Sustainability Report 2022-23

Carleton University

Carleton University

Introduction

Sustainability

Transparency
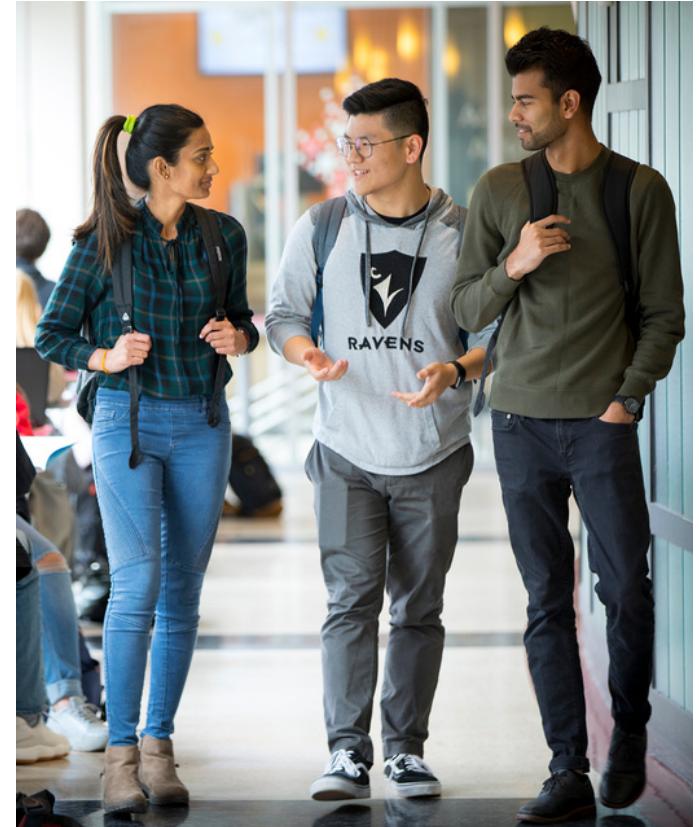
Message from Sustainability Carleton

Sustainability Carleton is responsible for the overall sustainability of operations across campus, ranging from travel and waste to energy and dining. This is delivered by working with departments and partners across the university, to ensure responsible management of our resources, and maintaining our high sustainable standards.

Alongside developing and maintaining infrastructure and services, Sustainability Carleton also focuses on behaviour change to support the rollout and uptake of its initiatives. The biggest focus, is our target to reduce our scope 1 & 2 carbon emissions to 50% by 2030 and to ensure the campus is carbon neutral by 2050. In essence, this means Carleton will reduce our emissions to as low as possible and we will continue to work across our estate on low-carbon upgrades, new sustainable buildings and innovative solutions. We are also looking forward to future ambitious timescales for reducing our Scope 3 emissions, including the carbon associated with travel to and from campus, as well as other indirect sources, such as our procurement activities. This report, for the first time, includes information on our Scope 3 Greenhouse Gas (GHG) emissions data.

The aim of our annual report is to be transparent about our performance in relation to key objectives set out in our Comprehensive Sustainability Plan (2020-25), within the areas of leadership, energy, water, waste, travel and food operations. Monitoring our performance in relation to our targets ensures we are always striving to improve. The report also provides information about wider projects on the campus and demonstrates how we, as a community, are striving for sustainability.

Introduction

2022-23 Program Highlights

Recognition

One of the first universities to sign up for the **Government of Canada's Net-Zero Challenge.**

Recognized in the Top 50 for the UI Green Metric global university rankings

Recognized in the Times Higher Education Impact rankings for Sustainable Development Goal 12: Responsible Consumption and Production (50th) and Goal 14: Life Below Water (82nd)

Became a founding **member of the Nature Positive University program**

Achieved 3-star Green Restaurant certification

Initiatives

Engaged the campus community in **'Let's Bike Ottawa Month' programs** to increase active transportation rates

Developed first GHG emission **inventory for Scopes 1, 2 and 3**

Completed a carbon footprint assessment of the listed equities of the Carleton Endowment and Operating Funds

Completed energy projects and audits toward GHG reduction goals

Rolled out additional internal and external four-sorter waste bins and **completed three waste audits**

Commitments, Awards and Recognitions

In 2022-23, Carleton's leadership in sustainability was recognized through our public commitments and various awards and recognitions.

Commitments to Sustainability Leadership

Carleton is proud to be an official participant in the Government of Canada's Net-Zero Challenge, launched in 2022. The Net-Zero Challenge is a voluntary initiative that encourages organizations to develop and implement credible plans to transition their facilities and operations to net-zero emissions by 2050.

Carleton is a member of the University Global Coalition, a global platform of universities and other higher education organizations committed to working together and in partnership with the United Nations, in support of the Sustainable Development Goals.

Carleton is a member of the Sustainable Development Solutions Network. The network offers an integrated approach to implementing the Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change, through education, research, policy analysis, and global cooperation.

Nature Positive Universities are halting and reversing nature loss so that species and ecosystems can start to recover. Being Nature Positive means that Carleton is reviewing species and ecosystems that have been harmed by our activities and looking towards enhancing the positive impacts of nature on our campus.

Carleton has received external GHG inventory verification in accordance with ISO 14064 Greenhouse Gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3) and with the requirements of the EPS Regulations.

Carleton is proud to be a member of the Race to Zero for Universities and Colleges. The campaign is powered by the UN Environment Programme, EAUC & Second Nature - and is a global initiative to rally leadership and action in the education sector.

Carleton is a signatory of the Investing to Address Climate Change: A Charter for Canadian Universities. The charter outlines how universities have a responsibility to act constructively to address the challenges of climate change and abide members to set principles and practices.

Carleton is a proud signatory to the United Nations-supported Principles for Responsible Investment (PRI), which are considered best practices in the area of responsible investment.

Sustainability Leadership Awards and Recognition

Carleton was ranked 49th internationally and 2nd in Canada among over 900 universities in the UI Green Metrics international ranking system for sustainability in 2022. The rankings are the first and only university rankings in the world that feature each participating university's commitment to developing an 'environmentally friendly' university.

Carleton has earned a STARS Gold rating in recognition of its sustainability achievements from the Association for the Advancement of Sustainability in Higher Education (AASHE) STARS – Sustainability Tracking, Assessment and Rating system – measures and encourages sustainability in all aspects of higher education.

Carleton was ranked 301-400th in the Times Higher Education Impact Rankings 2023. With over 1500 universities included, Carleton was ranked 50th for Goal 12: Responsible consumption and production, and 82nd for Goal 14: Life below water. The rankings are the only global performance tables that assess universities against the United Nations' Sustainable Development Goals.

Carleton is recognized as a Fair Trade Campus. This designation is bestowed to campuses that have committed to advancing the positive impact of Fair Trade.

Carleton's dining hall, the Caf, has earned a three-star SPE Certification in recognition of its commitment to serving nutritious and environmentally sustainable food, the first 3-star rating for a higher education in Canada. Carleton is also committed to sustainable sourcing and supporting the regional community through programs for composting, regional sourcing and MSC certification.

Carleton is committed to ensuring that all new construction and major renovations achieve a minimum rating of 3 out of 5 globes with the Green Globe rating program. To date, 11 buildings on campus have been rated.

Carleton is only the second Canadian university to have a restaurant certified by The Green Restaurant Association. The GRA's certification aims to provide technical guidance to dining establishments that want to assess and advance the sustainability of their operations by creating standards that provide multiple routes for minimizing a restaurant's impact on the environment.

Sustainability Plan

Carleton University is committed to working towards a sustainable future. We have created the Comprehensive Sustainability Plan (2020-25), a five-year plan establishing priority actions under six pillars:

The plan outlines 20 actions that will help us advance sustainability at Carleton. A summary of our progress on each of the sustainability action items can be found in the Sustainability Plan Progress table. Further details on our 2022 achievements under each of these pillars are provided in the sections: GHG Emissions, Energy Consumption, Engaging Our Community, Sustainable Investments, Sustainable Procurement and Zero Waste.

Leadership	Teaching and Learning	Research	Operations	Community Engagement	Sustainable Collaboration
We will demonstrate leadership by integrating sustainability principles into our decision-making and activities.	We will strive to inspire and support students to be leaders in sustainability and to continue to adapt for a sustainable future.	We will focus on collaborative, interdisciplinary research with social, environmental and economic impact.	We acknowledge the environmental impact of our operations and will work towards a future where our operations exemplify sustainability best practices and innovation.	We acknowledge that improvements toward sustainability are dependent on the active involvement of all members of our university community.	We will focus on where and how external relationships can strengthen our institution and increase our understanding of sustainability.

UN Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs), are a set of goals adopted in 2015, as a call to action to protect the planet and ensure that by 2030 all people enjoy peace and prosperity and can live without fear of poverty. In total there are 17 SDGs which recognize the full interconnectivity of sustainable development and that outcomes in one area will affect outcomes in others. Development must proceed with an integrated approach to Social, Economic and Environmental Sustainability.

Carleton has identified the SDGs below as ones that align closest to our sustainability goals and actions, as identified in our Sustainability Plan. The table below demonstrates how we are currently or plan to, contribute to these goals. The SDG indicators are also outlined throughout this report.

Goal	Target	Contribution
7 AFFORDABLE AND CLEAN ENERGY	**7.2 Increase global percentage of renewable energy** By 2030, increase substantially the share of renewable energy in the global mix.	Carleton is supporting on-site electricity generation through its co-generation plant, which provides 15% of our electricity mix. We are looking towards future on-site renewable generation and electric boilers to phase out gas use. See the **Energy Consumption** section, for more information.
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	**9.4 Upgrade all industries and infrastructure for sustainability** By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.	Carleton is investing in Green Globe-certified buildings as well as co-generation. We are also working to upgrade and retrofit our buildings and infrastructure to make our campus more energy efficient and emit lower GHG emissions. See the **Energy Consumption** section, for more information.
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**12.5 Substantially reduce waste generation** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	Carleton is working towards the goal of becoming a zero-waste campus. We are taking steps to better understand the sources of waste and have increased our waste offering by improving waste bins and waste engagement, and increasing recycling options. See the **Zero Waste** section, for more information.

| Goal	Target	Contribution
11 SUSTAINABLE CITIES AND COMMUNITIES	**11.2 Affordable and sustainable transport systems** By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.	Carleton has increased options for active and sustainable transportation. We have developed cycling programs and partnered with a city-wide e-scooter program to allow for usage to and from campus, helping to promote sustainable transport and moving away from the need to commute by car. We have also expanded electric vehicle charging options. See the **Sustainable Travel** section, for more information.
13 CLIMATE ACTION	**13.2 Integrate climate change measures into policies and planning** Integrate climate change measures into national policies, strategies, and planning.	Carleton has set a target to reduce emissions by 50% by 2030 and to be a carbon-neutral campus by 2050. We have also integrated climate change and sustainability measures into Carleton policies, including procurement and investments, and have updated the Environmental and Sustainability policy to better reflect our goals. The Carleton Strategic Integrated Plan also includes as a key direction: 'strive for wellness, strive for sustainability', with the goal to become a national and international leader in sustainability.
17 PARTNERSHIPS FOR THE GOALS	**17.H Encourage effective partnerships** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.	Carleton promotes effective engagement and partnerships across the campus community to ensure strategic sustainability programming. We look to engage both teaching and research towards campus sustainability and work across departments on joint programs. See the **Engaging Our Community** section, for more information.
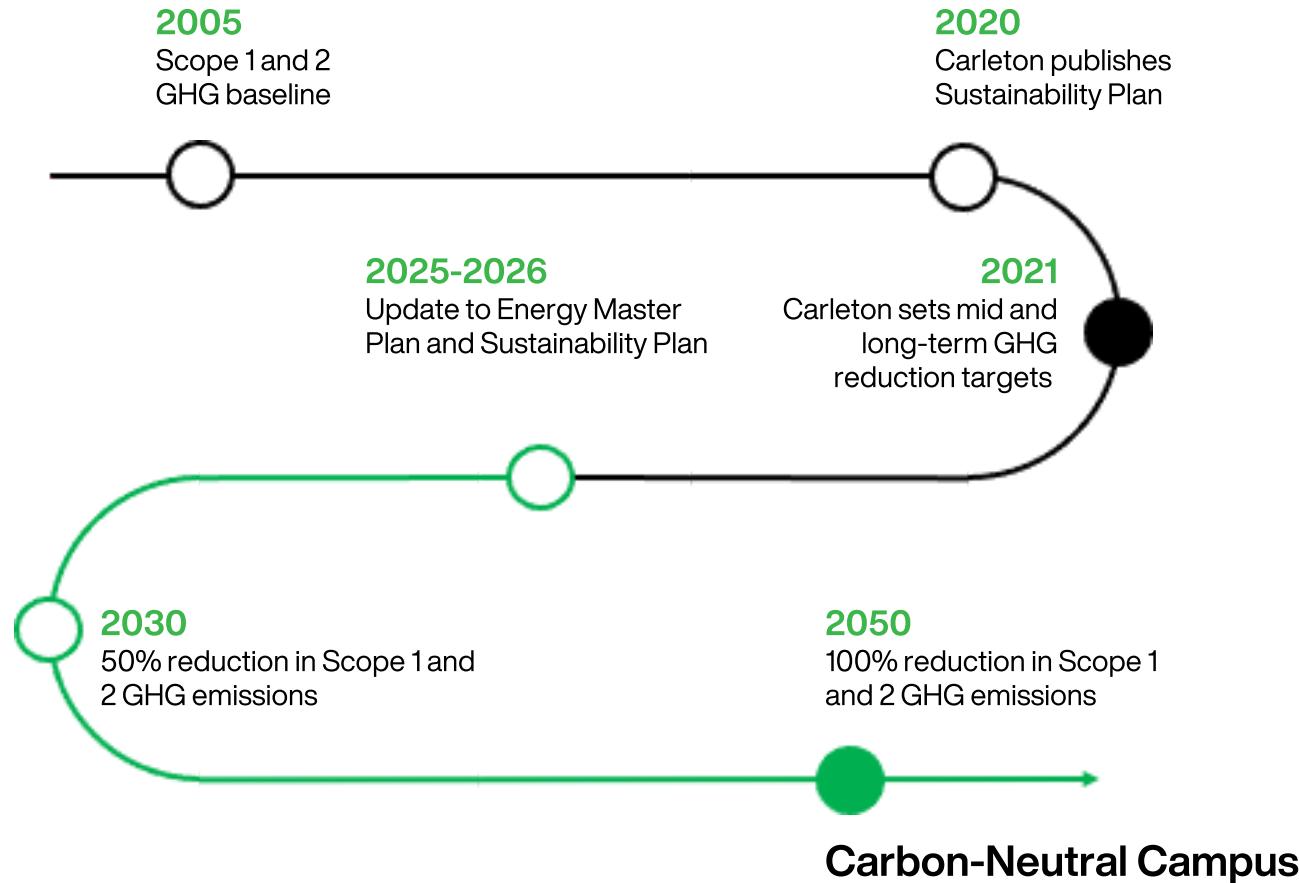
Sustainability

Pathway to a Carbon-Neutral Campus

2005
Scope 1 and 2
GHG baseline

2020
Carleton publishes
Sustainability Plan

2025-2026
Update to Energy Master
Plan and Sustainability Plan

2021
Carleton sets mid and
long-term GHG
reduction targets

2030
50% reduction in Scope 1 and
2 GHG emissions

2050
100% reduction in Scope 1
and 2 GHG emissions

Carbon-Neutral Campus

Carleton has set a target to become a carbon-neutral campus by 2050.

Our Scope 1 and 2 carbon neutral programs include:

- Expand the current district energy infrastructure

- Review innovative generation, distribution, and delivery technology to lower environmental impacts

- Maximize renewable energy generation

- Develop programs for substantial gains in building and thermal efficiencies

Greenhouse Gas Emissions
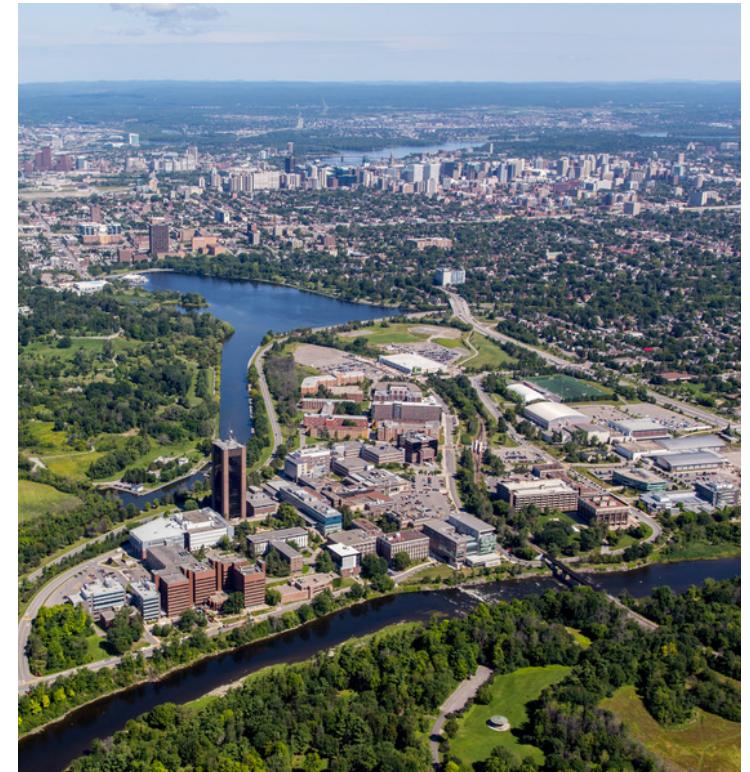
Carleton's main sources of energy consumption and operational emissions (scope 1 and scope 2) are fuel used in our facilities (such as natural gas for heating) and electricity to power our buildings. The main sources of emissions in our indirect value chain (scope 3) include our investments, business travel, and purchased goods and services. In 2022, Carleton generated a total of 1,206 kt CO_2e, with scope 3 emissions accounting for 71% of that total.

Methodology

As part of Carleton's ongoing sustainability efforts, we are looking to extend our data and transparency towards all GHG emissions including Scope 1 and 2 (energy use) and Scope 3 emissions. As we developed our GHG emissions reporting, we made the following updates:

- Expanded GHG scope 3 assessments, based on spend, for procurement and business travel.

- Completed an externally verified carbon footprint assessment on the listed equities of the Endowment.

- Incorporated utility consumption data for all university locations.

- Completed a GHG assessment for commuting travel, based on model share and campus population.

Where possible, updates were made to our GHG inventory data back to 2020. To view our full inventory data, please refer to our **Data Supplement**.
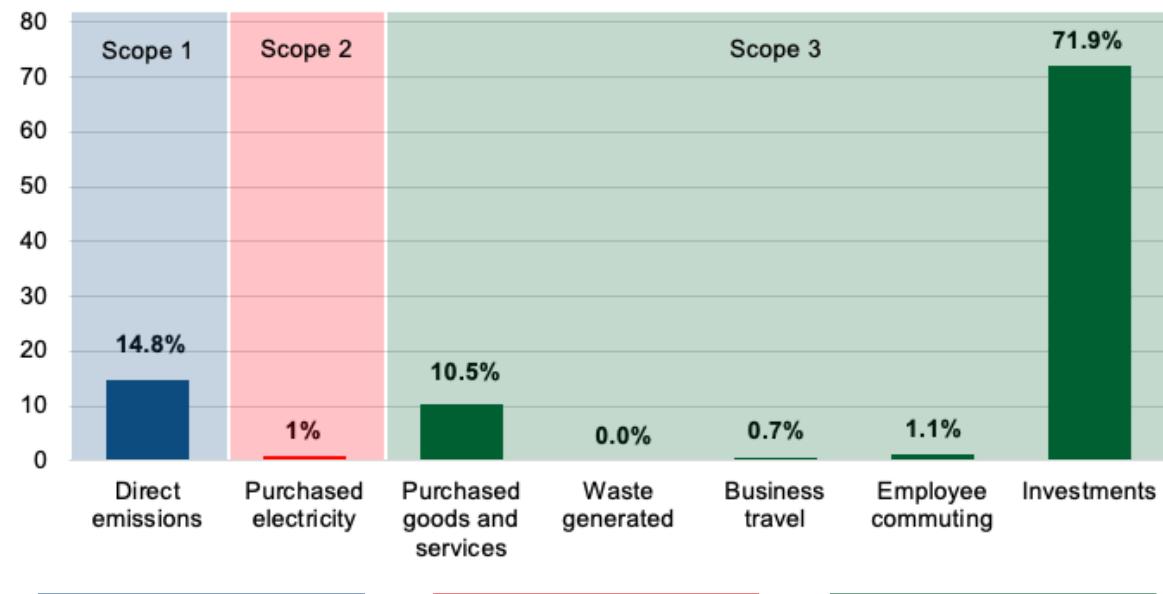
GHG Emissions

2022 GHG Emissions

Emissions Source	2022 kt CO_2e
Scope 1	
Facilities	24.9
Fleet	0.38
Total Scope 1	**25.28**
Scope 2	
Electricity	1.73
Total Scope 1 and 2	**27.01**
Scope 3	
Purchased goods and services	17.9
Waste generated	0.0004
Business travel	1.2
Employee commuting	1.9
Investments	123
Total Scope 3	**144**
Total Scope 1, 2 and 3	**171**

2022 GHG Emissions by Source

Scope 1 represents 14.8% of total emissions, the majority coming from Natural Gas emissions.

Scope 2 contributes 1% of total emissions via purchased electricity.

Scope 3 drives 84.2% of total emissions, with the most prominent being investments (71.9%).
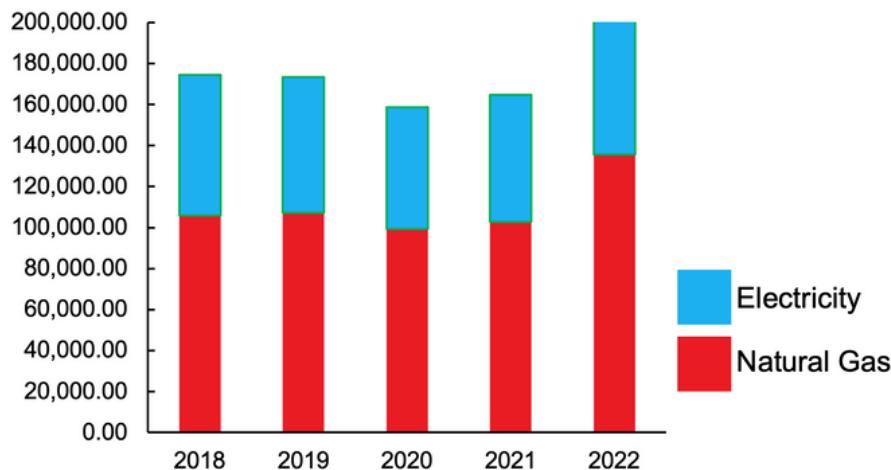
Energy Consumption
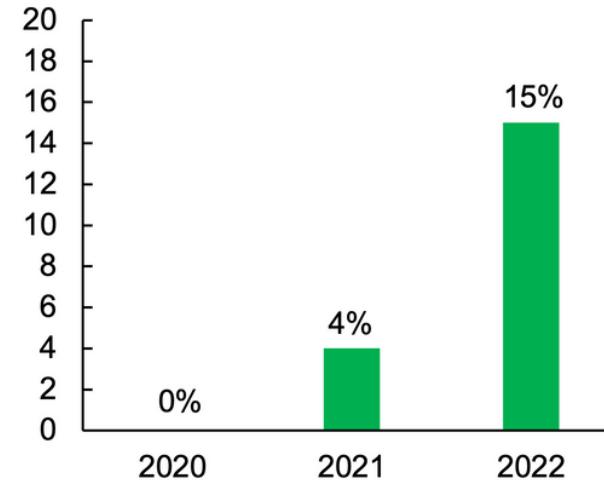
In 2022, our total energy consumption increased by 23% from 2021, mainly due to increased on-campus populations and changes based on post-covid activity. Our percentage of electricity generated on campus increased by 11%, up to 15%.

We are in the early stages of implementing our strategy to achieve our scope 1 and 2 emissions reduction targets, which includes enhancing energy efficiency and increasing our use of renewable energy. As we continue to roll out our operational Energy Master Plan, we expect our energy consumption to fall with the increased efficiency of our building systems.

2020-22 Total Building Consumption (MWh)

Percentage of On-Site Electricity Generation

Energy Consumption

In 2022, the St. Patrick's Building underwent mechanical and lighting upgrades to offer improved energy efficiency and to reduce GHGs. Additional work will be carried out in phases over several years. A feasibility study was also been completed and the decision has been taken to replace all interior drywall on the perimeter and selected interior walls. Included in the scope are Phase 1 - lighting, ceilings, sound systems and Phase 2 - HVAC. Phase 1 is complete. The Phase 2 portion of the work, which involves upgrades to the mechanical systems, is planned to begin in 2024, due to mechanical equipment lead times and supply chain issues.

The existing lighting systems in the MacOdrum Library, Azrieli Pavilion, and HCI/VSIM have been replaced with LED lamps. These three lighting replacement projects brought in approximately $65,000 in incentives back to Carleton and will result in a significant decrease in our energy consumption. Year 2 of the program is currently under review to strategize other buildings that will see the highest return on investments. Other energy-related programs include additional HVAC upgrades, solar studies for buildings and solar canopies over parking lots.

For full details on key performance indicators related to our energy consumption, please refer to the **Sustainability Data Supplement**.

2022 Energy Project Savings and Incentives Earned

Project	Savings (kWh)	Demand (kW)	Incentives Earned	Savings
Lighting Upgrades	458,809	36	$65,700	$55,057
HVAC Upgrades	25,760	19	$6,000	$3,092
Total	**484,569**	**55**	**$70,700**	**$58,149**

Sustainable Travel

Carleton's Comprehensive Sustainability Plan includes encouraging the campus community to travel in a sustainable manner contributing to a low-carbon future. Carleton has faced severe issues with public transport links to and from the campus, including the delayed implementation of the O-Train Line 2, Trillium Line and the continued closure of the Carleton station.

Program Delivery

Carleton partnered with Bird Canada to provide on-campus e-scooter rentals. In 2022, the pilot program saw 488 rides and 1,014km travelled. The pilot was extended for the 2023 season and promotions included safety awareness and free helmet giveaways to staff, faculty and students.
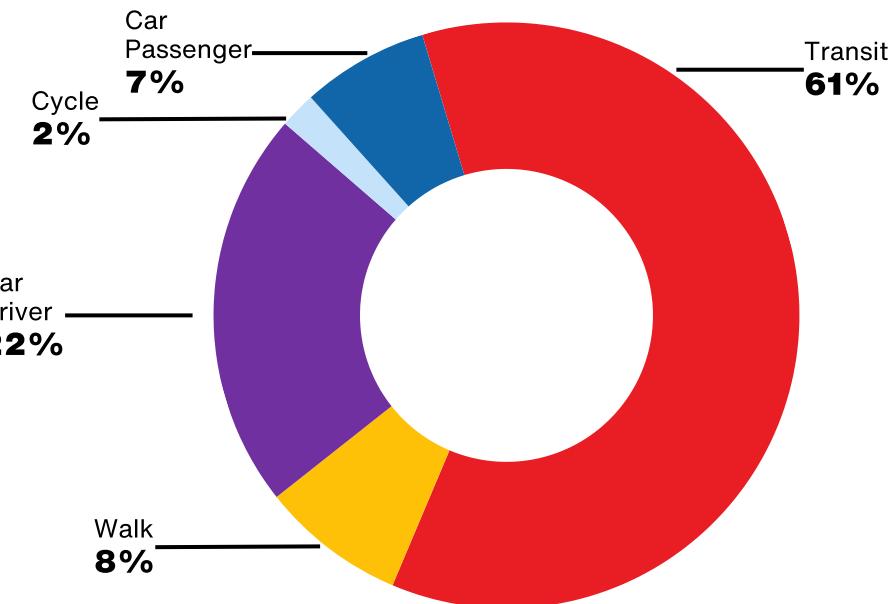
Carleton participated in 'Let's Bike Ottawa Month' with the staff and faculty team, Road Ravens, clocking up 5,487km and averting 1400kg GHG during the month. In addition, bike workshops and bike tune-ups were provided with over 100 staff members having signed up for both.

Carleton continues to promote the secure bike parking facilities on campus and continues to review wider cycle parking facilities. A new facility was installed adjacent to Dunton Tower, providing additional secure bike parking on campus.

Carleton's Flexible Work Arrangements policy went into effect in July 2022. This promotes a positive effect on health and well-being and reduces commuting needs.

Carleton has a limited fleet with just over 100 vehicles owned. At present 61% of the Carleton fleet is electric and we are committed to electrifying our fleet as vehicles need replacing.

Carleton Commute Modal Split

Transit **61%**
Car Passenger **7%**
Cycle **2%**
Car Driver **22%**
Walk **8%**

Engaging Our Community

Carleton is committed to engaging our community to act on reducing environmental impacts. We seek to empower staff, students and visitors with the tools and resources they need to help Carleton achieve its goals of becoming a leader in sustainability within higher education.

Biodiversity

Carleton has installed additional bird-friendly glazing to buildings on campus. With community support, this glazing will also become standard for all new buildings and will be expanded to existing buildings to prevent bird deaths due to collisions. To date, 5 buildings have such glazing. Carleton has also become a signatory of the Nature Positives Universities, which will allow for a review of the natural environment and our engagement towards wildlife on the campus.

Campus Clean Up

Carleton completed bi-annual 'clean-up the campus' events, engaging both staff and students to keep the campus litter-free.

Sustainable Dining

Carleton retained its Fair Trade Campus designation, which demonstrates promotion and awareness on the campus towards Fair Trade products. This includes a commitment to serving Fairtrade coffee and tea. In addition, a revised steering committee was established with students (Engineers Without Borders), staff and faculty involvement.

The university's food service provider, Aramark Dining Services, purchased 25% of its food supplies from local and humane food sources in 2022. In addition, Dining services achieved Green Restaurant Certification and 3-Star SPE certification.

Greening the Workplace

Carleton updated the Green Workplace Certification to include additional categories and updated scoring. There was increased promotion in early 2023 to all departments and individuals.

Sustainable Investments

Carleton's endowment and pension plan integrates environmental, social and governance (ESG) factors into its investment strategy while maintaining a focus on returns for employees and pensioners. The approach is based on our belief that long-term value creation requires effective management of environmental and social risks and opportunities, and that good governance leads to better returns.

Managers are expected to consider all material ESG factors and be mindful of the interplay between those factors when analyzing investments. While all relevant ESG factors should be considered in investment decision-making, 'climate change' is considered an important strategic priority for the university.

As per the Responsible Investing policy of the endowment, the following programs have been completed in 2022:

- Alignment of the PRI principles to fund responsible investing practices.

- Established a fossil fuel-free fund to which donors may direct their gifts.

- A carbon footprint was completed on the listed equities of the Endowment (see **Data Supplement**).

- A 2030 carbon reduction target of 50% and net-zero GHG emissions by 2050 for listed equities was established.

- Continuing to not hold any direct fossil fuel investments.

- An inaugural Responsible Investing Report was completed for the combined Endowment and Operating Funds.

Note: Responsible Investment (RI) updates are presented in more detail to the Finance Committee.

Sustainable Procurement

Carleton's Procurement Policy governs our spending process and focus. It outlines guiding principles to ensure we satisfy Carleton's objective of obtaining quality goods and services at competitive prices while considering environmental and social responsibility factors.

Key Programs

Carleton promoted the CUrb program where Carleton-owned goods are given or resold to other departments on campus, to encourage reuse. In the last year, six departments sold or gave away 45 items resulting in a $27k return of funds and 4,514lbs of wasted diverted.
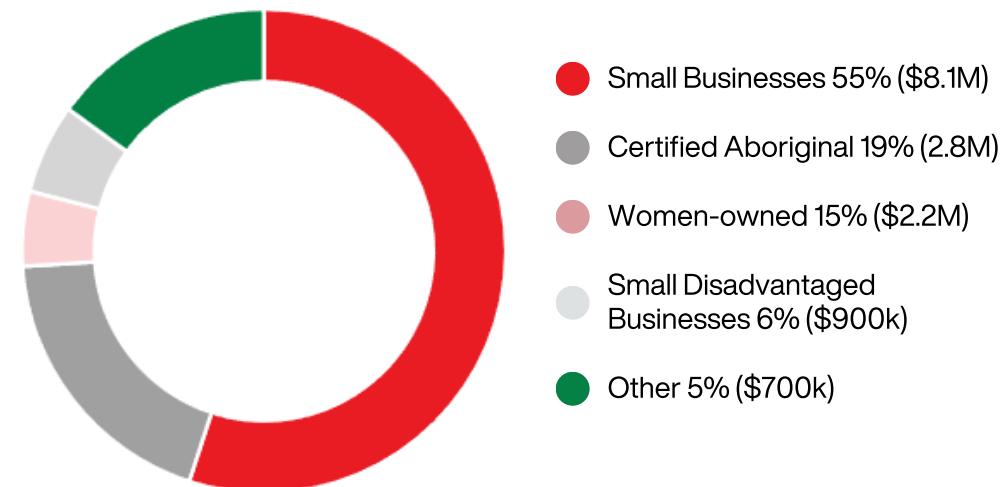
Carleton has promoted and upheld high standards in our policy platforms, including within our Procurement and Sustainability policy. Carleton has also adopted accessible procurement considerations within our policy, formed an Advisory Group (APAG), and launched voluntary disclosure on the eShop and resources websites.

Carleton has promoted the use of the Employee Purchase Program, to approve, in 2022, five loans for employee bicycle and e-bike purchases.

For public RFx: sustainable, accessible, and social criteria were considered on a case-by-case basis. In 2022, 14% of public Requests for Proposals included specific requirements or weighted criteria aligned with sustainable principles (not including those still in process on April 30).

Breakdown of Diverse Spend (2021-22)

The total spend evaluated for diversity was ~$251M, based on the 2021 and 2022 calendar years (Jan 2021-Dec 2022). The diverse "qualified" spend totalled $14.7M (or 5.8%). The category breakdown of the 5.8% is as follows:

- Small Businesses 55% ($8.1M)
- Certified Aboriginal 19% (2.8M)
- Women-owned 15% ($2.2M)
- Small Disadvantaged Businesses 6% ($900k)
- Other 5% ($700k)

Zero Waste

When it comes to waste, Carleton is committed to the three R's: Reduce, Reuse, and Recycle. To achieve our strategic goals, we're taking steps to better understand the sources of waste within our operations, implement solutions to ensure accurate measurement and tracking of waste, and pilot strategies to divert waste from landfill.

> ## Carleton has set a goal to become a zero-waste campus and achieve zero-waste for construction.
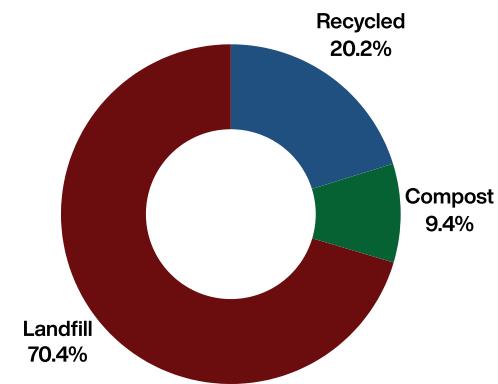
Carleton has completed multiple waste audits across the campus, including ones specific to food operations. These helped to determine the status of ongoing educational programs, specific areas of focus and better information for waste baseline data. Carleton also further increased the number of 4-sorter bins across campus and added additional waste bins outside in strategic locations, such as in front of Nideyinan.

Carleton has re-established specialized waste collection programs for textbook recycling, personal e-waste and batteries, and established a new stream for pen recycling. This provides a wider recycling profile for our community, allowing more materials to be recycled on campus.

Zero-waste programs continue to be in operation at the residence food location, with reusable cutlery and service ware. Sustainability Carleton has also worked with property services to refine and develop the procedures around the collection of construction waste data. This will better help us to understand the full waste profile and improve overall campus diversion from landfill.

Carleton will also be reporting on blue box material, as required by the new Ontario Blue Box Regulation that started in July 2023.

2022 Waste Generated

Donut chart: Recycled 20.2%, Compost 9.4%, Landfill 70.4%

Disposal Method	Tonnes
Recycled	**299.6**
- Organics	95.2
- Cardboard	101.3
- Mixed Containers	32.8
- Mixed Paper	34.4
- Wood	9.1
- Metal	26.8
Landfill	**709.5**
Total	**1,009.1**

Transparency

In this section:

Sustainability Plan Progress

Data Supplement

Sustainability Plan Progress

Sustainability Action	Status	Notes
Leadership		
Zero instances of sustainability and environmental legal non-compliance.	✓	
Achieve a Gold STARS rating by 2021.	✓	Completed 2021
Report annually and publicly on the university's sustainability impacts and progress.	✓	Annual reporting to the Board of Governors Building Program Committee
Report annually through global best-practice standards and assessments.	✓	See **Commitments, Awards and Recognition**
Ensure that community stakeholders are engaged in reporting and decision-making processes.	✓	Annual report published on the Sustainability Carleton website

✓ Complete　　➡ On Track　　🕐 Planned

Sustainability Action	Status	Notes
Operations - Energy and Emissions		
Meet the objectives and targets identified in the Carleton University Energy Master Plan.	🕐	Early deployment of Energy Master Plan
Achieve a 50% reduction in Scope 1 and 2 carbon emissions by 2030, and 100% by 2050 (based on a 2005 baseline).	➡️	See **GHG Emissions**
Increase the number of renewable or alternative energy projects on campus.	🕐	Ongoing review for future consideration
Achieve annual energy (electricity and gas) consumption reductions.	🕐	See **Energy Consumption**
Maintain a minimum 4 Green Globe rating (or equivalent external third-party sustainable certification) for all new builds or major renovations.	➡️	
Operations - Water		
Achieve annual water consumption reduction (intensity).	🕐	Programs identified in the Energy Master Plan
Operations - Zero Waste		
Achieve a zero-waste campus (over 90% diversion rate).	➡️	Zero-waste dining operations
Achieve a zero construction waste campus (over 90% diversion).	➡️	Procedure in development and consulting with stakeholders

Sustainability Action	Status	Notes
Operations - Sustainable Travel		
Complete a Sustainable Transportation Strategy for the campus.	✅	Completed
Increase the number of university-owned electric vehicles.	✅	
Establish Active Transportation rates amongst staff, faculty, and students.	🕐	Utilization of baseline data from the City of Ottawa (2014)
Operations - Food Operations		
Increase the percentage of local and sustainably sourced foods purchased through dining operations.	➡️	Baseline data completed in 2022
Achieve commitments under the university's Fair Trade Campus designation.	✅	Annual designation renewed in 2022
Operations - Community Engagement		
Increase the number of sustainability-themed events on campus to increase awareness.	✅	
Evidence of increased student engagement with organizations working toward sustainability programs.	➡️	Social media followers increased to 1,000

Data Supplement

Indicator	Metric	2020	2021	2022
Campus Area (m2)	Total Campus Area	485,068	497,731	**497,731**
Campus Population	Total Number of Students, Faculty, and Staff	34,457	33,828	**33,828**
Energy Consumption (MWh)	Natural Gas - Buildings	99,407	96,926	**112,725**
	Natural Gas - Cogeneration	0.0	5,931	**22,821**
	Electricity	59,341	62,024	**67,611**
	Owned Fleet Gasoline use	n/a	n/a	**363.4**
	Owned Fleet Diesel Use	n/a	n/a	**278.3**
	Total Energy Consumption	158,744	164,882	**203,798**
Energy Intensity (MWh/m2)	Energy Intensity	0.33	0.33	**0.41**
Onsite Electricity Generation (MWh)	Total Onsite Electricity Generation	0.0	2,608	**10,036**
	% Onsite Electricity Consumption	0.0	4%	**15%**

Indicator	Metric	2020	2021	2022
Direct (Scope 1) GHG Emissions (kt CO2e)	Facilities			
	Natural Gas - Buildings	18.3	17.8	**20.7**
	Natural Gas - Cogeneration	0.0	1.1	**4.2**
	Fleet			
	Owned Fleet Diesel Use	n/a	n/a	**0.29**
	Owned Fleet Gasoline Use	n/a	n/a	**0.09**
Indirect (Scope 2) Emissions (kt CO2e)	Electricity - Location Based	1.8	1.8	**1.7**
Other Indirect (Scope 3) Emissions (kt CO2e)	Category 1: Purchased Goods and Services	14.6	16.1	**17.9**
	Category 5: Waste Generated in Operations	0.0003	0.0003	**0.0004**
	Category 6: Business Travel	0.0	0.1	**1.2**
	Category 7: Employee Commuting	1.9	1.9	**1.9**
	Category 15: Investments	n/a	n/a	**123**
Total GHG Emissions (kt CO2e)	Total Scope 1	18.3	18.9	**25.3**
	Total Scope 1 and 2	20.1	20.7	**27.0**
	Total Scope 3	16.5	18.1	**144**
	Total Scope 1, 2 and 3	36.6	38.8	**171**

Indicator	Metric	2020	2021	2022
Water Consumption (cubic metres)	Total Water Use	265,552	256,668	**331,347**
Water Intensity (cubic metres/m2)	Water Intensity	0.55	0.52	**0.67**
Waste Generated (metric tons)	Total Weight of Waste Generated	853	908	**1,009**
	Total Weight of Waste to Landfill	641	680	**709**
	Total Weight of Waste Composted	86	74	**95**
	Total Weight of Waste Recycled	126	154	**205**
	% Waste Diverted from Landfill	25%	25%	**30%**
University Vehicles	Total Number of University-Owned Vehicles	n/a	n/a	**103**
	Total Number of University-Owned Electric Vehicles	n/a	n/a	**65**
	% of University-Owned Electric Vehicles	n/a	n/a	**63.1%**
Campus Commuting - Modal Split [1]	% by Transit	61%	61%	**61%**
	% by Car as Driver	22%	22%	**22%**
	% by Car as Passenger	7%	7%	**7%**
	% by Cycling	2%	2%	**2%**
	% by Walking	8%	8%	**8%**

[1] The Campus Commuting Modal Split is based on the Special Generators Survey, City of Ottawa, 2014. An update is expected in 2024.

The Sustainability Report 2022-23 is available at carleton.ca/sustainability

Carleton University