Greenhouse Gas Protocol (Dual Reporting) Report for Dawson College

Assessment Period: July 2021 - June 2022

Produced on Sept. 20, 2023 by *Ecometrica Sustainability*

Assessment Details

Consolidation Approach

Operational control

Organisational Boundaries

Operations of Dawson College

Included

- Dawson College
- Dawson College

Operational Boundary

- Acetylene
- Air travel
- Air travel- Student travel
- Bicycle
- Bus and coach
- Buses
- Buses, whole vehicle
- Capital Goods
- Cars
- Composted waste
- Electricity
- Employee owned cars
- Hazardous waste
- Hired cars
- Homeworkers
- Hotel night stays
- Investments
- Landfilled waste
- Leased trucks
- Leased vans
- Motorcycle
- Natural gas
- Off-road vehicles and equipment
- On foot
- Other fuel(s)
- Purchased Food
- Purchased Goods and Services
- Purchased Office Materials and Equipment
- Rail (train, tram, light rail, underground)
- Recycled waste
- Refrigerant gas loss and other fugitive emissions
- Server use
- Taxi
- Water supply
- Water treatment

Quality Assurance Assessor

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Introduction

A greenhouse gas (GHG) emissions assessment quantifies the total greenhouse gases produced directly and indirectly from a business or organisation's activities. Also known as a carbon footprint, it is an essential tool, providing your business with a basis for understanding and managing its climate change impacts.

A GHG assessment quantifies all seven Kyoto greenhouse gases where applicable and is measured in units of carbon dioxide equivalence, or CO_2e[1]. The seven Kyoto gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF_3), sulphur hexafluoride (SF_6) and perfluorocarbons (PFCs). The global warming potential (GWP) of each gas is illustrated in the Table 1.

Table 1. GWP of Kyoto Gases (IPCC 2013, without climate-carbon feedback)

Greenhouse Gas	GWP
Carbon dioxide (CO_2)	1
Methane (CH_4)	28
Nitrous oxide (N_2O)	265
Hydrofluorocarbons (HFCs)	1 - 12,400
Perfluorocarbons (PFCs)	1 - 11,100
Nitrogen trifluoride (NF_3)	16,100
Sulphur hexafluoride (SF_6)	23,500

This assessment has been carried out in accordance with the World Business Council for Sustainable Development and World Resources Institute's (WBCSD/WRI) Greenhouse Gas Protocol; a Corporate Accounting and Reporting Standard, including the GHG Protocol Scope 2 Guidance. This protocol is considered current best practice for corporate or organisational greenhouse gas emissions reporting. GHG emissions have been reported by the three WBCSD/WRI Scopes.

Scope 1 includes direct GHG emissions from sources that are owned or controlled by the company such as natural gas combustion and company owned vehicles.

Scope 2 accounts for GHG emissions from the generation of purchased electricity, heat and steam generated off-site. As the subject of this assessment operates in markets which offer contractual instruments with product or supplier-specific data, scope 2 emissions are reported using both the location-based method and the market-based method. The location-based method applies average emission factors that correspond to the grid where consumption occurs, whereas the market-based method applies emission factors that correspond to energy purchased (or not purchased) through contractual instruments. Contractual instruments include energy attribute certificates, direct energy contracts, and supplier specific emission rates. The subject of this assessment has ensured that any contractual instruments used in the market-based method have met the Scope 2 Quality Criteria, as defined in the Guidance. Where contractual instruments do not meet the Quality Criteria, or where contractual instruments were not purchased, market-based scope 2 emissions have been calculated using residual mix emission factors. Where residual mix emission factors are not available, market-based scope 2 emissions have been calculated using default location grid-average emission factors, per the Protocol hierarchy. This may result in double counting between electricity consumers, as an adjusted emission factor taking into account voluntary purchases of electricity with specific attributes was not available.

Scope 3 includes all other indirect emissions such as waste disposal, business travel and staff commuting. Reporting of these activities is optional under the WBCSD/WRI GHG Protocol, but as they can contribute a significant portion of overall emissions Ecometrica recommends they are reported where applicable.

A GHG assessment is an essential tool in the process of monitoring and reducing an organisation's climate change impact as it allows reduction targets to be set and action plans formulated. GHG assessment results can also allow organisations to be transparent about their climate change impacts through reporting of GHG emissions to customers, shareholders, employees and other stakeholders. Regular assessments allow clients to track their progress in achieving reductions over time and provide evidence to support green claims in external marketing initiatives such as product labelling or CSR reporting. Ecometrica GHG assessments are designed to be transparent, consistent and repeatable over time.

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[1] Carbon dioxide equivalent or CO_2e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO_2e signifies the amount of CO_2 which would have the equivalent global warming impact.

Data Quality and Availability

In order to provide the most accurate estimate of an organisation's GHG emissions, primary (actual) data should be used where it is available, up to date and geographically relevant. Secondary data in the form of estimates, extrapolations and industry averages may be used when primary data is not available. Table 2 details the quality of data submitted for this assessment with the key assumptions used stated below.

Data Quality Overview

Location-based

Accuracy Overview	tCO_2e/year	%
Actual	2,752	52.5
Estimated	2,488	47.5
Total	5,240	100

Market-based

Accuracy Overview	tCO_2e/year	%
Actual	2,752	52.5
Estimated	2,488	47.5
Total	5,240	100

Table 2. Data Quality and Availability

Source of emissions	Data quality
Premises	
Acetylene	Estimated
Composted waste	Actual
Electricity	Actual
Hazardous waste	Estimated
Landfilled waste	Actual
Natural gas	Actual
Off-road vehicles and equipment	Estimated
Other fuel(s)	Estimated
Recycled waste	Estimated
Refrigerant gas loss and other fugitive emissions	Estimated
Water supply	Actual
Water treatment	Estimated
Business Travel	
Air travel	Estimated
Air travel- Student travel	Actual

Bus and coach	Estimated
Buses, whole vehicle	Actual
Employee owned cars	Estimated
Hired cars	Estimated
Hotel night stays	Estimated
Rail (train, tram, light rail, underground)	Estimated
Taxi	Estimated
Commuting	
Bicycle	Actual
Bus and coach	Estimated
Cars	Mixed
Motorcycle	Mixed
On foot	Actual
Rail (train, tram, light rail, underground)	Mixed
Homeworkers	
Homeworkers	Estimated
Third Party Vehicle Use	
Leased trucks	Estimated
Leased vans	Estimated
Leased Assets	
Electricity	Actual
Natural gas	Actual
Water supply	Actual
Capital goods	
Capital Goods	Mixed
Purchased Goods and Services	
Purchased Food	Actual
Purchased Goods and Services	Mixed
Purchased Office Materials and Equipment	Mixed
Investments	
Investments	Actual
Server Use	
Server use	Actual
Physical Education Department	
Buses	Estimated
Cars	Estimated
Hotel night stays	Estimated
Other fuel(s)	Estimated
Purchased Food	Estimated
Rail (train, tram, light rail, underground)	Estimated

Key Assumptions

General

- All emissions were calculated using the Ecometrica Sustainability platform, a software which automatically selects the most geographically and temporally appropriate emission factors and non-standard conversions (e.g. fuel efficiency, heat content) for each emission source. Each of the emission factors and non-standard conversions is associated with a level of uncertainty, assigned by the tool based on its associated level of scientific certainty.
- Ecometrica did not review raw data or internal data collection systems. All data provided is assumed to be accurate and complete.

Premises

- Water treatment included the average volume of rainwater, snowfall, and water consumption for the duration of the assessment period. To account for the volume of rainwater and snowfall, the total water consumption was multiplied by 1.5. The average water treatment volume was calculated using data from 2019 to 2022.
- Data for off-roads vehicles and equipment were estimated according to landscaping and construction activities performed during the assessment period.
- Composted waste data was estimated by Dawson College by converting units of volume to kilograms using a conversion factor of 0.87 L/kg provided by the compost service supplier.
- Recycled waste was estimated by Dawson College using invoices from their metal recycling service supplier.
- Hazardous waste was estimated from documents received by Dawson College's facilities management.
- Acetylene consumption was estimated using an invoice from the 2020-2021 period.
- No refrigerant gas was used during the assessment period however Dawson College chose to report a minimum estimated quantity of 1.

Business Travel

- Business travel asides from student air travel and whole busses were estimated by Dawson College using an assumed number of trips for various distances.

Commuting

- Commuting was estimated by Dawson College using a survey to determine the percentage of each mode of transportation used for both staff and students. This was then multiplied by the total number of staff and students as well as by an average roundtrip distance.

Homeworkers

- Ecometrica uses an in-house developed home worker model to estimate homeworker emissions that are geographically and temporally specific. The model includes three distinct energy demands – home office equipment, space heating, and space cooling. The assumed energy use of home office equipment is constant across all countries whereas the energy required for heating and cooling the home varies significantly and is based on country-specific data.
- Homeworker days were calculated by Dawson College for employees using the assumption that 90% of staff worked from home one day per week. It was also assumed that staff worked 235 days while teachers worked 150 days. Using these values of total days worked, the number of days worked from home for both staff and teachers was extrapolated.

Third Party Vehicle Use

- Third party vehicle use was estimated by Dawson College using an assumed number of trips for various distances.

Purchased Goods and Services, Capital Goods, Investments and Server Use

- Purchased goods and services, capital goods, investments and server use were all determined using the spend based approach.

Physical Education Department

- Activities related to the physical education department were estimated by Dawson College based on the number of trips made and the number of students per trip.

Assessment Summary for Dawson College

Gross Overall Emissions (location-based): 5,240 tCO_2e

Gross Overall Emissions (market-based): 5,240 tCO_2e

Key Performance Indicators

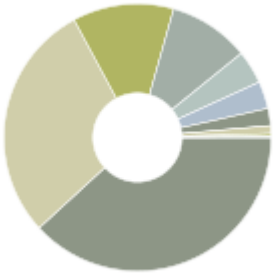
Absolute GHG emissions will vary over time and often correspond to the expansion or contraction of an organisation. It is useful therefore to use reporting metrics that take these effects into account and monitor relative GHG emissions intensity. A common emissions intensity metric is tonnes of CO_2e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
82,490 Floor area (square metres)	0.0635 tCO_2e per square metre (Location-Based)
906 Full Time Equivalent Employees	5.78 tCO_2e per Full Time Equivalent Employee (Location-Based)
9,384 Number of students	0.558 tCO_2e per student (Location-Based)
82,490 Floor area (square metres)	0.0635 tCO_2e per square metre (Market-Based)
906 Full Time Equivalent Employees	5.78 tCO_2e per Full Time Equivalent Employee (Market-Based)
9,384 Number of students	0.558 tCO_2e per student (Market-Based)

Summary by Activity (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Commuting	2,000	38.2
Purchased Goods and Services	1,517	29
Premises	641	12.2
Capital goods	513	9.79
Business Travel	212	4.04
Leased Assets	173	3.3
Homeworkers	109	2.08
Investments	49.7	0.949
Server Use	19.5	0.373
Physical Education Department	3.25	0.062
Third Party Vehicle Use	1.74	0.0332
Total	5,240	100

Summary by Activity (Market-Based, tCO_2e)



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Total	5,240	100

Summary by WBCSD/WRI Scope (Location-Based, tCO_2e)

By Activity	tCO_2e/year	%
Scope 1	454	8.67
Scope 2	19.8	0.378
Scope 3	4,766	91
Total	5,240	100

Summary by WBCSD/WRI Scope (Market-Based, tCO_2e)

By Activity	tCO_2e/year	%
Scope 1	454	8.67
Scope 2	19.8	0.378
Scope 3	4,766	91
Total	5,240	100

Summary by Greenhouse Gas

Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO_2e/year (Location-Based)	tGHG/year (Market-Based)	tCO_2e/year (Market-Based)
CO_2	1	4,542	4,542	4,542	4,542
CH_4	28	7.66	214	7.66	214
N_2O	265	0.14	37.1	0.14	37.1

CO_2e (other gases)	1	122	122	122	122
CO_2e	1	324	324	324	324
		Total	5,240		5,240

Summary of Scope 2 Market-Based Method for Dawson College

Energy Consumed and Emissions By Factor Type In Scope 2 Market-Based Method

Scope 2 Market-Based Energy

Scope 2 Market-Based Emissions

Emission Factor Type	Energy		Market-Based Emissions	
	MWh	%	tCO_2e	%
Client-supplied market-based instrument	0	0	0	0
Residual mix factors	0	0	0	0
Default location-based factors	13,208	100	19.8	100
Total	13,208	100	19.8	100

Detailed Results

Detailed Summary by WBCSD/WRI Scope

Location-Based methodology

Source of Emissions	tCO_2/yr	tCH_4/yr	tN_2O/yr	Total Emissions (tCO_2e/yr)	%
Scope 1 Total	**452**	**0.0102**	**0.00829**	**454**	**8.67%**
Physical Education Department Total	0.0192	2.64e-7	1.19e-6	0.0195	3.73e-4%
Other fuel(s)	0.0192	2.64e-7	1.19e-6	0.0195	3.73e-4%
Premises Total	452	0.0102	0.00828	454	8.67%
Acetylene	0.0816	0	0	0.0816	0.00156%
Natural gas	449	0.00862	0.00815	451	8.61%
Off-road vehicles and equipment	2.01	0.00151	1.18e-4	2.08	0.0397%
Other fuel(s)	0.921	3.69e-5	1.26e-5	0.925	0.0177%
Refrigerant gas loss and other fugitive emissions	0	0	0	0.001	1.91e-5%
Scope 2 Total	**19.8**	**0**	**0**	**19.8**	**0.378%**
Premises Total	19.8	0	0	19.8	0.378%
Electricity	19.8	0	0	19.8	0.378%
Scope 3 Total	**4,070**	**7.65**	**0.132**	**4,766**	**91%**
Business Travel Total	210	0.00183	0.00686	212	4.04%
Air travel	14	6.34e-5	4.45e-4	14.1	0.269%
Air travel- Student travel	177	9.16e-4	0.00561	179	3.41%
Bus and coach	0.18	1.31e-4	7.55e-6	0.186	0.00355%
Buses, whole vehicle	12.2	5.01e-4	6.94e-4	12.4	0.237%
Employee owned cars	1.69	4.51e-5	3.1e-5	1.7	0.0325%
Employee owned cars: Electricity - transmission & distribution losses (MCR)	5.29e-6	0	0	5.29e-6	1.01e-7%
Hired cars	2.54	7.69e-5	4.11e-5	2.55	0.0487%
Hired cars: Electricity - transmission & distribution losses (MCR)	4.53e-6	0	0	4.53e-6	8.65e-8%
Hotel night stays	0.619	1.22e-5	1.14e-5	0.622	0.0119%
Rail (train, tram, light rail, underground)	0.959	7.82e-5	2.17e-5	0.967	0.0185%
Taxi	0.199	9.59e-6	6.05e-7	0.2	0.00381%
Capital goods Total	448	0.909	0	513	9.79%
Capital Goods	448	0.909	0	513	9.79%
Commuting Total	1,896	0.359	0.0255	2,000	38.2%
Bicycle	0	0	0	0	0%
Bus and coach	832	0.315	0.0136	844	16.1%
Cars	1,021	0.0387	0.0113	1,025	19.6%
Cars: Average unknown fuel car, upstream emissions	0	0	0	87.3	1.67%
Cars: Electricity - transmission & distribution losses (MCR)	1.01e-4	0	0	1.01e-4	1.92e-6%

Motorcycle	29.1	0.00452	4.16e-4	29.3	0.56%
Motorcycle: Electricity - transmission & distribution losses (MCR)	5.52e-4	0	0	5.52e-4	1.05e-5%
On foot	0	0	0	0	0%
Rail (train, tram, light rail, underground)	14.1	0.00123	1.72e-4	14.8	0.282%
Homeworkers Total	109	0.0021	0.00198	109	2.08%
Homeworkers	109	0.0021	0.00198	109	2.08%
Investments Total	46.9	0	0	49.7	0.949%
Investments	46.9	0	0	49.7	0.949%
Leased Assets Total	141	0.00268	0.00254	173	3.3%
Electricity	0.925	0	0	0.925	0.0176%
Electricity: Electricity - transmission & distribution losses	0.00969	0	0	0.00969	1.85e-4%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0475	9.06e-4%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	4.33	0.0827%
Natural gas	140	0.00268	0.00254	140	2.68%
Natural gas: Natural gas (100% mineral) (net CV), upstream emissions	0	0	0	26.9	0.514%
Water supply	0	0	0	0.335	0.0064%
Physical Education Department Total	3.06	0.00471	6.06e-5	3.23	0.0616%
Buses	0.43	1.76e-5	2.42e-5	0.437	0.00833%
Cars	0.0627	1.49e-6	1.4e-6	0.0631	0.00121%
Hotel night stays	1.88	3.7e-5	3.46e-5	1.89	0.0361%
Purchased Food	0.665	0.00465	0	0.814	0.0155%
Rail (train, tram, light rail, underground)	0.0219	1.79e-6	4.43e-7	0.0221	4.21e-4%
Premises Total	0.208	0	0	167	3.18%
Composted waste	0	0	0	0.6	0.0115%
Electricity: Electricity - transmission & distribution losses	0.208	0	0	0.208	0.00396%
Hazardous waste	0	0	0	0.00639	1.22e-4%
Landfilled waste	0	0	0	59	1.13%
Natural gas: Natural gas (100% mineral) (gross CV), upstream emissions	0	0	0	79.4	1.51%
Off-road vehicles and equipment: Diesel, 100% mineral, upstream emissions	0	0	0	0.0629	0.0012%
Other fuel(s): Lubricants, upstream emissions	0	0	0	0.0367	7.01e-4%
Other fuel(s): Petrol, 100% mineral, upstream emissions	0	0	0	0.181	0.00345%
Recycled waste	0	0	0	1.11	0.0211%
Water supply	0	0	0	7.02	0.134%
Water treatment	0	0	0	19.2	0.367%
Purchased Goods and Services Total	1,201	6.26	0.0948	1,517	29%
Purchased Food	80.2	1.07	0.0948	175	3.33%

Purchased Goods and Services	937	4.37	0	1,132	21.6%
Purchased Office Materials and Equipment	184	0.815	0	211	4.02%
Server Use Total	15.5	0.112	0	19.5	0.373%
Server use	15.5	0.112	0	19.5	0.373%
Third Party Vehicle Use Total	1.71	6.73e-5	1.01e-4	1.74	0.0332%
Leased trucks	1.53	6.26e-5	8.59e-5	1.55	0.0296%
Leased vans	0.188	4.76e-6	1.54e-5	0.192	0.00366%
Total	**4,542**	**7.66**	**0.14**	**5,240**	**100%**

Market-Based methodology

Source of Emissions	tCO_2/yr	tCH_4/yr	tN_2O/yr	Total Emissions (tCO_2e/yr)	%
Scope 1 Total	**452**	**0.0102**	**0.00829**	**454**	**8.67%**
Physical Education Department Total	0.0192	2.64e-7	1.19e-6	0.0195	3.73e-4%
Other fuel(s)	0.0192	2.64e-7	1.19e-6	0.0195	3.73e-4%
Premises Total	452	0.0102	0.00828	454	8.67%
Acetylene	0.0816	0	0	0.0816	0.00156%
Natural gas	449	0.00862	0.00815	451	8.61%
Off-road vehicles and equipment	2.01	0.00151	1.18e-4	2.08	0.0397%
Other fuel(s)	0.921	3.69e-5	1.26e-5	0.925	0.0177%
Refrigerant gas loss and other fugitive emissions	0	0	0	0.001	1.91e-5%
Scope 2 Total	**19.8**	**0**	**0**	**19.8**	**0.378%**
Premises Total	19.8	0	0	19.8	0.378%
Electricity	19.8	0	0	19.8	0.378%
Scope 3 Total	**4,070**	**7.65**	**0.132**	**4,766**	**91%**
Business Travel Total	210	0.00183	0.00686	212	4.04%
Air travel	14	6.34e-5	4.45e-4	14.1	0.269%
Air travel- Student travel	177	9.16e-4	0.00561	179	3.41%
Bus and coach	0.18	1.31e-4	7.55e-6	0.186	0.00355%
Buses, whole vehicle	12.2	5.01e-4	6.94e-4	12.4	0.237%
Employee owned cars	1.69	4.51e-5	3.1e-5	1.7	0.0325%
Employee owned cars: Electricity - transmission & distribution losses (MCR)	5.29e-6	0	0	5.29e-6	1.01e-7%
Hired cars	2.54	7.69e-5	4.11e-5	2.55	0.0487%
Hired cars: Electricity - transmission & distribution losses (MCR)	4.53e-6	0	0	4.53e-6	8.65e-8%
Hotel night stays	0.619	1.22e-5	1.14e-5	0.622	0.0119%
Rail (train, tram, light rail, underground)	0.959	7.82e-5	2.17e-5	0.967	0.0185%
Taxi	0.199	9.59e-6	6.05e-7	0.2	0.00381%
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Commuting Total	1,896	0.359	0.0255	2,000	38.2%
Bicycle	0	0	0	0	0%
Bus and coach	832	0.315	0.0136	844	16.1%
Cars	1,021	0.0387	0.0113	1,025	19.6%
Cars: Average unknown fuel car, upstream emissions	0	0	0	87.3	1.67%
Cars: Electricity - transmission & distribution losses (MCR)	1.01e-4	0	0	1.01e-4	1.92e-6%
Motorcycle	29.1	0.00452	4.16e-4	29.3	0.56%
Motorcycle: Electricity - transmission & distribution losses (MCR)	5.52e-4	0	0	5.52e-4	1.05e-5%
On foot	0	0	0	0	0%
Rail (train, tram, light rail, underground)	14.1	0.00123	1.72e-4	14.8	0.282%
Homeworkers Total	109	0.0021	0.00198	109	2.08%
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Investments Total	46.9	0	0	49.7	0.949%
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Leased Assets Total	141	0.00268	0.00254	173	3.3%
Electricity	0.925	0	0	0.925	0.0176%
Electricity: Electricity - transmission & distribution losses	0.00969	0	0	0.00969	1.85e-4%
Electricity: Electricity grid, T&D losses, upstream emissions	0	0	0	0.0475	9.06e-4%
Electricity: Electricity grid, generated, upstream emissions	0	0	0	4.33	0.0827%
Natural gas	140	0.00268	0.00254	140	2.68%
Natural gas: Natural gas (100% mineral) (net CV), upstream emissions	0	0	0	26.9	0.514%
Water supply	0	0	0	0.335	0.0064%
Physical Education Department Total	3.06	0.00471	6.06e-5	3.23	0.0616%
Buses	0.43	1.76e-5	2.42e-5	0.437	0.00833%
Cars	0.0627	1.49e-6	1.4e-6	0.0631	0.00121%
Hotel night stays	1.88	3.7e-5	3.46e-5	1.89	0.0361%
Purchased Food	0.665	0.00465	0	0.814	0.0155%
Rail (train, tram, light rail, underground)	0.0219	1.79e-6	4.43e-7	0.0221	4.21e-4%
Premises Total	0.208	0	0	167	3.18%
Composted waste	0	0	0	0.6	0.0115%
Electricity: Electricity - transmission & distribution losses	0.208	0	0	0.208	0.00396%
Hazardous waste	0	0	0	0.00639	1.22e-4%
Landfilled waste	0	0	0	59	1.13%
Natural gas: Natural gas (100% mineral) (gross CV), upstream emissions	0	0	0	79.4	1.51%
Off-road vehicles and equipment: Diesel, 100% mineral, upstream emissions	0	0	0	0.0629	0.0012%
Other fuel(s): Lubricants, upstream emissions	0	0	0	0.0367	7.01e-4%

Other fuel(s): Petrol, 100% mineral, upstream emissions	0	0	0	0.181	0.00345%
Recycled waste	0	0	0	1.11	0.0211%
Water supply	0	0	0	7.02	0.134%
Water treatment	0	0	0	19.2	0.367%
Purchased Goods and Services Total	1,201	6.26	0.0948	1,517	29%
Purchased Food	80.2	1.07	0.0948	175	3.33%
Purchased Goods and Services	937	4.37	0	1,132	21.6%
Purchased Office Materials and Equipment	184	0.815	0	211	4.02%
Server Use Total	15.5	0.112	0	19.5	0.373%
Server use	15.5	0.112	0	19.5	0.373%
Third Party Vehicle Use Total	1.71	6.73e-5	1.01e-4	1.74	0.0332%
Leased trucks	1.53	6.26e-5	8.59e-5	1.55	0.0296%
Leased vans	0.188	4.76e-6	1.54e-5	0.192	0.00366%
Total	**4,542**	**7.66**	**0.14**	**5,240**	**100%**

Summary by Company Unit

Location-Based methodology

Assessment	July 2020 - June 2021		July 2021 - June 2022	
Company Unit	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**
Dawson College	1,269	1.52	5,240	5.78
Dawson College	1,269	-	5,240	-

Market-Based methodology

Assessment	July 2020 - June 2021		July 2021 - June 2022	
Company Unit	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**	**Total Emissions (tCO_2e)**	**Emissions per FTE (tCO_2e/FTE)**
Dawson College	1,269	1.52	5,240	5.78
Dawson College	1,269	-	5,240	-

Annual Activity Data

Source of Emissions	Value	Unit
Business Travel		
Air travel		
Long-haul, average class	59,800	pass.km
Medium-haul, average class	98,800	pass.km
Air travel- Student travel		
Long-haul, economy	2,289,703	pass.km
Bus and coach		
Coach	20,500	pass.km
Buses, whole vehicle		
Diesel Bus	14,070	km
Gasoline bus	200	km
Employee owned cars		
Average battery electric car (not company owned)	1,400	km
Average car (unknown fuel)	6,100	km
Average hybrid car	1,400	km
Hired cars		
Average battery electric car (not company owned)	1,200	km
Average car (unknown fuel)	8,000	km
Average hybrid car	3,900	km
Hotel night stays		
Hotel night stays	50	night
Rail (train, tram, light rail, underground)		
Commuter rail	1,650	pass.km
Intercity/National train	11,600	pass.km
Taxi		
Average taxi	1,100	km
Capital goods		
Capital Goods		
air conditioning, refrigeration, and warm air heating equipment	23.2	k CAD
automobiles	1,126	k CAD
computers	1,627	k CAD
electronic equipment repair and maintenance	985	k CAD
software	255	k CAD
Commuting		
Bicycle		
Bicycle	2,299,124	km
Bus and coach		
Average bus	24,343,643	pass.km
Cars		

	Average battery electric car (not company owned)	26,620	km
	Average car (unknown fuel)	2,020,425	km
	Average gasoline cars	3,282,706	km
	Average hybrid car	532	km
Motorcycle			
	Electric motorcycle	35,128	kWh
	Motorbike	105,384	km
On foot			
	On foot	702,558	km
Rail (train, tram, light rail, underground)			
	Montreal STM Metro	15,922,168	pass.km
	Transit rail	221,372	pass.km
Homeworkers			
Homeworkers			
	Canadian homeworker	30,524	Homeworker Day
Investments			
Investments			
	Federal Reserve banks, credit intermediation, and related activities	700,000	USD
Leased Assets			
Electricity			
	Electricity consumption	0.354	ha
Natural gas			
	Natural gas intensity, office	3,540	m2
Water supply			
	Water supply	3,540	m2
Physical Education Department			
Buses			
	Diesel Bus	500	km
Cars			
	Average car (unknown fuel)	300	km
Hotel night stays			
	Hotel night stays	152	night
Other fuel(s)			
	Butane	11	l
Purchased Food			
	all other food and drinking places	4,650	USD
Rail (train, tram, light rail, underground)			
	Commuter rail	250	pass.km
Premises			
Acetylene			
	Acetylene	21	m3
Composted waste			

	Composted waste, garden waste	67.2	tonne
Electricity			
	Electricity consumption	13,208,000	kWh
Hazardous waste			
	Closed loop recycling - mixed commercial and industrial waste	300	kg
Landfilled waste			
	Landfilled waste	126	tonne
Natural gas			
	Natural gas consumption (gross CV)	232,967	m3
Off-road vehicles and equipment			
	Construction equipment, diesel	300	l
	Construction equipment, gasoline	200	l
	Lawn and garden equipment, diesel	100	l
	Lawn and garden equipment, gasoline	100	l
	Snowmobiles, gasoline	100	l
Other fuel(s)			
	Butane	50	l
	Gasoline, commercial stationary combustion	300	l
	Lubricants	50	l
Recycled waste			
	Waste, recycled	52	tonne
Refrigerant gas loss and other fugitive emissions			
	Total CO2e emissions	1	kg
Water supply			
	Water supply	47,125	m3
Water treatment			
	Water treatment	70,688	m3
Purchased Goods and Services			
Purchased Food			
	Condiments (honey, ketchup, peanut butter)	19.1	kg
	Dairy (milk, yoghurt, cheese, cream, butter)	3,685	kg
	Dark chocolate	7.4	kg
	Eggs, hen, in shell	229	kg
	Fish (farmed)	54.4	kg
	Meat, cattle	495	kg
	Meat, chicken	2,073	kg
	Meat, pig	359	kg
	Pastries	1,910	kg
	all other foods	92.4	k USD
	bread and other baked goods	23.7	k CAD
	breakfast cereals	0.13	k USD
	cheese	11.8	k USD

	coffee and tea	23	k CAD
	cookies, crackers, pastas, and tortillas	0.74	k USD
	corn products	0.74	k USD
	fresh vegetables, melons, and potatoes	6.92	k USD
	fresh wheat, corn, rice, and other grains	8.96	k USD
	ice cream and frozen desserts	0.74	k USD
	refined vegetable, olive, and seed oils	2.22	k USD
	seasonings and dressings	0.94	k USD
	snack foods	45.1	k CAD
	sugar, candy, and chocolate	1.11	k USD
Purchased Goods and Services			
	accounting, tax preparation, bookkeeping, and payroll	100	k CAD
	adhesives	2.23	k CAD
	air conditioning, refrigeration, and warm air heating equipment	71.8	k USD
	architectural, engineering, and related services	62.7	k CAD
	asphalt pavement	10	k USD
	audio and video equipment	130	k CAD
	buildings and dwellings services	1,211	k CAD
	carpets and rugs	9.54	k USD
	cement	0.329	k CAD
	clay and ceramic products	4.24	k USD
	clothing	63.8	k CAD
	compressed gases	7.5	k USD
	concrete pipe, bricks, and blocks, upstream emissions	0.329	k CAD
	electronic equipment repair and maintenance	110	k CAD
	facilities support	2,095	k USD
	general merchandise stores	58.2	k USD
	glass and glass products	1.21	k CAD
	heating equipment other than warm air furnaces	50	k CAD
	institutional furniture	100	k USD
	lawn and garden equipment	5	k CAD
	light fixtures	10.6	k USD
	nonresidential building repair and maintenance	240	k USD
	office administration	838	k USD
	ophthalmic goods	4.14	k USD
	other basic inorganic chemicals	28.9	k CAD
	paints and coatings	2.7	k USD
	pharmaceutical products (pills, powders, solutions, etc.)	42.2	k USD
	photography and photocopying equipment	10	k USD
	postal service	0.61	k USD
	ready-mix concrete	10	k CAD
	sand, gravel, clay, phosphate, other nonmetallic minerals	4.58	k USD

	shelving and lockers	10	k CAD
	sporting and athletic goods	20.9	k USD
	surgical and medical instruments	220	k USD
	telephones	15	k CAD
	vaccines and other biological medical products	1	k CAD
Purchased Office Materials and Equipment			
	all other converted paper products	1	k CAD
	books, newspapers, magazines, and other print media	1	k CAD
	cardboard	1	k CAD
	computer storage device readers	1	k CAD
	computer terminals and other computer peripheral equipment	28	k CAD
	computers	62	k CAD
	external hard drives, cds, other storage media	1	k CAD
	ink and ink cartridges	39.8	k CAD
	magazines and journals	20.4	k CAD
	office furniture and custom architectural woodwork and millwork	25.1	k CAD
	office machinery	1	k USD
	office supplies (not paper)	294	k CAD
	other miscellaneous electrical equipment and components	3.89	k CAD
	paper	76.9	k CAD
	photography and photocopying equipment	38.5	k USD
	plastic bags, films, and sheets	1	USD
	plastics	1	k CAD
	primary batteries	16.4	k CAD
	sanitary paper (tissues, napkins, diapers, etc.)	10	k CAD
	soap and cleaning compounds	10	k CAD
	software	223	k CAD
	telephones	1	k CAD
Server Use			
Server use			
	data processing and hosting	141,154	CAD
Third Party Vehicle Use			
Leased trucks			
	Diesel medium and heavy duty truck	1,900	km
Leased vans			
	Diesel light duty truck, freight	780	km

Key Observations

Overall

- For the 2021/2022 assessment period, no valid market-based instruments have been applied to the Scope 2 energy consumption, moreover the location included in the scope of this assessment, Canada, has no valid electricity residual mix factor available. Therefore, the location-based factor has been applied to the electricity consumption to derive a result in line with the Scope 2 market-based methodology. As such, both location and market-based methodologies have been reported as one below.

Location based methodology

- Overall emissions have increased by 3,971 by tonnes of CO2e, or 312.9%, from 1,269 tonnes of CO2e during the 2020/2021 assessment period to 5,240 tonnes of CO2e during the 2021/2022 assessment period. This significant increase in emissions is due to the inclusion of various Scope 3 categories not reported in the previous assessment. These categories in order of prevalence include commuting, purchased goods and services, capital goods, business travel, leased assets, investments, and server use. Scope 3 activities account for 91% of total emissions for the 2021-2022 assessment period.
- Commuting account for the largest portion of emissions with 2000 tonnes of CO2e, or 38.2% of the total emissions. From commuting, cars represented the largest contributor with 1,025 tonnes of CO2e, or 19.6% of total emissions.
- Purchased goods and services account for the second largest portion of emissions with 1,517 tonnes of CO2e, or 29% of the total emissions.

Primary and Secondary Data

- To provide the most accurate estimate of your organization's GHG emissions, primary (actual) data should be used where available.
- For this assessment period, actual data accounted for 52,5 % of emissions, while estimated data accounted for 47.5% of emissions.
- The following Scope 1 sources used estimated data: acetylene, refrigerant gas loss, other fuels, and off-road vehicles and equipment
- Future improvements to data quality involve the collection of actual data of the above listed sources.

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