



UBC Vancouver Campus – 2022 Greenhouse Gas (GHG) Emissions Inventory

Scope	Component	Usage Data	GHG Emissions (tCO _{2e})
Scope 1 – Direct	Core Buildings [a]		
	Natural gas for district energy	294,616 GJ	14,686
	Natural gas direct use	162,671 GJ	8,109
	Light fuel oil (heating oil) for district energy	9,552 GJ	657
	Biomass for district energy [b]	144,528 GJ	343
	Renewable natural gas (RNG) [c]	76,585 GJ	20
	Ancillary buildings [d]		
	Natural gas for district energy	104,622 GJ	5,215
	Natural gas direct use	72,725 GJ	3,625
	Light fuel oil (heating oil) for district energy	2,184 GJ	150
	Biomass for district energy [c]	45,517 GJ	108
	Tenant buildings [e]		
	Natural gas for district energy	2,109 GJ	105
	Natural gas direct use	716 GJ	36
	Light fuel oil (heating oil) for district energy	141 GJ	10
	TRIUMF – Natural gas direct use (UBC share) [f]	564 GJ	28
	Fleet		
	Gasoline (Standard)	116,343 L	258
	Gasoline (E10)	126,948 L	265
	Diesel (Standard)	8,428 L	22
	Diesel (B5)	50,542 L	132
	Natural gas	2,091 GJ	118
	Propane	114 L	0
	Fugitive [g]		
	HFC R-134a	25 kg	33
	HCF R-404a	14 kg	100
HFC R-410a	65 kg	125	
HFC R-507	1 kg	8	
Scope 2 – Indirect	Core Buildings – Electricity	140,513,041 kWh	1,616
	Ancillary Buildings – Electricity	68,923,069 kWh	793
	Tenant Buildings - Electricity	1,082,901 kWh	12
	TRIUMF – Electricity (UBC share) [f]	2,758,228 kWh	32
Scope 3 – In Scope	Paper	23,964 Packages	142
Total Campus emissions offset under CCAA (Scope 1, 2, and Paper) [h]			36,746
Scope 3 – Not required to be offset	Business flights (Staff and faculty)		8,191
	Solid waste [i]		693
	Commuting [i]		43,805
	Building lifecycle [i]		13,482

[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 2022. An additional 6,941 tCO_{2e} associated with UBC Properties Trust and off-campus properties are also need to be offset for 2022.

[i] 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.