# Regional District of Central Kootenay GHG Community Inventory Report 2023

GHG ACCOUNTING SERVICES | JUNE, 2025

# Executive Summary

The Regional District of Central Kootenay (RDCK) covers over 22,130.72 square kilometers and consists of the municipalities: City of Castlegar, Town of Creston, Village of Salmo, Village of Nakusp, Village of Kaslo, Village of New Denver, Village of Silverton, Village of Ymir and Village of Slocan[1], and unincorporated electoral areas under the direct administrative control of the Regional District.

The Regional District of Central Kootenay (RDCK) is committed to fulfilling its obligations and responsibilities under the Climate Action Charta[2]. As part of a regional effort a 100% Renewable Energy Plan[3] was developed in 2020 with the primary goal of outlining a pathway for local communities to transition to 100% renewable energy in transportation, buildings, electricity, and local infrastructure by 2050. This plan constituted the most recent community greenhouse gas (GHG) emission inventory for the RDCK, estimating a total of 192,000 tonnes of $CO_2$ equivalent. The emissions estimate was based on data from the Community Energy and Emissions Inventory (CEEI) data set provided by the British Columbia Government. The data provided covers selected areas within a community inventory at the jurisdictional level for the years 2007, 2010, 2012, and 2021 under the CEEI program. For practical and data availability reasons the CEEI program incorporates a limited quantification boundary. Therefore, this reporting boundary does not include all relevant areas of influence within the Regional District. A number of jurisdictions in British Columbia have made scope adjustments in their most recent community-wide inventories to compensate this; however, these adjustments have typically been made without reference to specific guidance.

To further the robustness of the RDCKs sustainability program and to gain a more comprehensive understanding of all community-wide emission sources, based on best practices, the ISO 14064-1:2018 standard was used to guide the RDCK's 2023 community GHG inventory. This approach differs from that used in the CEEI based 100% Renewable Energy Plan by applying a broader boundary that includes both direct and indirect GHG emission categories, and by adopting a control-based approach to define emissions reporting boundaries.

The calendar year 2023 was selected as the temporal boundary. Based on ISO 14064-1:2018, all activities emitting anthropogenic GHG emissions within some level of control of the RDCK were included in the assessment into six categories:

- Category 1: Direct GHG emissions and removals

[1] Regional District of Central Kootenay, (2025). Official website. Available online at: Home | Regional District of Central Kootenay

[2] https://www2.gov.bc.ca/gov/content/governments/local-governments/climate-action/bc-climate-action-charter

[3] https://westkootenayrenewableenergy.ca/

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- Category 2: Indirect GHG emissions from imported energy
- Category 3: Indirect GHG emissions from transportation
- Category 4: Indirect GHG emissions from products used by the Local Government
- Category 5: Indirect GHG emissions associated with the use of products and jurisdictional oversight from the Local Government.
- Category 6: Indirect GHG emissions from other sources

The total community GHG emissions including all local governments for 2023 are **667,779 $tCO2_e$.** This represents the coordination horizon of the RDCK—meaning that, ideally, GHG reduction pathways are coordinated between local governments and the Regional District to effectively address these emissions. Without the local governments included the total GHG emissions are **222,280 $tCO2_e$**. This represents the total GHG emissions associated with an indirect and direct influence and control of the RDCK.

The community GHG emissions with and without the local governments are dominated by emissions out of the transportation sectors. Especially looking at the emissions profile without the local governments, in 2023, mobile combustion from passenger and commercial vehicles was responsible for the majority of emissions, accounting for 81% of the GHG community inventory. This is followed by energy consumption and purchased energy from residential buildings (10%) and the third biggest source is fugitive emissions from the waste sector (5%). All other areas contribute less then 5 %. These emissions sources are allocated to category 4 and 5- Indirect GHG emissions to represent the indirect control the RDCK has over those emissions. This control takes many forms among them land use planning, building permits, transportation planning, infrastructure investments.

A comparison was conducted with the most recent RDCK Community Inventory using data from the 2021 CEEI inventories and the base year one from 2018. The comparative analysis focuses on the limited set of sectors where data is provided by the B.C. Government — residential, commercial, and institutional buildings, transportation, and waste—due to scope differences between the inventories. The 2023 inventory includes additional emission sources not covered in previous years, such as energy consumption and purchased energy in corporate operations, emissions from water and wastewater systems, landfills, transfer stations, corporate fleet vehicles, and contracted services.

Total emissions excluding Local Governments decreased by 6% from 2018 to 2021, and increased by 9% from 2021 to 2023. These trends offer useful insight into changes in key community sectors, while also highlighting the expanded scope and improved data quality of the 2023 inventory.

More specifically, emissions from residential buildings show a substantial decrease of 37% from 2021 to 2023, while before, from 2018 to 2021emissions increased by 5%. This also aligns with commercial and institutional buildings showing a 33% decrease from 2021 to 2023, while between 2018 and 2021 emissions increased 18%.

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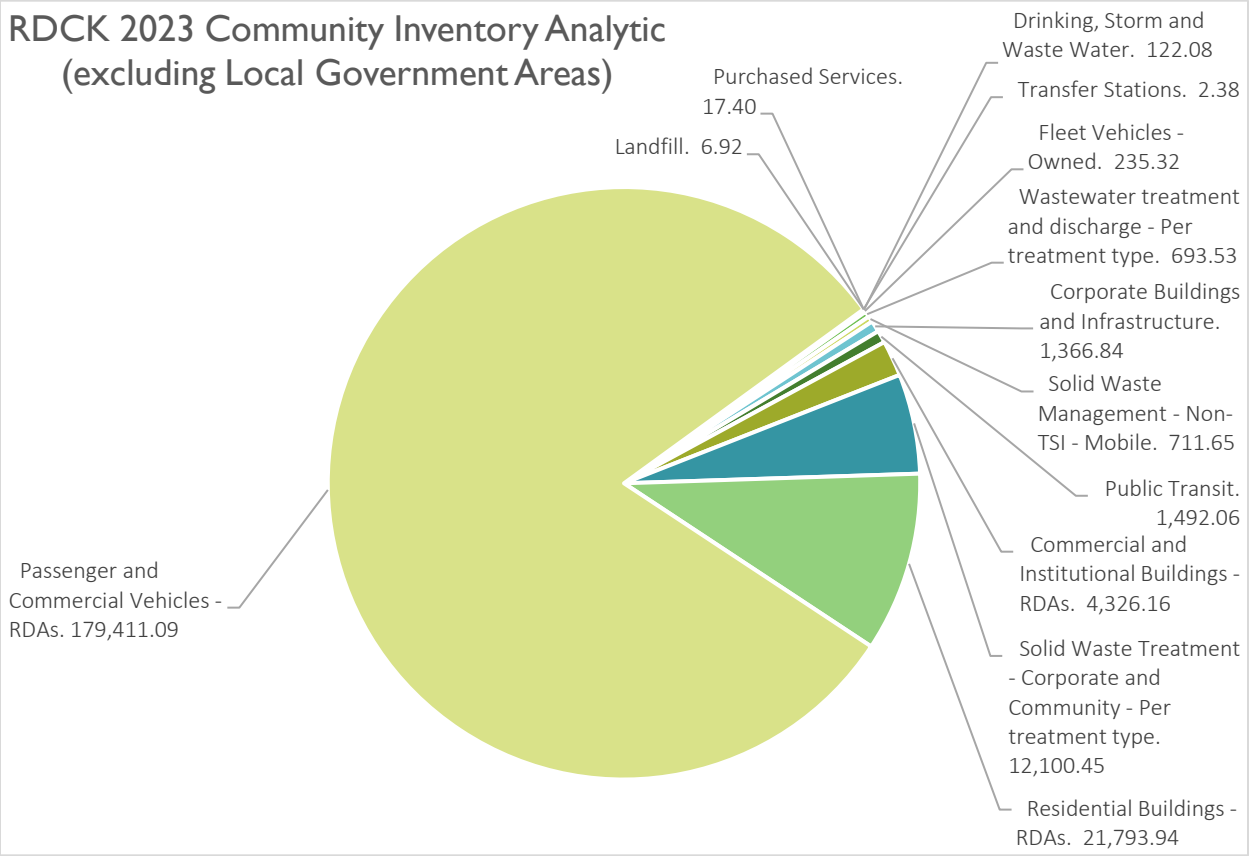
In contrast, the transportation sector experienced the most significant recent increases, with emissions rising by 38% between 2021 and 2023. In the past, emissions showed a 5% reduction from 2018 to 2021.

Even thought, as previously mentioned, currently the waste sector is the third source of emission, these have been significantly reducing over the recent years. From 2018 to 2021 the reduction was of 25% and from 2021 to 2023 it was of 58%.




Even though some progress has been made in the building and waste sectors, current trends and efforts—particularly in relation to the largest emissions category, transportation—do not appear sufficient for the RDCK to achieve its reduction targets. More comprehensive and effective pathway efforts are required, especially in the transportation and building sectors. The final section of this report provides insights and suggestions for such pathway strategies.

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# Table of Contents



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# Tables



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# 1 Community Profile

## 1.1 Inventory Objectives

The purpose of the inventory report is to identify emission sources, quantify and document RDCK's GHG community emissions for the calendar year of 2023.

This activity is guided by the ISO 14064-1:2018 standard and best practices for GHG accounting to provide the most comprehensive and transparent assessment of GHG emissions.

# 2 GHG Community Inventory and Design

As part of the Climate Action Charter, local governments have an obligation to measure and reduce both corporate and community emissions.

The corporate operations of RDCK are based on a traditional services model which are related to the following sectors: administration, community recreation facilities, fire services, lightning, parks, drinking, storm and wastewater, contracted solid waste collection, and owned fleet vehicles.

Community emissions include greenhouse gas (GHG) emissions from the residential, commercial, and institutional sectors located within the jurisdictional boundaries of the local government and where the local government exercises a degree of control. This control is reflected through mechanisms such as policy development, land use designations, building permits, infrastructure investments, public-private partnerships, transportation services etc..

Given this level of control—and the associated responsibility—emissions from solid waste treatment, compost storage and landfilling, wastewater treatment and discharge, transfer stations, residential, commercial, and institutional buildings, passenger and commercial vehicles, and public transportation have been included. Corporate and community emissions have also a strong direct correlation since corporate reduction initiatives affect community infrastructure and services, therefore resulting in the reduction of community emissions as well. An example would be the recreation facility used by community members.

A community GHG inventory quantifies all GHG emissions that are directly or indirectly produced by the different activities within RDCK boundary.

In 2020, a 100% Renewable Energy Plan was developed to provide a roadmap for local communities to transition to fully renewable energy in transportation, buildings, electricity, and local infrastructure by 2050. The plan also included a report on community greenhouse gas (GHG) emissions within the RDCK. This plan constituted the most recent community greenhouse gas (GHG) emission inventory for the RDCK, estimating a total of 192,000 tonnes of $CO_2$ equivalent. The emissions estimate was based on data from the Community Energy

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and Emissions Inventory (CEEI) data set provided by the British Columbia Government. For practical and data availability reasons the CEEI program incorporates a limited quantification boundary. Therefore, this approach does not include all relevant areas of influence within the Regional District. A number of jurisdictions in British Columbia have made scope adjustments in their most recent community-wide inventories to compensate this; however, these adjustments have typically been made without reference to specific guidance.

In order to ensure that all GHG inventories are conducted in a standardized, scientific, and reliable manner, the latest applicable International Standard of Organisation (ISO) protocol is looked upon as guidance. As such, this GHG inventory was conducted in accordance with the ISO 14064-1:2018, and applicable best practices.

## 2.1 Consolidation approach/ Boundary

The first step of a GHG inventory is defining its boundaries, to specify which GHG emissions are being included in the quantification and why. This step involves various considerations, from the agreed upon time period to the select GHGs and applicable ISO categories. It also involves setting a community boundary aligned with the inventory objective and examining the GHG sources that can be controlled and influenced by RDCK, as well as under its jurisdiction and influence of the Regional District.

A per ISO 14064-1:2018, all GHG emissions are recorded in connection with all of an organisation's operations. The operational processes of a Local Government are diverse and include areas of purchasing, services, construction measures, land use planning and, crucially, the exercise of sovereignty in the form of rules and regulations within the framework of a local government's jurisdiction.

The jurisdictional boundaries of a Local Government are considered in the inventory to the extent that the Local Government's authority extends within its territorial limits. Areas within the Local Government territory that fall outside its administrative control are not included. Applying the ISO 14064:2018 standard to Local Government, the Local Government shall consolidate GHG emissions and removals considering a control approach. The control approach means that the local government accounts for all greenhouse gas (GHG) emissions and/or removals from facilities over which it has direct financial or operational control and for the purposes of this inventory, this definition is extended to include also indirect jurisdictional control.

While the ISO standard does not explicitly stipulate administrative control by a level of government, it does consider certain actions—such as purchasing policies—as indicative of control. Accordingly, this guidance is interpreted as applying to policies established by a level of government for the purposes of this GHG inventory. The alternative would be to reinvent the wheel for administrative control, which seems counterproductive, given the fact that the ISO stand is in all aspects well established and robust.

Once the boundaries of the GHG inventory have been set, the next step consists of data collection from various primary and secondary sources and addressing any remaining data gaps and/or uncertainties. The emissions data is then categorized and quantified according

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to ISO 14064-1:2018 and eventually summed into total tonnage of carbon dioxide equivalent (t $CO_2e$).

## 2.2 Guiding principles

According to ISO 14064:2018, the application of the following principles is fundamental to ensure that GHGA-related information is true and fair.

- **Relevance:** GHG sources, data and methodologies must be appropriate for the quantification of GHG effects from RDCK.
- **Completeness:** All relevant information related to GHG estimation,
- **Consistency:** All data, methods, criteria, and assumptions must be applied consistently in the GHG assessment to ensure meaningful comparisons.
- **Transparency:** All data, methods, assumptions, and calculations must be clearly explained to assess the credibility and reliability of the GHG emissions.
- **Accuracy:** Uncertainties must be reduced as far as practical by using unbiased GHG measurements, estimates and calculations.

## 2.3 Temporal Boundary

The temporal boundary of this GHG Community Inventory is the calendar year of 2023, and considers 2018 data as a baseline scenario.

## 2.4 Reporting Boundary

Based on the control approach, the reporting boundaries include the identification of direct and indirect GHG emissions and removals associated with the Local Government operations.

Direct GHG emissions are associated with GHG sources owned or controlled by the Local Government, and indirect GHG emissions are a consequence of the Local Government's operations but are associated with GHG sources that are not owned or controlled by the Local Government (e.g., electricity emissions).

The reporting boundaries considered in this inventory are the direct and indirect energy use under the direct financial and/or operational or jurisdictional control of RDCK.

## 2.5 Greenhouse Gases included and GWP

The greenhouse gases considered in this inventory include carbon dioxide ($CO_2$), methane ($CH_4$), nitrogen oxide ($N_2O$), these are the primary gases emitted into the atmosphere when burning fossil fuels.

Recently, various Canadian provinces have been transitioning to using the GWPs listed under IPCC's Fifth Assessment Report (AR5). Under AR5, the 100-year global warming potentials (GWPs) of $CO_2$, $CH_4$, $N_2O$, are 1, 28, and 265 respectively.

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To summarize and consolidate the results, all GHG emissions were converted into $CO_2e$ (e=equivalent). Although there is the Sixth Assessment Report (AR6) from the IPCC with updated GWPs, this report follows AR5 as BC provincial regulations are aligned with the 100-year GWPs from the AR5.

**Table 1 Global warming potentials (AR5)**

| GHG | Formula | GWP |
|---|---|---|
| **Carbon dioxide** | $CO_2$ | 1 |
| **Methane** | $CH_4$ | 28 |
| **Nitrous oxide** | $N_2O$ | 265 |

## 2.6 Direct and Indirect GHG Emissions

Based on ISO 14064-1:2018, activities emitting anthropogenic GHG emissions are classified into six categories as shown below:

**Table 2 ISO 14064:2018 Categories**

| Category | Definition |
|---|---|
| **Category 1- Direct GHG emissions and removals** | Direct GHG emissions and removals occur from GHG sources or sinks inside Local Government boundaries and that are owned or controlled by the Local Government. |
| **Category 2- Indirect GHG emissions from imported energy** | Includes only GHG emissions due to the fuel combustion associated with the production of final energy and utilities, such as electricity, heat, steam, cooling and compressed air |
| **Category 3- Indirect GHG emissions from transportation** | GHG emissions occur from sources located outside the Local Government's boundaries. Those sources are mobile and are mostly due to fuel burnt in transport equipment. |
| **Category 4- Indirect GHG emissions from products used by the Local Government** | GHG emissions occur from sources located outside the Local Government boundaries associated with goods used by the Local Government. Those sources might be stationary or mobile and are associated with all types of goods purchased by the reporting Local Government |
| **Category 5- Indirect GHG emissions associated with the use of products from the Local** | GHG emissions or removals associated with the use of products from the Local Government result from products sold by the Local Government during life stages occurring after the Local Government's production process or in this case jurisdictional influence. |

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| | |
|---|---|
| **Government** | |
| **Category 6- Indirect GHG emissions from other sources** | GHG emissions associated with any Local Government specific emission (or removal) that cannot be reported in any other category. In consequence, it is the Local Government's responsibility to define the content of this particular category |

## 2.7 Exclusions

Sectors outside the geographical jurisdiction of RDCK, as well as those not under its operational or administrative control, have been excluded from this inventory. This includes sectors such as hospitals, penitentiaries/prisons, schools, mining and quarrying, waterborne navigation, aviation, roads, railways, airports, manufacturer industries, livestock, agriculture, forestry, fishing, private management, forest land, and telecommunications radio-television.

## 2.8 Data collection and data sources

Wherever possible, actual data was collected from reliable sources. Energy consumption data for electricity, natural gas, propane, wood, and heating oil in corporate, residential, and commercial buildings was obtained from local suppliers, including BC Hydro, FortisBC, Columbia Power Corporation and Nelson Hydro. Transportation data was sourced from the Insurance Corporation of British Columbia (ICBC), which provided information on passenger and commercial vehicle registrations within the region. For the corporate fleet, as well as solid waste generation and public transit fuel use, data was provided directly by the Regional District of Central Kootenay (RDCK). For more detailed information, please see the section below.

## 2.9 Activity data used, assumptions, and uncertainties

**Stationary energy consumption and purchased energy**

### Corporate Buildings and Infrastructure

RDCK shared their 2023 natural gas, propane and electricity consumption records for Corporate Buildings and Infrastructure, which includes administration buildings, parks, community recreation facilities, fire halls and street lighting.

### Drinking, Storm and Wastewater

RDCK provided 2023 consumption data for natural gas, propane and electricity for Drinking, Storm and Wastewater systems, including treatment plants, water systems, reservoirs and pump houses.

### Landfills

RDCK provided 2023 consumption of propane and electricity for the Creston, Nakusp, Ootischenci and Central (Salmo) landfill sites.

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### Transfer Stations

RDCK shared 2023 electricity and natural gas consumption records for Balfour, Boswell, Crawford Bay, Edgewood, Grohman, Kaslo, Marblehead, Nelson, Roseberry, Slocan and Ymir transfer stations.

### Residential Buildings

Residential buildings include apartments, row homes, and single houses and duplexes.

The electricity suppliers in RDCK are BC Hydro, FortisBC and the integrated grid Nelson-Hydro. Columbia Power Corporation also plays a key role in the region by operating hydroelectric generation facilities.

In this case, BC Hydro 2023 electricity records were shared by the province in advance to the final province CEEI reports. However, there weren't electricity records from FortisBC or the integrated grid Nelson-Hydro, therefore, 2021 data was used to estimate 2023. When compared to 2021, 2023 BC Hydro records showed a 5% reduction in consumption, and so this same rate was applied to all other electricity suppliers. Please see details in section 0.

For natural gas, Fortis BC 2023 records were also shared by the province in advance to the final province CEEI reports, and no estimations were needed.

As for propane, wood and oil records, the province's estimations for the 2023 CEEI report were not available and 2021 data was also used to estimate 2023 records, following a population growth [4] projection associated with a consumption reduction based on a decrease in the 2023 number of heating degree days when compared with 2021. Please see details in section 6.1.

This approach leads to a 5% decrease in consumption, which is consistent with the BC Hydro existing records. The detailed calculations can be found in Table 15 2023 -Residential- propane, wood and oil consumption estimation.

### Commercial and Institutional Buildings

Similarly to residential buildings, 2023 anticipated BC Hydro data was obtained, and 2021 records were used to estimate the records from the other utility providers. ie Fortis BC and the Integrated grid Nelson-Hydro. Please see section 6.2. This includes sectors such as construction, food retail, nursing homes, offices, restaurants, warehouses, manufacturing, food/beverages, etc.

[4] Statistics Canada. Census Profile, 2021 Census of Population. Available online at: Profile table, Census Profile, 2021 Census of Population - Central Kootenay, Regional district (RD) [Census division], British Columbia

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## Mobile combustion

### All corporate vehicles

RDCK provided 2023 data on diesel, propane and gasoline consumption for all corporate vehicles used in administration, drinking, storm and wastewater services, recreational facilities, fire services and parks.

### Passenger and commercial vehicles

Data from ICBC was collected, which includes the quantity of all vehicle body styles, associated with fuel types, for the Regional District member municipalities. Each vehicle body styles categorized according to the BC vehicle types categorization, being: heavy duty, light duty truck, light duty vehicle, motorcycle, and off road/equipment. This categorization was based on the Gross Vehicle Weight Range (GVWR).

The fuel use associated categories are: diesel, gasoline, natural gas, electricity, propane and hybrid (gasoline-electric).

In order to estimate fuel consumption, average annual distances travelled per vehicle category were obtained from Natural Resources Canada (NRCAN)[5] statistics. The BC best Practices Methodology for Quantifying Greenhouse Gas Emissions was used as a secondary source for fuel efficiency data.

Please see Appendix for calculation details.

### Public transit bus

RDCK provided the volume of fuel consumed in liters of diesel to maintain transit operations in West Kootenay and Creston Valley Transit.

It is important to note that the emissions from public transit buses quantified in this GHG inventory are not intended for BC reporting purposes only for management purposes and therefore do not conflict with BC Transit's reporting requirements.

## Fugitive emissions

### Solid Waste Treatment - Corporate and Community - Per treatment type

RDCK provided the amount of solid waste in tonnes per treatment type in 2023 via a data collection sheet, which are: organics composted waste, commingled landfilled waste and recycled waste.

### Wastewater treatment and discharge - Per treatment type

RDCK provided the 2023 amount of wastewater discharged in septage pits in m3 via a data collection sheet.

[5] Government of Canada. Natural Resources Canada. Available online at: Transportation Sector British Columbia and Territories Table 37: Truck Explanatory Variables | Natural Resources Canada

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**Purchased services**

RDCK provided 2023 mobile fuel consumption for contracted services, this includes fuel used for their mosquito control program, various maintenance services, and contracted waste collection.

# 3 Quantification of GHG emissions and removals

This section outlines the quantification of the GHG inventory, which takes the relevant GHG emission sources, GHG emission factors, and existing or transformed activity data, and calculates the GHG inventory altogether.

All relevant GHG emission sources are grouped in Categories 1 through 6, according to ISO 14064-1:2018. This categorization allows for the structured presentation and subsequent analysis of a GHG community inventory. GHG emission factors are a measure of total GHGs that are released per a given activity. For example, the total GHGs that are emitted after burning one liter of gasoline in a car. Before these emission factors can be used to calculate total GHGs, the collected activity data must be transformed as needed, as explained in section 2.8.

## 3.1 Identification of GHG sources, sinks and reservoirs

The following table outlines the GHG emission sources included in the GHG inventory:

**Table 3 GHG sources, sinks and reservoirs**

| Category | GHG Source | Sub-category |
|---|---|---|
| **Category 1 - Direct GHG emissions** | Energy Consumption | Corporate Buildings and Infrastructure |
| | | Drinking, Storm and Wastewater |
| | | Landfills |
| | Mobile combustion | All corporate vehicles |
| **Category 2 – Indirect GHG emissions from imported energy** | Energy consumption and purchased energy | Corporate Buildings and Infrastructure |
| | | Drinking, Storm and Wastewater |
| | | Landfills |
| **Category 3 - Indirect GHG** | Not Applicable | Not Applicable |

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| | | |
|---|---|---|
| **emissions from transportation** | | |
| **Category 4- Indirect emissions from products used by the Local Government** | Fugitive emissions | Compost Storage and Landfills |
| | | Wastewater treated and discharged |
| | Indirect mobile combustion | Waste Collection and other contracts |
| | Indirect energy consumption | Transfer Station |
| | Contracted services | Purchased services |
| **Category 5 - Indirect GHG emissions associated with the use of products from the Local Government** | Indirect Energy Consumption and Purchased Energy | Residential Buildings |
| | | Commercial and Institutional Buildings |
| | Indirect Mobile Combustion | Passenger and commercial vehicles |
| | | Public transit bus |
| **Category 6 - Indirect GHG emissions from other sources** | Not applicable | Not applicable |

# 4 Selection of quantification approach and methodologies

The GHG emission quantification was conducted using the GHG software which was updated with the most relevant GWPs (AR5, where available) and most up-to-date emission factors.

The quantification methodologies selected are the ISO 14064-1:2018.

The GHG emissions are calculated using the formula below. The total GHG emissions are expressed in tonnes of $CO_2e$, which is the sum of different types of greenhouse gases multiplied by GWP.

$$GHG\ emissions\ (t\ CO_2e) = Activity\ Data\ \times\ Emission\ Factor$$

OR

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$$GHG\ emissions\ (t\ CO_2e) = \sum [CO_2\ emissions\ +\ (CH_4\ emissions\ \times\ 28) + (N_2O\ emissions\ \times\ 265)]$$

## 4.1 Activity data

The following table outlines the activity data that was used for this GHG inventory, with supplementary explanations for any data that was transformed for the purpose of the GHG quantification.

**Table 4 Activity data- RDCK all areas**

| Sources | Raw Activity Data | Description | Transformed Activity Data | Description |
|---|---|---|---|---|
| **Category 1: Direct GHG emissions** | | | | |
| **Energy Consumption** | | | | |
| Corporate Buildings and Infrastructure | Natural gas: 25,017 GJ | Total consumption in 2023 | Natural gas: 25,017 GJ | No transformation |
| | Propane: 649 GJ | Total consumption in 2023 | Propane: 649 GJ | No transformation |
| Drinking, Storm and Wastewater | Natural gas: 14.1 GJ | Total consumption in 2023 | Natural gas: 0.708 GJ | No transformation |
| | Propane: 1,787 GJ | Total consumption in 2023 | Propane: 1,787 GJ | No transformation |
| Landfill | Propane: 106 GJ | Total consumption in 2023 | Propane: 106 GJ | No transformation |
| Mobile combustion | | | | |
| All corporate vehicles | Diesel: 17.9 $m^3$ | | Diesel: 17.9 $m^3$ | |

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| | | | | |
|---|---|---|---|---|
| | Gasoline: 77.3 $m^3$ | Total consumption in 2023 | Gasoline: 77.3 $m^3$ | No transformation |
| | Propane: 11.2 $m^3$ | | Propane: 11.2 $m^3$ | |
| **Category 2: Indirect GHG emissions from imported energy** | | | | |
| **Energy consumption and purchased energy** | | | | |
| Corporate Buildings and Infrastructure | Electricity: 6,245,084 kWh | Total consumption in 2023 | Electricity: 6,245,084 kWh | No transformation |
| Drinking, Storm and Wastewater | Electricity: 1,089,997 kWh | Total consumption in 2023 | Electricity: 1,088,997 kWh | No transformation |
| Landfills | Electricity: 41,095 kWh | Total consumption in 2023 | Electricity: 41,095 kWh | No transformation |
| **Category 3- Indirect GHG emissions from transportation** | | | | |
| Not applicable | | | | |
| **Category 4- Indirect emissions from products used by the Local Government** | | | | |
| **Fugitive emissions** | | | | |
| Solid Waste Treated | Comingled landfill waste: 29,795 tonnes | Total consumption in 2023 | Comingled landfill waste: 29,795 tonnes | No transformation |
| | Organics composted waste: 425 tonnes | Total consumption in 2023 | Organics composted waste: 425 tonnes | No transformation |
| Wastewater treated and discharged | Waste water residential septic tank: 5,940 $m^3$ | Total consumption in 2023 | Waste water residential septic tank: 5,940 tonnes | No transformation |
| **Indirect mobile consumption** | | | | |
| Waste collection and other contracts | Diesel: 450 $m^3$ | Total consumption in 2023 | Diesel: 270 $m^3$ | No transformation |

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| | | | | |
|---|---|---|---|---|
| | Gasoline: 2.4 $m^3$ | Total consumption in 2023 | Gasoline: 1.20 $m^3$ | No transformation |
| **Indirect energy consumption** | | | | |
| Transfer station | Electricity: 64,964 kWh | Total consumption in 2023 | Electricity: 64,964 kWh | No transformation |
| | Propane: 27.1 GJ | Total consumption in 2023 | Propane: 27.1 GJ | No transformation |
| **Contracted services** | | | | |
| Purchased services | Diesel: 1.52 $m^3$ | Total consumption in 2023 | Diesel: 1.52 $m^3$ | No transformation |
| | Gasoline: 6.06 $m^3$ | Total consumption in 2023 | Gasoline: 6.06 $m^3$ | No transformation |

| **Category 5- Indirect GHG emissions associated with the use of products from the Local Government** | | | | |
|---|---|---|---|---|
| **Indirect Energy Consumption and Purchased Energy** | | | | |
| Residential Buildings - RDAs | Natural gas: 5,871GJ | Total consumption in 2023 | Natural gas: 853,524 GJ | No transformation |
| | Electricity:<br>BC Hydro: 27,416,000kWh<br>BC Hydro 2021: 28,943,000kWh<br>Fortis BC 2021: 158,742,775kWh<br>Nelson 2021: 58,011,699kWh | Total consumption in 2023 for BC Hydro, estimations for Fortis BC and Nelson estimated from 2021 CEEI records | Electricity:<br>Fortis BC 2021: 150,367,685kWh<br>Nelson 2021: 54,951,067kWh | Values estimated applying a 5% reduction. For details, please see 2.9 Residential Buildings |

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| | | | | |
|---|---|---|---|---|
| | Fuel Oil 2021: 76,270GJ | Values from 2021 data consumption for estimations | | |
| | Propane 2021: 134,210GJ | | Propane: 127,205.39GJ | |
| | Wood fuel 2021: 296,438GJ | | Wood fuel: 280,965.71GJ | |
| Commercial and Institutional Buildings - RDAs | Natural gas: 71,343GJ | Total consumption in 2023 | Natural gas: 2,811,725 GJ | No transformation |
| | Electricity:<br>BC Hydro: 9,051,000 kWh<br>BC Hydro 2021: 8,309,000kWh<br>Fortis BC 2021: 158,742,775kWh<br>Nelson 2021: 58,011,699kWh | Total consumption in 2023 for BC Hydro, estimations for Fortis BC and Nelson estimated from 2021 CEEI records | Electricity:<br>Fortis BC: 48,138,326kWh<br>Nelson Hydro: 8,582,226kWh | Values estimated applying a 9% increase. For details, please see 2.9 Commercial and Institutional Buildings |
| **Indirect Mobile Combustion** | | | | |
| Passenger and commercial vehicles - RDAs | Diesel: 2,525 vehicles | Total vehicle count from ICBC in 2023 | Diesel: 18,125,057.55L | Data transformed. Please see 2.9 Passenger and commercial vehicles |
| | Gasoline: 17,474 vehicles | | Gasoline: 40,212,251.29L | |
| | Propane: 15 vehicles | | Propane: 65,851.91L | |
| | Electric: 415 | | Electric: 392,042kWh | |
| | 2022 off road vehicles emissions in RDCK: 6.51 MtCO2e | BC Provincial Inventory 2022 | Diesel: 15,294,785.86L | |
| Public transit bus | Diesel: 570,279L | Total consumption in 2023 | Diesel: 570,279L | No transformation |
| **Category 6-Indirect GHG emissions from other sources** | | | | |
| Not applicable | | | | |

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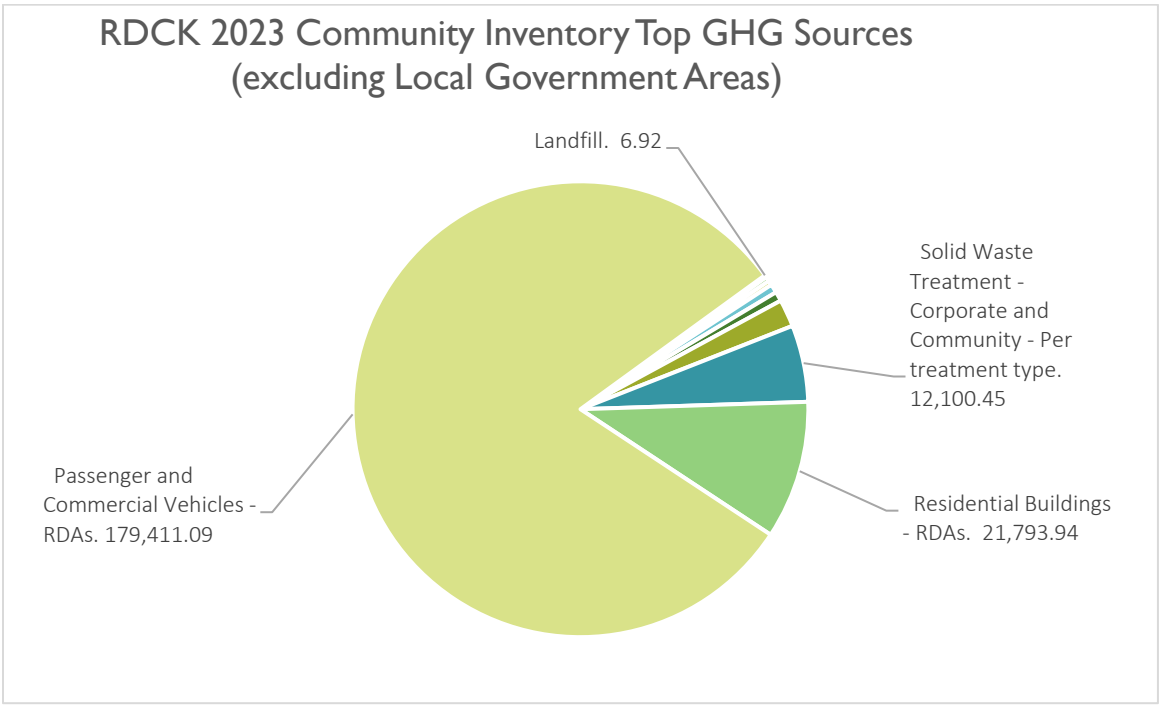
## 4.2 GHG Statement

The total community GHG emissions from RDCK in 2023 – excluding Local Governments is 222,280 tCO2e and including 667,779 tCO2e, which 1,742 tCO2e corresponds to the corporate inventory.
The table below shows the breakdown per ISO 14064-1:2018 categories

**Table 5 Activity data-All RDCK**

| ISO 1406-1:2018 Category | tCO2e |
|---|---|
| Category 1 | 1,647.09 |
| Category 2 | 83.36 |
| Category 3 | Not applicable |
| Category 4 | 13,526 |
| Category 5 - RDAs | 205,531 |
| Category 5 - LGAs | 455,499 |
| Category 6 | Not applicable |
| **Total** | **667,779** |

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## 4.3 Summary of GHG emissions

**Table 6 Summary of GHG emissions- All RDCK**

| Category | GHG Source | Sub-category | $tCO2_e$ |
|---|---|---|---|
| **Category 1- Direct GHG emissions** | Energy consumption | Corporate Buildings and Infrastructure | 1,295.6 |
| | | Drinking, Storm and Wastewater | 109.71 |
| | | Landfills | 6.46 |
| | Mobile combustion | All corporate vehicles | 235.32 |
| **Category 2 – Indirect GHG emissions from imported energy** | Energy consumption and purchased energy | Corporate Buildings and Infrastructure | 70.6 |
| | | Drinking, Storm and Wastewater | 12.3 |
| | | Landfills | 0.464 |
| **Category 3- Indirect GHG emissions from transportation** | Not Applicable | Not Applicable | -------- |
| **Category 4- Indirect emissions from products used by the Local Government** | Fugitive emissions | Organics composted waste and Commingled Landfill | 12,100 |
| | | Wastewater treated and discharged | 694 |
| | Indirect mobile combustion | Waste Collection and other contracts | 712 |
| | Indirect energy consumption | Transfer station | 2.38 |
| | Contracted services | Purchased services | 17.40 |

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| | | | |
|---|---|---|---|
| **Category 5- Indirect GHG emissions associated with the use of products from the Local Government** | Indirect Energy Consumption and Purchased Energy | Residential Buildings - RDAs | 21,794 |
| | | Residential Buildings - LGAs | 55,474 |
| | | Commercial and Institutional Buildings - RDAs | 4,326 |
| | | Commercial and Institutional Buildings - LGAs | 140,198 |
| | Indirect Mobile Combustion | Passenger and commercial vehicles - RDAs | 179,411 |
| | | Passenger and commercial vehicles - LGAs | 249,828 |
| | | Public transit bus | 1,492 |
| **Category 6- Indirect GHG emissions from other sources** | Not applicable | Not applicable | -------- |
| **TOTAL** | | | **667,779** |

## Summary

The community GHG emissions with and without the local governments are dominated by emissions out of the transportation sectors. Especially looking at the emissions profile without the local governments, in 2023, mobile combustion from passenger and commercial vehicles was responsible for the majority of emissions, accounting for 81% of the GHG community inventory. This is followed by energy consumption and purchased energy from residential buildings (10%) and the third biggest source is fugitive emissions from the waste sector (5%). All other areas contribute less then 5 %. These emissions sources are allocated to category 4 and 5- Indirect GHG emissions to represent the indirect control the RDCK has over those emissions. This control takes many forms among them land use planning, building permits, transportation planning, infrastructure investments.

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# 5 Comparison with previous GHG Inventories

Emissions in 2023 were compared with data from 2018 and 2021 as reported in the CEEI. It is important to note that this is a limited comparison, focusing only on emissions from sources quantified before, such as buildings in the residential, commercial, and institutional sectors, as well as transportation (including passenger and commercial vehicles, public transit buses), and waste management.

The 2023 inventory includes a more comprehensive scope. As such, this comparison excludes emissions from several key sources, including:

- Energy consumption and purchased energy for corporate and building infrastructure
- Drinking water, stormwater, and wastewater systems
- Landfills and transfer stations
- Mobile emissions from all corporate vehicles
- Fugitive emissions from wastewater treatment and discharge
- Indirect emissions from mobile combustion associated with waste collection and other contracted services

Emissions decreased by -6% from 2018 to 2021, and increased by 9% from 2021 to 2023. Overall change from 2018 is a slight increase of 2%

**Table 7 2018, 2021 and 2023 emissions trend (tC02e)**

| Year | Emissions (tC02e) | Change (tCO2e) | % change |
|---|---|---|---|
| 2018 | 214,563 | | |
| 2021 | 200,868 | 13,695 | -6% |
| 2023 | 219,124 | 18,255 | +9% |

**Figure 1 Emissions trend-2018, 2021 and 2023 (tCO2e)**

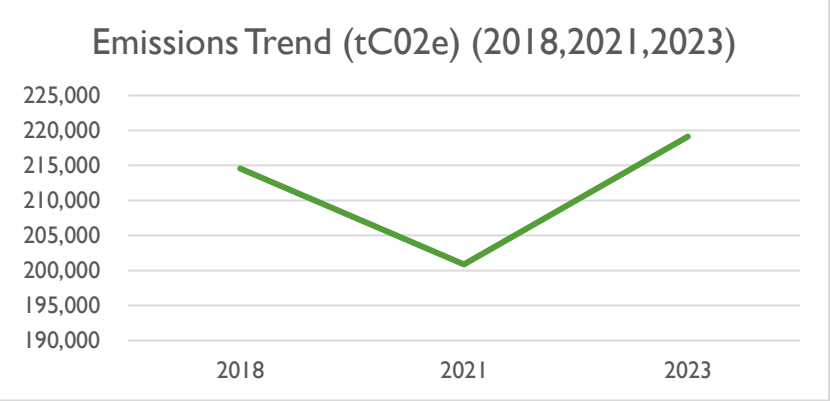


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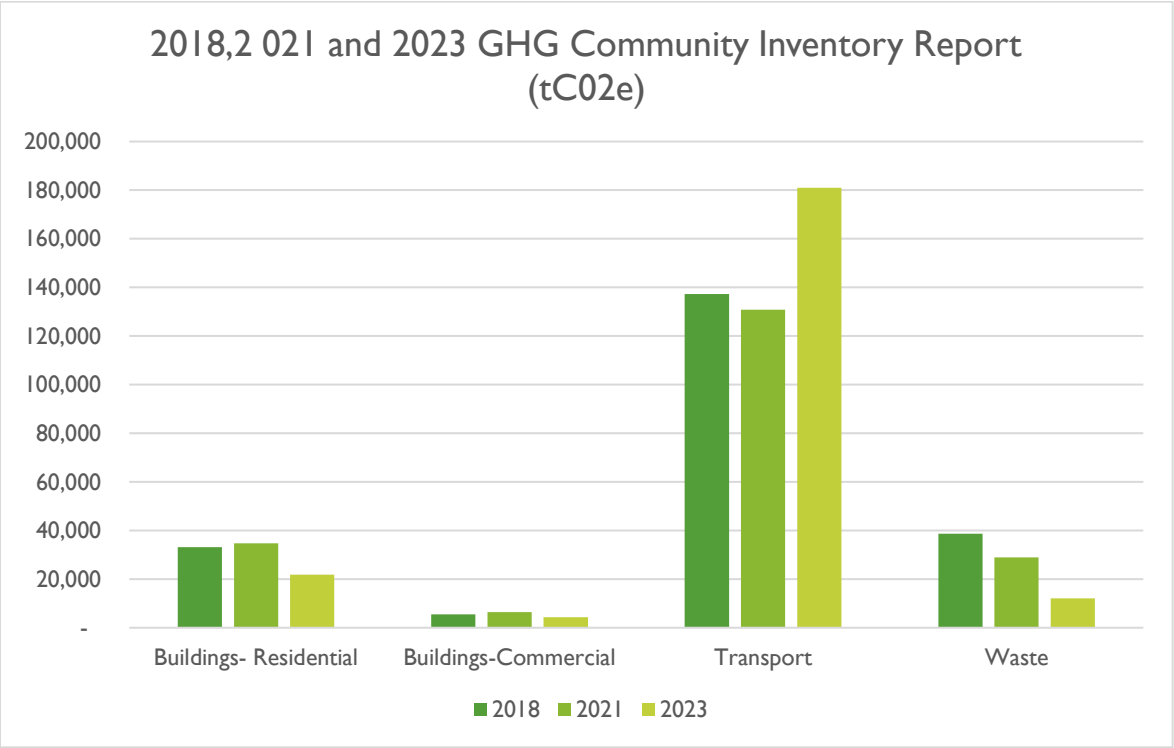
**Figure 3 Emissions trend-by sector 2021,2022 and 2023 (tCO2e)**




Total emissions excluding Local Governments decreased by 6% from 2018 to 2021, and increased by 9% from 2021 to 2023. Looking into the sectors trends offer useful insight into changes in key community sectors. More specifically, emissions from residential buildings show a substantial decrease of 37% from 2021 to 2023, while before, from 2018 to 2021emissions increased by 5%. This also aligns with commercial and institutional buildings showing a 33% decrease from 2021 to 2023, while between 2018 and 2021 emissions increased 18%. In contrast, the transportation sector experienced the most significant recent increase, with emissions rising by 38% between 2021 and 2023. In the past, emissions showed a 5% reduction from 2018 to 2021. Even thought, as previously mentioned, currently the waste sector is the third source of emission, these have been significantly reducing over the recent years. From 2018 to 2021 the reduction was of 25% and from 2021 to 2023 it was of 58%.

This sector trend analysis shows that efforts made, especially in more recent years, to reduce GHG emissions from the building sector have had some success, as have efforts in the waste sector. However, based on these trends, the pace of reductions needs to be accelerated to achieve further progress in these areas — ideally with a focus on decarbonization above all, such as through retrofits and energy efficiency. The transportation sector, in contrast, has seen a significant increase in GHG emissions, particularly in recent years, eradicating reductions achieved in other sectors. It is clear that the efforts made in this sector, including the 100% Renewable Plan, have not resulted in the level of GHG reductions required. A recalibration of strategies is necessary; otherwise, none of the GHG reduction targets, 50% below 2018 by 2030 and 100% by 2050 will be met going forward.

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## 5.1 Recommendations for next steps

This inventory report represents an important step in understanding the GHG emission impacts of the Regional District of Central Kootenay (RDCK) and is therefore supporting evidence-based decision-making on the path toward achieving its greenhouse gas (GHG) reduction targets. It includes additional categories of GHG emissions that were overlooked in previous inventories; however, these have all been found to be relatively minor in volume. Nevertheless, as larger sources of emissions are reduced, these smaller sources will also need to be addressed in order to achieve comprehensive GHG reductions going forward.

For now, it seems prudent to focus on the largest sources of GHG emissions: transportation and buildings. This is also generally in line with the RDCK's focus to some extent. The key difference going forward must be an evidence-based approach that targets major GHG emission sources and prioritizes decarbonization—specifically, the transition to energy sources with little or no associated GHG emissions.

Early climate action was characterized by many small-scale initiatives and long lists of actions that community members were encouraged to take or avoid. This approach stemmed from the mistaken belief that climate action is synonymous with environmental protection. This is unfortunate, as the two are not the same. To reduce waste, conserve water, or protect insects, it is reasonable to pursue numerous small-scale actions. These efforts can lead to meaningful improvements and are entirely appropriate in that context. However, in the context of GHG reductions, a defined quantitative target must be achieved within a limited timeframe. As such, relying on a lengthy list of small-scale actions with only marginal impact risks wasting both time and resources. Given the urgency and scale of the challenge, it is essential to concentrate all available efforts on the most significant sources of emissions and adopting the most effective reduction pathway for them. Actions therefore, need to be more specific and strategic than the ones in the 100% Renewal Plan. In the transportation sector, significantly greater efforts are required to support electrification. Clear targets must be established—for example, the installation of EV chargers at all recreational, health, and major shopping locations by a certain point in time. Chargers should be placed where people naturally spend time, especially to help address the barrier faced by some homeowners who are unable to install chargers at home. The District and local governments should take full advantage of all available financial incentives to support the expansion of the EV charging network. All public fleets, including buses, must be electrified. Additionally, more flexible transportation options should be introduced, such as demand-responsive electric minibuses. These could be financed in partnership with a corporate sponsor or through a regional program involving the local airport and the use of CORSIA credits.

In the building sector, a communal approach should be adopted, with the implementation of geo-exchange, low-temperature mini district heating and cooling systems in all urban centres over the next five years. These systems have the potential to fully displace the use of natural gas. Municipal and provincial buildings should serve as the anchors for these networks, which can be operated either as community cooperatives or as municipal utilities. Communal solutions are consistently more cost-effective and efficient than any individual approaches.

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# 6 Appendix

## 6.1 Heating Degree Days- Residential buildings

### Table 8 Heating Degree Days- Residential

| Heating Degree Days | | | | |
|---|---|---|---|---|
| **Month** | **Weather Station-Castlegar** | | **Weather Station-Nelson** | |
| | **2021** | **2023** | **2021** | **2023** |
| January | 579 | 573 | 549 | 534 |
| February | 576 | 540 | 533 | 498 |
| March | 420 | 504 | 396 | 462 |
| April | 275 | 332 | 268 | 304 |
| May | 160 | 53 | 148 | 53 |
| June | 42 | 30 | 52 | 31 |
| July | 0 | 0 | 0 | 0 |
| August | 27 | 15 | 26 | 11 |
| September | 103 | 78 | 95 | 73 |
| October | 323 | 291 | 297 | 254 |
| November | 461 | 485 | 432 | 455 |
| December | 683 | 536 | 645 | 507 |
| **TOTAL** | **3,649** | **3,437** | **3,441** | **3,182** |

### Table 9 2021 electricity consumption-Residential - RDAs

| **Residential - RDAs** | **Electricity consumption 2021 (kWh)** | **Electricity consumption 2023 (kWh)** | **%** |
|---|---|---|---|
| Hydro | 28,943,000 | 27,416,000 | -5% |
| Fortis | 158,742,775 | (estimated based on the 5% reduction from BC Hydro) | |
| Nelson | 58,011,699 | | |

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**Table 10 2023 electricity consumption-Residential - RDAs**

| Residential - RDAs | Energy consumption (KWh) |
|---|---|
| Hydro | 27,416,000 |
| Fortis | 150,367,685 |
| Nelson | 54,951,067 |
| Total | 232,734,753 |

**Table 11 2023 electricity consumption-Residential – ALL (RDAs and LGAs included)**

| Residential - ALL | Energy consumption (KWh) |
|---|---|
| Hydro | 45,042,000 |
| Fortis | 220,029,668 |
| Nelson | 99,557,009 |
| Total | 364,628,677 |

## 6.2 Commercial-Institutional- 2023 electricity consumption estimation

**Table 12 2021 electricity consumption-Commercial and Institutional - RDAs**

| CSMI - RDAs | Electricity consumption 2021 (kWh) | Electricity consumption 2023 (kWh) | % |
|---|---|---|---|
| Hydro | 8,309,000 | 9,051,000 | +9% |
| Fortis | 44,191,951 | (estimated based on the 9% increase from BC Hydro) | |
| Nelson | 7,878,656 | | |

**Table 13 2023 electricity consumption-Commercial and Institutional - RDAs**

| CSMI - RDAs | Energy consumption (KWh) |
|---|---|
| Hydro | 9,051,000 |
| Fortis | 48,138,326 |

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| | |
|---|---|
| Nelson | 8,582,226 |
| Total | 65,771,552 |

### Table 14 2023 electricity consumption-Commercial and Institutional - ALL

| CSMI - ALL | Energy consumption (KWh) |
|---|---|
| Hydro | 24,754,000 |
| Fortis | 218,378,303 |
| Nelson | 50,262,245 |
| Total | 293,394,547 |

### Table 15 2023 -Residential- propane, wood and oil consumption estimation - RDAs

| Source | 2021 - Consumption (GJ) | Estimated consumption in 2023 (GJ) considering population growth | Reduction considering HDD | Estimated consumption in 2023 (GJ) considering reduction |
|---|---|---|---|---|
| Wood | 296,438 | 302,113.67 | 21,147.96 | 280,965.71 |
| Oil | 76,270 | 77,730.02 | 5,441.10 | 72,288.92 |
| Propane | 134,210 | 136,779.99 | 9,574.60 | 127,205.39 |

## 6.3 Fuel Efficiencies- Passenger and commercial vehicles

### Table 16 Fuel efficiencies -Passenger and commercial vehicles

| Type of vehicle | L/100km | kWh/100km | L/100km | L/100k | L/100km |
|---|---|---|---|---|---|
| | Diesel | Electric | Gasoline | Propane | Gasoline Electric |
| Heavy duty | 37.40[6] | NA | 39.42 estimated | 30.03[7] | 18.19[8] |

[6] Natural Resources Canada. Transportation Sector. British Columbia. Truck vehicles Available online at: Transportation Sector British Columbia and Territories Table 37: Truck Explanatory Variables | Natural Resources Canada

[7] Estimated based on average fuel efficiencies of propane light duty truck and light duty vehicle

[8] Estimated based on average fuel efficiencies for gasoline-electric light duty truck and light duty vehicle

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| | | | | | |
|---|---|---|---|---|---|
| Light duty truck | 19.2[6] | 22.50[9] | 19.5[6] | 12.60[9] | 7.60[9] |
| Light duty vehicle | 6.70[10] | 22.50[9] | 7.80[10] | 8.20[9] | 5.00[9] |
| Motorcycle | NA | 8.76[11] | 5.30[12] | NA | NA |

## 6.4 Average annual distance - Passenger and commercial vehicles (Km)

**Table 17 Average annual distance -Passenger and commercial vehicles**

| Average annual distance (Km) | | | | | |
|---|---|---|---|---|---|
| Type of vehicle | Diesel | Electric | Gasoline | Propane | Gasoline Electric |
| Heavy duty[6] | 62,965 | 62,965 | 62,965 | 62,965 | 62,965 |
| Light duty truck[6] | 26,610 | 26,610 | 26,610 | 26,610 | 26,610 |
| Light duty vehicle[10] | 10,767 | 10,767 | 10,767 | 10,767 | 10,767 |
| Motorcycle[13] | 3,941 | 3,941 | 3,941 | 3,941 | 3,941 |

## 6.5 Estimated Annual fuel consumption per vehicle and fuel type-Passenger and commercial vehicles (Km)

**Table 18 Estimated annual fuel consumption per vehicle and fuel type -Passenger and commercial vehicles in the Unincorporated Areas only**

| **Estimated Annual Fuel Consumption** | **Liters** | **kWh** | **Liters** | **Liters** |
|---|---|---|---|---|
| **Type of vehicle** | **Diesel** | **Electric** | **Gasoline** | **Propane** |
| Heavy duty | 8,336,314.14 | - | 1,241,091.20 | 18,911.87 |
| Light duty truck | 9,574,490.88 | 35,923.50 | 30,801,075.00 | 46,940.04 |
| Light duty vehicle | 214,252.53 | 356,118.53 | 9,411,176.29 | - |

[9] BC. Best Practices Methodology for Quantifying Greenhouse Gas Emissions. Available online at: 2024 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions

[10] Natural Resources Canada. Transportation Sector. British Columbia.Car vehicles Available online at: Transportation Sector British Columbia and Territories Table 21: Car Explanatory Variables | Natural Resources Canada

[11] Estimated based on the average fuel efficiency of gasoline light duty vehicles and light duty trucks- and the average of fuel efficiency of electric light duty vehicles and light duty trucks.

[12] Natural Resources Canada. Available online at: Transportation Sector British Columbia and Territories Table 32: Motorcycle Secondary Energy Use, GHG Emissions and Explanatory Variables | Natural Resources Canada

[13]Natural Resources Canada. Available online at: Transportation Sector British Columbia and Territories Table 32: Motorcycle Secondary Energy Use, GHG Emissions and Explanatory Variables | Natural Resources Canada

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| | | | | |
|---|---|---|---|---|
| Motorcycle | - | - | 38,432.63 | - |
| Off road/equipment | 15,294,785.86 | NA | NA | NA |

**Table 19 Estimated annual fuel consumption per vehicle and fuel type -Passenger and commercial vehicles in the Local Government Areas only**

| **Estimated Annual Fuel Consumption** | **Liters** | **kWh** | **Liters** | **Liters** |
|---|---|---|---|---|
| **Type of vehicle** | **Diesel** | **Electric** | **Gasoline** | **Propane** |
| Heavy duty | 15,377,438.23 | - | 2,209,142.34 | 37,823.73 |
| Light duty truck | | 179,617.50 | 44,895,221.16 | 43,587.18 |
| Light duty vehicle | 301,540.61 | 542,656.81 | 16,464,422.65 | 882.89 |
| Motorcycle | - | - | 61,826.41 | - |
| Off road/equipment | 15,594,741.75 | NA | NA | NA |

## 6.6 Emissions trend from CEEI 018, 2021, and 2023 - GHG community Inventories

**Table 20 Emissions trend Residential Buildings**

| **Year** | **Emissions (tC02e)** | **Change (tCO2e)** | **% change** |
|---|---|---|---|
| 2018 | 33,092 | | |
| 2021 | 34,688 | 1,596 | +5% |
| 2023 | 21,794 | 12,894 | -37% |

**Table 21 Emissions trend Commercial Buildings**

| **Year** | **Emissions (tC02e)** | **Change (tCO2e)** | **% change** |
|---|---|---|---|
| 2018 | 5,495 | | |
| 2021 | 6,470 | 975 | +18% |
| 2023 | 4,326 | 2,144 | -33% |

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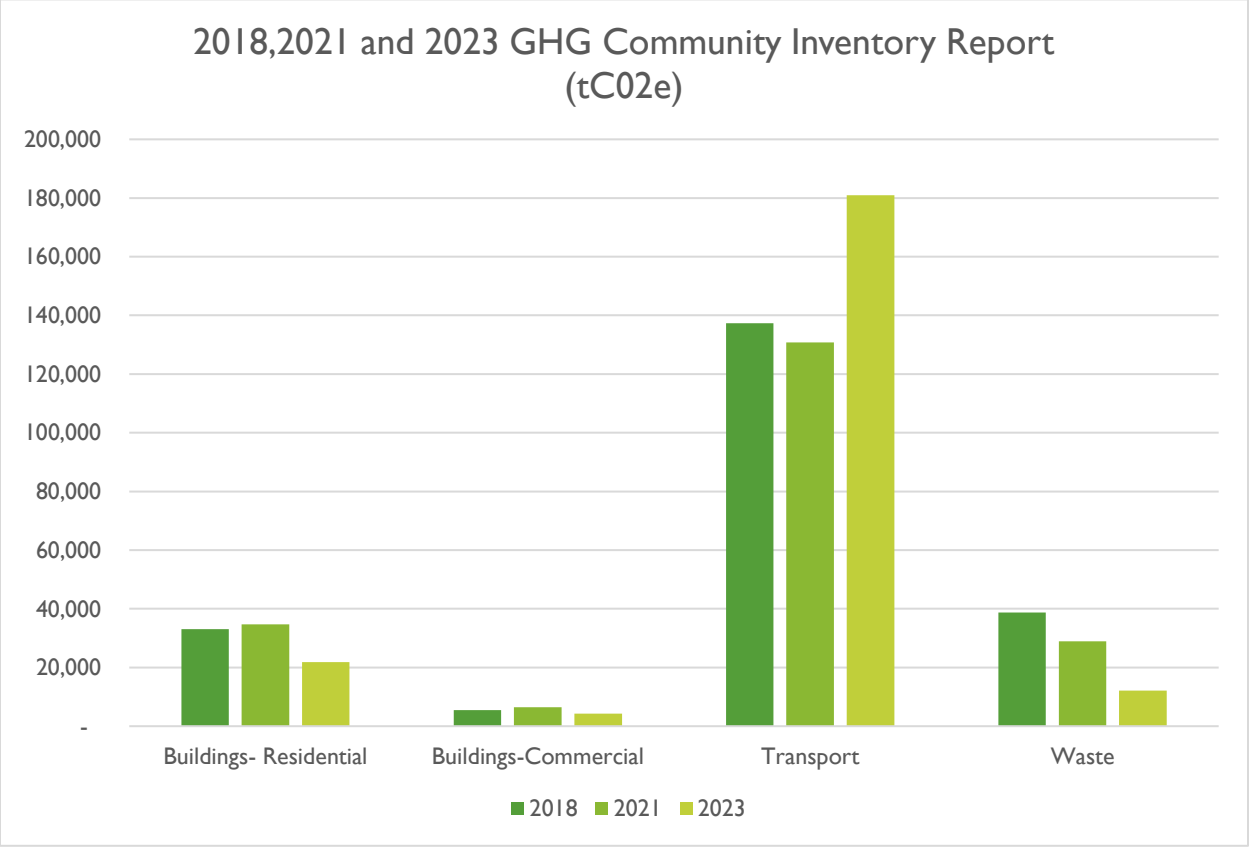
### Table 22 Emissions trend Transportation

| Year | Emissions (tC02e) | Change (tCO2e) | % change |
|---|---|---|---|
| 2018 | 137,284 | | |
| 2021 | 130,817 | 6,467 | -5% |
| 2023 | 180,903 | 50,086 | +38% |

### Table 23 Emissions trend Waste Management

| Year | Emissions (tC02e) | Change (tCO2e) | % change |
|---|---|---|---|
| 2018 | 38,691 | | |
| 2021 | 28,893 | 9,799 | -25% |
| 2023 | 12,100 | 16,792 | -58% |

### Figure 2 Breakdown - GHG emissions from previous Community Inventories

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# References


- 2021, Community and Energy Emissions Inventory
- 2023, Community and Energy Emissions Inventory anticipated data
- BC Ministry of Environment & Climate Change Strategy. 2023.
- 2018 BC Methodological Guidance for Quantifying Greenhouse Gas Emissions: For Public Sector Projects, Local Governments and Community Emissions. Retrieved from https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2018-pso-methodology.pdf
- BC Ministry of Environment & Climate Change Strategy. 2024. Emission factors catalogue
- BC Utilities energy and emissions data at the corporate and community levels from RDCK.
- Environment and Climate Change Canada. 2024. National Inventory Report 1990-2022 Greenhouse Gas Sources and Sinks in Canada – Part 2 & 3.
- Government of Canada. Natural Resources Canada. Available online at: Transportation Sector British Columbia and Territories Table 37: Truck Explanatory Variables | Natural Resources Canada
- Government of Canada. Natural Resources Canada. Available online at: Transportation Sector British Columbia and Territories Table 32: Motorcycle Secondary Energy Use, GHG Emissions and Explanatory Variables | Natural Resources Canada
- Government of Canada. Natural Resources Canada. Transportation Sector. British Columbia. Car vehicles Available online at: Transportation Sector British Columbia and Territories Table 21: Car Explanatory Variables | Natural Resources Canada
- Insurance Corporation of British Columbia (ICBC), 2025.
- ISO 14064-1:2018: Greenhouse gases–Part 1: Specification with guidance at the project level for quantification and reporting of greenhouse gas emissions and removals.
- Regional District of Central Kootenay, (2025). Official website. Available online at: Home | Regional District of Central Kootenay.
- Statistics Canada. Census Profile, 2021 Census of Population. Available online at: Profile table, Census Profile, 2021 Census of Population - Central Kootenay, Regional district (RD) [Census division], British Columbia
- Weather Stats. (2025). Heating Degree Days-Monthly data for Castlegar. Available online at: Heating Degree Days (18°C) - Monthly data for Castlegar
- Weather Stats. (2025). Heating Degree Days-Monthly data for Nelson. Available online at: Heating Degree Days (18°C) - Monthly data for Nelson


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