



ENVIRONMENTAL SUSTAINABILITY POLICY PAPER

Student-Driven Solutions to the Ongoing Climate Emergency



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LAND ACKNOWLEDGEMENT

The University of Western Ontario is located on the traditional territories of the Anishinaabeg, Haudenosaunee, Lunaapeewak and Attawandaron peoples, who have long-standing relationships to the land and region of southwestern Ontario and the City of London. The local First Nation communities of this area include Chippewas of the Thames First Nation, Oneida Nation of the Thames, and Munsee Delaware Nation. In the region, there are eleven First Nation communities and a growing Indigenous urban population. Western University values the significant historical and contemporary contributions of local and regional First Nations and all of the Original peoples of Turtle Island (North America).

To learn more about these Indigenous communities and how you can best be an ally, please refer to the London & Middlesex Indigenous Culture Card. For more information about land acknowledgements, please refer to the article “Rethinking the Practice and Performance of Indigenous Land Acknowledgment” by Robinson et al. A land acknowledgement is an important step in recognizing colonial history but should by no means be the full extent to which we acknowledge and support indigenous communities.



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OVERVIEW AND CONTEXT

The Environmental Sustainability Policy paper has been written by the USC as a call for action from our university and government stakeholders regarding the current climate crisis. Through extensive research and consultation with students and student groups, this paper reflects the importance of continual change on campus in order to truly cultivate our community and move towards more sustainable practices. This paper has been ratified by USC Council and sets out the USC's advocacy stances relating to environmental sustainability, to be used by the executive team and usc councillors in their advocacy.



DEFINITIONS

Divestment: the process in which one withdraws financial assets invested in companies that explore for, drill, or refine fossil fuels.

Waste: any non-hazardous or hazardous material that is discarded and managed at recycling facilities or disposal sites. More specifically, “solid waste” refers to recyclables, organic materials (such as food waste) and garbage generated by residential sources (households) and non-residential sources, which include the industrial, commercial and institutional sector and the construction, renovation and demolition sector.

Natural Ecosystems: a community where living beings co-exist in their physical environment and interact with each other to maintain the lifecycle and facilitate the flow of energy and nutrients. It consists of two main components – biotic (plants, animals, and other living organisms) and abiotic (i.e temperature, snowfall, humidity, etc.).



ENERGY USE & SOURCING

Principle: Renewable energy sources are more sustainable than nonrenewable sources.

Principle: As student endowment funds are held in trust by post-secondary institutions for students, Western University and its investment managers have a fiduciary duty to invest these student dollars in the interests of its students.

Principle: Western University has a social responsibility to the local community and environment which yields an obligation to promote sustainability in all aspects of university operations.

Principle: Sustainable business practices are integral to the long-term viability and financial prosperity of Western University.

Principle: Public investment funds should be able to responsibly balance the financial, social, ethical, and environmental effects of investments when making investment choices.

Concern: Western University relies heavily on non-renewable energy sources.

Concern: Western University invests in the fossil fuel industry as well as in many other industries and corporations that contribute to the climate emergency.

Concern: Greenwashing is a common corporate technique that can make it seem as though institutions are behaving more sustainably than they actually are

Concern: By investing in unsustainable businesses and practices to support student endowment funds, investment managers' investment strategies do not represent the interests of students.

Recommendation: Western University should commit to sourcing energy for all new campus builds from renewable sources, like geothermal sources.

Recommendation: Western University should establish an investing framework as outlined in Investing to Address Climate Change: A Charter for Canadian Universities by the end of 2022. This framework should include meaningful targets for reductions in carbon intensity.

Recommendation: The above framework, along with relevant investment policies, should be included on the University's Sustainability Website and in related Sustainability communications to make the relationship between investing and sustainability clear to the campus community.

Recommendation: Western, following the lead of the University of Guelph, the University of



British Columbia, Concordia University, University of Toronto, and Simon Fraser University, among others, should immediately commit to transitioning to an entirely fossil-fuel free investment portfolio and complete this process within a five-year period.

Recommendation: Western University should complete divesting from fossil fuels within the next five years.

Recommendation: Western should become a signatory to the United Nations Principles for Responsible Investment.

Recommendation: Western University should transition entirely to a carbon-neutral investment portfolio by 2050.

Recommendation: Western University should create and release a detailed plan outlining how it will achieve a minimum 45% reduction in greenhouse gas emissions from campus operations by 2030.

Recommendation: Western University should consult with student groups and climate change experts to re-establish a more ambitious goal of achieving net-zero emissions for campus operations.

Built spaces represent a significant contribution to human-induced greenhouse gas emissions.¹ Western University is a sprawling and ever-expanding campus, with over 300 capital projects valued at \$153 million scheduled in 2021 alone.² As well, the recent strategic plan identifies Western's desire to further expand into the Toronto region. It is imperative that Western ensures all existing and future built spaces source and use energy in sustainable ways.

Energy can be conserved and demand for it can be managed through a series of initiatives, including through green building, lighting retrofits, weatherproofing, insulation, energy auditing, chilled water distribution, and energy-efficient improvements to built spaces. This list, of course, is non-exhaustive. The USC is proud that Western's Facilities Management department has been working to implement Western's 2019-2024 Energy Conservation and Demand Management report through innovative and forward-thinking initiatives, such as the addition of 8 LEED® certified buildings since 2014 and the development of Western's Sustainable Design Guidelines to inform construction and renovation projects target efficient energy and water systems.³ On the whole, the USC is also pleased with the results of the 2014-2018 Energy Conservation and Demand Management plan results. Of the four goals identified in this plan (the reduction of

1 UN Habitat, "Global Report on Human Settlements 2011: Cities and Climate Change," UN Habitat, 2011, <https://unhabitat.org/global-report-on-human-settlements-2011-cities-and-climate-change>.

2 Debora Van Brenk, "Building Plans Aim to Beautify, Modernize Western's Campus," Western News, 2021, <https://news.westernu.ca/2021/05/buildings-to-beautify-modernize-campus/>.

3 Facilities Management, "Demand Management," Western University, https://www.uwo.ca/fm/initiatives/conservation_demand_management.html



electricity intensity per square meter use by 9% below 2012 levels; the reduction of greenhouse gas emissions below 2009 baseline; the reduction of water intensity (m^3/m^2) by 8% below 2012 levels; and the reduction of overall energy use by 4% below 2012 levels), only the fourth goal was not accomplished.⁴

Despite Western's overall successes in energy conservation and demand management, the USC believes that what makes Western unique is the drive to be leaders in climate action and societal progress. The USC is advocating for the university to double down on its commitments and approach energy usage more holistically. Specifically, Western's principles of energy conservation and demand management should be applied not just to renovations and construction, but also teaching, learning, and funding operations. Student voices are integral to this process.

In recent years, students have increasingly invested in Western's approach to sustainability. From a series of student-led climate strikes in 2019⁵ to the formation of climate action groups on campus such as the Climate Crisis Coalition, Student Energy at Western University, and EnviroWestern to name a few, it is clear that students have ideas about how Western can improve its operations, specifically with regard to energy use and sourcing. Of the loudest calls to action and demands for Western to invest responsibly. In fact, many student groups argue that ensuring the university meets its goals of sustainable energy usage and sourcing should come concurrently through the pursuit of operational efficiencies but also through the implementation of sustainable business practices such as responsible investment.

The implementation of sustainable business practices, however, is not simply a social responsibility⁶ for post-secondary institutions; it is also a financially wise decision. Sustainable business practices increase an institution's ability to respond to risk. In fact, the value at stake from sustainability issues can be as high as 70% of earnings before interest, tax, depreciation, and amortization; as such, sustainable practices are the pragmatic choice.⁷ In addition, pursuing sustainability creates growth and increases returns on capital in dynamic ways.⁸ Consider the following: between 2006 and 2010, the top 100 sustainable global companies experienced significantly higher mean sales growth, return on assets, profit before taxation, and cash flows

4 Facilities Management, "Results of Energy Conservation and Demand Management (CDM) plan 2014-2018, Energy Conservation and Demand Management (CDM) plan 2019-2024," Western University, 2019, <https://www.uwo.ca/fm/pdf/Western-2019-24-CDM-plan.pdf>.

5 Jade Prévost-Manuel, "Eyes on the Green: London Students Strike for Climate," The Gazette- Western University's Student Newspaper, 2019, https://westerngazette.ca/culture/eyes-on-the-green-london-students-strike-for-climate/article_d189dff0-de1e-11e9-badc-7f96f5da4123.html.

6 Also known as corporate social responsibility, this is an ethical framework which suggests that individuals or organizations have a responsibility to act in the best interests of their society by being sensitive to social, cultural, economic, and environmental issues. American Society for Quality, "What is Social Responsibility?," American Society for Quality, Accessed December 1, 2020, <https://asq.org/quality-resources/social-responsibility#business>.

7 Sheila Bonini and Steven Swartz, "Profits with Purpose: How Organizing for Sustainability Can Benefit the Bottom Line," McKinsey on Sustainability & Resource Productivity., <https://www.mckinsey.com/~media/McKinsey/Business%20Functions/Sustainability/Our%20Insights/Profits%20with%20purpose/Profits%20with%20Purpose.pdf>, 12.

8 Ibid, 11.



from operations in some sectors compared to control companies.⁹ It is clear, then, that the belief that sustainability is antithetical to profitability is a misconception.

9 Tensey Whelen and Carly Fink, “The Comprehensive Business Case for Sustainability,” Harvard Business Review, 2016, <https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability>.



CAMPUS ECOSYSTEMS

Principle: Universities have the responsibility to protect, maintain, and build their natural campus ecosystems and green spaces.

Principle: Rare species and ecosystems must be protected to prevent them from going extinct.

Principle: Students should have the opportunity to access and maintain their campus ecosystems and green spaces.

Concern: Western engages in practices that can be unsustainable and harmful to the environment.

Concern: Western does not have a comprehensive strategy that addresses the maintenance of its natural heritage on campus.

Concern: Western's current Open Space Strategy, which describes its plans for outdoor spaces, does not thoroughly account for the natural environment on campus.

Recommendation: Western should create a comprehensive strategy that outlines how natural campus heritage and biodiversity will be maintained, including factors like planting procurement and stormwater pollution prevention.

Recommendation: In the creation of a natural campus heritage plan, Western should consult with Indigenous groups and communities to prioritize Indigenous stewardship of the land.

Recommendation: Western should adopt the Conservation Standards' best practices for the monitoring and management of natural campus heritage.

Recommendation: Western University should conduct a biodiversity census and track the wellbeing of identified plant and animal species to understand the impact of campus operations on the native environment.

Recommendation: Western should work with the City of London in stewarding the Medway Valley Heritage Forest and the Thames River.

Recommendation: Western should invest in preventative infrastructure upgrades and retrofits that stop and prevent harm to local wildlife.

Recommendation: Western should create a permanent staff position for natural heritage maintenance under Facilities Management.



Recommendation: Western should invest in green roofs on campus, creating a plan to retrofit existing structures and mandate that future builds include a green roof.

Recommendation: The provincial government should create a green space fund for post-secondary institutions to protect and support existing and new forms of biodiversity on their campuses.

Biodiverse campus ecosystems make up a major component of the London community. As a region located in the Carolinian Life Zone, London, Ontario has the most species biodiversity found anywhere in Canada,¹⁰ including over 70 species of trees, 27 different species of reptiles, and more than 20 unique species of amphibians.¹¹ This zone also contains one-third of the rare, threatened and endangered species found in all of Canada.¹² With a campus that overlaps with these regionally rare species, and as a major part of the London community, Western has a responsibility to take care of, and cultivate, this biodiversity. However, Western currently lacks a comprehensive framework that outlines how to manage its natural campus environment and mitigate ongoing and future dangers to its natural heritage. Beyond creating such a framework, the university must also thoroughly review its practices and activities to identify where those practices and activities are negatively impacting campus ecosystems, such as dangerous windows for birds and the possibility of oversalting in the winter.

Published in April 2018, Western's Open Space Strategy outlines how the university will "accommodate future growth on campus, increase pedestrian safety, and integrate rapid transit through campus."¹³ Although this document establishes a broad vision and recommendations regarding courtyards and gardens on campus, it does not explicitly address climate change, has one reference to native species, and has no mention of biodiversity and natural heritage.¹⁴ It also does not outline specific information and plans for conservation-oriented projects. Therefore, a natural heritage strategy should be developed that thoroughly details ongoing conservation efforts and natural heritage projects. This plan should outline preventative infrastructure upgrades and retrofits that stop and prevent harm to local wildlife and organisms, such as the installation of rain gardens in flood-prone areas, building retrofits for bird-window collisions, the covering of window wells which can trap animals, the development of green roofs on campus buildings, and the stewarding of natural features such as the Medway Valley Heritage Forest and the Thames River. The development of this plan should prioritize consultation with Indigenous communities.

In developing this strategy, Western should conduct a biodiversity census to first be able to

10 Climate Crisis Coalition, "A Bold, Green Future," Accessed February 1, 2022.

11 St. Clair River Trail, "Carolinian Life Zone," St. Clair River Trail, Accessed February 1 2022, <http://www.stclairrivertrail.com/carolinian-life-zone/>.

12 The Centre for Land and Water Stewardship, "The Uniqueness of Carolinian Canada," University of Guelph, 1994, https://caroliniancanada.ca/legacy/FactSheets_CCUniqueness.htm.

13 Facilities Planning & Design, "Western's Open Space Strategy," Western University, 2018, https://www.ipb.uwo.ca/documents/western_open_space_strategy_2018.pdf, 7.

14 Ibid.



identify plant and animal species on campus, track their wellbeing, and ensure that campus practices and operations are not negatively impacting them. In conducting this census, Western should adopt the Conservation Standards' best practices for the monitoring and managing of natural campus heritage to develop conservation measures to maintain identified species.¹⁵ Conservation Standards (CS) are a widely adopted set of principles and practices that bring together common concepts, approaches, and terminology for conservation project design, management and monitoring.¹⁶ These standards were developed for biodiversity and resource conservation efforts and have been tested and continuously refined by experts within this area of research. The standards promote the use of best-practices, prioritization at various stages, data sharing, and much more.¹⁷ These best practices should be used for the successful implementation of conservation efforts and serve as a comprehensive and well-researched guide for Western's development of a natural heritage strategy. Other organizations that have adopted these standards include the World Wildlife Fund, Nature Conservancy Canada, and the African Wildlife Foundation.¹⁸

In placing greater emphasis on natural heritage conservation, Western should create a permanent staff position for natural heritage management. Currently, the maintenance of natural grounds is overseen by Landscape Services under Facilities Management.¹⁹ To ensure that adequate attention and care is given to our campus heritage, a centralized operations staff person responsible for managing natural heritage should be hired.²⁰ This role should focus on the monitoring and maintenance of natural features on campus, as well as trail systems. This position should also be responsible for the USC's strategies and recommendations regarding Western's campus ecosystems.

Lastly, the provincial government also has a significant role to play in protecting campus ecosystems. To incentivize and promote cultural heritage projects, the provincial government should create a green space fund for post-secondary institutions to protect and support existing and new forms of biodiversity on their campuses. In the past, the province has made commitments to natural heritage. For example, in March 2021, the government announced \$20 million funding to help protect and preserve green spaces.²¹ Furthermore, the government must recognize that such spaces in and around our post-secondary institutions must be cultivated.

15 Conservation Standards, "About Conservation Standards," Conservation Standards, Accessed February 1 2022, <https://conservationstandards.org/about/>.

16 Ibid.

17 Ibid.

18 Ibid.

19 Facilities Management, "Landscape Services," Western University, Accessed Feb 1 2022, <https://www.uwo.ca/fm/what/maintenance/landscape.html>.

20 Climate Crisis Coalition, "A Bold, Green Future," Accessed February 1, 2022.

21 London Free Press Staff, "Province Commits \$20 Million to Protect Green Spaces," London Free Press, 2021, <https://lfpres.com/news/local-news/province-commits-20-million-to-protect-green-spaces>.



TRANSPORTATION

Principle: Means of active transportation should be promoted and encouraged to reduce carbon dioxide emissions.

Principle: Students should be able to navigate their campuses and university communities in ways that are healthy, safe, secure, and sustainable.

Principle: Sustainable transportation mechanisms should be accessible to students.

Concern: The City of London and Western do not adequately work together to encourage active transportation and bus ridership.

Concern: Some students may use personal vehicles instead of public transportation as a result of infrequent bus trips and long wait times.

Recommendation: Western should work with the City of London in their development of Bus Rapid Transit (BRT) to ensure that stops along such routes are on, or in close proximity to, Western's campus.

Recommendation: The City of London should completely phase all LTC buses to zero-emission electric buses.

Recommendation: Western should work with the City of London to ensure that adequate cycling infrastructure is available on campus as the city invests in improved cycling and walking infrastructure.

Recommendation: Western should work with city staff to ensure that the provincial government's e-scooter pilot program is accessible and available on Western's campus.

Recommendation: Western University should subsidize the LTC Bus Pass that the USC negotiates and offers to all undergraduate students to ensure that all students have access to ethical, sustainable, and affordable transit options.

Recommendation: The Ministry of Transportation should fulfill its commitment to explore opportunities for High Frequency Rail Travel into Southwestern Ontario.

Active transportation plays an important role in reducing greenhouse gas emissions.²² In order

22 Victor D. Ngo, "The Impact of Active Transportation Infrastructure on Travel-based Greenhouse Gas Emissions and Energy: A Longitudinal Before-After Study of Vancouver's Comox-Helmcken Greenway," University of British Columbia- SCARP Graduating Projects, 2016, <https://dx.doi.org/10.14288/1.0314216>.



to promote and encourage students to use alternative means of transportation, and rely less on personal vehicles, Western must work to make our campus community, and its surrounding areas, pedestrian-friendly and safe.

Last updated in 2013, the City of London’s 2030 Mobility Transportation Plan (TMP) is a long-term Transportation Strategy that will help guide the city’s transportation and land use decisions through 2030 and beyond.²³ This plan is focused on improving mobility for residents of the city by providing viable choices through all modes of travel.²⁴ It specifically includes the City’s plan for Bus Rapid Transit. In section 3: “Taking Transit to the Next Level,” it outlines BRT and the goal of providing faster, more efficient service than ordinary bus lines, achieving better travel times than traditional transit routes while conserving energy and reducing greenhouse gas emissions.²⁵ This plan calls for the construction of two BRT routes along a North/ South and East/ West orientation.²⁶ These proposed routes will benefit students, particularly those living around Broughdale and the Downtown areas. However, this plan does not call for stops directly within Western’s campus. Instead, the system is set to skip around Western’s campus along Oxford Road to the south and to Richmond Street.²⁷ Furthermore, Western University should work with the City of London to ensure that stops along these newly developed routes are in, or in close proximity to, Western’s campus.

Transportation research conducted for 25 transit agencies in North America found that internal factors, such as dependable service and more affordable fares, are key determinants of ridership when it comes to public transit.²⁸ The study suggests that rather than waiting for demand for transit to naturally increase to a point where it justifies increases in service, transit agencies, with government funding and support, should strongly develop their services to spur an increase and demand in ridership.²⁹

London’s Transit Master Plan also focuses on greater investments into cycling and walking infrastructure. Included in section 5: “Greater investment in cycling and walking infrastructure,” it states that more active transportation infrastructure will be needed to support growth in intensification and improve access to transit.³⁰ Western must work with the City to ensure that such alternative forms of transportation are available to Western community members, including the e-scooter pilot program developed by the provincial government and set to be implemented by the city.³¹ Although Western has made strides towards this, namely through the

23 AECOM, “A New Mobility Transportation Master Plan for London, 2030 Transportation Master Plan : SmartMoves,” AECOM, 2013, <https://london.ca/sites/default/files/2020-11/TMP%20Accessible.pdf>, 1.

24 Ibid.

25 Ibid, 10.

26 Ibid, 13.

27 Ibid, 13.

28 Geneviève Boisjoly et al, “Invest in the Ride: A 14 Year Longitudinal Analysis of the Determinants of Public Transport Ridership in 25 North American Cities,” Transportation Research Part A (116), 2018, http://tram.mcgill.ca/Research/Publications/Transit_Ridership_overtime.pdf, 440.

29 Boisjoly et al, “Invest in the Ride,” 444.

30 AECOM, “A New Mobility Transportation Master Plan,” 17.

31 Get Involved London, “E-scooters,” Get Involved London, 2021, <https://getinvolved.london.ca/e-scooter>.



installation of a secure and weather-protected bike shelter,³² more steps like this must be taken through additional initiatives.

City initiatives include completing gaps in the sidewalk network, providing a more continuous and extensive network of on-street bike routes, and providing secure bike parking facilities at all key public destinations and employment concentrations.³³ Western should work with the city to ensure that our campus community and city are cohesive in such steps. In addition to this, the city of London should also work to phase all LTC buses to zero-emission electric buses. Electric buses are a faster, cleaner, and more affordable mode of transportation.³⁴

Finally, the Ministry of Transportation must fulfill its July 2021 commitment to explore opportunities for High Frequency Rail Travel into Southwestern Ontario.³⁵ Sustainable and accessible inter-city transportation is essential to connecting more communities while reducing environmental impact.

There are many other opportunities for Western, the city of London, and government bodies to encourage bus ridership and active transportation. For example, to financially support students, Western should subsidize the student bus pass to reduce the price that falls on students. Although the bus pass is currently negotiated by the USC and provided to students at a reduced price, in the 2021-2022 school year, students still paid \$273.50 per pass, which is a major additional cost. As bus passes are provided to all students, Western should lessen this financial burden by subsidizing a percentage of this price.

32 Parking and Visitor Services, “New Secure Bike Shelter,” Western University, 2020, https://www.uwo.ca/parking/news%20home%20page/bike_shelter.html.

33 AECOM, “A New Mobility Transportation Master Plan,” 17.

34 Infrastructure Canada, “Government of Canada Targets Zero Emission Bus Transportation with Launch of New Fund,” Government of Canada, 2021, <https://www.canada.ca/en/office-infrastructure/news/2021/08/government-of-canada-targets-zero-emission-bus-transportation-with-launch-of-new-fund.html>.

35 Transport Canada, “The Government of Canada is Taking the First Steps in Preparing for the Procurement Process to Build A New Train Service in the Toronto to Quebec City Corridor,” Government of Canada, 2021, <https://www.canada.ca/en/transport-canada/news/2021/07/the-government-of-canada-is-taking-the-first-steps-in-preparing-for-procurement-process-to-build-a-new-train-service-in-the-toronto-to-quebec-city-.html>.



WASTE MANAGEMENT

Principle: Universities should have comprehensive and robust waste diversion strategies.

Principle: Tracking mechanisms in relation to waste diversion should be clearly outlined in University policies.

Principle: Compostable waste from campuses should be composted rather than sent to landfills.

Principle: Information regarding University waste management should be publicly available and accessible to students.

Principle: Campus water usage should be reduced and, where possible, reused.

Concern: Western's current waste diversion rate is 50% which is far behind its target of 90%.

Concern: Western is unlikely to meet its goal of being a zero-waste campus by 2022.

Concern: Western's Sustainable Procurement Policy does not contain enforcement mechanisms to ensure reporting standards to track its waste diversion progress.

Concern: Yearly data from Western's campus-wide waste audit is not easily accessible to students.

Concern: The City of London's existing landfill is expected to reach capacity in 2024.

Concern: Without comprehensive plans and processes on harvesting water and controlling water usage on campus, significant and unnecessary water waste can be created on campus.

Recommendation: Western should conduct a review of its Sustainable Procurement Policy and implement enforcement mechanisms that address reporting standards and adherence to the policy.

Recommendation: Western should implement its reusable container program at all campus eateries.

Recommendation: Western should assess ways in which paper towel use can be more sustainable and how a paper towel recycling program can be implemented in all campus bathrooms.

Recommendation: Western should implement standardized bins and signage around campus



that clearly outlines bins for the recycling of paper & plastic, and the disposing of litter.

Recommendation: Western should outline its participation in the City of London’s Green Bin Program before its Fall 2022 implementation and develop an educational campaign to inform students on how to compost.

Recommendation: Western should make its waste management reports easily accessible to students.

Recommendation: Western should implement rain water harvesting to reuse water on campus.

Recommendation: The provincial government should allocate funding to incentivize institutions to implement low-flow facilities and modernize their water infrastructure.

Proper waste management is an essential component of climate change. It directly affects many ecosystems and species and the filling of landfills leads to increased releases of methane gas, with open landfills found to represent 91% of all landfill methane emissions in 2019.³⁶ From 2002 to 2018, the total amount of solid waste generated in Canada increased by 4.8 million tonnes (or 16%) to reach 35.6 million tonnes and the amount of waste disposed in landfills or incinerated increased by 1.7 million tonnes (or 7%) to reach 25.7 million tonnes.³⁷ Therefore, waste diversion is an essential step to reducing the impact of solid waste on the environment.³⁸

Western has a current waste diversion goal of 90% by 2022 and, at this time, is not on track to meeting this goal with a current waste diversion rate of 50%.³⁹ The campus community must be engaged, informed, and educated in order to encourage and mobilize their participation.

Although Western has a Sustainable Procurement Policy that outlines the way in which sustainability in procurement is executed at Western, this policy does not contain enforcement mechanisms to ensure adherence or reporting standards to track progress.⁴⁰ Western should conduct a review of its Sustainable Procurement Policy and implement enforcement and reporting mechanisms for campus operations. Including these mechanisms will allow for more opportunities for greater compliance and allow Western to have greater data on its sustainable procurement.

36 Austin Downs and Richard Acevedo, “How Our Trash Impacts the Environment,” EarthDay.org, 2019, <https://www.earthday.org/how-our-trash-impacts-the-environment/>.

37 Environment and Climate Change Canada, “Canadian Environmental Sustainability Indicators: Solid Waste Diversion and Disposal,” Government of Canada, 2022, <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/solid-waste-diversion-disposal.html>.

38 Ibid.

39 Sustainability, “Waste Reduction & Diversion,” Western University, Accessed Feb 1 2022, https://sustainability.uwo.ca/Campus/waste_reduction/index.html.

40 Procurement Services, “Sustainable Procurement Policy,” Western University, Accessed Feb 1 2022, <https://www.uwo.ca/finance/forms/docs/procurement/Sustainable%20Policy%20.pdf>



Western should also work to implement a paper towel recycling program in all campus bathrooms and ensure that these paper towels are properly recycled. Paper towels, when not made from recyclable material, produce an immense amount of waste. In Canada alone, more than 5 billion pounds of paper towels are used each year amounting to 15 pounds per person, per year.⁴¹ This amounts to the use of about 110 million trees and 130 billion gallons of water per year.⁴² In order to play our part in combating this waste, Western should assess ways in which paper towel use can be more sustainable by looking into the implementation of a paper towel recycling program in all campus bathrooms. In addition to this, Western should also implement standardized signage, recycling, and waste bins around campus to combat misunderstanding about recycling practices.

As the city of London is currently developing its green bin program for 2022 implementation,⁴³ Western will have to establish its participation and involvement in this program, as well as educational opportunities to teach students, faculty, and staff how to get involved on or off campus. Furthermore, Western should immediately outline its participation in this green bin program including where green bins will be located, how students can participate, and the process of composting after this waste is picked up. This should also be clearly communicated to the campus community on Western's Sustainability website so that campus community members and updated access to information on this program.

Water waste is also a major contributor to overall waste. Western should work to implement rainwater harvesting to reuse water on campus. Rainwater harvesting is the collection and storing of rainwater for future use. These range from simple structures to more complex systems. This collected rainwater can then be used to flush toilets, water gardens, irrigate, and much more.⁴⁴

As well, the provincial government can play a part and should assist universities by allocating funding for the implementation of low-flow fittings and the retrofitting of their water infrastructure to water-saving appliances. Investments into low-flow fittings with up-to-date faucets can cut water flow rates by 50 percent.⁴⁵ As Western is a big campus with many water users a day, this cut in flow rates will be a major contributor to immensely reducing Western's water waste, and conserving our natural resources.

41 Love Your Planet, "Impact on Our Planet: The Environmental Impact of Paper Towels," Love Your Planet, Accessed Feb 1 2022, <https://loveyourplanet.ca/pages/environmental-impact>

42 Ibid.

43 Get Involved London, "London's Green Bin", Get Involved London, 2021, <https://getinvolved.london.ca/greenbin>.

44 Sustainable Technologies Evaluation Program, "Rainwater Harvesting," Toronto and Region Conservation Authority, Accessed Feb 1 2022, <https://sustainabletechnologies.ca/home/urban-runoff-green-infrastructure/low-impact-development/rainwater-harvesting/>

45 Thomas A. Westerkamp, "Low-Flow Fittings Proven Way to Conserve Water," Facilitiesnet, 2014, <https://www.facilitiesnet.com/plumbingrestrooms/article/Low-Flow-Fittings-Proven-Way-to-Conserve-Water--14890>.



RESOURCE PROCUREMENT AND USAGE

PAPER

Principle: Increasing access to online learning resources and platforms can reduce paper waste on campus.

Principle: Adopting OWL's readily-available features can reduce paper waste on campus.

Concern: Excessive paper usage by Western University increases the amount of waste produced.

Concern: Western University is heavily reliant on paper and print materials for learning, testing, and assessments.

Recommendation: Senate should encourage instructors to reduce paper usage, unless as needed to meet staff and students' accessibility needs.

Recommendation: Senate should create a policy mandating all assignment submissions be submitted through OWL and that hard copies of assignments no longer be required, unless as needed to meet staff and students' accessibility needs.

Recommendation: If paper submissions are required in order to comply with the above policy, these submissions should be printed double-sided.

FOOD AND BEVERAGE

Principle: Students should have access to locally-produced; ethically-sourced; affordable; low-waste & healthy food and beverage options on campus.

Concern: Many university students experience food insecurity.

Concern: Western University and Hospitality Services often purchase food and beverage products with excessive and wasteful food packaging, including single-use plastics.

Concern: Transporting food and beverage products long distances results in higher carbon footprints for those products, and disadvantages local producers.

Recommendation: Western University should commit to the reduction of single-use plastics in all food and beverage offerings on campus.

Recommendation: Western University should commit to ensuring all preferred food and



beverage vendors are situated within the local community and should prioritize procuring from local and sustainable businesses.

Recommendation: Western University and Hospitality Services should partner with other hospitality-providing services on campus, including the USC, to offer a reusable mug share program to reduce waste in on-campus beverage consumption.

Recommendation: Western should explore opportunities for food redistribution to students and community members in need.

FURNITURE, ELECTRONICS, CLEANING PRODUCTS, AND OTHER MATERIALS

Principle: Purchases made by large institutions should consider the financial, material, and environmental impacts of such purchases.

Principle: Procuring furniture made with sustainable, recyclable materials can help decrease Western University's carbon footprint.

Principle: The improper disposal of electronic equipment, including computers, batteries, printer cartridges, and similar items, results in toxic chemicals leaking into landfills.

Concern: Western University has no policy identifying criteria by which a purchase may be deemed "ethical" or "sustainable."

Concern: Western University does not always purchase sustainably-made furniture, which in turn increases levels of greenhouse gas emissions.

Concern: Students often do not have access to proper disposal bins and systems to ensure their used electronic equipment is processed properly without harm to the environment.

Recommendation: Any purchases made by Western University should be made after having considered the financial, material, and environmental impacts of such purchase.

Recommendation: Western University should produce an Ethical and Sustainable Purchasing Policy to ensure material purchases avoid producing waste in all forms.

Recommendation: Western University should commit to ensuring all preferred vendors for furniture, electronics, cleaning cleaning products are situated within the local community and should prioritize procuring from local and sustainable businesses.

Recommendation: Western University should improve communication around where e-waste



can be dropped off on-campus.

Recommendation: Western University should improve the accessibility of battery recycling bins by situating them on campus in areas students frequent.

Universities are resource-intensive institutions. Therefore, university resource procurement and usage policies should align with sustainable goals, specifically with respect to paper; food and beverages; and furniture, electronics, cleaning products, and other materials. At Western, Procurement Services -- a department of Financial Services -- is responsible for the oversight and management of Board policies concerning purchase of goods and services. The department's mission is to facilitate the best-value procurement of goods and services in support of the research community and the campus at large through the use of strong procurement skill sets, solid win-win supplier negotiations, exemplary customer service and exceptional knowledge of procurement standards and guidelines.⁴⁶ Currently, this entails all goods and services to be procured in alignment with Western's 'ethical procurement practices'. Unfortunately, none of these practices have an explicit commitment to the environment or sustainability.⁴⁷

Paper is used for a variety of purposes on campus. For the purposes of this policy paper, and in alignment with London's approach to sorting, paper materials only include paper itself, magazines and newspapers, and boxboard. Importantly, paper containers and soiled paper are excluded as recyclable paper in London must be relatively clean.⁴⁸ Therefore, the paper products referred to in the 'paper' subheading are usually referring to paper used for academic or administrative purposes. The ongoing pandemic has shown the campus community our consumption of these paper products is oftentimes futile and can be substituted with online tools. The USC recommends that Western reduce its reliance on paper and paper materials for learning, testing, and administrative purposes by increasing reliance on online tools such as OWL. In this regard, the Senate should: encourage instructors to reduce paper usage, unless as needed to meet staff and students' accessibility needs; create a policy mandating all assignment submissions be submitted through OWL and that hard copies of assignments no longer be required, unless as needed to meet staff and students' accessibility needs; and, if and when paper submissions of assignments are necessary, require that all assignments be printed double-sided.

A significant amount of waste on campus also comes from food and beverage consumption, yet many of the policies and practices dictating Western and Hospitality Services' approach to food and beverage operations lack explicit consideration for sustainability. Moreover, of the beneficial programs and initiatives that exist to reduce waste produced in food and beverage

46 Financial Services, "Procurement Services," Western University, Accessed Feb 1 2022, <https://www.uwo.ca/finance/procurement/>.

47 Financial Services, "Ethical Procurement Practices," Western University, Accessed Feb 1 2022, https://www.uwo.ca/finance/procurement/ethical_procurement_practices.html.

48 Sustainability, "Sorting at Western," Western University, Accessed Feb 1 2022, https://sustainability.uwo.ca/Campus/waste_reduction/sorting_at_western.html.



consumption, students are often unaware or unengaged. Therefore, the USC recommends that Western University should commit to the elimination of single-use plastics in all food and beverage offerings on campus and ensure all preferred food and beverage vendors are situated within the local community, with an emphasis on prioritizing procurement from local and sustainable businesses. The USC also recommends that Western University and Hospitality Services partner with other hospitality-providing services on campus, including the USC, to offer a reusable mug share program to reduce waste in on-campus beverage consumption, and explore opportunities for food redistribution to students and community members in need.

Finally, all purchases made by the university must consider the financial, material, and also environmental impacts of the purchase, yet there exists a policy deficit identifying ethical and sustainable standards. Therefore, the USC recommends that Western should produce an Ethical and Sustainable Purchasing Policy to ensure material purchases avoid producing waste in all forms. As well, Western should commit to ensuring all preferred vendors for furniture, electronics, and cleaning cleaning products are situated within the local community and should prioritize procuring from local and sustainable businesses. Returning to the recurring concern of students being unaware of sustainability-related policies and procedures, Western will need to improve communication around where e-waste can be dropped off on-campus and improve the accessibility of battery recycling bins by situating them on campus in areas students frequent.



INSTITUTIONAL POLICIES, PROGRAMS, AND PRACTICES

Principle: Western University should be conscious of the environmental implications of its policies, programs, and practices/operations.

Principle: Western University should be transparent in tracking and reporting environmental sustainability efforts to keep students informed.

Principle: Setting deadlines and milestones can help Western University ensure it is on track to meet its strategic planning commitments.

Principle: Students should be consulted on the university's environmental sustainability policies, programs, and practices.

Principle: Indigenous land and practices should be respected and incorporated when developing environmental sustainability policies, programs, and practices.

Principle: Innovative approaches to protecting the environment and promoting sustainability are important in reducing Western's carbon footprint.

Concern: The absence of a Western green revolving fund presents a missed opportunity both environmentally and financially to Western University.

Concern: It is quite challenging to access reports, data, and documents related to the successes, failures, and efficacy of Western University's environmental sustainability policies, programs, and practices.

Concern: Western University has a history of missing institutionally-set environmental sustainability deadlines.

Recommendation: Western University should create an environmental sustainability strategy outlining specific steps that will be taken to meet the goals outlined in the new strategic plan.

Recommendation: Western University should publish annual environmental sustainability reports indicating targets, accomplishments, and shortcomings that are accessible and publicly available.

Recommendation: Western University should create a Green Revolving Fund (initially at \$1 million) to provide funding for student-, faculty-, and community-driven projects focused on sustainability, tied to deferred maintenance planning.



Recommendation: Western University should create a Sustainability Research Fund (initially at \$1 million) to provide funding for student- and faculty-driven projects.

Towards Western at 150, Western's latest strategic plan, identifies sustainability as an 'imperative'. Despite the plan identifying some commendable goals, specifics and key metrics are missing from the plan. To fill that gap, Western should create an environmental sustainability strategy outlining specific steps that will be taken to meet the goals outlined in the new strategic plan. Beyond simply creating a plan and setting goals, Western should publish annual environmental sustainability reports indicating targets, accomplishments, and shortcomings that are accessible and publicly available. It is fundamental that the campus and broader community are able to follow Western's journey to becoming a more sustainable institution not just to ensure Western can be held accountable, but also so that all may celebrate wins jointly. Western is doing amazing work and should be proud of this work, sharing it broadly.

Finally, in order to center the campus community in the 'greening' of our campus and its operations, Western should create a Green Revolving Fund (initially at \$1 million) to provide funding for student-, faculty-, and community-driven projects focused on sustainability, tied to deferred maintenance planning. As well, Western should create a Sustainability Research Fund (initially at \$1 million) to provide funding for student- and faculty-driven projects.



EDUCATION AND RESEARCH

Principle: Students should have the opportunity to learn about climate change, environmental sustainability, and their role in climate action.

Principle: Universities should provide various avenues for students to acquire education regarding environmental sustainability and climate change.

Principle: Interdisciplinary sustainability education assists students in applying environmental sustainability to their respective programs of study.

Principle: Research on climate change and environmental sustainability is crucial to informing government and university policies.

Principle: Research on environmental sustainability and climate change education should be incentivized and prioritized at both government and university levels.

Principle: There must be thorough engagement with Indigenous nations and communities in all environmental science and sustainability research.

Concern: Students are not given extensive opportunities to gain environmental sustainability education outside courses within the faculty of Science.

Concern: There is potential for more research than currently exists on economic, social, and other non-scientific aspects of environmental issues.

Concern: Restrictions on topics for research grants might deter individuals from conducting environmental science and sustainability change research.

Concern: There are limited opportunities for Indigenous contribution in current research on environmental science and sustainability.

Recommendation: Western should conduct a review of its existing course offerings focused on environmental sustainability and develop “living lab” courses that incorporate engagement and stewardship with the natural environment on campus.

Recommendation: Western should provide funding to support applied student-led research and interdisciplinary partnerships between students and faculty, as modeled after the UBC SEEDS Sustainability Program.



Recommendation: The provincial government should expand the “Priority Topics” for the Ontario Research Grants to ensure that there are environmental sustainability research opportunities for each discipline of study.

Recommendation: Western should recruit and adequately equip Indigenous scholars and researchers to conduct environmental sustainability research.

Recommendation: Western should consult with and involve Indigenous communities and nations in conducting research on relevant environmental science and sustainability matters.

Education and research opportunities for students will develop and contribute to their ability to recognize their role in climate action. To increase the scope of sustainability education offered on campus, Western should first review its existing environmental sustainability course offerings and assess where “living lab” elements can be incorporated and/ or developed. As outlined by Tolley et al. in the *Journal of College Science Teaching*, the concept of a living lab or campus ecosystem model “draws attention to the exchange of information between organisms and their environment...and to the linkages that exist between the campus and other ecosystems...”⁴⁹ They further state that this model builds upon previously tested practices that connect the learner directly to an ecosystem and goes past viewing a as just a setting in which education takes place, but rather as an environment to be studied by both science and non-science majors.⁵⁰ This model provides students with hands-on experiences with the environment to embed students in the larger campus ecosystem, developing a sense of place, belonging, and care for the environment.⁵¹

As an extension of the “living laboratory,” Western should also support student-led research. The UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program is an example of this model. This program creates applied research and interdisciplinary partnerships between students, faculty, staff and community partners to advance sustainability ideas, policies, and practices and create societal impacts by using the campus as a living lab.⁵² This program was Western Canada’s first academic operational program to integrate students’ passion for sustainability with faculty members’ research experience.⁵³ Very few universities in North America have programs such as this and, therefore, a program like this will not only distinguish Western as an institution devoted to sustainability, but also show Western’s commitment to student development and collaboration with the campus community. Since its development in 2000, the SEEDS program has engaged over 7500 senior undergraduate and graduate students, faculty, staff and community members and

49 S Gregory Tolley et al, “The Campus Ecosystem Model,” *Journal of College Science Teaching* (31), 2002, https://www.researchgate.net/publication/232607562_The_Campus_Ecosystem_Model, 364.

50 Ibid, 365.

51 Ibid.

52 UBC Sustainability, “SEEDS Sustainability Program,” University of British Columbia, Accessed Feb 1 2022, <https://sustain.ubc.ca/teaching-applied-learning/seeds-sustainability-program>.

53 UBC Sustainability, “About SEEDS,” University of British Columbia, Accessed Feb 1 2022, <https://sustain.ubc.ca/teaching-applied-learning/seeds-sustainability-program/about-seeds>.



funded over 800 student reports.⁵⁴

In promoting this research, Western must also consult and actively recruit and mobilize Indigenous scholars to conduct this research. Indigenous communities have cultivated our natural environment for time immemorial and have a key part in this field. In its 2021 Strategic Plan, Western identified a goal of improved research in this space.⁵⁵ Although this is great to see, the plan does not mention engagement with Indigenous communities specifically regarding environmental sustainability. This collaboration is crucial to sustainability work and should be prioritized as Western moves forward in this space.

Furthermore, the provincial government can also make great strides to encourage sustainability-focused research. Namely, this can be done through the expansion of priority topics under the Ontario Research Grants to include environmental sustainability research opportunities for each discipline of study. There are currently a limited number of research grants in Ontario for environmental sustainability and climate change.⁵⁶ As this is an interdisciplinary issue, it should be treated as such. The social sciences, health sciences, political sciences, business, and many other disciplines have a stake in the climate crisis and areas of research that can contribute to knowledge in this field.

54 Ibid.

55 Office of the President, "Towards Western at 150: Western University Strategic Plan," Western University, 2021, <https://strategicplan.uwo.ca/pdf/Western-Strategic-Report.pdf>, 23.

56 Ministry of the Environment, Conservation and Parks, "Ontario Community Environment Fund," Government of Ontario, 2021, <https://www.ontario.ca/page/ontario-community-environment-fund>.





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