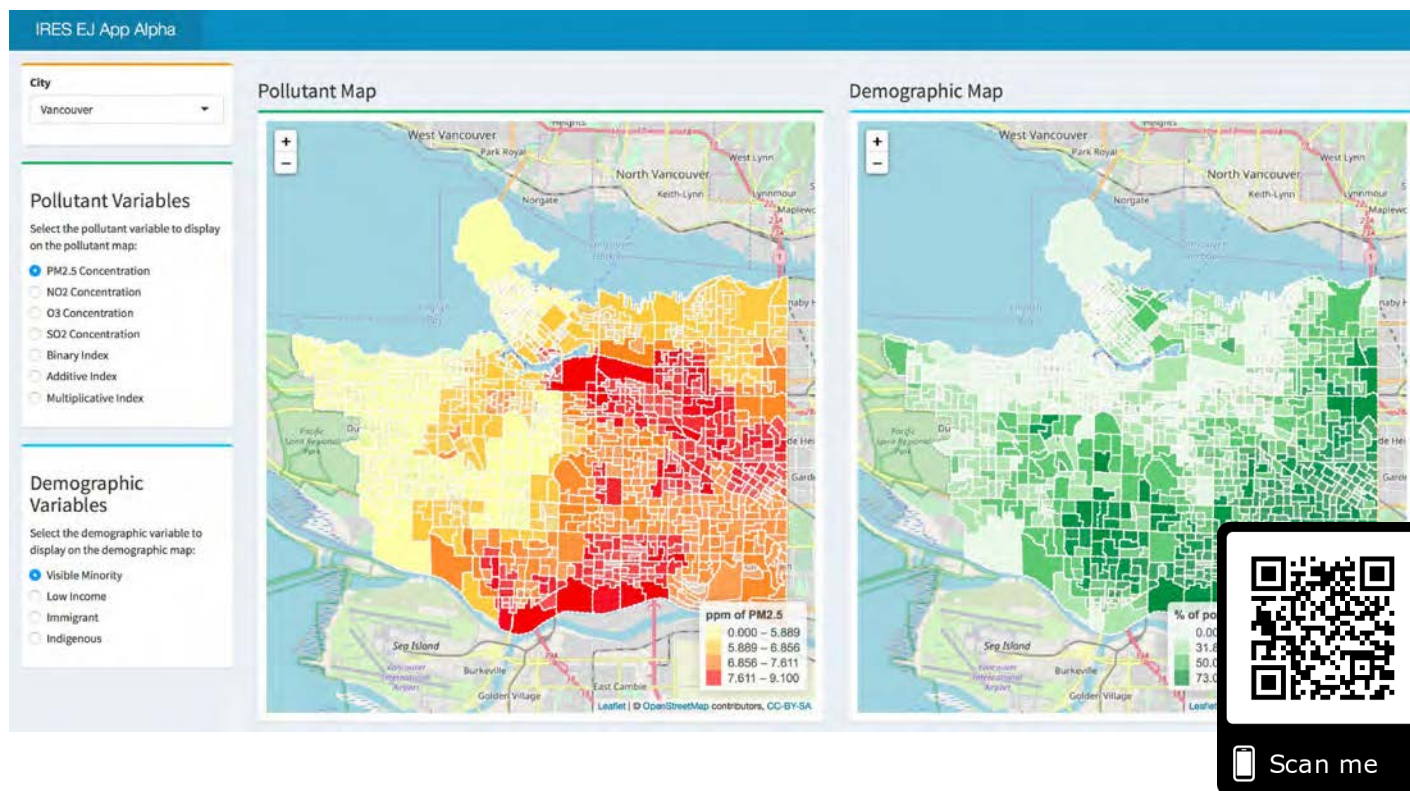


Interactive environmental justice screening tool.



Note: Preliminary results in Alpha version

Interactive environmental justice screening tool.



Note: Preliminary results in Alpha version



Research Team:



Mrinmoy
Chakraborty
(w/N. Zimmerman)



Hannah Barnard
Chumik



Bassam Javed
(w/M. Kandliklar)



Rivkah Gardner
Frolick



Imranul Laskar



Miling Li



Sara Elder



Erika Luna Perez
(w/N. Ramankutty)



Gabby Doebeli

WORKING TOGETHER TO ENHANCE ECOSYSTEM SUSTAINABILITY: A SYILX/SETTLER SCIENCE COLLABORATION

Lael Parrott & Jeannette Armstrong

Institute for Biodiversity, Resilience, and Ecosystem Services (BRAES)

Institute for Community Engaged Research (ICER)





LANDSCAPES ARE COMPLEX HUMAN-ENVIRONMENT SYSTEMS



PARTNERSHIP

- UBC Eminence Funded project in partnership with Okanagan Nation Alliance and En'owkin Centre
- Goal is to co-construct methods in ecosystem management and restoration that lead to more sustainable and resilient landscapes with a focus on key ecological concerns of Syilx communities
- Commitment to creating innovative, reflexive and respectful ways of integrating Indigenous and Western knowledge systems into the practice of our research

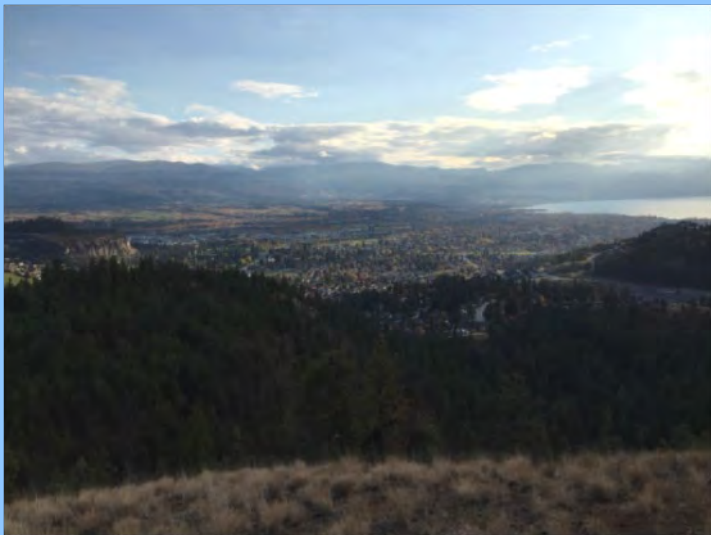


PARTNERSHIP

Interdisciplinary research cluster:

- Lael Parrott (environmental geography)
- Jeannette Armstrong (indigenous studies)
- Mike Evans (anthropology)
- Greg Garrard (environmental humanities)
- Jason Pither (community ecology)
- Susan Murch (plant chemistry)
- Adam Ford (wildlife biology)
- Mathieu Bourbonnais (geographic information science)
- Roger Sudgen (regional economic development)
- Aleksandra Dulic (digital media)
- Jon Corbett (human geography)
- Garth Mowat (wildlife management, Ministry of Forests, Lands and Natural Resources)
- Darcy Henderson (species at risk, Canadian Wildlife Service)
- and nine newly recruited students (undergraduate, graduate, and post-doctoral)

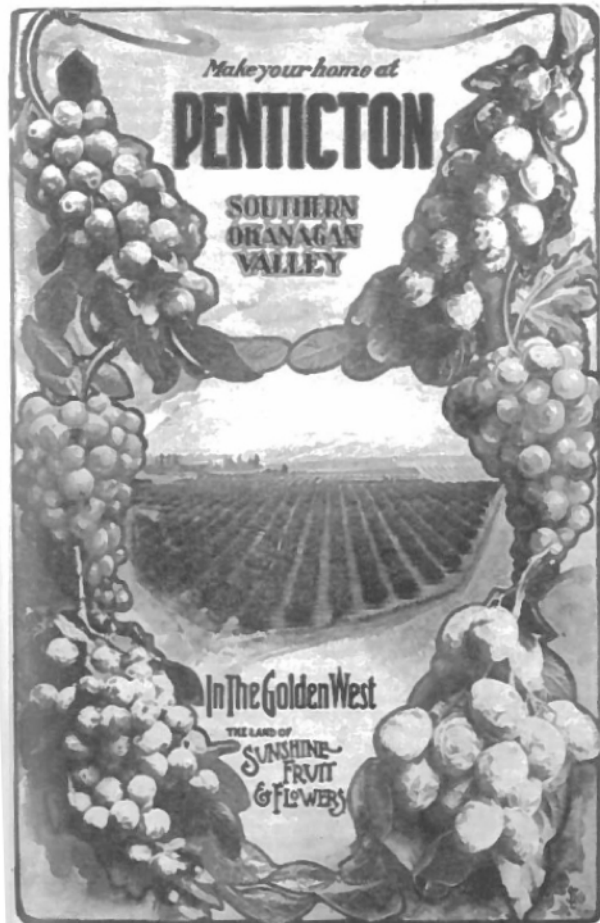




Okanagan Valley. Photos: L. Parrott & RS Parrott



Early 1900s advertisements in British newspapers



Kelowna The ORCHARD CITY
OF BRITISH COLUMBIA

beckons you to investigate the opportunities she offers for investment in INDUSTRIAL, RESIDENTIAL and IRRIGATED FRUIT GROWING PROPERTIES.

Kelowna is the most beautifully situated inland city in the greatest Province of the Dominion. It is in the heart of the famous Okanagan Valley, built on the shores of the beautiful Okanagan Lake, and enjoys the most delightful climate in Canada, and fifty per cent. of her residents have located in Kelowna on that account. Kelowna also has the lowest death rate of any city in Canada, and can offer you

Health, Wealth and Prosperity

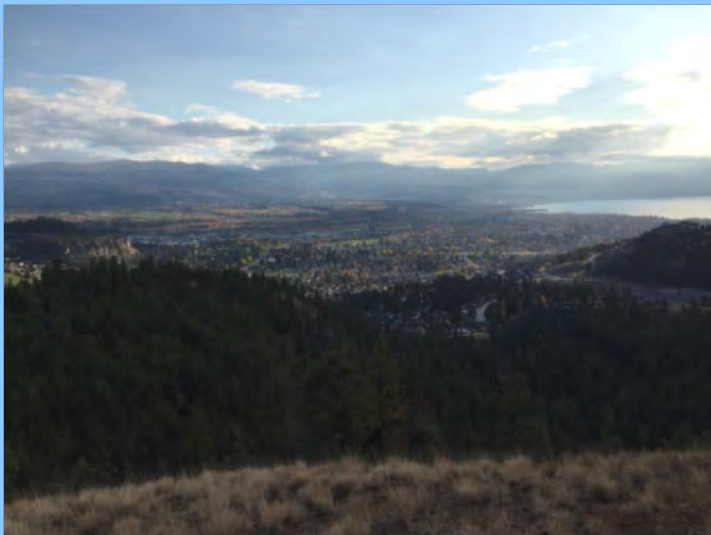
I have collected and exhibited the most of the fruit that has made Kelowna famous the world over. I own and operate large tracts of full bearing and also sun-planted irrigated lands in and adjoining Kelowna. I am thoroughly conversant with opportunities for investment here in fruit lands, mortgages, or business property, and would ask you to write for booklet and further particulars regarding Kelowna, which is destined to be the largest city in the Interior of British Columbia.

F. R. E. DeHART, KELOWNA
BRITISH COLUMBIA

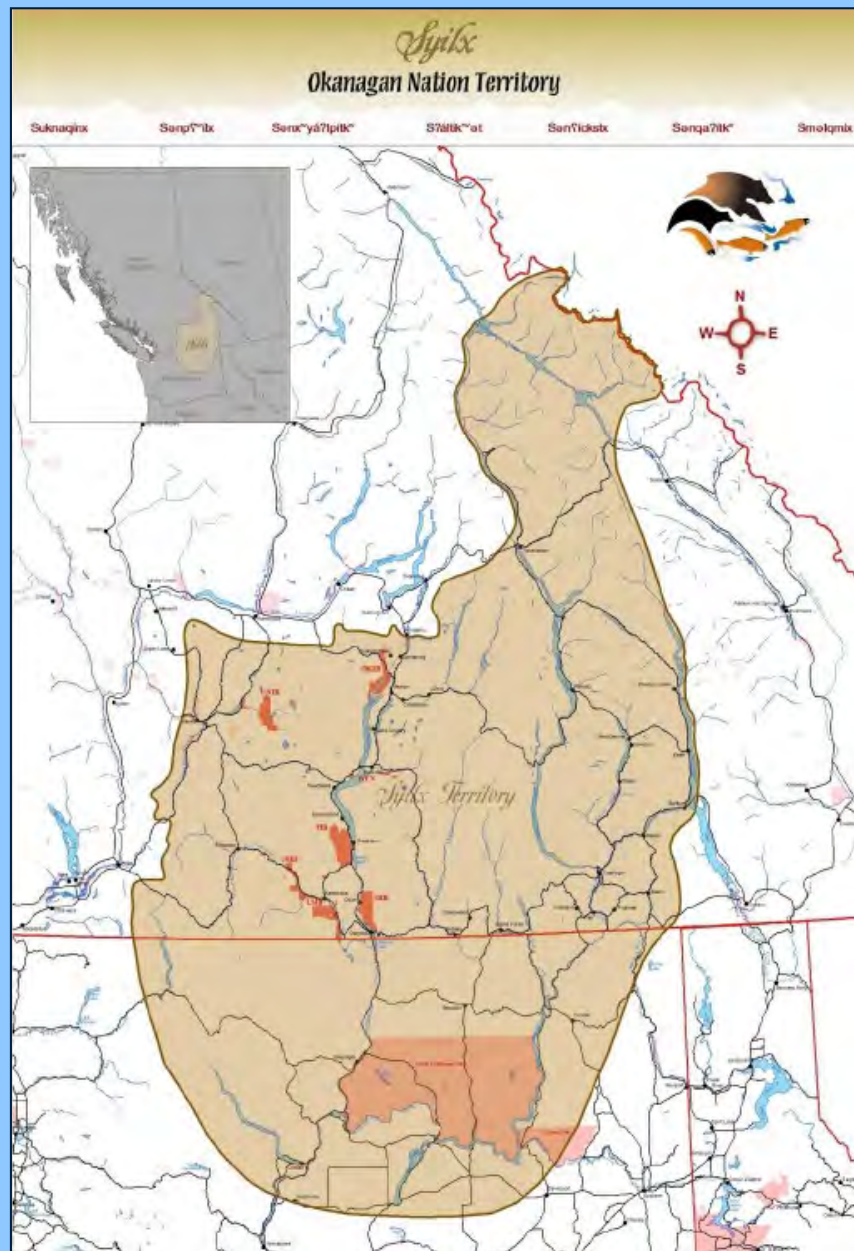
“Welcome to Kelowna, located in the Okanagan Valley, BC Cradled within a glorious range of mountains; a sanctuary blessed with pristine lakes, pine forests, abundant gardens, orchards and vineyards, sandy beaches, and superb amenities. As the largest city located on stunning Okanagan Lake, Kelowna is a recreational lakeside paradise....”

tourismkelowna.com, 2015





Okanagan Valley. Photos: L. Parrott & RS Parrott



www.syilx.org/about-us/syilx-nation/territory







THE LAST CARIBOU

Photographed March 19, 2016

Joss Mountain, Southern Monashees



PROCESS

- MOU between UBC and Syilx leaders
- Relationship building and sharing to establish common objectives
- Workshops/meetings with Syilx knowledge holders to introduce project
- Participation in cultural ceremonies
- Development of an intellectual property rights protocol (in progress)



AREAS OF FOCUS

- Grizzly bear habitat restoration and protection, focus on grizzly-huckleberry ecology
- Riparian cottonwood restoration for chinook spawning grounds
- Engagement of Syilx youth



Interior huckleberry. Photo: J. Armstrong



OUR ACHIEVEMENTS & GOALS

- Provide an example for respectful science-indigenous collaboration and knowledge co-creation
- Change the way our BC landscapes are managed to incorporate indigenous and systems-based worldviews
- Create an ecologically functional, sustainable and resilient Okanagan



SELECT ACHIEVEMENTS: OPERATIONS AND INFRASTRUCTURE

UBC Vancouver:

- **Ranked #1 globally for advancing United Nations' Sustainable Development Goal #13** for taking urgent action to combat climate change and its impacts (a 38% decrease of GHGs over 2007 levels)
- **Approval to expand the Bioenergy Facility (BRDF)** which will help advance UBC towards achieving its 67% GHG reduction target below 2007 levels
- **Green Building Action Plan** approved to ensure higher levels of building performance
 - Energy retrofits and building recommissioning save UBC \$2.3M a year and 9% in campus GHG emissions compared to 2007 levels.

UBC Okanagan:

- **District Energy System (DES) upgraded to increase capacity and reduce GHG emissions**
- **Systems Optimization projects where buildings were recommissioned** to improve ventilation & reduce approximately 44% in energy consumption in academic buildings.



CAMPUS AS A LIVING LAB – KEY ELEMENTS

- Integrates core UBC learning, research, innovation, and community engagement mission with campus operations and campus community
- Involves partnerships between UBC and public, private and non-governmental organizations
- Addresses ecological, social, health and/or technological issues with local scope and impact
- Involves sound financial use of UBC infrastructure and resources for demonstration of and research on leading edge solutions
- Engages faculty researchers, students, operations staff and external partners
- Has potential for knowledge transfer within and beyond UBC



CAMPUS AS A LIVING LAB PROJECTS

Centre for Interactive Research on Sustainability (CIRS)



- High performance demonstration and research building with goal for net positive energy, water and carbon
- LEED Platinum certified
- Research on human behavior and innovative building systems
- Multitude of industry, government and NGO partners



CAMPUS AS A LIVING LAB PROJECTS

UBC Bioenergy Research & Demonstration Facility



- Biomass Heating: 6 MW
- RNG Power: 2 MW(elec) + 2.4 MW(heat recovery)
- GHG Reduction: 6,800 tonnes/year CO₂e
- Research on fuel, process, emissions, materials,
- Partnership with Nexterra and GE Energy
- Current facility expansion will include CFI-funded Biorefining Research & Innovation Centre (BRIC)



Jenbacher

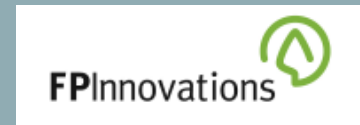
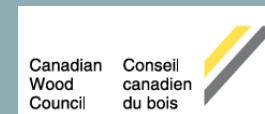


CAMPUS AS A LIVING LAB PROJECTS

Brock Commons Tallwood House



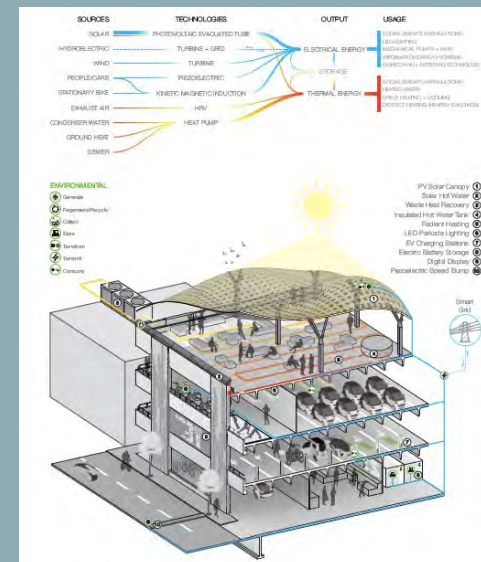
- 18 storey hybrid mass timber student residence tower
- Cross-laminated timber (CLT) floor plates, glulam columns
- Total carbon benefit (storage/emissions): 2,432 tonnes CO₂e
- Research on project development process, life-cycle performance of wood structure
- Partnership with NRCan, Binational Softwood Lumber Council and Province of BC



CAMPUS AS A LIVING LAB PROJECTS

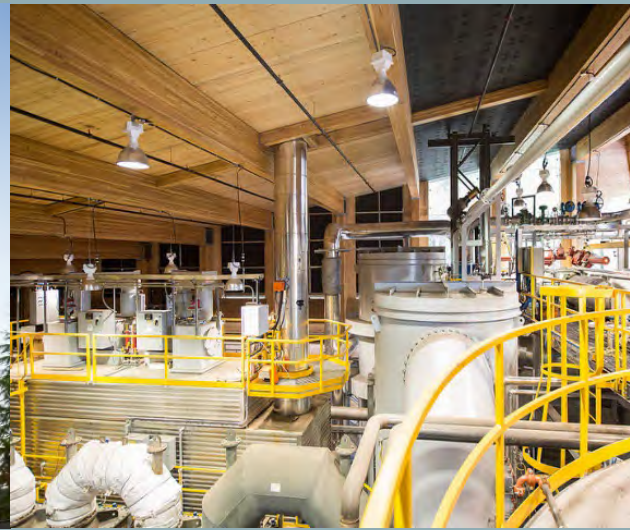
Other Current Projects

- Biodiversity Monitoring at UBC Farm
- Biorefining Research & Innovation Centre
- Clean Connected & Safe Transportation Testbed
- Sustainability Data Platform
- UBCO Skeena Residence Passive House
- Water Innovations Node at UBC Farm



CAMPUS AS A LIVING LAB – BENEFITS

- Learning and research opportunities
- Provision of useful infrastructure or solutions
- GHG reduction
- Operational cost savings
- Knowledge transfer
- Staff motivation and inspiration



CAMPUS AS LIVING LAB – KEY SUCCESS FACTORS

- Strong research, teaching & learning interest
- Identified operational and community needs
- Committed/motivated partners
- Student participation
- Dedicated and effective project management
- Capacity for internal seed funding
- Access to 3rd party funding (e.g. research grants)
- Resources for program coordination & facilitation, partner network development, communications & branding, and data management & governance
- Impact evaluations formally planned at the outset of each project



SELECT ACHIEVEMENTS: COMMUNITY

UBC Vancouver:

- **UBC ranked #1 university in Canada under United Nations' Sustainable Development Goal #11** for making communities inclusive, safe, resilient and sustainable
- **Planning for SkyTrain to UBC** approved by City of Vancouver Council and TransLink's Mayors' Council on Regional Transportation.
- **Housing and childcare fast tracked** to meet growing campus demand & deliver on our Child Care Expansion Plan and Housing Action Plan targets.

UBC Okanagan:

- **Improved** access for all modes of transportation and relieving traffic congestion on campus
- **Expanded electric vehicle charging including six new Level 2 chargers**, adding to the capacity provided by standard charging points.



STUDENT ENGAGEMENT AND CLIMATE ACTION



Grace Nosek

Founder and Student Director, UBC Climate Hub



WHAT WE DO!



Civic engagement



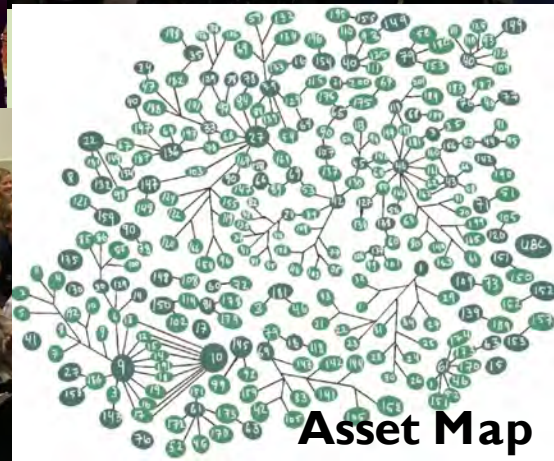
Climate Justice Research



Climate Solutions Showcase



#ClimateComeback



Asset Map



Youth Climate Ambassador Project

CLIMATE AMBASSADOR WORKSHOPS



- Antidote to climate anxiety and despair = action
- Vouchers are key to showing their communities how their values align with climate action
- 5 key pillars: hope, agency, community, justice, and systemic change



CLIMATE COMEBACK + ATHLETES WORKSHOP



90-second video: “Climate Comeback”



RESPONSIBLE INVESTMENT

- The Board is asking the Administration to conduct the necessary legal and financial analysis to explore full divestiture from fossil fuels of all endowment and other funds under the Board's control, and bring that analysis back to the Board in an expedient manner;
- On November, 22nd, the Endowment Responsible Investment Policy Committee recommended the transfer of \$381 million from the Great Trek Endowment into the low-carbon, fossil fuel-free Sustainable Future Pool (SFP), which currently holds \$30 million;
- The transfer is conditioned on the Board receiving an asset-liability financial study and legal opinion that assures the move won't cost UBC money and is legally permissible.



LOOKING FORWARD: A NEW FRAMEWORK BASED ON THE UN'S SUSTAINABLE DEVELOPMENT GOALS (SDGS)

- Next generation sustainability leadership in higher education requires a new model of addressing some of the greatest social and environmental challenges facing humanity this century.
- A new organizing frame for this structure could be based on the UN's Sustainable Development Goals (SDGs). The UN SDGs set out an ambitious agenda and transformational vision.



LOOKING FORWARD: STRATEGIC OPPORTUNITIES

STRENGTHS TO BUILD UPON

- **Climate Action Plan (the pathway to carbon neutrality by 2050)**
- World-leading research (e.g. Biodiversity, Clean Energy, transportation, etc.)
- Campus as a Living Lab Program to advance UBC's sustainability goals for:
 - Climate action
 - Health and Wellbeing
 - Green Buildings
 - Digital Platforms
 - Applied learning such as SEEDs and Scholars
- Community and Student Engagement (e.g. UBC Climate Hub)
- UBC International Strategy
- Operational sustainability action plans (Buildings, Water, Foodware, Waste)



LOOKING FORWARD: STRATEGIC OPPORTUNITIES

OPPORTUNITIES FOR GREATER LEADERSHIP

- ***Strategy for Divestment***
 - Indigenous Strategic Plan implementation
 - Increasing support and incentives for faculty research that advance SDGs
 - Partnerships – locally and globally (UC3, ISCN, U7+, MOU's with CoV, Metro Vancouver, BC Hydro, etc.)
- ***Coordinated and expanded sustainability communications and marketing***



LOOKING FORWARD: GOAL SETTING BASED ON THE SDGS

- UBC is well positioned to leverage the UN SDG framework to elevate UBC's leadership; a new executive SDG Steering Committee is being convened to:
 - Provide an overall convening function for UBC's sustainability agenda
 - Identify SDG focus area/goal setting
 - Achieve better alignment and coordination across the institution and campuses
 - Help prioritize resource allocations, partnerships, reporting, and communications



SAMPLE MAPPING OF GOALS TO SDGS



- Currently 38% GHG reduction at UBC Vancouver; tracking to over 60% within 2 years (target 67% by 2020)
- Need to develop CAP 2050 for carbon neutrality



- Currently support successful partnerships (e.g. UC3, U7, BC Hydro, City of Vancouver, etc.) and need to prioritize future opportunities



- Currently have a minor responsible investment portfolio;
- Need a strategy towards full divestment from fossil fuels



- Numerous successful Living Lab projects over the last decade;
- Need to expand Living Lab and grow partnerships with research, industry and operations to advance in priority SDG areas



- Currently 66% of trips to UBC Vancouver made by walking, cycling or transit (target was 66% by 2040)
- Need extension of SkyTrain by 2030 to maintain this shift



- Accelerated delivery of childcare resulting in 975 childcare spaces on campus; target of 1200 by 2041



- Currently 54% waste diversion; target is 80% waste diversion rate by 2020



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