



ENERGY STAR®

PortfolioManager®

Technical Reference

Canadian Regional Median Greenhouse Gas Emissions Intensity

OVERVIEW

This reference table is designed to help you to compare your property's regional median total greenhouse gas emission intensity to a benchmark representative of your region and similar properties.

Using the Regional Median Total Greenhouse Gas (GHG) Emission Intensity

The Regional Median Total GHG Emissions is only available in Canada and provides a comparison point for your building's GHG emission. This metric represents the middle of the regional population by property type, where half produce more GHGs and half produce less.

The median GHG intensity gives a comparison point for your building's GHG emissions. It represents the typical amount of GHG emissions per area for your property type with a typical fuel mix and emission factors specific to your location. It does not normalize for weather or by property use details. It takes into consideration the national median energy use intensity by property type,¹ the Provincial GHG Factors,² and the regional fuel mix.^{3,4,5} This metric is directly calculated by multiplying the national median energy use intensity by property type, the regional fuel mix (based on the SCIEU survey or alternate surveys) and the Provincial GHG Factors (based on Environment and Climate Change Canada's most recent National Inventory Report).⁶ The regions are defined by the Survey of Commercial and Institutional Energy Use (SCIEU 2014).

The following summarizes the results. It is organized by province and by property type. To use for your property, identify the property type most applicable to your property and identify the province in which your property is located.

¹ [Canadian Energy Use Intensity Technical Reference Document](#)

² [GHG Emissions Technical Reference Document](#)

³ Survey of Commercial and Institutional Energy Use – 2014 (SCIEU) <http://www.statcan.gc.ca/daily-quotidien/160916/dq160916c-eng.htm>

⁴ Survey of Energy Consumption of Arenas – 2014 (SECA) <http://www.statcan.gc.ca/daily-quotidien/160830/dq160830d-eng.htm>

⁵ Survey of Energy Consumption of Multi-Unit Residential Buildings – 2018 (SECMURBs) <https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/menus/murb/2018/tables.cfm>

⁶ National Inventory Report 1990–2020: Canada's 2021 Submission to the United Nations Framework Convention on Climate Change (April 2022)



ENERGY STAR®

PortfolioManager®

Technical Reference

Canadian Regional Median Greenhouse Gas Emissions Intensity

Understanding Reference Data

To compute the median, we rely on nationally representative data. We reference the four following surveys:

Survey of Energy Consumption of Multi-Unit Residential Buildings – 2018 (SECMURBs)

<https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/menus/murb/2018/tables.cfm>

Survey on Commercial and Institutional Energy Use – 2014 (SCIEU)

<http://www.statcan.gc.ca/daily-quotidien/160916/dq160916c-eng.htm>

Survey on Energy Consumption of Arenas – 2014 (SECA)

<http://www.statcan.gc.ca/daily-quotidien/160830/dq160830d-eng.htm>

Commercial and Institutional Building Energy Use Survey - 2000 (CIBEUS)

http://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/data_e/CIBEUS_ENG.pdf

Yukon, Northwest Territories and Nunavut do not currently have representative data as part of the above surveys and do not have a Regional Median GHG intensity. Similarly, Data Centers, Wastewater Treatment Plants and Drinking Water Treatment Plants do not have sufficient Canadian data to produce a Regional Median GHG intensity.

This metric was first launched in Canada in February 2021.

Canadian Regional Median GHG Intensity Values for All Portfolio Manager Property Types

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)										
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC	
Banking / Financial Services	Bank Branch		22.7	79.9	165.1	79.9	12.1	33.2	28.6	114.5	109.2	25.9	
	Financial Office		22.7	79.9	165.1	79.9	12.1	33.2	28.6	114.5	109.2	25.9	
Education	Adult Education		27.1	95.2	196.7	95.2	14.4	39.5	34.0	136.4	130.1	30.9	
	College/University		23.2	81.6	168.6	81.6	12.4	33.8	29.1	116.9	111.5	26.4	
	K-12 School		17.2	60.5	125.0	60.5	9.2	25.1	21.6	86.7	82.7	19.6	
	Pre-school/Daycare		19.0	67.0	138.3	67.0	10.2	27.8	23.9	96.0	91.5	21.7	
	Vocational School		27.1	95.2	196.7	95.2	14.4	39.5	34.0	136.4	130.1	30.9	
	Other - Education		21.1	74.1	153.1	74.1	11.2	30.7	26.5	106.2	101.3	24.0	
Entertainment / Public Assembly	Convention Centre		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6	
	Movie Theatre		21.5	75.6	156.3	75.6	11.5	31.4	27.0	108.4	103.4	24.5	
	Museum		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6	
	Performing Arts		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6	
	Recreation	Ice/Curling Rink		26.4	92.9	192.0	92.9	14.1	38.5	33.2	133.2	127.0	30.1
		Bowling Alley		34.7	122.2	252.4	122.2	18.5	50.7	43.7	175.1	167.0	39.6
		Fitness Centre/Health Club/Gym		34.7	122.2	252.4	122.2	18.5	50.7	43.7	175.1	167.0	39.6
		Roller Rink		34.7	122.2	252.4	122.2	18.5	50.7	43.7	175.1	167.0	39.6
		Swimming Pool		34.7	122.2	252.4	122.2	18.5	50.7	43.7	175.1	167.0	39.6
		Other - Recreation		25.5	89.7	185.4	89.7	13.6	37.2	32.1	128.6	122.7	29.1
	Social/Meeting Hall		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6	
	Stadium	Indoor Arena		38.0	133.8	276.5	133.8	20.3	55.5	47.8	191.8	182.9	43.4
Race Track		25.5	89.7	185.4	89.7	13.6	37.2	32.1	128.6	122.7	29.1		

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)									
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC
Entertainment / Public Assembly	Stadium	Stadium (Closed)	25.5	89.7	185.4	89.7	13.6	37.2	32.1	128.6	122.7	29.1
		Stadium (Open)	25.5	89.7	185.4	89.7	13.6	37.2	32.1	128.6	122.7	29.1
		Other - Stadium	25.5	89.7	185.4	89.7	13.6	37.2	32.1	128.6	122.7	29.1
	Other	Aquarium	40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6
		Bar/Nightclub	21.5	75.6	156.3	75.6	11.5	31.4	27.0	108.4	103.4	24.5
		Casino	21.5	75.6	156.3	75.6	11.5	31.4	27.0	108.4	103.4	24.5
		Zoo	40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6
Other - Entertainment/Public Assembly	40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6		
Food Sales & Service	Convenience Store	Convenience Store with Gas Station	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
		Convenience Store without Gas Station	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
	Restaurant /Bar	Bar/Nightclub	21.5	75.6	156.3	75.6	11.5	31.4	27.0	108.4	103.4	24.5
		Fast Food Restaurant	73.0	256.9	530.8	256.9	38.9	106.6	91.8	368.2	351.1	83.3
		Restaurant	73.0	256.9	530.8	256.9	38.9	106.6	91.8	368.2	351.1	83.3
		Other - Restaurant/Bar	73.0	256.9	530.8	256.9	38.9	106.6	91.8	368.2	351.1	83.3
	Supermarket/Grocery Store	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1	
	Wholesale Club/Supercentre	25.9	91.3	188.5	91.3	13.8	37.9	32.6	130.8	124.7	29.6	
	Other	Food Sales	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
		Food Service	73.0	256.9	530.8	256.9	38.9	106.6	91.8	368.2	351.1	83.3
Health Care	Ambulatory Surgical Centre		23.4	82.4	170.2	82.4	12.5	34.2	29.4	118.1	112.6	26.7
	Hospital	Hospital (General Medical & Surgical)	51.1	179.9	371.7	179.9	27.3	74.6	64.3	257.8	245.9	58.3

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)									
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC
Health Care		Other/Specialty Hospital	51.1	179.9	371.7	179.9	27.3	74.6	64.3	257.8	245.9	58.3
		Medical Office	22.6	79.7	164.6	79.7	12.1	33.0	28.5	114.1	108.9	25.8
		Outpatient Rehabilitation/Physical Therapy	23.4	82.4	170.2	82.4	12.5	34.2	29.4	118.1	112.6	26.7
		Residential Care Facility	23.9	84.2	174.0	84.2	12.8	34.9	30.1	120.7	115.1	27.3
		Senior Living Community	23.9	84.2	174.0	84.2	12.8	34.9	30.1	120.7	115.1	27.3
		Urgent Care/Clinic/Other Outpatient	23.4	82.4	170.2	82.4	12.5	34.2	29.4	118.1	112.6	26.7
Lodging / Residential		Barracks	33.3	117.3	242.3	117.3	17.8	48.6	41.9	168.1	160.3	38.0
		Hotel	20.2	71.1	146.8	71.1	10.8	29.5	25.4	101.8	97.1	23.0
		Multifamily Housing	19.0	66.7	137.8	66.7	10.1	27.7	23.8	95.6	91.1	21.6
		Prison/Incarceration	29.4	103.5	213.8	103.5	15.7	42.9	37.0	148.3	141.5	33.5
		Residence Hall/Dormitory	33.3	117.3	242.3	117.3	17.8	48.6	41.9	168.1	160.3	38.0
		Residential Care Facility	23.9	84.2	174.0	84.2	12.8	34.9	30.1	120.7	115.1	27.3
		Senior Living Community	23.9	84.2	174.0	84.2	12.8	34.9	30.1	120.7	115.1	27.3
		Other - Lodging/Residential	20.2	71.1	146.8	71.1	10.8	29.5	25.4	101.8	97.1	23.0
Mixed Use		Mixed Use Property	22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
Office		Medical Office	22.6	79.7	164.6	79.7	12.1	33.0	28.5	114.1	108.9	25.8
		Office	22.7	79.9	165.1	79.9	12.1	33.2	28.6	114.5	109.2	25.9

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)									
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC
	Veterinary Office		23.4	82.4	170.2	82.4	12.5	34.2	29.4	118.1	112.6	26.7
Parking	Parking		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Public Services	Courthouse		29.4	103.5	213.8	103.5	15.7	42.9	37.0	148.3	141.5	33.5
	Drinking Water Treatment & Distribution		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Fire Station		28.4	100.0	206.6	100.0	15.2	41.5	35.7	143.3	136.6	32.4
	Library		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6
	Mailing Centre/Post Office		27.6	97.1	200.6	97.1	14.7	40.3	34.7	139.1	132.7	31.5
	Police Station		29.4	103.5	213.8	103.5	15.7	42.9	37.0	148.3	141.5	33.5
	Prison/Incarceration		29.4	103.5	213.8	103.5	15.7	42.9	37.0	148.3	141.5	33.5
	Social/Meeting Hall		40.0	140.8	290.9	140.8	21.3	58.4	50.3	201.8	192.4	45.6
	Transportation Terminal/Station		24.4	85.8	177.2	85.8	13.0	35.6	30.6	122.9	117.2	27.8
	Wastewater Treatment Plant		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Other - Public Services		22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
Religious Worship	Worship Facility		16.0	56.2	116.1	56.2	8.5	23.3	20.1	80.5	76.8	18.2
Retail	Automobile Dealership		25.9	91.3	188.5	91.3	13.8	37.9	32.6	130.8	124.7	29.6
	Convenience Store	Convenience Store with Gas Station	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
		Convenience Store without Gas Station	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
	Mall	Enclosed Mall	103.8	365.3	754.8	365.3	55.4	151.5	130.5	523.5	499.3	118.4
		Lifestyle Centre	17.1	60.0	124.0	60.0	9.1	24.9	21.5	86.0	82.1	19.5
		Strip Mall	17.1	60.0	124.0	60.0	9.1	24.9	21.5	86.0	82.1	19.5

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)									
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC
		Other - Mall	103.8	365.3	754.8	365.3	55.4	151.5	130.5	523.5	499.3	118.4
		Retail Store	25.9	91.3	188.5	91.3	13.8	37.9	32.6	130.8	124.7	29.6
		Supermarket/Grocery Store	43.9	154.6	319.3	154.6	23.4	64.1	55.2	221.5	211.2	50.1
		Wholesale Club/Supercentre	25.9	91.3	188.5	91.3	13.8	37.9	32.6	130.8	124.7	29.6
Technology / Science		Data Centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Laboratory	22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
		Other - Technology/Science	22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
Services		Data Centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Personal Services (Health/Beauty, Dry Cleaning, etc.)	23.0	80.8	167.0	80.8	12.3	33.5	28.9	115.8	110.5	26.2
		Repair Services (Vehicle, Shoe, Locksmith, etc.)	21.1	74.2	153.2	74.2	11.2	30.8	26.5	106.3	101.4	24.0
		Other - Services	31.5	111.0	229.3	111.0	16.8	46.0	39.6	159.0	151.7	36.0
Utility		Drinking Water Treatment & Distribution	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Energy/Power Station	22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
		Wastewater Treatment Plant	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		Other - Utility	22.6	79.3	163.9	79.3	12.0	32.9	28.3	113.7	108.4	25.7
Warehouse / Storage		Self-Storage Facility	14.4	50.8	104.9	50.8	7.7	21.1	18.1	72.8	69.4	16.5
	Warehouse/Distribution Centre	Distribution Centre	14.4	50.8	104.9	50.8	7.7	21.1	18.1	72.8	69.4	16.5
		Non-Refrigerated Warehouse	14.4	50.8	104.9	50.8	7.7	21.1	18.1	72.8	69.4	16.5

Broad Category	Primary Function	Further Breakdown (where needed)	Regional Median GHG Intensity (kgCO ₂ e/m ²)									
			NL	PEI	NS	NB	QC	ON	MB	SK	AB	BC
		Refrigerated Warehouse	30.6	107.6	222.4	107.6	16.3	44.6	38.5	154.2	147.1	34.9
Other	Other	Uncategorized buildings	22.6	79.7	164.6	79.7	12.1	33.0	28.5	114.1	108.9	25.8

Aussi disponible en français sous le titre : Intensité médiane des émissions régionales totales de gaz à effet de serre : référence technique

Cat. No. M144-285/7-2022E-PDF (Online)
 ISBN 978-0-660-44894-7

