



UBC Vancouver Campus – 2023 Greenhouse Gas (GHG) Emissions Inventory

Scope	Component	Usage Data	GHG Emissions (tCO ₂ e)
Scope 1 – Direct	Core Buildings [a]		
	Natural gas for district energy	340,375 GJ	17,094
	Natural gas direct use	149,086 GJ	7,487
	Light fuel oil (heating oil) for district energy	1,490 GJ	102
	Biomass for district energy [b]	69,460 GJ	165
	Renewable natural gas (RNG) [c]	71,070 GJ	19
	Ancillary buildings [d]		
	Natural gas for district energy	118,499 GJ	5,951
	Natural gas direct use	77,073 GJ	3,871
	Light fuel oil (heating oil) for district energy	421 GJ	29
	Biomass for district energy [b]	21,791 GJ	52
	Tenant buildings [e]		
	Natural gas for district energy	2,140 GJ	107
	Natural gas direct use	531 GJ	27
	Light fuel oil (heating oil) for district energy	29 GJ	2
	TRIUMF – Natural gas direct use (UBC share) [f]	736 GJ	37
	Fleet		
	Gasoline (Standard)	118,825 L	265
	Gasoline (E10)	159,423 L	333
	Diesel (Standard)	11,277 L	30
	Diesel (B5)	65,111 L	169
	Natural gas	2,217 GJ	125
	Propane	111 L	0
Fugitive [g]			
HFC R-134a	305 kg	397	
HCF R-404a	90 kg	656	
HFC R-407c	23 kg	37	
HFC R-410a	47 kg	90	
Scope 2 – Indirect	Core Buildings – Electricity	136,615,047 kWh	1,544
	Ancillary Buildings – Electricity	69,277,506 kWh	783
	Tenant Buildings - Electricity	1,059,563 kWh	12
	TRIUMF – Electricity (UBC share) [f]	2,654,020 kWh	30
Scope 3 – In Scope	Paper	29,805 Packages	179
Total Campus emissions offset under CCAA (Scope 1, 2, and Paper) [h]			39,593
Scope 3 – Not required to be offset	Business flights (Staff and faculty) [i]		27,772
	Solid waste [j]		818
	Commuting [j]		40,543
	Building lifecycle [j]		13,591

[a] Core buildings comprise of academic and administrative buildings.

[b] UBC is required to offset the non-biogenic (CH₄ and N₂O) portions of biomass combustion. In addition, the Bioenergy Research and Demonstration Facility (BRDF) consumes a small amount of natural gas upon start-up/shutdown.

[c] UBC is required to offset the non-biogenic (CH₄ and N₂O) portions of renewable natural gas.

[d] Ancillary buildings include student housing, conference, athletic and parking facilities.

[e] Tenants in UBC-Owned Buildings.

[f] TRIUMF Inc. is a federal not for profit corporation. It has historically been included in the UBC Vancouver campus inventory since it is located on campus. UBC accounts for 1/21st of the TRIUMF emissions.

[g] Fugitive emissions have been deemed in scope as they were estimated to comprise more than 1% of campus emissions.

[h] Values may not sum precisely due to rounding. This table shows only the Vancouver campus emissions that need to be offset for 2023. An additional 6,697 tCO₂e associated with UBC Properties Trust and off-campus properties also need to be offset for 2023.

[i] An updated methodology has been implemented since 2023 reporting year to better track business air travel GHG emissions. Radiative forcing factors (RFFs) are applied in the estimation.

[j] These emissions have been estimated from published conversion factors. Improvements to methodologies may allow for other Scope 3 components to be included in future inventories.