

# MODUS Planning, Design & Engagement Inc.

Greenhouse Gas Emissions Report for the 2023 Calendar Year

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January 1, 2023 to December 30, 2023

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### BMO Radicle's Climate Smart program at a glance

**900+**

Climate Smart businesses  
completed program to date  
(trained or in training)

**24,489,000+**

Total emissions measured by Climate  
Smart to date, in tCO<sub>2</sub>e

Climate Smart is an award-winning training program that helps small and medium businesses in every industry create greenhouse gas (GHG) inventories, then devise emissions reduction plans to take action and make change.

## Key Terms

**Baseline GHG Emissions Inventory:** A comprehensive, quantified list of an organization's greenhouse gas emissions and sources for the initial reporting year (base year). The baseline GHG inventory is the level of greenhouse gas emissions against which future GHG inventories are compared.

**Biologically sequestered carbon:** Long-term carbon stored in biomass, such as forests, soils and peatland. Carbon is "locked" into organic matter through biological processes. This carbon can be released through e.g., burning of biomass as fuel or change in land use.

**Carbon Dioxide Equivalent (tCO<sub>2</sub>e):** The universal unit for comparing the emissions from various greenhouse gases. The carbon dioxide equivalent for a gas is derived by multiplying the mass of the gas by the associated global warming potential (GWP). For example, the GWP for methane is 21. This means that emissions of one metric tonne of methane are equivalent to the emissions of 21 metric tonnes of carbon dioxide.

**Carbon Offset:** A project or activity that results in a given amount of greenhouse gases being avoided or reduced in one place, that is used to 'balance out' another's total GHG emissions. Emission reductions that are real, additional (beyond business as usual), measurable, permanent, and verified can generate offset credits. Credits are tradable certificates.

**Emission Factor:** A factor that converts activity data to GHG emission values, e.g., lbs of carbon dioxide emitted per barrel of fossil fuel consumed.

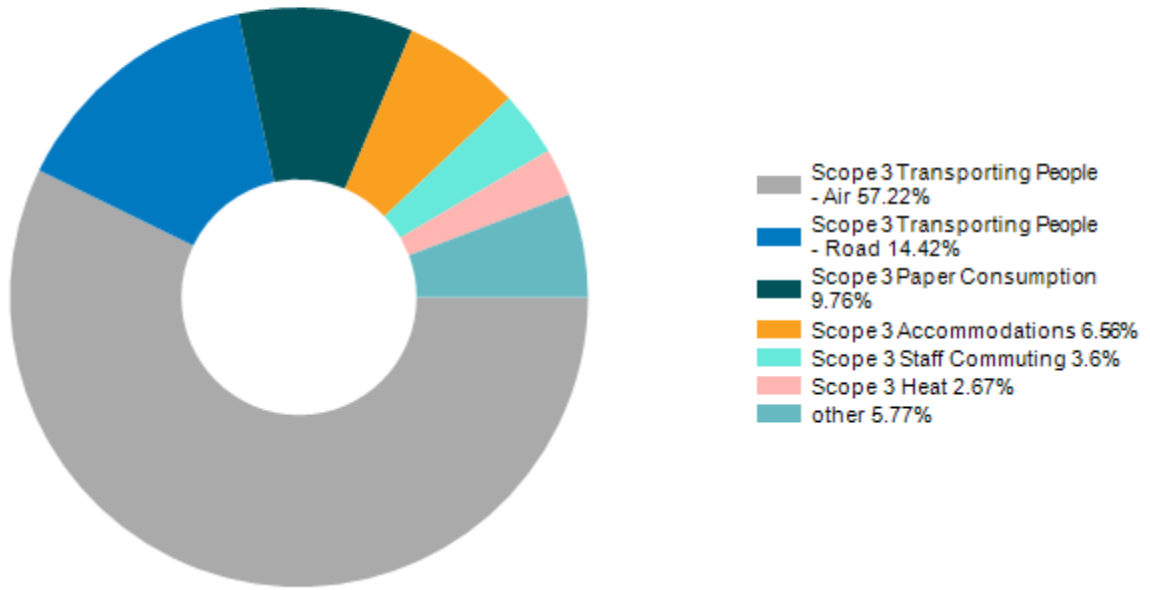
**Renewable energy certificates (RECs):** RECs are tradable energy certificates representing proof that 1 megawatt-hour (MWh) of electricity was generated from an eligible renewable energy resource (e.g., solar or wind) and was fed into the electricity grid.

# MODUS Planning, Design & Engagement Inc. 2023 Calendar Year Carbon Footprint

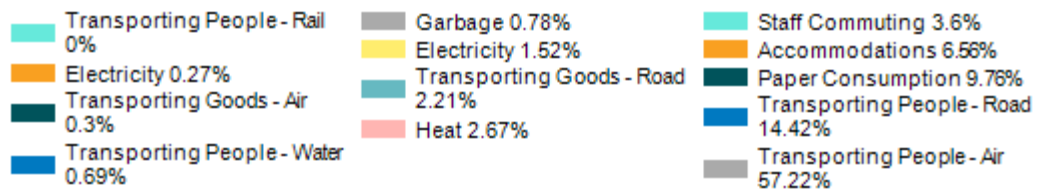
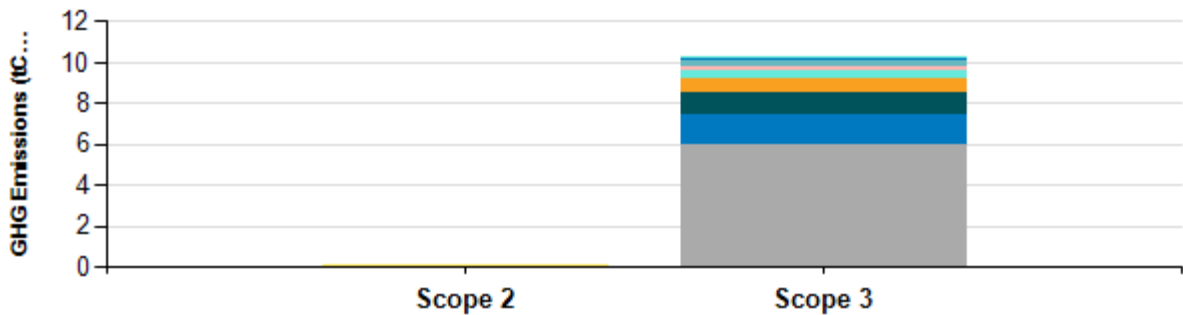
This report details the greenhouse gas emissions footprint for MODUS Planning, Design & Engagement Inc. ("MODUS") during the 2023 Calendar Year, including the breakdown of emissions by source activity and MODUS' plan to reduce their emissions going forwards. This report and inventory were compiled in compliance with the [Greenhouse Gas Protocol Corporate Accounting and Reporting Standard](#), Revised Edition.

## Total emissions for the 2023 calendar year

**Total emissions: 10.43 tCO<sub>2</sub>e**



## Total Emissions by Scope



## Analysis

MODUS Planning, Design & Engagement Inc. measured its 5th greenhouse gas inventory with Climate Smart for the 2023 calendar year (Jan 01, 2023 to Dec 30, 2023) and recorded emissions of 10.43 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). Overall MODUS' **emissions decreased by 64% (18.28 tCO<sub>2</sub>e) since their baseline year (2019)**, with the majority of the reductions occurring in transporting people - air, heat. MODUS completed the Climate Smart program for 2023.

The following sections present the breakdown of MODUS' emissions for their 2023 calendar year by scope, as well as details of any emissions of tCO<sub>2</sub> from combustion of biologically sequestered carbon and purchased offsets and renewable energy certificates (RECs).

### Scope 1

Activity Type	2019 (tCO <sub>2</sub> e)	2023 (tCO <sub>2</sub> e)	Absolute Change (tCO <sub>2</sub> e)	% Change	Justifications & Additional Notes
<b>Scope 1</b>					
Heat	7.62		-7.62		Head- Office – Richards St location is no longer active.
<b>Grand Total</b>	<b>7.62</b>		<b>-7.62</b>	<b>-100%</b>	

### Scope 2 - Location Based Emissions

Scope 2 emissions totaled 0.16 tCO<sub>2</sub>e in MODUS' 2023 calendar year, **down by 59% since their baseline year. The majority of the decrease occurred in Electricity.**

Activity Type	2019 (tCO <sub>2</sub> e)	2023 (tCO <sub>2</sub> e)	Absolute Change (tCO <sub>2</sub> e)	% Change	Justifications & Additional Notes
<b>Scope 2</b>					
Electricity	0.39	0.16	-0.23	-59%	Head- Office – Richards St location is no longer active.
<b>Grand Total</b>	<b>0.39</b>	<b>0.16</b>	<b>-0.23</b>	<b>-59%</b>	

### Scope 2 - Market-Based Emission Factors

The 2015 [GHG Protocol Scope 2 guidance](#) requires companies to report their Scope 2 emissions in two ways: **location-based** (reflecting grid emission factors), and **market-based** (using supplier specific emissions factors and/or those from contractual instruments such as renewable energy certificates - RECs). Note that location-based values are shown on the emissions summary charts presented in this report.

Province/State	Electricity Provider	kWh	Provincial/State Emissions (tCO <sub>2</sub> e)	Utility Supplier Emissions (tCO <sub>2</sub> e)
BC	BC Hydro	20,474.00	0.16	0.21
<b>Grand Total</b>		<b>20,474.00</b>	<b>0.16</b>	<b>0.21</b>

## Scope 3

Scope 3 emissions totaled 10.27 tCO<sub>2</sub>e in MODUS' 2023 calendar year, **down by 50% since their baseline year. The majority of the decrease occurred in Transporting People - Air.**

Activity Type	2019 (tCO <sub>2</sub> e)	2023 (tCO <sub>2</sub> e)	Absolute Change (tCO <sub>2</sub> e)	% Change	Justifications & Additional Notes
<b>Scope 3</b>					
Accommodations		0.68	0.68		Was measured previously under Other - Scope 3.
Electricity		0.03	0.03		Includes WFH emissions.
Garbage	0.14	0.08	-0.06	-43%	Head Office – Richards St location is no longer active.
Heat		0.28	0.28		Includes WFH emissions.
Other Scope 3	0.52		-0.52		Previous years accommodation emissions.
Paper Consumption	2.25	1.02	-1.23	-55%	No justifications/notes to add.
Staff Commuting	1.23	0.38	-0.85	-69%	No justifications/notes to add.
Transporting Goods - Air	0.03	0.03	0.00	0%	No justifications/notes to add.
Transporting Goods - Road	0.00	0.23	0.23		No justifications/notes to add.
Transporting People - Air	14.74	5.97	-8.77	-59%	No justifications/notes to add.
Transporting People - Rail	0.00	0.00	0.00		No justifications/notes to add.
Transporting People - Road	1.65	1.50	-0.15	-9%	No justifications/notes to add.
Transporting People - Water	0.14	0.07	-0.07	-50%	No justifications/notes to add.
<b>Grand Total</b>	<b>20.70</b>	<b>10.27</b>	<b>-10.43</b>	<b>-50%</b>	

## Release of Sequestered Carbon

Direct tCO<sub>2</sub> emissions arising from the combustion of biologically sequestered carbon, such as from burning biomass or biofuels, are reported separately from the scopes. For MODUS' 2023 calendar year inventory, there was no reported release of sequestered carbon.

## Offsets

MODUS did not purchase offsets in the 2023 calendar year.

## MODUS' 2023 Emissions Activity by Location

Location Name	Scope	Activity Type	tCO2e	% of Total Inventory
Head Office - Cordova St	Scope 2	Electricity	0.16	1.52%
	Scope 3	Accommodations	0.68	6.56%
		Electricity	0.03	0.27%
		Garbage	0.08	0.78%
		Heat	0.28	2.67%
		Paper Consumption	1.02	9.76%
		Staff Commuting	0.38	3.60%
		Transporting Goods - Air	0.03	0.30%
		Transporting Goods - Road	0.23	2.21%
		Transporting People - Air	5.97	57.22%
		Transporting People - Rail	0.00	0.00%
		Transporting People - Road	1.50	14.42%
		Transporting People - Water	0.07	0.69%
		<b>Grand Total</b>		

## MODUS' Emission Reduction Plan

See a summary of MODUS' reduction plan below. For additional information such as a detailed description or estimated implementation and completion dates, please see the Climate Smart software.

Plan Name: MODUS - 1 Year Plan (2024-25)			
	Strategy Name	Estimated Impact	Targeted Activity Type(s)
Planned	Carbon Offsets	Medium	
Planned	Investigate alternative printing suppliers	Medium	Other
Planned	Reduction Target (Not a strategy)	High	Other
Implemented	Electronic Recycling or Donations	Low	Other
Implemented	Employee Cycling Incentive	Medium	Transport People
Implemented	High-Efficiency Heating Equipment	Medium	Electricity, Heat
Implemented	Internal Communications on GHG Reductions	Low	
Implemented	Purchasing Policies	Low	
Implemented	Thermostat Settings	Medium	Electricity, Heat
Implemented	Used Furniture Selling or Donating	Low	Other
Considering	Low Carbon Air Travel	Medium	Transport People
Considering	Low Carbon Road Travel	Medium	Transport People

### Methodology

MODUS conducted its GHG emissions inventory according to the [Greenhouse Gas Protocol Corporate Accounting](#) and Reporting Standard, Revised Edition. The GHG Protocol is an internationally recognized standard published by the World Resources Institute and the World Business Council on Sustainable Development.

### Organizational Boundaries

MODUS used the operational control approach to determine its organizational boundary and included in its inventory all operations and facilities over which it has operational control.

### Inventory Boundaries

The GHG Protocol requires the inclusion of Scope 1 and 2 emissions, and suggests including Scope 3 emissions from activities relevant to an organization's business and goals, and for which reliable data can be obtained. MODUS included emissions from the following activities under Scopes 1, 2 and 3:

**Scope 1:** includes direct GHG emissions from sources that are owned or controlled by the reporting company or organization

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Heat > Generated

**Scope 2:** includes indirect GHG emissions from purchased electricity and purchased heat

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Electricity > Purchased

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**Scope 3:** includes indirect GHG emissions that are consequences of the reporting company’s operations but occur at sources owned by another company

Accommodations
Electricity > Unmetered/Unbilled
Garbage
Heat > Unmetered/Unbilled from Electricity
Heat > Unmetered/Unbilled from Fuel
Paper Consumption
Scope 3 Other
Staff Commuting
Transporting Goods > Vehicles owned by others > Air
Transporting Goods > Vehicles owned by others > Road
Transporting People > Vehicles owned by others > Air
Transporting People > Vehicles owned by others > Rail
Transporting People > Vehicles owned by others > Road
Transporting People > Vehicles owned by others > Water

No material activities were excluded from the inventory.

## Emission Factors

This inventory was conducted using the emissions factors from the Climate Smart web-based greenhouse gas management tool. The Climate Smart GHG management tool was designed for adherence to the GHG Protocol. Climate Smart’s emission factors come from a variety of sources, such as Environment Canada, the GHG Protocol Initiative, the US Environmental Protection Agency and the Intergovernmental Panel on Climate Change. Climate Smart reviews its emission factors annually to update them based on refined industry methodology and changing electricity grids.

Climate Smart also acknowledges that complete adherence to the Protocol requires the seven major greenhouse gases to be accounted for separately, and is working towards adding this feature at a future date. Further details on Climate Smart’s emission factors, their sources, and methodology for updating them are available upon request to [info@climatesmartbusiness.com](mailto:info@climatesmartbusiness.com).

## Sources of Data Included

MODUS used the following sources of data to estimate their greenhouse gas emissions for the 2023 calendar year.

Activity	Data Source
Heat > Generated	The total giga-joules of natural gas used were entered based on utility bills.
Electricity > Purchased	The total kilowatt-hours of electricity used, based on utility bills, were entered into the Climate Smart software tool.
Accommodations	The total number of nights stayed in hotels.
Electricity > Unmetered/Unbilled	The square footage occupied was entered to estimate electricity emissions using the average provincial intensity.
Garbage	The total estimated weight of garbage was entered into the Climate Smart tool.
Heat > Unmetered/Unbilled from Electricity	The square footage occupied was entered to estimate heating emissions using the average provincial intensity.
Heat > Unmetered/Unbilled from Fuel	The square footage occupied was entered to estimate heating emissions using the average provincial intensity.



Paper Consumption	The paper type, paper bond weight, number of reams used and post-consumer recycled content were entered. The paperweight and paper type were entered into the paper calculator ( <a href="http://papercalculator.org">http://papercalculator.org</a> ) to calculate emissions.
Scope 3 Other (previous accommodation emissions)	Total number of nights stayed in hotels.
Staff Commuting	The distance commuted by each mode of transport was entered based on staff commuting survey.
Transporting Goods > Vehicles owned by others > Air	Distance travelled and weight for each parcel were entered.
Transporting Goods > Vehicles owned by others > Road	Distance travelled and weight for each parcel were entered.
Transporting People > Vehicles owned by others > Air	The total kilometers travelled were entered by type of flight (short-, medium-, or long-haul).
Transporting People > Vehicles owned by others > Rail	The total kilometers travelled were entered.
Transporting People > Vehicles owned by others > Road	The total kilometers travelled were entered.
Transporting People > Vehicles owned by others > Water	The number of BC Ferry trips was entered for each route.

## Recalculation

Climate Smart recommends a recalculation of baseline emissions if a change occurs that would equate to a change equal to or greater than five percent of company's total annual emissions. Situations triggering recalculation include structural changes (e.g., the acquisition or divestment of business units); changes in calculation methodology or improvements in accuracy of emission factors/activity data; or discovery of significant or cumulative errors.

For MODUS' 2023 calendar year inventory, no recalculation was required.

Climate Smart GHG accounting experts ensure high integrity at every stage: setting industry-relevant operations boundaries; ensuring data is complete and accurate; updating the GHG accounting software to include the most current available emission factors; and developing a reduction strategy that targets the highest sources of GHG emissions. Further detail is outlined below.

- Clients conduct a materiality assessment with Climate Smart advisors to ensure their GHG inventory captures their highest sources of operational emissions. This process is informed by the GHG Protocol and specific industry insights.
- During the GHG data collection process, clients are supported by Climate Smart advisors to ensure their data is complete and that there is valid supporting documentation.
- The software provides current emission factors based on internationally recognized agencies and relevant for operating locations, for all Scope categories included in the inventory.
- Once all GHG inventory data has been entered, both the software and Climate Smart advisors review all GHG inventory data for outliers - comparing to both previous year inventory data, as well as industry/business activity averages. In case of a drastic increase or decrease in reported emissions, clients are alerted to confirm accuracy, and to make any required corrections.
- The final GHG reduction plan identifies immediate reduction opportunities, and clients work closely with Climate Smart advisors to determine a detailed implementation timeline.

We encourage consistency and transparency of GHG data inventoried in Climate Smart. By using current and accurate emissions factors, and using a conservative approach during the data review process, we support our clients to accurately report their GHG data with a high degree of confidence, aligned with international standards.



Prepared on: June 26, 2024

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