

VICE PRESIDENT'S MESSAGE

I am pleased to present our first Annual Report of the 2019–2022 Sustainability and Climate Action Plan for Fleming College. This report will highlight a number of accomplishments showcasing Fleming's role as a leader in sustainability, as well as our latest accomplishment in achieving a STARS Gold rating in 2019. In 2019, Fleming was once again named in the Top Ten Performer category of the AASHE Sustainable Campus Index, an international benchmarking report of post-secondary institutions.

Fleming's Sustainability & Climate Action Plan supports the Our Fleming Our Future mission to *'to empower our students with the innovative education, research and real world experiences they need to build better lives, better communities and a better world'*—a mission more critical today than ever before.

This annual report follows the Plan's five main categories: Green Campus, Green Culture, Green Curriculum, Green Research, and Green Community which each support the college's strategic priorities, and align with the United Nations 17 Sustainable Development Goals.



TOM PHILLIPS

Vice-President , Academic Experience,
Fleming College

Our Mission

To empower our students with the innovative education, research and real-world experiences they need to build better lives, better communities and a better world.

Our Vision

Creating prosperity and transforming communities through education and innovation.

Our Values

We will achieve our vision and mission by adhering to our values, which are:

Responsiveness,
Innovation,
Collaboration,
Inclusiveness, and
Accountability

SUSTAINABILITY REPORT



ANNUAL REPORT
FOR 2019-2020

Fleming College | Office of
Sustainability



SUSTAINABLE DEVELOPMENT GOALS



SUSTAINABILITY METRICS

Fleming College tracks a number of Sustainability metrics that can be seen in our latest public STARS report.

Table 1 showcases the operational statistics for the college from our baseline year, fiscal 2012-2013, to the most current data set that is complete, 2018-2019. All reduction targets that have been set by the college are from the baseline year. Some of the data is expressed in both annual totals (e.g. total energy consumed), and using applicable intensity metrics (e.g. energy used per square foot). Our operational campus sustainability successes include:

- Reduced waste to landfill by 17% from 2017-18 and a 10% reduction in waste consumption per weighted campus user.
- We reached 89% towards our water reduction per square meter from our investments in water conservation technologies.
- We experienced a 4.7% reduction in overall energy consumption (KWH) from 2017, specifically through reduced College propane and electricity use.
- Our GHG emissions per weighted campus user continues to decrease since our baseline year of 2012\13.



2018-2019 Sustainability Metrics Summary		Baseline					
Indicator	Metric	2012-2013	2015-2016	2016-2017	2017-2018	2018-2019	TARGET
ENERGY	KWH	35,464,476	29,948,243	31,993,353	34,638,608	32,976,121.03	37
ENERGY	kWh/sq.ft	42.7	33.6	35.9	38.37	37	36.3
WATER	m3	40,476	39,092	44,417	40,255	36,062	32,204
WATER	m3/sq.ft	0.059	0.044	0.05	0.045	0.04	0.053
WASTE with Haliburton Campus	MT/user	0	0	0	0	0.099	0.064
WASTE with Haliburton Campus	MT	0	0	0	0	540.33	
WASTE without Haliburton Campus	MT/user	0.072	0.07	0.05	0.06	0.05	0.05
WASTE without Haliburton Campus	MT	289	350.2	370.1	340.5	281.2	272.4
PAPER	#sheets	10,980,441	8,466,540	5,939,862.00	5,648,600.00	5,648,600.00	7,686,309
TRANSPORTATION- STUDENTS	%	Unknown	57	n/a	57	n/a	50
TRANSPORTATION- STAFF	%	Unknown	10	n/a	10	n/a	20
GHG EMISSIONS (scope 1 & 2)	eMTCO2e/user	0.96	0.86	0.827	0.81	0.79	0.86
GHG Emissions (scope 1 & 2)	tCO2e	4614	4278	4565	4506	4538.98	
GHG Emissions (scope 3)	tCO2e					2018.99	
GHG Emissions (scope 1,2 & 3)	tCO2e	5688	5589	5606	5794	6557.96	4636
LOCAL FOOD CONTENT	%	28	n/a	tbd	34.5	15.70%	40
STARS RATING	rating	Bronze	Silver	Silver	Silver	Gold	

GREEN HOUSE GAS (GHG) METRICS

Green House Gas Emissions are often referred to as Scope 1, Scope 2, and Scope 3 emissions. Scope 1 emissions for Fleming College include: Natural Gas Consumption, Propane Consumption, and Gasoline (Vehicle fleet). Scope 2 emissions for Fleming College include: Purchased electricity. Scope 3 emissions for Fleming College include Paper usage, Waste and some Travel related GHGs, which are classified as indirect emissions.

Figure 1 shows the GHGs Fleming College has produced for the 2018/2019 fiscal year and indicates that Natural Gas (59%) and Waste (28%) are our two largest contributors to GHGs. Figure 2 shows our current GHG emissions in total compared to previous years and compared to our future 2030 and 2050 targets.

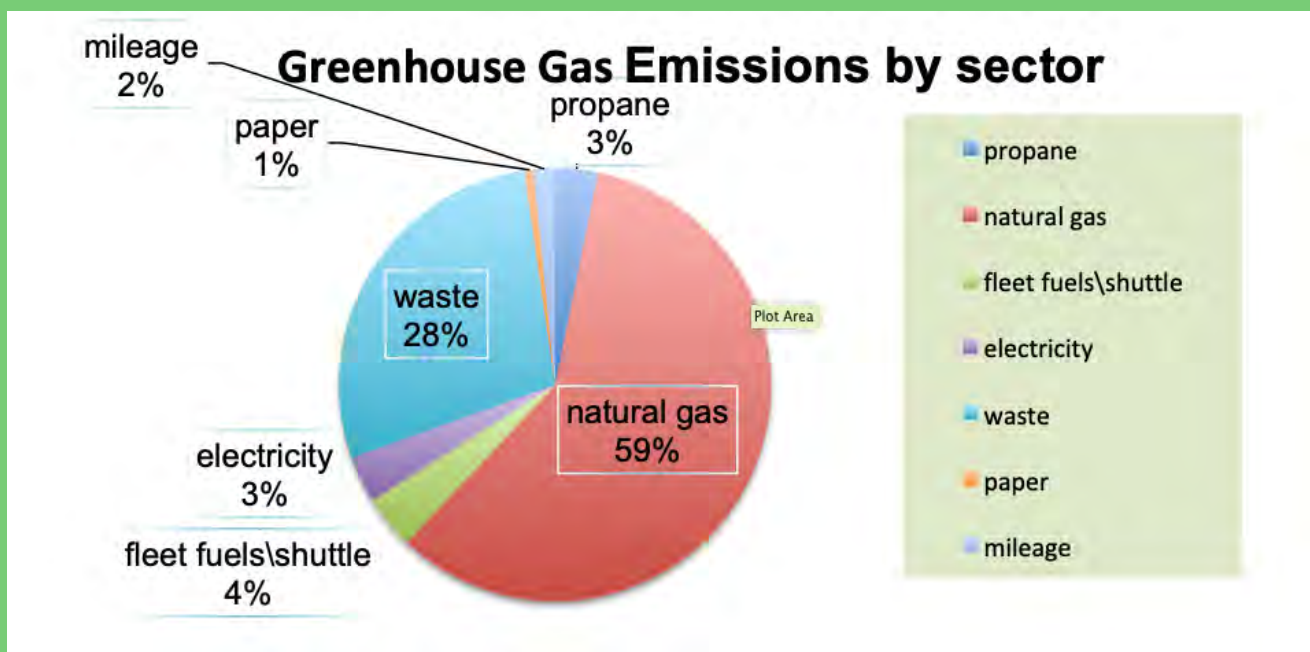
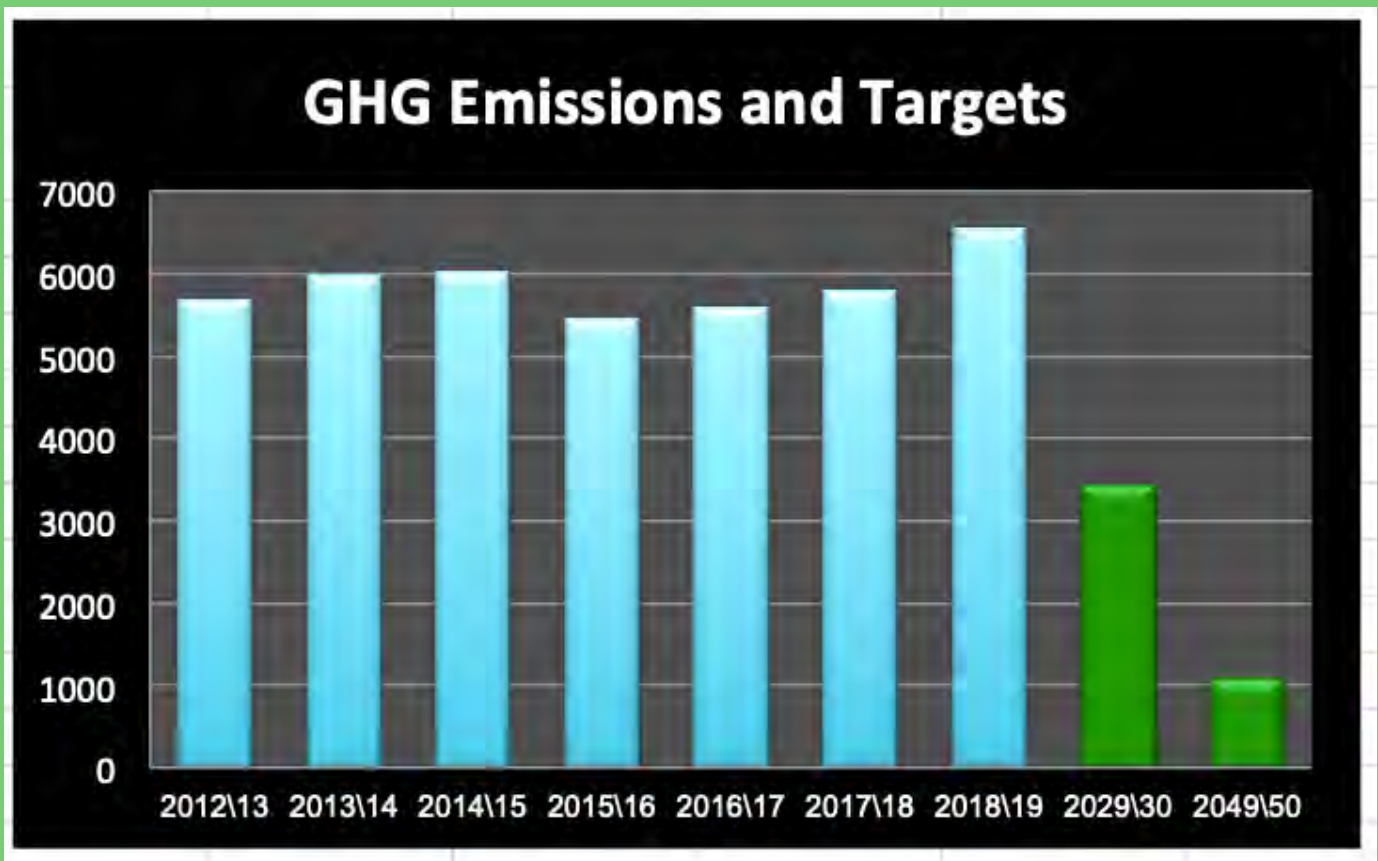


FIGURE 1: FLEMING COLLEGE GHG EMISSIONS 2018/2019



Fleming College's GHG Emissions and Future Targets

*Our Net Zero target for 2030 is **3436** tCO₂e and 1091 by 2050. Our short term goal is a 15% reduction of carbon emissions to **4636** tCO₂e by 2020. In 2018-19, our GHG emissions increased by 13% within our Scope 1 and Scope 3 categories to a total of **6558** tCo₂e. Some of this increase is attributed to collecting data on a broader range of carbon producing activities in the Scope 3 category.*

Looking towards the short term goal in 2020, our focus will be on reducing natural gas consumption, organic composting solutions and tracking our existing carbon offsets on campus such as our carbon free commuting options , carbon sequestration benefits from our campus forest preservation and tree planting initiatives.

GREEN CAMPUS



- Our waste targets for 2018 has successfully been reached! Our target of 20% water reduction per square meter almost reached at 89% of our goal, through conservation investments such as installation of low flush toilets in residence and our rain water catchment in KTTC
- With climate change bringing more severe droughts to our region, plans are underway to sustainably support the expansion of Sustainable Agriculture, CAWT research and the Fleming College Arboretum, we will investigate adding more rainwater harvesting technologies to maintain limited water consumption
- Future GHG emissions tracking will include Haliburton Campus waste footprint and the Frost Shuttle service, as waste and transportation are primary GHG emission sectors in Ontario.
- We will be measuring our Greenhouse Gas Carbon offsets such as campus tree planting, organic waste composting and low-carbon modes of transportation. Together, we can build momentum in tracking and investing our positive carbon reduction initiatives to reach our 2030 goal.
- The first stage of creating sustainable landscape plans is to identify, protect and improve biodiversity of our Sutherland, Frost and Haliburton campuses through first stage biological inventories. This year, Ecosystem Management (Credit for Product course) students researched the Haliburton campus for biodiversity and forest carbon sequestration benefits. Carbon Sequestration is the process of removing carbon dioxide from the atmosphere and storing the carbon in a different form.

1.1— Reduce CO2 emissions towards 30% by 2030 and 0% by 2050 through measures identified in the Climate Action Plan

1.2— Reduce water consumption by 20% per square meter by 2022

1.3— By 2022, Fleming will have implemented a comprehensive sustainable landscape plan for all campuses based on ecological design principals

1.4— Build all new construction projects to LEED Gold Standards



GREEN CULTURE



- We reduced waste to landfill by 17% based on baseline data and Frost campus has implemented small scale organics solutions.
- Fleming Hosted the 3rd Annual Great Canadian Shoreline Clean Up through the Living Planet @ Campus programs, in partnership with WWF-Canada. This Clean Up was co-hosted with Trent University and cleaned up 160 lbs of waste.
- Fleming's ENACTUS paper planet project won in the entrepreneurial category at Regional Expo and the Peoples Choice at World Project Expo in California. A Fleming student team competed in the Designing Change Makerspace Challenge hosted by WWF-Canada - receiving an honorable mention.
- Fleming College Food Services, Trent University and the Humane Society hosted the first-ever "Food Forward Culinary Experience," October 23 to 24, training for chefs on how to create delicious, cost-effective and sustainable plant-based dishes. Fleming committed to a 10% shift to plant based menu.
- Fleming College's Office of Sustainability and Purchasing Department released Sustainable Procurement guidelines and delivered their first workshop on sustainable procurement.
- Fleming SAC hosts the Zagster bike rental program for students and staff. Zagster logged 2100 cycling trips, 1642 hours of riding from 726 users. The use of our Zagster bikes saved 213 kg of carbon emissions. Our Frost Bike loan program saw our 8 rental bikes rented used at nearly 100% capacity.



**LIVING PLANET
@WORK**



**LIVING PLANET
@CAMPUS**

2.1— Reduce waste to landfill by 20% and improve waste diversion to 0%

2.2— Reduce paper usage by 0%

2.3— Implement Sustainable Procurement Guidelines for all college purchasing and a new Board Sustainability Policy to guide decision making for the college.

2.4— Improve Local food services in our food services to 25%

2.5— Improve alternative transportation use to 0% of students and 20% of staff

2. — Provide every staff and student an opportunity to engage in sustainability

2. — Provide every staff and student an opportunity to participate in workshops offered through our living planet @ work and living planet @ campus programs



GREEN CURRICULUM



- Fleming achieved a score of 30.67/40 or 77% for curriculum in the 2019 STARS report, placing Fleming at #2 among rated Ontario Colleges. This represents 19% of Fleming courses addressing sustainability.
- Fleming's academic leaders committed to including the sustainability learning outcome as a required Vocational Learning Outcome (VLO) for all existing and new Diploma programs. The VLO is now part of Fleming's quality assurance processes – program review.
- Fleming launched Leadership in Sustainable Business Practices, a fully online Ontario Graduate Certificate and a Conservation Biology Diploma in 2019. Together, these two programs put a lens on the business and ecological aspects of sustainability in a rapidly changing world.
- Fleming students from a range of programs, including Wireless Information Network, Ecosystem Management, Forestry, Heritage and Conservation and Sustainable Waste Management have been involved in applied sustainability projects on campus



3.1— Maintain the number of Sustainability courses at a minimum of 25% of total courses and further develop tools for faculty to support quality learning.

3.2— Include the sustainability learning outcome in 100% of the diploma programs

3.3— Launch a comprehensive sustainability and climate change general education course

3.4— Implement a sustainability literacy assessment available for all graduating students.

3.5— Launch a Living Lab in the Kawartha trade & Technology Centre for alternative energy technologies, including: wind, solar, geothermal, and energy storage solutions.

3. — Launch new programs supporting sustainability, low carbon building, the circular economy,

3. — Expand training programs and tools for municipalities through the CSM with a Focus on both climate mitigation and adaptation.

GREEN RESEARCH



- Fleming achieved a score of 17/18 or 94% for research in the 2019 STARS report, placing Fleming at #1 among rated Ontario Colleges for sustainability-related research. This represents the significant work of our Office of Applied Research, our faculty and Centre for Advancement of Water and Wastewater Technologies.
- The 2019 faculty survey shows that Fleming faculty and students are now engaged in a broad range of sustainability research, including species at risk and habitat restoration; advances in aquaculture and food security; community supports for mental health; municipal infrastructure resilience; waste management and the circular economy; effective waste water treatment for everything from cosmetics to greenhouse operations, and the connections between happiness and student success rates!
- Applied Research placements were created in the Office of Sustainability at Fleming to support over twenty Sustainable Waste Management Students .
- The Office of Sustainability worked with many Fleming programs to advance sustainability- related research. Highlighted applied research projects include a report on disposable paper cup use on campus by Project Management, an interactive digital campus waste sorting game by Wireless Information Networking, as well as a first stage biological forest inventory of the Haliburton School of the Arts campus by Ecosystem Management.

4.1— Increase the number of applied research opportunities for faculty and students in building science, aquaculture, health and community development programs.

4.2— Continue to expand low carbon technology and water and waste water technology/ related research in our CAWT.

4.3— Through the CSM, develop further research and tools for municipalities to use in both mitigation and adaptation to climate change.

4.4— Increase applied sustainability and indigenous knowledge research both on campus and with the partners in the Kawartha Regional Centre of Expertise.

4.5— Conduct a comprehensive inventory of all sustainability related research at Fleming



GREEN COMMUNITY



- Co-hosted the Sustainable Development Goals Forum involving Trent University, Peterborough community members and municipal leaders coming together to identify the community priorities and leading to a 100K federal grant for implementation.
- Through the support of the WWF-Canada community grant program, SENRS and the Office of Sustainability launched the Fleming College Seed Bank Initiative to address the need to protect germplasm of regional Ontario plants and trees, especially species at risk. This involved over a dozen community stakeholders to assist in the project. The funding assisted the with initial start-up equipment and materials to plant, harvest and store native seeds collected from select species in our Arboretum, campus gardens and local sites. Students assisted in the planting, collection and storage of over 25 species for future habitat restoration projects on campus and within the region.
- The Edwin Binny Community Garden was launched, a partnership between Frost Campus, Crayola and United Way, supplying over 5000lbs of food to the food insecure in CKL.



5.1— Provide every diploma student with the opportunity through either curricular or extracurricular experiences a minimum of one opportunity to work on a community project supporting local sustainability goals.

5.2— Launch a minimum of one research partnership per year with community Partners under the auspice of the UNU Regional Centre of Expertise.

5.3— Provide every staff member with an opportunity for one community service opportunity annually administered through the Office of Sustainability.

5.4— Continue to work with the local community and services to support our international students and new immigrants through adequate housing, language Skills training, transportation and cultural events.

SUPPORTING OUR COMMUNITIES

SUSTAINABLE DEVELOPMENT GOALS

- The 2019 Fleming College United Way Employee Campaign Committee, surpassed their campaign goal of \$25,000, reaching \$25,438.65
- Fleming College presented #TogetherAtHome, a music video in support of the COVID-19 Student Emergency Fund and Peterborough Musicians' Benevolent Fund. The music video features the original song, Lost Together, featuring Greg Keelor of Blue Rodeo, local musicians and our College President.
- Fleming donated medical supplies, and along with Aramark, donated food to support community efforts during the COVID health crisis and partnered with the City to establish a shelter for those experiencing homelessness at the Peterborough's Wellness Centre.
- Building future environmental leaders - The Regional Envirothon Competition held across the province in April every year. The competition tests high school students skills and knowledge related to five core topics including forestry, soils, aquatics, wildlife and current issues. Fleming College has hosted a regional competition for the past three years and is a true indicator to the success Fleming can accomplish when we work with community partners!

**Fleming Faculty F. Diba
making PPE face
shields in Fleming's
Maker Space at the
Innovation Cluster
April/20**



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**Website:
<https://flemingcollege.ca/sustainability>
to see Fleming's 2019-2022 Sustainability and
Climate Action Plan**

