

INDICATOR LIST

Transportation

Indicators	Measure	Source/Frequency	Rationale	Apply to	Benchmark examples
On-road transportation emissions and energy consumption	-tonnes CO ₂ - per capita GJ per capita	CEEI reports. Annual.	Indicates the amount of energy consumed and GHGs emitted per capita and the extent to which people are utilizing motor vehicles in their community.	All	Metro Vancouver: 2.3 tonnes/capita Prince George: 4.3 tonnes/capita
Residential Density	-Persons/km ² -Dwellings/Ha in residential areas	StatsCan Census Data, Population and Dwelling Counts for Urban Areas. Every 5 years. Dwellings/Ha residential would need to be collected from municipalities.	Residential density is a reasonable indicator of compactness, reduced sprawl, and transit viability.	Urban Areas	BC urban area avg: 1030 per/km ² City of Vancouver: 5039 per/km ² Vancouver West End: 19,500 per/km ² 25 dwellings/Ha starting point for MF development (Saltspring report)
Housing Diversity	% of dwellings that are SF	StatsCan or BC Stats Community Profiles. Every 5 years.	SF housing is indicative of sprawl. A high % of SF housing indicates a lack of housing choice. SF dwellings utilize far more energy per hectare and per person than multi-family dwellings.	All	BC average: 49.0% Metro Vancouver: 35.3% City of N Vancouver: 15.9%
Median Community Distance	Km	StatsCan Census Data, Place of Work. Every 5 years.	Commuting distance is indicative of the success of communities in having people live and work in the same community. Shorter commutes increase the likelihood of people walking, cycling, or using transit.	Census Metropolitan Areas	BC CMA average: 6.5 km Metro Vancouver: 7.4 km Terrace: 2.6 km
Proximity to Transit	- % population within 400m of transit - % workplaces within 400 m of transit	StatsCan Custom data order. Requires GIS information about transit routes. Every 5 years.	Proximity to transit is a major factor in transit use, and also indicates compactness of communities.	All	

Proximity to Service/Neighbourhood/Town Centre	-% population within 400 m of a service/neighbourhood/town centre	StatsCan Custom data order. Every 5 years	Mixed use neighbourhoods are a major factor in determining use of low emission travel modes.	All	
Average distance travelled by passenger vehicles (annually), per capita	km/capita	Could be generated from CEEI data. Currently based on statistical analysis of vehicle transfer forms. Annual.	Indicates reduced reliance on passenger vehicles and/or shorter distances travelled due to more compact, complete communities.	All, but currently only broken down by large ICBC regions.	Metro Vancouver: 8422 km/person
Number of passenger vehicles per capita	registered passenger vehicles per capita	CEEI transportation data, from ICBC. Annual.	Usually related to reduced vehicle usage (although not necessarily), data quality is currently much better than VKT data.	All	Metro Vancouver: 0.553 veh/capita
Transit ridership	transit trips per capita (service areas only)	- BC Transit Municipal Systems Performance Summary. Annual. - Translink/Metro Vancouver - CUTA statistics. Annual	Indicates success of getting people to use transit where it is available. A standard transit operating statistic, it is readily available.	Communities serviced by transit systems. Data only available by transit system in most cases.	Canadian average: 77.3 BC average: 62.0 Capital Region: 67.5 CUTA Pop Group 3 avg: 25.3
Transportation mode for commuting	% of commuting trips by walking, cycling, or transit	StatsCan Community Profiles. Every 5 years	Indicates success of alternative transportation for commuting purposes, and also rough gauge of compact/complete communities.	All	BC average: 19.2% Metro Vancouver: 24.5% Victoria: 45.5%
- Agricultural land used for crops - Livestock raised on agricultural land	% of ALR land in crops	- Stats Can Agricultural Census, Land In Crops. Every 5 years. - ALR statistics. Annual.	Indicates how well existing agricultural land is being effectively utilized, and not being transformed into low density urban sprawl.	Only available by RD and some municipalities and/or groups of census sub-	BC average: 12.3% Metro Vancouver: 39.5% Fraser Valley: 46.5%

				divisions.	
Area of urban agricultural land including community gardens	Hectares per capita	Would need to be collected by municipalities/RDs. Annual.	Urban agriculture including community gardens support local food production, which lessens the amount of 'food miles'. Food miles take into account the amount of energy consumed and GHGs emitted to transport food to market.	All	Vancouver: 0.008 plots per apt dwelling

Buildings

Indicators	Measure	Source/Frequency	Rationale	Apply to	Benchmark examples
Building emissions and energy consumption	CO2 and GJ/home CO2 and GJ commercial	CEEI reports. Annual.	This indicator shows the amount of energy consumed and emitted per building.	All	Metro Vancouver: 92 GJ/dwelling Kelowna: 97 GJ/dwelling
Renewable Energy Use -delivered through District Energy systems -solar water heating systems installed	-% of residential/commercial energy delivered through District Energy systems -% of dwellings with solar water heating systems	-Would need to be collected from individual District Energy systems, and compared with CEEI data. -Would need to be collected by municipalities through permit process, or through suppliers of solar systems. Annual.	-District energy systems provide flexibility for wide-scale use of renewables, now or in the future. -Solar water heating is the most cost effective and widely used form of renewable energy at homeowner level.	All	Denmark: 60% of space and water heating Iceland: 95% of residential heating Revelstoke: 7.5% of community propane consumption SolarBC target of 100,000 homes = 6.1%
% of new buildings and homes that are "green"	- % new homes that are BuiltGreen - % new buildings that are LEED	- CAGBC or CHBA. Annual. - Total new construction statistics collected by municipalities through permit process. Annual.	Indicates whether new buildings are exceeding code. Certification systems are the only method of determining that buildings exceed code (although not by how much). LEED and BuiltGreen are the best known certification systems.	All	None available.
% of buildings	- % of homes	- BC Hydro. Annual.	Indicates efforts to improve the	All, but accuracy	Approximately 2000 EG B-audits

and homes undergoing energy retrofits	with Energuide B-audits - % building stock that undertake PowerSmart/PowerSense retrofits	- Fortis BC. Annual. - EnerGuide database. Annual.	efficiency of existing building stock. PowerSmart/PowerSense and EnerGuide programs should capture the majority of retrofit activity.	of community names may limit to RDs.	a year BC wide = 0.1%
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Infrastructure

Indicators	Measure	Source/Frequency	Rationale	Apply to	Benchmark examples
Solid waste emissions	tonnes CO2	CEEI reports. Annual.	Indicates the amount of CO2 emitted per person based on the total amount of solid waste generated by a community.	All	MetroVancouver: 0.25 tonnes CO2/capita Nanaimo RD: 0.75 tonnes CO2/capita
Energy required for water supply	- kWh per capita for residential water supply	Would need to be collected by municipalities/RDs. Annual.	Indicates the energy efficiency of the system and the success in reducing water consumption.	Those LGs that provide water supply.	66.5 kWh per person annually
Energy and GHG emissions from water and wastewater	- GJ per capita for wastewater treatment - tonnes CO2 per capita for wastewater treatment -potable water per capita	Would need to be collected and reported by municipalities/RDs. Annual.	Indicates the energy efficiency of the system and the success in reducing wastewater volumes and methane emissions.	Those LGs that provide wastewater treatment.	None available.
Solid waste disposed per capita	tonnes of waste per capita	CEEI reports. Annual.	Related to GHG emissions from landfills (although depends on organics component). Relatively easy to obtain.	Data generally available by landfill must be pro-rated to municipal level.	BC: 0.77 tonnes/person Metro Vancouver: 0.63 tonnes/person RD Nanaimo: 0.51 tonnes/person
Organics in	% of organics	Not currently collected.	In combination with mass disposal	Data generally	Metro Vancouver: 43% organics

landfill	in waste or % of organics diverted		figures, indicates the GHGs produced from landfills.	available by landfill must be pro-rated to municipal level.	RD Nanaimo: 35% organics Nova Scotia: 46% of organics diverted
Landfill gas capture	% of landfill gas captured	Annual reporting required under Landfill Gas Management Regulation	Indicates the success of efforts to reduce emissions directly from the landfill.	By landfill. Only applies to larger landfills covered by the legislation.	9% - 36% range of collection efficiencies at existing BC LFG collection system

Natural Resource Protection

Indicators	Measure	Source/Frequency	Rationale	Apply to	Benchmark examples
Deforestation emissions	tonnes CO2 per capita	CEEI reports. Annual.	Carbon Dioxide is released when trees are destroyed, which contributes to climate change. Indicates the amount of GHGs per person produced due to deforestation.	RDs only. At this time.	Metro Vancouver: 0.19 tonnes CO2 / Ha
Area of deforestation per capita	Hectares per capita	CEEI reports. Every 5 years.	Carbon Dioxide is released when trees are destroyed, which contributes to climate change. Indicates the amount of GHGs per hectare produced due to deforestation.	RDs only. At this time.	Metro Vancouver: 0.00023 Ha/person
Urban trees Parks and greenspace	Urban trees planted per capita % of area that is park and protected greenspace	Would need to be collected and reported by municipalities/RDs. Annual.	Indicates efforts made to protect existing green space and increase the number of urban trees, which reduce GHGs. Relatively fair comparison for all municipalities.	All	Vancouver: 3500 street trees planted per year, 11% park space CNV: 0.11 trees per capita proposed Kamloops: 1.2% park space