



# Greenhouse Gas Protocol (Dual Reporting) Report for Dawson College

Assessment Period: July 2014 - June 2015

Produced on Sept. 24, 2018 by *Our Impacts* on behalf of Ecometrica

# Assessment Details

## Consolidation Approach

Operational Control

## Organisational Boundaries

Operations of Dawson College

### Included

- Dawson College
- Dawson College

## Operational Boundary

- Electricity
- Landfilled waste
- Natural gas
- Off-road vehicles and equipment
- Other fuel(s)
- Recycled waste

## 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<sub>2</sub>e<sup>1</sup>. The seven Kyoto gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF<sub>3</sub>), sulphur hexafluoride (SF<sub>6</sub>) 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)**




# 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 <sub>2</sub> e/year	%	
Actual	797	99.7	
Estimated	2.31	0.289	
<b>Total</b>	<b>799</b>	<b>100</b>	



Market-based Accuracy Overview			
	tCO <sub>2</sub> e/year	%	
Actual	797	99.7	
Estimated	2.31	0.289	
<b>Total</b>	<b>799</b>	<b>100</b>	

**Table 2. Data Quality and Availability**

Source of emissions	Data quality
Premises	
Composted waste	Unknown
Electricity	Actual
Landfilled waste	Actual
Natural gas	Actual
Off-road vehicles and equipment	Actual
Other fuel(s)	Estimated
Recycled waste	Actual
Refrigerant gas loss and other fugitive emissions	N/A

# Assessment Summary for Dawson College

**Gross Overall Emissions (location-based): 799 tCO<sub>2</sub>e**

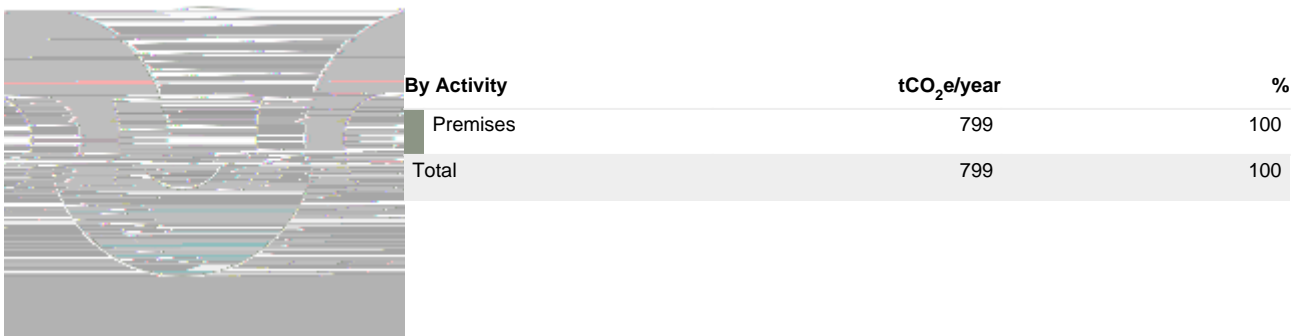
**Gross Overall Emissions (market-based): 799 tCO<sub>2</sub>e**

## Key Performance Indicators

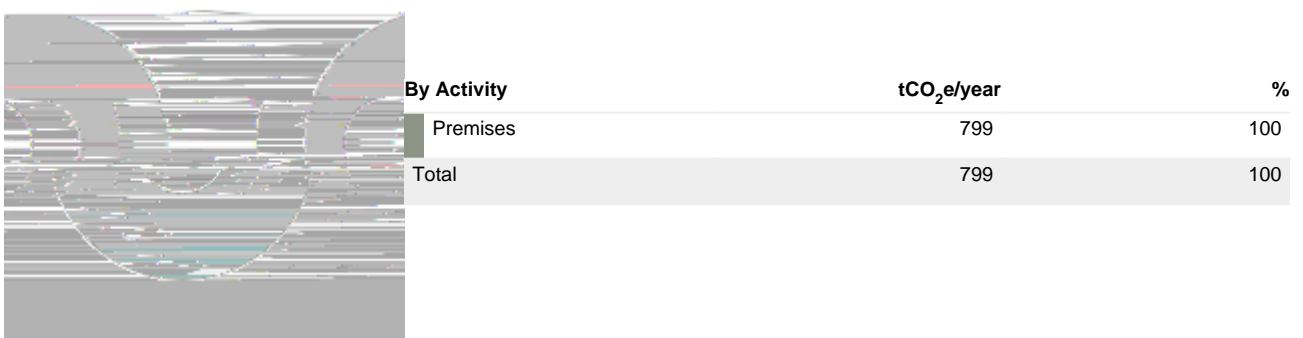
Absolute GHG emissions will vary over time and often correspond to the expansion or contraction of an organisation. It is useful therefore to use reporting metrics that take these effects into account and monitor relative GHG emissions intensity. A common emissions intensity metric is tonnes of CO<sub>2</sub>e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

Data	KPI
10,985 Number of students	0.0728 tCO <sub>2</sub> e per student (Location-Based)
78,949 Floor area (square metres)	0.0101 tCO <sub>2</sub> e per square metre (Location-Based)
816 Full Time Equivalent Employees	0.98 tCO <sub>2</sub> e per Full Time Equivalent Employee (Location-Based)
10,985 Number of students	0.0728 tCO <sub>2</sub> e per student (Market-Based)
78,949 Floor area (square metres)	0.0101 tCO <sub>2</sub> e per square metre (Market-Based)
816 Full Time Equivalent Employees	0.98 tCO <sub>2</sub> e per Full Time Equivalent Employee (Market-Based)

## Summary by Activity (Location-Based, tCO<sub>2</sub>e)



## Summary by Activity (Market-Based, tCO<sub>2</sub>e)



## Summary by WBCSD/WRI Scope (Location-Based, tCO<sub>2</sub>e)



Scope	tCO <sub>2</sub> e/year	%
Scope 1	490	61.3
Scope 2	19.4	2.43
Scope 3	290	36.2
<b>Total</b>	<b>799</b>	<b>100</b>

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**Summary by WBCSD/WRI Scope (Market-Based, tCO<sub>2</sub>e)**



Scope	tCO <sub>2</sub> e/year	%
Scope 1	490	61.3
Scope 2	19.4	2.43
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<b>Total</b>	<b>799</b>	<b>100</b>

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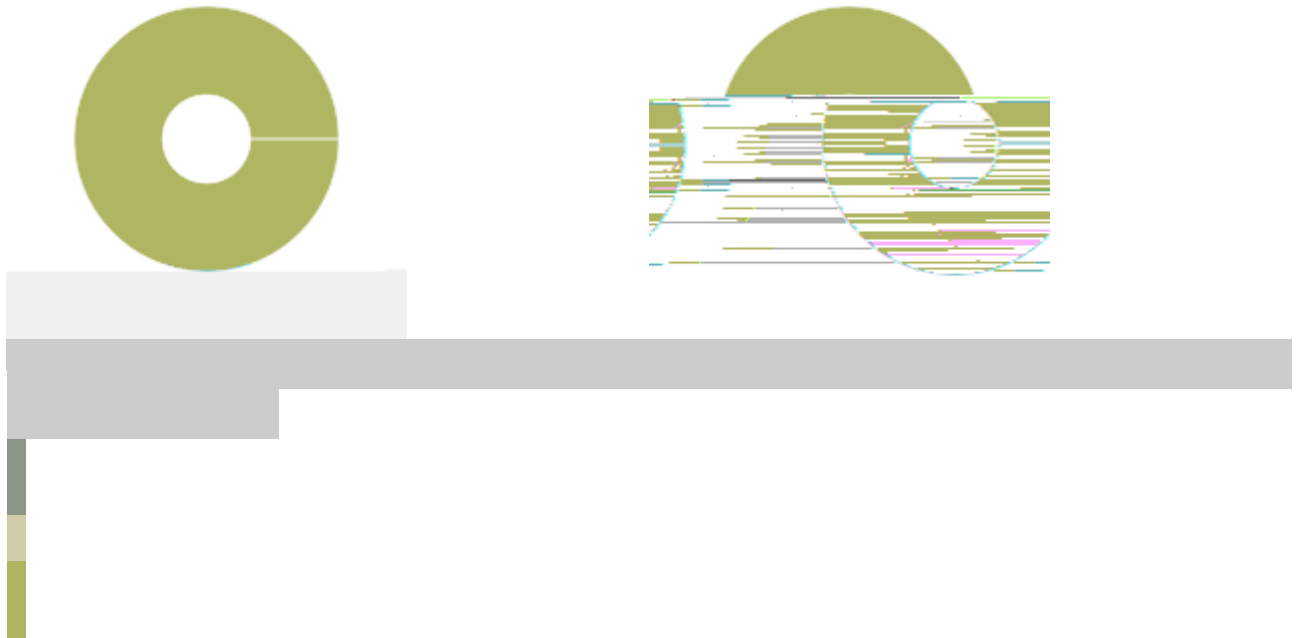
**Summary by Greenhouse Gas**

# 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





# Detailed Results

## Detailed Summary by WBCSD/WRI Scope

### Location-Based methodology

Source of Emissions	tCO <sub>2</sub> /yr	tCH <sub>4</sub> /yr	tN <sub>2</sub> O/yr	Total Emissions (tCO <sub>2</sub> e/yr)	%
<b>Scope 1 Total</b>	<b>488</b>	<b>0.00984</b>	<b>0.00933</b>	<b>490</b>	<b>61.3%</b>
Premises Total	488	0.00984	0.00933	490	61.3%
Natural gas	485	0.00951	0.009	488	61%
Off-road vehicles and equipment	0.185	2.16e-4	4e-6	0.192	0.0241%
Other fuel(s)	2.22	1.1e-4	3.3e-4	2.31	0.289%
<b>Scope 2 Total</b>	<b>19</b>	<b>0.00136</b>	<b>0.00136</b>	<b>19.4</b>	<b>2.43%</b>
Premises Total	19	0.00136	0.00136	19.4	2.43%
Electricity	19	0.00136	0.00136	19.4	2.43%
<b>Scope 3 Total</b>	<b>0</b>	<b>10.3</b>	<b>0</b>	<b>290</b>	<b>36.2%</b>
Premises Total	0	10.3	0	290	36.2%
Landfilled waste	0	10.3	0	290	36.2%
Recycled waste	0	0	0	0	0%
<b>Total</b>	<b>507</b>	<b>10.4</b>	<b>0.0107</b>	<b>799</b>	<b>100%</b>

### Market-Based methodology

Source of Emissions	tCO <sub>2</sub> /yr	tCH <sub>4</sub> /yr	tN <sub>2</sub> O/yr	Total Emissions (tCO <sub>2</sub> e/yr)	%
<b>Scope 1 Total</b>	<b>488</b>	<b>0.00984</b>	<b>0.00933</b>	<b>490</b>	<b>61.3%</b>
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<b>Scope 3 Total</b>	<b>0</b>	<b>10.3</b>	<b>0</b>	<b>290</b>	<b>36.2%</b>
Premises Total	0	10.3	0	290	36.2%
Landfilled waste	0	10.3	0	290	36.2%
Recycled waste	0	0	0	0	0%
<b>Total</b>	<b>507</b>	<b>10.4</b>	<b>0.0107</b>	<b>799</b>	<b>100%</b>

# Summary by Company Unit

Location-Based methodology

Assessment	July 2013 - June 2014		July 2014 - June 2015	
Company Unit	Total Emissions (tCO <sub>2</sub> e)	Emissions per FTE (tCO <sub>2</sub> e/FTE)	Total Emissions (tCO <sub>2</sub> e)	Emissions per FTE (tCO <sub>2</sub> e/FTE)
Dawson College	783	1	799	0.98
Dawson College	783	-	799	-

Emissions per  
FTE  
(tCO<sub>2</sub>e)

Dawson College	7

July 2013 - June 2015

# Annual Activity Data

Source of Emissions	Value	Unit
<b>Premises</b>		
Electricity		
Electricity consumption	13,602,732	kWh
Landfilled waste		
Waste, landfilled, MSW	192	tonne
Natural gas		
Natural gas consumption (gross CV)	257,119	m3
Off-road vehicle	4019Q4ew1l n 0 0 305.8228 14.25 re f* Q q 1 0 0 1 30 -1.5 cm q 1 1 1 rg n 0 6.755625 77.52 8.5 re f* .703125 w BT 1 0 0 1 0 8.865	

## References

EC (2016). National Inventory Report, 1990-2014: Greenhouse Gas Sources and Sinks in Canada. Environment Canada.

EC (2017). National Inventory Report. Greenhouse Gas Sources and Sinks in Canada: 1990 - 2015. Environment Canada.

EC (2017). National Inventory Report. Greenhouse Gas Sources and Sinks in Canada: 1990 - 2015. Environment Canada.; EC (2016). National Inventory Report. Greenhouse Gas Sources and Sinks in Canada: 1990 - 2014. Environment Canada.

IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.