

Sunshine Coast Regional District – Municipalities and Electoral Areas  
**2007 Base Year and 2019 Reporting Year Energy & GHG  
Emissions Inventory**

*Prepared for:*

Sunshine Coast Regional District  
1975 Field Road  
Sechelt, BC V0N 3A1

*Prepared by:*

Stantec Consulting Ltd.  
200-325 25 Street SE  
Calgary, AB T2A 7H8

Date: April 27, 2022

## **Limitation of Liability**

This document entitled Sunshine Coast Regional District – Municipalities and Electoral Areas 2007 Base Year and 2019 Reporting Year Energy & GHG Emissions Inventory Report was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of Sunshine Coast Regional District (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

# TABLE OF CONTENTS

|  |           |
|--|-----------|
| Summary  | 4         |
| <b>1 Introduction</b>  | <b>5</b>  |
| 1.1 GHG Emissions & Climate Change                                   | 5         |
| 1.2 GPC Protocol   | 6         |
| 1.3 Variance from Community Energy and Emissions Inventories (CEEI)  | 6         |
| 1.4 Purpose of Document  | 7         |
| <b>2 Inventory Scope</b>   | <b>8</b>  |
| 2.1 GPC BASIC+ Inventory Scope                                       | 8         |
| 2.2 GHG Emissions Boundary   | 9         |
| 2.3 Assumptions & Disclosures  | 10        |
| <b>3 Sunshine Coast Regional District Energy &amp; GHG Emissions</b> | <b>12</b> |
| 3.1 Base Year (2007) Energy & GHG Emissions                          | 12        |
| 3.2 Reporting Year (2019) Energy & GHG Emissions                     | 15        |
| 3.3 Energy & GHG Emissions Trends                                    | 19        |
| <b>4 Town of Gibsons</b>   | <b>23</b> |
| 4.1 2019 Profile   | 23        |
| 4.2 Energy & GHG Emissions   | 23        |
| <b>5 District of Sechelt</b>   | <b>26</b> |
| 5.1 2019 Profile   | 26        |
| 5.2 Energy & GHG Emissions   | 26        |
| <b>6 Sechelt Indian Government District</b>                          | <b>29</b> |
| 6.1 2019 Profile   | 29        |
| 6.2 Energy & GHG Emissions   | 29        |
| <b>7 Electoral Areas</b>   | <b>32</b> |
| 7.1 2019 Profile   | 32        |
| 7.2 Energy & GHG Emissions   | 32        |

# SUMMARY

Climate change has emerged as the next unprecedented social, economic, and environmental challenge facing society today. It poses a serious threat to quality of life, jobs, and physical and natural assets. Scientists believe that the human-production of greenhouse gas (GHG) emissions since pre-industrial times have already surpassed the Earth’s “carrying capacity” of natural systems and pose significant future risks to human well-being.

Recognizing the role that Sunshine Coast Regional District (SCRD) plays in achieving a significant and immediate reduction in GHG emissions, the SCRD has completed a 2019 GHG emissions inventory with the intent of using this information to establish short and long-term GHG emission reduction targets.

To understand what climate commitments the Region can make, the SCRD seeks a better understanding of the energy and GHG emissions at the regional level, as well as at the local government level which includes 3 municipalities and 5 electoral areas. The following document presents a summary of energy and GHG emissions at both the SCRD and local government level for the 2007 and 2019 reporting years. This document compliments a 2019 inventory report which describes the methodologies and data sources applied to derive the estimate of GHG emissions for the SCRD and local governments. A summary of the 2007 and 2019 energy and GHG emissions by local government is presented in **Table 1** and **Table 2**.

**Table 1. Summary of GHG Emissions By SCRD Local Government**

| Local Government                   | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)  |
|------------------------------------|---|---|-------------|
| Town of Gibsons                    | 36,656                                  | 36,519                                  | -0.4%       |
| District of Sechelt                | 79,386                                  | 85,039                                  | 7.1%        |
| Sechelt Indian Government District | 6,704                                   | 5,279                                   | -21.3%      |
| Electoral Areas                    | 206,054                                 | 225,653                                 | 9.5%        |
| <b>Total SCRD GHG Emissions</b>    | <b>328,800</b>                          | <b>352,491</b>                          | <b>7.2%</b> |

**Table 2. Summary of Energy Use By SCRD Local Government**

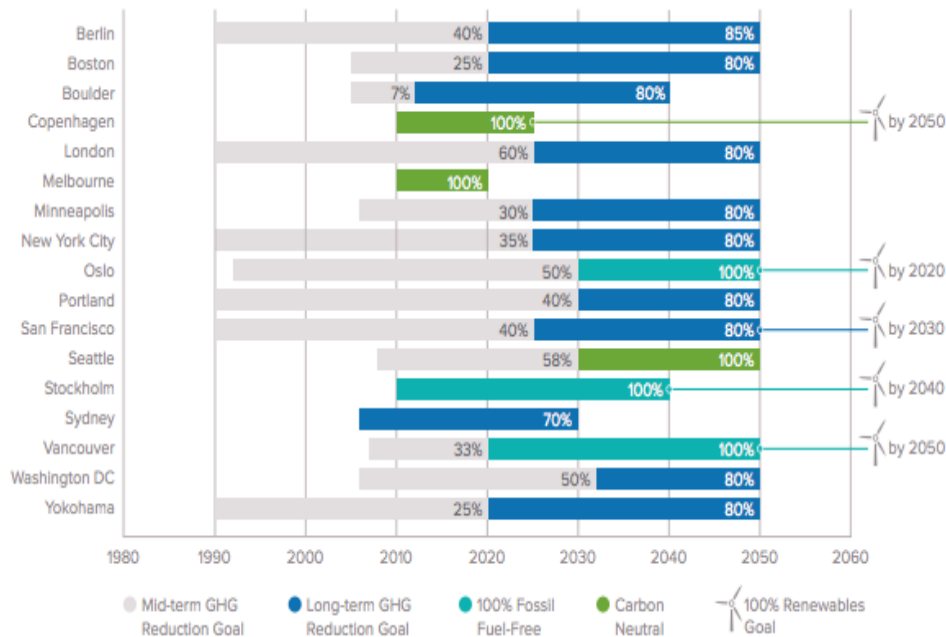
| Local Government                     | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  |
|--------------------------------------|------------------|------------------|-------------|
| Town of Gibsons                      | 694,912          | 681,501          | -1.9%       |
| District of Sechelt                  | 1,438,552        | 1,510,244        | 5.0%        |
| Sechelt Indian Government District   | 115,007          | 94,387           | -17.9%      |
| Electoral Areas                      | 4,019,635        | 4,148,184        | 3.2%        |
| <b>Total SCRD Energy Consumption</b> | <b>6,268,106</b> | <b>6,434,315</b> | <b>2.7%</b> |

# 1 INTRODUCTION

## 1.1 GHG Emissions & Climate Change

There is overwhelming evidence that global climate change resulting from emissions of carbon dioxide and other greenhouse gases (GHGs) is having a significant impact on the ecology of the planet. In addition, climate change is expected to have serious negative impacts on global economic growth and development.

Beyond the costs associated with delayed action, there are cost savings to be realized through efforts to conserve energy and to use it more efficiently, and economic opportunities available to communities that develop local energy supply and infrastructure. Actions to encourage energy efficiency and conservation and to promote implementation of renewable energy will assist local governments in developing energy resilient communities, in addition to mitigating climate change. Local governments are at the forefront of global action on climate change, setting both ambitious commitments and targets while going about the difficult task of reducing emissions. Per the latest report from the C40 Cities Climate Leadership Group, ICLEI Local Governments for Sustainability, UN Habitat, and others, most GHG reduction commitments are set for 2019 or 2050 and range from a 10% to 100% reduction (**Figure 1**).



**Figure 1. Summary of Long-Term Global GHG Emission Reduction Targets<sup>1</sup>**

<sup>1</sup> <http://www.c40.org/>

## 1.2 GPC Protocol

To make informed decisions on reducing energy use and GHG emissions at the regional and local government scale, community managers must have a good understanding of these sources, the activities that drive them, and their relative contribution to the total. This requires the completion of an energy and GHG emissions inventory. To allow for credible and meaningful reporting locally and internationally, the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (the GPC Protocol) was developed as a partnership between ICLEI-Local Governments for Sustainability, The World Resources Institute (WRI) and C40 Cities Climate Leadership Group (C40), with additional collaboration by the World Bank, United Nations Environment Program (UNEP) and UN-Habitat. The GPC Protocol has now become recognized as the standardized way for local governments to collect and report their actions on climate change. Over 9,000 cities have committed to using the GPC Protocol.

The Protocol has two established levels of reporting: BASIC and BASIC+ which are defined as the following:

- The BASIC level covers scope 1 and scope 2 emissions from stationary energy and in-boundary transportation, as well as scope 1 and scope 3 emissions from waste.
- The BASIC+ level covers the same scopes as BASIC and includes more in-depth and data dependent methodologies. Specifically, it expands the reporting scope to include emissions from industrial process and product use (IPPU), agriculture, forestry and other land-use (AFOLU), and transboundary transportation.

## 1.3 Variance from Community Energy and Emissions Inventories (CEEI)

The SCR D has historically relied on the Provincial 2007, 2010 and 2012 Community Energy and Emissions Inventories (CEEI) to track community GHG emissions. However, there have been some limitations to the CEEI in that it is an in-boundary inventory, the most recent version published is for 2012, and the CEEI Protocol does not fully meet the requirements of the GPC Protocol BASIC or BASIC+ reporting requirements which is the required reporting standard for local governments that have committed to the Global Covenant of Mayors—an agreement led by city networks to undertake a transparent and supportive approach to measure GHG emissions community-wide. A high-level summary of the differences between the CEEI and GPC Protocol inventories are presented in **Table 3**.

**Table 3. Summary of GHG Inventory Scope Differences**

| Reporting Sector                                      | CEEI | GPC BASIC | GPC BASIC+ |
|---|------|-----------|------------|
| Residential Buildings                                 | ✓    | ✓         | ✓          |
| Commercial And Institutional Buildings And Facilities | ✓    | ✓         | ✓          |
| Manufacturing Industries And Construction             | ✓    | ✓         | ✓          |
| Energy Industries                                     |      | ✓         | ✓          |
| Energy Generation Supplied To The Grid                |      | ✓         | ✓          |
| Agriculture, Forestry And Fishing Activities          |      | ✓         | ✓          |
| Non-Specified Sources                                 |      | ✓         | ✓          |

| Reporting Sector  | CEEI | GPC BASIC | GPC BASIC+ |
|---|------|-----------|------------|
| Fugitive Emissions From Mining, Processing, Storage, And Transportation Of Coal   |      | ✓         | ✓          |
| Fugitive Emissions From Oil And Natural Gas Systems                               |      | ✓         | ✓          |
| On-Road Transportation  | ✓    | ✓         | ✓          |
| Railways  |      | ✓         | ✓          |
| Waterborne Navigation   |      | ✓         | ✓          |
| Aviation  |      | ✓         | ✓          |
| Off-Road Transportation   |      | ✓         | ✓          |
| Solid Waste   | ✓    | ✓         | ✓          |
| Biological Waste  | ✓    | ✓         | ✓          |
| Incinerated And Burned Waste  |      | ✓         | ✓          |
| Wastewater  |      | ✓         | ✓          |
| Emissions From Industrial Processes   |      |           | ✓          |
| Emissions From Product Use  |      |           | ✓          |
| Emissions From Livestock  | ✓    |           | ✓          |
| Emissions From Land   |      |           | ✓          |
| Emissions From Aggregate Sources And Non-CO <sub>2</sub> Emission Sources On Land | ✓    |           | ✓          |

## 1.4 Purpose of Document

The purpose of this document is to provide the 2007 and 2019 GPC BASIC+ energy and GHG emissions inventories at the regional and local government level. This document compliments a 2019 inventory report which describes the methodologies and data sources applied to derive the estimate of GHG emissions for the SCRD region and local governments.

## 2 INVENTORY SCOPE

### 2.1 GPC BASIC+ Inventory Scope

In accordance with the GPC Protocol, the 2007 and 2019 BASIC+ GHG inventories presented herein accounts for GHG emissions from the following Reporting Sectors:

- **Stationary Energy** – These are GHG emissions from fuel combustion, fugitive emissions, and some off-road transportation sources (e.g. construction equipment, residential mowers, etc.). They include the emissions from energy to heat and cool residential, commercial, institutional, and light/heavy industrial buildings, as well as the activities that occur within these residences and facilities.
- **Transportation** – These are GHG emissions from the combustion of fuels as a result of vehicular on-road, off-road, including marine, aviation, and other off-road, and trans-boundary journeys.
- **Waste** – These are GHG emissions from the disposal and management of solid waste, the biological treatment of waste, and wastewater treatment and discharge. Waste does not directly consume energy, but releases GHG emissions because of decomposition, burning, and other management methods.
- **Industrial Process and Product Use (IPPU)** – These are GHG emissions from products such as refrigerants, foams or aerosol cans can release potent GHG emissions, known as product use GHG emissions. There are no known industrial process emissions in the SCRD.
- **Agriculture, Forestry and Other Land-Use (AFOLU)** – These are GHG emissions that are captured or released as a result of land-management activities. These activities can range from the preservation of forested lands to the development of crop land. This Sector includes GHG emissions from land-use change, manure management, livestock, and the direct and indirect release of nitrous oxides (N<sub>2</sub>O) from soil management, urea application, fertilizer and manure application.

Due to limitations in how to quantify GHG emissions resulting from land use change (e.g., residential development), these GHG emissions have been excluded from the GHG emissions inventories presented herein but have been disclosed.



## 2.2 GHG Emissions Boundary

The GHG inventories are defined geographically by the SCRD, which includes 3 municipalities and 5 electoral areas, as shown in Figure 2.

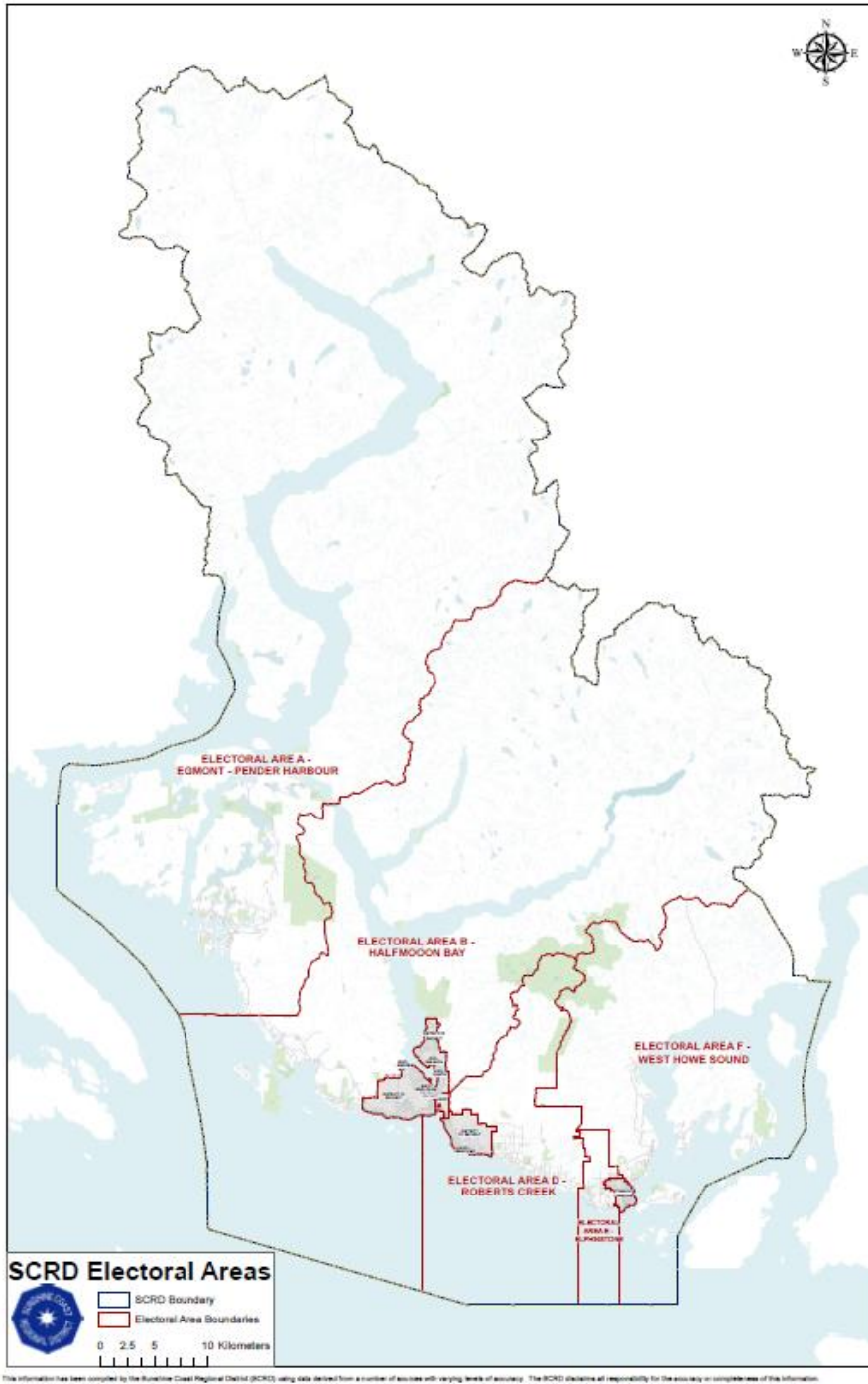


Figure 2 SCRD GHG Boundary

## 2.3 Assumptions & Disclosures

The following inventories covers all GHG emissions for the 2007 and 2019 reporting years. Where data was not available, the most recent year's data have been used, and the timescale noted accordingly. These disclosures are as follows:

- **Global Warming Potentials (GWP).** The BC government is currently applying GWPs from the fourth IPCC report despite the fact that there are updated GWPs in available in the fifth IPCC report. On this basis, the SCRD is applying GWPs from the fourth IPCC report.
- **Stationary Energy: Emission Factors.** The BC Government updated 2010-2019 electricity emission factors to include emissions from imported electricity resulting in a 5-10% increase in GHG emissions intensities. Since there was no update to the 2007, the BC Government has suggested utilizing the 2010 emission factor for 2007.
- **Stationary Energy: Industrial Emissions.** The Town of Gibson's commercial / industrial natural gas consumption values appear to have included consumption by the Howe Sound Pulp and Paper facility. These industrial natural gas GHG emissions were estimated and reported under the Electoral Areas Manufacturing Industries & Construction Sector. It was assumed that the Fortis BC V3 Port Mellon Compressor Station consumed process gas, not marketable natural gas, and thus the consumption of this gas was not included in the reported natural totals provided by the Province.
- **Stationary Energy: Residential, Commercial and Institutional Buildings.** Propane, and wood GHG emissions were estimated by the Province of BC for both the 2007 and 2019 reporting years.
- **Stationary Energy: Fugitives.** Fortis BC provided total fugitive emissions for the 2019 reporting year at the SCRD level. Since no historical values were provided for 2007, the 2019 value was used to derive a 2007 estimate.
- **Transportation: On-Road.** The Insurance Corporation of BC (ICBC) has not been able to provide SCRD registered vehicle data to the Province. As such, 2012 CEEI data was used to estimate total number of registered vehicles using the change in the SCRDs population between 2012 and 2019.
- **Transportation: Waterborne Recreational Watercraft.** GHG emissions from recreational watercraft were estimated based on the number of overnight and 4 hour boating stops in Gibson's harbour and an estimate of typical recreational boating fuel consumption in the District.
- **AFOLU: Land-Use.** The land cover change analysis requires a consistent land-use category attribution and spatial data. Landsat spatial data was available for the 2006 and 2021 reporting years. Differences between these data sets in terms of resolution and their timing of collection increased the uncertainty as to the accuracy of the land-use classifications (e.g., cloud cover). The challenge in utilizing this data is that it is provided in a 30m resolution. Furthermore, since annual data is not available, the change between land cover data years (2007-2021) for all areas was averaged and may not represent actual changes in each year. Due to limitations in how to quantify GHG emissions resulting from land use change (e.g., residential development), these GHG emissions have been excluded from the SCRD's GHG emissions inventory, but have been disclosed, until a more robust assessment methodology can be developed.

- **AFOLU: Aggregate Sources And Non-CO<sub>2</sub> Emission Sources On Land.** Normally, these GHG emissions would be assigned to each local government on a per hectare (ha) of cropland basis, but due to the limitations in the spatial data (the Landsat data does not identify agricultural lands), no estimate was made.

Details surrounding all GHG emissions sources quantification methods, assumptions, and assessment of uncertainties are contained in a complimentary GHG emissions methodology document and are not presented herein.

# 3 SUNSHINE COAST REGIONAL DISTRICT ENERGY & GHG EMISSIONS

## 3.1 Base Year (2007) Energy & GHG Emissions

In 2007, the SCRD's GHG BASIC+ emissions totaled 328,800 tCO<sub>2</sub>e. On-road transportation GHG emission sources contributed 51.3% to the GHG inventory, almost all of which came from passenger vehicles, light trucks, and SUVs (65.1%). As the second largest source, the manufacturing and industrial sector accounted for 25.1% of SCRD GHG emissions. Residential and commercial buildings GHG emissions contributed to 15.8% of total GHG emissions with 42.1% of those GHG emissions coming from natural gas for heating and cooling, 25.5% from electricity use, 6.1% from heating oil for heating, 19.7% from wood and propane use for heating and the remainder from industrial activities and other-related off-road activities like residential lawn mowing. Off-road transportation, which includes marine, aviation, and other off-road emission sources contributed 17.9% to the overall GHG inventory. Solid waste, organic waste treatment methods, and wastewater treatment and discharge accounted for 3.8% of the total community GHG emissions. IPPU emissions accounted for 1.9% of total GHG emissions while AFOLU GHG emissions resulted for less than 1% of community GHG emissions.

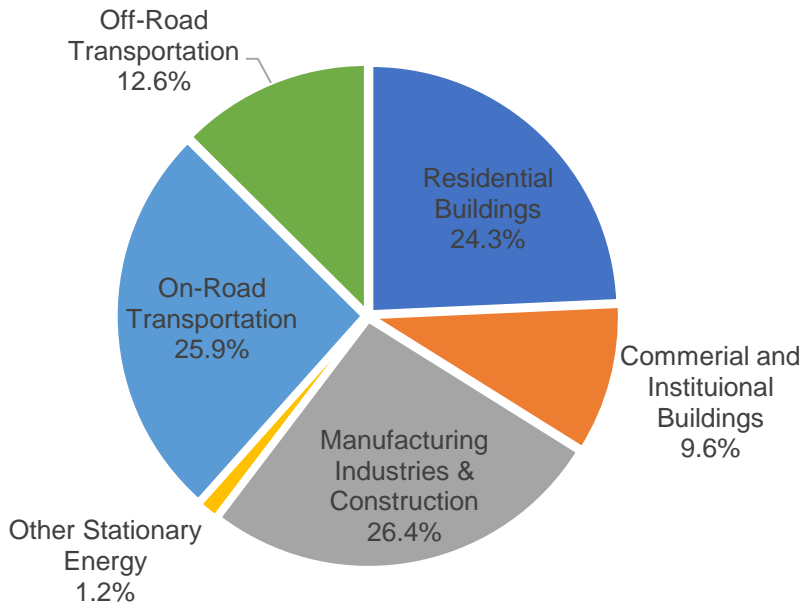
A summary of the GHG emissions by sector and energy use by source is presented in the following table and figures.

**Table 4. Base Year (2007) SCRD Regional GHG Energy & GHG Emissions by Source**

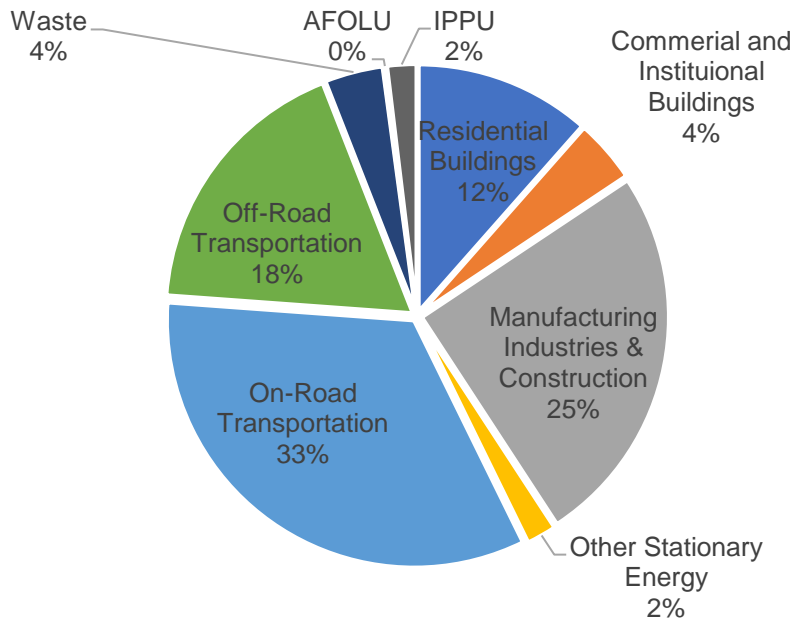
| Source                                       | Type        | Consumption | Units | Energy (GJ) | GHG Emissions (tCO <sub>2</sub> e) |
|--|-------------|-------------|-------|-------------|------------------------------------|
| <b>Stationary Energy</b>                     |             |             |       |             |                                    |
| Residential Buildings                        | Electricity | 248,044     | MWh   | 892,951     | 8,855                              |
|  | Natural Gas | 290,542     | GJ    | 290,542     | 14,489                             |
|  | Fuel Oil    | 1,785       | L     | 46,017      | 3,146                              |
|  | Propane     | 2,457       | L     | 97,068      | 5,917                              |
|  | Wood        | 178,970     | GJ    | 178,970     | 4,203                              |
|  | Diesel      | 422,786     | L     | 16,353      | 1,219                              |
| Commercial & Industrial Buildings            | Electricity | 119,412     | MWh   | 429,879     | 4,263                              |
|  | Natural Gas | 143,627     | GJ    | 143,627     | 7,162                              |
|  | Fuel Oil    | 0           | L     | 0           | 0                                  |
|  | Diesel      | 762,401     | L     | 29,490      | 2,199                              |
| Manufacturing Industries & Construction      | Natural Gas | 1,657,515   | GJ    | 1,657,515   | 82,656                             |
| Agriculture, Forestry And Fishing Activities | Diesel      | 2,016,896   | L     | 78,014      | 5,816                              |

| Source  | Type                                       | Consumption | Units | Energy (GJ)      | GHG Emissions (tCO <sub>2</sub> e) |
|---|--|-------------|-------|------------------|------------------------------------|
| Non-Specified Sources   |  |             |       |                  | 0                                  |
| Natural Gas Fugitive Emissions  |  |             |       |                  | 608                                |
| <b>Total</b>  |  |             |       | <b>3,860,426</b> | <b>140,533</b>                     |
| <b>On-Road Transportation</b>   |  |             |       |                  |                                    |
| Electric Vehicles   | Electricity                                | 0           | kWh   | 0                | 0                                  |
| Hydrogen Vehicles   | Hydrogen                                   | 0           | L     | 0                | 0                                  |
| Passenger Vehicles  | Gasoline + Diesel                          | 7,084,336   | L     | 246,601          | 16,698                             |
| Light Trucks, Vans, SUVs  | Gasoline + Diesel                          | 18,821,495  | L     | 655,465          | 44,983                             |
| Heavy Duty Vehicles   | Gasoline + Diesel                          | 18,471,242  | L     | 692,704          | 46,663                             |
| Propane Vehicles  | Propane                                    | 144,819     | L     | 3,697            | 223                                |
| Natural Gas Vehicles  | Natural Gas                                | 368,971     | kg    | 19,848           | 1,140                              |
| Motorcycles   | Gasoline                                   | 70,181      | L     | 2,432            | 168                                |
| <b>Total On-Road Transportation</b>   |  |             |       | <b>1,620,748</b> | <b>109,874</b>                     |
| <b>Off-Road Transportation</b>  |  |             |       |                  |                                    |
| Marine, Aviation and Other Off-Road Vehicles                                  | Marine Gasoline + Marine Diesel + Jet Fuel | 13,106,922  | L     | 786,932          | 58,845                             |
| <b>Total Off-Road Transportation</b>  |  |             |       | <b>786,932</b>   | <b>58,845</b>                      |
| <b>Waste</b>  |  |             |       |                  |                                    |
| Wastewater  |  |             |       |                  | 230                                |
| Composting  |  |             |       |                  | 0                                  |
| Solid Waste   |  |             |       |                  | 12,290                             |
| <b>Total Waste</b>  |  |             |       |                  | <b>12,521</b>                      |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |  |             |       |                  |                                    |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |  |             |       |                  | -1,024,387                         |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |  |             |       |                  | 835,610                            |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |  |             |       |                  | 739                                |
| <b>Total AFOLU</b>  |  |             |       |                  | <b>739</b>                         |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |  |             |       |                  |                                    |
| Process Use Emissions   |  |             |       |                  | 6,289                              |
| <b>Total IPPU</b>   |  |             |       |                  | <b>6,289</b>                       |
| <b>TOTAL</b>  |  |             |       | <b>6,268,106</b> | <b>328,800</b>                     |
| <b>TOTAL Per Capita</b>   |  |             |       | <b>219.3</b>     | <b>11.5</b>                        |

Energy consumption and GHG emissions by source are shown in **Figure 3**, **Figure 4** and **Figure 5**.

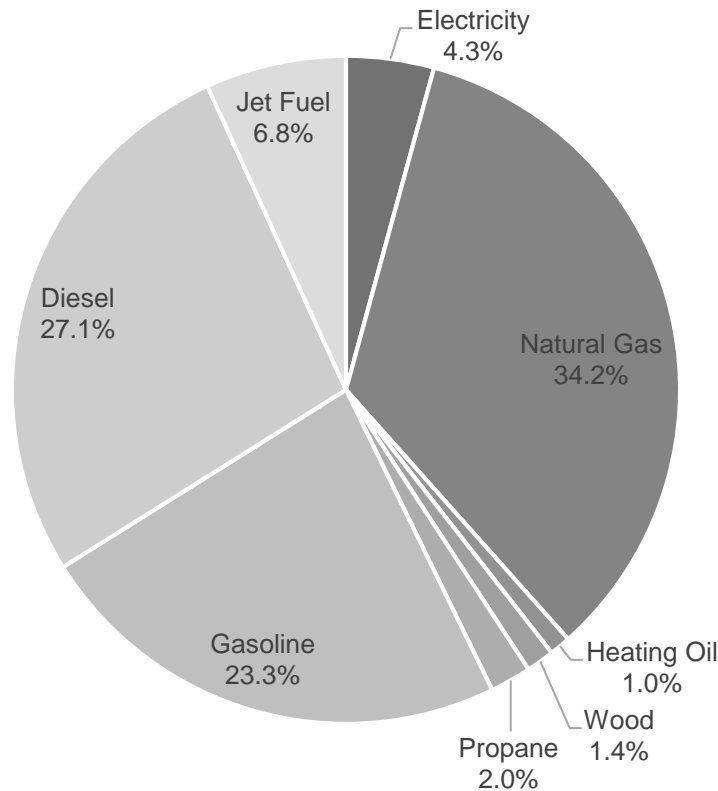


**Figure 3. 2007 Regional Energy Consumption By Sector**



**Figure 4. 2007 Regional GHG Emissions By Sector**

GHG emissions by fuel type is presented in **Figure 5**.



**Figure 5. 2007 Regional GHG Emissions By Fuel Type**

### 3.2 Reporting Year (2019) Energy & GHG Emissions

In 2019, the SCRD's BASIC+ GHG emissions totaled 352,491 tCO<sub>2</sub>. On an absolute basis, this is a 7.2% increase from the 2007 base year GHG emissions and a decline of 3.3% on a per capita basis.

Similar to the 2007 base year, on-road transportation GHG emissions is the largest source of GHG emissions accounting for 47.4% to the GHG inventory, almost all of which came from passenger vehicles, light trucks, and SUVs (66.6%). As the second largest source, manufacturing and industrial GHG emissions accounted for 26.6% of SCRD GHG emissions. Residential and commercial buildings GHG emissions contributed to 13.8% of total GHG emissions with 47.5% of those GHG emissions coming from natural gas for heating and cooling, 23.0% from electricity use, 5.6% from heating oil for heating, 18.0% from wood and propane use for heating and the remainder (5.9%) from industrial activities and other-related off-road activities like residential lawn mowing. Off-road transportation, which includes marine, aviation, and other off-road emission sources contributed 15.8% to the overall GHG inventory. Solid waste, organic waste treatment methods, and wastewater treatment and discharge accounted for 5.6% of the total community GHG emissions. IPPU emissions accounted for 2.8% of total GHG emissions while AFOLU GHG emissions resulted for less than 1% of community GHG emissions.

A summary of the 2019 GHG emissions by sector and energy use by source is presented in the following table and figures.

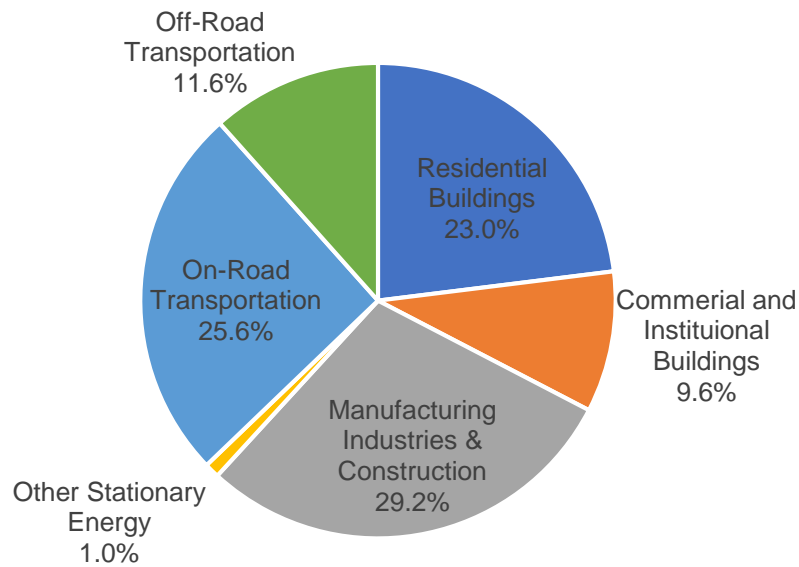
**Table 5. Reporting Year (2019) SCRD Regional GHG Energy & GHG Emissions by Sector**

| Source                                       | Type                                       | Consumption | Units | Energy (GJ)      | GHG Emissions (tCO <sub>2</sub> e) |
|--|--|-------------|-------|------------------|------------------------------------|
| <b>Stationary Energy</b>                     |  |             |       |                  |                                    |
| Residential Buildings                        | Electricity                                | 245,548     | MWh   | 883,966          | 7,342                              |
|  | Natural Gas                                | 311,753     | GJ    | 311,753          | 15,546                             |
|  | Fuel Oil                                   | 1,521       | L     | 39,193           | 2,680                              |
|  | Propane                                    | 2,092       | L     | 82,674           | 5,056                              |
|  | Wood                                       | 152,431     | GJ    | 152,431          | 3,579                              |
|  | Diesel                                     | 304,271     | L     | 11,769           | 877                                |
| Commercial & Industrial Buildings            | Electricity                                | 123,856     | MWh   | 445,878          | 3,703                              |
|  | Natural Gas                                | 145,281     | GJ    | 145,281          | 7,245                              |
|  | Fuel Oil                                   | 0           | L     | 0                | 0                                  |
|  | Diesel                                     | 675,439     | L     | 26,126           | 1,948                              |
| Manufacturing Industries & Construction      | Natural Gas                                | 1,878,578   | GJ    | 1,878,578        | 93,680                             |
| Agriculture, Forestry And Fishing Activities | Diesel                                     | 1,678,888   | L     | 64,939           | 4,841                              |
| Non-Specified Sources                        |  |             |       |                  | 7,738                              |
| Natural Gas Fugitive Emissions               |  |             |       |                  | 644                                |
| <b>Total</b>                                 |  |             |       | <b>4,042,588</b> | <b>154,880</b>                     |
| <b>On-Road Transportation</b>                |  |             |       |                  |                                    |
| Electric Vehicles                            | Electricity                                | 854         | MWh   | 3,075            | 26                                 |
| Hydrogen Vehicles                            | Hydrogen                                   | 0           | L     | 0                | 0                                  |
| Passenger Vehicles                           | Gasoline + Diesel                          | 6,000,396   | L     | 209,023          | 14,155                             |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel                          | 17,603,328  | L     | 612,741          | 42,051                             |
| Heavy Duty Vehicles                          | Gasoline + Diesel                          | 21,194,069  | L     | 798,028          | 53,824                             |
| Propane Vehicles                             | Propane                                    | 206,496     | L     | 5,272            | 318                                |
| Natural Gas Vehicles                         | Natural Gas                                | 266,591     | kg    | 14,341           | 823                                |
| Motorcycles                                  | Gasoline                                   | 96,675      | L     | 3,351            | 231                                |
| <b>Total On-Road Transportation</b>          |  |             |       | <b>1,645,830</b> | <b>111,427</b>                     |
| <b>Off-Road Transportation</b>               |  |             |       |                  |                                    |
| Marine, Aviation and Other Off-Road Vehicles | Marine Gasoline + Marine Diesel + Jet Fuel | 13,350,019  | L     | 745,897          | 55,829                             |
| <b>Total Off-Road Transportation</b>         |  |             |       | <b>745,897</b>   | <b>55,829</b>                      |
| <b>Waste</b>                                 |  |             |       |                  |                                    |

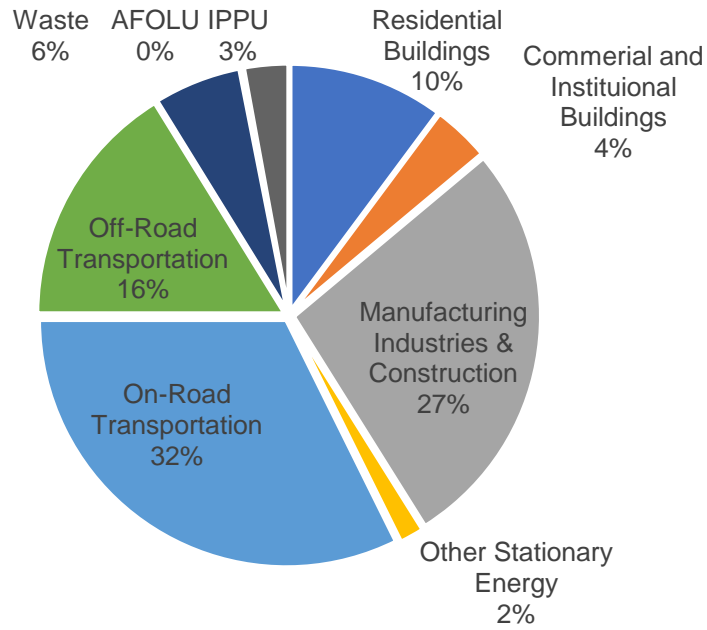


| Source  | Type | Consumption | Units | Energy (GJ)      | GHG Emissions (tCO <sub>2</sub> e) |
|---|------|-------------|-------|------------------|------------------------------------|
| Wastewater  |      |             |       |                  | 239                                |
| Composting  |      |             |       |                  | 70                                 |
| Solid Waste   |      |             |       |                  | 19,350                             |
| <b>Total Waste</b>  |      |             |       |                  | <b>19,659</b>                      |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |      |             |       |                  |                                    |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |      |             |       |                  | -962,632                           |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |      |             |       |                  | 835,610                            |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |      |             |       |                  | 739                                |
| <b>Total AFOLU</b>  |      |             |       |                  | <b>739</b>                         |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |      |             |       |                  |                                    |
| Process Use Emissions   |      |             |       |                  | 9,957                              |
| <b>Total IPPU</b>   |      |             |       |                  | <b>9,957</b>                       |
| <b>TOTAL</b>  |      |             |       | <b>6,434,315</b> | <b>352,491</b>                     |
| <b>TOTAL Per Capita</b>   |      |             |       | <b>203.1</b>     | <b>11.1</b>                        |

Energy consumption and GHG emissions by source are shown in **Figure 6**, **Figure 7** and **Figure 8**.

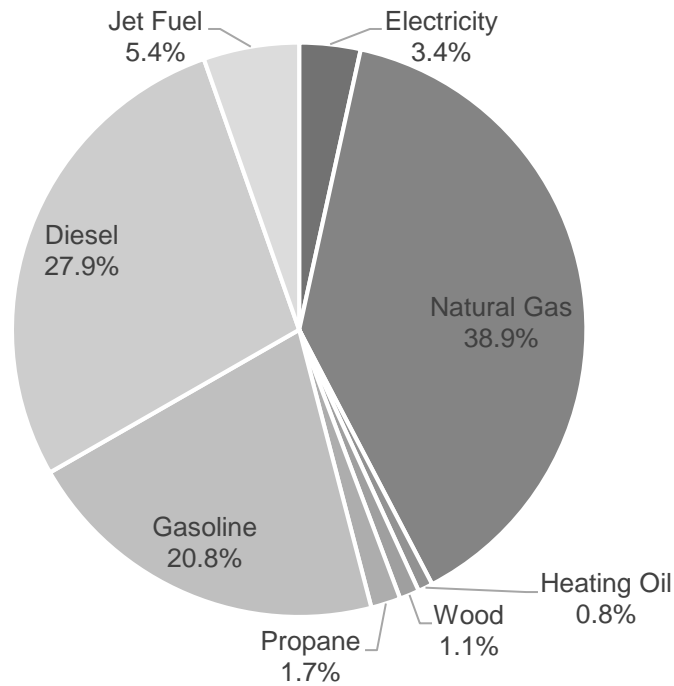


**Figure 6. 2019 Regional Energy Consumption By Sector**



**Figure 7. 2019 Regional GHG Emissions By Sector**

GHG emissions by fuel type is presented in **Figure 8**.



**Figure 8. 2019 Regional GHG Emissions By Fuel Type**

### 3.3 Energy & GHG Emissions Trends

**Table 6** presents the changes between the 2007 and 2019 reporting years, showing that GHG emissions on average increased in the buildings, manufacturing and transportation sectors which is expected as the SCR D population has grown. There was also an increase in process use emissions which is also driven by population. Lastly, there was an increase in composting emissions which is the direct result of waste diversion programs which result in some direct GHG emissions, but overall have a net reduction impact as the process avoids releasing more fugitive emissions from the landfill.

On-road transportation GHG emissions have marginally increased (1.4%) in light of an 18% increase in the number of registered vehicles and a trend away from light duty vehicles, like sedans, towards SUVs and light duty trucks which have lower fuel efficiencies. This increase has been mitigated by shifting preferences towards electric vehicles, Provincial renewable fuel requirements and people simply driving less.

**Table 6. Change in SCRD GHG Energy & GHG Emissions**

| Source                                       | Type              | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%)   |
|--|-------------------|------------------|------------------|-------------|---|---|--------------|
| <b>Stationary Energy</b>                     |                   |                  |                  |             |   |   |              |
| Residential Buildings                        | Electricity       | 892,951          | 883,966          | -1.0%       | 8,855                                   | 7,342                                   | -17.1%       |
|  | Natural Gas       | 290,542          | 311,753          | 7.3%        | 14,489                                  | 15,546                                  | 7.3%         |
|  | Fuel Oil          | 46,017           | 39,193           | -14.8%      | 3,146                                   | 2,680                                   | -14.8%       |
|  | Propane           | 97,068           | 82,674           | -14.8%      | 5,917                                   | 5,056                                   | -14.6%       |
|  | Wood              | 178,970          | 152,431          | -14.8%      | 4,203                                   | 3,579                                   | -14.8%       |
|  | Diesel            | 16,353           | 11,769           | -28.0%      | 1,219                                   | 877                                     | -28.0%       |
| Commercial & Industrial Buildings            | Electricity       | 429,879          | 445,878          | 3.7%        | 4,263                                   | 3,703                                   | -13.1%       |
|  | Natural Gas       | 143,627          | 145,281          | 1.2%        | 7,162                                   | 7,245                                   | 1.2%         |
|  | Fuel Oil          | -                | -                | -           | -                                       | -                                       | -            |
|  | Diesel            | 29,490           | 26,126           | -11.4%      | 2,199                                   | 1,948                                   | -11.4%       |
| Manufacturing Industries & Construction      | Natural Gas       | 1,657,515        | 1,878,578        | 13.3%       | 82,656                                  | 93,680                                  | 13.3%        |
| Agriculture, Forestry And Fishing Activities | Diesel            | 78,014           | 64,939           | -16.8%      | 5,816                                   | 4,841                                   | -16.8%       |
| Non-Specified Sources                        |                   |                  |                  | -           | -                                       | 7,738                                   | -            |
| Natural Gas Fugitive Emissions               |                   |                  |                  | -           | 608                                     | 644                                     | 6.0%         |
| <b>Total</b>                                 |                   | <b>3,860,426</b> | <b>4,042,588</b> | <b>4.7%</b> | <b>140,533</b>                          | <b>154,880</b>                          | <b>10.2%</b> |
| <b>On-Road Transportation</b>                |                   |                  |                  |             |   |   |              |
| Electric Vehicles                            | Electricity       | -                | 3,075            | -           | -                                       | 26                                      | -            |
| Hydrogen Vehicles                            | Hydrogen          | -                | -                | -           | -                                       | -                                       | -            |
| Passenger Vehicles                           | Gasoline + Diesel | 246,601          | 209,023          | -15.2%      | 16,698                                  | 14,155                                  | -15.2%       |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel | 655,465          | 612,741          | -6.5%       | 44,983                                  | 42,051                                  | -6.5%        |

| Source  | Type                         | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)   | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%)   |
|---|------------------------------|------------------|------------------|--------------|---|---|--------------|
| Heavy Duty Vehicles   | Gasoline + Diesel            | 692,704          | 798,028          | 15.2%        | 46,663                                  | 53,824                                  | 15.3%        |
| Propane Vehicles  | Propane                      | 3,697            | 5,272            | 42.6%        | 223                                     | 318                                     | 42.6%        |
| Natural Gas Vehicles  | Natural Gas                  | 19,848           | 14,341           | -27.7%       | 1,140                                   | 823                                     | -27.7%       |
| Motorcycles   | Gasoline                     | 2,432            | 3,351            | 37.8%        | 168                                     | 231                                     | 37.8%        |
| <b>Total On-Road Transportation</b>   |                              | <b>1,620,748</b> | <b>1,645,830</b> | <b>1.5%</b>  | <b>109,874</b>                          | <b>111,427</b>                          | <b>1.4%</b>  |
| <b>Off-Road Transportation</b>  |                              |                  |                  |              |   |   |              |
| Marine, Aviation and Other Off-Road Vehicles                                  | Gasoline + Diesel + Jet Fuel | 786,932          | 745,897          | -5.2%        | 58,845                                  | 55,829                                  | -5.1%        |
| <b>Total Off-Road Transportation</b>  |                              | <b>786,932</b>   | <b>745,897</b>   | <b>-5.2%</b> | <b>58,845</b>                           | <b>55,829</b>                           | <b>-5.1%</b> |
| <b>Waste</b>  |                              |                  |                  |              |   |   |              |
| Wastewater  |                              |                  |                  |              | 230                                     | 239                                     | 3.8%         |
| Composting  |                              |                  |                  |              | 0                                       | 70                                      | -            |
| Solid Waste   |                              |                  |                  |              | 12,290                                  | 19,350                                  | 57.4%        |
| <b>Total Waste</b>  |                              |                  |                  |              | <b>12,521</b>                           | <b>19,659</b>                           | <b>57.0%</b> |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |                              |                  |                  |              |   |   |              |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |                              |                  |                  |              | -1,024,387                              | -962,632                                | -6.0%        |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |                              |                  |                  |              | 835,610                                 | 835,610                                 | 0.0%         |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |                              |                  |                  |              | 739                                     | 739                                     | 0.0%         |
| <b>Total AFOLU</b>  |                              |                  |                  |              | <b>739</b>                              | <b>739</b>                              | <b>0.0%</b>  |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |                              |                  |                  |              |   |   |              |
| Process Use Emissions   |                              |                  |                  |              | 6,289                                   | 9,957                                   | 58.3%        |
| <b>Total IPPU</b>   |                              |                  |                  |              | <b>6,289</b>                            | <b>9,957</b>                            | <b>58.3%</b> |
| <b>TOTAL</b>  |                              | <b>6,268,106</b> | <b>6,434,315</b> | <b>2.7%</b>  | <b>328,800</b>                          | <b>352,491</b>                          | <b>7.2%</b>  |

**Table 7** presents the changes between the 2007 and 2019 years for each SCRD local government.

**Table 7. Change in Member GHG Energy & GHG Emissions**

| Member                             | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%)  |
|------------------------------------|------------------|------------------|-------------|---|---|-------------|
| Town of Gibsons                    | 694,912          | 681,501          | -1.9%       | 36,656                                  | 36,519                                  | -0.4%       |
| District of Sechelt                | 1,438,552        | 1,510,244        | 5.0%        | 79,386                                  | 85,039                                  | 7.1%        |
| Sechelt Indian Government District | 115,007          | 94,387           | -17.9%      | 6,704                                   | 5,279                                   | -21.3%      |
| Electoral Areas                    | 4,019,635        | 4,148,184        | 3.2%        | 206,054                                 | 225,653                                 | 9.5%        |
| <b>Total</b>                       | <b>6,268,106</b> | <b>6,434,315</b> | <b>2.7%</b> | <b>328,800</b>                          | <b>352,491</b>                          | <b>7.2%</b> |

## 4 TOWN OF GIBSONS

### 4.1 2019 Profile

| Profile                            |        |
|------------------------------------|--------|
| Population                         | 4,857  |
| Dwellings                          | 2,297  |
| Registered Vehicles                | 3,543  |
| Energy (Thousands of GJ)           | 682    |
| GHG Emissions (tCO <sub>2</sub> e) | 36,519 |

### 4.2 Energy & GHG Emissions

**Table 8** presents a summary comparison of the Town of Gibsons' 2007 and 2019 energy and GHG emissions.

**Table 8. Estimated Energy and GHG Emissions By Reporting Source**

| Source                   | Type                              | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%) | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%) |
|--------------------------|-----------------------------------|------------------|------------------|------------|---|---|------------|
| <b>Stationary Energy</b> |                                   |                  |                  |            |   |   |            |
| Residential Buildings    | Electricity                       | 99,017           | 90,122           | -9.0%      | 982                                     | 749                                     | -23.8%     |
|                          | Natural Gas                       | 47,236           | 54,531           | 15.4%      | 2,356                                   | 2,719                                   | 15.4%      |
|                          | Fuel Oil                          | 4,565            | 3,888            | -14.8%     | 312                                     | 266                                     | -14.8%     |
|                          | Propane                           | 9,643            | 8,213            | -14.8%     | 588                                     | 502                                     | -14.6%     |
|                          | Wood                              | 17,723           | 15,095           | -14.8%     | 416                                     | 354                                     | -14.8%     |
|                          | Diesel                            | 2,413            | 1,804            | -25.2%     | 180                                     | 135                                     | -25.2%     |
|                          | Commercial & Industrial Buildings | Electricity      | 80,162           | 83,265     | 3.9%                                    | 795                                     | 692        |
| Natural Gas              |                                   | 57,835           | 58,500           | 1.2%       | 2,884                                   | 2,917                                   | 1.2%       |

SUNSHINE COAST CAPITAL REGIONAL DISTRICT  
 2007 & 2020 ENERGY & GHG EMISSIONS INVENTORIES

| Source                                       | Type                         | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)   | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)   |
|--|------------------------------|------------------|------------------|--------------|---|---|--------------|
|  | Fuel Oil                     | -                | -                | -            | -                                       | -                                       | -            |
|  | Diesel                       | 4,351            | 4,005            | -7.9%        | 324                                     | 299                                     | -7.9%        |
| Manufacturing Industries & Construction      | Natural Gas                  | -                | -                | -            | -                                       | -                                       | -            |
| Agriculture, Forestry And Fishing Activities | Diesel                       | 11,510           | 9,956            | -13.5%       | 858                                     | 742                                     | -13.5%       |
| Non-Specified Sources                        |                              |                  |                  | -            | -                                       | -                                       | -            |
| Natural Gas Fugitive Emissions               |                              |                  |                  | -            | 183                                     | 125                                     | -31.4%       |
| <b>Total</b>                                 |                              | <b>334,456</b>   | <b>329,380</b>   | <b>-1.5%</b> | <b>9,878</b>                            | <b>9,500</b>                            | <b>-3.8%</b> |
| <b>On-Road Transportation</b>                |                              |                  |                  |              |   |   |              |
| Electric Vehicles                            | Electricity                  | -                | 1,142            | -            | -                                       | 9                                       | -            |
| Hydrogen Vehicles                            | Hydrogen                     | -                | -                | -            | -                                       | -                                       | -            |
| Passenger Vehicles                           | Gasoline + Diesel            | 43,174           | 32,876           | -23.9%       | 2,923                                   | 2,226                                   | -23.8%       |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel            | 101,221          | 90,155           | -10.9%       | 6,946                                   | 6,187                                   | -10.9%       |
| Heavy Duty Vehicles                          | Gasoline + Diesel            | 91,979           | 104,497          | 13.6%        | 6,188                                   | 7,040                                   | 13.8%        |
| Propane Vehicles                             | Propane                      | 428              | 2,036            | 375.4%       | 26                                      | 123                                     | 375.4%       |
| Natural Gas Vehicles                         | Natural Gas                  | 3,114            | 3,339            | 7.2%         | 179                                     | 192                                     | 7.2%         |
| Motorcycles                                  | Gasoline                     | 347              | 435              | 25.2%        | 24                                      | 30                                      | 25.2%        |
| <b>Total On-Road Transportation</b>          |                              | <b>240,265</b>   | <b>234,480</b>   | <b>-2.4%</b> | <b>16,287</b>                           | <b>15,807</b>                           | <b>-2.9%</b> |
| <b>Off-Road Transportation</b>               |                              |                  |                  |              |   |   |              |
| Marine, Aviation and Other Off-Road Vehicles | Gasoline + Diesel + Jet Fuel | 120,191          | 117,640          | -2.1%        | 8,951                                   | 8,776                                   | -2.0%        |
| <b>Total Off-Road Transportation</b>         |                              | <b>120,191</b>   | <b>117,640</b>   | <b>-2.1%</b> | <b>8,951</b>                            | <b>8,776</b>                            | <b>-2.0%</b> |
| <b>Waste</b>                                 |                              |                  |                  |              |   |   |              |
| Wastewater                                   |                              |                  |                  |              | 111                                     | 91                                      | -18.1%       |



| Source  | Type | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)   | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)   |
|---|------|------------------|------------------|--------------|---|---|--------------|
| Composting  |      |                  |                  |              | 0                                       | 35                                      | -            |
| Solid Waste   |      |                  |                  |              | 492                                     | 774                                     | 57.4%        |
| <b>Total Waste</b>  |      |                  |                  |              | <b>602</b>                              | <b>900</b>                              | <b>49.3%</b> |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |      |                  |                  |              |   |   |              |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |      |                  |                  |              | -628                                    | -608                                    | -3.2%        |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |      |                  |                  |              | 694                                     | 694                                     | 0.0%         |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |      |                  |                  |              | 10                                      | 10                                      | 0.0%         |
| <b>Total AFOLU</b>  |      |                  |                  |              | <b>10</b>                               | <b>10</b>                               | <b>0.0%</b>  |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |      |                  |                  |              |   |   |              |
| Process Use Emissions   |      |                  |                  |              | 928                                     | 1,526                                   | 64.5%        |
| <b>Total IPPU</b>   |      |                  |                  |              | <b>928</b>                              | <b>1,526</b>                            | <b>64.5%</b> |
| <b>TOTAL</b>  |      | <b>694,912</b>   | <b>681,501</b>   | <b>-1.9%</b> | <b>36,656</b>                           | <b>36,519</b>                           | <b>-0.4%</b> |

## 5 DISTRICT OF SECHELT

### 5.1 2019 Profile

| Profile                            |        |
|------------------------------------|--------|
| Population                         | 10,719 |
| Dwellings                          | 4,846  |
| Registered Vehicles                | 8,335  |
| Energy (Thousands of GJ)           | 1,510  |
| GHG Emissions (tCO <sub>2</sub> e) | 85,039 |

### 5.2 Energy & GHG Emissions

**Table 9** presents a summary comparison of the District of Sechelt's 2007 and 2019 energy and GHG emissions.

**Table 9. Estimated Energy and GHG Emissions By Reporting Source**

| Source                   | Type                              | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%) | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%) |
|--------------------------|-----------------------------------|------------------|------------------|------------|---|---|------------|
| <b>Stationary Energy</b> |                                   |                  |                  |            |   |   |            |
| Residential Buildings    | Electricity                       | 231,330          | 244,760          | 5.8%       | 2,294                                   | 2,033                                   | -11.4%     |
|                          | Natural Gas                       | 128,666          | 140,726          | 9.4%       | 6,416                                   | 7,018                                   | 9.4%       |
|                          | Fuel Oil                          | 5,907            | 5,031            | -14.8%     | 404                                     | 344                                     | -14.8%     |
|                          | Propane                           | 12,464           | 10,616           | -14.8%     | 760                                     | 649                                     | -14.6%     |
|                          | Wood                              | 22,963           | 19,558           | -14.8%     | 539                                     | 459                                     | -14.8%     |
|                          | Diesel                            | 5,042            | 3,982            | -21.0%     | 376                                     | 297                                     | -21.0%     |
|                          | Commercial & Industrial Buildings | Electricity      | 112,714          | 118,130    | 4.8%                                    | 1,118                                   | 981        |
| Natural Gas              |                                   | 81,321           | 82,996           | 2.1%       | 4,055                                   | 4,139                                   | 2.1%       |

SUNSHINE COAST CAPITAL REGIONAL DISTRICT  
 2007 & 2020 ENERGY & GHG EMISSIONS INVENTORIES

| Source                                       | Type                         | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)   |
|--|------------------------------|------------------|------------------|-------------|---|---|--------------|
|  | Fuel Oil                     | -                | -                | -           | -                                       | -                                       | -            |
|  | Diesel                       | 9,093            | 8,840            | -2.8%       | 678                                     | 659                                     | -2.8%        |
| Manufacturing Industries & Construction      | Natural Gas                  | -                | -                | -           | -                                       | -                                       | -            |
| Agriculture, Forestry And Fishing Activities | Diesel                       | 24,055           | 21,972           | -8.7%       | 1,793                                   | 1,638                                   | -8.7%        |
| Non-Specified Sources                        |                              |                  |                  | -           | -                                       | -                                       | -            |
| Natural Gas Fugitive Emissions               |                              |                  |                  | -           | 425                                     | 310                                     | -27.1%       |
| <b>Total</b>                                 |                              | <b>633,557</b>   | <b>656,609</b>   | <b>3.6%</b> | <b>18,858</b>                           | <b>18,527</b>                           | <b>-1.8%</b> |
| <b>On-Road Transportation</b>                |                              |                  |                  |             |   |   |              |
| Electric Vehicles                            | Electricity                  | -                | 791              | -           | -                                       | 7                                       | -            |
| Hydrogen Vehicles                            | Hydrogen                     | -                | -                | -           | -                                       | -                                       | -            |
| Passenger Vehicles                           | Gasoline + Diesel            | 83,807           | 75,484           | -9.9%       | 5,675                                   | 5,111                                   | -9.9%        |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel            | 224,120          | 220,977          | -1.4%       | 15,381                                  | 15,165                                  | -1.4%        |
| Heavy Duty Vehicles                          | Gasoline + Diesel            | 247,172          | 296,543          | 20.0%       | 16,664                                  | 20,019                                  | 20.1%        |
| Propane Vehicles                             | Propane                      | 2,101            | 2,391            | 13.8%       | 127                                     | 144                                     | 13.8%        |
| Natural Gas Vehicles                         | Natural Gas                  | 7,703            | 7,058            | -8.4%       | 442                                     | 405                                     | -8.4%        |
| Motorcycles                                  | Gasoline                     | 822              | 1,115            | 35.6%       | 57                                      | 77                                      | 35.6%        |
| <b>Total On-Road Transportation</b>          |                              | <b>565,725</b>   | <b>604,359</b>   | <b>6.8%</b> | <b>38,345</b>                           | <b>40,928</b>                           | <b>6.7%</b>  |
| <b>Off-Road Transportation</b>               |                              |                  |                  |             |   |   |              |
| Marine, Aviation and Other Off-Road Vehicles | Gasoline + Diesel + Jet Fuel | 239,271          | 249,276          | 4.2%        | 17,922                                  | 18,685                                  | 4.3%         |
| <b>Total Off-Road Transportation</b>         |                              | <b>239,271</b>   | <b>249,276</b>   | <b>4.2%</b> | <b>17,922</b>                           | <b>18,685</b>                           | <b>4.3%</b>  |
| <b>Waste</b>                                 |                              |                  |                  |             |   |   |              |
| Wastewater                                   |                              |                  |                  |             | 116                                     | 141                                     | 21.6%        |

| Source  | Type | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)   |
|---|------|------------------|------------------|-------------|---|---|--------------|
| Composting  |      |                  |                  |             | 0                                       | 35                                      | -            |
| Solid Waste   |      |                  |                  |             | 2,000                                   | 3,149                                   | 57.4%        |
| <b>Total Waste</b>  |      |                  |                  |             | <b>2,116</b>                            | <b>3,325</b>                            | <b>57.1%</b> |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |      |                  |                  |             |   |   |              |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |      |                  |                  |             | -8,545                                  | -8,311                                  | -2.7%        |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |      |                  |                  |             | 6,139                                   | 6,139                                   | 0.0%         |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |      |                  |                  |             | 205                                     | 205                                     | 0.0%         |
| <b>Total AFOLU</b>  |      |                  |                  |             | <b>205</b>                              | <b>205</b>                              | <b>0.0%</b>  |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |      |                  |                  |             |   |   |              |
| Process Use Emissions   |      |                  |                  |             | 1,939                                   | 3,369                                   | 73.7%        |
| <b>Total IPPU</b>   |      |                  |                  |             | <b>1,939</b>                            | <b>3,369</b>                            | <b>73.7%</b> |
| <b>TOTAL</b>  |      | <b>1,438,552</b> | <b>1,510,244</b> | <b>5.0%</b> | <b>79,386</b>                           | <b>85,039</b>                           | <b>7.1%</b>  |

## 6 SECHELT INDIAN GOVERNMENT DISTRICT

### 6.1 2019 Profile

| Profile                            |       |
|------------------------------------|-------|
| Population                         | 711   |
| Dwellings                          | 346   |
| Registered Vehicles                | 416   |
| Energy (Thousands of GJ)           | 94    |
| GHG Emissions (tCO <sub>2</sub> e) | 5,279 |

### 6.2 Energy & GHG Emissions

**Table 10** presents a summary comparison of the Sechelt Indian Government District's 2007 and 2019 energy and GHG emissions.

**Table 10. Estimated Energy and GHG Emissions By Reporting Source**

| Source                            | Type        | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%) | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%) |
|-----------------------------------|-------------|------------------|------------------|------------|---|---|------------|
| <b>Stationary Energy</b>          |             |                  |                  |            |   |   |            |
| Residential Buildings             | Electricity | 14,813           | 15,673           | 5.8%       | 147                                     | 130                                     | -11.4%     |
|                                   | Natural Gas | 7,058            | 9,039            | 28.1%      | 352                                     | 451                                     | 28.1%      |
|                                   | Fuel Oil    | 1,184            | 1,008            | -14.8%     | 81                                      | 69                                      | -14.8%     |
|                                   | Propane     | 2,497            | 2,127            | -14.8%     | 152                                     | 130                                     | -14.6%     |
|                                   | Wood        | 4,604            | 3,921            | -14.8%     | 108                                     | 92                                      | -14.8%     |
|                                   | Diesel      | 492              | 264              | -46.3%     | 37                                      | 20                                      | -46.3%     |
| Commercial & Industrial Buildings | Electricity | 7,217            | 7,999            | 10.8%      | 72                                      | 66                                      | -7.2%      |
|                                   | Natural Gas | -                | -                | -          | -                                       | -                                       | -          |

| Source                                       | Type                         | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)    | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)    |
|--|------------------------------|------------------|------------------|---------------|---|---|---------------|
|  | Fuel Oil                     | -                | -                | -             | -                                       | -                                       | -             |
|  | Diesel                       | 887              | 586              | -33.9%        | 66                                      | 44                                      | -33.9%        |
| Manufacturing Industries & Construction      | Natural Gas                  | -                | -                | -             | -                                       | -                                       | -             |
| Agriculture, Forestry And Fishing Activities | Diesel                       | 2,347            | 1,457            | -37.9%        | 175                                     | 109                                     | -37.9%        |
| Non-Specified Sources                        |                              |                  |                  | -             | -                                       | -                                       | -             |
| Natural Gas Fugitive Emissions               |                              |                  |                  | -             | -                                       | -                                       | -             |
| <b>Total</b>                                 |                              | <b>41,100</b>    | <b>42,076</b>    | <b>2.4%</b>   | <b>1,190</b>                            | <b>1,111</b>                            | <b>-6.6%</b>  |
| <b>On-Road Transportation</b>                |                              |                  |                  |               |   |   |               |
| Electric Vehicles                            | Electricity                  | -                | 41               | -             | -                                       | 0                                       | -             |
| Hydrogen Vehicles                            | Hydrogen                     | -                | -                | -             | -                                       | -                                       | -             |
| Passenger Vehicles                           | Gasoline + Diesel            | 5,865            | 3,867            | -34.1%        | 397                                     | 262                                     | -34.1%        |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel            | 15,045           | 10,543           | -29.9%        | 1,033                                   | 723                                     | -29.9%        |
| Heavy Duty Vehicles                          | Gasoline + Diesel            | 25,747           | 20,973           | -18.5%        | 1,740                                   | 1,418                                   | -18.5%        |
| Propane Vehicles                             | Propane                      | 389              | -                | 100.0%        | 23                                      | -                                       | 100.0%        |
| Natural Gas Vehicles                         | Natural Gas                  | 3,114            | -                | 100.0%        | 179                                     | -                                       | 100.0%        |
| Motorcycles                                  | Gasoline                     | 67               | 58               | -12.6%        | 5                                       | 4                                       | -12.6%        |
| <b>Total On-Road Transportation</b>          |                              | <b>50,228</b>    | <b>35,483</b>    | <b>-29.4%</b> | <b>3,377</b>                            | <b>2,408</b>                            | <b>-28.7%</b> |
| <b>Off-Road Transportation</b>               |                              |                  |                  |               |   |   |               |
| Marine, Aviation and Other Off-Road Vehicles | Gasoline + Diesel + Jet Fuel | 23,680           | 16,827           | -28.9%        | 1,771                                   | 1,259                                   | -28.9%        |
| <b>Total Off-Road Transportation</b>         |                              | <b>23,680</b>    | <b>16,827</b>    | <b>-28.9%</b> | <b>1,771</b>                            | <b>1,259</b>                            | <b>-28.9%</b> |

| Source  | Type | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)    | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%)    |
|---|------|------------------|------------------|---------------|---|---|---------------|
| <b>Waste</b>  |      |                  |                  |               |   |   |               |
| Wastewater  |      |                  |                  |               | 2                                       | 1                                       | -17.3%        |
| Composting  |      |                  |                  |               | 0                                       | 0                                       | -             |
| Solid Waste   |      |                  |                  |               | 176                                     | 277                                     | 57.4%         |
| <b>Total Waste</b>  |      |                  |                  |               | <b>178</b>                              | <b>279</b>                              | <b>56.7%</b>  |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |      |                  |                  |               |   |   |               |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |      |                  |                  |               | -828                                    | -312                                    | -62.3%        |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |      |                  |                  |               | 5,857                                   | 5,857                                   | 0.0%          |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |      |                  |                  |               | -                                       | -                                       | -             |
| <b>Total AFOLU</b>  |      |                  |                  |               | <b>-</b>                                | <b>-</b>                                | <b>-</b>      |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |      |                  |                  |               |   |   |               |
| Process Use Emissions   |      |                  |                  |               | 189                                     | 223                                     | 18.1%         |
| <b>Total IPPU</b>   |      |                  |                  |               | <b>189</b>                              | <b>223</b>                              | <b>18.1%</b>  |
| <b>TOTAL</b>  |      | <b>115,007</b>   | <b>94,387</b>    | <b>-17.9%</b> | <b>6,704</b>                            | <b>5,279</b>                            | <b>-21.3%</b> |

# 7 ELECTORAL AREAS

## 7.1 2019 Profile

| Profile                            |         |
|------------------------------------|---------|
| Population                         | 15,394  |
| Dwellings                          | 6,413   |
| Registered Vehicles                | 10,897  |
| Energy (Thousands of GJ)           | 4,148   |
| GHG Emissions (tCO <sub>2</sub> e) | 225,653 |

## 7.2 Energy & GHG Emissions

**Table 11** presents a summary comparison of the SCRD's Electoral Areas 2007 and 2019 energy and GHG emissions. The Electoral Areas (EA) consist of the following:

- Electoral Area A: Pender Harbour
- Electoral Area B: Halfmoon Bay
- Electoral Area D: Roberts Creek
- Electoral Area E: Elphinstone
- Electoral Area F: West Howe Sound

Due to data limitations, separate energy and GHG emissions profiles for each EA cannot be provided at this time.

**Table 11. Estimated Energy and GHG Emissions By Reporting Source**

| Source                   | Type        | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%) | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%) |
|--------------------------|-------------|------------------|------------------|------------|---|---|------------|
| <b>Stationary Energy</b> |             |                  |                  |            |   |   |            |
| Residential Buildings    | Electricity | 547,791          | 533,411          | -2.6%      | 5,432                                   | 4,430                                   | -18.4%     |



| Source                                       | Type              | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)  | 2007 GHG Emissions (tCO <sub>2e</sub> ) | 2019 GHG Emissions (tCO <sub>2e</sub> ) | Change (%)   |
|--|-------------------|------------------|------------------|-------------|---|---|--------------|
|  | Natural Gas       | 107,582          | 107,457          | -0.1%       | 5,365                                   | 5,359                                   | -0.1%        |
|  | Fuel Oil          | 34,361           | 29,266           | -14.8%      | 2,349                                   | 2,001                                   | -14.8%       |
|  | Propane           | 72,463           | 61,717           | -14.8%      | 4,417                                   | 3,774                                   | -14.6%       |
|  | Wood              | 133,680          | 113,857          | -14.8%      | 3,139                                   | 2,674                                   | -14.8%       |
|  | Diesel            | 8,406            | 5,719            | -32.0%      | 627                                     | 426                                     | -32.0%       |
| Commercial & Industrial Buildings            | Electricity       | 229,785          | 236,484          | 2.9%        | 2,279                                   | 1,964                                   | -13.8%       |
|  | Natural Gas       | 4,471            | 3,785            | -15.3%      | 223                                     | 189                                     | -15.3%       |
|  | Fuel Oil          | -                | -                | -           | -                                       | -                                       | -            |
|  | Diesel            | 15,158           | 12,695           | -16.3%      | 1,130                                   | 946                                     | -16.3%       |
| Manufacturing Industries & Construction      | Natural Gas       | 1,657,515        | 1,878,578        | 13.3%       | 82,656                                  | 93,680                                  | 13.3%        |
| Agriculture, Forestry And Fishing Activities | Diesel            | 40,101           | 31,554           | -21.3%      | 2,990                                   | 2,353                                   | -21.3%       |
| Non-Specified Sources                        |                   |                  |                  | -           | -                                       | 7,738                                   | -            |
| Natural Gas Fugitive Emissions               |                   |                  |                  | -           | -                                       | 209                                     | -            |
| <b>Total</b>                                 |                   | <b>2,851,314</b> | <b>3,014,523</b> | <b>5.7%</b> | <b>110,607</b>                          | <b>125,743</b>                          | <b>13.7%</b> |
| <b>On-Road Transportation</b>                |                   |                  |                  |             |   |   |              |
| Electric Vehicles                            | Electricity       | -                | 1,101            | -           | -                                       | 9                                       | -            |
| Hydrogen Vehicles                            | Hydrogen          | -                | -                | -           | -                                       | -                                       | -            |
| Passenger Vehicles                           | Gasoline + Diesel | 113,755          | 96,796           | -14.9%      | 7,703                                   | 6,555                                   | -14.9%       |
| Light Trucks, Vans, SUVs                     | Gasoline + Diesel | 315,078          | 291,065          | -7.6%       | 21,623                                  | 19,975                                  | -7.6%        |
| Heavy Duty Vehicles                          | Gasoline + Diesel | 327,805          | 376,014          | 14.7%       | 22,071                                  | 25,347                                  | 14.8%        |
| Propane Vehicles                             | Propane           | 779              | 845              | 8.5%        | 47                                      | 51                                      | 8.5%         |
| Natural Gas Vehicles                         | Natural Gas       | 5,917            | 3,944            | -33.3%      | 340                                     | 226                                     | -33.3%       |

SUNSHINE COAST CAPITAL REGIONAL DISTRICT  
 2007 & 2020 ENERGY & GHG EMISSIONS INVENTORIES

| Source  | Type                         | 2007 Energy (GJ) | 2019 Energy (GJ) | Change (%)    | 2007 GHG Emissions (tCO <sub>2</sub> e) | 2019 GHG Emissions (tCO <sub>2</sub> e) | Change (%)    |
|---|------------------------------|------------------|------------------|---------------|---|---|---------------|
| Motorcycles   | Gasoline                     | 1,196            | 1,743            | 45.7%         | 82                                      | 120                                     | 45.7%         |
| <b>Total On-Road Transportation</b>   |                              | <b>764,530</b>   | <b>771,508</b>   | <b>0.9%</b>   | <b>51,865</b>                           | <b>52,284</b>                           | <b>0.8%</b>   |
| <b>Off-Road Transportation</b>  |                              |                  |                  |               |   |   |               |
| Marine, Aviation and Other Off-Road Vehicles                                  | Gasoline + Diesel + Jet Fuel | 403,791          | 362,153          | -10.3%        | 30,201                                  | 27,109                                  | -10.2%        |
| <b>Total Off-Road Transportation</b>  |                              | <b>403,791</b>   | <b>362,153</b>   | <b>-10.3%</b> | <b>30,201</b>                           | <b>27,109</b>                           | <b>-10.2%</b> |
| <b>Waste</b>  |                              |                  |                  |               |   |   |               |
| Wastewater  |                              |                  |                  |               | 2                                       | 6                                       | 213.6%        |
| Composting  |                              |                  |                  |               | 0                                       | 0                                       | -             |
| Solid Waste   |                              |                  |                  |               | 9,622                                   | 15,149                                  | 57.4%         |
| <b>Total Waste</b>  |                              |                  |                  |               | <b>9,624</b>                            | <b>15,155</b>                           | <b>57.5%</b>  |
| <b>Agriculture Forestry &amp; Other Land Use (AFOLU)</b>                      |                              |                  |                  |               |   |   |               |
| Land-Use: Emissions Sequestered (Disclosure Only - Not Included In Total)     |                              |                  |                  |               | -1,014,386                              | -953,401                                | -6.0%         |
| Land-Use: Emissions Released (Disclosure Only - Not Included In Total)        |                              |                  |                  |               | 822,920                                 | 822,920                                 | 0.0%          |
| Livestock, Aggregate Sources and Non-CO <sub>2</sub> Emission Sources on Land |                              |                  |                  |               | 524                                     | 524                                     | 0.0%          |
| <b>Total AFOLU</b>  |                              |                  |                  |               | <b>524</b>                              | <b>524</b>                              | <b>0.0%</b>   |
| <b>Industrial Process &amp; Product Use (IPPU)</b>                            |                              |                  |                  |               |   |   |               |
| Process Use Emissions   |                              |                  |                  |               | 3,233                                   | 4,838                                   | 49.7%         |
| <b>Total IPPU</b>   |                              |                  |                  |               | <b>3,233</b>                            | <b>4,838</b>                            | <b>49.7%</b>  |
| <b>TOTAL</b>  |                              | <b>4,019,635</b> | <b>4,148,184</b> | <b>3.2%</b>   | <b>206,054</b>                          | <b>225,653</b>                          | <b>9.5%</b>   |