



McGill

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Executive Summary 2

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1. Scope of the Inventory

- Power transmission and distribution losses between production sites and McGill facilities.

The following emissions are reported separately as per best practice:

- Emissions from refrigerants not covered by the Kyoto Protocol
- Emissions avoided through waste management and diversion (recycling and composting)
- Emissions from biodiesel in the Macdonald Campus shuttle bus and renewable natural gas purchased to offset a portion of natural gas consumption (biogenic emissions)
- Carbon sequestration from the Gault Nature Reserve and Morgan Arboretum
- Carbon offsets purchased via the McGill-Bayano Reforestation Project.

Our base year for comparison is 2015. We will recalculate base year emissions should structural changes at the University, changes in calculation methodologies or emissions factors, or significant errors result in a cumulative difference to gross emissions of 10% or more.

We invite readers to refer to the Detailed Appendix for methods including data sources, emissions factors, key assumptions, and equations.

2. Results

Gross emissions in 2022 were 48,213 tCO₂e. An additional 375 tCO₂e was generated from biogenic sources (biodiesel and renewable natural gas). Figure 1 presents the breakdown of emissions by certain key activities.

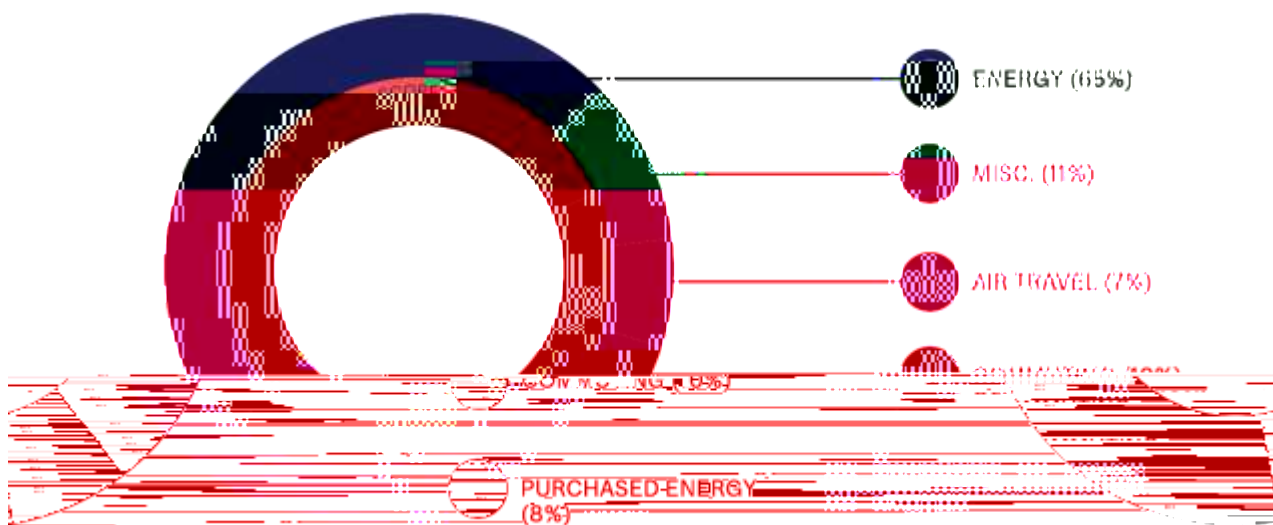


Figure 1. Emissions Breakdown by Key Activity

Table 1 presents 2022 emissions by greenhouse gas. Table 2 details 2022 emissions by scope and activity.

Table 1. Emissions Breakdown by Greenhouse Gas

Greenhouse Gas	Emissions (tGHG)	Emissions (tCO ₂ e)
Carbon dioxide (CO ₂)	45,433	45,433
Methane (CH ₄)	24	679
Nitrous oxide (N ₂ O)	1.4	377

CATEGORY	ACTIVITY	ACTIVITY LEVEL	UNIT	EMISSIONS (tCO ₂ e)	% TOTAL
Commuting	Faculty, staff, students	N/A	pass-km	4,649	9.6%
Third-party fleet	Macdonald shuttle	90,087	L	267	0.6%
Air travel	Directly financed air travel	34,199,955	pass-km	3,317	6.9%
Sports team travel	Air	593,832	pass-km	47	0.1%
	Bus	39,341	vehicle-km	34	0.1%
	Public transit	0	pass-km	0	0.0%
	Taxi + car	3,900	km	1	0.0%
Water	Supply	1,862,713	m ³	137	0.3%
	Treatment	1,129,156	m ³	261	0.5%
Energy losses	Transmission & distribution	15,703,673	kWh	21	0.0%
Subtotal				10,219	21.2%
Total Gross Emissions				48,213	100%

NON-INVENTORY CATEGORY	ACTIVITY	ACTIVITY LEVEL	UNIT	EMISSIONS (tCO ₂ e)
Avoided emissions from waste management	Solid waste - recycling	808	tonnes	-2,674
	Solid waste - composting	282	tonnes	-133
Total				-2,807
Refrigerants governed by Montreal Protocol	Refrigerants (e.g., R22)	189	kg	269
Total				

25,000 trees is 9,953 tCO₂e over 25 years including estimated mortality.⁵ As of 2022, we account for 925 tCO₂e of carbon offsets per year until 2040, our target year for carbon neutrality.

Figure 2. 2022 Gross vs. Net Emissions

2022 emissions continue to be anomalous given COVID-19-pandemic-related restrictions from Jan–May

