

# Sustainability Office Updates

Winter 2024

YORK 



# Agenda for Today

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Answering the call

2

Sustainability at York - Governance, Academic and Operational Priorities & Activities

3

Sustainability Strategy Renewal Update

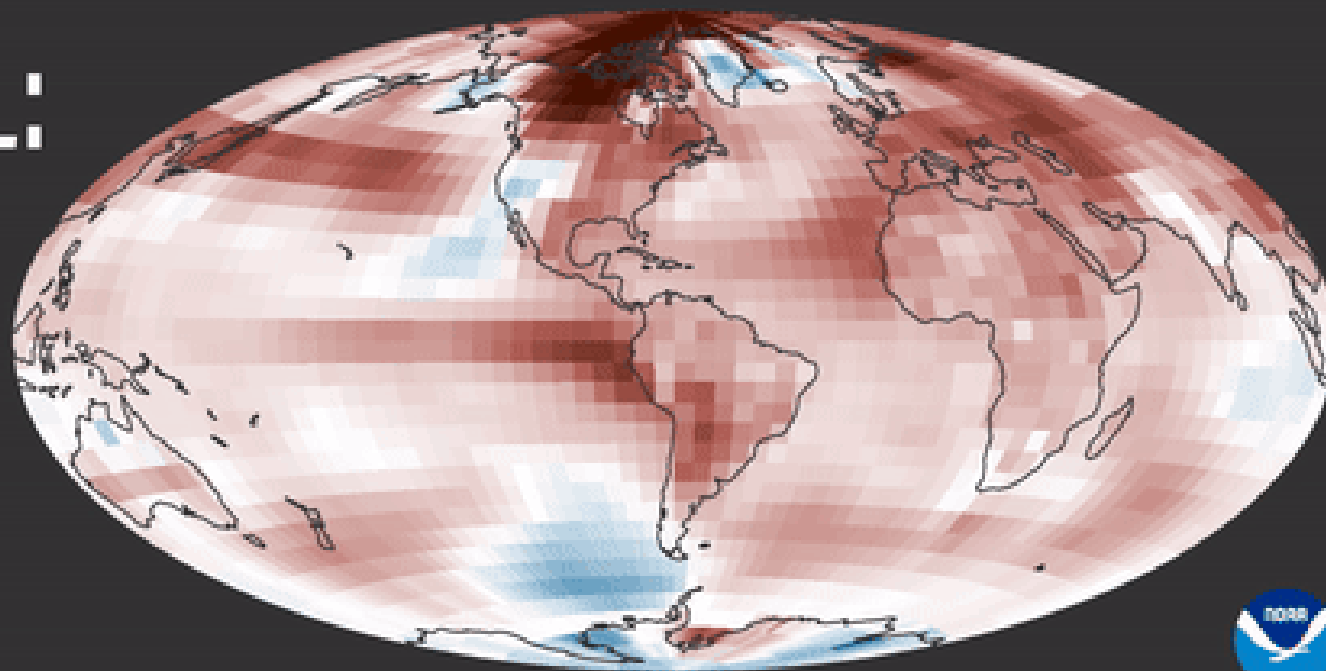
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Transitioning to new Sustainability Framework

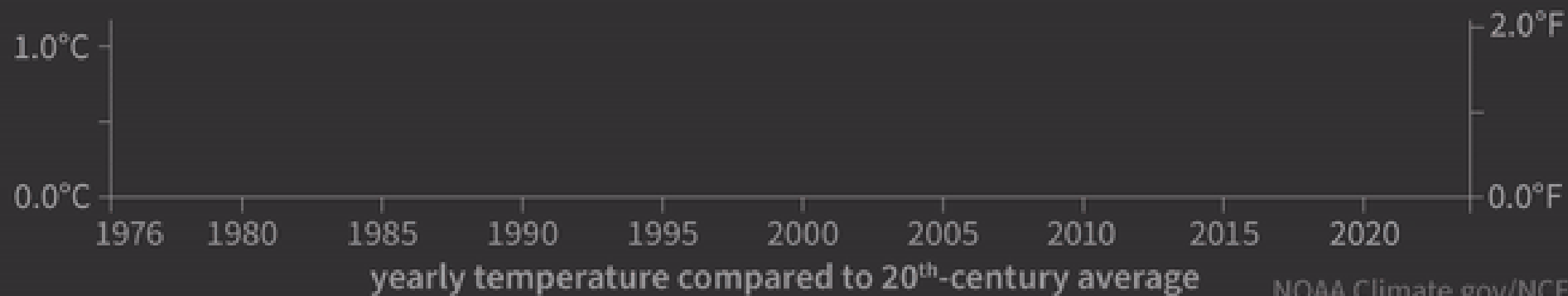
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Sustainability Innovation Fund

# IT'S OFFICIAL:



Difference from 1991-2020 average (°F)



## Selected Significant Climate Anomalies and Events: Annual 2023



### GLOBAL AVERAGE TEMPERATURE

The Jan–Dec 2023 average global surface temperature was the highest since global records began in 1850.



### CANADA

Wildfires across Canada burned more than 45.7 million acres, shattering a record (2.6 times over) for the most acres burned in Canadian and North American history. These fires caused widespread air quality deterioration across much of Canada and the U.S.

### NORTH AMERICA

2023 was North America's warmest year on record.

### CALIFORNIA

Nine back-to-back atmospheric rivers pummeled California in Jan 2023, which brought a total of 32 trillion gallons of rain and snow to the state.

### EASTERN NORTH PACIFIC HURRICANE SEASON

Above-average activity: 17 storms, including 10 hurricanes

### HAWAII

On Aug 8, winds from Hurricane Dora exacerbated a wildfire on the island of Maui in Hawaii that destroyed the historic town of Lahaina and became the deadliest wildfire in the U.S. in over a century.

### HURRICANE OTIS

On Oct 25, Hurricane Otis made landfall as a Category 5 hurricane near Acapulco on Mexico's southern Pacific coast after increasing wind speed by 115 mph within 24 hours and bringing catastrophic damage to a city of nearly one million people.

### ATLANTIC HURRICANE SEASON

Above-average activity: 20 storms, including seven hurricanes

### AFRICA

2023 was Africa's warmest year on record.

### SOUTH AMERICA

South America had its warmest year on record.

### GLOBAL TROPICAL CYCLONES

Above-average activity: 78 storms, including 45 hurricanes/cyclones/typhoons

### GLOBAL OCEAN

For nine consecutive months (Apr–Dec), global ocean surface temperatures were record warm.

### ANTARCTIC SEA ICE EXTENT

The Antarctic had record-low annual maximum and minimum sea ice extents during 2023.

### ARCTIC SEA ICE EXTENT

The 2023 Arctic maximum and minimum extents were third- and sixth-smallest on record, respectively.

### EUROPE

Europe had its second-warmest year on record.

### ASIA

2023 was Asia's second-warmest year on record.

### CYCLONE DANIEL

On Sep 10, Storm Daniel brought strong winds and an unprecedented amount of rain to eastern Libya, which caused massive destruction—dams burst across many towns and led to the death of more than 10,000 people, making it the deadliest and costliest tropical cyclone of 2023.

### NORTH INDIAN OCEAN CYCLONE SEASON

Above-average activity: eight storms, including four cyclones

### SOUTH INDIAN OCEAN CYCLONE SEASON\*

Above-average activity: nine storms, including seven cyclones

### AUSTRALIA CYCLONE SEASON\*

Above-average activity: nine storms, including five cyclones

### WESTERN NORTH PACIFIC TYPHOON SEASON

Below-average activity: 17 storms, including 12 typhoons

### SUPER TYPHOON MAWAR

Super Typhoon Mawar passed within 100 miles of Guam in the Western Pacific on May 24 as a Category 4 storm. Mawar resulted in heavy rainfall and widespread power outages on Guam.

### TROPICAL CYCLONE MOCHA

Cyclone Mocha was the North Indian Ocean's first named storm of 2023, and made a devastating landfall as a Category 4 cyclone in Myanmar on May 14.

### OCEANIA

Oceania had its 10th-warmest year on record.

### SOUTHWEST PACIFIC CYCLONE SEASON\*

Below-average activity: six storms, including three cyclones

\*Cyclone season runs from June 2022–July 2023

Please note: Material provided in this map was compiled from NOAA's State of the Climate Reports. For more information please visit: <https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/>

“The consequences are clear, and they are tragic: children swept away by monsoon rains; families running from the flames; workers collapsing in scorching heat.”

– Secretary General, UN

YORK 



The image features the York University mascot, a red lion with a blonde mane, wearing a red and white hockey jersey with the letters 'YU' on it. The mascot is standing in a grassy field, holding a shovel in its right hand. In the background, there are several potted plants, some of which are small trees or shrubs, and a large, leafy tree. The scene is set outdoors on a sunny day. The text 'Sustainability at York - Governance, Academic and Operational Priorities' is overlaid on the image in a large, white, sans-serif font.

# Sustainability at York - Governance, Academic and Operational Priorities

# York Sustainability Recognition



**Top 40 for advancing  
UN SDGs**

THE Impact Ranking



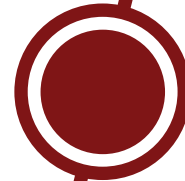
**Canada's Greenest  
Employer**

11th Consecutive Year!



**Climbed 100 spots in QS  
Sustainability ranking**

118<sup>th</sup> Overall, 16<sup>th</sup> in Canada



**AASHE STARS –  
Going for Gold!**

Currently Silver (2016)

# Sustainability Governance Priorities



## **Sustainability Policy**

A new policy was approved by the Board of Governors Summer 2023



## **Sustainability Strategy**

Community consultation process underway to inform the renewal of the strategy



## **Sustainability Framework**

A new action-oriented framework with a steering committee, taskforce and working groups



## **Sustainability Innovation Fund**

\$1M funding for sustainability projects



## **Awareness, Engagement & Events**

Community engagement and programs to inspire and empower action (ie. Training module, events & office certification)



## **Living Labs**

Faculty, staff and students collaborate on projects to support operations, research and teaching



## **Whole-Institution Approach**

Embed sustainability into all aspects of the University – operations, teaching and research

# Sustainability Academic Priorities



## **York University Academic Plan 2020-2025 - Building a Better Future**

Answering the Call: A University-Wide Challenge to Contribute to the UN Sustainable Development Goals



## **104 Courses with Sustainability Focus**

38 (65%) departments have sustainability course offerings with 1,531 graduate and undergraduate courses that are sustainability-inclusive



## **Joint programs between faculties**

Joint sustainability programs between Environment & Urban Change, Law, Science, Business, Education and Public Health



## **Organized Research Units**

One Water, Micro mobility (MOVE), York Emergency Mitigation, Centre for Bee Ecology, Centre for Research in Earth and Space Science, City Institute, and more



## **Faculty Initiatives**

Centre for Excellence in Responsible Business, SDGs in the classroom, CIFAL York – Unitar, Ecological Footprint Initiative, Los Nubes eco-campus, Sustainable Energy Initiative, C4-Capstone challenges, hackathons and more



## **Student Engagement**

SDG Student Hub, WWF Certification, Student Clubs, Work Study students, Placement students



# Sustainability Operational Priorities



## Energy Management

Roadmap to Net Zero;  
\$2M Funding for Energy Management  
Information System



## Food Services

Local purchasing, reducing waste,  
composting, plant-based, Friendlier,  
gluten free and cultural food diversity



## Waste Management

Eliminating waste on campus and  
moving towards a circular economy.



## Sustainable Transportation

Public transportation network, including  
two subway stations on campus, bike  
share, carpool options and bike repair  
stations



## Procurement

Social Procurement – purchasing from local  
and diverse equity seeking group  
Sustainable Procurement – RFP Contracts.  
Fair trade Campus designation



## Green Building

7 LEED buildings on campus; 3 built to  
TGS, developing building green  
standards



## Grounds & Maintenance

Naturalization, biodiversity and  
ecosystem regeneration, Green Office,  
event and classroom certification



## Campus Fleet

Electrifying campus fleet

# 2023 Sustainability Policy

## 4. Policy

The President will:

4.1 Develop a University Sustainability Strategy with an aim to achieve Net-Zero on Scope 1 and 2 emissions at York University and to significantly reduce Scope 3 emissions before 2040; consistent with global best practices to foster positive ecological, social, and economic outcomes.

4.2 develop and maintain a framework to shape and drive sustainability initiatives across the University community in its operations, and build capacity and awareness across the York community, locally and globally.

4.3 develop and implement a process to track, measure, evaluate and report to the Board on progress toward achieving the goals established under the University Sustainability Strategy, including milestones and implementation plans underpinned by conservation, decarbonization and innovation, applied to Scope 1, 2, and 3 emissions.

## 5. Roles and Responsibilities




The President will be responsible for the implementation of this policy and has the authority to develop procedure to that effect, namely regarding but not limited to:

5.1 the establishment of sustainability standards for transportation, energy, procurement, waste management, biodiversity protection, land use planning and capital construction.

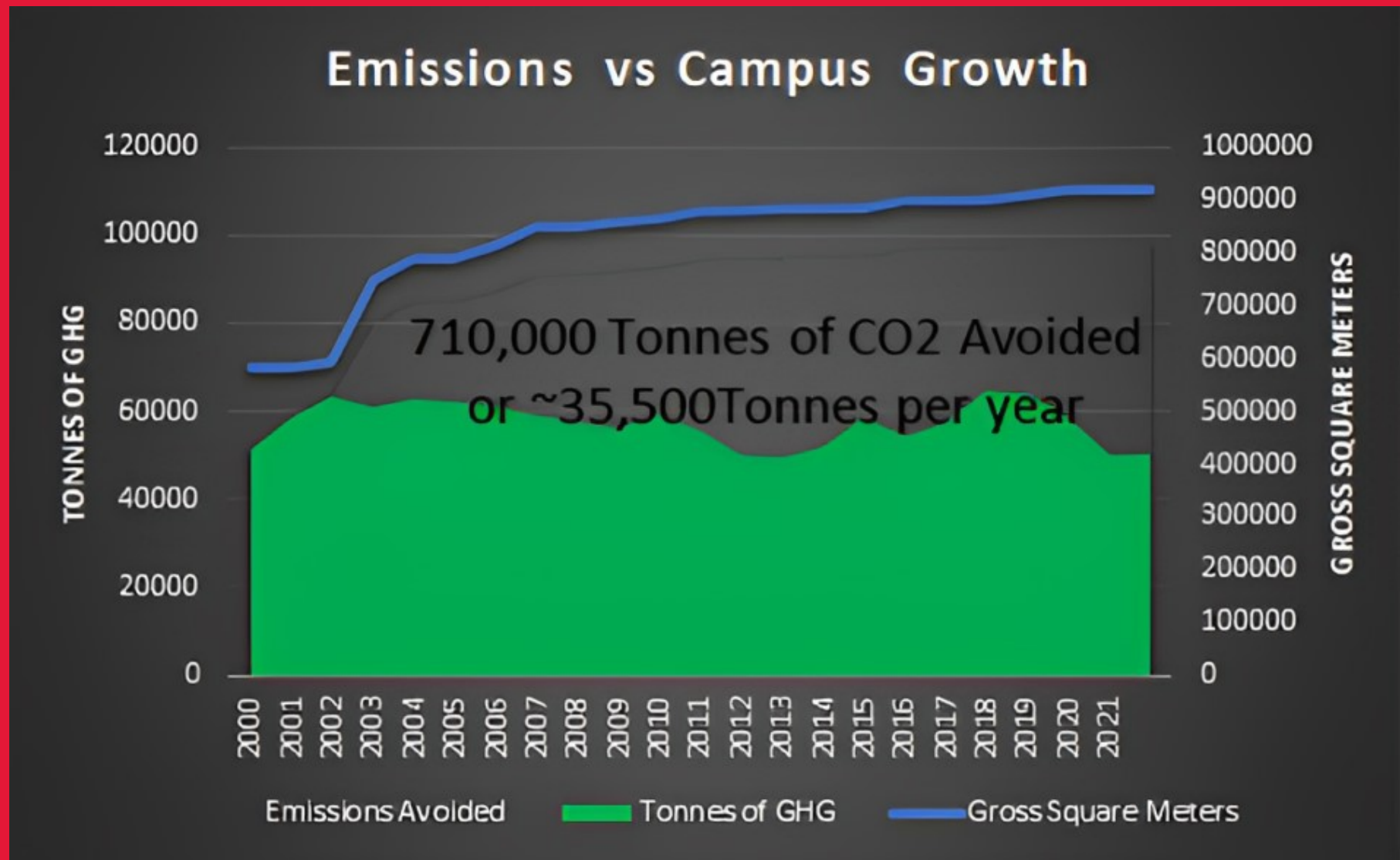
5.2 establish mechanisms to implement the University Sustainability Strategy.

5.3 define processes through which all divisions and units must track, measure, evaluate and report to the President on their progress toward achieving the goals established under the University Sustainability Strategy.

# Defining Emissions by Scope – (CAUBO)

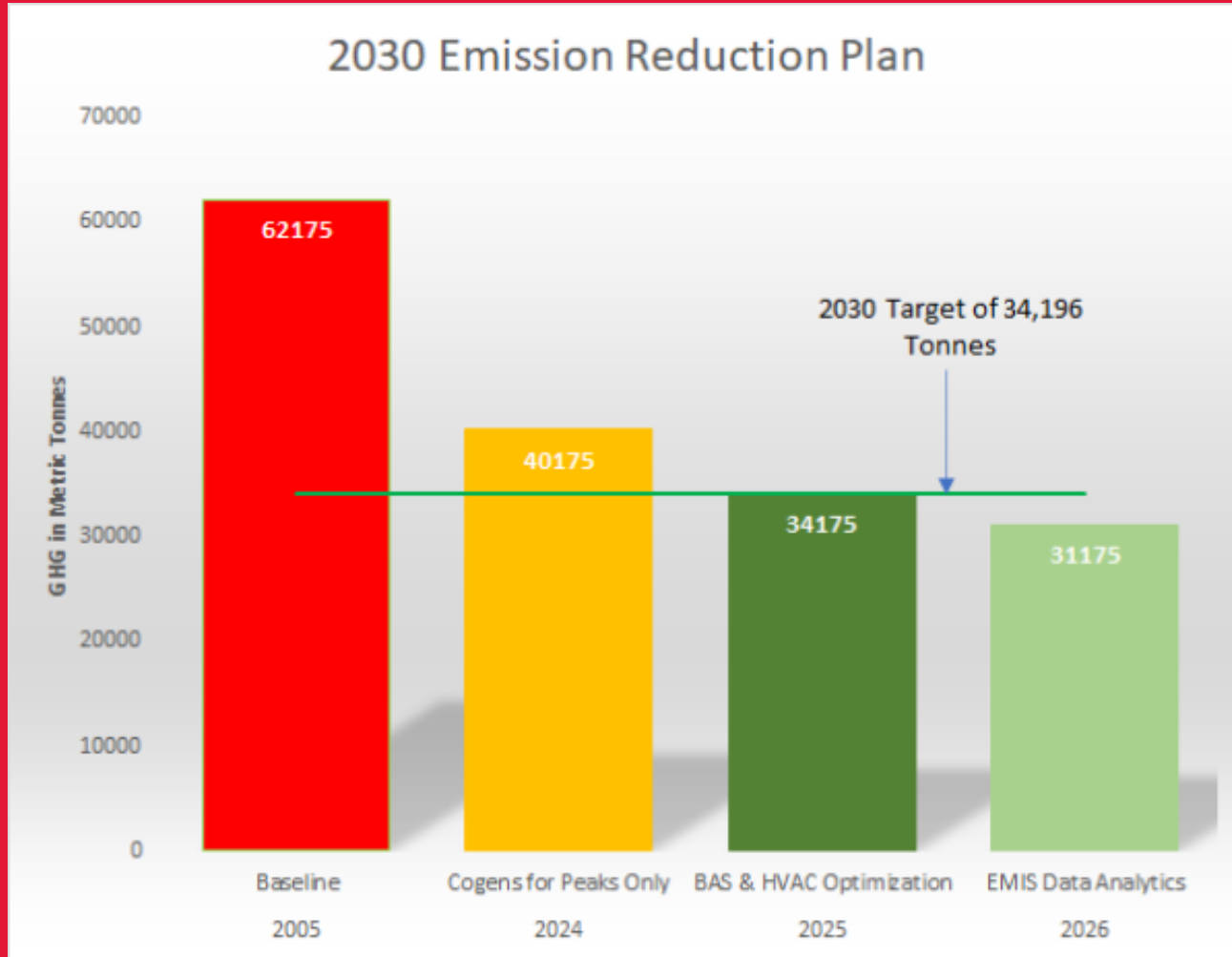
				
SCOPE 1 Emissions (Direct)	SCOPE 2 Emissions (Indirect)	SCOPE 3 Emissions (Supplemental)		
Emissions from sources that are owned or controlled by the institution	Emissions generated in the production of electricity, heat or steam consumed by the institution	Emissions from sources not owned or directly controlled by the institution that are a consequence of the activities of the institution		
Institution	Upstream Activities	Upstream Activities	Upstream & Downstream Activities	Downstream Activities
Facilities (on-site electricity and combustion equipment)	Purchased electricity, steam, heating and cooling for own use	Purchased goods, services and capital goods	Leased assets	Institution investments
Fleet vehicles		Fuel- and energy related activities		
		Business travel		
		Staff & student commuting		
		Waste generated in operations		

# Historic Scope 1 & 2 Emissions





# Achieving Paris Target - 45% by 2030 (Scope 1 & 2)



- 80% of the way to our 2030 goal already by simply changing our utility operations
- \$0 investment
- net \$3.0M energy saving in future years
- **Co-generation Operations Shift (2024/2025)** 22,000 tonnes
- **Building Automation, HVAC Optimization & Recommissioning (2025/2026)** 6,000 tonnes
- **EMIS, Data Integration, Data Analytics (2026/2027)** 3,000 tonnes

# Beyond 2030 to Net Zero - Potential Initiatives

- Right size our campuses
- Geothermal & High Temperature Heat Pumps
- Thermal Energy Storage – Aquifers, Tanks, Reservoir
- Sewer Heat Recovery
- Tunnel Heat Recovery
- Small Modular Reactors
- Electrification
- Renewable Fuels – Hydrogen, Renewable Natural Gas, BioMass
- Solar
- Battery Storage
- Introduction of technology not yet developed today



# Proposed Glendon Campus Noventa sewage heat recovery

## GHG Reduction

**2,300 tCO<sub>2</sub>e /yr.**

Less GHG emissions  
vs conventional  
system

**92% Reduction**



## Energy Reduction

**11,500 MWh<sub>e</sub>**

Less energy  
consumption vs  
conventional system

**78% Reduction**



## Resiliency

### Futureproofing

Retiring \$19M in  
Deferred Maintenance

Generating Annual  
Operational Cost Savings



## Reliability

### Back-Up Generator

Full electrical back-  
up for the entire  
campus





# Proposed Glendon Campus Noventa sewage heat recovery footprint

## > Wetwell

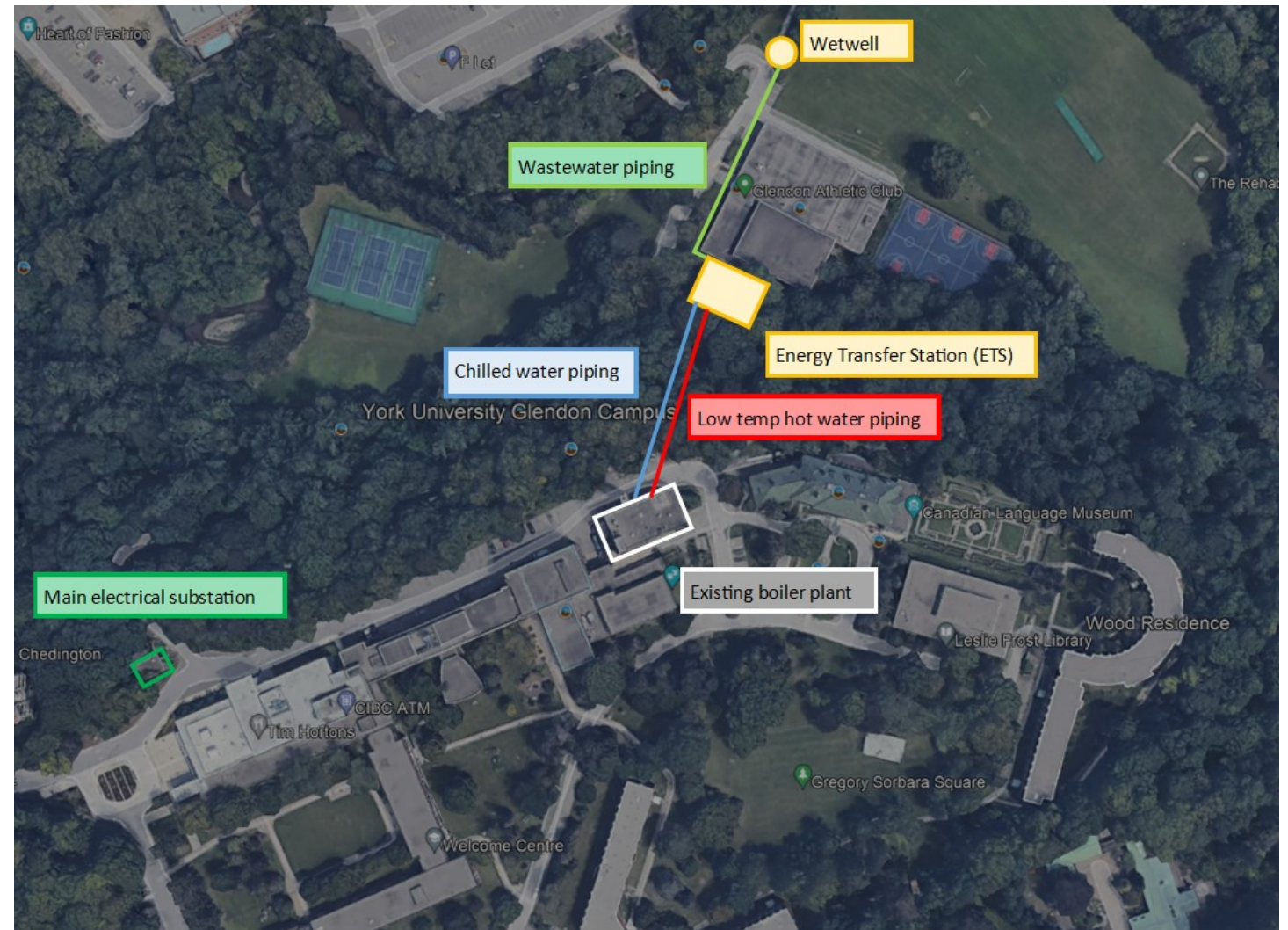
- Wetwell located beside soccer field, adjacent to trunk sewer running through Sunnybrook ravine.
- Working through approvals process with TRCA

## > Energy Transfer Station (ETS)

- Located to the south of the Glendon Athletics Club

## > Distribution Piping

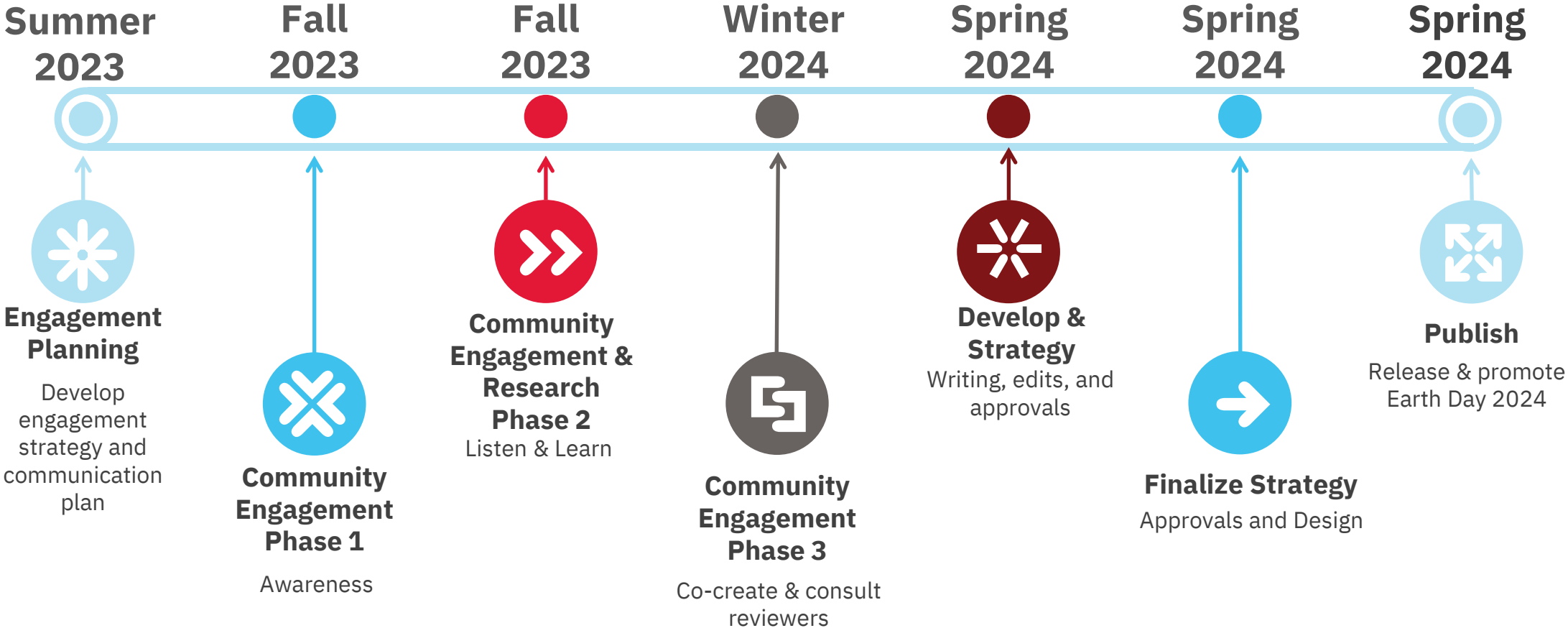
- New hot and chilled water distribution piping from ETS to existing boiler plant





# **Sustainability Strategy Renewal, Engagement Process and Draft**

# Sustainability Strategy - Community Engagement Proposed Timelines



# Engagement Process



# Sustainability Strategy 2030 update - FOR DISCUSSION



# 2017 Architecture & 2024 Proposed Architecture

2017

**Vision**

**Pillars**  
(People, Knowledge, Place)

**Strategic Goals**

2024 Proposed

**Call to Action /Vision**

**Guiding Principles**

**Pillars**

**Strategic Objectives**

**Strategic Actions**

# Alignment of Guiding Principles with UAP and existing Strategies.

## YORK'S VALUES

- › Excellence
- › Progressive
- › Sustainable
- › Justice/Equity
- › Diversity/Inclusion

## UAP – ANSWERING THE CALL

Campus – Local - Global

- › Living Well together
- › 21<sup>st</sup> century learning
- › Knowledge for the Future
- › From access to success
- › Advancing Global Engagement
- › Working in partnership
- › SDGs

\* Climate and environment (Key priority)

## RELEVANT INSTITUTIONAL STRATEGIES/Frameworks

- › DEDI (DoS/Wellness)
- › Wellbeing (DoS/SRP)
- › Create our future (DoS)
- › Leadership (DEDI)
- › Reconciliation (DEDI)
- › Indigenous Rights (DEDI)
- › Decolonization (DEDI)
- › Diversity/Inclusion (DEDI/SRP/GES)
- › Rights of Planet (DEDI)
- › Campus Climate (DEDI)
- › Intersectionality (DEDI)
- › Innovation (Wellness/SRP/GES)
- › Collaboration (Wellness)
- › Healthy Lives & Communities (SRP)
- › Global Challenges (SRP/GES)
- › Social Justice (DEDI/SRP)
- › Climate Action (SRP)
- › Partnership (GES)
- › Impact (GES)
- › Experiential learning (GES/DoS)
- › Interdivisional (SRP)

## BEST PRACTICES

- › Urgency
- › Inclusive/diversity
- › Interdisciplinary
- › Impact
- › Ambitious
- › Circularity
- › Just transition
- › Healthy environment
- › Empowering
- › Indigenous knowledge
- › Our connection to nature
- › Holistic
- › Long-term
- › Decarbonization
- › Transformative
- › Regenerative

## POSSIBLE GUIDING PRINCIPLES

- › Leadership – lighthouse
- › Empowering
- › Innovation - transformative
- › Intergenerational wellbeing
  - planet/Youth
- › Interconnected - interdisciplinary
- › Indigenous Knowledge
- › Local and Global
- › Partnerships
- › *Data informed*
- › *Prioritize hierarchy - Avoid/Shift/Improve (Reduce, Reuse, repair, recycle)*
- › Social & ecological justice/equity
- › Ecological integrity/regenerative
- › Reshaping Relations with nature
- › Wellness
- › DEDI
- › Community engagement
- › Digitalization/AI
- › Democracy & Peace
- › Accountability

# DRAFT Guiding Principles

- Cultivate local and global **leadership** and citizenship by demonstrating a sense of **urgency** and acting as a **lighthouse** to inspire **transformative** action, while advancing **practical and achievable** solutions.
- Advance **innovation**, forge strong partnerships and deepen community engagement, to amplify the positive impact, in all our actions.
- Respond to the **interconnectedness** of global challenges by embedding **interdisciplinary, integrated, avoid-shift-improve hierarchy, degrowth, and circularity** as principles of program design.
- Ensure **accountability** as a core component of planning and decision-making, by maintaining transparent and regular reporting, and seeking measurable outcomes to demonstrate action.
- Reshape our **relations with nature** and respect **ecological integrity** by ensuring actions aspire to be **regenerative** and **biocentric**.
- Embed **resilience** into planning and desired outcomes and ensure actions can **adapt** to changes in local and global conditions.
- Centre local **Indigenous Knowledge Systems** and worldviews into planning and actions *and recognize these distinct relationships with the land and environment*.
- Respect and acknowledge the interdependence of the **community of life, intergenerational social and ecological justice, rights of the planet and honouring our relations**.
- Meaningful **inclusion** and amplification of diverse, under-represented, and cross-cultural perspectives and **empower** marginalized communities.

# DRAFT Strategic Objectives 1/2

## *Place*

- **Net zero emissions** campus by 2040 for Scope 1 & 2 emissions and develop targets for scope 3 emissions wherever feasible
- Facilities as a model of sustainable design with all **new buildings and major renovations to build to net zero** and where possible net positive.
- Aspire to be a zero-waste campus upholding the principles of circularity and the waste hierarchy (3+Rs).
- **Reduced Water use** on campus and with a focus on reducing per person and campus wide consumption.
- Optimize **stormwater** repurposing on-site and minimize stormwater runoff.
- Increase the proportion of people using **low emissions options for commuting**.
- Campuses with a safe and efficient transportation network, following a "Vision Zero" road safety approach.
- Sustainability embedded into **business travel** that minimizes emissions and maximizes institutional outcomes.
- Decrease the overall emissions and mitigate the **ecological impact of food** consumed on campus.
- As stewards, we will support the **regeneration of local ecosystems** and **biodiversity** to foster ecological, healthy, and inviting campuses
- **Integrate sustainability in long term planning and day to day operations**, and incorporating into financial plans, Integrated Resource Plans (IRP), and investment plans.
- Increase proportion of goods and services procured that meet **sustainable procurement** goals, both environmental and social considerations within our campuses and along the value chains.
- Achieve **AASHE Platinum**



# DRAFT Strategic Objectives 2/2

## *Knowledge*

- **Promote program- and course- level learning objectives** and outcomes that identify and articulate global sustainability challenges and solutions.
- Faculty, staff and students actively engage in public discourse and experiential learning on global and local environmental issues consistent with the University Academic Plan.
- York builds an international reputation for sustainability in our teaching and in applied leading edge research that attracts students and partnerships, with public and private partners.
- Establish campuses as **Living Labs**, reduce barriers to projects and research activities on campus and increase participation in classroom-based exercises.

## *People*

- Demonstrate and foster a **culture of sustainability** and stewardship across all community members.
- Sustainability as an **established and visible core value** of the University.
- Support initiatives that address **food insecurity** and food justice on campus and in our community.
- A holistic approach that includes **social sustainability**, embedding York as an anchor institution in our local and contribute to global action through the SDGs.
- Include the Indigenous Community in sustainability planning and action and ensure that the perception and **experience of indigenous community members** are reflected in the classroom, on campus and in university life (from the Indigenous Framework).
- Enhance the physical environment to be more **inclusive, accessible, and equitable** where everyone has the potential to feel a sense of belonging and that they are respected (from DEDI strategy).

# DRAFT Strategic Action 1/3

## *Place*

1. Maximize efficiency – Develop space utilization strategies that maximize efficiency in the use of, and heating and cooling of buildings on campus.
2. Utility decarbonization – Develop a strategy to decarbonize central utilities on all campuses.
3. Building and major renovations standard towards net positive – Develop a standard for major renovations and new building construction that are net zero or better.
4. Fleet decarbonization policy – Develop an institution wide strategy to right size and decarbonize fleet vehicles.
5. Corporate travel policy – Develop an institution wide strategy to address the emissions from corporate travel.
6. Road safety - Develop micro-mobility, active transportation, and road safety plans for York campuses.
7. **Commuting decarbonization** plan. Develop plans to encourage the use of public transit and low carbon forms of commuting.
8. Enhance **purchasing**, policies and procedures to include environmental sustainability, along-side existing social considerations, and implement for all purchasing categories, and as part of this work, set targets and report back on progress.
9. Develop **water and stormwater** management plan that optimizes efficiency, and repurposing onsite and minimizes stormwater runoff.
10. Develop a **waste reduction plan** that focuses on waste hierarchy and circularity.
11. Develop and implement **Campus-wide Biodiversity Regeneration Plans** – ensuring York facilities, campuses and operations are ecologically regenerative and serve as part of the community wide network of habitat for species and an inviting and positive space.
12. Maintain an **investment policy** that addresses inherent risk of climate change, actively promotes transition to low carbon economy and follows the global best practices for ESG approaches.

# DRAFT Strategic Actions 2/3

## *Knowledge*

13. Develop strategies that incorporate sustainability into students' growth and development.
14. Work with academic leadership on assessing the presence of sustainability objectives and outcomes into program review processes.
15. Support programs in reflecting on the ways the objectives of their program align with the sustainability during the Cyclical Review Process, including opportunities for experiential learning.
16. Support programs in developing sustainability focused objectives and outcomes by creating a resource bank that demonstrates the ways global sustainability challenges, responses, and solutions can be incorporated into program and course curriculum.
17. Regularly assess student literacy of sustainability and the SDGs
18. Develop and maintain support mechanisms for innovative campus-based projects from faculty, staff, and students.
19. Develop a framework for removing barriers to implementing Living Lab project on campus and in the local community, and support classroom-based living lab learning experiences.
20. Support the advancement of research in sustainability through support for grant applications and collaborations between faculties, researchers, and outside partners.

# DRAFT Strategic Actions 3/3

## *People*

- 20. Implement the **Sustainability Framework** and report annually on progress in advancing the sustainability strategy.
- 21. Embedding sustainability in job descriptions and **Institutional Resource Plans**.
- 22. Maintain inventory for scope 1,2 & 3 **emissions inventory** and report annually.
- 23. Implement strategies to ensure low carbon, sustainable, local, and nutritious **food** is accessible and develop metrics to track progress.
- 24. Increase staff, faculty, students, and alumni **engagement** to promote awareness and action on sustainability issues.
- 25. Increase **community engagement** and storytelling specific to sustainability.
- 26. Develop strategies for strengthening **arts** as a tool for social and environmental transformation.
- 27. Establish opportunities for youth leadership and **empowerment** in sustainability initiatives.
- 28. Anchor Institution – Maintain and strengthen the **Anchor York U** Framework



# SUSTAINABILITY FRAMEWORK & PATH FORWARD



# Transition to action-oriented Sustainability Framework

## Level 1 – Working groups

- › Action Plans
- › Major initiatives
- › Advance research, align operations, coordinate initiatives

## Level 2 – Taskforce

- › Vision/Implement/Shape institution-wide plan
- › Make recommendations on new policy and resources
- › Award Innovation fund

## Level 3 – Steering Committee

- › Lead long-term sustainability vision
- › Oversight
- › Resource approval

cross cutting



# Working Groups

Working groups will be composed of community members whose expertise and responsibilities are needed to execute the projects. Membership might be composed of colleagues on a major research project and/or involve staff from one or more offices depending on the scope of the project.



Energy &  
Buildings

Water

Zero  
Waste

Biodiversity

Teaching &  
Learning

Sustainable  
Procurement

Transportation

If you are interested in participating in any of the working groups, please let us know.  
Email: [sustainability@yorku.ca](mailto:sustainability@yorku.ca)

# Sustainability Innovation Fund – Proposed Recommendations

	Project Lead	Affiliation	Faculty / Dpt	Project Title	Total Funding Request \$	Recommended Funding	Notes
1	Arjun Kaura	Student	C4 Capstone	EcoLearning - Learning for Sustainable Future	\$240	\$240	
2	Pauline Lexanova	Student	C4 Capstone	Project Organically Rooted (seeds project)	\$145	\$145	
3	Megan Medeiros	Student	AMPD	Dance “The Nature of Exchange Through Movement”	\$2,380	\$2,380	
4	John Simoulidis	Faculty	LA&PS	York University Composting Centre - Continuation	\$25,000	\$25,000	*Conditional: must include Glendon component; last funding need to figure out long term solution
5	Phyllis Novak	Faculty	EUC	Maloca Earthworks - CommunALL Growing Project (Maloca Gardens)	\$25,000	\$25,000	*Conditional: must include Glendon component & space approval
6	Tim Hampton	Staff /Faculty	EUC / Lassonde	Determining the carbon reduction impact of large battery electricity storage integrated with renewable energy sources at York University	\$10,000	\$10,000	*Conditional: Supported by Energy Management; last funding from SIF
7	Pirathayini Srikantha	Faculty	Lassonde	Quantifying and Mitigating Power Quality Issues Stemming from the Electrification of the Heating and Cooling Systems at York University.	\$10,000	\$10,000	*Supported by Energy Management
8	Vladimir Kanic	Student	AMPD	Algae Farming: A Creative Approach to Carbon Sequestration and Climate Resilience via Bioart	\$19,500	\$10,000	*Conditional: Facilities/Space & Faculty sponsor



# Stay Connected with the Office of Sustainability



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