Sustainability Plan 2019-2021
A Balanced Approach
Table of Contents

Sustainability at Niagara College ............................................................................. 4
Sustainability Plan
   Vision

Strategic Directions .................................................................................................. 5
   3 Strategic Directions
      Traditional Knowledge, Innovation and Technology, Global Awareness ............... 6

Stakeholder Engagement ......................................................................................... 7
Sustainability Plan Survey ....................................................................................... 8
Student-Led Focus Groups ....................................................................................... 8
Key Stakeholder Meetings ......................................................................................... 9
SWOT Analysis ......................................................................................................... 10
Student Involvement ............................................................................................... 11
Influences and Accountability .................................................................................. 12
Internal Accountability ............................................................................................ 12
External Influences .................................................................................................. 12
United Nations Sustainable Development Goals .................................................. 13
AASHE STARS ......................................................................................................... 13
Where We Have Been ............................................................................................. 14
Sustainability Plan Structure ................................................................................... 15
Sustainability in Action ............................................................................................ 16
Priority Area #1: Learning ....................................................................................... 17
Priority Area #2: Built & Natural Environment ...................................................... 18
Priority Area #3: Resource Conservation .............................................................. 19
Priority Area #4: Climate Action ............................................................................. 20
Priority Area #5: Community Building ................................................................. 21
Community Engagement ......................................................................................... 22
Continuous Improvement ......................................................................................... 22

Acknowledgements ................................................................................................ 23
Sustainability Plan Contributors ............................................................................ 23

List of Figures
   Figure 1: Quantity of Times a Priority Area Was Identified as a Priority in the Sustainably Survey ................................................................. 8
   Figure 2: Self-Identified Level of Understanding of Sustainability from the Sustainability Survey ................................................................. 8

List of Tables
   Table 1: Employee Consultation Department/Division Focus Group Summary ................................................................. 9
   Table 2: Employee Consultation Group/Committee Focus Group Summary ................................................................. 9
   Table 3: Student Consultation Program Focus Group Summary ................................................................. 9
Sustainability at Niagara College

At Niagara College, sustainability means providing high-quality applied education and training that meets the needs of students, employees, and the communities in which we operate today, while protecting and enhancing the human and natural resources that will be needed in the future. This definition builds on the Brundtland definition of sustainability that was adopted in 1987 by the United Nations World Commission on Environment and Development, to further focus on the importance of transformative education and hands-on learning to build a sustainable present and future\(^1\).

Niagara College first made environmental sustainability a key strategic priority in 2009, later forming the Sustainability Committee in 2011, and formally launching the Office of Sustainability in 2015 as an extension of the Sustainability Committee. Throughout the 2017-2021 Niagara College Strategic Plan, sustainability continues to be a priority. Looking now and in the future, sustainability will further develop at Niagara College, building on a strong record of accomplishment and commitment to reducing greenhouse gas emissions. Sustainability – in words and in action – will guide organization-wide planning, promote a culture of consciousness and deepen the commitment to corporate stewardship\(^2\).

To ensure the success of the Sustainability Plan, Niagara College believes in leading by example, which means demonstrating that the College is committed to reducing negative impacts on the natural environment, and increasing the social wellbeing of the college community, while ensuring fiscal responsibility. Building sustainability literacy through experiential learning programs for students, employees, and community members, helps empower them to participate effectively in civic dialogue, which is increasingly focused on managing sustainability-related challenges.

The Sustainability Plan provides a comprehensive overview of how Niagara College intends to continue to support and enhance sustainability on campus. The Plan objectives are as follows:

- Engage and educate the Niagara College community in sustainability on campus;
- Determine the key priority areas, respective measurable targets, and the associated action items to meet the targets set through the planning process;
- Provide direction for the Sustainability Committee, Office of Sustainability, and other departments in the College to continue to build sustainability programs and initiatives over the next 3 years; and
- Provide a platform to better capture sustainability in action on campus and in the community.

Strategic Directions

The Niagara College 2017-2021 Strategic Plan outlines three strategic directions for the College. The directions include being culturally and globally engaged, experientially focused and creative, and innovative and entrepreneurial, built on an institutional foundation that is collaborative and resourceful.

In alignment with the Niagara College Strategic Plan, common themes were identified throughout the stakeholder engagement process for the Sustainability Plan and three sustainability-focused strategic directions were established.

Three Strategic Directions:

- Traditional Knowledge
- Innovation and Technology
- Global Awareness

Three Strategic Directions:

**Traditional Knowledge**

The United Nations defines traditional knowledge as the understanding, skills, and philosophies developed by societies that have a long history of interaction with the natural environment. Traditional knowledge is represented throughout the plan, and seeks to inform decision-making while being mindful of the complex cultural and ecological history of Niagara College. It is also acknowledged that traditional practices have a foundation in sustainability principles and work in connection with the land; in every deliberation, consideration is given to the impact of those decisions on the next seven generations with respect to both the natural and built environment. This knowledge system goes beyond historical value and is demonstrated in the language, classification, resource practices, social interactions, and spirituality that is taught and appreciated at the College today.

**Innovation and Technology**

Niagara College has built a reputation as a pre-emptive college – training students to be leaders in emerging fields like commercial beekeeping, and renewable energies. The College looks at occupation clusters and future job opportunities, to develop academic programs that anticipate industry needs. The fastest growing segments of many industries are sustainability-oriented, and support the transition to a low-carbon economy. Institutions like Niagara College need to educate and train students to have the practical skills necessary to be prepared to work in these emerging sectors. Innovation and technology will have an important role to increase sustainability moving into the future for the college to maintain a reputation of being a pre-emptive institution.

**Global Awareness**

Niagara College is committed to creating a culturally and globally engaged college community focused on inclusivity and accessibility, more diverse in its enrolment, and is known for a broad range of programs that infuse new skills and competencies that align with a changing world. Academic programs also incorporate globally minded applied research capabilities, focusing on sustainability within the teaching and learning environment. By incorporating sustainability issues, both locally and globally, Niagara College is able to infuse practical skills and experiences for students that will provide them with a competitive edge as they enter the workforce.

---


Throughout the planning process, the Office of Sustainability engaged over 2,000 students and employees to assist in the development of Niagara College’s three-year Sustainability Plan. The three-year plan will also position the College to align with the Niagara College Strategic Plan. The stakeholder engagement process took place from December 2017 to July 2018, to ensure adequate outreach within the college community. The following describes each of the engagement strategies used in detail, and highlights key results that helped shape the Plan.
### Sustainability Plan Survey

Between December 2017 and February 2018, a college-wide online survey with over 1,250 respondents was conducted with the intent of collecting information about what sustainability priority areas and actions are important to students and employees.

The survey asked participants to determine the top five sustainability priorities from ten different options. Figure 1 illustrates the number of times each of the twelve priority areas were selected.

The survey acted as a primary sustainability literacy assessment by asking the college community to self-assess their level of sustainability knowledge. As seen in Figure 2, roughly 86% of respondents self-identified as having at least some knowledge of sustainability. These data help to inform the goals and action items for this plan, and can be used to develop communication strategies for the Sustainability Plan over the next three years.

### Student-Led Focus Groups

A number of students in the Environmental Management and Assessment (EMA) graduate certificate program collaborated with the Office of Sustainability as part of a work-integrated learning opportunity. The EMA students took the information collected in the Sustainability Plan survey and scheduled focus groups, open to both students and employees, to gather more information on the data collected in the survey. In these focus groups, information concerning the College's sustainability priorities and plan action items were discussed in depth.

Key findings from the student-led focus groups are summarized below:

- The Niagara College community prioritizes Academics, Health & Wellness, and Food when considering sustainability on campus;
- Although Social Inclusion did not come out as a priority in the focus group discussions, the EMA students deemed it important to the plan, as it aligns with mandates set by external influences like the United Nations Sustainable Development Goals;
- International students feel they have a limited understanding of sustainability on campus, but have a desire to gain more knowledge; and
- Students that self-identified as having environmental knowledge had a higher-than-normal understanding of sustainability issues on campus.
Key Stakeholder Meetings

After the survey was completed, key stakeholder meetings were conducted with various departments, divisions, groups, and committees across the College. The meetings were integral for providing feedback and ensuring cross-functional representation of all stakeholders, as well as helping to determine the governance and accountability structure over the next three years. Please refer to Table 1, Table 2, and Table 3 for more information.

The input obtained through these key stakeholder meetings informed the strategic directions, priority areas, and action items for the plan. The key findings from these meetings are as follows:

- There is a knowledge gap among employees of existing sustainability initiatives and programs;
- The desired sustainability outcomes are consistent across departments, divisions, and committees;
- There is a need for improved branding for sustainability at Niagara College; and
- Employees are in favour of supporting and increasing sustainability-focused experiential and work-integrated learning opportunities for students.

### Employee Consultations

<table>
<thead>
<tr>
<th>Department/Division</th>
<th>Number of Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletics</td>
<td>1</td>
</tr>
<tr>
<td>Business, Hospitality &amp; Environment Division</td>
<td>5</td>
</tr>
<tr>
<td>Canadian Food &amp; Wine Institute</td>
<td>1</td>
</tr>
<tr>
<td>Centre for Student Engagement &amp; Leadership</td>
<td>3</td>
</tr>
<tr>
<td>Facilities Management Services</td>
<td>15</td>
</tr>
<tr>
<td>Human Resources</td>
<td>8</td>
</tr>
<tr>
<td>Indigenous Education</td>
<td>2</td>
</tr>
<tr>
<td>International Division</td>
<td>8</td>
</tr>
<tr>
<td>Marketing and Recruitment</td>
<td>2</td>
</tr>
<tr>
<td>Research &amp; Innovation</td>
<td>13</td>
</tr>
<tr>
<td>Student Administrative Council</td>
<td>2</td>
</tr>
<tr>
<td>Student Services</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1: Employee Consultation Department/Division Group Summary

<table>
<thead>
<tr>
<th>Employee Consultations</th>
<th>Number of Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisory College Council</td>
<td>20</td>
</tr>
<tr>
<td>College Operations Group</td>
<td>20</td>
</tr>
<tr>
<td>Corporate Services Expanded Management Team</td>
<td>25</td>
</tr>
<tr>
<td>Support Team Recognition Day</td>
<td>40</td>
</tr>
<tr>
<td>Sustainability Committee</td>
<td>14</td>
</tr>
</tbody>
</table>

Table 2: Employee Consultation Group/Committee Focus Group Summary

### Student Consultations

<table>
<thead>
<tr>
<th>Academic Programs</th>
<th>Number of Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Business Administration</td>
<td>25</td>
</tr>
<tr>
<td>Brewmaster</td>
<td>30</td>
</tr>
<tr>
<td>Construction Engineering Technology</td>
<td>47</td>
</tr>
<tr>
<td>Culinary Innovation and Food Technology</td>
<td>20</td>
</tr>
<tr>
<td>Culinary Management</td>
<td>44</td>
</tr>
<tr>
<td>*Ecosystem Restoration</td>
<td>16</td>
</tr>
<tr>
<td>*Environmental Management and Assessment</td>
<td>67</td>
</tr>
<tr>
<td>Environmental Technician-Fiel d Laboratory</td>
<td>44</td>
</tr>
<tr>
<td>*Event Management</td>
<td>25</td>
</tr>
<tr>
<td>Hospitality</td>
<td>30</td>
</tr>
<tr>
<td>Hospitality and Restaurant Operations</td>
<td>20</td>
</tr>
<tr>
<td>*Hospitality and Tourism Management</td>
<td>50</td>
</tr>
<tr>
<td>Photonics Engineering</td>
<td>25</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>19</td>
</tr>
<tr>
<td>Tourism Management- Business Development</td>
<td>29</td>
</tr>
<tr>
<td>Winery and Viticulture Technician</td>
<td>44</td>
</tr>
</tbody>
</table>

Table 3: Student Consultation Program Focus Group Summary

*Graduate Certificate Program
As part of the stakeholder engagement process, the feedback was summarized into an analysis of the strengths, weaknesses, opportunities, and threats, which is also known as a SWOT analysis, which can be seen below. Strengths and weaknesses are internally focused, and opportunities and threats are externally focused.

**STRENGTHS**

- Existing outreach and education programs
- External partnerships
- Faculty expertise
- Geographic location
- History of sustainability accomplishments
- Office of Sustainability
- Program Advisory Committee (PAC) expertise
- Senior administration commitment

**WEAKNESSES**

- Competing institutional priorities
- Costs of implementation
- High student turnover rate
- Lack of awareness of sustainability initiatives
- Lack of sustainability learning outcomes
- Lack of sustainability literacy
- Resources required for implementation

**OPPORTUNITIES**

- Address industry skills gap
- Brand strength and reputation
- Community partnerships
- Culture of sustainability in community
- Leverage future funding

**THREATS**

- Availability of external funding and resources
- Increasing costs
- Material risk associated with climate change impacts
- Political uncertainty
- Public transportation infrastructure
- Reputational risk
“Volunteering with the Office of Sustainability at Niagara College elevated my academic experience to something above and beyond the classroom. I was able to find opportunities, using the Get Involved Portal, that not only let me contribute to my community, but rounded out my professional portfolio too. Working toward common goals with other students and local professionals in environmentally-oriented businesses helped build my confidence to go into job interviews knowing that I had real-world experiences to draw from.”

Laura Hamstra, Environmental Management and Assessment graduate
To ensure success throughout the implementation of the Sustainability Plan, it is necessary to address both internal accountability and external influences for sustainability on campus.

**Internal Accountability**

The success of sustainability on campus is a combined effort between all members of the Niagara College community. Although sustainability is everyone’s responsibility, it should be recognized that there are ways people can contribute, both directly and indirectly. Throughout the Plan, the Office of Sustainability is frequently mentioned; however, the role of the Office of Sustainability is to facilitate partnerships, student projects, and work-integrated learning opportunities that will contribute to achieving the Plan action items. The Niagara College Executive Team will oversee the administration and execution of the Sustainability Plan, to support the integration of the plan into college operations and services.

**External Influences**

Multiple influences exist within the sustainability sector, both internal and external to Niagara College and the higher-education sector. The two key influences identified for the Plan are the United Nations Sustainable Development Goals (SDGs) and the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment and Rating System (STARS).
**United Nations Sustainable Development Goals**

The United Nations Sustainable Development Goals (SDGs) are a product of Transforming our World: the 2030 Agenda for Sustainable Development. The Agenda’s main objective is to end poverty, protect the planet, and ensure all people enjoy peace and prosperity. There are seventeen SDGs intended to inspire countries and organizations to take action to meet the Agenda’s objectives. As a pre-emptive institution, Niagara College is committed to contributing to the goals and taking sustainability action at a global scale, which can be achieved through innovative academic programs, and engaging the college community in sustainability issues. Alignment and support of the goals will prepare Niagara College students for the international job market by ensuring their knowledge of current issues through experiential learning opportunities.

---

**AASHE STARS**

The Association for the Advancement of Sustainability in Higher Education (AASHE) is the organization that administers the Sustainability Tracking, Assessment & Rating System (STARS). The STARS framework provides a platform for colleges and universities across the world, to measure and report sustainability performance. STARS provides a system for baselining and benchmarking sustainability, and encourages continual improvement of sustainability programs at the institutional level. Niagara College was rated a Silver institution in 2016, having improved the rating from Bronze in 2013. To ensure the success of the Plan, STARS will be used as a reporting system, providing metrics for sustainability reports over the next three years.

---

Where We Have Been

Niagara College has a history of practicing sustainability, and each year, over 2,000 volunteer hours are completed on sustainability based projects on campus and in the community. The following timeline demonstrates the College’s commitment.

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Automotive Lab Opens</td>
<td>2018</td>
</tr>
<tr>
<td>Join WWF Living Planet at Niagara-on-the-Lake Campus</td>
<td>2017</td>
</tr>
<tr>
<td>Stars Silver Rating</td>
<td>2016</td>
</tr>
<tr>
<td>Inaugural BioBlitz</td>
<td>2015</td>
</tr>
<tr>
<td>Inaugural GM GREEN Program</td>
<td>2014</td>
</tr>
<tr>
<td>Implements Bottled Water Ban</td>
<td>2012</td>
</tr>
<tr>
<td>Installs Geothermal Heat Pump</td>
<td>2011</td>
</tr>
<tr>
<td>Forms Sustainability Committee</td>
<td>2010</td>
</tr>
<tr>
<td>Strategic Plan</td>
<td>2009</td>
</tr>
<tr>
<td>Integrates Sustainability</td>
<td></td>
</tr>
</tbody>
</table>
Niagara College is committed to driving a horizontally and vertically integrated culture of sustainability that goes beyond operations at the College to create living laboratories to facilitate experiential learning for students, employees, and community members.

## Strategic Directions

### GLOBAL AWARENESS
- Incorporate relevant learning outcomes into courses to increase sustainability literacy
- Increase partnerships with academic courses for work-integrated learning opportunities

### TECHNOLOGY & INNOVATION
- Implement strategies to recognize ecosystem services and traditional ecological knowledge when decision-making

### TRADITIONAL KNOWLEDGE
- Enhance natural habitats on campus to prevent net loss of biodiversity
- Implement strategies to recognize ecosystem services and traditional ecological knowledge when decision-making

### Five Priority Areas

#### RESOURCE CONSERVATION
- Reduce absolute waste to landfill
- Increase waste diversion rate
- Increase food waste capture rate

#### LEARNING
- Reduce absolute water consumption
- Implement initiatives to maintain and improve surface water quality on campus

#### CLIMATE ACTION
- Reduce absolute and intensity-based electricity consumption
- Reduce absolute and intensity-based natural gas consumption

#### BUILT AND NATURAL ENVIRONMENT
- Enhance natural habitats on campus to prevent net loss of biodiversity
- Implement strategies to recognize ecosystem services and traditional ecological knowledge when decision-making

#### COMMUNITY BUILDING
- Create programs and opportunities that are accessible to all members of the community
- Increase the number of programs and events that support health and wellness on campus

#### WASTE
- Reduce absolute waste to landfill
- Increase waste diversion rate
- Increase food waste capture rate

#### WATER
- Reduce absolute water consumption
- Implement initiatives to maintain and improve surface water quality on campus

#### ENERGY
- Reduce absolute and intensity-based electricity consumption
- Reduce absolute and intensity-based natural gas consumption

#### CO-CURRICULAR
- Increase sustainability-focused experiential learning opportunities through volunteer opportunities

#### RESEARCH & INNOVATION
- Ensure all future applied research projects consider at least one sustainability priority

#### GREENHOUSE GAS EMISSIONS
- No net increase greenhouse gas emissions above 2011 levels

#### BIODIVERSITY
- Enhance natural habitats on campus to prevent net loss of biodiversity
- Implement strategies to recognize ecosystem services and traditional ecological knowledge when decision-making

#### GROUNDS
- Strengthen engagement and communication for the natural resource monitoring protocols and programs
- Achieve Audubon International Cooperative Sanctuary Program certification at the Welland Campus

#### BUILDINGS
- Incorporate sustainable building practices into all future new construction and renovation projects.

#### SOCIAL INCLUSION
- Create programs and opportunities that are accessible to all members of the community

#### HEALTH & WELLNESS
- Increase the number of programs and events that support health and wellness on campus
- Assist in increasing awareness and engagement of health and wellness initiatives on campus

#### FOOD
- Incorporate sustainable and local food practices into campus food service operations
- Support programs to increase student food security

#### TRANSPORTATION
- Increase support for sustainable and alternative transportation methods
Sustainability in Action

Five key priority areas have been identified for Niagara College. Additional sub-priorities, goals, targets, and action items are also identified in order to meet the Plan’s objectives. Goals listed within the sub-priorities help identify performance measures, allowing for annual sustainability progress reports to be generated. This section outlines each priority area and the associated principles that guide the goals and action items that are intended to be completed throughout the three-year Sustainability Plan. Targets have been developed for some goals to quantitatively measure progress where existing baseline data is available.
Priority Area #1: Learning
PRINCIPLE: Strengthen college community awareness and understanding of sustainability, global citizenship, and society through academic programming, experiential learning, and applied research.

1A. Academic
OBJECTIVE: Provide students with relevant skill sets for the job market by embedding sustainability into academic courses through learning outcomes and work-integrated learning opportunities.
GOAL 1 (1A): Incorporate relevant learning outcomes into courses to increase sustainability literacy.
GOAL 2 (1A): Increase partnerships with academic courses for work-integrated learning opportunities.

1B. Co-Curricular
OBJECTIVE: Provide experiential learning opportunities for students, employees, and community members to learn about sustainability in a practical hands-on setting.
GOAL 1 (1B): Increase sustainability-focused experiential learning opportunities through volunteering.
TARGETS:
- Increase the number of sustainability-related volunteer hours by 10%

1C. Research & Innovation
OBJECTIVE: Prioritize sustainability to create new opportunities and partnerships, while continuing to grow a culture of creativity, innovation, and entrepreneurship.
GOAL 1 (1C): Ensure all future applied research projects consider at least one sustainability priority.
TARGETS:
- 100% of applied research projects with Research and Innovation consider at least one sustainability priority

Learning Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Sub-Priority</th>
<th>Timeline</th>
<th>Accountability</th>
<th>Academic Schools</th>
<th>STARS Category</th>
<th>UN SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete an inventory of academic programs that include sustainability-focused and sustainability-related courses</td>
<td>Academic</td>
<td>Short</td>
<td>Office of Sustainability</td>
<td>All</td>
<td>Academic (AC 1)</td>
<td>4, 17</td>
</tr>
<tr>
<td>Complete an inventory of research projects that include sustainability</td>
<td>Research &amp; Innovation</td>
<td>Short</td>
<td>Research &amp; Innovation</td>
<td>Environmental and Horticultural Studies</td>
<td>Academic (AC 9)</td>
<td>4, 9</td>
</tr>
<tr>
<td>Increase the number of annual events to increase community participation and increase sustainability-related volunteer opportunities</td>
<td>Co-Curricular</td>
<td>On-Going</td>
<td>Office of Sustainability &amp; Centre for Student Engagement &amp; Leadership</td>
<td>Hospitality, Tourism and Sport</td>
<td>Engagement (EN 3)</td>
<td>4, 17</td>
</tr>
<tr>
<td>Develop a checklist for new research projects that consider sustainability elements</td>
<td>Research &amp; Innovation</td>
<td>Medium</td>
<td>Research &amp; Innovation</td>
<td>Environmental and Horticultural Studies</td>
<td>Academic (AC 10)</td>
<td>9</td>
</tr>
<tr>
<td>Evaluate sustainability learning outcomes for academic programs</td>
<td>Academic</td>
<td>Medium-Long</td>
<td>Office of Sustainability in consultation with Centre for Academic Excellence</td>
<td>All</td>
<td>Academic (AC 2)</td>
<td>4</td>
</tr>
</tbody>
</table>
Priority Area #2: Built & Natural Environment

PRINCIPLE: Enhance green building design and experiences that support ecosystem protection and conservation of biological diversity.

2A. Biodiversity

OBJECTIVE: Promote the value of biodiversity and ecological services on campus and within the broader community to promote no net loss.

GOAL 1 (2A): Enhance natural habitats on campus to prevent net loss of biodiversity.

GOAL 2 (2A): Implement strategies to recognize ecosystem services and traditional ecological knowledge when decision-making.

TARGETS:
- Increase the number of species verified on the biodiversity inventory by 10%
- Increase the number of habitat structures on campus by 10%

2B. Grounds

OBJECTIVE: Support the natural and manicured environments to further the protection of the natural capital on campus grounds from the effects of climate change through education and social experience.

GOAL 1 (2B): Strengthen engagement and communication for the natural resource monitoring protocols and programs.

GOAL 2 (2B): Achieve Audubon International Cooperative Sanctuary Program certification at the Welland Campus.

2C. Buildings

OBJECTIVE: Integrate sustainability into spaces on campus through design and construction for new and renovated buildings.

GOAL 1 (2C): Incorporate sustainable building practices into all future new construction and renovation projects.

Built & Natural Environment Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Sub-Priority</th>
<th>Timeline</th>
<th>Accountability</th>
<th>Academic Schools</th>
<th>STARS</th>
<th>UN SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete ongoing species monitoring to maintain an updated campus species inventory</td>
<td>Biodiversity &amp; Grounds</td>
<td>On-going</td>
<td>Office of Sustainability &amp; Facilities Management &amp; School of Environmental and Horticultural Studies</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 10)</td>
<td>14, 15</td>
</tr>
<tr>
<td>Adopt a sustainable building standard for new construction and renovations</td>
<td>Buildings</td>
<td>Medium</td>
<td>Facilities Management</td>
<td>Environmental and Horticultural Studies, Trades, Technology</td>
<td>Operations (OP 3 &amp; OP 4)</td>
<td>9, 11</td>
</tr>
<tr>
<td>Install and maintain a pollinator garden at both campuses</td>
<td>Biodiversity</td>
<td>On-Going</td>
<td>Facilities Management &amp; School of Environmental and Horticultural Studies</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 10)</td>
<td>15</td>
</tr>
<tr>
<td>Evaluate feasibility of installing a living wall at each campus</td>
<td>Building</td>
<td>Medium</td>
<td>Facilities Management Services &amp; School of Environmental and Horticultural Studies</td>
<td>Environmental and Horticultural Studies, Trades, Technology</td>
<td>Operations (OP 4)</td>
<td>3</td>
</tr>
<tr>
<td>Install a green roof at both campuses</td>
<td>Grounds</td>
<td>Short</td>
<td>Facilities Management Services</td>
<td>Environmental and Horticultural Studies, Trades, Technology</td>
<td>Operations (OP 4)</td>
<td>11</td>
</tr>
<tr>
<td>Determine the value of an indoor and outdoor air quality monitoring program</td>
<td>Buildings &amp; Grounds</td>
<td>Medium</td>
<td>Facilities Management Services &amp; School of Environmental and Horticultural Studies</td>
<td>Environmental and Horticultural Studies, Technology</td>
<td>Operations (OP 2)</td>
<td>3</td>
</tr>
</tbody>
</table>
Priority Area #3: Resource Conservation

PRINCIPLE: Promote an understanding of the impacts associated with resource consumption and how effective resource management practices can reduce negative environmental impacts.

3A. Waste
OBJECTIVE: Reduce waste generation and increase efficiencies in services and operations.
GOAL 1 (3A): Reduce absolute waste sent to landfill.
GOAL 2 (3A): Increase waste diversion rate.
GOAL 3 (3A): Increase food waste capture rate.
TARGETS:
- Reduce waste sent to landfill by 10% from 2012
- Achieve a diversion rate of 65%
- Achieve an organics capture rate of 70%

3B. Water
OBJECTIVE: Address the impacts associated with water quality and consumption.
GOAL 1 (3B): Reduce absolute water consumption.
GOAL 2 (3B): Implement initiatives to maintain and improve surface water quality on campus.
TARGET:
- Reduce absolute water consumption by 10% from 2011

3C. Energy
OBJECTIVE: Address the environmental impacts of energy consumption and generation through increased efficiencies.
GOAL 1 (3C): Reduce absolute and intensity-based electricity consumption.
GOAL 2 (3C): Reduce absolute and intensity-based natural gas consumption.
TARGETS:
- Reduce absolute and intensity-based (per square foot and per cooling degree day) electricity consumption by 10% from 2011
- Reduce absolute and intensity-based (per square foot and per heating degree day) natural gas consumption by 10% from 2011

Resource Conservation Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Sub-Priority</th>
<th>Timeline</th>
<th>Accountability</th>
<th>Academic Schools</th>
<th>STARS</th>
<th>UN SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create an engagement strategy to increase awareness of on campus waste separation practices</td>
<td>Waste</td>
<td>Medium</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies, Business and Management</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
<tr>
<td>Develop a strategy to reduce the use of single use plastics on campus</td>
<td>Waste</td>
<td>Medium</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 19)</td>
<td>12,14</td>
</tr>
<tr>
<td>Develop a strategy to improve water conservation practices for campus grounds</td>
<td>Water</td>
<td>Long</td>
<td>Office of Sustainability &amp; Facilities Management &amp; School of Environmental and Horticultural Studies</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 22)</td>
<td>6,9</td>
</tr>
<tr>
<td>Develop a surface water report card for the Niagara-on-the-Lake Campus as part of the water quality monitoring program</td>
<td>Grounds &amp; Water</td>
<td>Short</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 9)</td>
<td>6,14</td>
</tr>
<tr>
<td>Develop and engagement strategy to increase awareness of water conservation best practices</td>
<td>Water</td>
<td>Medium</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies, Business and Management</td>
<td>Engagement (EN 4)</td>
<td>4, 6</td>
</tr>
<tr>
<td>Explore an alternative disposal option for coffee cups</td>
<td>Waste</td>
<td>Medium</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies, Business and Management</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
<tr>
<td>Promote tools like the “What Goes Where” waste function of the Niagara College Sustainability website to increase awareness about waste management practices on campus</td>
<td>Waste</td>
<td>On-going</td>
<td>Office of Sustainability</td>
<td>All</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
<tr>
<td>Develop a strategy to reduce food waste on campus to comply with new Ontario food recovery legislation</td>
<td>Waste</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Food Service providers on campus</td>
<td>Environmental and Horticultural Studies, Canadian Food and Wine Institute</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
<tr>
<td>Update Niagara College’s Conservation Demand Management plan</td>
<td>Energy</td>
<td>Short</td>
<td>Office of Sustainability &amp; Facilities Management</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 5)</td>
<td>7,13</td>
</tr>
<tr>
<td>Conduct a comprehensive energy audit at both campuses</td>
<td>Energy</td>
<td>Medium</td>
<td>Facilities Management</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 5)</td>
<td>9</td>
</tr>
<tr>
<td>Continue to conduct annual solid non-hazardous waste audits for ministry compliance</td>
<td>Waste</td>
<td>Ongoing</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
<tr>
<td>Develop a green-event guide to help reduce event-related waste</td>
<td>Waste</td>
<td>Ongoing</td>
<td>Office of Sustainability &amp; Facilities Management</td>
<td>Environmental and Horticultural Studies, Business and Management</td>
<td>Operations (OP 19) &amp; Engagement (EN 4)</td>
<td>12</td>
</tr>
<tr>
<td>Conduct a water audit for both campuses</td>
<td>Water</td>
<td>Medium</td>
<td>Office of Sustainability</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 22)</td>
<td>6</td>
</tr>
<tr>
<td>Support waste reduction efforts implemented at campus student residences</td>
<td>Waste</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Residences</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 19)</td>
<td>12</td>
</tr>
</tbody>
</table>

---

Target set by the Ministry of Environment, Conservation and Parks in line with the Waste Free Ontario Act.
### Priority Area #4: Climate Action

**PRINCIPLE:** Address the material risk associated with climate change impacts with an emphasis on managing greenhouse gas emissions.

#### 4A. Greenhouse Gas Emissions

**OBJECTIVE:** Support Canada’s commitment to the Paris Agreement to limit temperature increases to less than 2 degrees Celsius above pre-industrial levels.

**GOAL 1 (4A):** No net increase of greenhouse gas emissions from 2011 baseline levels.

**Target:**
- No net increase of greenhouse gas emissions from 2011 baseline levels

<table>
<thead>
<tr>
<th>Climate Action Actions</th>
<th>Sub-Priority</th>
<th>Timeline</th>
<th>Accountability</th>
<th>Academic Schools</th>
<th>STARS</th>
<th>UN SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase sustainability in procurement processes to incorporate more lifecycle costing analysis</td>
<td>Greenhouse Gas Emissions</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Financial Services</td>
<td>Environmental and Horticultural Studies</td>
<td>Operations (OP 11)</td>
<td>9, 12, 13</td>
</tr>
<tr>
<td>Start a program to increase knowledge across campus about climate change and the importance of reducing greenhouse gas emissions</td>
<td>Greenhouse Gas Emissions</td>
<td>On-going</td>
<td>Office of Sustainability Student Administrative Council</td>
<td>Environmental and Horticultural Studies</td>
<td>Engagement (EN 4)</td>
<td>4, 12, 13, 16,17</td>
</tr>
<tr>
<td>Promote the use of alternative energies on campus and the benefits they provide</td>
<td>Greenhouse Gas Emissions</td>
<td>Short</td>
<td>Office of Sustainability &amp; Facilities Management Services</td>
<td>Environmental and Horticultural Studies, Technology</td>
<td>Operations (OP 6)</td>
<td>7, 9, 11, 12, 13</td>
</tr>
<tr>
<td>Complete an institution-wide climate change adaptation risk assessment</td>
<td>Greenhouse Gas Emissions</td>
<td>Long</td>
<td>Office of Sustainability &amp; Facilities Management Services</td>
<td>Environmental and Horticultural Studies</td>
<td>N/A</td>
<td>13</td>
</tr>
<tr>
<td>Review fuel efficiency when purchasing new fleet vehicles</td>
<td>Greenhouse Gas Emissions</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Financial Services</td>
<td>N/A</td>
<td>Operations (OP 15)</td>
<td>7, 13</td>
</tr>
<tr>
<td>Create a business case template to facilitate more economically and environmentally balanced decisions</td>
<td>Greenhouse Gas Emissions</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Financial Services</td>
<td>Environmental and Horticultural Studies, Academic, Liberal and Access Studies, Business and Management</td>
<td>Operations (OP 11)</td>
<td>8</td>
</tr>
<tr>
<td>Conduct a comprehensive transit survey to determine commuting greenhouse gas emissions</td>
<td>Greenhouse Gas Emissions &amp; Transportation</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Student Administrative Council</td>
<td>Environmental and Horticultural Studies, Academic, Liberal and Access Studies</td>
<td>Operations (OP 16 &amp; OP 17)</td>
<td>1,11,13</td>
</tr>
<tr>
<td>Create a Climate Change Action Plan</td>
<td>Greenhouse Gas Emissions</td>
<td>Medium</td>
<td>Office of Sustainability &amp; Facilities Management Services</td>
<td>Environmental and Horticultural Studies</td>
<td>Planning &amp; Administration (PA 2)</td>
<td>13</td>
</tr>
</tbody>
</table>
Priority Area #5: Community Building

PRINCIPLE: Embed accessibility and equity to enhance personal well-being and access to services and operations.

5A. Social Inclusion
OBJECTIVE: Respect and encourage an inclusive environment by supporting all members of the college community.
GOAL 1 (5A): Create programs and opportunities that are accessible to all members of the college community.

5B. Health & Wellness
OBJECTIVE: Support mental, physical, and spiritual health by connecting people with the natural environment.
GOAL 1 (5B): Increase the number of programs and events that support health and wellness on campus.
GOAL 2 (5B): Assist in increasing awareness and engagement of health and wellness initiatives on campus.

5C. Food
OBJECTIVE: Support programs that increase access to sustainable healthy food that are socially, culturally, and physically significant.
GOAL 1 (5C): Incorporate sustainable and local food practices into campus food-service operations.
GOAL 2 (5C): Support programs to increase student food security.
Target:
- Increase local food purchasing by 5% across all food-service outlets from 2017 baseline levels

5D. Transportation
OBJECTIVE: Encourage sustainable transportation behaviours through the support of improved public transit and alternative transportation methods.
GOAL 1 (5D): Increase support for sustainable and alternative transportation methods.

Community Building Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Sub-Priority</th>
<th>Timeline</th>
<th>Accountability</th>
<th>Academic Schools</th>
<th>STARS</th>
<th>UN SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support the development of a sustainable recreation framework</td>
<td>Social Inclusion &amp; Health &amp; Wellness</td>
<td>Short / On-going</td>
<td>Athletics &amp; Recreation</td>
<td>Hospitality, Tourism and Sports, Academic, Liberal and Access Studies Planning &amp; Administration (PA 13)</td>
<td>3, 10, 16</td>
<td></td>
</tr>
<tr>
<td>Develop a sustainability engagement strategy for international students</td>
<td>Social Inclusion</td>
<td>Short</td>
<td>Office of Sustainability &amp; International, Student Administrative Council</td>
<td>Environmental and Horticultural Studies, Academic, Liberal and Access Studies, International Division</td>
<td>Engagement (EN 4 &amp; EN 5)</td>
<td>4, 10</td>
</tr>
<tr>
<td>Develop a guide for backyard/small-scale food production</td>
<td>Food &amp; Social Inclusion &amp; Health &amp; Wellness</td>
<td>Medium</td>
<td>School of Environment &amp; Horticultural Studies</td>
<td>Canadian Food and Wine Institute Engagement (EN 4)</td>
<td>2, 3, 10</td>
<td></td>
</tr>
<tr>
<td>Conduct feasibility study for sustainable transit opportunities such as car-share and bike-share</td>
<td>Transportation</td>
<td>Long</td>
<td>Student Administrative Council</td>
<td>Business and Management Operations (OP 18)</td>
<td>10,13</td>
<td></td>
</tr>
<tr>
<td>Incorporate bike accessibility into infrastructure</td>
<td>Transportation</td>
<td>Medium</td>
<td>Facilities Management Services &amp; Student Administrative Council</td>
<td>Hospitality, Tourism and Sport, Justice and Fitness</td>
<td>Operations (OP 18)</td>
<td>9,10,16</td>
</tr>
<tr>
<td>Evaluate the feasibility of a community garden program</td>
<td>Food</td>
<td>Long / On-going</td>
<td>Office of Sustainability &amp; School of Environment &amp; Horticultural Studies</td>
<td>Environmental and Horticultural Studies, Business and Management &amp; Academic, Liberal and Access Studies; Student Administrative Council</td>
<td>Engagement (EN 5)</td>
<td>2, 3,11,17</td>
</tr>
<tr>
<td>Adopt a local food guide</td>
<td>Food &amp; Social Inclusion &amp; Health &amp; Wellness</td>
<td>Medium</td>
<td>Office of Sustainability &amp; School of Environment &amp; Horticultural Studies &amp; CFW</td>
<td>Canadian Food and Wine Institute Engagement (EN 4)</td>
<td>2, 3, 10</td>
<td></td>
</tr>
<tr>
<td>Create a roadmap of opportunities to increase local food availability at both campuses</td>
<td>Food</td>
<td>Medium</td>
<td>Office of Sustainability &amp; School of Environment &amp; Horticultural Studies &amp; CFW</td>
<td>Canadian Food and Wine Institute &amp; Business and Management</td>
<td>Engagement (EN 4)</td>
<td>2, 3, 10</td>
</tr>
</tbody>
</table>
Community Engagement

To ensure the success of Niagara College’s Sustainability Plan moving forward through the next three years and beyond, communication and engagement in the plan is required. The following outlines the steps and tools that will be utilized to communicate the plan and its associated actions throughout the college community:

• Provide annual progress reports on the Plan;
• Incorporate experiential learning opportunities for students, employees, and community members in all priority areas;
• Provide annual updates to the Board of Governors;
• Update STARS rating at minimum every three years;
• Create events and targeted programming for the Plan; and
• Work with the Niagara College Marketing Department to develop an engagement campaign.

Continuous Improvement

Niagara College is committed to ensuring progress is made on the Sustainability Plan and, as a result, a number of feedback mechanisms have been established. The following list outlines these mechanisms:

• Host Sustainability Committee meetings three times per year;
• Establish working groups needed to accomplish action items;
• Develop an inventory of sustainability projects and initiatives, and maintain the updated inventory as progress towards targets is achieved; and
• Annual meetings with all departments to review action items, and establish and maintain accountability mechanisms and progress.
Acknowledgements

Niagara College would like to acknowledge that the land on which we gather is the traditional territory of the Haudensaunee, Attawandaran and Anishnaabeg peoples. This territory is covered by the Upper Canada Treaties, is within the lands protected by the “Dish With One Spoon” wampum agreement and is directly adjacent to Haldimand Treaty territory. Today, this gathering place is home to many First Nations, Métis and Inuit peoples and acknowledging them reminds us of the important connection to this land where we learn and work.

Sustainability Plan

Prepared by:
Amber Schmucker, Sustainability Program and Outreach Coordinator*
Jason Webb, Student in Environmental Management and Assessment
Taryn Wilkinson, Sustainability Advisor*

Institutional Contributors and Reviewers
Alan Unwin, Associate Dean of the School of Environmental and Horticultural Studies*
Ashley Buck, Indigenous Student Success Leader
Colin Robinson, Faculty in School of Trades*
Dan Patterson, President
Danielle Piluso, Energy Manager*
Donna Gerber, Indigenous Education Manager
Gary Dolch, Faculty in School of Technology*
Greg Medulun, Vice President of External Relations
Gregor MacLean, Research Project Manager*
Jamie Warren, Counsellor in Health Wellness & Accessibility
Jon Banninga, Student in Ecosystem Restoration
Julie Greco, Communications Consultant in External Relations*
Katie Alloft, Faculty in the School of Environmental and Horticultural Studies*
Kent Reynolds, Library Technician*
Kylie Rogg, Student in Environmental Technician - Field and Lab
Marc Nantel, Associate Vice President, Research & Innovation
Matthew Bohun, Library Technician
Michael Audibert, Board of Governors Coordinator
Pamela Skinner, Vice President of Corporate Services*
Patrick Robson, Faculty in the School of Environmental and Horticultural Studies
Ralph Scholz, Director of Facility Management Services
Rob Walters, Senior Advisor to the President
Ryan Huckla, Student Administrative Council President
Sean Kennedy, Vice President of International
Steve Hudson, Vice President of Academic and Learner Services
Steven Kosh, Executive Director of the Student Administrative Council*

*Sustainability Committee Members

Publication and Design
Niagara College Marketing