



UBC Vancouver Campus – 2021 Greenhouse Gas Emissions Inventory

Scope	Component	Usage Data	GHG Emissions (tCO ₂ e)
Scope 1 – Direct	Core Buildings [a]		
	Natural gas for district energy	489,277 GJ	24,402
	Natural gas direct use	155,198 GJ	7,740
	Light fuel oil (heating oil) for district energy	8,633 GJ	594
	Biomass for district energy [b]	7,500 GJ	19
	Renewable natural gas (RNG) [c]	77,250 GJ	23
	Ancillary Buildings [d]		
	Natural gas for district energy	123,673 GJ	6,168
	Natural gas direct use	66,315 GJ	3,307
	Light fuel oil (heating oil) for district energy	2,014 GJ	139
	Biomass for district energy [c]	2,036 GJ	5
	Tenant Buildings [e]		
	Natural gas for district energy	2,560 GJ	128
	Natural gas direct use	758 GJ	38
	Light fuel oil (heating oil) for district energy	177 GJ	12
	TRIUMF - Natural gas direct use (UBC share) [f]	620 GJ	31
	Fleet		
	Gasoline (Standard)	74,145 L	173
	Gasoline (E10)	162,659 L	367
	Diesel (Standard)	11,822 L	31
	Diesel (B5)	52,830 L	138
	Natural gas	1,819 GJ	102
	Propane	118 L	0
Fugitive [g]			
HFC R-134a	386 kg	552	
HCF R-404a	1 kg	4	
HFC R-410a	9 kg	18	
HFC R-507	- kg	-	
Scope 2 – Indirect	Core Buildings – Electricity	127,558,185 kWh	1,237
	Ancillary Buildings – Electricity	59,769,048 kWh	580
	Tenant Buildings - Electricity	957,872 kWh	9
	TRIUMF - Electricity (UBC share) [f]	4,161,808 kWh	40
Scope 3 – In Scope	Paper	17,514 packages	101
Total Campus emissions offset under Climate Change Accountability Act (Scope 1, 2, and Paper) [h]			45,958
Scope 3 – Not required to be offset	Business flights (staff and faculty)		1,845
	Solid waste [i]		658
	Commuting [i]		45,938
	Building lifecycle [i]		13,295

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

[b] UBC is required to offset the non-biogenic (CH_4 and N_2O) 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 (CH_4 and N_2O) portions of renewable natural gas.

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

[e] Tenants in UBC-owned Buildings.

[f] UBC owns a 1/14th share of TRIUMF. This inventory includes 1/14th of the facility's energy usage and emissions.

[g] Fugitive emissions have been considered 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 2021. An additional 6,563 tCO_2e associated with UBC Properties Trust and off-campus properties are also need to be offset for 2021.

[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.