



UBC Vancouver Campus – 2020 Greenhouse Gas Emissions Inventory

Scope	Component [a]	Usage Data	GHG Emissions (tCO ₂ e)
Scope 1 – Direct	Core Buildings [b]		
	Natural gas for district energy	458,903 GJ	22,887
	Natural gas direct use	155,469 GJ	7,754
	Light fuel oil (heating oil) for district energy	- GJ	0
	Biomass for district energy [c]	51,691 GJ	116
	Renewable natural gas (RNG) [d]	37,170 GJ	11
	Ancillary Buildings [e]		
	Natural gas for district energy	108,747 GJ	5,424
	Natural gas direct use	70,233 GJ	3,503
	Light fuel oil (heating oil) for district energy	- GJ	0
	Biomass for district energy [c]	15,928 GJ	36
	Tenant Buildings [f]		
	Natural gas for district energy	2,513 GJ	125
	Natural gas direct use	1,249 GJ	62
	TRIUMF – Natural gas direct use (UBC share) [g]	820 GJ	41
	Fleet		
	Gasoline (Standard)	105,488 L	247
	Gasoline (E10)	69,614 L	157
	Diesel (Standard)	8,860 L	25
	Diesel (B5)	13,748 L	38
	Natural gas	1,570 GJ	88
	Propane	102 L	0
	Fugitive [a]		
HFC R-134a	97 kg	138	
HCF R-404a	1 kg	5	
HFC R-410a	327 kg	683	
HFC R-507	44 kg	176	
Scope 2 – Indirect	Core Buildings – Electricity	121,313,331 kWh	1,310
	Ancillary Buildings – Electricity	58,323,018 kWh	630
	Tenant Buildings – Electricity	19,705 kWh	10
	TRIUMF – Electricity (UBC share) [g]	4,017,361 kWh	43
Scope 3 – In Scope	Paper	20,808 packages	119
Total Campus emissions offset under Climate Change Accountability Act (Scope 1, 2, and Paper) [h]			43,628
Scope 3 – Not required to be offset	Business flights (staff and faculty)		6,877
	Solid waste [i]		580
	Commuting [i]		19,213
	Building lifecycle [i]		13,241

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

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

[c] 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.

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

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

[f] Tenants in UBC-owned Buildings.

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

[h] Values may not sum precisely due to rounding. This table shows only the Vancouver campus emissions that need to be offset for 2020. An additional 6,360 tCO₂e associated with UBC Properties Trust and off-campus properties are also need to be offset for 2020.

[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.