



# ANNUAL SUSTAINABILITY REPORT

## 2014-2015



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

sustainability

# 2014/15 FAST FACTS



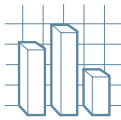
**22%**  
REDUCTION IN  
ABSOLUTE GHG  
EMISSIONS SINCE  
2007



**56%**  
REDUCTION IN WATER  
USE PER STUDENT  
SINCE 2000



**48**  
SUSTAINABILITY  
RELATED ACADEMIC  
PROGRAMS



**55**  
GREEN BUILDING  
PROJECTS



STUDENT BEDS  
INCREASED TO  
**9,989**

**66%**   
OF TRIPS BY SUSTAINABLE  
MODES OF TRANSPORT



**63%**  
OVERALL WASTE  
DIVERSION RATE



**3,100**  
STUDENTS  
ENGAGED THROUGH  
SUSTAINABILITY  
IN RESIDENCE  
PROGRAMMING



**636**  
SUSTAINABILITY  
RELATED COURSES



**38%**  
STUDENT POPULATION  
ENGAGED IN UBC  
RECREATIONAL  
PROGRAMS



**768**  
STUDENTS, FACULTY AND  
STAFF INVOLVED IN 100  
SEEDS PROJECTS

## VANCOUVER CAMPUS

## OKANAGAN CAMPUS



**28%**  
REDUCTION IN WATER  
USE PER STUDENT SINCE  
2007



**124**  
SUSTAINABILITY  
RELATED COURSES

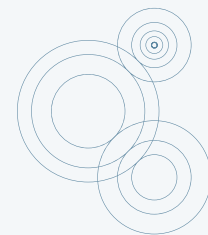
**51%**   
OF TRIPS BY SUSTAINABLE  
MODES OF TRANSPORT



**1,200**  
PEOPLE ENGAGED  
IN SUSTAINABILITY  
INITIATIVES



**20%**  
REDUCTION IN GHG  
EMISSIONS  
PER STUDENT SINCE 2007



## TABLE OF CONTENTS

|   |                                 |    |
|---|---------------------------------|----|
|  | INTRODUCTION                    | 5  |
|  | TEACHING, LEARNING AND RESEARCH | 6  |
|  | OPERATIONS AND INFRASTRUCTURE   | 15 |
|  | COMMUNITY                       | 25 |
|  | 2015/16 KEY PRIORITIES          | 33 |
|  | PERFORMANCE DATA                | 35 |

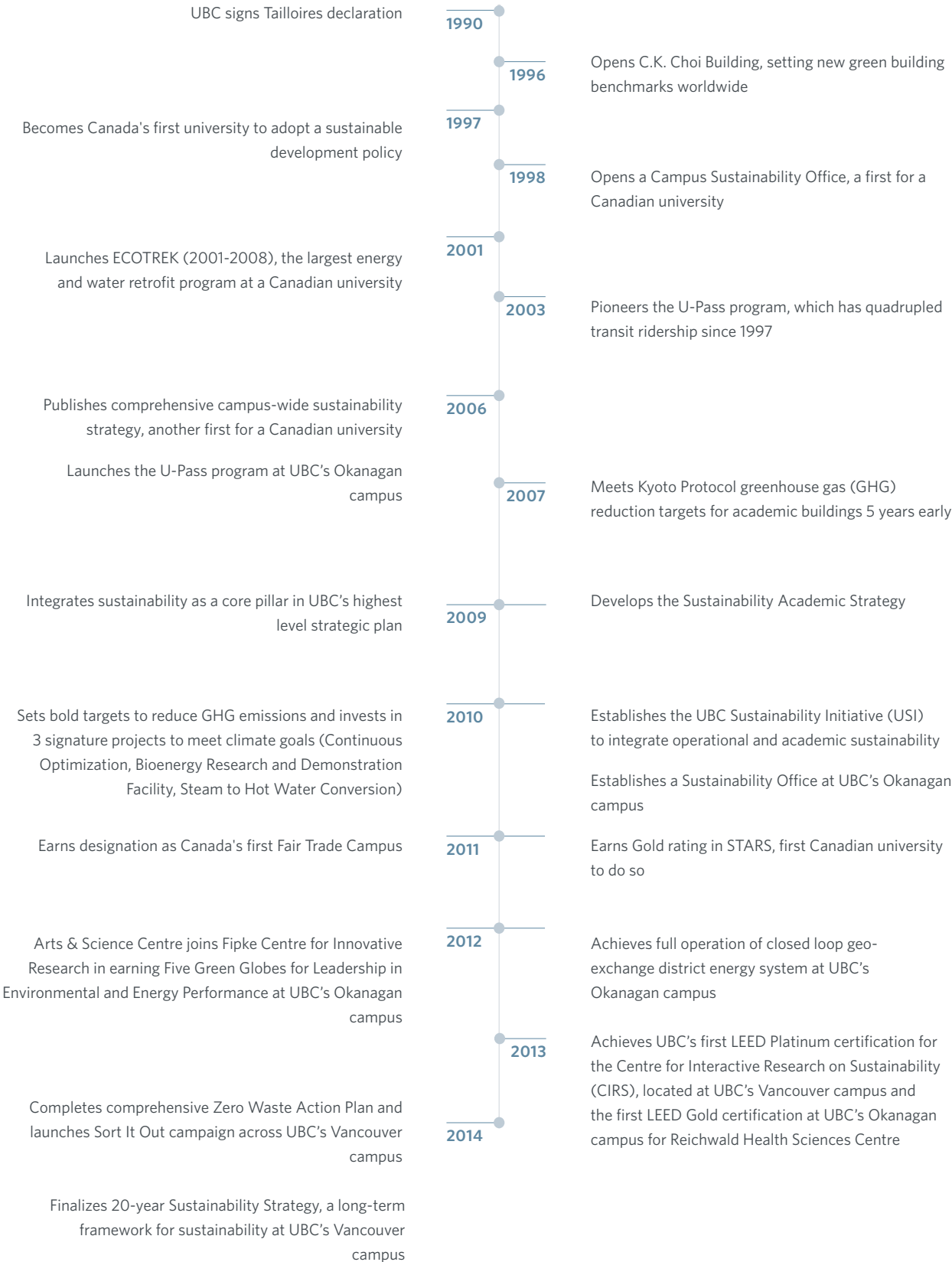
### About UBC

The University of British Columbia (UBC) is a global centre for research and teaching, consistently ranked among the top 40 universities in the world.

Our two main campuses—the Vancouver campus and the Okanagan campus—attract and educate nearly 60,000 students from 140 countries and employ over 15,000 staff and faculty.

UBC's Vancouver campus is home to a vibrant, sustainable residential community, where some 20,000 students, faculty, staff and other residents live, work and learn together. UBC's Okanagan campus, which has nearly doubled in size since 2007, is home to 1,700 students.

# SUSTAINABILITY MILESTONES



# MESSAGE TO THE COMMUNITY

Dear friends,

It is with pleasure that we present UBC's 2014/2015 Annual Sustainability Report, an opportunity to monitor and track UBC's progress in regards to our goals and targets and foster dialogue with the broader community around sustainability.

For more than twenty years UBC has been a global leader in sustainability and, as the world prepares for a landmark United Nations Climate Change Conference taking place November 30 - December 11, 2015, we are proud to report on another year of achievement with hope of inspiring a more sustainable future.

The global community looks to Universities for sustainability leadership. And at UBC, we seek to provide that leadership by using our campuses as societal test beds for sustainability, where we explore ways to mitigate society's impact on climate and create a resilient and thriving community at an urban neighbourhood scale.

This includes implementing innovative technologies that have enabled us to achieve a significant 22 per cent reduction in our greenhouse gas (GHG) emissions, setting us on track to meet our 2015 Climate Action Plan target.

Importantly, these efforts are made possible in part by the integration of cutting-edge faculty and student research and teaching and learning leadership that

help advance sustainability on and off campus and underpin UBC's reputation as a sustainability thought and practice leader.

We are also pleased to report a stronger integration with our UBC Okanagan campus through the development of a new Okanagan Campus Plan, supported by an innovative Whole Systems Infrastructure Plan. These will provide a roadmap toward achieving a net-positive impact on the wellbeing of the campus community and ecology while supporting the University's strategic plan and academic mission. Linked to these efforts, Wellbeing at UBC leads a university-wide strategic effort to build happier, healthier, and more sustainable campus communities. Integrated with this agenda, our community development programs advance the development of a model of a vibrant, complete, sustainable community.

Finally, as we reflect on the outcomes from the 2014/2015 fiscal year and the earned national and international recognition of our achievements, we do so with a renewed sense of commitment. This year we embark on a year of engagement with the community to develop our next Climate Action Plan in order to meet our 2020 targets. And as we continue our sustainability efforts, we hope to serve as a beacon that helps guide discourse and change for a more positive and sustainable future.

Thank you,

James Tansey and Michael White



James Tansey  
Acting Director  
UBC Sustainability Initiative



Michael White  
Associate Vice-President  
Campus and Community Planning

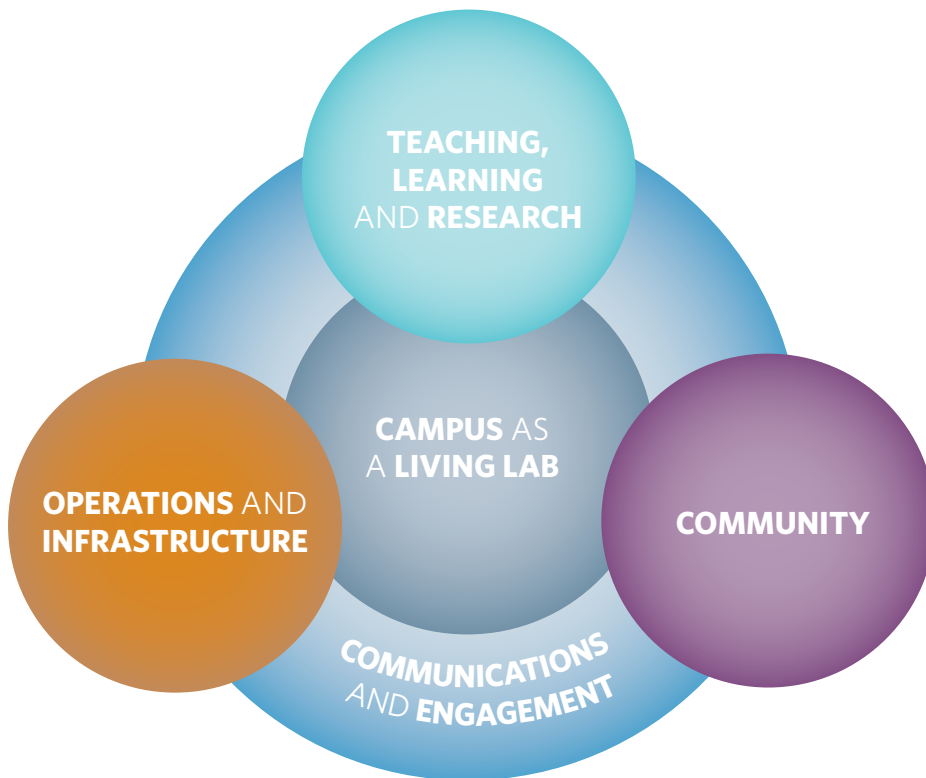


# INTRODUCTION

UBC's 2014/2015 Annual Sustainability Report provides an overview of our sustainability activities and aims to help foster continued dialogue that guides progress towards our sustainability aspirations.

Our approach is grounded in the integration of sustainability across teaching, learning and research, operations and infrastructure and community. We collaborate with private, public, NGO and community partners, and use our campuses and their operational, educational and research capabilities as societal test beds to study, teach, apply and share lessons learned, technologies created and policies developed.

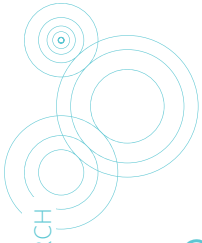
As an agent of change, we leverage our communication and community engagement programs to provide opportunities for collaboration to exchange knowledge and learn together how we can foster sustainability in the larger world.



A woman with long brown hair, wearing a light blue button-down shirt and dark pants, stands and points towards a whiteboard or screen. Two young women are seated at a desk in front of her, looking at the screen. The desk is cluttered with papers, a laptop, and a coffee cup. The background shows a typical office or classroom environment with shelves and equipment.

# TEACHING, LEARNING AND RESEARCH

UBC's sustainability ambitions go beyond just the operational agenda and include a transformation of curriculum. We are working to support and extend sustainability courses and create learning pathways for undergraduate students. Our goal is for all students to have access to sustainability learning alongside their chosen degree program. We support our diverse sustainability research community by creating opportunities for connection and collaboration.



## OUR ACTIVITIES

### **EMBEDDING SUSTAINABILITY IN COURSES AND PROGRAMS**

We are working to embed sustainability across the curriculum to provide students with an opportunity to take a sustainability pathway regardless of their program.

### **FOSTERING STUDENT LEADERSHIP**

We are enabling undergraduate and graduate students to address critical societal needs and impact change through programs such as paid sustainability internships, on-campus experiential learning projects, student engagement and advising services.

### **FACILITATING COLLABORATION**

We gather information from across campus on courses, initiatives and other student involvement opportunities related to sustainability and share these through our comprehensive website and in-person engagement activities.

### **BUILDING CAPACITY**

We build the capacity of UBC’s teaching community to develop and deliver outstanding sustainability learning opportunities and continue to provide support to UBC’s diverse community of sustainability researchers through a variety of mechanisms.

**636**  
SUSTAINABILITY  
RELATED COURSES

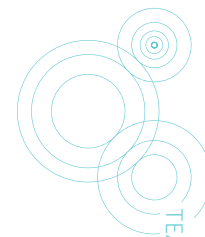
**48**  
SUSTAINABILITY RELATED  
ACADEMIC PROGRAMS

**448**  
FACULTY ENGAGED IN  
SUSTAINABILITY RESEARCH

*Each student, regardless of their degree program, should have access to an education in sustainability via a “sustainability learning pathway”.*

— 20-year Sustainability Strategy, 2014





## 2014/2015 HIGHLIGHTS

The UBC Sustainability Initiative (USI) works to embed sustainability across the curriculum. The following are highlights from the 2014/2015 Teaching, Learning, and Research activities:

### FACULTY ENGAGEMENT

| ACTIVITIES                              | DESCRIPTION  | ACCOMPLISHMENTS   |
|---|--|---|
| <b>SUSTAINABILITY LEARNING PATHWAYS</b> | Support faculties and departments to create a suite of sustainability-oriented courses and experiences so undergraduate students at UBC can pursue a sustainability education.                       | The first year of Sustainability Learning Pathway grants were awarded to faculty members developing pathways in Applied Science (Engineering), Arts (Geography), and Science (Earth, Ocean and Atmospheric Science).  |
| <b>FELLOWSHIPS</b>                      | Enable faculty to contribute to the discussion to advance UBC's academic sustainability goals.   | Through the fellows program, awarded seven fellowships and supported regular, interdisciplinary discussions involving faculty members implementing sustainability curriculum changes into their courses and programs.   |
| <b>GRANTS</b>                           | Through the Spotlight grant program, encourage the insertion of sustainability content into large, introductory courses and the incorporation of sustainability research into upper level courses.   | Awarded Spotlight curriculum grants to Mathematics 102 (Introductory calculus for life sciences), Sociology 100 (Introductory sociology), Geography 495 (Geographies of social movements in the Americas), and Anthropology 461 (Anthropological Approaches to Ecological Knowledge). |
|   | The Sustainability Research Collaboration small grants provide seed funding to teams of researchers who wish to identify and connect together to support research in a sustainability-related theme. | Awarded six research collaboration grants to teams of UBC researchers pursuing sustainability research.   |
| <b>ANNUAL COURSE CONSULTATION</b>       | Consult with UBC Vancouver faculty to identify sustainability courses and to identify faculty with sustainability research interests.  | Identified 636 sustainability-oriented courses across all faculties and 448 faculty members who are engaged in sustainability research.   |



## STUDENT ENGAGEMENT

| ACTIVITIES                               | DESCRIPTION  | ACCOMPLISHMENTS   |
|--|--|---|
| SCHOLARS PROGRAM                         | Provide UBC graduate students with applied work experience with both on and off campus sustainability partners.    | Greenest City Scholars program: Received matching program funding from the City of Vancouver allowing for program expansion in 2014 .<br><br>Provided 18 graduate students with applied work experience with the City of Vancouver.   |
|  |  | Sustainability Scholars program: Launched successful pilot of new UBC Sustainability Scholars Program, engaging 12 graduate students in applied work experience with both on and off campus sustainability partners.  |
| SUSTAINABILITY EDUCATION RESOURCE CENTRE | Provide student advising on academic and co-curricular opportunities.  | Provided advising services to undergraduate and graduate students, including on-going support to a team of Sustainability Ambassadors.<br><br>Communicated curricular and co-curricular opportunities to 500+ newsletter subscribers, including faculty and students.<br><br>Introduced sustainability content into programming designed for student leaders across campus.   |
|  |  |   |
| SUSTAINABILITY AMBASSADORS               | Foster student leadership and promote sustainability education through peer-to-peer education.                     | Helped students develop event planning, teamwork, unity, leadership, critical thinking, problem solving, time management, budget planning, public speaking, and communication skills.<br><br>Developed and hosted the Eating Sustainably for Wellbeing event in collaboration with Wellbeing at UBC and four major faculties to promote healthy and sustainable eating habits.<br><br>Developed and hosted the first annual Sustainability Research Symposium to showcase graduate research projects.<br><br>Organized and hosted the annual Sustainability Fair to connect students with involvement opportunities, engaging over 1000 attendees.<br><br>Delivered student outreach activities and workshops, including through the Ripple Effect campaign, the Student Leadership conference and other campus events. |
|  |  |   |
|  |  |   |
|  |  |   |
| UBC READS SUSTAINABILITY                 | Provide a forum for students across disciplines to discuss sustainability issues with globally recognized authors. | Hosted three speaker events, engaging over 4000 students, staff, faculty, and community members. Speakers included: Wade Davis, author of <i>The Sacred Headwaters</i> , Douglas Gayeton, author of <i>Local</i> , and George Marshall, author of <i>Don't Even Think About It: Why Our Brains Are Wired To Ignore Climate Change</i> .   |

## HIGHLIGHT ENGAGED PEDAGOGY

### SUSTAINABILITY LEARNING PATHWAYS

The Centre for Community Engaged Learning (CCEL) enables students to apply classroom knowledge to community-specific issues. The centre facilitates connections between students, staff, faculty and community partners to work through complex community issues, locally and internationally. It also supports instructors, departments and faculties to enhance teaching and learning processes.

Complementing this community-engaged learning approach are four sustainability attributes, key components that inform a Sustainability Learning Pathway. Through Sustainability Learning Pathways, developed by the UBC Sustainability Initiative, UBC educators seek to provide sustainability-related curricular and co-curricular opportunities to all students regardless of their program. Sustainability attributes, or the attributes of a graduate with focused sustainability education, include holistic systems thinking, sustainability knowledge, acting for positive change, and awareness and integration.

“It’s a great way to move a student into a professional role, and to build a citizen. Students want to have an impact on society,” says Tara Ivanochko, a senior instructor in the Department of Earth, Ocean and Atmospheric Sciences (EOAS) and a 2014/2015 USI Fellow. Ivanochko credits CCEL with foundational support that helped to launch some of her community projects—projects that have made a real difference by helping to engage the community and create innovative solutions to local sustainability problems which are now a required element of the environmental science degree.

One community project sought to identify the source of the *Escherichia Coli* (E. Coli) in Vancouver’s False Creek, an active marine area and recreational destination for local residents and tourists. Fourth-year Environmental Science students collaborated with staff from with the City of Vancouver. “Students identified the marine boat activity as one probable cause, which led the City to launch a reinforced education program around what’s required for sewage maintenance for recreational boats in False Creek,” Ivanochko explains.

Through community-based projects facilitated by CCEL and her experience in the USI Fellowship program, Ivanochko found a framework to integrate Sustainability Learning Pathways beyond just one course and beyond her department. In 2016, pending consultation with faculty and UBC Senate approval, a new Sustainability Science concentration could be available for Environmental Science students and a new course, Analytical Methods in Sustainability Science, would then be open to all students at UBC.

*“I find it satisfying as an educator to provide authentic true experiences where students feel like the product of what they’re doing is meaningful.”*

**Tara Ivanochko, Senior Instructor**





## HIGHLIGHT SOCIAL INNOVATION

### MAJOR NEW GRANT FUELS SOCIAL VENTURES

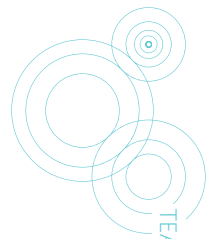
Universities have a unique opportunity to inspire innovation and drive social change by providing future leaders with opportunities to address critical societal issues. Now, with a \$500,000 grant from J. W. McConnell Family Foundation's RECODE Program, UBC is set to become a leading hub for social entrepreneurship.

Social enterprises, also known as social ventures, are businesses with an innovative model that is changing the nature of enterprise. Like other businesses, social enterprises aim to be economically self-sustainable. But unlike other businesses, social enterprises have incorporated improving social, cultural, community or environmental outcomes into their business models. As social enterprises grow, so too do the benefits to society.

Led by the Sauder School of Business, the grant will enable the UBC community to explore new ways of using business tools and strategies to make positive change, focused on solving the world's toughest challenges. UBC will seek out, expand and integrate successful initiatives and programs across the university to create a dedicated network of resources and support:

- Undergraduate students will learn the fundamentals of social entrepreneurship in new course material developed for the UBC-wide "Entrepreneurship 101" class
- The UBC Centre for Community Engaged Learning will create experiential learning opportunities for students by involving them with social ventures
- A five-week social venture bootcamp will be developed in collaboration with entrepreneurship@UBC, taking students from idea to social venture startup
- A UBC Impact Seed Fund will be established to invest in the promising social ventures originating at UBC

"The J. W. McConnell Family Foundation's investment will have a tremendous ripple effect as UBC begins to employ the resources the grant makes available," says James Tansey, an associate professor at Sauder, who leads research and teaching in social innovation and sustainability. "I look forward to seeing the positive impact in our community and beyond that will result from the Foundation's support."



# HIGHLIGHT EXPERIENTIAL LEARNING

## SEEDS SUSTAINABILITY PROGRAM

### ADVANCING SUSTAINABILITY THROUGH COLLABORATIVE RESEARCH

The SEEDS (Social Ecological Economic Development Studies) Sustainability Program seeks to integrate academic and operational work on sustainability across the campus, facilitating students, faculty and staff collaborations. Over the past 15 years, SEEDS has created partnerships to enable over a thousand innovative and high-impact sustainability research projects at UBC. Such projects help students build career capital through experiential learning. And by aligning projects with university plans, strategies and frameworks, these projects implement policy to produce tangible and lasting results for campus operations.

*Working with the SEEDS Program was a great opportunity to fulfill the mantra of the New Student Union Building to engage students and be a sustainability leader and showcase in innovation. The SEEDS Program allowed us to bring to the table unique ways to approach sustainability.*

**Michael Kingsmill**  
AMS Design Office Project Manager and Design Services

## 2014/2015 PROGRAM OUTCOMES

INTEGRATED INTO **36**  
COURSES

**768** STUDENTS,  
FACULTY & STAFF  
ENGAGED

**100**  
APPLIED RESEARCH PROJECTS  
MANAGED

**1,100** RESEARCH  
REPORTS  
PUBLISHED ONLINE  
OVER 15 YEARS

## SEEDS LEGACY ENHANCES SUSTAINABLE STUDENT SPACE

Nearly 100 SEEDS projects over the last six years influenced the design and functioning of the new Student Union Nest. Student research and ingenuity in SEEDS projects and reports provided assessments, recommendations and evaluations that directly affected the sustainability of the new building.

Significant building operations projects featured in the Nest include the CityPod in-vessel closed-loop composting system, which will convert food waste into soil for the rooftop garden; the Digital Waste Scale, which provides real-time data on waste and diversion occurring in the building; and a rooftop garden, which provides space for students to grow produce for use in cafes in the Nest.

Social sustainability is emphasized through interactive installations, including the Pedal Powered Charging Station where students can ride stationary bikes to create electricity; Petri Dish, a reflected-light art feature; Waste Art, a series of four installations that use repurposed waste material; and Run Off, a suspended 30-foot water feature that runs from the top of the Nest to a ground-level collecting pool.

## HIGHLIGHT RESEARCH

### MAPPING HAPPINESS

As part of UBC's commitment to human and environmental wellbeing, researchers are exploring the interplay between the natural or physical environment and human emotion. Dr. Jiaying Zhao, Canada Research Chair in Behavioural Sustainability, is looking into whether our state of happiness is situational, locational or something in-between. In other words, how much of what we experience is caused by what's within us—our mental state, and how much is caused by what's around us—our immediate environment?

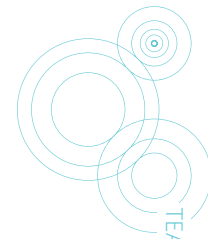
In September 2014 Zhao launched the year-long Project Happiness. Its goal is to discover where, when and why people are happiest on UBC campuses. Project Happiness uses a real-time, smart phone accessible, online interactive survey, developed by UBC-based startup tech firm Structured Reports. Several thousand responses have been mapped so far and can be viewed on the project's website ([www.ubc-happiness.com](http://www.ubc-happiness.com)).

The study will provide new evidence linking our physical environment and our wellbeing, on both immediate and seasonal bases. Zhao believes the results will have "great potential to provide new insight into a range of interests." Specifically, findings may provide guidance for future campus design—and, more broadly, may guide urban planners and policy makers. "It's not just about Vancouver or UBC, it's about understanding our wellbeing," explains Zhao.

Preliminary findings show that UBC is generally a very happy place but the overall mood fluctuates around exam time and spring break. Happiness levels are very similar on both campuses.

Project Happiness is funded by a Hampton Research Grant. Support and collaboration come from the UBC Behavioural Sustainability Group (a consortium of UBC Psychology, UBC Sustainability Initiative and the Institute for Resources, Environment and Sustainability), the University Neighbourhood Association and the Campus and Community Planning SEEDS program.





## HIGHLIGHT COMMUNITY ENGAGED RESEARCH

### STUDYING CLIMATE CHANGE ADAPTION IN THE AGRICULTURAL SECTOR

By 2050, global populations are expected to surpass nine billion. How to feed this growing population is a pressing question, and one that is rapidly becoming more complicated by climate change.

Looking for an answer, a team of Applied Biology scientists at the Faculty of Land and Food Systems and the Centre for Sustainable Food Systems at UBC Farm are working to understand how farmers can change their growing practices to better adapt to climate change and weather-related production risks and impacts, which pose risks to agricultural production both locally and globally.

The focus of this three-year research project will be to evaluate the effectiveness of biodegradable mulches to control temperature, save water, and protect crops from wind, disease and extreme weather. Farmers currently use mulches, but their potential as a means to adapt to climate change impacts is not yet understood.

Biodegradable mulches are versatile, scalable, widely available, affordable, and may be able to address a variety of changing climate conditions by assisting farmers to produce enough food for our future global population.





# OPERATIONS AND INFRASTRUCTURE

As a large, research-intensive university, with considerable land, assets and utilities, we are in the unique position to use our campuses as test beds for sustainability. We are working to enhance the efficiency of our operations, reduce our environmental impact, and recover cost savings, while leveraging our campus infrastructure and the built environment to demonstrate innovative sustainability solutions at the municipal scale.



## ENERGY AND EMISSIONS

As a rapidly growing, research-intensive campus, UBC is working on finding innovative ways to reduce energy and emissions. We are on track towards achieving our ambitious greenhouse gas (GHG) reduction targets and continue to implement our award-winning Climate Action Plan, advancing energy efficiency and emissions reduction strategies across campus to achieve our sustainability goals while realizing cost savings.

### ENHANCING EXISTING AND NEW BUILDINGS

- Continued to roll out our Continuous Optimization program to re-commission over 70 buildings on campus, in partnership with BC Hydro.
- Introduced mandatory energy use targets for all new major campus building projects.
- Launched UBC Sustainability Revolving Fund pilot to provide financing for implementing energy efficiency and other sustainability projects on UBC's Vancouver campus that result in ongoing cost savings.

### GREENING OUR FLEET

- Achieved Canada's first E3 Platinum certification recognizing excellence in sustainable fleet management.

### ADVANCING LOW-CARBON ENERGY SOURCES

- Completed second full year of operation of our Bioenergy Research and Demonstration Facility, generating heat from renewable biomass and electricity from Renewable Natural Gas (RNG), reducing emissions by 11 per cent.
- Completed over half of the Academic District Energy System steam to hot water conversion project, connecting 25 additional buildings to the more efficient district energy system and continuing construction on the new 60 megawatt Campus Energy Centre, which will replace the campus' aging steam plant.
- Received regulatory approval for the Neighborhood District Energy System, which will provide low-carbon thermal energy for UBC's Vancouver campus residential neighborhoods.

**22%**  
REDUCTION IN  
ABSOLUTE GHG  
EMISSIONS SINCE  
2007

**34%**  
REDUCTION IN GHG  
EMISSIONS PER  
STUDENT SINCE  
2007

### TARGET: REDUCE VANCOUVER CAMPUS GHG EMISSIONS

**33% BY 2015**  
**67% BY 2020**  
**100% BY 2050\***

\*RELATIVE TO 2007 LEVELS



### CANADA'S 1ST E3 PLATINUM CERTIFIED FLEET

In 2014, UBC's Building Operations department, which operates the central campus fleet of 240 vehicles, received Canada's first E3 (Energy, Environment, Excellence) Platinum Certification for sustainable fleet management.

Several steps have been taken to better the performance of the fleet, including adopting a green fleet plan, replacing and 'right-sizing' vehicles, training staff, purchasing electric bikes used by trades staff, and integrating alternative fuel infrastructure, including biofuel, electric vehicle charging stations, and a CNG fueling station.

## CAMPUS ENGAGEMENT

Our signature engagement programs enable students, staff, faculty and residents to positively contribute to UBC’s sustainability goals, exemplify sustainable practices and behaviours on campus, and help achieve UBC’s ambitious sustainability plans.

### SUSTAINABILITY IN RESIDENCE

Our fifth annual Aim to Sustain energy and water conservation competition engaged more than 3,100 first year students to find innovative ways to save water and energy in Totem Park and Place Vanier student residences.

The Sustainability in Residence Program continued to engage students through an interactive and peer led monthly sustainability engagement program. The program promotes sustainable lifestyle choices that first year students can easily integrate into their day-to-day lives and support UBC’s high level plans and targets for sustainability engagement, climate action, greenhouse gas emissions reduction, water conservation and zero waste.

### GREEN OFFICES

The Sustainability Coordinator Program for Offices continued to engage a network of 70 staff sustainability champions across campus, providing tools, training and resources to staff to implement sustainable practices in their respective departments. Sustainability Coordinators play a key role in promoting UBC’s sustainability initiatives and take the lead in identifying new sustainable opportunities for their departments and across UBC.

Highlight achievements include the launch of the inaugural Sort It Out Showdown, a campus-wide recycling competition between departments to engage staff on proper waste sorting practices. The Sustainability Coordinator Program also supported the General Services and Administrative Building (GSAB) Garage Sale, held in Summer 2014. Prior to the demolition of the old administrative building, 39 tons of furniture and 887 items were reused and diverted from the landfill, resulting in \$173,000 in cost savings in avoided furniture expenditures.

**\$173,000**  
**IN COST SAVINGS THROUGH  
 GSAB GARAGE SALE**

**21**  
**DEPARTMENTS  
 COMPETED IN  
 INAUGURAL RECYCLING  
 CHALLENGE**

**1,500**  
**PEOPLE REACHED  
 THROUGH SORT IT OUT  
 SHOWDOWN**

### SORT IT OUT SHOWDOWN

In November 2014, UBC hosted the first ever Sort It Out Showdown, a fun recycling competition between departments to support UBC’s Zero Waste Action Plan by engaging and educating staff across campus about recycling best practices. 21 departments formed teams to see who could recycle the most, reaching approximately 1,500 people and diverting 130 lbs of batteries, 8 cages of electronic waste and 380 printer cartridges from the landfill.

The top winning teams were School of Population and Public Health, Department of Medicine, Chan Centre for Performing Arts, with runners up Chemical and Biological Engineering and Development and Alumni Engagement.



**200**

**RESEARCHERS ENGAGED THROUGH SHUT THE SASH**

**6,780**

**KWH ELECTRICITY SAVINGS**

### **GREEN LABS**

UBC's Green Labs program aims to minimize the environmental impact of the UBC's research footprint by promoting innovative solutions that reduce energy, water, and solid and hazardous waste. In 2014, the Green Labs program developed and launched the Green Labs Toolkit, which guides energy conservation, water conservation, solid and hazardous waste management, and green purchasing—specifically designed for labs. The program continues to engage the research community through the delivery of quarterly events, tours and training opportunities, and through the Green Labs Fund, which supports enhancements to lab sustainability initiatives.

In 2014, the Sustainability Coordinator program expanded to labs to provide members of the UBC research community with further opportunities and resources to implement sustainable practices and reduce the environmental impact of research activities. The program currently has 32 Sustainability Coordinators in 24 lab buildings across campus.

### **SHUT THE SASH**

Over 200 researchers from three energy-intensive lab buildings—Earth Sciences, Life Sciences, and Pharmaceutical Sciences—participated in the fourth-annual Shut the Sash competition. Researchers formed 41 teams to compete for the greatest energy savings. The results: 6,780 kWh of electricity savings, 210 GJ of natural gas savings, and a reduction in greenhouse gas emissions by 10.6 tonnes—equivalent to six round-trip flights between Vancouver, BC, and St. John's, Newfoundland. The competition is held in partnership with BC Hydro's Workplace Conservation Awareness Program.

A chef in a white uniform and tall hat is shown in profile, focused on his work in a kitchen. The background is slightly blurred, showing kitchen equipment and lights. The chef's uniform has a small Canadian flag on the collar and a logo on the chest that reads "UBC FOOD SERVICES Chetan Awaghade Catering Chef".

# 54%

**OF FOOD AND BEVERAGES ARE LOCAL  
AND/OR THIRD PARTY CERTIFIED**

## SUSTAINABLE FOOD PURCHASING

UBC Food Services prioritizes planning menus around sustainable products and services and making ethical choices for procuring everything from food, packaging and services.

Procured items that are raised, grown, processed or produced 150 miles from campus are considered local.

Initiatives include the following:

- Fresh seafood is 100% Ocean Wise certified.
- Fresh poultry is free run, Halal certified and locally sourced.
- All whole shell eggs come from free run hens.
- Certified Fair trade and organic coffee and tea served at all non-franchised outlets.
- Take-out packaging is compostable or recyclable.
- Produce is locally-sourced and served in season whenever possible.
- UBC Farm produce incorporated into menus across campus.
- Cooking oil is collected from residence dining rooms and made into biodiesel.

## MATERIALS AND WASTE

UBC currently sends over 3,000 tonnes of operational waste to the landfill each year. We are currently implementing our comprehensive Zero Waste Action Plan which outlines targets and strategies to meet our zero waste goals and new regional waste regulations. We are enhancing waste sorting infrastructure, communications and engagement across campus to increase waste diversion from the landfill and reduce waste generation.

### ENHANCING WASTE DIVERSION

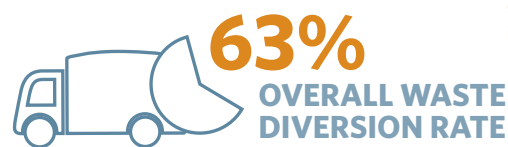
- Finalized infrastructure design and continued installation of multi-stream waste sorting and collection infrastructure in hundreds of buildings across campus.
- Replaced 568 individual garbage cans with 400 new indoor and outdoor recycling stations since 2013. Updated UBC's Technical Guidelines to require multi-stream recycling stations for all new buildings.
- Launched the campus-wide Sort It Out communications and engagement campaign to build awareness and waste diversion knowledge among campus users, including focus on zero waste events.

### WASTE REDUCTION

- Launched Mindful Moveout campaign to enhance waste reduction and diversion efforts in student residences during move out week.
- Reduced hazardous waste generation by 55 per cent compared to 2006 levels through source reduction and recycling programs.

### ADVANCING WASTE RESEARCH OPPORTUNITIES

- Continued to advance waste research both on campus and off campus, including working with Metro Vancouver and other regional collaborators to advance regional waste research priorities.
- Continued operational and academic research collaborations on campus to investigate opportunities to increase waste diversion through enhanced signage and infrastructure in student residences.



### WORKING TO DECREASE CONSTRUCTION WASTE

With the help of a graduate student, UBC implemented a construction waste tracking system for medium-sized construction and renovation projects, where there was no tracking previously. The research, conducted as part of a collaboration with the UBC SEEDS Program, has influenced campus and industry practices.

The new tracking procedures, which were updated into UBC's Technical Guidelines and project requirements, have already resulted in better data collection and greater awareness of waste diversion. Under UBC's green building program requirements and the new tracking system for medium-sized projects, in 2014/15 UBC diverted approximately 94 per cent of construction and demolition waste from the landfill.

## WATER

Approximately three billion litres of potable water are consumed at UBC a year – enough to fill 1,200 Olympic-sized swimming pools – for building operations, research, residential and irrigation purposes. Despite continued campus growth, we have achieved a steady trend in decreased water consumption, due to large scale infrastructure enhancements and upgrades to building water efficiency.



**36%**  
REDUCTION IN  
ABSOLUTE WATER  
USE SINCE 2000

### ADVANCING WATER CONSERVATION

- Continued implementation of our flagship infrastructure project, conversion of the Academic District Energy System from steam to hot water, resulting in over 22 million litres of water savings, which will continue to increase as the project reaches completion in 2016.

### ENHANCING EXISTING AND NEW BUILDINGS

- Upgraded student residences with higher efficiency water fixtures as part of renovations, resulting in substantial water savings.
- Continued to design and build new institutional and residential buildings to higher water efficiency requirements.

### ENHANCING STORMWATER MANAGEMENT

- Installed new stormwater management detention tank under the SUB Plaza to help manage stormwater runoff, part of the implementation of projects under the direction of the Integrated Stormwater Management Plan.
- Continued to actively promote sustainable best practices for stormwater management as well as planning for more natural systems in future development areas.
- Initiated the implementation of the integrated stormwater management plan, which incorporates natural systems approach wherever possible, to address peak flows through a variety of measures including green roofs, cisterns, bioswales and rain gardens.

**56%**  
REDUCTION IN WATER USE PER STUDENT  
SINCE 2000



### WATER AND ENERGY NEXUS

The project converting the Academic District Energy System from steam to hot water illustrates the strong linkage between energy and water. With substantial water savings already, the savings will continue to increase until the project is completed and the legacy systems are decommissioned. At the same time, the conversion project is enabling significant increases in energy efficiency that will contribute to UBC meeting its greenhouse gas emissions reduction targets.

When complete, the project will result in annual water savings of 136 million litres, or 54 Olympic sized swimming pools.

## GREEN BUILDINGS

With nearly 400 institutional and residential buildings on campus, building operations is the largest component of UBC's environmental and carbon footprint. We currently operate the largest portfolio of green buildings at a Canadian university and are working to improve green building design and performance and promote regenerative development.

### ENHANCING GREEN BUILDING DESIGN

- Improved the UBC Sustainability Process to further enhance building design for all new campus developments and help achieve project specific social, economic and environmental sustainability goals.
- Launched an updated version of the Residential Environmental Assessment Program (REAP 3.0), which includes energy use intensity targets and updated green building requirements for all new residential developments.

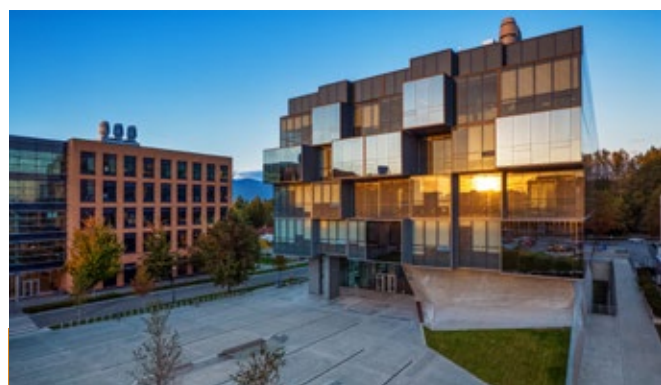
### GREEN BUILDING CERTIFICATIONS

- Achieved two Leadership in Energy & Environmental Design (LEED) Gold certifications for the Bioenergy Research and Demonstration Facility and Earth Sciences Building.
- Achieved four REAP Gold certifications for Academy, Dahlia & Magnolia, Mews and YU multi-unit residential developments.

**25** LEED PROJECTS  
(10 CERTIFIED, 15 REGISTERED)

**30** REAP PROJECTS  
(24 CERTIFIED, 6 REGISTERED)

TARGET:  
**ALL NEW CONSTRUCTION AND  
MAJOR RENOVATIONS MUST  
ACHIEVE LEED OR REAP GOLD**



### SHOWCASING UBC'S GREEN BUILDINGS

UBC provided 145 tours to 2600 people last year showcasing green building designs featured in the Centre for Interactive Research on Sustainability, C.K. Choi, the Bioenergy Research and Demonstration Facility and the Earth Sciences Building. Participants included students, practitioners, and visiting delegates from across campus and around the world.

### GREEN BUILDING AWARDS

UBC's excellence in green building design was recognized with several prestigious national and international awards this past year, including:

- Governor General's Medal in Architecture
- The International Sustainable Campus Network Excellence in Building Award
- Royal Architectural Institute of Canada Green Building Award
- Canadian Green Building Award

## UBC OKANAGAN ACHIEVING SUSTAINABILITY PERFORMANCE

**Aligned with Place and Promise:** The UBC Plan, UBC’s Okanagan campus has established a strong sustainability foundation since its inception. Having more than doubled student enrolment and nearly tripled campus floor space since 2005, the campus has delivered new LEED Gold facilities, a closed-loop aquifer geo-exchange district energy system, and protected and enhanced a thriving ecosystem supported by on-site storm water strategies – measures which have yielded sustainability performance benefits.

### CAMPUS PLANNING

The next phase of the campus’ physical planning and design is defined by The UBC Okanagan Campus Plan, which asserts that “campus growth should be managed through a whole systems (environment, economic and social sustainability) lens to achieve a net-positive impact on the wellbeing of the campus community and ecology.” The UBC Okanagan Whole Systems Infrastructure Plan has been established as companion to the UBC Okanagan Campus Plan to achieve its whole systems vision and goals, against the backdrop of potential future campus growth, climate change and utility rate uncertainty.

The Whole System Infrastructure Plan establishes a roadmap, targets and a 5-Year implementation plan to guide how the campus will achieve its vision, and in doing so, enhance campus sustainability performance across built and natural environments to 2030 and beyond. The Plan will challenge the campus to think differently about future infrastructure investments and long-term financial decisions. The Plan will begin implementation in 2015 based on priority measures identified over the course of the next five years.

### ENERGY AND EMISSIONS

In 2014 UBC’s Okanagan campus achieved a nine per cent decrease in absolute stationary building emissions below the prior reporting year. Continued optimization of its academic facilities and district energy system, supported largely by external funding sources secured by the campus, enabled over \$200,000 in utility cost and carbon offset savings this year.

Over 22 energy conservation measures were implemented across five legacy academic facilities through the UBC Okanagan/FortisBC Building Optimization Program. These measures have saved the campus over \$150,000 in annual utility costs in under a year’s payback. This was complemented by the engagement of building occupants and student residents in a variety of energy conservation behavior change initiatives that garnered the participation of over 1,500 staff, faculty and students, saved energy and increased the use of energy conservation tools from 15 per cent to 53 per cent in one year.





## MATERIALS AND WASTE

Materials and waste management strategies begin with actions to reduce source waste. Reduction of source waste from vendors is key area of interest at UBC's Okanagan campus. While the campus continues to work on improving its waste diversion rate, in 2014, operational waste to landfill per student was reduced to 2007 baseline levels. Early implementation of recommendations from the 2014 biannual waste audit focused on waste reduction and improved recycling compliance. The addition of solar powered waste and recycling compactors in the campus core in 2014 were coupled with educational initiatives to improve recycling compliance across the campus.

## WATER

UBC's Okanagan campus is located in the driest biogeoclimatic forested zone in British Columbia. With a mean annual precipitation of 298 mm, the campus continued to focus efforts on water management over the past year.

The replacement of water fixtures for greater efficiency is routinely performed at end of life or when renovations are required. A three year irrigation project currently underway will achieve significant improvements in irrigation distribution and maintenance efficiencies, water conservation and cost savings. Over the past year, the campus continued to incorporate native drought tolerant plants in its landscaping projects. The continued management of storm water on-site supports the infiltration of runoff and campus wetlands, which supports the campus' ecosystems and biodiversity.

## THE POWER OF YOU

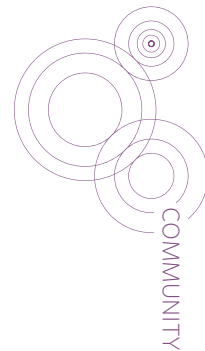
Promoting and supporting behaviours that impact energy use can have as much or greater impact on energy savings than implementing physical retrofits alone. Founded on community based social marketing principles, the campus' Power of You energy conservation behaviour change program in partnership with FortisBC, continued to provide education to staff, faculty and students with an aim to foster, promote, and assess the impact of voluntary actions to conserve energy and emissions. Volunteer teams were trained and deployed to lead various initiatives across the campus, helping to promote the ability of individual actions to generate collective impact. Reported use of energy conservation tools increased from 16 per cent to 53 per cent. The program will be revised and scaled-up to support recommendations of The UBC Okanagan Whole Systems Infrastructure Plan in 2015.

The campus continues to support student engagement in sustainability projects and initiatives that have benefited student learning and administrative units including Campus Planning and Development, Campus Operations and Risk Management. Examples of projects undertaken by engineering students in 2014 include a campus district energy system and plant operational study, an electrical energy and sustainability study, and a sustainable community infrastructure project. These studies have contributed to baseline information analysis necessary for the development of The UBC Okanagan Whole Systems Infrastructure Plan.

A photograph of a modern building with a glass facade and a wooden overhang. In the foreground, several people are sitting at outdoor tables under a large red umbrella. The sun is low in the sky, creating a bright lens flare effect. The building's facade is made of vertical wooden slats and glass panels. The overall scene is bright and sunny, suggesting a pleasant outdoor environment.

# COMMUNITY

Our goal is to create a model of a vibrant, complete, sustainable community at an urban neighbourhood scale, where people can live, work and learn together. To support this goal, we are providing diverse housing options, promoting and enabling sustainable transportation choices, developing and delivering community programs, and advancing policy and planning work to enhance both social and environmental wellbeing.



## COMMUNITY DEVELOPMENT

UBC is home to a residential community of some 20,000 students, faculty, staff and residents who live, work and learn together. To support the creation of a vibrant, healthy and thriving community, we are developing and delivering community programs, advancing policy and planning work to support a complete campus community, and leveraging public space, campus landscape and infrastructure investments with cultural, artistic and social assets to create extraordinary campus experiences.

### ENHANCING COMMUNITY PROGRAMMING

- Expanded UTown@UBC Community Grant program to enable 29 community projects led by residents that support community capacity-building, social vibrancy, connectedness and wellbeing on campus.
- Continued to collaborate with the University Neighborhoods Association and numerous departments on campus to facilitate high-quality community programming, including programs related to promoting health and wellness, arts and culture, and sustainability.
- Provided 1250 residents with a UTown@UBC Community Services Card, connecting residents with discounted access to many of UBC's world-class cultural and recreational amenities.
- Connected residents living on campus with free weekly bike repair clinics in student residences and residential neighbourhoods in a new collaboration with The Bike Kitchen.

### LEVERAGING PUBLIC SPACES

- Launched 8 new Community Development programs and events that leverage UBC's public realm investments in order to provide extraordinary campus experiences and animate and invigorate public outdoor spaces on campus.
- Integrated a number of projects to enhance the Public Realm, including new outdoor site furnishings, catered events on the plaza, and interactive arts projects in collaboration with the SEEDS Program.

**750** COMMUNITY MEMBERS  
ATTENDED INAUGURAL  
HARVEST FEAST

**8**  
NEW COMMUNITY DEVELOPMENT  
PROGRAMS AND EVENTS

**29** UTOWN@UBC COMMUNITY  
GRANTS FUNDED



### HARVEST FEAST BUILDS COMMUNITY

UBC hosted the inaugural Harvest Feast on Main Mall in 2014, bringing together 750 students, staff, faculty and other residents for a community feast of epic proportions. Jointly prepared by chefs at UBC Food Services and AMS Conferences and Catering, the meal featured fresh, local and sustainably sourced ingredients and was served family style to encourage guests to mix, mingle and make new friends.

Part of the Ripple Effect campaign which showcases sustainability in action on campus, Harvest Feast was a sold-out event, and aimed to build community, celebrate social sustainability, and create connections over a shared meal.



*“Working with Eliana was an incredibly beneficial, and enjoyable, experience. Her findings have already helped inform additional efforts in this area, and I find myself referring other external partners interested in this topic to her report for their reference.”*

- City of Vancouver staff mentor

**18**  
GREENEST CITY  
INTERNSHIPS  
IN 2014/2015

**59**  
GREENEST CITY  
INTERNSHIPS OVER  
5 YEARS

**100%**  
OF 2014 GREENEST  
CITY SCHOLARS FELT  
THEY RECEIVED HIGH  
VALUE FROM THE  
PROGRAM

## HIGHLIGHT APPLIED WORK EXPERIENCE

Through our Greenest City Scholars Program we sponsor graduate students to work on sustainability projects that help advance the City of Vancouver’s Greenest City Action Plan. Open to graduate students from all academic disciplines, the program provides applied work experience and helps transfer knowledge into the community.

### BUILDING NEIGHBOURHOOD SOCIAL RESILIENCE

Past disastrous events, such as the Indian Ocean tsunami in Southeast Asia and Hurricane Sandy in New York, have highlighted that neighbours are a significant source of help during recovery. As a Greenest City Scholar, Eliana Chia, a graduate student in the School of Community and Regional Planning, recently worked with the City of Vancouver to explore ways to strengthen neighbourhood-level relationships and increase community resilience through emergency preparedness, and response and recovery.

The Greenest City Scholars program allows UBC to be an agent of change in the broader community. The program has graduate students working on sustainability projects that help advance the City of Vancouver’s Greenest City Action Plan. Open to graduate students from all academic disciplines, the program provides applied work experience and helps transfer knowledge into the community.

Chia’s project responds to previous research about social isolation completed by the Vancouver Foundation, and to policy directions from the Greenest City 2020 Action Plan, the Mayor’s Engaged City Task Force, and the Healthy City Strategy.

Chia’s project targets the Greenest City Action Plan goal of climate leadership. Building neighbourhood social resilience is one of the key strategies used to prepare for intense weather events, so Chia reviewed urban neighbourhood resilience best practices, conducted a summary inventory of related City of Vancouver initiatives, and undertook a pilot study that involved hosting a neighbourhood social gathering for two rental apartment buildings.

Based on findings from her project, Chia developed recommendations for short- and long-term actions that the City of Vancouver could take to build neighbourhood social resilience. Ultimately, her work will contribute to larger city initiatives, including the work of the Engaged City Task Force and the Healthy City Strategy, in reducing social isolation and strengthening social connections between residents.

## HOUSING AND AMENITIES

UBC is building a vibrant community by providing campus housing options to students, faculty, staff and residents, and by developing recreation facilities, community centres, parks, open spaces, and child care within our neighbourhoods and academic lands. We are committed to increasing housing choice and growing campus amenities, driven by UBC’s vision to be a world-class community of scholars with beautiful, functional, and sustainable campuses.

### IMPROVING HOUSING AVAILABILITY AND AFFORDABILITY

- Continued construction on Phase 2 of Ponderosa Commons, which will add 513 student beds, retail services, student facilities and academic space, expected to be complete in late 2015.
- Began construction on Orchard Commons, the second of five planned mixed use Commons, which will add more than 1,000 student beds, academic and office space, childcare spaces, and other amenities.
- Completed Nobel House, a new 94-unit faculty-staff rental housing project in Wesbrook Place.

### PROVIDING HIGH QUALITY AMENITIES

- Started development on the new Aquatic Centre, which will be one of the few facilities in Canada to have a high performance and recreational pool under one roof.
- Continued construction of Wesbrook Place Community Centre, which will offer 22,000 square feet of community recreation space, expected to be complete in fall 2015.

### ENHANCING THE PUBLIC REALM

- Continued to implement the Public Realm Plan, including capital investments to animate, invigorate and bring life to campus, enhance educational experiences and sustainability, and instill a strong sense of place.
- Received the Canadian Society of Landscape Architects Award of Excellence for the pedestrianization of the campus public realm.

**9,989** TOTAL STUDENT BEDS  
(30% OF 2010 FULL TIME STUDENTS)

**1,561** NEW STUDENT BEDS UNDER CONSTRUCTION

ASPIRATIONAL TARGET: PROVIDE CAPACITY TO HOUSE UP TO 50% OF 2010 FULL TIME STUDENTS



### ORCHARD COMMONS

Orchard Commons is the second of five multi-purpose hubs to be built at UBC. It creates a space where students can live, study, socialize and access services to meet their daily needs – allowing the campus community to come together year-round and enhancing the overall student experience. In addition to growing social sustainability and student wellbeing on campus, Orchard Commons is targeting LEED Gold certification and was one of the first projects to apply to the UBC Sustainability Process for enhancing green building design. The building will also be the physical home for the UBC Vantage College Program, and will include academic and administration space as well as student residences.



# TRANSPORTATION

UBC is dedicated to promoting safe, sustainable, and active transportation options for the university community. Since 1997, UBC has been working to reduce automobile trips to and from campus and enable sustainable modes of transportation. Our goal is to plan, design and build for a safe and accessible walking, cycling and transit-oriented community.

## IMPROVING INFRASTRUCTURE AND ACCESS


- Opened new secure bike parking facility at the Engineering Design Centre, increasing the number of free secure bike parking facilities across campus to 11.
- Continued work with key partners on the future planning of a rapid transit connection along the Broadway corridor to UBC.
- Provided an average of 91 per cent of all eligible students with a universal transit pass.
- Powered electric vehicles through 18 electric vehicle charging stations, available free of charge to the campus community.

## PROMOTING SUSTAINABLE TRANSPORTATION OPTIONS

- Launched Safe + Sustainable Transportation Month in May with activities and events promoting walking and cycling on campus.
- Won top honours for “large employer 1,000+” and “educational institution” during regional Bike to Work Week competition for the fifth consecutive year.
- Expanded the Walk n’ Roll to School Program to include both University Hill and Norma Rose Point Elementary Schools.

## ADVANCING TRANSPORTATION PLANNING

- Finalized The UBC Transportation Plan for UBC’s Vancouver Campus and began implementation of a number of policies.
- Began planning work for a new transit exchange at UBC’s Okanagan campus to accommodate future campus growth and expand transit capacity.

**66%**   
**OF TRIPS TO/FROM CAMPUS USE SUSTAINABLE MODES OF TRANSPORT**

**SINCE 1997:**


**4%** **DECREASE IN SOV TRIPS DESPITE 55% INCREASE IN CAMPUS POPULATION**

**290%** **INCREASE IN TRANSIT TRIPS**



## WALK 'N ROLL TO SCHOOL PROGRAM

UBC’s Vancouver campus has a growing community with two elementary schools and one high school. It was observed that very few children were walking or biking to school and instead were being driven. To encourage families to choose safe, active and sustainable transportation options, the Walk ‘n Roll to School program was initiated in collaboration with the University Neighbourhoods Association. The program has grown every year, with over 1,000 trips to school logged during the last Walk ‘n Roll to School Celebration Week. As a result of its success, the community has continued to support the program throughout the whole school year.



## HIGHLIGHT COMMUNITY ENGAGEMENT

### SUSTAINABLE COMMUNITIES FIELD SCHOOL

With entrepreneurial resources and human capital, it is local independent businesses and private organizations that will help drive regional and global shifts towards a greener economy. With this in mind, Dr. Tara Moreau, associate director of Sustainability and Community Programs at the UBC Botanical Gardens, launched the Sustainable Communities Field School, a program aimed at transforming the perspectives of individuals outside of traditional sustainability fields. Dr. Jiaying Zhao, who holds the Canada Research Chair in Behavioural Sustainability, and the Society Promoting Environmental Conservation collaborate on the program.

The Sustainable Communities Field School is designed to capture the attention of local business owners that shape the economic landscape of a community. “We wanted to come up with a way to reach the unconverted—individuals who haven’t integrated sustainability into their work or lives,” explains Moreau. To accomplish this, the field school creatively integrates corporate teambuilding activities within a stimulating sustainability, biodiversity and conservation curriculum.

Operating out of the expansive UBC Botanical Gardens, the field school’s half-day retreats inspire sustainability leadership and harness the productive capacity of companies to advance sustainability among their networks.

This program’s unique ability to affect an individual’s actions and its emphasis on enhancing sustainability through the entrepreneurial spirit of the local economy were major drivers that attracted UBC arts alumnus Patricia Wales, whose generous donation of \$250,000 made the Sustainable Communities Field School possible.

## HIGHLIGHT COMMUNITY ENGAGEMENT

### PERCEPTIONS OF SUSTAINABILITY

The new UBC Sustainability Scholars program allows graduate students to work on projects that advance the sustainability goals of partner communities. Open to graduate students from all academic disciplines, the program expands on the Greenest City Scholars program and provides work experience with a variety of organizations and helps transfer knowledge between the scholar and the partner community.

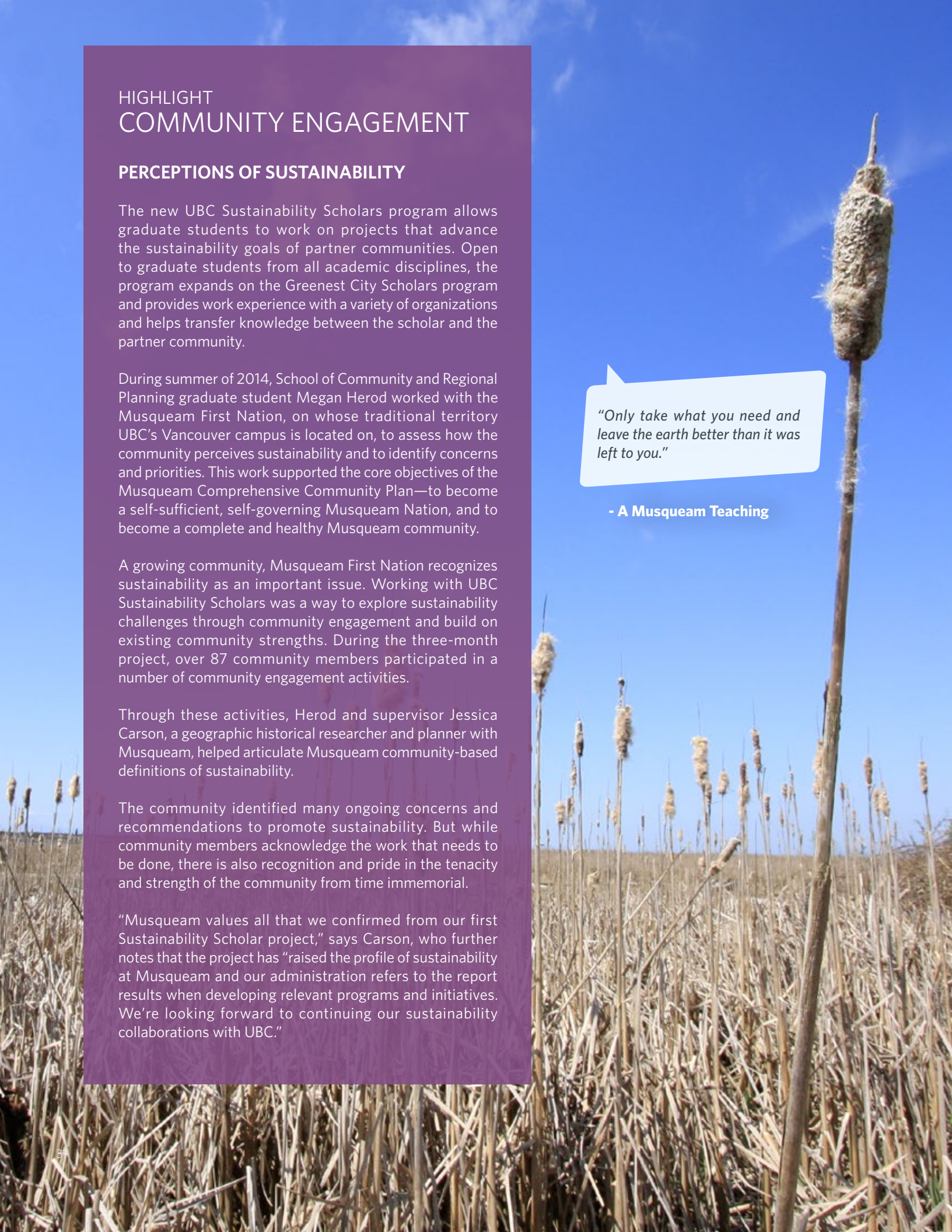
During summer of 2014, School of Community and Regional Planning graduate student Megan Herod worked with the Musqueam First Nation, on whose traditional territory UBC's Vancouver campus is located on, to assess how the community perceives sustainability and to identify concerns and priorities. This work supported the core objectives of the Musqueam Comprehensive Community Plan—to become a self-sufficient, self-governing Musqueam Nation, and to become a complete and healthy Musqueam community.

A growing community, Musqueam First Nation recognizes sustainability as an important issue. Working with UBC Sustainability Scholars was a way to explore sustainability challenges through community engagement and build on existing community strengths. During the three-month project, over 87 community members participated in a number of community engagement activities.

Through these activities, Herod and supervisor Jessica Carson, a geographic historical researcher and planner with Musqueam, helped articulate Musqueam community-based definitions of sustainability.

The community identified many ongoing concerns and recommendations to promote sustainability. But while community members acknowledge the work that needs to be done, there is also recognition and pride in the tenacity and strength of the community from time immemorial.

"Musqueam values all that we confirmed from our first Sustainability Scholar project," says Carson, who further notes that the project has "raised the profile of sustainability at Musqueam and our administration refers to the report results when developing relevant programs and initiatives. We're looking forward to continuing our sustainability collaborations with UBC."



*"Only take what you need and leave the earth better than it was left to you."*

**- A Musqueam Teaching**





## HIGHLIGHT WELLBEING AT UBC

### CONVERSATIONS IN WELLBEING

Ask Stephanie Aitken what wellbeing means to her and she'll tell you it's like a garden—which makes it the perfect metaphor for her continued involvement in wellbeing work at UBC. "It's never finished," says Aitken. "A garden is always growing and it's always changing, and you're never going to feel like, 'Okay, I'm done!'"

Aitken, a graduate student in Landscape Architecture and a Sustainability Scholar with Wellbeing at UBC, has significant experience focusing on campus wellbeing. She created a health and wellness representative position on her program's student council after struggling with health issues. "I got quite ill in my first year in Landscape Architecture," Aitken reveals. "I felt like there wasn't really a lot of support for students who were maybe having a bit of a tough time." She organized events and activities, including yoga classes, Wednesday afternoon walks, and wellness days. In spite of these successes, she felt there needed to be more University-wide policies directly targeting wellbeing.

This experience was what inspired Aitken to apply to the Sustainability Scholar Program with Wellbeing at UBC, a university-wide strategic effort launched in 2014 to facilitate the process of building happier, healthier and more sustainable campus communities in Vancouver and the Okanagan. Under the mentorship of Matt Dolf, Director of Wellbeing Initiatives with Wellbeing at UBC, she and a fellow scholar, Jenna Dunsby, created a strategy to engage more staff, faculty, residents and community members in conversations about wellbeing. And the impact was not unnoticed, Dolf observes. "The Sustainability Scholar program has provided a vehicle for passionate and talented grad students like Stephanie to create meaningful change at UBC. She did this by creating mechanisms for students to engage in an empowering conversation about creating a campus setting which promotes health, wellbeing, and social sustainability."

Throughout this experience, Aitken found that students were eager to participate in the Wellbeing Initiative, and that while UBC provides plenty of supportive resources, students find it difficult to access and navigate those resources. "I'm constantly learning how different groups of people on campus are impacted or will be impacted by a university trying to promote wellbeing," she adds.

Aitken is currently working on her thesis, which examines the relationship between human beings and their natural environment.

### HIGHLIGHTS FROM THRIVE 2014

Thrive is a mindset and a week-long series of events focused on building positive mental health for everyone at UBC

# 66%

**OF THRIVE PARTICIPANTS ARE MAKING AT LEAST SOME CHANGES TO THEIR DAILY LIFE AFTER ATTENDING A THRIVE EVENT**

# 85%

**MET OR CONNECTED WITH SOMEONE NEW AT THE THRIVE EVENT THEY ATTENDED**

# 2015/16 KEY PRIORITIES

The following are highlights of our 2015/2016 fiscal year priorities. We will continue to implement our strategies and plans in order to meet our targets.

## TEACHING, LEARNING AND RESEARCH

- Identify additional opportunities for strategic and targeted sustainability research support by using an updated UBC sustainability researcher inventory and analysis of funding and partnership opportunities.
- Continue diversifying and formalizing SEEDS Sustainability Program experiential learning opportunities and partnerships with faculties, schools and operational departments across campus and engage students, staff, and faculty in applied campus sustainability research projects.
- Enhance the development and implementation of Sustainability Learning Pathways, by enabling sustainability grant and awards programs to faculty members.
- Deliver programming that supports student sustainability involvement and leadership, through events, educational workshops and outreach activities, and provision of sustainability-related support and resources.
- Support students by providing opportunities for professional and career development, including graduate student internships and the Sustainability Challenge through which students work in teams to come up with innovative solutions to help advance campus sustainability goals.

## OPERATIONS AND INFRASTRUCTURE

- Update the original Vancouver Campus Climate Action Plan, creating a Climate Action Plan 2020 that focuses on developing actions with positive financial business cases to advance toward the 2020 GHG reduction target of reducing emissions 67 per cent below 2007 levels.
- Develop a comprehensive Green Building Plan which will outline a cogent roadmap toward net-positive design and embody key campus initiatives and priorities around regenerative design and integration of campus scale energy, water, waste and food-systems linked to quality of life for students, staff, faculty and the campus community.
- Complete the UBC Okanagan Whole Systems Infrastructure Plan and begin implementation.
- Develop an Integrated Storm Water Management Plan at UBC's Okanagan campus that will provide detailed designs to support the implementation of the Whole Systems Infrastructure Plan.
- Complete the development of new Water Conservation Action Plan to enhance water conservation and efficiency for UBC's Vancouver campus.
- Initiate the formulation of a Campus Forest Management Plan for UBC Vancouver to better protect, enhance and manage one of UBC's key natural assets in the context of continued growth and development.

## COMMUNITY

- Initiate a Strategic Collaboration Memorandum of Understanding with Metro Vancouver as a formal platform for facilitating strategic collaboration in the areas of Research and Innovation, Operations and Infrastructure and Regional Prosperity.
- Enhance Community Development initiatives through ongoing delivery of community programs and policies to support a complete campus community.
- Complete construction on 513 student housing beds and academic space in Ponderosa Commons. Near completion on 1,048 student housing beds and Vantage College space in Orchard Commons.
- Finalize the Wesbrook Place Community Centre and continue the Aquatic Centre, offering important amenities to campus residents, students, staff and faculty.
- Review the 2009 Child Care Expansion Plan and update child care demand projections based on child care needs in neighbourhoods and academic lands.

## COMMUNICATIONS AND ENGAGEMENT

- Build on existing Healthy City Partnership with the City of Kelowna to scope further sustainability-related partnership opportunities between the City of Kelowna and UBC's Okanagan Campus
- Develop a proposal to host the 2017 International Sustainable Campus Network conference, a global forum of leading colleges, universities, and corporate campuses advancing operational sustainability and integrating sustainability in research and teaching.
- Renew campus rating and complete submission for the Sustainability Tracking Assessment and Rating System (STARS), a comprehensive sustainability external benchmarking system administered by the Association for the Advancement of Sustainability in Higher Education (AASHE).
- Formalize UBC's participation in the University Alliance for Sustainability in partnership with the Freie Universität Berlin, aimed at collaboration in research, teaching, and campus management.
- Develop a roadmap for implementation of the 20-year Sustainability Strategy, by engaging key stakeholders, identifying gaps and opportunities, action items, and metrics.
- Scale-up existing energy conservation behavior change program at UBC's Okanagan campus.
- Support Wellbeing at UBC and the development of an International Charter for Health Promoting Universities and Colleges, engaging participants from 45 countries, the World Health Organization (WHO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

# PERFORMANCE DATA

| METRICS <sup>1</sup>  | VANCOUVER CAMPUS                 |                             |           | OKANAGAN CAMPUS                                     |       |                   |
|---|----------------------------------|-----------------------------|-----------|---|-------|-------------------|
|   | 2014/2015                        | TREND                       | BASELINE  | 2014/2015   | TREND | BASELINE          |
| <b>CONTEXT</b>  |                                  |                             |           |   |       |                   |
| Staff and Faculty Employees (FTE)   | 12,398                           | -1%                         | 2007      | 1,016   | +61%  | 2007              |
| Student Enrolment (FTE)   | 44,388                           | +18%                        | 2007      | 7,282   | +78%  | 2007              |
| Institutional Floor Space (m <sup>2</sup> )   | 1,429,847                        | +11%                        | 2007      | 135,957   | +89%  | 2007              |
| <b>TEACHING, LEARNING AND RESEARCH</b>  |                                  |                             |           |   |       |                   |
| SEEDS <sup>2</sup> Participants (# of students, faculty, staff)   | 768                              | N/A                         |           | 66 students participated in sustainability projects |       |                   |
| SEEDS Projects (#)  | 100                              | N/A                         |           |   | N/A   |                   |
| SEEDS Research Reports (#)  | 154                              | N/A                         |           |   | N/A   |                   |
| Faculty Engaged in Sustainability Research (#, % of all faculty)  | 448 (21.4)                       | +14.5%                      | 2011/2012 |   | N/A   |                   |
| Total Sustainability Courses (#)  | 636                              | +25%                        | 2013/2014 | 124   | N/A   |                   |
| Greenest City Scholars (# of internships with City of Vancouver)  | 18                               | +64%                        | 2013/2014 |   | N/A   |                   |
| <b>OPERATIONS AND INFRASTRUCTURE</b>  |                                  |                             |           |   |       |                   |
| Absolute Offsettable GHG Emissions (tCO <sub>2</sub> e)<br>Target: 33% reduction from 2007 levels by 2015; 67% by 2020.   | 47,814                           | -22%                        | 2007      | 3,123   | +43%  | 2007 <sup>3</sup> |
| GHG Emissions per Student (tCO <sub>2</sub> e/student FTE)  | 1.08                             | -34%                        | 2007      | 0.43  | -20%  | 2007              |
| GHG Emissions per Floorspace (tCO <sub>2</sub> e/m <sup>2</sup> )   | 0.033                            | -30%                        | 2007      | 0.02  | -24%  |                   |
| <b>Campus Energy Sources by GJ (%)</b>  |                                  |                             |           |   |       |                   |
| Natural gas   | 48%                              | -19%                        | 2007      | 34%   |       |                   |
| Electricity   | 41%                              |                             |           | 66%   |       |                   |
| Biomass (Vancouver) / Propane (Okanagan)  | 8%                               |                             | N/A       | 0.05%   |       | N/A               |
| Renewable Natural Gas   | 3%                               |                             |           |   |       |                   |
| Absolute Energy Use (GJ)  | 1,835,632                        | +7%                         | 2007      | 155,945   | +97%  | 2007              |
| Energy Use Intensity (GJ/m <sup>2</sup> )   | 1.28                             | -4%                         | 2007      | 1.15  | +4%   | 2007              |
| Absolute Water Use (m <sup>3</sup> )  | 3,016,827                        | -36%                        | 2000      | 152,275   | +29%  | 2007              |
| Water Use Intensity (m <sup>3</sup> /student FTE)   | 68                               | -56%                        | 2000      | 21  | -28%  | 2007              |
| Overall Waste Diversion Rate (%)<br>Target: Increase overall waste diversion rate to 70% by 2016 and 80% by 2020  | 63                               | +2%                         | 2010      | 25  | +3%   | 2010              |
| Operational Waste Disposed (tonnes)<br>Target: Achieve a decreasing trend in operational waste disposed to landfill/incineration despite forecasted campus growth | 3,562 tonnes                     | +14%                        | 2010      | 835   | +18%  | 2010              |
| LEED <sup>4</sup> Projects (# of certified and registered building projects)  | 25 (10 certified, 15 registered) | +2 LEED Gold certifications |           | 1 certified   |       |                   |
| REAP <sup>5</sup> Projects (# of certified and registered building projects)<br>Target: All new construction and major renovations must achieve LEED or REAP Gold | 30 (24 certified, 6 registered)  | +4 REAP Gold certifications |           | 1 certified   | N/A   |                   |

| METRICS <sup>1</sup>   | VANCOUVER CAMPUS         |   |           | OKANAGAN CAMPUS                                   |                                   |          |
|--|--------------------------|---|-----------|---|-----------------------------------|----------|
|  | 2014/2015                | TREND   | BASELINE  | 2014/2015   | TREND                             | BASELINE |
| <b>COMMUNITY AND ENGAGEMENT</b>  |                          |   |           |   |                                   |          |
| <b>Transportation Mode Share / Person Trips</b>  |                          |   |           |   |                                   |          |
| % of trips to/from campus by transit, carpool, cycling & walking                       | 66                       | -4% in SOV person trips                                 | 1997      | 51  | +28% in SOV person trips          | 2009     |
| % of trips to/from campus by transit   | 55                       | +290% in transit person trips                           | 1997      | 32  | +9% in transit person trips       | 2009     |
| <b>Student Beds (# of beds, % of 2010 full time students)</b>                          |                          |   |           |   |                                   |          |
| Aspirational Target: Provide capacity to house up to 50% of full time students in 2010 | 9,989 (30%)              | +6%   | 2013/2014 | 1,676   | 0                                 | 2012     |
| <b>Faculty and Staff Housing (total units)</b>   |                          |   |           |   |                                   |          |
|  | 593                      | No new units in 2013/14. 94 new units will open in 2015 | N/A       | N/A   | N/A                               | N/A      |
| <b>Child care (# of UBC-run child care spaces)</b>                                     |                          |   |           |   |                                   |          |
|  | 574                      | No new UBC-run spaces in 2014/15.                       | N/A       | 36  | No new UBC-run spaces in 2014/15. | N/A      |
| <b>STARS<sup>6</sup> Rating</b>  |                          |   |           |   |                                   |          |
|  | Gold                     |   |           |   |                                   |          |
| <b>Sustainability Coordinators Program (# of coordinators, Vancouver Campus)</b>       |                          |   |           |   |                                   |          |
|  | 70 in offices            | N/A   |           | 23  | N/A                               |          |
| <b>Power of You Program (# of volunteers, Okanagan Campus)</b>                         |                          |   |           |   |                                   |          |
|  | 34 in labs               |   |           |   |                                   |          |
| <b>Sustainability in Residence Program (#)</b>   |                          |   |           |   |                                   |          |
|  | 3,100                    | N/A   |           | 200   | N/A                               |          |
| <b>Sustainability Tours</b>  |                          |   |           |   |                                   |          |
| # of tours conducted   | 145 Green Building Tours |   |           | 4 Sustainability Walking Tours + 1 Geo (DES) Tour |                                   |          |
| # of participants  | 2,600                    |   |           | 27  |                                   |          |
| <b>Digital Engagement</b>  |                          |   |           |   |                                   |          |
| # of Pageviews on sustain.ubc.ca / sustain.ok.ubc.ca                                   | 171,541                  | N/A   |           | 7,500   |                                   |          |
| # of Facebook Likes (both campuses)  | 1,397                    |   |           |   |                                   |          |
| # of Twitter Followers (both campuses)   | 8,403                    |   |           |   |                                   |          |
| Newsletter Subscribers (both campuses)   | 540                      |   |           |   |                                   |          |

<sup>1</sup>Targets apply for Vancouver Campus.

<sup>2</sup> Social Ecological Economic Development Studies (SEEDS) Program.

<sup>3</sup> 2007 baseline includes buildings' emissions only. 2014 data represents emissions from all in-scope sources (buildings, fleet, paper, fugitive emissions) and accounts for an 89% increase in floor space and 78% increase in student enrolment since 2007.

<sup>4</sup> Leadership in Energy and Environmental Design (LEED).

<sup>5</sup> Residential Environmental Assessment Program (REAP).

<sup>6</sup> Sustainability Tracking Assessment & Rating System (STARS).

## PHOTO CREDITS

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Page 10: Students during applied learning field trip. Photo by Justin Lee.

Page 11: Social entrepreneurs at work in the Sauder School of Business Coast Capital Saving Innovation Hub. Photo by Brian Howell.

Page 12: Interior shot of the Agora in the new student union building, the Nest. Photo by John Sherlock.

Page 13: A student from UBC's Okanagan Campus. Photo by Martin Dee.

Page 14: UBC Farm. Photo by Shannon Lambie.

Page 15: UBC Building Operations staff person replacing lights. Photo by Martin Dee.

Page 16: UBC's fleet of electric vehicles. Photo by UBC Communications and Marketing.

Page 19: UBC Food Services catering staff preparing a meal. Photo by Martin Dee.

Page 20: UBC's sustainable garbage truck. Photo by Martin Dee.

Page 21: Building Operations staff inspecting water supply system. Photo by Martin Dee.

Page 22: Award winning Faculty of Pharmaceutical Sciences building. Photo by Hover Collective.

Page 24: Aerial shot of UBC's Okanagan Campus. Photo by Hover Collective.

Page 25: Mercante Pizza at the Ponderosa Commons, UBC's first mixed use student housing commons based on a concept of a vibrant, residential hub. Photo by Don Erhardt.

Page 26: The first inaugural Harvest Feast, a community feast held on UBC's Main Mall. Photo by UBC Communications and Marketing.

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