
# Sustainability Audit Report 2023/24

St. Thomas UNIVERSITY

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# EXECUTIVE SUMMARY

St. Thomas University (STU) has demonstrated a commitment to environmental sustainability through various programs, initiatives, and operational practices. The most commonly used definition of environmental sustainability is maintaining an ecological balance in our planet's natural environment and conserving natural resources to support the wellbeing of current and future generations.[1] Major environmental sustainability challenges include (but are not limited to) climate change, natural resource depletion, and environmental degradation.[2] This audit report evaluates STU's current sustainability performance based on the Sustainability Tracking, Assessment & Rating System (STARS) framework and provides recommendations for future enhancements.

In October 2023, STU hired a full-time Sustainability Coordinator, funded by the NB Environmental Trust Fund, to work on the Climate Action Plan (CAP) project. Prior to this there had not been a full-time staff member dedicated to sustainability or climate action planning at the university.

As part of the CAP project, the Sustainability Coordinator was tasked with completing an updated environmental sustainability audit of campus.

The last environmental audit conducted at St. Thomas University was completed in 2011. That audit, coordinated by Dr. Andrew Secord and prepared by students in various courses/internships, provided a baseline assessment of STU's environmental performance and offered recommendations for improvements across various operational domains. It focused on areas such as energy use, waste management, transportation, water consumption, and procurement, and emphasized the importance of institutional leadership, policy, and education for sustainability. Though the audit was limited to operations in scope and dependent on available data at the time, it laid the groundwork for future sustainability initiatives and highlighted the need for ongoing assessments and institutional support.

## Methodology

The Sustainability Coordinator accessed the Association for the Advancement of Sustainability in Higher Education's (AASHE) Sustainability Tracking and Rating System (STARS) Reporting Tool, established the audit methodology, identified data contacts, and collected data using the STARS framework.

Students in the winter semester ENVS 3053 Sustainability Auditing & Reporting course were given three guest lectures from the Sustainability Coordinator on conducting a sustainability audit in the higher education context and then given a for-credit experiential learning assignment to assist with parts of the institutional sustainability audit.

In 2024, STU hired MCW Maricor consultants to conduct an energy audit of all 10 buildings that STU operates and maintains, as part of the SaveEnergy NB Commercial Buildings Retrofit Program. The purpose of this energy audit was to identify and analyze feasible energy efficiency opportunities and

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[1] Brundtland, G.H. (1987) Our Common Future: Report of the World Commission on Environment and Development. Geneva, UN-Document A/42/427

[2] The Earth Charter. (2010). Journal of Education for Sustainable Development, 4 (2), 317-324. https://doi.org/10.1177/097340821000400222

water conservation opportunities resulting in financial savings and GHG emissions reductions for the facility.

Thanks are also given to several St. Thomas University employees who took time to help collecting data, including Philip Cliff, Dave Dunbar, Ferne Stuart, Michael Greer, Dr. Peter Toner, Dr. Janice Harvey, Mark Gifford, Cory Flynn, Jacqueline Cormier, Dr. Andrew Mathis, and Chris Teeter.

Funding from the NB Environmental Trust Fund and the Canada Summer Jobs program also funded the Waste Audit Assistant and Sustainability Reporting Assistant student positions. The students, Ana Canarte and and Justin Goodine, were also very helpful in collecting information for this report.

The physical scope of the audit includes all ten main campus buildings, Windsor Street houses, and the approximately 14 acres of main campus grounds. The scope does not include facilities in which STU students, staff, and faculty conduct academic and extracurricular activities, but that are not owned by STU, such as the Grant Harvey Center, the Lady Beaverbrook Gymnasium, the Harriet Irving Library, as well as facilities that house the AOTIITJ program in Elsipogtog First Nation, the Mi'kmaq/Maliseet Bachelor of Social Work in Sackville, New Brunswick, and the Maliseet Language Program at St. Mary's First Nation. Further research is needed to measure the impact of shared usage facilities.

The overall goal of this project is to facilitate, encourage, and support approaches related to planning, mitigating, and adapting to climate change at STU.

# ACADEMICS

| Impact Area | Estimated Points Earned | Points Available | |
|---|---|---|---|
| **Curriculum** | 16.14 | 37 | |
| **Research** | 11.14 | 23 | **27.28/60** |

## Curriculum

This impact area measures academic courses, formal education programs, and applied learning experiences that address sustainability. By training and educating future leaders, scholars, workers, and professionals, higher education institutions are uniquely positioned to prepare students to understand and address sustainability challenges. Institutions with educational programming on sustainability help equip their students to apply sustainability concepts and principles across diverse contexts and sectors of society.[3]

Institutional sustainability learning outcomes establish high level expectations for both students and the employees that design and implement educational offerings.[4] STU's institutional learning outcomes can be found in the overview section of the 2023-24 Academic Calendar. Although STU does not have any sustainability-focused institutional learning outcomes, four out of six of STU's institutional learning outcomes can be considered sustainability-supportive as defined by the UNESCO Education for Sustainable Development Goals: Learning Objectives:

1. *An independent, inquiring mind. A liberal education teaches people how to think; it does not dictate what they ought to think. It encourages, through independent reasoning and fair-minded inquiry, the recognition of unstated assumptions, the thoughtful reconsideration of received ideas, and the challenging of simplistic generalizations. The liberal arts thus explore controversial and competing ideas in ways that demand informed, careful, and considered judgment.*
2. *A breadth of knowledge and depth of understanding. Through both general and specialized studies, a liberal education seeks to stimulate an understanding of the content, methods, and theoretical approaches of different disciplines, as well as a capacity to integrate knowledge across disciplinary boundaries.*
3. *An awareness of the perennial questions and new challenges confronting humanity. A liberal education encourages appreciation of the variety and complexity of circumstances and human responses to them in different times and places.*
4. *A depth and consistency of moral judgment. A liberal education emphasizes the seriousness and difficulty of moral and ethical issues, and the necessity of examining them thoroughly.*

STU currently offers 7% sustainability focused courses and 13% sustainability inclusive courses as defined by the AASHE STARS program. This translates to 75% of academic departments with at least one sustainability course offering. The methodology used to conduct an inventory of sustainability in academic courses was to search the 2023-24 St. Thomas University Academic Calendar with a list of

[3] STARS® Technical Manual v3.0, Curriculum, pg. 0
[4] STARS® Technical Manual v3.0, Curriculum, pg. 1

keywords.[5] Offering a Major in Environment and Society as part of the Bachelor of Arts program demonstrates a strong institutional commitment to sustainability education, providing students with an in-depth understanding of sustainability challenges and solutions.

Sustainability-focused courses

Sustainability-related courses

STU has also recently embarked on a major expansion of its Environment and Society Program to focus on sustainability, supported by a 3-year external grant, which will provide resources for research and development, as well as new hires. The initiative is called the Sustainability Learning Lab, through which students will be able to earn a Certificate in Sustainability Studies and eventually a full major. In this first year, eleven new courses have been approved, with two more pending. These core offerings are being enhanced with cross-listed courses in other departments including philosophy, fine arts, literature, human rights, psychology, economics, and sociology. This is a one-time injection of funds to enable the establishment of a permanent multidisciplinary sustainability program involving new and established faculty across departments.

A 2024 voluntary environmental sustainability survey was sent to the whole campus community. Participants specifically, were asked to rate indicators of their satisfaction with the inclusion of sustainability in the curriculum. 64 students and 44 faculty members responded to the survey.

| | 1 strongly disagree | 2 | 3 | 4 | 5 strongly agree |
|---|---|---|---|---|---|
| *I am satisfied with the inclusion of environmental sustainability topics in my academic program/discipline. (student participants)* | | | 3.3 | | |
| *I feel prepared to address environmental sustainability challenges (e.g., climate change, pollution, biodiversity loss) as a result of my studies at St. Thomas University. (student participants)* | | | 3.3 | | |
| *I am satisfied with the inclusion of environmental sustainability topics in my academic program/discipline. (faculty participants)* | | | 3.3 | | |

[5] To save institutions time in developing their own keyword lists and to encourage greater consistency among such inventories, the Association for the Advancement of Sustainability in Higher Education (AASHE) has created this list of suggested sustainability keywords, which was used as a reference.

One notable strength lies in the increasing integration of applied learning projects, exemplified by courses such as the ENVS-3053 Sustainability Auditing & Reporting course that was added in Winter 2023/24, in which students were given a for-credit experiential learning assignment to assist with parts of this institutional sustainability audit. By leveraging the campus as a living laboratory, students gain practical experience and a deeper understanding of sustainability principles.

Certain immersive experiences, such as the Costa Rica Experiential Learning Trip, also offer students hands-on, real-world sustainability learning experiences. Such programs are essential for understanding the application of sustainability principles outside the classroom.

While STU offers some sustainability-focused programs and, there's room for expanding these offerings across more disciplines and incorporating sustainability more broadly into the curriculum and the offering of the Office of Experiential Learning to ensure all students gain foundational sustainability knowledge. There is also an opportunity to assess students' foundational sustainability knowledge by conducting a periodic institutional sustainability literacy assessment.

## Research

This impact area measures responsible research and innovation for sustainability. Conducting research and producing scholarly work are major functions of many higher education institutions. By researching sustainability issues and refining theories and concepts, higher education institutions can continue to help the world understand sustainability challenges and develop new strategies and tools to address them.[6]

According to AASHE, sustainability research is research and scholarship that explicitly addresses the concept of sustainability, furthers our understanding of the interdependence of ecological and social/economic systems, or has a primary and explicit focus on a major sustainability challenge. Major sustainability challenges include (but are not limited to) climate change, global poverty and inequality, natural resource depletion, and environmental degradation.[7]

The percentage of employees who conduct research that are engaged in sustainability research is 21%. Those researchers come from varied academic backgrounds, representing 28% of academic departments as being engaged in sustainability research.

[6] STARS® Technical Manual v3.0, Research, pg. 0
[7] STARS® Technical Manual v3.0, Research, pg. 4

Notably, as of 2023, a new research project is examining how adding more voices to the media discourse about energy transitions can help New Brunswickers make better choices about their future. The Contesting Energy Discourses through Action Research (CEDAR) is a five-year project studying energy transitions in Canada with a focus on New Brunswick and is funded by a $375,000 SSHRC Insight Grant.

The Office of Research Services (ORS) is currently engaged in the establishment of a comprehensive database cataloging faculty research interests and publications by soliciting updated information regarding their research interests and publications. However, this initiative presents challenges due to its voluntary nature. Faculty profiles on the STU website also provide varying information. Therefore, the methodology for measuring the percentage of employees who conduct research that are engaged in sustainability research was to consider the 22 faculty who have self-selected to be part of the Faculty Environment Research Network (FERN), overseen by Janice Harvey, as those conducting sustainability research. Further work is needed to map faculty publications and research interests to sustainability search terms.

Objective 1.9 of the Strategic Research Plan (2019-2024) is "To increase existing capacity in the field of environmental sustainability and climate change." Although, STU does not currently have a program to encourage academic staff from multiple disciplines or academic programs to conduct sustainability research, faculty members are eligible to apply for as much as $25,000/year in internal funding to support whatever their research interests might be, and STU provides administrative supports for faculty members to apply for external funding. STU also has a policy on research centres wherein any concentration of faculty doing research in a particular area could propose the creation of a research centre.

STU does not have a dedicated program to encourage students in multiple disciplines or academic programs to conduct sustainability research, but students are involved in sustainability research on an ad hoc basis. For example, in 2023 winter term, eight students were hired to investigate the proposed development of new nuclear reactors (SMRs) and plutonium extraction at the Point Lepreau nuclear plant site on the Bay of Fundy in New Brunswick with the Plutonium Project, an interdisciplinary research project led by researchers in the Environment and Society department and involving researchers in the Economics and Political Science department.

The STARS Framework also recognizes that institutions can play a leadership role in establishing social responsiveness, sustainability, and ethical acceptability as the new normal in research and innovation.[8] STU fulfills this role by having a published ethical code of conduct for research and participating in inter-campus research networks to promote responsible research and innovation, such as the Social Sciences and Humanities Research Council (SSHRC), the Maritime Provinces Higher Education Commission (MPHEC), and others. However, the university could further benefit from a published promotion or tenure policy that gives explicit positive recognition to integrated research, community-based research, and/or recognizes research impact or reach outside of academic journals, as well as further promoting and incentivizing open access research.

[8] STARS® Technical Manual v3.0, Research, pg. 1

# ENGAGEMENT

| Impact Area | Estimated Points Earned | Points Available | |
|---|---|---|---|
| **Campus Engagement** | 16.5 | 25 | |
| **Public Engagement** | 6.8 | 25 | **23.3/50** |

This impact area measures the engagement of campus stakeholders around sustainability issues through effective outreach and communications, learning experiences outside the formal curriculum, and staff networking and training activities. Engaging in sustainability issues through co-curricular activities allows students to deepen and apply their understanding of sustainability principles. Institution-sponsored, co-curricular sustainability offerings help integrate sustainability into the campus culture and set a positive tone fort he institution. Employees' daily decisions impact an institution's sustainability performance and employees can model sustainable behavior for students and the rest of the campus community. Equipping employees with the tools, knowledge, and motivation to promote sustainability is an essential activity of a sustainable campus. [9]

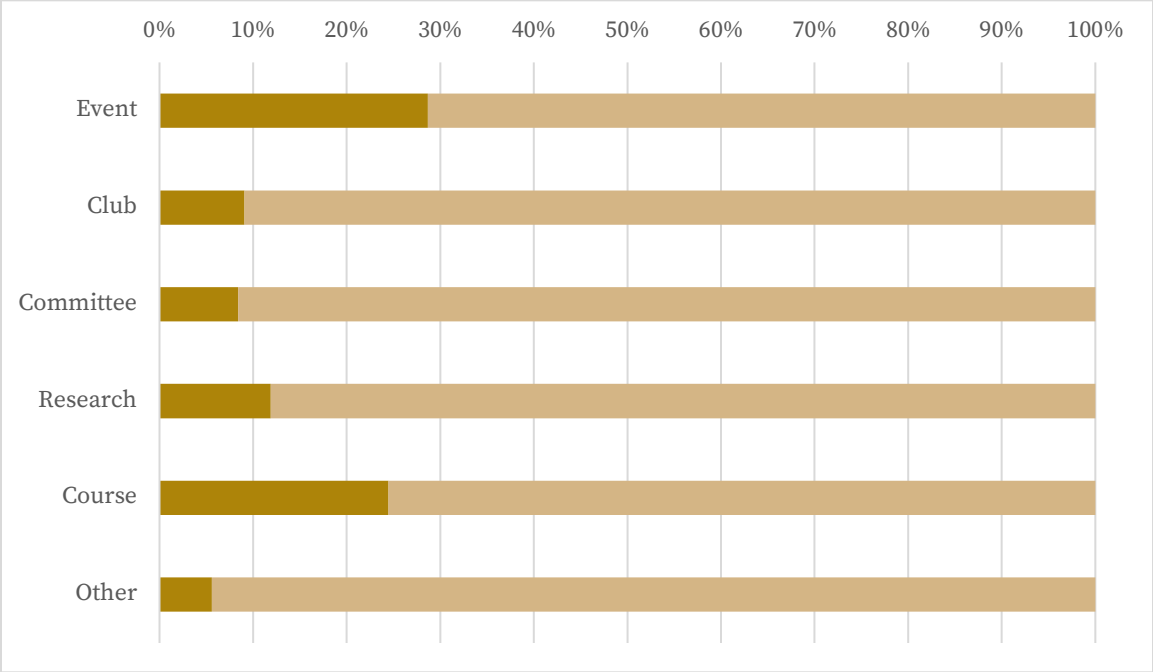
## Campus Engagement

A 2024 voluntary environmental sustainability survey that was sent to the whole campus community collected data to understand sustainability culture on campus, including perceptions, beliefs, and behaviors related to sustainability, as well as awareness of ongoing initiatives. Out of 143 respondents 52% were staff of faculty and 48% were students. Most respondents strongly agreed that they are familiar with the concept of sustainability and are concerned about environmental sustainability challenges.

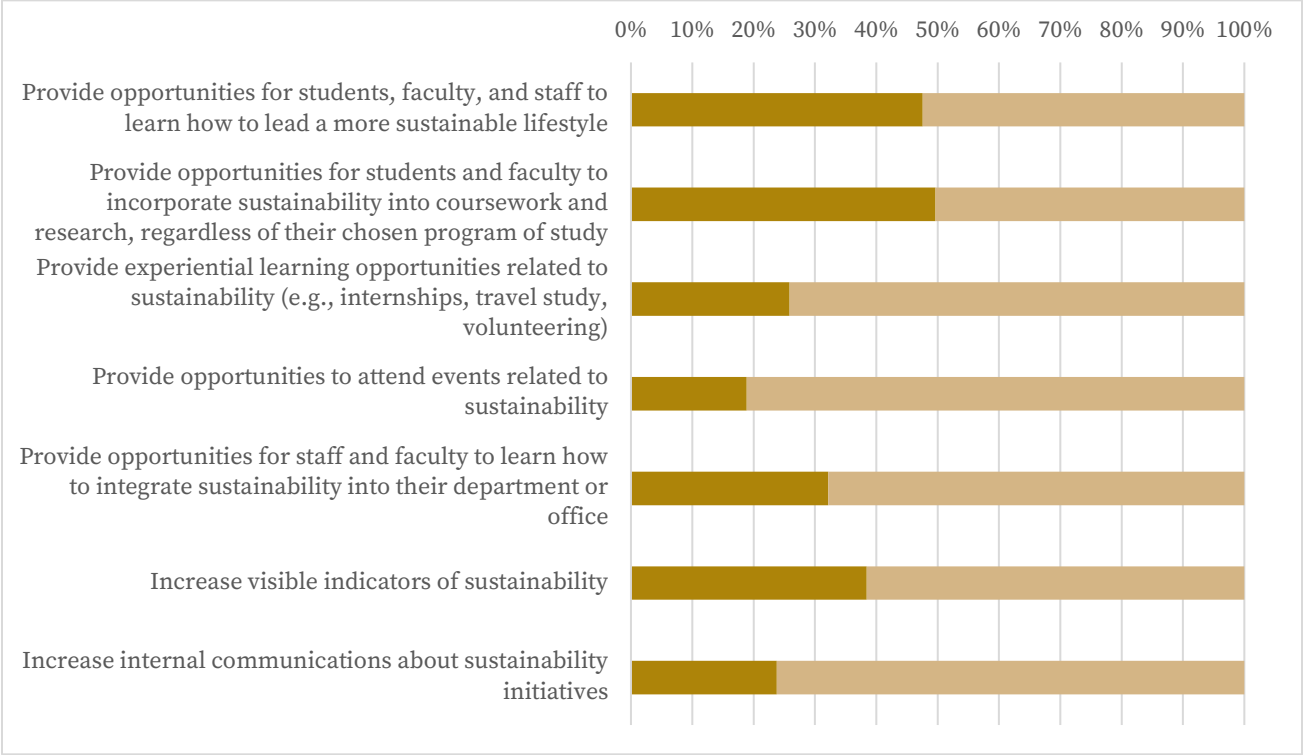
| | 1 strongly disagree | 2 | 3 | 4 | 5 strongly agree |
|---|---|---|---|---|---|
| *The extent to which you are familiar with the concept of environmental sustainability.* | | | | 4.4 | |
| *The extent to which you are concerned about environmental sustainability challenges (e.g., climate change, pollution, biodiversity loss).* | | | | 4.5 | |

As part of the environmental sustainability survey, participants were asked to indicate any environmental sustainability-related initiatives they had participated in at STU. 52% of respondents had participated in one or more sustainability-related initiatives on campus (i.e., event, club, research, course, committee, etc.).

[9] STARS® Technical Manual v3.0, Engagement, pg. 0




Environmental sustainability survey participants were also asked to indicate any ways in which they think the university can better foster a culture of sustainability on campus.




Sixteen respondents answer “other” for ways in which they think the university can better foster a culture of sustainability on campus. Here is a weighted word cloud representing their responses:



The university fosters a vibrant student life that encourages involvement in sustainability initiatives, such as the Students for Sustainability Club that promotes environmental awareness among their peers by leading and engaging the student body in sustainability initiatives on and off campus, the annual STU Cares Day of Action, and Spring Up, a STU Enactus project that started as a cleanup initiative on the city's trail system and expanded to include a Sustainability Swap of gently used items hosted on STU's campus.

Outreach materials, such as the newly created STU.ca/sustainability webpage, help to communicate the university's commitment to sustainability to a broader audience.

However, there is room for improvement in various areas. For instance, the absence of a formal peer-to-peer sustainability education program represents a weakness in fostering a sustainable culture among students through informal learning channels. Similarly, the lack of an employee educators' program, coupled with insufficient training during student orientation and staff professional development, hinders the dissemination of sustainability knowledge throughout the campus community.

## Public Engagement

STU practices public engagement for sustainability by participating in several inter-campus sustainability-focused networks, including AASHE, Atlantic University Campus Sustainability Network (AUSCN), Universities Canada Climate Leads Network, Fredericton Climate Hub, and SDG Accord. The university also demonstrates a commitment to sustainability-focused community partnerships through its Internship Program, which connects students with local organizations tackling pressing environmental and social challenges. Through partnerships with groups such as the Conservation Council of New Brunswick, Greener Village, the Nature Trust of New Brunswick, the Nashwaak Watershed Association, the Gaia Project, and others, students engage in climate change education, land conservation, food security initiatives, and river restoration projects. Additionally, STU's education students lead sustainability education activities for young learners through initiatives like STUzapalooza, fostering early engagement in sustainability.

However, actively engaging in public policy discussions and implementing an employee community service program would further demonstrate the university's commitment to sustainability beyond campus borders. Addressing these gaps while building upon existing strengths will contribute to St. Thomas University's ongoing journey towards sustainability excellence.

# OPERATIONS

| Impact Area | Estimated Points Earned | Points Available | |
|---|---|---|---|
| **Energy & Climate** | 17.65 | 26 | |
| **Buildings & Grounds** | 6.81 | 19 | |
| **Food & Dining** | 4.38 | 10 | |
| **Procurement & Waste** | 6.36 | 20 | |
| **Transportation** | 0 | 8 | **35.2/83** |

This impact area recognizes institutions that are advancing sustainability through the design and management of their physical infrastructure and transportation systems. This includes improving the energy efficiency of buildings, transitioning to clean and renewable energy sources, enhancing biodiversity and water stewardship on campus grounds, and promoting sustainable, low-emission transportation options. By addressing key contributors to greenhouse gas emissions and environmental degradation, institutions can help mitigate climate change, reduce health and environmental harms, and model solutions that benefit both campus communities and the broader society.[10]

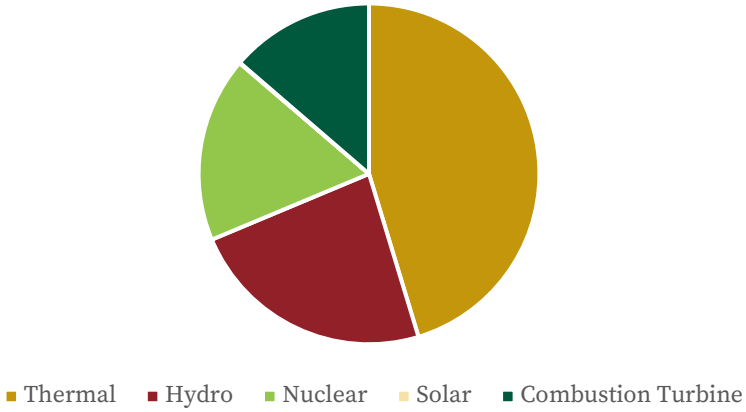
## Energy, Climate, Buildings & Transportation

STU has minimal Scope 1 greenhouse gas (GHG) emissions, meaning direct greenhouse gas emissions from sources that are owned or controlled by the university. STU does not own power plants or a campus fleet, so the only source of stationary combustion on campus is natural gas used for cooking in the dining hall and the only source of mobile combustion is motor gasoline used for the snowblower and lawnmower. The only other potential source of Scope 1 emissions on campus is fugitive emissions from air conditioning systems, but we do not currently have a way to measure this, and the emissions are likely to be very small.

Scope 2 GHG emissions sources consist of steam purchased from the UNB's Central Heating Plant, used for heating and hot water, and electricity purchased from NB Power, used for heating, cooling, ventilation, lighting, etc. NB Power's supply mix in 2023/24 consisted of NB Power's 12 hydro, coal, oil and diesel-powered generating stations, their Point Lepreau Nuclear Generating Station and Shediac solar farm, as well as power purchased from various privately owned renewable and natural gas-powered facilities.[11]

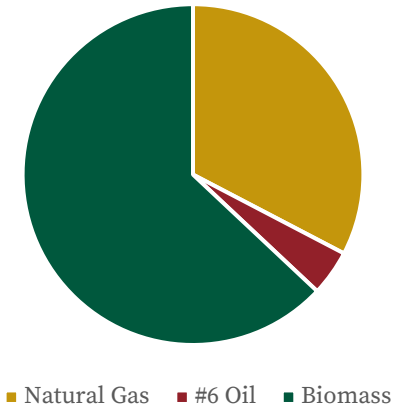
[10] STARS® Technical Manual v3.0, Operations, pg. 0
[11] NB Power, Our Energy (2024), https://www.nbpower.com/en/about-us/our-energy.

NB Power Total Generating Capacity 2023/24




The Central Heating Plant (CHP) is located on the south-east side of the UNB Fredericton campus on College Hill Road. The CHP burned three fuels in 2023: biomass (wood waste) (63%), natural gas (33%), and #6 fuel oil (4%). UNB is currently in the design phase for a co-generation biomass boiler, as the current biomass boiler is up for renewal. The co-gen system would generate electricity for some campus buildings using a steam turbine that is powered by the biomass boiler.[12]

UNB Central Heating Plant Fuel Use Breakdown 23/2024




STU has achieved a notable reduction of 78% in total Scope 1 and Scope 2 greenhouse gas (GHG) emissions and a reduction of 68% in Scope 1 and Scope 2 GHG emissions per full-time equivalent campus user compared to the 2009/10 baseline.[13] The reduction in total GHG emissions can largely be attributed to the 2018 sale of the off-campus Forest Hill residences (Chatham Hall and Rigby Hall), which resulted in a 101,930 square foot reduction in building space. The Rigby residence also burned natural gas for hot water heating and cafeteria cooking.

| **Emissions Source[14]** | **2010 (tCO2e)** | **2023 (tCO2e)** | **% Change** |
|---|---|---|---|
| **Scope 1: Stationary Combustion** | 95.4 | 24.87 | -73.93% |

[12] University of New Brunswick, Central heating Plant (2024), https://www.unb.ca/capitalplanning/energy/central-heating.html.
[13] The reporting year is 2023.
[14] Emissions accounting was conducted using the Greenhouse Gas Protocol Corporate Standard.

| | | | |
|---|---|---|---|
| **Scope 1: Mobile Combustion** | Not available | 0.413 | Not applicable |
| **Scope 2: Electricity** | 2,147 | 326.95 | -84.77% |
| **Scope 2: Steam** | 1,401.8 | 435.50 | -68.93% |
| **Total Annual Scope 1 & 2[15]** | 3,643.8 | 787.73 | -78.38% |
| **Scope 2: Biogenic emissions** | 1,558.2 | 1614.1 | +3.59% |

| **Indicator** | **2010** | **2023** | **% Change** |
|---|---|---|---|
| **Annual Emissions per Unit of Floor Area (kgCO2e/m$^2$)** | 85.32 | 24.7 | -71.05% |
| **Annual Emissions per Person (kgCO2e)** | 1,480.01 | 469.73 | -68.26% |

The reduction in emissions per full-time equivalent campus user can be explained by several factors. NB Power's emissions factor has decreased from 0.455 kilograms of carbon dioxide equivalent for each kilowatt-hour generated in 2010 to 0.142 kg CO2e/kWh in 2023 by transitioning to lower-emitting electricity generation sources. At some point between 2010 and 2023, STU switching the cooking fuel in the GMH dining hall from propane to natural gas. STU has also implemented several energy efficiency measures over the years, such as employing the IntelliWeb energy monitoring and control system along with vacancy sensors, insulating the MMH and GMH roofs, installing LED lighting, energy-efficient windows and appliances, including an Energy Star dishwasher in the dining hall, and transitioning to energy star rated university-issued electronics.

However, there are still opportunities to reduce STU's GHG emissions. The following provides a brief overview of the energy conservation measures which have been identified and evaluated as per of this study for the assessed buildings. The full implementation of these measures requires a significant investment.

| **Measure Name** | **Description** |
|---|---|
| **Lighting Retrofit & Redesign** | |
| LED Lighting - Re-lamp & Re-ballast | Re-lamp and Re-ballast with T-8 style LED tubes and new electronic ballast. Re-lamp track lighting with LED Par type, re-lamp step lights with LED lamps. |
| LED Lighting - New Fixtures | Replace existing luminaires with new LED luminaires. |
| **Mechanical Modifications** | |
| DX Heat Pump | Installation of new heat pump coils for the AHUs as well as new heat pump condensing units. This will replace the existing cooling only condensing units, which are due for renewal. |

[15] This does not include biogenic emissions, e.g., carbon emissions from wood, paper, grass trimmings, and other biofuels that were originally removed from the atmosphere by photosynthesis and, under natural conditions, would eventually cycle back to the atmosphere as CO2 due to degradation processes. Most Canadian universities, including UNB do not include biogenic emissions in their gross scope 1 and 2 GHG emissions calculations.

| | |
|---|---|
| Air to Water Heat Pump | Installation of a new air-water heat pump to be the main heating source for the buildings in-floor heating loop. |
| AHU Heat Pump | Replace the existing AHU with a new unit with heat pump functionality. |
| HRV Air-Side Heat Recovery | Installation of a new HRV to preheat fresh air with recovered exhaust air. |
| VAV Conversion | Conversion of multi zone AHUs to VAV. |
| DHW Heat Pump | Installation of new air-water heat pump domestic hot water heaters to preheat domestic hot water from waste heat in the basement converter rooms. |
| Kitchen Hood Controls VAV Conversion | Installation of new variable speed kitchen hood exhaust to control airflow based on needs of kitchen use. |
| Heat Recovery Chiller Hub Waste Heat Reclaim | Installation of a new heat recovery chiller in the steam tunnel to recover excess heat from the steam tunnel to reuse in the kitchen AHU. |
| **Controls Modifications** | |
| Controls Re-Commissioning | Re-commissioning of the various existing control systems within the facility is recommended. Small mechanical upgrades are also recommended. |
| Controls Upgrades | Various controls upgrades across several facilities with a focus on eliminating pneumatic controls. |
| EMIS: Continuous Optimization Opportunity Assessment | It is recommended to review the options for implementing an entry-level EMIS system, which would include aggregating information into a central graphical display. The EMIS would allow the operations and maintenance workflows to review datasets more frequently with the goal of identifying outliers early to minimize energy waste due to failures in equipment or control sequences. it is recommended to pursue the Phase 1 EMIS Audit to determine the viability of an EMIS system on campus. |
| **Water Conservation** | |
| Domestic Water Retrofits | Replacement of high flow water fixtures with new low flow fixtures. |
| **Envelope** | |
| Window Upgrades | Installation of new double pane windows with improved R values. |
| Roof Insulation Upgrade | Increase existing roof insulation to a value of R-37. |
| **Renewable Energy** | |
| Solar Photovoltaic | Installation of roof mounted solar photovoltaic arrays across campus. |
| **Metering** | |
| Metering Allowance | It is recommended to install building level sub-meters at the electrical entrances. It is also recommended to install a dedicated steam meter for Duffie Hall to monitor its steam usage. |

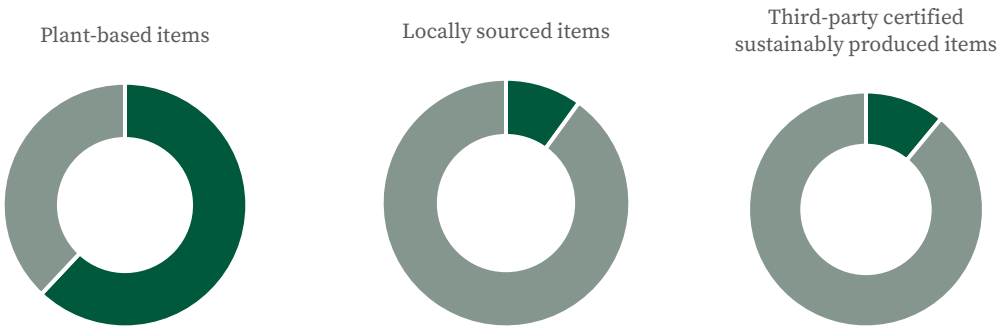
A weak point is the lack of available Scope 3 emissions data, particularly related to transportation. A universal bus pass and a small bike-sharing program are offered to students. However, the university does not currently measure mileage of university-related business travel or modal share of commuting habits for staff or students.

There is also a gap in policies encouraging less carbon-intensive commuting and in applying sustainable design and construction standards in recent building projects.

## Food, Dining & Procurement

This impact area recognizes institutions that are leveraging their purchasing power to support a sustainable economy, reduce waste, and promote ethical and environmentally responsible food systems. By prioritizing ecologically and socially preferable products, reducing reliance on virgin materials, and minimizing landfill and incinerator waste, institutions can lower greenhouse gas emissions and reduce environmental harm. Supporting sustainable food systems—including plant-based diets, humane farming practices, and ethical labor conditions—helps address climate change, protect public health, and promote social justice. This impact area also values efforts to recover food waste and build transparent, resilient supply chains.[16]

STU's dining services are managed by a third-party contractor, Aramark Canada. Aramark emphasizes sustainability by sourcing food and beverages that are sustainably or ethically produced, plant-based, or locally sourced, supporting local farmers, growers, and distributors. Efforts to reduce meat consumption include Meatless Mondays and offering vegetarian and vegan meal options daily. 62% of dining hall menu items are plant based. Approximately 10% of dining hall menu items are locally sourced and 11% are third-party certified sustainably produced.[17] Aramark also utilizes Leanpath to track and improve food management practices, aiming to minimize food waste. Improved data collection practices are needed to collect information on food and beverage purchasing for catering services, the Social Roast Café, Tim Hortons, Subway, and vending machines.




All students have access to an anonymous, on campus food bank located in Brian Mulroney Hall, operated by the STU Campus Ministry. Their offerings accommodate various dietary restrictions, including vegetarian, vegan, and gluten-free.

STU earned the maximum points for the electronics purchasing credit by purchasing exclusively EPEAT Gold products in the 2022-23 fiscal year. However, the university only received partial points

[16] STARS® Technical Manual v3.0, Food & Dining, pg. 0
[17] Reporting period is the 2022/23 academic year.

for the office paper purchasing credit. Out of a total spend of about $14,000, 100% of office paper purchases in the 2022-23 fiscal year consisted of 30% post-consumer recycled content.

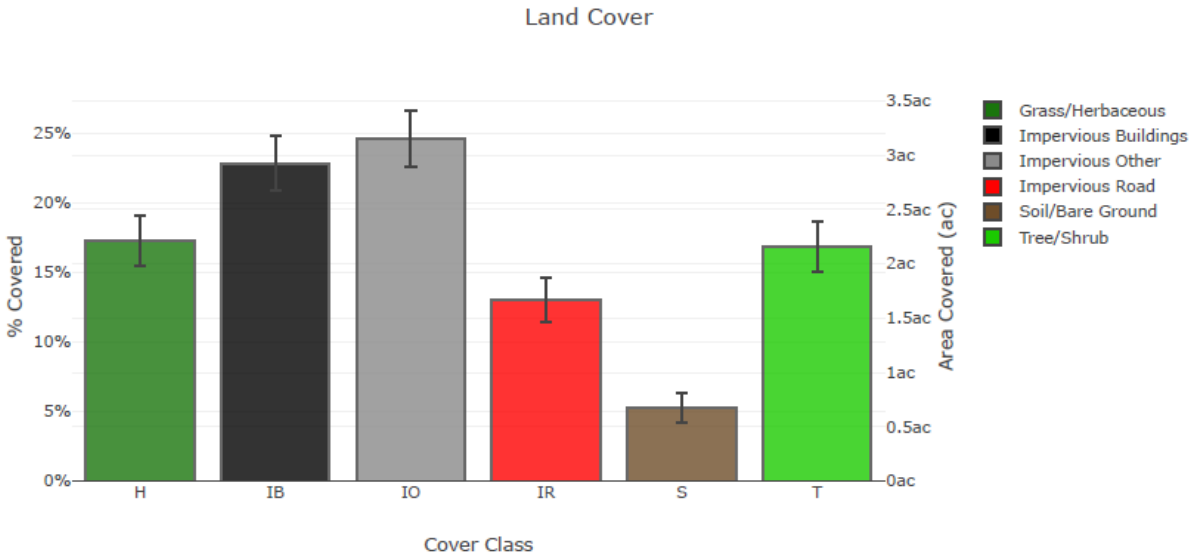
STU's janitorial services are managed by a third-party contractor, GDI Canada. GDI group of companies produces an annual ESG report and has goals to improve sustainability in business practices. In 2023, GDI spent almost $10,000 on cleaning products at STU of which 100% were ECOLOGO certified by UL Environment.

The university does not have a formal purchasing policy and internal purchasing practices for other goods do not prioritize sustainability unless cost-effective alternatives are available.

## Grounds

STU is committed to organic grounds management, with 90% of its grounds maintained organically and all landscape debris composted off-site. Although STU has not published measures to minimize chemical use in building maintenance and landscaping, its contracted service provider favors environmentally friendly products. However, there are areas where STU could improve. For example, STU does not have a comprehensive program for rainwater collection or formal plans for biodiversity conservation on campus.

A Cover Assessment conducted using the i-Tree Canopy tool revealed that STU's grounds currently have a 17% tree/shrub coverage ratio.[18]




According to the STU Campus Vegetation Analysis and Assessment, conducted in October 2024 by Dr. Andrew Mathis and student, Kayla Lemay, STU has an opportunity to demonstrate its commitment to student food security, biodiversity, and reconciliation by introducing more edible and native species to its campus. Many campus patches currently dominated by ornamental non-native species offer limited value to students or pollinators, highlighting the potential to integrate more beneficial species. The assessment underscores the need for a full biodiversity audit of the campus to establish targets and monitor biodiversity on an ongoing basis. Increasing the diversity of campus patches, with a focus on native species, would enhance the ecological value of the campus.

[18] As of October 2023.

## Waste

STU has two indoor waste streams: paper recycling and landfill. A solid waste audit in March 2024 found that STU has a diversion rate[19] of about 5% through paper recycling initiatives. This low rate indicates a substantial opportunity for improvement. The waste audit also revealed a 50% contamination rate[20] in paper recycling. A 2024 STU waste habits survey, conducted by recruiting voluntary participants at events on campus, found that 55% of respondents cited a lack of recycling bins as the top challenge for sorting waste and that 55% of respondents are unaware of campus recycling options. STU does not have a pre- or post-consumer composting program for indoor waste.

Estimated annual diversion rate

Estimated paper recycling stream contamination rate

Landfill waste is hauled off campus by GFL and brought to the Capital Region Service Commission's Solid Waste Division's landfill in Fredericton. STU pays GFL a fixed monthly rate to haul waste. Paper recycling is hauled off campus by the Capital Region Service Commission's Solid Waste Division's (SWD) Recycle@Work program. This a no-charge service where 240L blue recycling dollies are provided by the SWD and every Wednesday morning the contents of the dollies are collected by SWD staff. Neither GFL nor SWD provide data on the volume/tonnage of waste being hauled off campus because they service multiple clients on the same route, preventing them from being able to provide a client-specific weigh bill.

However, by estimating the annual volume of waste collected from GFL dumpsters and SWD dollies, assuming an average 80% fill rate at the time of collection, and using the volume to weight conversions for institutional solid waste from the U.S. EPA, it is estimated that STU generated a total of 36 Metric tons of non-hazardous waste in 2023. This equates to 19.6 Kilograms per person and 1.08 Kilograms per square meter. The 2011 Environmental Audit did not provide a measurement for waste generation, so it is not possible to determine the change in waste generation over time.

[19] The percentage of total waste being diverted to reuse programs such as recycling or composting.
[20] The rate of the paper recycling stream that is either inappropriate material (e.g., plastics, landfill waste, etc.) or appropriate materials that are soiled. Contamination affects the recyclability of materials and can be hazardous for recycling center workers.

The approach to indoor waste management varies across common areas, offices, classrooms, residence buildings, the main dining hall, other food service providers, and bathrooms.

- **Common areas in academic buildings:** Collectively, common areas in academic buildings have 18 multi-stream sorting stations and 31 single-stream landfill bins. Custodial staff are responsible for emptying all sorting stations in common areas. Landfill bags collected by custodians from sorting stations in common areas are placed in dumpsters located outside buildings. Paper recycling bags collected by custodians from sorting stations in common areas are placed in 240L blue recycling dollies located in the lobbies of academic buildings. In addition to streams for landfill and paper recycling, most multi-stream sorting stations have a stream labelled for returnable beverage containers. However, the current protocol is that anything that is sorted into the returnable beverage containers stream ultimately ends up in the landfill as well.


- **Offices and classrooms:** All offices and classrooms have a small landfill bin and a small blue recycling bin for paper. Custodians are responsible for emptying landfill and paper recycling nightly and sorting the landfill into dumpsters and the paper recycling into the 240L blue recycling dollies. 240L blue recycling dollies are also located in some common printing rooms for staff to use. Confidential papers are shredded and recycled by Iron Mountain.
- **Residences:** All residence rooms have a small landfill bin and a small blue recycling. Residents are responsible for emptying their own landfill and paper recycling into the landfill dumpsters or the 240L blue recycling dollies located nearest to their residences. There is a multi-stream sorting station with landfill, paper, and returnable beverage containers stream labelled in each lounge of the residence buildings that is emptied by custodial staff. However, custodians empty all waste stream from these sorting stations into landfill dumpsters. In 2023 and 2024 Vanier Hall house committee has organized returnable beverage container collection for their residents. Residents are asked to place returnable beverage containers outside their doors to be collected by house committee members once a week. The floor with the most bottles collected gets a prize.
- **GMH Dining Hall:** STU's main dining hall operates on a restricted entry, all-you-care-to-eat model. No food or drinks are permitted to leave the dining hall area. Students living in residence must purchase the unlimited meal plan for the dining hall. Other campus users can pay to enter the dining hall. The dining hall offers reusable dishware and cutlery only in the front of house. There is one stream for waste in the front-of-house of the dining hall: landfill. According to a dining hall waste audit conducted in February 2024, the only non-food waste items in the front-of-house landfill stream were paper towels, plastic saltine cracker wrappers, and paper salt and pepper wrappers. For the main dining hall, the back-of-house has a landfill stream and a cardboard recycling stream. Dining hall back-of-house staff are asked to sort landfill bags into the landfill dumpster located outside the dining hall kitchen and cardboard recycling into a specific dumpster for the cardboard stream, located outside the dining hall kitchen.
- **Other food service providers:** The Social Roast Cafe, Tim Hortons, and Subway are all located in common areas on campus. Staff at these three food service providers are asked to sort cardboard into the 240L recycling dollies located in the buildings they operate in. All

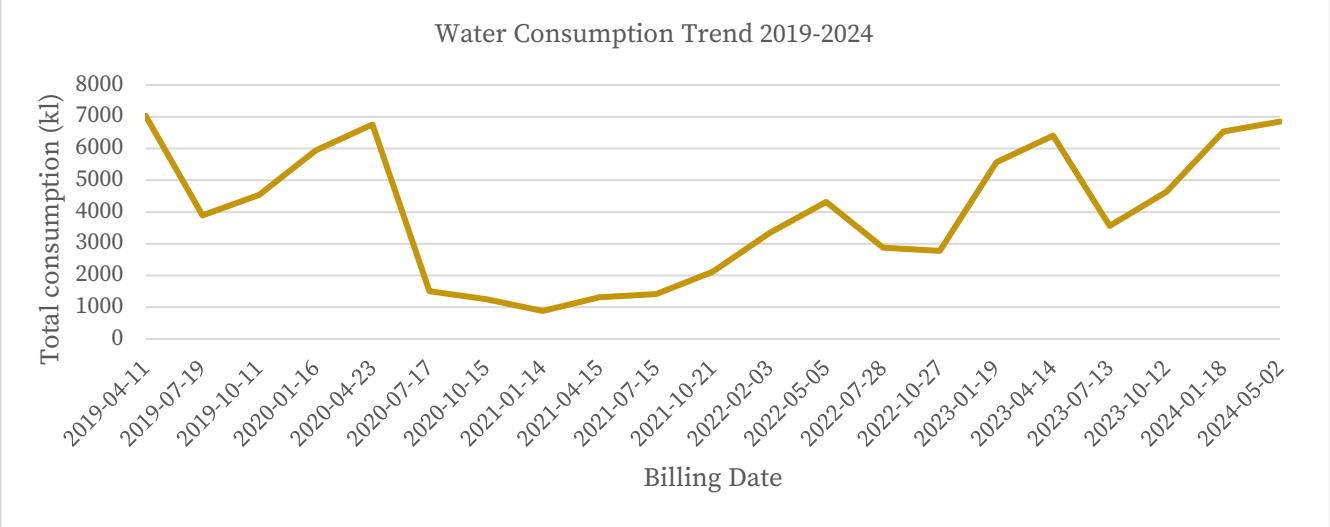
other back-of-house waste goes into landfill dumpsters. These three food service providers all offer single-use food packaging. Tim Hortons and the Social Roast Cafe will give a 15-cent discount if customers bring their own reusable mug, but this is not a formal policy.

- **Bathrooms:** Across all bathrooms on campus, there is only a landfill stream that is emptied by custodians. Some bathrooms have paper hand towels, and some have electric hand dryers.

STU donates used computers and laptops to Computers for Schools - a national program that refurbishes computers donated from government, private business and individuals for use by schools, libraries, registered not-for-profit organizations and First Nations communities. There is a collection box for recycling personal electronic devices, such as smartphones, batteries, and empty printer cartridges, provided by Recycle My Electronics via UNB, at the Harriet Irving Library. Data is not collected on either of these diversion programs.

## Water

Between 2010 and 2023, total water usage at the university dropped significantly, from nearly 15 million gallons to about 5.6 million gallons. Since 2010, the number of campus users has declined, and STU sold the Chatham & Rigby Hall property, which contained two residence buildings and a cafeteria. Nevertheless, on a per-person basis, water use was still cut by 50%, and water use per square foot of building space was reduced by 52%.[21] Part of this reduction can be credited to water and sewer upgrades made over the years by both the University and the City of Fredericton.




The university also gradually replaces showerheads, sinks and toilets with low-flow fixtures at their end-of-life. However, an analysis of public bathrooms across six academic buildings conducted by ENVS 3052 Sustainability Auditing & Reporting students found that many older, standard fixtures are still in use.

| Building Name | # of Bathrooms | Standard/Low-Flow |
|---|---|---|
| Brian Mulroney Hall | 4 | Low-Flow |
| Edmund Casey Hall | 10 | 8 Standard<br>2 Low-Flow |
| George Martin Hall | 8 | Low-Flow Urinals |

[21] The reporting year is 2023.

| | | |
|---|---|---|
| | | Standard Toilets/Sinks |
| Holy Cross House* | 4 | Standard |
| Margaret Norrie McCain Hall | 8 | Low-Flow |
| Sir James Dunn Hall | 5 | Standard |

*Figures for Holy Cross House do not include bathrooms in the residence wings.

# PLANNING & ADMINISTRATION

| Impact Area | Estimated Points Earned | Points Available | |
|---|---|---|---|
| **Coordination & Planning** | 5 | 11 | **5/11** |

This impact area seeks to recognize colleges and universities that are institutionalizing sustainability by dedicating resources to sustainability coordination, developing plans to move toward sustainability, and engaging stakeholders in governance. Sustainability committees, offices, and staff positions help an institution organize, implement, and publicize its sustainability initiatives. These resources provide the infrastructure that fosters sustainability within an institution.

Sustainability commitments and planning afford an institution the opportunity to clarify its vision of a sustainable future, establish priorities, and help guide budgeting and decision-making. Establishing measurable objectives and ensuring that stakeholders have a meaningful voice in governance are important steps in making sustainability an institutional priority and may help advocates implement changes to achieve sustainability goals.[22]

St. Thomas University has a committee with a broad focus on sustainability coordination for the entire campus called the President's Advisory Committee on Campus Environmental Issues (PACCEI). The mission statement of the PACCEI is to provide the President with timely and accurate advice on all matters regarding the implementation and maintenance of environmentally sensitive decisions. The committee consists of seven members of the St. Thomas University community and shall meet at least twice every year.[23] The Environmental Sustainability Policy, implemented by the PACCEI in 2004, underscores St. Thomas University's commitment to environmental management and stewardship. The most recent revision of this document was in May 2024. The Policy was updated to broaden STU's approach to sustainability by integrating Indigenous knowledge, expanding focus areas, establishing clear implementation roles, and emphasizing transparency and community engagement, contrasting with the original Policy's narrower focus on compliance and basic environmental management. However, STU did not receive any points for the sustainability planning criteria. The forthcoming Climate Action Plan project will see significant improvements in this area.

The purpose of inclusive & participatory governance under STARS is to assess the engagement of campus and community stakeholders in the ongoing governance of the university. STU's formal participatory or shared governance bodies include senate standing committees, Board standing committees, and joint senate-board standing committees. The Board of Governors is the highest governance body at St. Thomas University. The Board of Governors has 25 total members comprised of 2 elected student representatives, 3 recommended academic staff, 2 nominated alumni, 3 ex officio members, and 15 appointed members. Students represent 8%, academic staff represent 12% and non-academic staff represent 0%. The Board meets the minimum 20% gender equity assessment requirement as it has 40% women members.[24]

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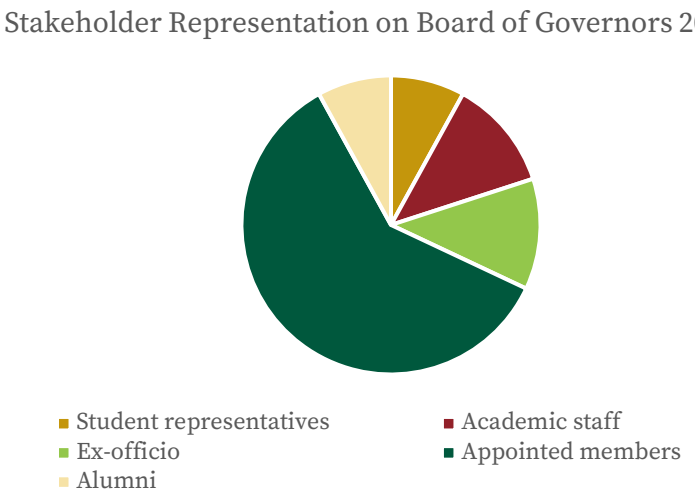
[22] STARS® Technical Manual v3.0, Planning & Administration, pg. 0
[23] President's Advisory Committee on Campus Environmental Issues, Terms of Reference, https://www.stu.ca/media/stu/site-content/about/faculty-reconition/administrative-offices/images/docs/TermsofReference-RevisedFeb52014.pdf
[24] As of October 2023.




Environmental sustainability survey participants were asked two questions related to participatory governance indicators. Here is the summary of responses:

| | 1 strongly disagree | 2 | 3 | 4 | 5 strongly agree |
|---|---|---|---|---|---|
| *I feel that I have opportunities to provide input on institutional decisions related to environmental sustainability that are made at the university.* | | | 2.7 | | |
| *If I have an idea of concern regarding environmental sustainability at the university, I know where to go to voice it.* | | | 3.1 | | |

STU could receive additional credits in inclusive and participatory governance if the institution hosted a formal body where external stakeholders could engage in and influence institutional decision-making. External stakeholders are outside campus community members, government officials, and partners to the institution.

# CONCLUSION

STU has shown a commitment to sustainability through existing programs, initiatives, and operational practices, with its current performance evaluated using the Sustainability Tracking, Assessment & Rating System (STARS) framework. STU has achieved a notable reduction of 78% in total Scope 1 and Scope 2 greenhouse gas (GHG) emissions compared to the 2009/10 baseline. This reduction is linked to factors including reduced building space, improvements in NB Power's emissions factor, fuel switching for cooking, and the implementation of various energy efficiency measures such as LED lighting and enhanced controls. Academically, STU demonstrates commitment through offerings like the Environment and Society program, the new Sustainability Learning Lab, and integrating applied learning experiences. Campus engagement efforts include active student participation in initiatives and surveys indicating high awareness and concern for sustainability among the community. Operational strengths include organic grounds management and purchasing practices for electronics and cleaning products.

However, the audit identifies key areas for future enhancement. There is a need for improved data collection, particularly for Scope 3 emissions from transportation, and policies encouraging less carbon-intensive commuting. Waste management requires significant improvement to increase the low diversion rate and reduce recycling contamination, along with the implementation of composting programs. A formal, comprehensive university-wide sustainable purchasing policy is also needed. Opportunities exist to develop formal plans for biodiversity conservation and integrate more edible and native species on campus. Furthermore, expanding sustainability-focused offerings across disciplines and formalizing engagement programs like peer-to-peer education and employee training are areas for growth.

The hiring of a full-time Sustainability Coordinator, funded by the NB Environmental Trust Fund, and the commencement of the Climate Action Plan project are positioned to address these gaps and further institutionalize sustainability planning and action at STU. This audit was designed to establish a baseline for common measures of environmental sustainability, such as greenhouse gas (GHG) emission, waste diversion, and sustainability awareness. Along with reviews of best practices, peer benchmarking, and community engagement, it will inform the development of St. Thomas University's first Climate & Sustainability Action Plan, which will set actionable targets for energy, emissions, waste, water, and more.