

Annual Sustainability Report



Gustavson
School of Business
University of Victoria

Gustavson School of Business

2019

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Completed	25/9/2020

synergy 

Executive Summary

The Gustavson School of Business is an internationally accredited business school at the University of Victoria. The school occupies classrooms, meeting rooms and office space in the Business and Economics and David Strong buildings (occupying an average of 58% of the total floor area). 2019 marks the tenth year that Gustavson has measured and reported its greenhouse gas emissions, with previous reports (2009 - 2014) completed by EcoCentric and ColdStream Consulting.

As in previous years, all Scope 1 and 2 emissions (natural gas and electricity) and Scope 3 emissions (stationary paper) are offset by the University of Victoria. In 2017, Gustavson made the decision to go carbon neutral and purchased offsets for their 2016 employee commuting and employee and student travel emissions, making them among the first carbon neutral educational institutions in the world. Gustavson also introduced a Carbon Neutrality Plus committee comprised of faculty, staff, and student representatives to provide information and long-term leadership, shortlist carbon offset projects, and integrate carbon neutrality education moving forward.

For consistency, 2010 - 2013 flight emissions have been restated with BC Best Practices for GHG Accounting. The total carbon footprint for these years have been updated to reflect the changes in travel emissions.

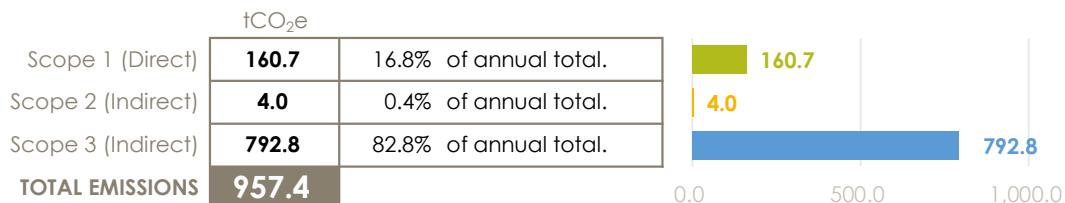
In 2019, Gustavson's total carbon footprint came to 957 tCO₂e, a 3% increase over 2018 and 5% lower than the 2010 baseline. Gustavson's per capita emissions came to 0.6 tCO₂e per person. The largest source of emissions is student and employee travel, which makes up 75% of the total carbon footprint. Travel emissions have increased by 4% over the 2010 baseline due to an increase in the number of flights and distance traveled by employees and students.

Emissions to be offset by the Gustavson School of Business (excluding emissions already offset by UVic) come to 790 tCO₂e. Congratulations on a decade of reporting and being an exemplary model of a responsible educational institution!

Company Information

Company Name	CSSI on behalf of Gustavson School of Business		
Contact Information	Carlos Berti	cssi@uvic.ca	250-853-3721
	Basma Majerbi	majerbi@uvic.ca	250-472-4281
Company Description	Office space, meeting rooms, and classrooms in two UVic buildings.		
Reporting Period	January 1st, 2019 - December 31st, 2019		
Inventory Boundary	Scope 1 (Direct Emissions)		
	- Natural Gas		
	Scope 2 (Indirect Emissions from Purchased Electricity)		
	- Purchased Electricity (BC Hydro)		
	Scope 3 (Indirect Emissions from Other Sources)		
	- Waste, Stationery, Student & Employee Travel, Employee Commuting		
Consolidation Approach	Operational Control: Accounting for 100% of emissions from operations over which the company has operational control.		
Primary Measurement	Carbon Dioxide Equivalent (CO ₂ e)		
Reporting Guidelines	Aligned with those defined in <i>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (The GHG Protocol, www.ghgprotocol.org)</i> . Emissions factors reviewed & approved by Offsetters.		

Inventory Results



Carbon Footprint (Summary)



Gustavson
School of Business
University of Victoria

2019 Carbon Footprint Report



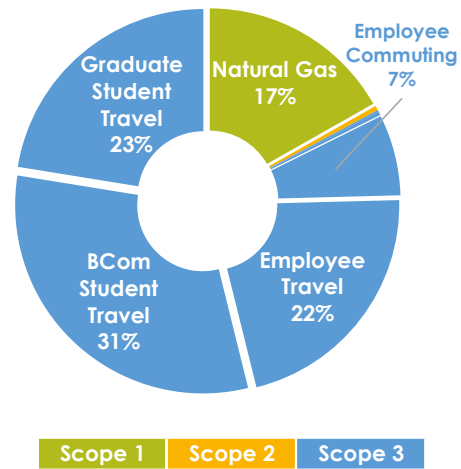
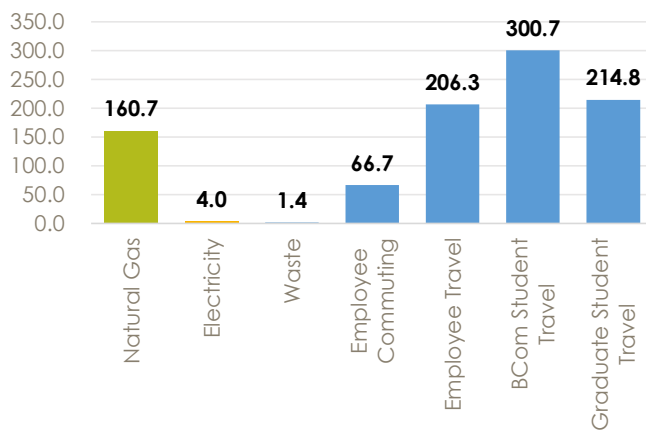
Total emissions: **957.4** tCO₂e

Offset cost: **\$15,800 - \$19,750**

Total emissions for 2019 come to 957 tCO₂e, a 3% increase over 2018. Excluding emissions already offset by UVic (natural gas, electricity and stationary paper), emissions to be offset by the Gustavson School of Business comes to 790 tCO₂e.

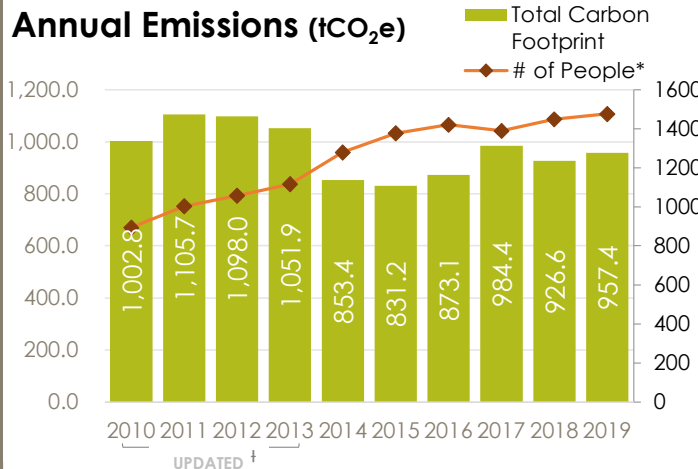
Carbon Footprint (By Activity)

Emissions by Activity (tCO₂e)



Carbon Footprint (Historical)

Annual Emissions (tCO₂e)



Year	tCO ₂ e Per Year	Change since Baseline	
		tCO ₂ e/person	Percent
2010	1,002.8	1.1	
2011	1,105.7	1.1	10.3%
2012	1,098.0	1.0	9.5%
2013	1,051.9	0.9	4.9%
2014	853.4	0.7	-14.9%
2015	831.2	0.6	-17.1%
2016	873.1	0.6	-12.9%
2017	984.4	0.7	-1.8%
2018	926.6	0.6	-7.6%
2019	957.4	0.6	-4.5%

*Note: # of people includes employees (faculty and staff), undergraduate (BCom), and graduate students (MBA, MGB and PhD) at the Gustavson School of Business.

† 2010 - 2013 emissions have been re-stated to use the BC Best Practices emissions factors for business travel.



3,020.3

Barrels of Oil



256.4

Cars per Year



0.6

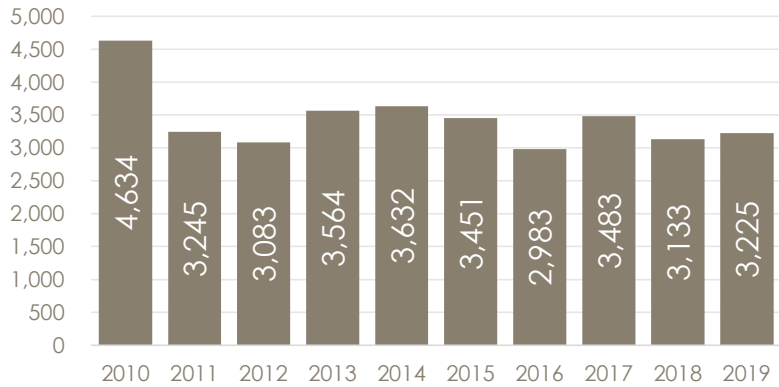
tCO₂e per person

tCO₂e
(Total)

957.4

Natural Gas

Natural Gas (GJ)



Analysis

Gustavson's buildings are connected to a natural gas heating loop. Consumption is calculated based on floor area of all buildings connected to this loop. In 2019, Gustavson saw a 3% increase in natural gas consumption over 2018. Due to overall improvements to the HVAC systems at UVic, natural gas use has decreased by 30% since the 2010 baseline.

* Emissions from natural gas are offset by the University of Victoria.

GJ/ft²

0.05

tCO₂e

160.7*

% of Total

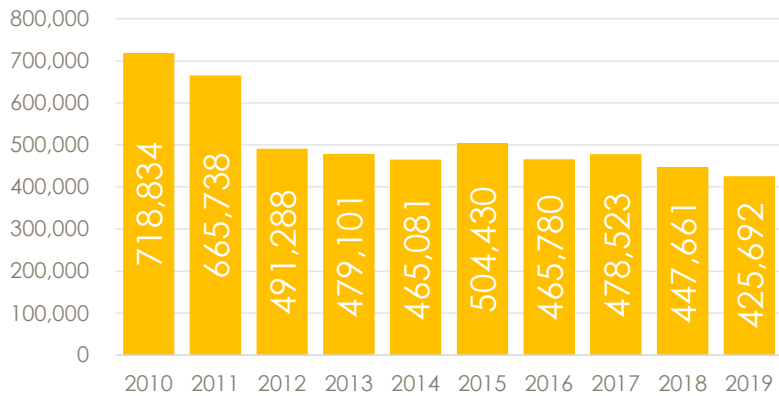
16.8%



35.1
Houses

Electricity

Electricity (kWh)



Analysis

Electricity use came to 425,692 kWh, the lowest since reporting began. Gustavson saw a 5% reduction in electricity use over 2018 and a 41% reduction over the baseline year as a result of lighting upgrades, educational initiatives, and combined efforts to reduce electricity use in unoccupied offices and classrooms. Since 2010, electricity emissions have decreased by 79%.

* Emissions from electricity are offset by the University of Victoria.

kWh / ft²

7

tCO₂e

4.0*

% of Total

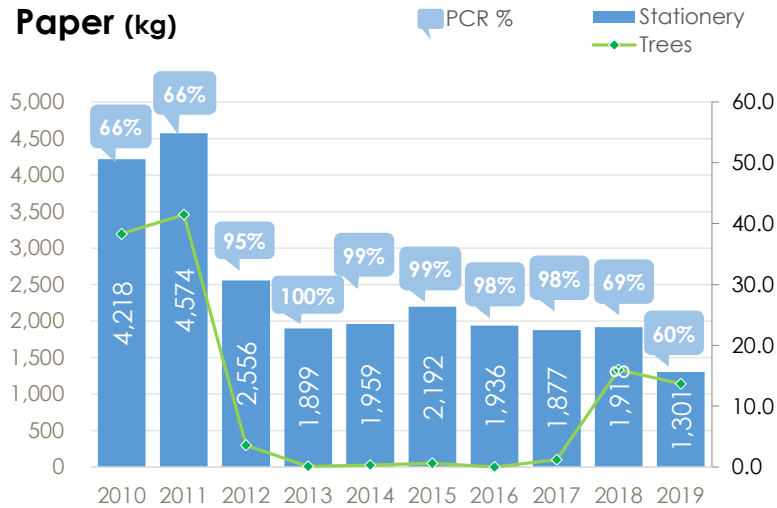
0.4%



38.7
Houses

Paper

Paper (kg)



Analysis

Stationery paper accounts for 0.3% of total emissions at 2.8 tCO₂e. In 2019, the number of trees consumed decreased from 15.9 to 13.7 due to fewer paper purchases. However, the average recycled content decreased to 60%. Gustavson could save an additional 13 trees if all paper ream purchases are 100% Post Consumer Recycled (PCR).

* Emissions from stationery paper are offset by the University of Victoria.

Treeless Content

60%

tCO₂e

2.8*

% of Total

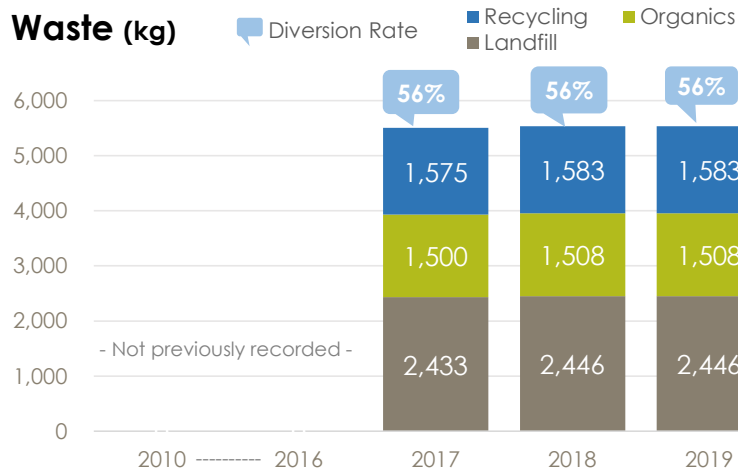
0.3%



13.7
Trees / Year

Waste

Waste (kg)



Analysis

Waste emissions account for 0.2% of total emissions at 1.4 tCO₂e. The University of Victoria conducts a waste audit every three years and measured the waste diversion rate at 56%*. Diversion is expected to improve with additional waste reduction and composting practices on campus. Expect to see updated waste audit results in the next report.

* Note: A 24-hour waste audit was completed for the Business Economic Centre (BEC) in 2018. The data was extrapolated for a full-year waste estimate.

kg / Day

15

tCO₂e

1.4

% of Total

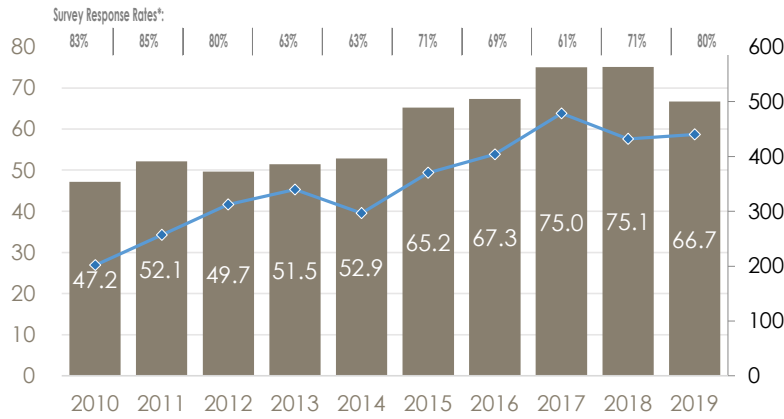
0.2%



55.8%
Diversion Rate

Employee Commuting

Emissions (tCO₂e)



Analysis

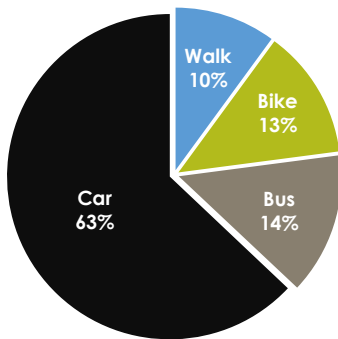
Employee commuting is the fifth highest contributor to Gustavson's carbon footprint at 66.7 tCO₂e.

Emissions from employee commuting have decreased by 11% over 2018 as more employees opted for public transport over personal vehicle use.

The survey had a response rate of 80%.

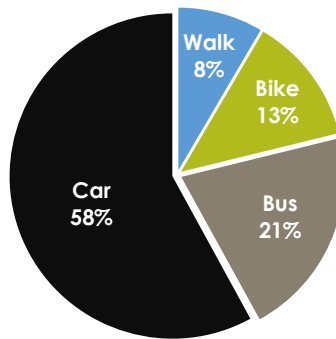
* Note: A staff commuting survey response indicating ferry and car travel to and from Vancouver has been included in the travel section of the report as not to skew the averaged additional calculations.

Commuting Percentages by Method per Day



Previous (2018)

Average kgCO ₂ e/km	0.17
Low-Emission Commuting %	37%



Current (2019)

Average kgCO ₂ e/km	0.15
Low-Emission Commuting %	42%

Analysis (Breakdown)

Since 2010, there has been a growing trend towards sustainable commuting methods such as walking, biking and public transit. This year, 42% of commutes were made by low-emission methods, up from 27% in 2010 and 37% in 2018.

It is recommended to encourage employees to make use of the commuting incentives at UVic and bike to work more often.

tCO₂e / FTE

0.4

tCO₂e **66.7**

% of Total

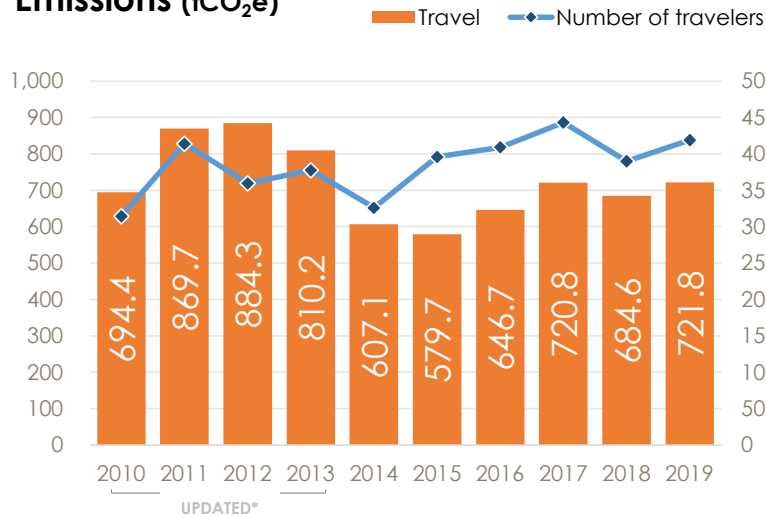
7.0%



17.9
Cars / Year

Travel

Emissions (tCO₂e)



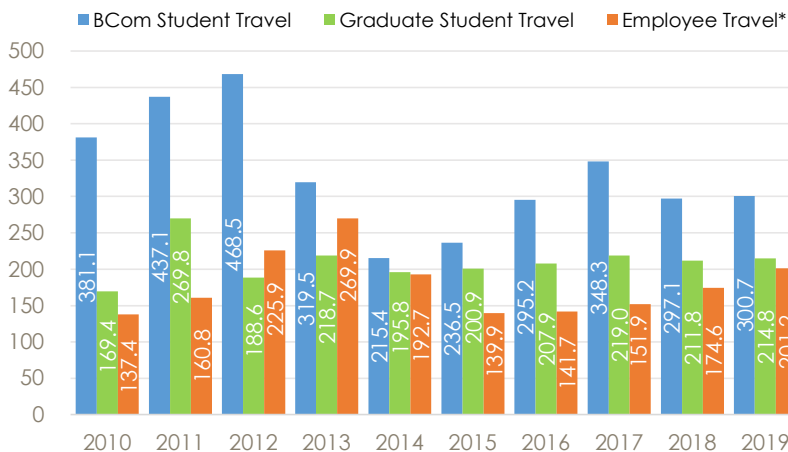
Analysis

Travel is the greatest contributor to Gustavson's carbon footprint at 75% of total emissions. This includes all flights, ferries and reimbursed mileage. Travel emissions increased by 5% over 2018, and by 4% since the 2010 baseline.

Since 2010, there has been a 33% increase in the number of Gustavson employees and the number of students travelling as part of the BCom and Graduate programs.

*Note: 2010 - 2013 travel emissions have been re-stated to use the BC Best Practices emissions factors for business travel.

Flight Emissions by Dept. (tCO₂e)



Analysis (Breakdown)

Flight emissions from employees increased by 15%. This is associated with the increase in the number of flights for the year, from 443 in 2018 to 739 in 2019.

In 2019, Gustavson began tracking and reporting travel from Candidates, Guest Speakers, Post-Doctoral Fellows, and PhD students.

Previous (2018)

# of Flights	1,022
Average Distance per Flight (km)	6,379

Current (2019)

# of Flights	1,301
Average Distance per Flight (km)	5,258

2019 Year	Distance (km)	# of Flights
Employee	1,920,872	739
BCom	2,869,469	330
Graduate	2,049,803	232
Total	6,840,144	1,301

* Employee Travel includes all travel by Faculty, Staff, Guests, Candidates, and Post-Doctoral Fellows. This chart is for flights only, and does not include emissions from reimbursed mileage (3.93 tCO₂e) and ferry travel (1.14 tCO₂e) which are included in the total travel emissions.

† The average for Employee Travel is based on total number of employees and travel, while the averages for students are based on numbers of students who participate in travel programs and their travel.

tCO ₂ e / Employee	1.32 †	tCO ₂ e / BCom Student	1.82	tCO ₂ e / Graduate Student	2.13	Total tCO ₂ e	721.8 75%
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Carbon Reduction Strategy

2019 marks the tenth year that the Gustavson School of Business has measured and reported its greenhouse gas emissions, and the second year as a carbon neutral institution by offsetting its carbon emissions. The school reports on scopes 1, 2 and 3 of carbon emissions related to its operations, including employee commuting and travel by employees and students. Since the 2010 baseline year, total emissions have decreased by 5%.

Total emissions in 2019 came to 957 tCO₂e, a 3% increase over 2018. Gustavson achieved significant reductions in electricity, stationery paper use, and employee commuting. This has been achieved through lighting upgrades and HVAC system improvements, paper purchasing reductions, and a shift towards more sustainable commuting methods by employees.

As an international business school, air travel is an essential component of Gustavson's operations, accounting for 75% of its total carbon footprint. Due to an increase in the number of flights and distance traveled by employees and students, total travel emissions have increased by 4% over the baseline year. By implementing employee and student travel policies, the school can potentially reduce travel emissions and encourage more sustainable travel methods in the future.

Gustavson will offset 790 tCO₂e (excludes emissions already offset by UVic) at a total cost of \$15,800 - \$19,750.

Achievements

- > Achieved carbon neutrality in 2017 by offsetting their 2016 employee commuting and student and employee travel emissions.
- > Formed the Carbon Neutrality Plus committee, comprising students, faculty and staff representatives. This committee provides information and long-term leadership in shortlisting carbon offset projects and integrating carbon neutrality education with students moving forward.
- > Sponsored the Carbon Offset Pitch Competition in 2018, in which students created carbon offset portfolios that Gustavson could invest in to offset their 2017 Scope 3 carbon emissions.
- > In 2019, the following offset projects were supported by Gustavson:
 - **The Great Bear Forest Carbon Project** to sustain biodiversity and create jobs for Indigenous communities.
 - **The Lower Zambezi Reducing Emissions from Deforestation Project** to curb deforestation in Zambia.
- > Increased scope to include waste in 2017 and developed more sustainable waste management policies.
- > Due to lighting upgrades and educational initiatives, electricity use has been reduced by 41% since 2010.
- > Due to HVAC system improvements, natural gas use has been reduced by 30% since 2010.

Moving Forward

- > Increase waste diversion by developing zero waste management policies for employees and students.
- > Implement a school travel policy to reduce travel and encourage low-emissions methods.
 - Explore telecommuting options for employees.
 - Reduce the number of guests speakers flown to campus through interactive video conferencing talks.
 - Choose sustainable modes of travel where possible (ex: carpooling, trains and busses).
 - Opt for economy class flight travel when possible.
- > Consider paperless courses and meetings
 - Send meeting materials in advance electronically.
- > Encourage employees to make use of the commuting incentives at UVic:
 - For full-time, continuing employees, UVic will pay the annual fee for Modo car-sharing.
 - \$35/year membership at Zipcar.
 - Vehicles may be rented from UVic for university business.
 - Rides can also be organized through UVic's rideshare program.

Information on Inventory Uncertainty

* The inventories for years 2010 to 2014 were completed by EcoCentric and ColdStream Consulting, and restated with the methodology and emissions factors of Synergy Enterprises.

* Natural gas use in buildings was estimated using floor area share on the natural gas loop.

Emissions References

1. 2018 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions
<http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs/carbon-neutral-government/measure>
2. Environment Canada's National Inventory Report (1990-2015); Part 2 & 3.
http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/can-2017-nir-13apr17.zip
3. Department for Environment, Food & Rural Affairs (UK) Carbon Factors
<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2017>
4. Intergovernmental Panel on Climate Change (Global Warming Potentials)
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

All emissions factors are reviewed and approved by Offsetters (www.offsetters.ca) on an annual basis.

Policy for Base Year Recalculation:

Base year emissions, and other previous emissions, shall be retroactively recalculated if a change in organisational structure or data quality is expected to exceed a significance threshold of 10% of base year emissions. These changes may arise from structural changes such as mergers, acquisitions, divestments, outsourcing or insourcing, changes in calculation methodology and improvements in accuracy, or discovery of significant errors.

Glossary of Terms

Term	Description
CFL	Compact Fluorescent Light
GHG	Greenhouse Gas (emissions): Atmospheric gasses contributing to the greenhouse effect, including Carbon Dioxide (CO ₂), Methane (CH ₄), Nitrous Oxide (N ₂ O), etc.
GJ	Gigajoule: Unit of natural gas equal to 26.137 m ³ or 0.947 MMBtu
HVAC	Heating, Ventilation & Air Conditioning
kWh	Kilowatt-Hour: Common unit for measuring electrical consumption
LED	Light Emitting Diode: A form of highly efficient lighting technology
m ³	Cubic Meter: Unit of measurement equal to 1,000 Litres
PCR%	Post-Consumer Recycled Content (as a percentage)
psg-km	Passenger-Kilometer: Unit separating total emissions between passengers per km
Ream	Standard unit of paper measurement equal to 500 sheets (with 10 reams in one box)
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent: GHGs have different warming potentials, measured collectively as CO ₂ equivalent (hence "e")
t-km	Tonne-kilometer: A unit of measurement used in shipping

Verified By	Kayli Anderson & Christian Muñoz Mejia
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The logo for Synergy Enterprises, featuring the word "synergy" in a lowercase, serif font with a green leaf icon above the letter 'y'.