Environmental Sustainability Strategy

UNIVERSITY OF WATERLOO

2017-2025

RELEASED NOVEMBER 2017

UNIVERSITY OF WATERLOO

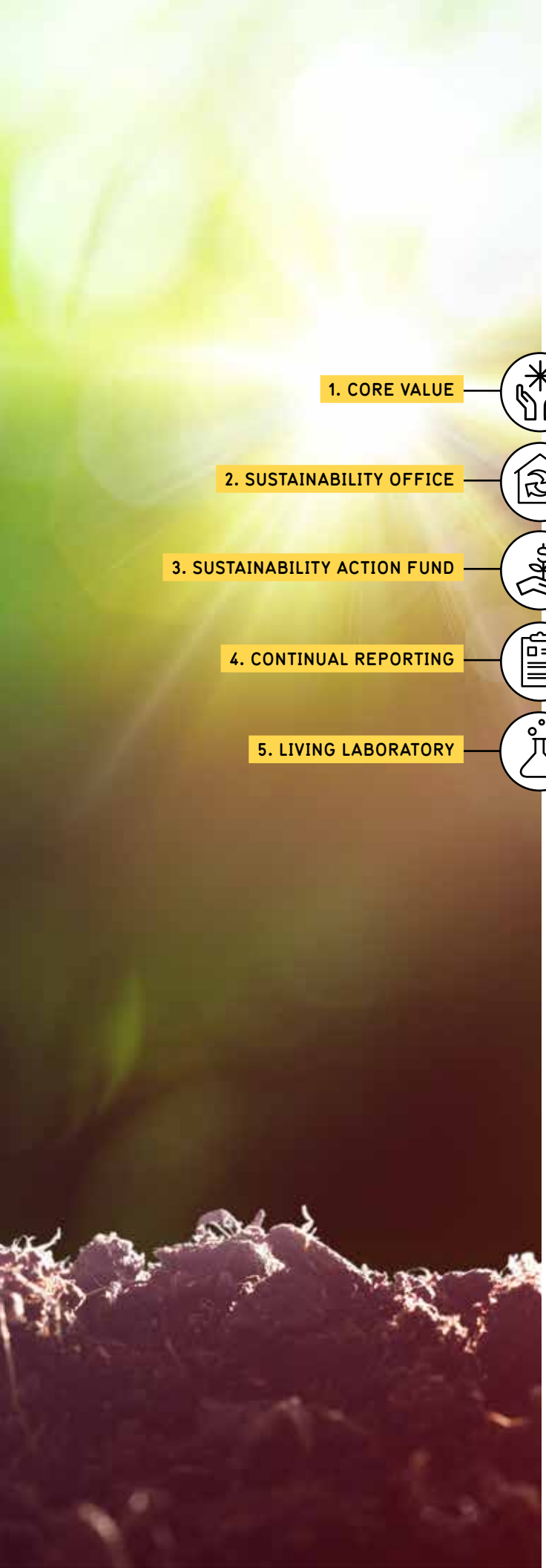


Table of Contents

DEFINITIONS 2

INTRODUCTION

President's Message 3
The Need for Action in a Changing World 4
Supporting Existing Directions 4
Development of this Strategy 5
Strategy Overview 6

GOVERNANCE AND ADMINISTRATION

Benchmarking 8
Foundational Actions 8
1. Core Value 8
2. Sustainability Office 8
3. Sustainability Action Fund 9
4. Continual Reporting 9
5. Living Laboratory 9

ACADEMICS:

Be a Leader in Sustainability 10
Education and Research 10
Teaching and Learning 12
Research 13

OPERATIONS:

Operate the Campus Sustainably 14
Climate Change 16
Energy 16
Waste 17
Water 17
Transportation 18
Grounds 19
Food 20
Procurement 21

ENGAGEMENT:

Embed Sustainability Practices into Campus Culture 22
Communication 24
Student Engagement 24
Employee Engagement 25
Community 25

SUMMARY OF GOALS AND OBJECTIVES 26

ADVISORY COMMITTEE 29

President's Advisory Committee on Environmental Sustainability 29
Academics Working Group 29
Operations Working Group 30
Engagement Working Group 30

APPENDIX A — POLICY ALIGNMENT 31

Acknowledgement

The University of Waterloo acknowledges that we are on the traditional territory of the Neutral, Anishnawbe and Haudenosaunee peoples. The University of Waterloo is situated on the Haldimand Tract, the land promised to the Six Nations that includes six miles on each side of the Grand River.

DEFINITIONS

Sustainability By definition, sustainability means maintaining the integrated health of the environment, society, and economy for today and into the future.

Environmental sustainability As one facet of sustainability, environmental sustainability refers to strategies and activities that minimize adverse environmental impacts, enhance and protect the natural environment, and meet the needs of students, employees, alumni, the communities in which Waterloo operates, and other relevant stakeholders.

Campus community Refers to students, staff faculty, administration, and visitors of the University of Waterloo.

INTRODUCTION

President's Message

Waterloo's Environmental Sustainability strategy is the result of hard work from the President's Advisory Committee on Environmental Sustainability, its three working groups and feedback from hundreds of stakeholders across the University.

This work also reflects the growing determination of our campus community to develop innovative solutions to pressing global challenges.

This strategy is built around three mutually reinforcing and interdependent goals: to be a leader in sustainability education and research, to operate the campus sustainably, and to embed sustainability practices into campus culture.

These are broad, bold goals and Waterloo is in a strong position to achieve them. After all, Waterloo is Canada's most innovative university — with a history of leading in environmental education and embracing interdisciplinary research across all six Faculties.

The strategy outlines more detailed objectives across the many sustainability areas that are significant for an academic institution. These include teaching, research, climate change, waste management, transportation and more.

To achieve these goals, Waterloo will strengthen the position of the Sustainability Office within the University, establish a Sustainability Action Fund, report regularly and continually share our progress. We will reinvigorate efforts linking academic expertise to operational objectives to make our University a living laboratory. And, crucially, Waterloo will reinforce sustainability as a core value shared by the campus.

To that end, all of us have a role to play in taking action and making this ambitious plan a success. I encourage you to join these efforts in the classroom, in the office, in residences, in laboratories and even at home. Whether it is through simple everyday actions or departmental initiatives, your efforts are critical.

Thank you for taking time to read the strategy and for your continued support.

I look forward to working with you.

Sincerely,

FERIDUN HAMDULLAHPUR
PRESIDENT AND VICE-CHANCELLOR
UNIVERSITY OF WATERLOO

The Need for Action in a Changing World

The world faces a long list of environmental challenges, but the transition to a sustainable future is accelerating.

There is an increasing understanding and acknowledgement of the incremental and interactive effects of environmental change across multiple scales. Policymakers, corporations, and civil society recognize a growing host of environmental sustainability challenges that will pose large risks to future and current generations.

Momentum, however, is building for a new development path. The Paris Agreement on climate change, the global Sustainable Development Goals, ongoing federal and provincial action on climate change, and growing networks of businesses and non-profit organizations illustrate a shift toward action. The world is changing, and quickly.

Acting on sustainability is not a one-size-fits-all process; each individual and organization must respond uniquely. The University of Waterloo's reputation in innovation and its core strengths in entrepreneurship, experiential learning, and transformational research make it ideally suited to play an active role in the transition to a more sustainable future, on campus and around the world.

Supporting Existing Directions

Sustainability achievements are not distinct from other aspects of the campus. This strategy has clear links to Waterloo's existing commitments, goals, and directions, and will reinforce and support a broad range of benefits that are essential to the core mission of the University.

Waterloo has positioned itself as a university ready to embrace global challenges, including rapidly changing social, environmental, and economic conditions — in other words, sustainability challenges. Commitment to environmental sustainability upholds the integrity of the institution among internal and external stakeholders, and sustainable campus design can be linked directly with an equitable and inclusive environment.

Each section of this strategy outlines specific alignments to the University's Strategic Plan, A Distinguished Past — A Distinctive Future, and other campus-level directions, commitments, and planning. The strategy also supports the implementation of Waterloo's Environmental Sustainability Policy.

Development of this Strategy

Development of the Environmental Sustainability Strategy began in early 2015, with the hiring of a full-time sustainability coordinator, the creation of the President's Advisory Committee on Environmental Sustainability, and the creation of three working groups.

Stakeholder feedback has been sought throughout the development of the strategy. The figure below outlines the efforts taken to incorporate the views of students, faculty, and staff. These efforts began in summer 2015, though the majority of consultations occurred during fall 2016.

Prior to the Environmental Sustainability Strategy, information from the working groups and stakeholder feedback was used to create a background document that depicts internal and external conditions which shape Waterloo's ability to act on sustainability. This document, completed in early 2016, was the precursor to the strategy and provided context for creating Waterloo's sustainability goals.

3 WORKING GROUPS WITH OVER 48
staff, student, faculty, and administration participants

1,150 RESPONSES
to a campus-wide sustainability survey

2 OPEN-HOUSE
input sessions and drop-in booths, with
100 ATTENDEES

3 HIGH LEVEL FINDINGS
from the survey

91%
care about sustainability on campus

2 ECO-SUMMITS
with collectively over
110 ATTENDEES

TOP CONCERNS
on campus sustainability included:
1. Climate change
2. Waste reduction
3. Sustainability research
4. Sustainable transportation
5. Sustainability in curriculum

77% WOULD LIKE TO LEARN MORE
about sustainability while studying or working at Waterloo

Strategy Overview

This first environmental sustainability strategy for the University of Waterloo creates a guide and framework for action.

A meaningful and credible response must holistically address the broad scale and scope of Waterloo's activities, while also prioritizing urgent and high-impact actions. While this strategy focuses specifically on environmental aspects of sustainability, these are deeply interconnected with economic and social sustainability.

The broad goals are simple:

- Be a leader in environmental sustainability education and research
- Operate the campus sustainably
- Embed sustainability practices into campus culture

These goals cover Waterloo's academic outputs, the physical fabric of the campus, and the organizational culture that shapes behaviours. They are mutually reinforcing and interdependent, and meant to be visionary. Each section of this strategy describes 27 specific objectives that illustrate Waterloo's progress towards the goals.

The objectives in this strategy are not an exhaustive list of specific actions, as in many cases there is additional research to be done and questions to be answered. The outcomes presented here will be a guide to catalyze action and allow individual departments to respond in flexible ways with more detailed implementation plans.

To build momentum, however, it is essential that the University enables a support structure that establishes the value of sustainability, injects resources, and fosters collaboration and innovation through five foundational actions:

1. **Core Value**: lay a foundation for sustainability as an important shared value
2. **Sustainability Office**: build institutional capacity for monitoring, communication, and support
3. **Sustainability Action Fund**: mobilize resources at all levels to enable action
4. **Continual Reporting**: transparently communicate progress and celebrate successes
5. **Living Laboratory**: collaborate between academic and operational units to make the campus a model of sustainable development for study and research

Recognizing Waterloo's internal strategic planning cycle and the rapid global developments related to sustainability, this strategy will be reviewed in 2020.

GOVERNANCE

Governance and Administration

BENCHMARKING

Waterloo is a member of the Association for the Advancement of Sustainability in Higher Education (AASHE), the most prominent body for evaluating and accelerating sustainable change at colleges and universities across North America and beyond. AASHE has developed a transparent and widely-respected tracking system to evaluate the overall progress that campuses are making, known as the Sustainability Tracking, Assessment, and Rating System (STARS). Each of the objectives in this strategy will support Waterloo's efforts towards STARS certification.

› **Objective G1**: by 2025, achieve and maintain a STARS Gold certification through AASHE

FOUNDATIONAL ACTIONS

Five foundational actions are necessary to build cross-campus momentum.

Achieving the goals and objectives of this strategy will not happen without support. Waterloo will mobilize the necessary tools and resources to enable progress, and seek to understand the supportive role that every area of the University can play.

1. CORE VALUE

Waterloo will identify sustainability as a core value of the campus. Environmental sustainability does not need to be pursued for its own sake. The benefits are multifaceted and reach deeply into the academic, social, and physical fabric of the campus. It is, however, usually not afforded the priority to capture that value. The efforts illustrated throughout this strategy will be more effective and affective with a strong affirmation that sustainability, in all its aspects, is a core value shared by the entire campus.

2. SUSTAINABILITY OFFICE

Waterloo will strengthen the positioning of the Sustainability Office within the University. Many different departments across campus will be involved in achieving the goals and objectives of this strategy. No one unit can implement the diversity of actions needed to build progress, but the University must have an internal ability to credibly monitor, coordinate, communicate, and advise. The Sustainability Office can achieve this mandate and enhance Waterloo's institutional capacity for self-evaluation and effective decision-making.

3. SUSTAINABILITY ACTION FUND

Establishing a Sustainability Action Fund will help bridge the divides in funding sources and send a strong signal for development of projects and actions of this strategy. Furthermore, it will establish the tracking systems to understand the value within the projects, and imbed communication and leveraging of the results. The fund will be additional to existing budgets, will be subject to existing approval processes, and have two components:

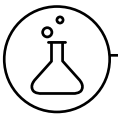
a. **A projects fund** of $150,000 per year that will take applications for funding from any student, staff, or faculty member to advance the goals of this strategy. This fund will support projects that do not necessarily have a measurable financial return on investment, provided they generate value and positive impact. This portion would be managed by the President's Advisory Committee on Environmental Sustainability.

b. **A revolving fund** with $1 million of seed funding per year for 6 years, beginning in the 2018/19 fiscal year, to fast-track energy, waste, water, and other projects that have a measurable return on investment. The savings generated from the projects within the revolving fund will replenish the fund and be redeployed into new projects. This portion would be managed by Plant Operations.

4. CONTINUAL REPORTING

Waterloo will release an annual sustainability report that tracks progress against each of the objectives herein. It will work with all departments to imbed reporting and tracking into existing processes wherever possible, and will attempt over time to make data open-source to enable further study. Waterloo will also submit its information every three years to maintain a STARS designation. This transparency is crucial to catalyze action.

Recognizing that sustainability is central to the long-term success of the campus, the University will imbed key metrics into standardized campus reporting and core success metrics in addition to standalone sustainability reports.



5. LIVING LABORATORY

Waterloo will reinvigorate its efforts to link academic expertise to operational objectives. As an education and research institution, the potential for innovation on campus is enormous. Students have completed class and capstone projects on campus sustainability for over 25 years, and numerous faculty members and research institutes have brought forward ideas and collaboration opportunities.

To ensure that this enthusiasm and these ideas are channeled towards the most impactful challenges and opportunities, the University will:

a. **Establish a formal database** of research needs and knowledge gaps from non-academic departments. This database will be solicited on a regular basis and made available for course-based research projects and faculty researchers to tailor their expertise to specific and relevant topics, and form meaningful partnerships between academic and academic support units of the campus.

b. **Empower staff** to engage with student and faculty groups by creating tools to assist in collaborative and interdisciplinary project design and evaluation, and encourage funding through the Sustainability Action Fund.

c. **Publicly display** outcomes and results of all projects submitted to through the Living Laboratory framework to ensure that others can learn from successes and failures.

ACADEMICS:

be a leader in sustainability education and research

Waterloo's graduates will become entrepreneurs and thought leaders, taking their knowledge and experience from the campus across the globe. Its faculty members will advance the technologies, systems, policies, and social shifts that will transition the world onto a sustainable pathway. This academic impact is core to the University's mission, and will be its most meaningful and lasting contribution as an institution of higher education. Waterloo will build upon its long history of innovation and achievement to further imbed sustainability across the campus.

ACADEMICS

WATERLOO'S STRENGTHS

- Canada's largest and most programmatically diverse Faculty of Environment
- More than 500 courses related to sustainability
- Over 58 programs related to sustainability
- More than 230 faculty members conducting research related to sustainability
- 11 interdisciplinary research institutes related to sustainability
- Strong industry partnerships on energy, climate, water, transportation, and more

STRATEGIC CONNECTIONS

- **Outstanding academic programming**
  Integrating sustainability into the curriculum will ensure all graduates have the skills necessary to succeed in the global workforce of the future.
- **Transformational research**
  Supporting research on sustainability directly responds to the world's most intractable challenges, making it relevant and impactful.
- **A uniquely entrepreneurial institution**
  Empowering entrepreneurs with sustainability training will strengthen their ideas for long-term growth and success.
- **Experiential learning for all**
  Using the campus as a living laboratory and encouraging student participation will provide opportunities to apply classroom knowledge to real-world challenges.
- **Strategic Research Plan**
  Investing strategically into sustainability-focused research will advance multiple focus areas of the University's Strategic Research Plan.

GLOBAL CONNECTIONS

- **United Nations Sustainable Development Goals, Target 4.6**
  "By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles"
- **United Nations Sustainable Development Goal 17 — Partnerships for the Goals**
  With research activities spanning the world, Waterloo is contributing to the North-South, South-South and regional transfer of knowledge, technology, innovation, and scientific understanding to address local instances of global challenges.

Teaching and Learning

Employees of the future will need to understand the interconnectedness between their work and its social, economic, and environmental contexts.

In every career pathway and industry, complex sustainability challenges will be increasingly relevant for decision-makers of tomorrow. Enabling access to a foundational understanding of sustainability is a first step to prepare world-ready graduates.

- **Objective A1**: by 2019, ensure undergraduate students from any program of study will have the opportunity to learn about sustainability in their courses

Waterloo will also support academic departments to translate and apply sustainability concepts in a way that is meaningful and relevant for individual programs of study. Each program will have different needs and curriculum requirements. As such, the University can develop flexible approaches to imbed sustainability in ways that support disciplinary and interdisciplinary learning. This might include additional elective courses or course requirements, expanded modules within existing courses, professional development courses, capstone projects, co-operative education experience, and program options or certificates.

- **Objective A2**: by 2025, identify and implement flexible strategies for 5 programs of study to more deeply integrate sustainability within the curriculum

Recognizing Waterloo's entrepreneurial strengths, the University will work with existing on-campus programs to help the innovative startup ecosystem in Waterloo Region contribute to and benefit from sustainable development. Every idea or startup coming out of Waterloo does not need to focus on sustainability, but every company will need to engage with sustainability challenges as it scales and interacts with a wide range of stakeholders. Preparing Waterloo's entrepreneurs to imbed sustainability principles within their emerging business models will strengthen their long-term preparedness and market readiness.

- **Objective A3**: by 2025, every startup emerging from supporting programs at Waterloo will have access to tools and training to imbed sustainability into their emerging business plans and models

Research

The world is in need of technological, social, and governance innovations that will enable society to solve urgent environmental sustainability challenges.

The University's long history of research excellence in sustainability is evident in its faculty activity, interdisciplinary research institutes, and strong public and private partnerships. Waterloo's academic expertise spans environmental sciences, technological innovation, and the social, political, health, and economic systems that influence and are influenced by sustainability issues. To strengthen efforts, Waterloo will increase the visibility of sustainability research within the institution and as part of Waterloo's communications and branding.

- **Objective A4**: by 2020, celebrate sustainability research as a core thematic strength of Waterloo's reputation and identity

Waterloo will continue to invest in research activities that support and accelerate high quality and impactful research on critical local and global sustainability issues. Through seed grants, continuing support for interdisciplinary research, strategic fundraising, and attracting top-calibre sustainability researchers, Waterloo will enhance its reputation for research excellence.

- **Objective A5**: by 2025, become a world leader for research excellence in 5 sustainability-related themes

Furthermore, Waterloo will mobilize this research knowledge to accelerate change in society. Governments, civil society, and the private sector are increasingly looking for new technologies and approaches to advance their sustainability objectives. Waterloo's strengths in applied research and longstanding history of industry collaboration create ideal conditions for impactful partnerships and knowledge mobilization. Waterloo will continue to develop strong partnerships with other academic institutions, public and private organizations, and research and policy networks to ensure its expertise is highly utilized in real-world challenges.

- **Objective A6**: by 2025, establish Waterloo as a "go-to" hub for knowledge and expertise on sustainability challenges

The University also has a unique opportunity to demonstrate leadership by linking the scale of the physical campus with the deep knowledge base and skillsets of its students and faculty. As a framework to link academic and operational outcomes and enhance research opportunities, Waterloo will utilize the Living Laboratory approach to match student and faculty expertise with tangible, on-campus challenges. It will also ensure, wherever feasible, that information about campus sustainability is available for students and faculty to conduct relevant research based on real-world information and applications.

- **Objective A7**: by 2018, implement 3 new sustainability-related projects annually on campus using faculty and student expertise
  - By 2025, implement at least 8 new projects on campus annually

OPERATIONS:

operate the campus sustainably

Waterloo's reputation on sustainability also hinges on its ability to translate expertise into practice. The day-to-day activities and the capital investments of the University create notable impacts, and decision-making must prepare for the regulatory, economic, and societal forces that will shape the next half-century of infrastructure needs.

The University will establish interim objectives that respect the complexity of infrastructure change, while committing to long-term objectives that the best available science deems necessary to operate within the boundaries of a finite planet. These are ambitious, but represent the growing integrity of commitments around the world to align business practices with local and global socio-ecological realities.

By doing so, Waterloo can exemplify sustainable practices.

OPERATIONS

WATERLOO'S STRENGTHS

- 270-acre Environmental Reserve on North Campus
- Waterloo Region's only district heating and cooling system
- LEED Platinum Certified Environment 3
- Transit passes included in all undergraduate and graduate student tuition
- Campus Master Plan preserves green spaces on campus

STRATEGIC CONNECTIONS

- **Campus Master Plan**
  Implementing this strategy advances the following principles of the Campus Master Plan: investing in high-quality buildings and open spaces, pedestrian-oriented and accessible, and environmental stewardship and sustainability
- **Council of Ontario Universities Pledge: Committed to a Greener World**
  Making progress on the objectives herein upholds the University's commitment to imbedding sustainability into Waterloo's operations
- **Community Relations Framework**
  Improving Waterloo's operational performance strengthens a core pillar of Waterloo's Community Relations Framework, and improves an important lens through which stakeholders evaluate the University
- **Long-term cost efficiencies**
  Proactively reducing utility consumption and establishing systems that minimize resource use allows the University to allocate funding to its academic mission
- **Legal compliance**
  Advancing operational sustainability allows the University to remain ahead of compliance requirements in a changing regulatory environment

GLOBAL CONNECTIONS

- **United Nations Sustainable Development Goals**
  Taking action directly contributes to the advancement of the Sustainable Development Goals, including: 6-Clean Water and Sanitation; 7-Affordable and Clean Energy; 9-Industry, Innovation, and Infrastructure; 11-Sustainable Cities and Communities; 12-Responsible Consumption and Production; 13-Climate Action; 14-Life Below Water; 15-Life on Land
- **Paris Agreement on Climate Change**
  Reducing emissions supports the pledge of the international community to hold "the increase in the global average temperature to well below 2 C above pre-industrial levels and pursing efforts to limit the temperature increase to 1.5 C above pre-industrial levels"

Climate Change

The transition to a low-carbon economy demands bold responses and technological innovations for all long-term infrastructure planning.

In the short-term, Waterloo will accelerate its energy efficiency projects to reduce emissions on an intensity basis. In the long-term, Waterloo must plan its infrastructure for a low or no-carbon future. The international community has recognized the need to keep global temperatures below two degrees Celsius to avoid the worst impacts of climate change, according to the best available science. This is a firm target, and one the University will commit to supporting.

- **Objective 01**: by 2019, develop a long-term Climate and Energy Action Plan to achieve carbon neutrality by 2050, with interim targets for 2025 and 2035.

Energy

Reducing energy intensity of operations is an important strategy for environmental and financial sustainability across all sectors.

Waterloo's expanding energy footprint comes with rising direct costs. As the University grows its research activities, size of the physical campus, and population, there is a strong financial imperative for campus-wide strategies to minimize long-term energy use and mitigate emissions. This must include retrofits, upgrades, improved standards, and facilities renewal. Crucially, it must also include strategic long-term planning of infrastructure that optimizes energy use and equips end-users and space owners with tools and incentives to reduce demand.

The University will develop a comprehensive Climate and Energy Action Plan that identifies and prioritizes both projects and systems that reduce energy consumption on campus.

- **Objective 02**: Implement cost-effective and practical strategies to reduce or minimize growth in energy use on campus

Waste

Stakeholder demands and infrastructure constraints are encouraging greater action on waste reduction and responsible production and consumption.

With the world's first blue bin program, recycling behaviors have become a strong part of the local community's identity. Many members of the campus are passionate and concerned about waste management in University facilities, and are looking for positive action.

The University will modernize and standardize its waste infrastructure, implement organics collection, expand collection of reusable or recyclable items, and renew efforts to reduce the volume of non-recyclable products coming to campus.

- **Objective 03**: by 2025, achieve a 60% diversion rate
  - by 2035, become a zero-waste (90% diversion rate) campus

Water

Water is a vital community resource, and strong conservation efforts can reduce the burden on local infrastructure.

With the Laurel Creek winding through campus and proximity to the Grand River, water plays an important role for the University and broader community. Waterloo will continue to proactively reduce its water consumption by focusing on efficient technologies, education and awareness, and system optimization.

- **Objective 04**: by 2025, reduce water intensity by 5% per square metre from a 2015 baseline

As climate change is projected to increase the frequency of heavy rain events in Waterloo Region, Waterloo will expand stormwater management features in flood-prone areas to minimize risks, reduce infrastructure demands, and naturalize the campus.

- **Objective 05**: by 2025, expand the deployment of stormwater management technologies to targeted areas

Transportation

Enabling transportation choices is critical to decreasing environmental impact, and will be an important part of creating inclusive and sustainable communities.

With a large population travelling to and from the campus every day, enabling a variety of transportation options can manage the burden on parking infrastructure and significantly reduce environmental impacts.

Waterloo will continue to expand support for walking, cycling, transit, carpooling, teleworking, and technology-enabled classrooms, and it will maintain productive partnerships for continuous improvement of community infrastructure. It will also strengthen support for electric vehicles to encourage low-carbon transportation choices.

- **Objective 06**: by 2025, increase to 90% the proportion of commuting trips made by walking, cycling, transit, carpooling, or teleworking from a 2016 baseline of 85%
- **Objective 07**: by 2020, increase electric and alternative-fuel vehicle use on campus

In addition, Waterloo will demonstrate leadership to reduce the emissions impact of the University fleet through lifecycle costing, fleet-sharing, right-sizing, and green vehicle programs and policies.

- **Objective 08**: by 2025, reduce fossil fuel consumption across the campus fleet by 25% from a 2015 baseline

Grounds

Urban intensification and growth are increasing the need for sustainable land management practices that build community and increase aesthetics.

The University's Environmental Reserve and Campus Master Plan protect green spaces across campus as crucial areas for events, student activities, and creating a sense of place and community. The University will continue to protect and enhance the ecological integrity of its grounds by clarifying standards and practices, identifying sensitive areas in need of remediation, promoting biodiversity, and naturalizing campus areas wherever possible.

Objective 09: by 2025, all University grounds will be maintained according to sustainable landscaping standards, and plans developed for remediation and preservation of specific natural areas of concern

The University already utilizes integrated pest management practices. Elements of sustainable landscape management practices include:

- plant and soil stewardship,
- environmentally preferable materials,
- hydrology and water use,
- materials and waste management, and,
- snow and ice management

Food

Population growth and shifting diets will accentuate food security issues over the coming decades, and place further pressure on water, land and climate systems.

Production, consumption, and disposal patterns in the food system have global and local impacts on the environment, and global population pressures will accentuate this over time. Waterloo will continue developing sustainable food systems by increasing standards to support sustainable products.

- **Objective O10**: by 2025, 40% of all Food Services food and beverage purchases are produced on-site, locally-sourced, or are third-party certified for sustainability

The University will continue to link student groups and food service areas into ongoing efforts to achieve a Fair Trade Campus designation.

- **Objective O11**: by 2018, achieve and maintain a Fair Trade Campus designation[1]

Students and employees are often unaware of the impacts or benefits of food choices. Waterloo will build this food literacy through targeted and relevant programming among members of the campus community, highlighting the environmental, health, and affordability aspects of food choices to support informed purchasing decisions.

- **Objective O12**: by 2020, deliver multifaceted programming to grow student and employee awareness about healthy and sustainable food choices

---

[1] Developed by Fairtrade Canada, this designation requires all campus-run eateries, including student coffee and donut shops, to meet the following criteria:

- 100% Fairtrade Certified coffee
- 3 Fairtrade Certified tea options available wherever tea is sold
- 1 Fairtrade Certified chocolate bar available wherever chocolate bars are sold

Procurement

Direct and indirect sustainability impacts can often be managed at the point of purchase by seeking greater transparency and establishing purchasing standards.

Understanding and integrating the environmental and social aspects of procurement into its evaluation of options can ensure the University maximizes the value of its purchasing decisions, while also leveraging its purchasing power to advance sustainable outcomes.

This must start by looking at the lifecycle impact of purchasing decisions, both on and off campus. Integrating long-term costs and impacts of equipment, appliances, buildings, and large purchases enables the decision-making process to allocate resources accordingly. Seeking greater disclosure of the upstream and downstream impacts of suppliers and products also increases the University's risk management, transparency, and accountability. The University will update relevant processes and procedures to accommodate sustainability criteria, while ensuring that staff are trained on effective life cycle cost and impact analysis.

- **Objective 013**: by 2020, evaluate life cycle cost and require sustainability disclosure from suppliers for all purchasing decisions over $100,000

In addition, all areas of the campus can be accountable for everyday purchasing decisions that impact the environment. The University will continue to educate end-users on the availability of sustainable options and track its progress in key product categories.

- **Objective 014**: by 2018, establish baseline data and targets to improve the percent of campus-wide purchases that meet third-party standards for paper, electronic equipment, and cleaning supplies

ENGAGEMENT:

embed sustainability practices into campus culture

Waterloo's academic activities and operational efforts will generate positive impact to the campus, the community, and the environment.

Both, however, rely upon the cultural fabric of the University to be effective. Sustainability is deeply rooted in behaviors, social norms, identity, and decision-making, which take time to shift. Classroom learning and research must translate to everyday actions, and infrastructure improvements must empower sustainable choices. That requires all members of the campus community to participate.

The University will ensure academic and operations objectives are supported through enhanced visibility, accessible information, encouraging programming, and ongoing feedback. It can also strive for community leadership to shift broader social norms and behaviors towards sustainability.

Doing so will help build a campus where sustainable actions, thinking, and decisions are embedded in the culture.

ENGAGEMENT

WATERLOO'S STRENGTHS

- 13 sustainability-related student groups
- 30 offices in the Green Office program
- Partnerships with Sustainable Waterloo Region and the Region of Waterloo
- Strong connection and integration with the local community

STRATEGIC CONNECTIONS

- **Vibrant student experience**
  Expanding sustainability programming creates unique opportunities for student involvement, leadership in the classroom and the community, and increased appreciation for and connection to the campus
- **Robust employer-employee relationship**
  Supporting sustainability objectives will help attract employees that are increasingly looking for their workplaces to take bold leadership on sustainability issues and will create opportunities for networking, professional development, and skill growth
- **Promoting a sound value system**
  Strengthening commitment to sustainability, understood holistically, supports well-being, health, equity, and inclusivity. Reinforcing the environmental aspect of sustainability will strengthen the shared values of the campus and the communities in which Waterloo operates
- **Community Relations Framework**
  Proactively engaging community partners on sustainability issues will enhance the University's leadership opportunities in local, provincial, and even national sustainability networks

GLOBAL CONNECTIONS

- **Influencing global change**
  Imbedding sustainable behaviours will strengthen Waterloo's influence as a globally connected and diverse university by amplifying sustainable living across the diversity of places where students, employees, and alumni conduct their research, complete co-op work terms, start their families, and advance their careers

Communications

Sustainable change requires enhanced visibility for sustainability initiatives and opportunities to increase awareness and shift culture and behaviours.

Clear and accessible communications are necessary to make academic and operational progress. The University must develop unique but concerted efforts to message and reinforce desired outcomes and behaviours in ways that resonate with a variety of people on campus. This can include events and campaigns to catalyze interest and raise awareness, announcements about new programs and services, consistent support from senior administration, and prompts or reminders imbedded into everyday activities.

- **Objective E1**: by 2020, Waterloo broadly distributes timely and audience-relevant information about sustainability initiatives and opportunities within the campus community

Student Engagement

Student leaders and champions can be a powerful force for positive change across campus while gaining leadership, technical, and community-building experiences.

For many students, attending university represents a major milestone of independence. Integrating sustainability into orientation and residences presents a powerful opportunity to equip students with relevant life skills and practical knowledge.

- **Objective E2**: by 2020, additional programming is developed for incoming students during orientation and in residences to encourage sustainable living on campus

Strengthening the coaching and support available to student leaders and coordinating efforts across a wide range of sustainability clubs and groups can help harness student enthusiasm to its full potential, while providing opportunity for involvement across campus.

- **Objective E3**: by 2018, establish a sustainability leaders program in partnership with students from residences, clubs and societies, student government, and for students in off-campus housing

Employee Engagement

Employees are passionate and committed to building a culture of sustainability within their office and across campus.

Waterloo will continue to expand the onboarding and orientation, training, and programming opportunities related to sustainability among employees. This will increase awareness and participation in existing programs and ensure that everyday actions align with the broader goals of this strategy. In an organization where decision-making is often distributed and decentralized, it is important to empower employees with resources to enact change in their own areas and ensure flexibility. The Green Office program can serve as a useful tool to enable friendly competition and align efforts.

Objective E4: by 2025, increase from 5% to 25% the proportion of university departments that are Green Office certified

Community Engagement

Environmental sustainability is a critical pillar in the development of a healthy, inclusive, prosperous, and resilient community.

The University of Waterloo has helped Waterloo Region become a hub of Canada's innovation and technology ecosystem. Students, employees, and alumni have also been prominent leaders in local sustainability networks.

Expanding this tradition of community involvement can magnify Waterloo's efforts at multiple scales. Publishing and sharing its sustainability successes and challenges will enable others to learn and improve. Establishing and maintaining strong local partnerships will leverage the University's expertise and experience to strengthen the communities in which it operates. Hosting events, convening panel discussions, participating in third-party awards or frameworks, and engaging local media can catalyze and support local effort.

Objective E5: by 2020, Waterloo is recognized as a sustainability leader in Waterloo Region

SUMMARY

Summary of Goals and Objectives

BENCHMARKING

G1: by 2025, achieve and maintain a STARS Gold certification through AASHE

ACADEMICS:

be a leader in sustainability education and research

- **A1**: by 2019, ensure undergraduate students from any program of study will have the opportunity to learn about sustainability in their courses
- **A2**: by 2025, identify and implement flexible strategies for 5 programs of study to more deeply integrate sustainability within the curriculum
- **A3**: by 2025, every startup emerging from supporting programs at Waterloo will have access to tools and training to embed sustainability into their emerging business plans and models
- **A4**: by 2020, celebrate sustainability research as a core thematic strength of Waterloo's reputation and identity
- **A5**: by 2025, become a world leader for research excellence in 5 sustainability-related themes
- **A6**: by 2025, establish Waterloo as a "go-to" hub for knowledge and expertise on sustainability challenges
- **A7**: by 2018, implement 3 new sustainability-related projects on campus annually using faculty and student expertise; by 2025, implement at least 8 new projects on campus annually

OPERATIONS:

operate the campus sustainably

- O1: by 2019, develop a long-range Climate and Energy Action Plan to achieve carbon neutrality by 2050, with interim targets for 2025 and 2035
- O2: implement cost-effective and practical strategies to reduce or minimize growth in energy use on campus
- O3: by 2025, achieve a 60% diversion rate; by 2035, become a zero-waste (90% diversion rate) campus
- O4: by 2025, reduce water intensity by 5% per square metre from a 2015 baseline
- O5: by 2025, expand the deployment of stormwater management technologies to targeted areas

- O6: by 2025, increase to 90% the proportion of commuting trips made by walking, cycling, transit, carpooling, or teleworking from a 2016 baseline of 85%
- O7: by 2020, increase electric and alternative-fuel vehicle use on campus
- O8: by 2025, reduce fossil fuel consumption of the campus fleet by 25% from a 2015 baseline
- O9: by 2025, all University grounds will be maintained according to sustainable landscaping standards, and plans developed for remediation and preservation of specific natural areas of concern
- O10: by 2025, 40% of all Food Services food and beverage purchases are produced on-site, locally-sourced, or are third-party certified for sustainability
- O11: by 2018, achieve and maintain a Fair Trade Campus designation
- O12: by 2020, deliver multifaceted programming to grow student and employee awareness about healthy and sustainable food choices
- O13: by 2020, evaluate life cycle cost and require sustainability disclosure from suppliers for all purchasing decisions over $100,000
- O14: by 2018, establish baseline data and targets to improve the percent of campus-wide purchases that meet third-party standards for paper, electronic equipment, and cleaning supplies

ENGAGEMENT:
embed sustainability practices into campus culture

- E1: by 2020, Waterloo broadly distributes timely and audience-relevant information about sustainability initiatives and opportunities within the campus community
- E2: by 2020, additional programming is developed for incoming students during orientation and in residences to encourage sustainable living on campus
- E3: by 2018, establish a sustainability leaders program in partnership with students from residences, clubs and societies, student government, and for students in off-campus housing
- E4: by 2025, increase from 5% to 25% the proportion of university departments that are Green Office certified
- E5: by 2020, Waterloo is recognized as a sustainability leader in Waterloo Region

ADVISORY COMMITTEE

Advisory Committee

PRESIDENT'S ADVISORY COMMITTEE ON ENVIRONMENTAL SUSTAINABILITY

Jean Andrey, Dean, Faculty of Environment, Co-Chair (2015-17)
Dennis Huber, Vice President, Administration & Finance, Co-Chair (2015-17)
Bob Lemieux, Dean, Faculty of Science (2015-17)
Rick Zalagenas, Director of Maintenance and Utilities, Plant Operations (2015-17)
Annette Carroll, Finance Coordinator, Food Services (2015-17)
Amelia Clarke, Professor, Faculty of Environment (2015-17)
Andrew McMurry, Professor, Faculty of Arts (2015-17)
Sue Ann Campbell, Professor, Faculty of Mathematics (2017)
Chris Lolas, President, Federation of Students (2016-17)
Antonio Brieva, President, Federation of Students (2017)
Ambika Opal, Undergraduate Student, Faculty of Engineering (2015-17)
Kayla Hardie, Undergraduate Student, Faculty of Science (2016-17)
Paula Przbylski, Undergraduate Student, Faculty of Engineering (2017)
Rachel Mitchell, Graduate Student, Faculty of Environment (2015-17)
Bronwyn Lazowski, Graduate Student, Faculty of Environment (2017)
Peter Pillsworth, Facilities Manager, St. Paul's (2015-17)
Mat Thijssen, Sustainability Coordinator (2015-17)

ACADEMICS WORKING GROUP

Jean Andrey, Dean of Environment
Amelia Clarke, Faculty of Environment
Andrew McMurry, Faculty of Arts
Rebecca Rooney, Faculty of Science
Rebecca Saari, Faculty of Engineering
Srinivasan Keshav, Faculty of Mathematics
Sharon Kirkpatrick, Faculty of Applied Health Sciences
Scott Davis, Cooperative Education and Career Action
Brenda MacDonald, Office of Research
Armughan Al-Haq, Waterloo Institute for Sustainable Energy
Sarah Brown, Interdisciplinary Centre on Climate Change
Kevin Boehmer, Water Institute
Trevor Holmes, Centre for Teaching Excellence
Sarah Rose Wiley, Federation of Students

OPERATIONS WORKING GROUP

Rick Zalagenas, Maintenance and Utilities
Bob Lemieux, Faculty of Science
Annette Carrol, Food Services
Chris Ford, Maintenance and Utilities
Stephen Cook, Procurement and Contract Services
Sharon Rumpel, Parking Services
Ed Danhousen, Parking Services
Jerry Hutten, Grounds Services
Les Van Dongen, Grounds Services
Joel Norris, Central Stores
Rob McMurren, Central Stores
Peter Pillsworth, St. Paul's
Paul Penner, Conrad Grebel
Justin Black, St. Jerome's
James Robson, Renison
Glenn Welch, Custodial Services
Phil Frowd, Custodial Services
Michael Welk, Housing and Residences
Greg Friday, Safety Office

ENGAGEMENT WORKING GROUP

Dennis Huber, Administration and Finance
Rachel Mitchell, Graduate Student
Ambika Opal, Undergraduate Student
Alex Piticco, Housing and Residences
Laura Maple, Student Success Office
Nancy Collins, Human Resources
Mark Lisetto-Smith, Organizational and Human Development
Deanna Priori, Federation of Students
Kelly McManus, Community Relations and Events
Brendan Wylie-Toal, GreenHouse
Brendan Lowther, Federation of Students

APPENDIX A

Appendix A – Policy Alignment

This strategy is intended to support and align with the principles developed in Policy 53: Environmental Sustainability.

APPENDIX A

POLICY PRINCIPLE		STRATEGY SUPPORT
5.1	**Compliance**: That the University will meet or exceed all applicable local, provincial, and national environmental standards and regulations;	› Supports compliance with current legislation on waste, energy, and climate change › Reduces future compliance risks through proactive planning and long-term approaches
5.2	**Accountability**: That the University will establish and maintain at all times an environmental sustainability strategy with measurable goals across all scope areas of this policy;	› Directly fulfills this aspect of policy
5.3	**Transparency**: That the University will report annually on its progress towards achieving its goals, including information about environmental impacts and initiatives taken;	› Supports continual reporting on campus sustainability progress › Supports third-party benchmarking through STARS
5.4	**Future-focused**: That the University will continue to integrate lifecycle cost and impact analysis into its ongoing infrastructure, capital planning, and campus master planning decisions;	› Recommends creation and implementation of lifecycle costing methodology for purchasing decisions over $100,000
5.5	**Institutional Ecology**: That the University will enact practices and processes to reduce consumption of resources, minimize output of waste, and mitigate upstream and downstream environmental impacts from campus operations;	› Creates indicators and recommended next steps to increase efficiency of material throughputs › Improves ability to identify upstream and downstream impacts through procurement disclosure
5.6	**Performance**: That the University will continue to provide infrastructure that supports quality research and teaching, and enables an appropriate working and living environment;	› Encourages support for sustainability-related teaching and research › Encourages enhancement of quality of space aesthetically and operationally
5.7	**Education**: That the University, recognizing its role as an institution of higher education, will ensure students and employees are informed to live sustainably and understand sustainability issues and concepts relevant for their careers;	› Includes outcomes related to academic programming and curriculum › Recommends creation of programs and strategies to deliver timely and relevant information across multiple audiences
5.8	**Shared Responsibility**: That all students, employees, and members of administration are responsible for the institution's sustainability. Success requires collective action from every member of the University community;	› Initiates or expands programming for students and employees to engage in sustainable change › Creates unique but linked objectives that span many academic and academic support units
5.9	**Collaboration**: That the University will develop clear mechanisms to engage appropriate stakeholders in the design of sustainability initiatives and objectives;	› Living Lab supports idea generation from across campus › Engagement actions support student and employee involvement
5.10	**Innovation**: That the University will develop processes for the development, evaluation, and, where feasible, implementation of new on-campus technologies, strategies, policies, and procedures developed by members of the campus community that advance the sustainability strategy;	› Living Lab directly seeks to harness faculty and student ideas, expertise, and support into on-campus projects and initiatives
5.11	**Community**: That the University will create positive benefits to the natural environment for the local and global communities in which it operates; and	› Directly calls for local leadership through both knowledge dissemination and institutional practice
5.12	**Leadership**: That the University will demonstrate leadership by aiming towards ambitious standards and outcomes, such as carbon neutrality, zero waste, net positive, integration into campus decision-making, investing in sustainability, and institutional prioritization.	› References long-term goals for Zero Waste and Carbon Neutrality, and reinforces that sustainability must be a core value of the campus

YEARS OF **INNOVATION**
UNIVERSITY OF WATERLOO

UNIVERSITY OF WATERLOO
200 UNIVERSITY AVE. W., WATERLOO, ON, CANADA N2L 3G1

uwaterloo.ca/sustainability
sustainability@uwaterloo.ca

facebook.com/uwsustainable twitter.com/uwsustainable

PLEASE RECYCLE C013841