COMMITTEE OF THE WHOLE

Thursday, May 26, 2022

Held Electronically
and Transmitted via the SCRD Boardroom,
1975 Field Road, Sechelt, B.C.

AGENDA

CALL TO ORDER 9:30 a.m.

AGENDA

1. Adoption of Agenda

PRESENTATIONS AND DELEGATIONS

2. Daniel Hegg, Stantec
Regarding: Community Greenhouse Gas Emissions Inventory

REPORTS

3.	Sunshine Coast Greenhouse Gas Emissions Inventory *Manager, Sustainable Development* **(Voting – All Directors)**	Annex A Pages 1-114
4.	Sunshine Coast Climate Risk Assessment *Manager, Sustainable Development* **(Voting - All Directors)**	Annex B pp. 115-145
5.	2022 Budget Project Status Report – Update *Senior Leadership Team* **(Voting – All Directors)**	Annex C pp. 146-162
6.	Union of British Columbia Municipalities – Call for Resolutions *Corporate Officer* **(Voting – All Directors)**	Annex D pp. 163-165
7.	Establishment of Finance Standing Committee *Corporate Officer* **(Voting – All Directors)**	Annex E pp. 166-168

8. Community Emergency Preparedness Fund Grant Application for Sunshine Coast Emergency Program Emergency Operations Centre Communication Modernization — Annex F pp. 169-170
Manager, Protective Services
(Voting – All Directors)

9. Community Emergency Preparedness Fund Grant Approval for Sunshine Coast Emergency Program Emergency Support Services Reception Centre Modernization — Annex G pp. 171-172
Manager, Protective Services
(Voting – All Directors)

10. Wescan Marine Crossing Watermain Replacement - Contract Award — Annex H pp. 173-175
Capital Projects Senior Coordinator
(Voting – A, B, D, E, F and Sechelt)

11. Proposed Amendments Water Supply Advisory Committee Terms of Reference — Annex I pp. 176-184
General Manager, Infrastructure Services
Manager, Strategic Initiatives
(Voting – A, B, D, E, F and Sechelt)

12. Community Services Department 2022 Q1 Report — Annex J pp. 185-214
General Manager, Community Services
(Voting – All Directors)

COMMUNICATIONS

NEW BUSINESS

IN CAMERA

ADJOURNMENT

ANNEX A

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Raphael Shay - Manager, Sustainable Development

SUBJECT: **SUNSHINE COAST GREENHOUSE GAS (GHG) EMISSIONS INVENTORY**

RECOMMENDATION(S)

THAT the report titled Sunshine Coast Greenhouse Gas (GHG) Emissions Inventory be received for information;

AND THAT a proposal for an updated GHG emissions inventory be presented at 2024 Budget.

BACKGROUND

Many governments, including local governments, prepare community inventories of greenhouse gas (GHG) emissions produced in their area of jurisdiction (distinct from "corporate" inventories). Such inventories can be used to measure, monitor and plan for change.

Stantec was hired to complete the 2019-2023 Strategic Plan priority of updating the Sunshine Coast Regional District (SCRD) community GHG emissions inventory. The last community energy and emissions inventories were completed for 2010 and 2012. This work was undertaken to support the development of an integrated community climate emergency action plan that addresses both adaptation and emissions reductions.

The purpose of this report is to present the results of the GHG emissions inventory and outline steps for improving emissions monitoring. The discussion also lays out the next steps on public education and public participation in setting an emissions reduction target.

DISCUSSION

The Sunshine Coast GHG emissions inventory for the 2007 and 2019 reporting years can be found in Attachments A and B. The inventory followed the Global Protocol for Community-Scale Greenhouse Gas Emissions Inventories (GPC Protocol). In addition to being more comprehensive than the Community Energy and Emissions Inventories of 2010 and 2012, this standardized protocol enables comparison with communities around the world. The reporting years of 2007 and 2019 were chosen based on quality, quantity and timeliness of available data.

Table 1 summarizes GHG emissions by local government. Emissions increased 7.2% between 2007 and 2019. Electoral Areas' emissions increased primarily as a result of an increase in natural gas used in manufacturing industries and increased waste generation.

Both these values are expected to decrease in coming years as a result of investments by industry and the Province as well as curbside organics collection.

Table 1. Summary of GHG Emissions by SCRD Local Government

Local Government	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	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%
Total SCRD GHG Emissions	**328,800**	**352,491**	**7.2%**

Figures 1 and 2 represent GHG emissions by sector and fuel type. Transportation fuels, followed by natural gas for residential heating and manufacturing are the largest sources of emissions. Emissions from Agriculture, Forestry and Other Land Use (AFOLU) is zero as it was not included in the total due to data collection challenges. An estimate was generated alongside recommendations for improving future inventories.

These figures have changed slightly since 2007. Most notable is natural gas use in residential buildings and associated emissions have increased by 70.4% between 2007 and 2019.

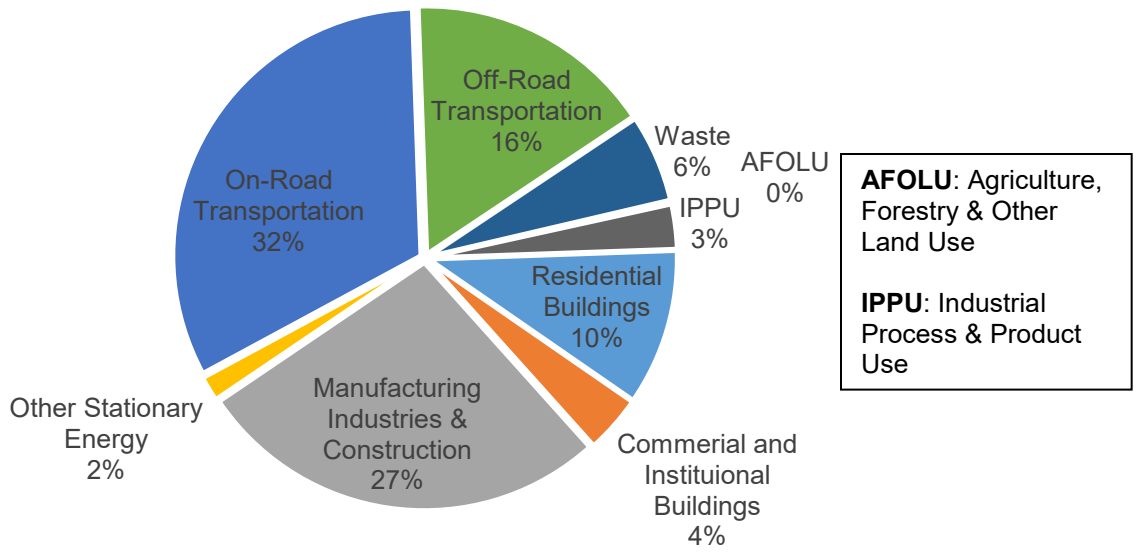

Figure 1. 2019 Regional GHG Emissions by Sector

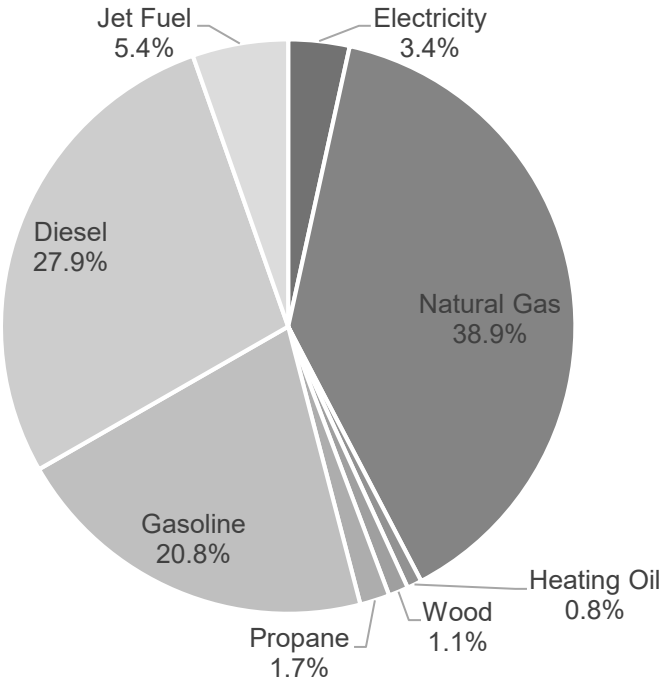

Figure 2. 2019 Regional GHG Emissions by Fuel Type

Figure 3 outlines a business as usual scenario assuming partial success of Provincial and Federal policies as well as full implementation of adopted local initiatives. This base scenario projects an increase of 8.34% by 2030 from 2007 levels.

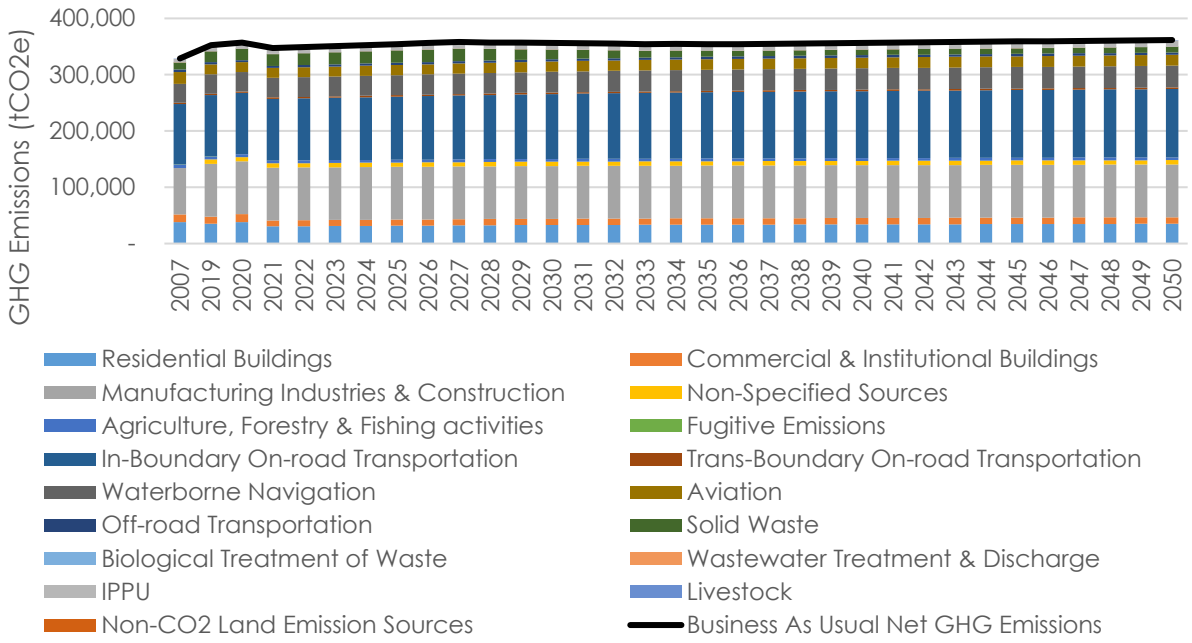

Figure 3. Business-as-usual emissions forecast

There remains a material gap with Federal[1,2] and Provincial[3] targets that approximately aligned with a 45% reduction by 2030 and reaching net-zero emissions by 2050 from 2007 levels. However, those targets do not address the principle of differentiated responsibility enshrined in the Paris Agreement where developed nations have a greater historical burden to reduce emissions more quickly than developing nations. A 45% reduction by 2030 also appears to lack the ambition necessary to limit chances of exceeding 1.5°C outlined in the Intergovernmental Panel on Climate Change Sixth Assessment Report[4] on Mitigation of Climate Change (2022).

Next steps – Education and Outreach

These reports and a summary video will be shared on a new webpage letstalk.scrd.ca/climate. Public participation opportunities will begin on this webpage and expand along with the climate emergency action planning process.

Offers to present to the Town of Gibsons, the District of Sechelt, shíshálh Nation, and Sḵwx̱wú7mesh Nation councils were sent following recommendation of the February 17, 2022 Community Climate Public Participation Update report. No specific date has been identified at this point in time with any council but should a date be set, presentations will be expanded to include an overview of the GHG emissions inventory and climate risk assessment. These presentations could also include a discussion of how respective councils wish the Community Climate Emergency Action Plan to deal with their jurisdictional areas.

Staff are also collaborating with staff from shíshálh Nation, Sḵwx̱wú7mesh Nation, the Town of Gibsons, and the District of Sechelt on climate planning work. Staff is grateful for the continued collaboration and will share the emissions inventory and forecasting calculator to support work in their respective jurisdictions.

Next steps – Preparatory Work for Next Inventory

This report is based on the best information available that could be gathered in a reasonable period of time to support effective strategizing of climate action. There remains several opportunities to address data gaps and quality issues in future inventories. Part of this work is administrative in nature involving updated processes for analyzing and recording land use changes as well as fostering relationships with various organizations and corporations to improve data tracking and transparency. This will be incorporated into work plans where possible and may result in budget proposals for specific elements in the future.

Other recommendations, such as a home energy labeling program, will be explored further in public participation as potential tactics in a Community Climate Emergency Action Plan.

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[1] 2030 Emission Reduction Plan aims for 45% reduction by 2030 from 2005 levels. https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030.html

[2] *Canadian Net-Zero Emissions Accountability Act* calls for net zero by 2050 with a revised interim target set every five years. *https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/net-zero-emissions-2050.html*

[3] BC's *Climate Change Accountability Act* (2007) calls for a 40% reduction by 2030 from 2007 levels. https://www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action/legislation

[4] The Working Group III report on Mitigation of Climate Change outlines a carbon budget of 500 gigatonnes for a 50% chance of stabilizing climate change to 1.5ºC of warming and avoiding catastrophic climate change impacts. This carbon budget was being used at a rate of 59 gigatonnes per year in 2019 and increasing at 1.3% per year. At this rate, the carbon budget will be fully utilized by 2026. (item B1.1 and B1.3). https://www.ipcc.ch/report/ar6/wg3/

Other recommendations could benefit from Board advocacy. The 2019 transportation emissions presented here takes the last data shared by ICBC in 2012 and extrapolates it based on population and vehicle class trends.

Advocacy, by way of a letter, with ICBC and the Province to get access to vehicle data, including vehicle registration dates and regions, would benefit the accuracy of future inventories. Future consideration of a Union of British Columbia Municipalities (UBCM) motion on this item could also be appropriate.

> **Advocacy Opportunity:** The Board could advocate, by way of a letter, with ICBC for greater transparency of vehicle data including vehicle registration dates and regions.

Completing an inventory at a regular interval is also important as it enables the monitoring of progress and tactical adjustments to meet targets. This is particularly useful when considering the challenge associated with the rapid GHG emission reductions needed by 2030. To balance the financial and labor requirements with the importance of measurement, staff recommend undertaking the next updated GHG emissions inventory in 2024.

> **Recommendation:** That a budget proposal to this effect be prepared at the appropriate time.

Next steps – Setting Emission Reduction Target

As identified in the Strategic Plan 2019-2023 and the February 17, 2022 Community Climate Public Participation Update report, staff will prepare to engage the community on an emission reduction target as a central element of a community climate emergency action plan. Best practices are to set, at a minimum, "a science-based two-target approach [for 2030 and 2050] that aligns with the scientific imperative established by the IPCC of limiting global warming to 1.5°C."[5] The *light green* target in the 2009 Community Energy and Emissions Plan of a 7% reduction from 2007 levels by 2031 does not meet this best practice.

Given the scale of societal transformation in question, best practice recommends engaging the public in setting a target to increase buy-in. To the extent possible, translating the implications of different targets will be made in the form of programs and policies that will be needed as well as climate impacts should ambitious and responsive targets fail to be met.

STRATEGIC PLAN AND RELATED POLICIES

The Sunshine Coast GHG emissions inventory supports the 2019-2023 Strategic Plan priorities, including:

- Community Resilience and Climate Change Adaptation
  - DEVELOP CLIMATE CHANGE ADAPTATION STRATEGY
  - UPDATE COMMUNITY ENERGY AND EMISSIONS PLAN
  - PROMOTE SOCIAL EQUITY

[5] Federation of Canadian Municipalities. Partners for Climate Protection Milestone 2: Setting emissions reductions targets – Instructions: https://www.pcp-ppc.ca/resources/instructions-pcp-milestone-2-setting-emissions-reductions-targets

- Engagement and Communications
  - DEVELOP PUBLIC OUTREACH AND ENGAGEMENT STRATEGY
  - ENHANCE ON-LINE TOOLS TO IMPROVE FUNCTIONALITY AND USER EXPERIENCE
- Working Together
  - ENHANCE FIRST NATIONS RELATIONS AND RECONCILIATION
  - INCREASE INTERGOVERNMENTAL COLLABORATION

CONCLUSION

Stantec was hired to complete the 2019-2023 Strategic Plan priority of updating the community GHG emissions inventory. The inventory found emissions increased by 7.2% between 2007 and 2019.

There remains a large gap with where emissions are heading and reductions needed by 2030. Staff will work on administrative processes and building relationships to improve the quality of the next inventory, proposed for 2024. The Board may also opt to advocate for greater data transparency with ICBC.

The results of this study will be shared with the community and work on setting a GHG emission reduction target will begin.

ATTACHMENTS

Attachment A: Sunshine Coast Greenhouse Gas Emissions Inventory Summary Report

Attachment B: Sunshine Coast Greenhouse Gas Emissions Inventory Report

Reviewed by:			
Manager		CFO/Finance	X - T. Perreault
GM	X – I. Hall	Legislative	
CAO	X – D. McKinley	Other	

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.

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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_2e)	2019 GHG Emissions (tCO_2e)	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%
Total SCRD GHG Emissions	**328,800**	**352,491**	**7.2%**

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%
Total SCRD Energy Consumption	**6,268,106**	**6,434,315**	**2.7%**

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**).

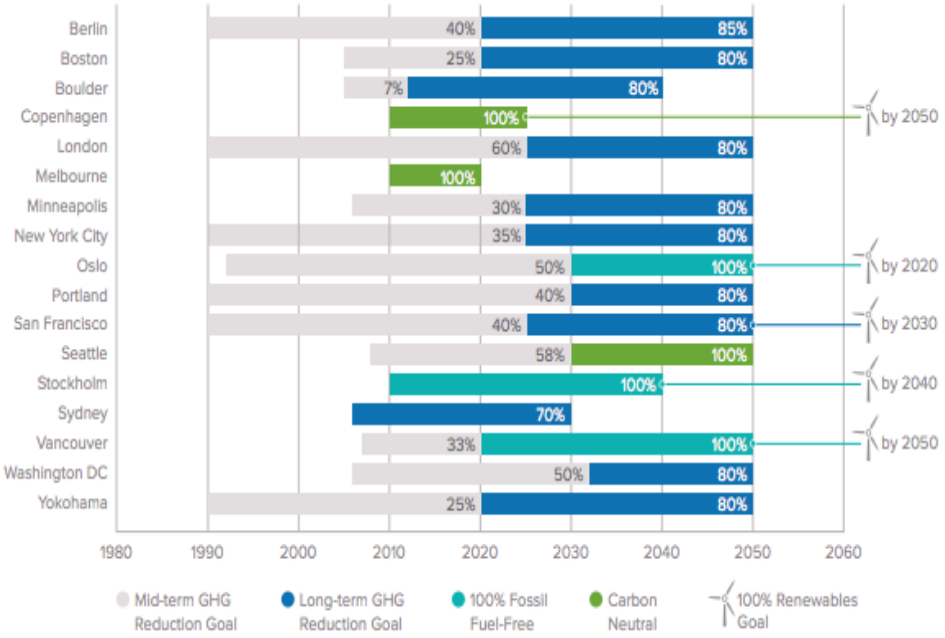

Figure 1. Summary of Long-Term Global GHG Emission Reduction Targets[1]

[1] 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 SCRD 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_2 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_2O) 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.

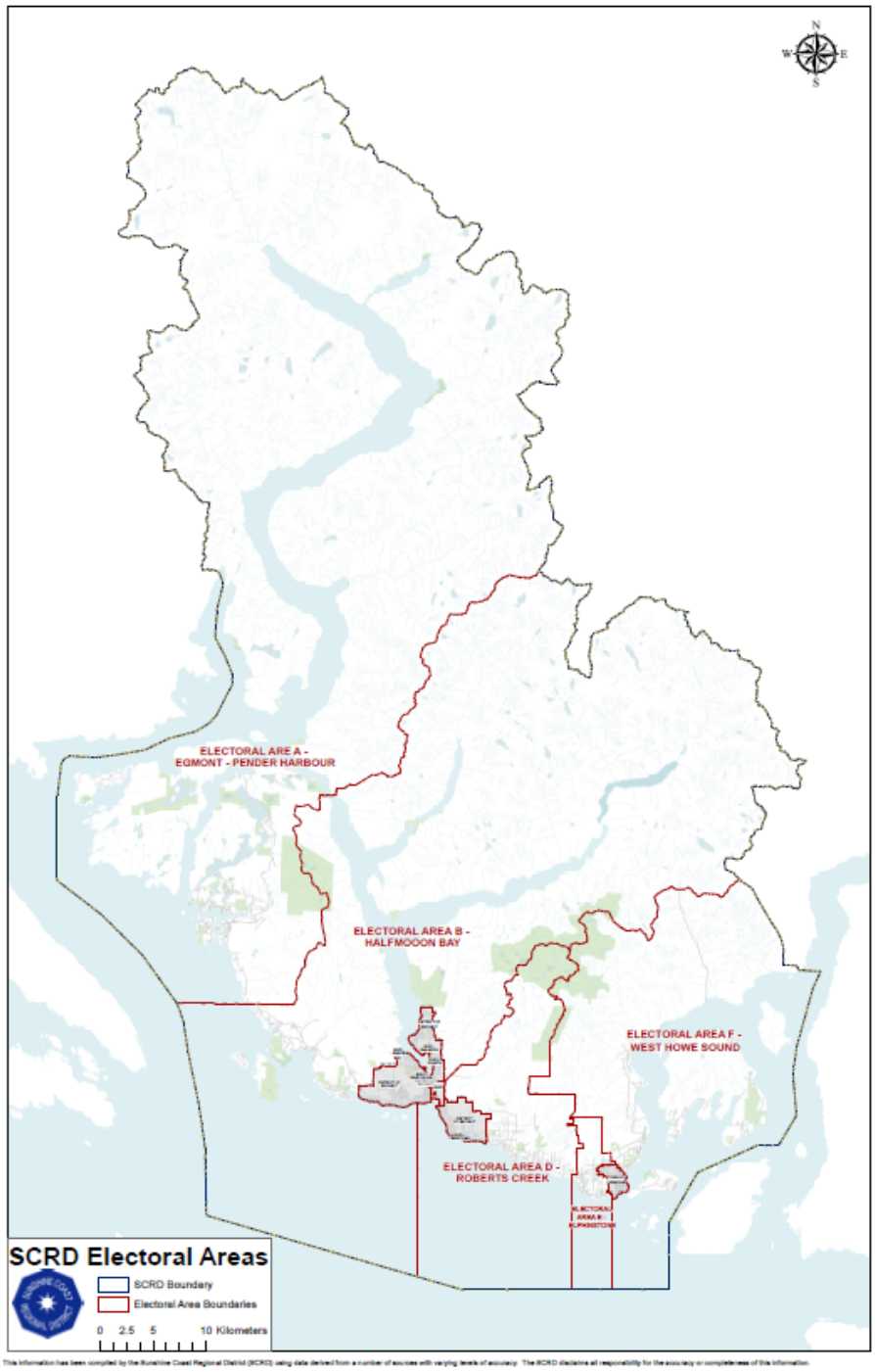

Figure 2 SCRD GHG Boundary

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_2 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_2e. 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_2e)
Stationary Energy					
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_2e)
Non-Specified Sources					0
Natural Gas Fugitive Emissions					608
Total				**3,860,426**	**140,533**
On-Road Transportation					
Electric Vehicles	Electricity	19,490	MWh	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
Total On-Road Transportation				**1,620,748**	**109,874**
Off-Road Transportation					
Marine, Aviation and Other Off-Road Vehicles	Marine Gasoline + Marine Diesel + Jet Fuel	13,106,922	L	786,932	58,845
Total Off-Road Transportation				**786,932**	**58,845**
Waste					
Wastewater					230
Composting					0
Solid Waste					12,290
Total Waste					**12,521**
Agriculture Forestry & Other Land Use (AFOLU)					
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_2 Emission Sources on Land					739
Total AFOLU					**739**
Industrial Process & Product Use (IPPU)					
Process Use Emissions					6,289
Total IPPU					**6,289**
TOTAL				**6,268,106**	**328,800**
TOTAL Per Capita				**219.3**	**11.5**

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

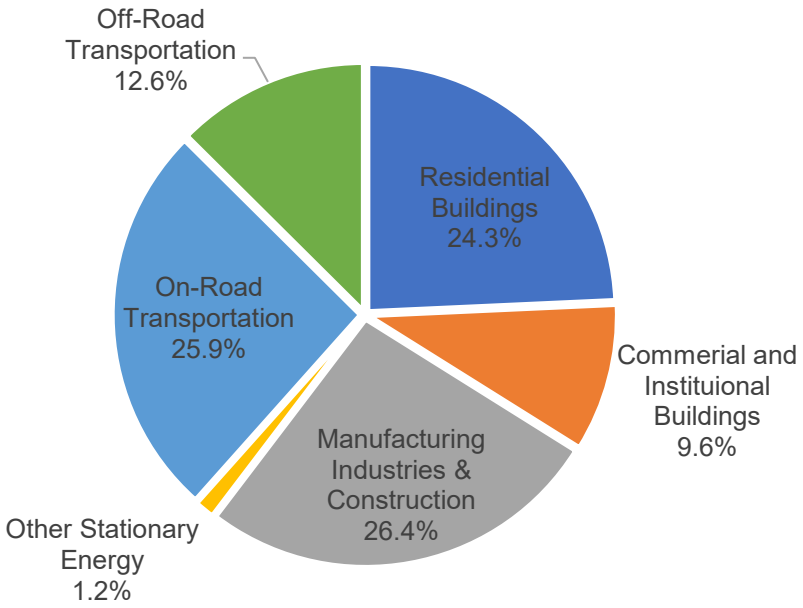

Figure 3. 2007 Regional Energy Consumption By Sector

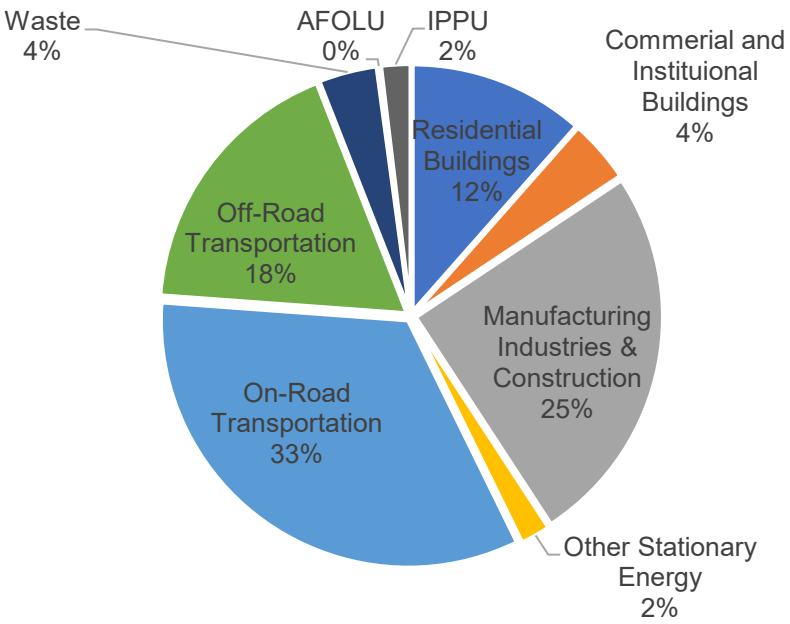

Figure 4. 2007 Regional GHG Emissions By Sector

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

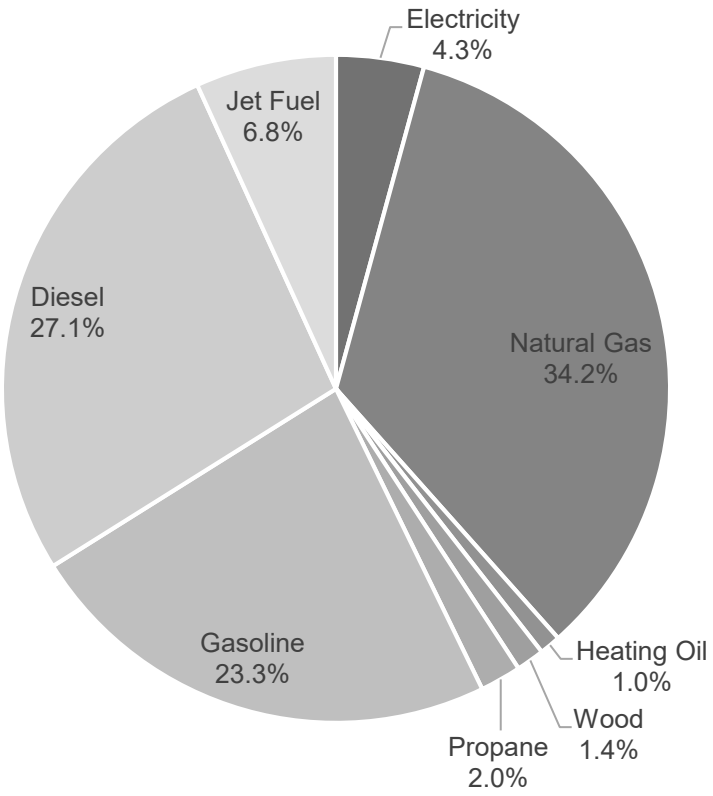

Figure 5. 2007 Regional GHG Emissions By Fuel Type

3.2 Reporting Year (2019) Energy & GHG Emissions

In 2019, the SCRD's BASIC+ GHG emissions totaled 352,491 tCO_2. 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_2e)
Stationary Energy					
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
Total				**4,042,588**	**154,880**
On-Road Transportation					
Electric Vehicles	Electricity	22,561	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
Total On-Road Transportation				**1,645,830**	**111,427**
Off-Road Transportation					
Marine, Aviation and Other Off-Road Vehicles	Marine Gasoline + Marine Diesel + Jet Fuel	13,350,019	L	745,897	55,829
Total Off-Road Transportation				**745,897**	**55,829**
Waste					

Source	Type	Consumption	Units	Energy (GJ)	GHG Emissions (tCO_2e)
Wastewater					239
Composting					70
Solid Waste					19,350
Total Waste					**19,659**
Agriculture Forestry & Other Land Use (AFOLU)					
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_2 Emission Sources on Land					739
Total AFOLU					**739**
Industrial Process & Product Use (IPPU)					
Process Use Emissions					9,957
Total IPPU					**9,957**
TOTAL				**6,434,315**	**352,491**
TOTAL Per Capita				**203.1**	**11.1**

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

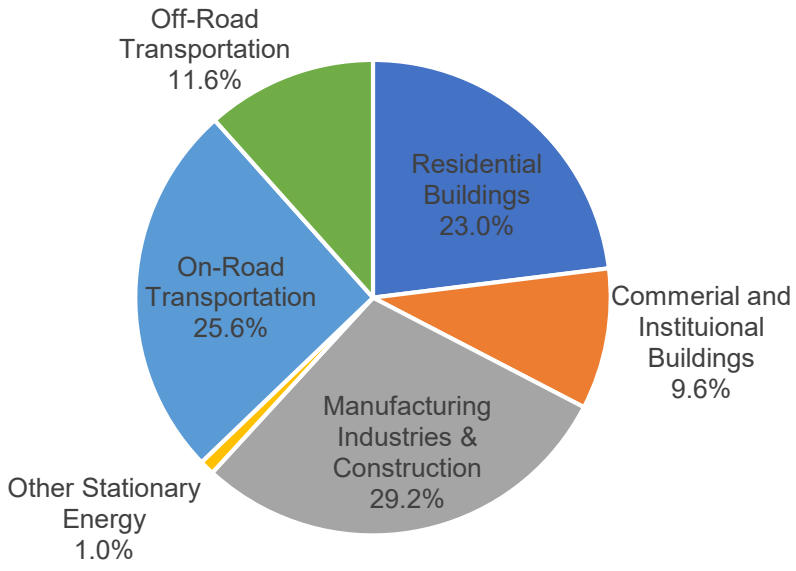

Figure 6. 2019 Regional Energy Consumption By Sector

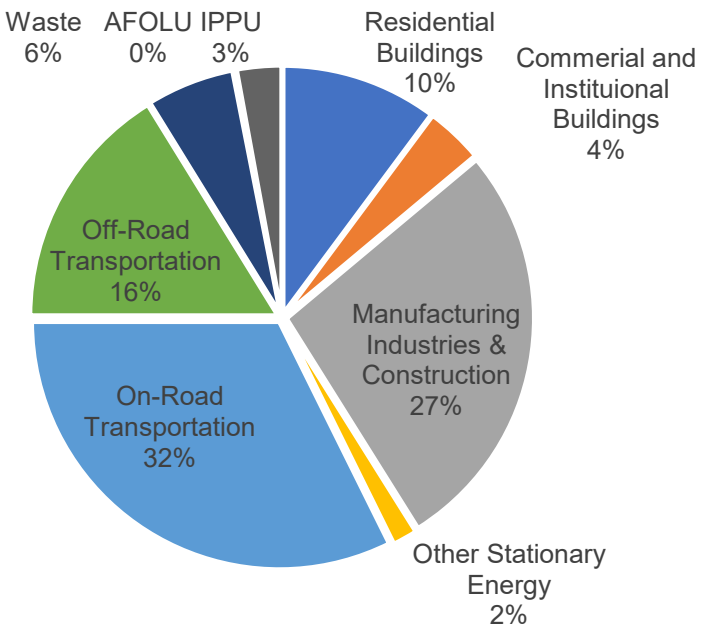

Figure 7. 2019 Regioanal GHG Emissions By Sector

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

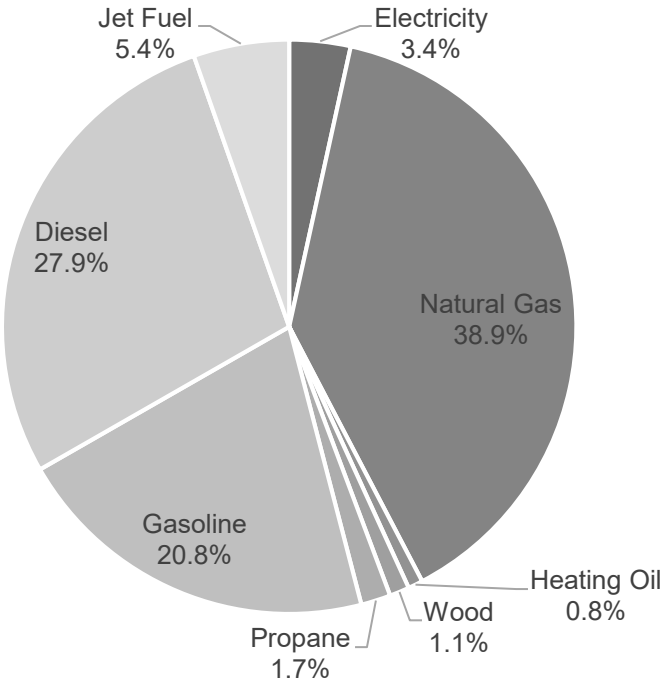

Figure 8. 2019 Regional GHG Emissions By Fuel Type

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 SCRD 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_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Stationary Energy							
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%
Total		**3,860,426**	**4,042,588**	**4.7%**	**140,533**	**154,880**	**10.2%**
On-Road Transportation							
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_2e)	2019 GHG Emissions (tCO_2e)	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%
Total On-Road Transportation		**1,620,748**	**1,645,830**	**1.5%**	**109,874**	**111,427**	**1.4%**
Off-Road Transportation							
Marine, Aviation and Other Off-Road Vehicles	Gasoline + Diesel + Jet Fuel	786,932	745,897	-5.2%	58,845	55,829	-5.1%
Total Off-Road Transportation		**786,932**	**745,897**	**-5.2%**	**58,845**	**55,829**	**-5.1%**
Waste							
Wastewater					230	239	3.8%
Composting					0	70	-
Solid Waste					12,290	19,350	57.4%
Total Waste					**12,521**	**19,659**	**57.0%**
Agriculture Forestry & Other Land Use (AFOLU)							
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_2 Emission Sources on Land					739	739	0.0%
Total AFOLU					**739**	**739**	**0.0%**
Industrial Process & Product Use (IPPU)							
Process Use Emissions					6,289	9,957	58.3%
Total IPPU					**6,289**	**9,957**	**58.3%**
TOTAL		**6,268,106**	**6,434,315**	**2.7%**	**328,800**	**352,491**	**7.2%**

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_2e)	2019 GHG Emissions (tCO_2e)	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%
Total	**6,268,106**	**6,434,315**	**2.7%**	**328,800**	**352,491**	**7.2%**

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_2e)	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_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Stationary Energy							
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	-13.0%
	Natural Gas	57,835	58,500	1.2%	2,884	2,917	1.2%

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	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%
Total		**334,456**	**329,380**	**-1.5%**	**9,878**	**9,500**	**-3.8%**
On-Road Transportation							
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%
Total On-Road Transportation		**240,265**	**234,480**	**-2.4%**	**16,287**	**15,807**	**-2.9%**
Off-Road Transportation							
Marine, Aviation and Other Off-Road Vehicles	Gasoline + Diesel + Jet Fuel	120,191	117,640	-2.1%	8,951	8,776	-2.0%
Total Off-Road Transportation		**120,191**	**117,640**	**-2.1%**	**8,951**	**8,776**	**-2.0%**
Waste							
Wastewater					111	91	-18.1%

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Composting					0	35	-
Solid Waste					492	774	57.4%
Total Waste					**602**	**900**	**49.3%**
Agriculture Forestry & Other Land Use (AFOLU)							
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_2 Emission Sources on Land					10	10	0.0%
Total AFOLU					**10**	**10**	**0.0%**
Industrial Process & Product Use (IPPU)							
Process Use Emissions					928	1,526	64.5%
Total IPPU					**928**	**1,526**	**64.5%**
TOTAL		**694,912**	**681,501**	**-1.9%**	**36,656**	**36,519**	**-0.4%**

5 DISTRICT OF SECHELT 2019 PROFILE

Profile	
Population	10,719
Dwellings	4,846
Registered Vehicles	8,335
Energy (Thousands of GJ)	1,510
GHG Emissions (tCO_2e)	85,039

5.1 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_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Stationary Energy							
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	-12.2%
	Natural Gas	81,321	82,996	2.1%	4,055	4,139	2.1%
	Fuel Oil	-	-	-	-	-	-

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
	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%
Total		**633,557**	**656,609**	**3.6%**	**18,858**	**18,527**	**-1.8%**
On-Road Transportation							
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%
Total On-Road Transportation		**565,725**	**604,359**	**6.8%**	**38,345**	**40,928**	**6.7%**
Off-Road Transportation							
Marine, Aviation and Other Off-Road Vehicles	Gasoline + Diesel + Jet Fuel	239,271	249,276	4.2%	17,922	18,685	4.3%
Total Off-Road Transportation		**239,271**	**249,276**	**4.2%**	**17,922**	**18,685**	**4.3%**
Waste							
Wastewater					116	141	21.6%

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Composting					0	35	-
Solid Waste					2,000	3,149	57.4%
Total Waste					**2,116**	**3,325**	**57.1%**
Agriculture Forestry & Other Land Use (AFOLU)							
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_2 Emission Sources on Land					205	205	0.0%
Total AFOLU					**205**	**205**	**0.0%**
Industrial Process & Product Use (IPPU)							
Process Use Emissions					1,939	3,369	73.7%
Total IPPU					**1,939**	**3,369**	**73.7%**
TOTAL		**1,438,552**	**1,510,244**	**5.0%**	**79,386**	**85,039**	**7.1%**

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_2e)	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_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Stationary Energy							
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_2e)	2019 GHG Emissions (tCO_2e)	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				-	-	-	-
Total		**41,100**	**42,076**	**2.4%**	**1,190**	**1,111**	**-6.6%**
On-Road Transportation							
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%
Total On-Road Transportation		**50,228**	**35,483**	**-29.4%**	**3,377**	**2,408**	**-28.7%**
Off-Road Transportation							
Marine, Aviation and Other Off-Road Vehicles	Gasoline + Diesel + Jet Fuel	23,680	16,827	-28.9%	1,771	1,259	-28.9%
Total Off-Road Transportation		**23,680**	**16,827**	**-28.9%**	**1,771**	**1,259**	**-28.9%**

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Waste							
Wastewater					2	1	-17.3%
Composting					0	0	-
Solid Waste					176	277	57.4%
Total Waste					**178**	**279**	**56.7%**
Agriculture Forestry & Other Land Use (AFOLU)							
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_2 Emission Sources on Land					-	-	-
Total AFOLU					**-**	**-**	**-**
Industrial Process & Product Use (IPPU)							
Process Use Emissions					189	223	18.1%
Total IPPU					**189**	**223**	**18.1%**
TOTAL		**115,007**	**94,387**	**-17.9%**	**6,704**	**5,279**	**-21.3%**

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_2e)	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_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Stationary Energy							
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_2e)	2019 GHG Emissions (tCO_2e)	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	-
Total		**2,851,314**	**3,014,523**	**5.7%**	**110,607**	**125,743**	**13.7%**
On-Road Transportation							
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%

Source	Type	2007 Energy (GJ)	2019 Energy (GJ)	Change (%)	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change (%)
Motorcycles	Gasoline	1,196	1,743	45.7%	82	120	45.7%
Total On-Road Transportation		**764,530**	**771,508**	**0.9%**	**51,865**	**52,284**	**0.8%**
Off-Road Transportation							
Marine, Aviation and Other Off-Road Vehicles	Gasoline + Diesel + Jet Fuel	403,791	362,153	-10.3%	30,201	27,109	-10.2%
Total Off-Road Transportation		**403,791**	**362,153**	**-10.3%**	**30,201**	**27,109**	**-10.2%**
Waste							
Wastewater					2	6	213.6%
Composting					0	0	-
Solid Waste					9,622	15,149	57.4%
Total Waste					**9,624**	**15,155**	**57.5%**
Agriculture Forestry & Other Land Use (AFOLU)							
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_2 Emission Sources on Land					524	524	0.0%
Total AFOLU					**524**	**524**	**0.0%**
Industrial Process & Product Use (IPPU)							
Process Use Emissions					3,233	4,838	49.7%
Total IPPU					**3,233**	**4,838**	**49.7%**
TOTAL		**4,019,635**	**4,148,184**	**3.2%**	**206,054**	**225,653**	**9.5%**

Sunshine Coast Regional District 2019 GPC BASIC+ Community Greenhouse Gas (GHG) Emissions Inventory Report

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Executive Summary

There is increasing evidence that global climate change resulting from emissions of carbon dioxide (CO_2) and other greenhouse gases (GHGs) is having a significant impact on the ecology of the planet. Delayed actions to respond to the effects of climate change are expected to have serious negative impacts on global economic growth and development.

Beyond the costs associated with delayed climate action, there are cost savings to be realized through efforts to improve energy efficiency, conserve energy, and reduce GHG emissions intensity. To make informed decisions on reducing energy use and GHG emissions at the community 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. The GPC Protocol has been adopted by the Global Covenant of Mayors—an agreement led by community networks to undertake a transparent and supportive approach to measure GHG emissions community-wide. The Global Covenant of Mayors and the Federation of Canadian Municipalities promotes the use of the GPC Protocol as a standardized way for municipalities to collect and report their actions on climate change.

This project set out to compile a detailed GHG inventory for the Sunshine Coast Regional District (SCRD) for the 2019 reporting year using the GPC Protocol. The SCRD has historically relied on the Provincial 2007, 2010 and 2012 Community Energy and Emissions Inventories (CEEI) to baseline and track community GHG emissions. However, there have been some limitations to the CEEI which has resulted in the SCRD preparing a GPC BASIC+ inventory. Following the requirements of the GPC Protocol, the GHG inventories considered emissions from all reporting Sectors, including Stationary Energy, Transportation, Waste, Industrial Process and Product Use (IPPU), and Agriculture, Forestry and Other Land Use (AFOLU). The purpose of this document is to describe the quantification methodologies used to calculate GHG emissions for the 2019 reporting year, and to present the SCRD's 2019 community GHG emissions.

In 2019, the SCRD's BASIC+ GHG emissions totaled 352,491 tonnes of carbon dioxide equivalent (tCO_2e). 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. 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 more robust land-use data and measurement methods can be developed.

A summary of the 2019 GHG emissions is presented in Table E-1 and Figure E-1.

Table E-1 BASIC+ 2007 Base Year And 2019 Reporting Year GHG Emissions

Sector	Sub-Sector	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)
Stationary Energy	Residential Buildings	37,829	35,081
	Commercial & Institutional Buildings	13,624	12,896
	Agriculture, Forestry & Fishing activities	5,816	4,841
	Manufacturing Industries & Construction	82,656	93,680
	Non-Specified Sources	0	7,738
	Fugitive Emissions	608	644
Transportation	In-Boundary On-road Transportation	107,467	108,986
	Trans-Boundary On-road Transportation	2,407	2,441
	Waterborne Navigation	33,230	34,637
	Aviation	21,037	17,321
	Off-road Transportation	4,577	3,871
Waste	Solid Waste	12,290	19,350
	Biological Treatment of Waste	0	70
	Wastewater Treatment & Discharge	230	239
IPPU	IPPU	6,289	9,957
AFOLU	Land-Use: Emissions Sequestered **(Disclosure Only - Not Included In Total)**	-1,024,387	-962,632
	Land-Use: Emissions Released **(Disclosure Only - Not Included In Total)**	835,610	835,610
	Livestock	739	739
	Non-CO_2 Land Emission Sources	0	0
Change in GHG Emissions from Base Year		**328,800**	**352,491**
Total Per Capita GHG Emissions (tCO_2e / Capita)		**11.5**	**11.1**
Change GHG Emissions per Capita from Base Year			**-3.3%**
Change in GHG Emissions from Base Year			**7.2%**

Data in the table above is depicted in Figure E-1.

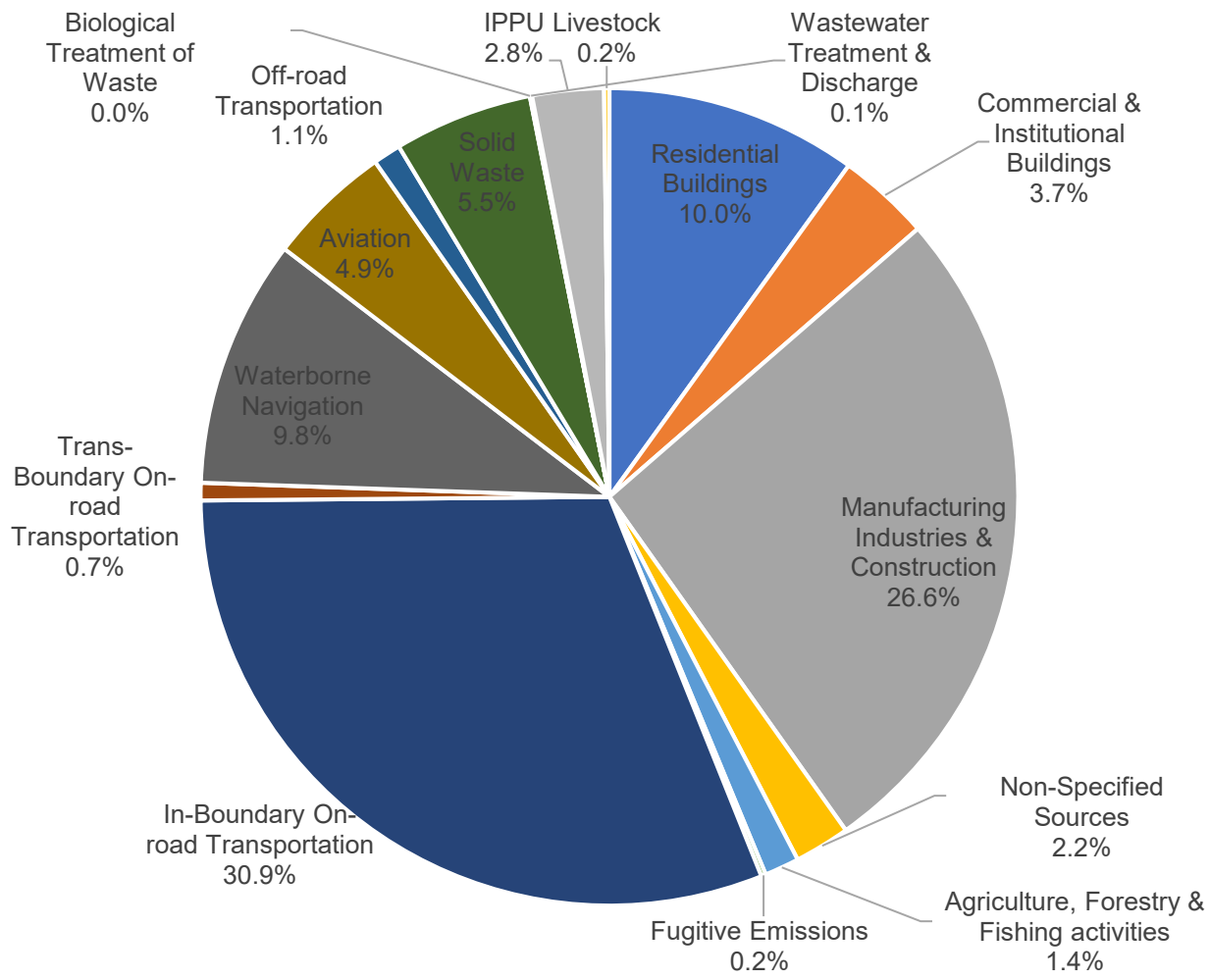

Figure E-1 SCRD's 2019 BASIC+ GHG Emissions Profile

Abbreviations

ACI	Annual Crop Inventory
AFOLU	Agriculture, Forestry, and Other Land Use
BC	British Columbia
C40	C40 Cities Climate Leadership Group
CH_4	Methane
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CEEI	Community Energy and Emissions Inventories
SCRD	Sunshine Coast Regional District
eMWh	megawatt hours equivalents
FCM	Federation of Canadian Municipalities
GDP	gross domestic product
GHG	greenhouse gas
GJ	Gigajoules
GPC	Global Protocol for Community-Scale Greenhouse Gas Emission Inventories
GLHA	Gibson's Landing Harbour Authority
GWP	global warming potentials
HDV	Heavy Duty Vehicle
HFC	Hydrofluorocarbons
ICBC	Insurance Corporation of BC
ICLEI	International Council for Local Environmental Initiatives
IE	included elsewhere
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Process and Product Use

ISO	International Organization for Standardization
kg	Kilograms
kW	Kilowatt
kWh	kilowatt hours
L	Litres
LDT	Light Duty Truck
LDV	Light Duty Vehicle
MWh	megawatt hours
N_2O	nitrous oxides
NE	not estimated
NIR	National Inventory Report
NPRI	National Pollutant Release Inventory
NO	not occurring
ORVE	Off-Road Vehicle and Equipment
PCP	Partnership for Climate Protection
PFC	Perfluorocarbons
SC	Other Scope 3
SF_6	sulfur hexafluoride
T	Tonnes
VIA	Victoria International Airport
WIP	waste-in-place
WRI	World Resources Institute

Glossary

Air pollution	The presence of toxic chemicals or materials in the air, at levels that pose a human health risk.
Base Year	This is the reference or starting year to which targets and GHG emissions projections are based.
BASIC	An inventory reporting level that includes all Scope 1 sources except from energy generation, imported waste, IPPU, and AFOLU, as well as all Scope 2 sources (GPC, 2014).
BASIC+	An inventory reporting level that covers all GPC BASIC sources, plus Scope 1 AFOLU and IPPU, and Scope 3 in the Stationary Energy and Transportation Sectors (GPC, 2014).
Biogenic emissions	Emissions produced by living organisms or biological processes, but not fossilized or from fossil sources (GPC, 2014).
Carbon dioxide equivalent (CO_2e)	The amount of carbon dioxide (CO_2) emissions that would cause the same integrated radiative forcing, over a given time horizon, as an emitted amount of a greenhouse gas (GHG) or a mixture of GHGs. The CO_2e emission is obtained by multiplying the emission of a GHG by its Global Warming Potential (GWP) for the given time horizon. For a mix of GHGs, it is obtained by summing the CO_2e emissions of each gas (IPCC 2014).
Climate change	Climate change refers to a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use (IPCC, 2014).
Emission	The release of GHGs into the atmosphere (GPC, 2014).
Emission factor(s)	A factor that converts activity data into GHG emissions data (GPC, 2014).
Flaring	The burning of natural gas that cannot be used.
Fossil fuels	A hydrocarbon deposit derived from the accumulated remains of ancient plants and animals which is used as an energy source.
Fugitive emission	Emissions that are released during extraction, transformation, and transportation of primary fossil fuels. These GHG emissions are not combusted for energy.
Geographic boundary	A geographic boundary that identifies the spatial dimensions of the inventory's assessment boundary. This geographic boundary defines the physical perimeter separating in-boundary emissions from out-of-boundary and transboundary emissions (GPC, 2014).
Gigajoule (GJ)	A gigajoule (GJ), one billion joules, is a measure of energy. One GJ is about the same energy as: • Natural gas for 3-4 days of household use • The electricity used by a typical house in 10 days

Global warming	A gradual increase in the Earth's temperature which is attributed to the greenhouse effect caused by the release of greenhouse gas (GHG) emissions into the atmosphere.
Global warming potential (GWP)	An index measuring the radiative forcing following an emission of a unit mass of a given substance, accumulated over a chosen time horizon, relative to that of the reference substance, carbon dioxide (CO_2). The GWP thus represents the combined effect of the differing times these substances remain in the atmosphere and their effectiveness in causing radiative forcing. The Kyoto Protocol is based on global warming potentials over a 100-year period (IPCC 2014).
Greenhouse gas (GHG)	GHGs are the seven gases covered by the UNFCCC: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulphur hexafluoride (SF_6); and nitrogen trifluoride (NF_3) (GPC, 2014).
GHG intensity	The annual rate to which GHG emissions are released in the atmosphere, relative to a specific intensity.
Gross domestic product (GDP)	An economic measure of all goods and services produced in an economy.
In-boundary	Occurring within the established geographic boundary (GPC, 2014).
Reporting year	The year for which emissions are reported (GPC, 2014).
Scope 1	Emissions that physically occur within a community.
Scope 2	Emissions that occur from the use of electricity, steam, and/or heating/cooling supplied by grids which may or may not cross Community boundaries.
Scope 3	Emissions that occur outside a community but are driven by activities taking place within a community's boundaries.
Tonne of CO_2e	A tonne of greenhouse gases (GHGs) is the amount created when we consume: • 385 litres of gasoline (about 10 fill-ups) • Enough electricity for three homes for a year (38,000 kWh)
Transboundary GHG emissions	Emissions from sources that cross the geographic boundary (GPC, 2014).

1.0 INTRODUCTION

1.1 CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

There is increasing evidence that global climate change resulting from emissions of carbon dioxide and other greenhouse gases (GHGs) is having an impact on the global climate system. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), states the following consensus of scientific opinion about climate change and its causes and effects (IPCC, 2021):

- It is unequivocal that human influence has warmed the atmosphere, ocean and land.
- Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred.
- The scale of recent changes across the climate system as a whole and the present state of many aspects of the climate system are unprecedented over many centuries to many thousands of years.
- Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since the Fifth Assessment Report (AR5).

1.2 COMMUNITIES AND GREENHOUSE GAS EMISSIONS

Communities are centers of communication, commerce, and culture. They are, however, also a significant and growing source of energy consumption and GHG emissions. On a global scale, communities are major players in GHG emissions. They are responsible for more than 70% of global energy-related carbon dioxide emissions and thus represent the single greatest opportunity for tackling climate change.

For a community to act on mitigating climate change and monitor its progress, it is crucial to have good quality GHG emissions data to build a GHG inventory. Such an inventory enables cities to understand the breakdown of their emissions and plan for effective climate action. The Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC Protocol) seeks to support exactly that, by giving cities the standards and tools that are needed to measure the emissions, build more effective emissions reduction strategies, set measurable and more ambitious emission reduction goals, and to track their progress more accurately and comprehensively.

Until recently there has been no internationally recognized way to measure community-level emissions. Inventory methods that community managers have used to date around the globe vary significantly. This inconsistency has made comparisons between cities and over the years difficult. The GPC Protocol offers an internationally accepted, credible emissions accounting and reporting practice that will help communities to develop comparable GHG inventories.

1.3 VARIANCE FROM COMMUNITY ENERGY AND EMISSIONS INVENTORIES (CEEI)

The SCRD has historically relied on the Provincial 2007, 2010 and 2012 Community Energy and Emissions Inventories (CEEI) to baseline and 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 community 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 1.

Table 1. 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		✓	✓
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			✓

Reporting Sector	CEEI	GPC BASIC	GPC BASIC+
Emissions From Livestock	✓		✓
Emissions From Land			✓
Emissions From Aggregate Sources And Non-CO_2 Emission Sources On Land	✓		✓

1.4 PURPOSE OF THIS REPORT

The purpose of this document is to describe the quantification methodologies used by the SCRD to calculate its BASIC+ GHG emissions for the 2007 base and 2019 reporting year. The focus of this report is on the 2019 reporting year.

2.0 GLOBAL PROTOCOL FOR COMMUNITY (GPC) SCALE EMISSION INVENTORIES PROTOCOL

2.1 OVERVIEW

The GPC Protocol is the result of a collaborative effort between the GHG Protocol at the World Resources Institute (WRI), C40 Cities Climate Leadership Group (C40), and ICLEI—Local Governments for Sustainability (ICLEI). The GPC Protocol is recognized as one of the first set of standardized global rules for cities to measure and publicly report community-wide GHG emissions. It sets out requirements and provides guidance for calculating and reporting community-wide GHG emissions, consistent with the 2006 IPCC guidelines on how to estimate GHG emissions (IPCC, 2006). Specifically, the GPC Protocol seeks to:

- Help cities develop a comprehensive and robust GHG inventory to support climate action planning.
- Help cities establish a base year GHG emissions inventory, set GHG reduction targets, and track performance.
- Ensure consistent and transparent measurement and reporting of GHG emissions between cities, following internationally recognized GHG accounting and reporting principles.
- Enable community-wide GHG inventories to be aggregated at subnational and national levels.
- Demonstrate the important role that cities play in tackling climate change and facilitate insight through benchmarking—and aggregation—of comparable GHG data.

2.2 GPC PROTOCOL STRUCTURE

The GPC Protocol sets several assessment boundaries which identify the restrictions for gases, emission sources, geographic area, and time span covered by a GHG inventory:

- The GHG inventory is required to include all seven Kyoto Protocol GHGs occurring within the geographic boundary of a community. These include:
  - Carbon dioxide (CO_2)
  - Methane (CH_4)
  - Nitrous oxide (N_2O)
  - Hydrofluorocarbons (HFCs)
  - Perfluorocarbons (PFCs)
  - Sulfur hexafluoride (SF_6)
  - Nitrogen trifluoride (NF_3)
- The GHG emissions from community-wide activities must be organized and reporting under the following five Sectors, based on the selected reporting level:
  - Stationary Energy
  - Transportation
  - Waste
  - Industrial Processes and Product Use (IPPU)

- Agriculture, Forestry, and Other Land Use (AFOLU)

The GPC Protocol also requires that a community define an inventory boundary, identifying the geographic area, time span, gases, and emission sources.

Under the GPC Protocol, a community has the option of reporting GHG emissions under three different levels:

- **GPC BASIC—**This level covers emissions Scopes 1 and 2, from stationary energy and transportation, as well as emissions Scopes 1 and 3 from waste. The BASIC level aligns with the Community Energy and Emissions Inventories (CEEI) that have been released in the past for local governments by the Province of BC.
- **GPC BASIC+—**This 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. The sources covered in BASIC+ also align with sources required for national reporting in IPCC guidelines.
- **GPC BASIC+ Scope 3 (SC)—** This inventory extends beyond the BASIC+ GHG inventory to include Other Scope 3 (SC) emissions such as GHG emissions from goods and services production and transportation.

Activities taking place within a community can generate GHG emissions that occur inside a Community boundary as well as outside a Community boundary. To distinguish between these, the GPC Protocol groups emissions into three categories based on where they occur: Scope 1, Scope 2, or Scope 3 emissions. The GPC Protocol distinguishes between emissions that physically occur within a Community (Scope 1), from those that occur outside a Community but are driven by activities taking place within a Community's boundaries (Scope 3), from those that occur from the use of electricity, steam, and/or heating/cooling supplied by grids which may or may not cross community boundaries (Scope 2). Scope 1 emissions may also be termed "territorial" emissions, because they are produced solely within the territory defined by the geographic boundary (see Figure 1).

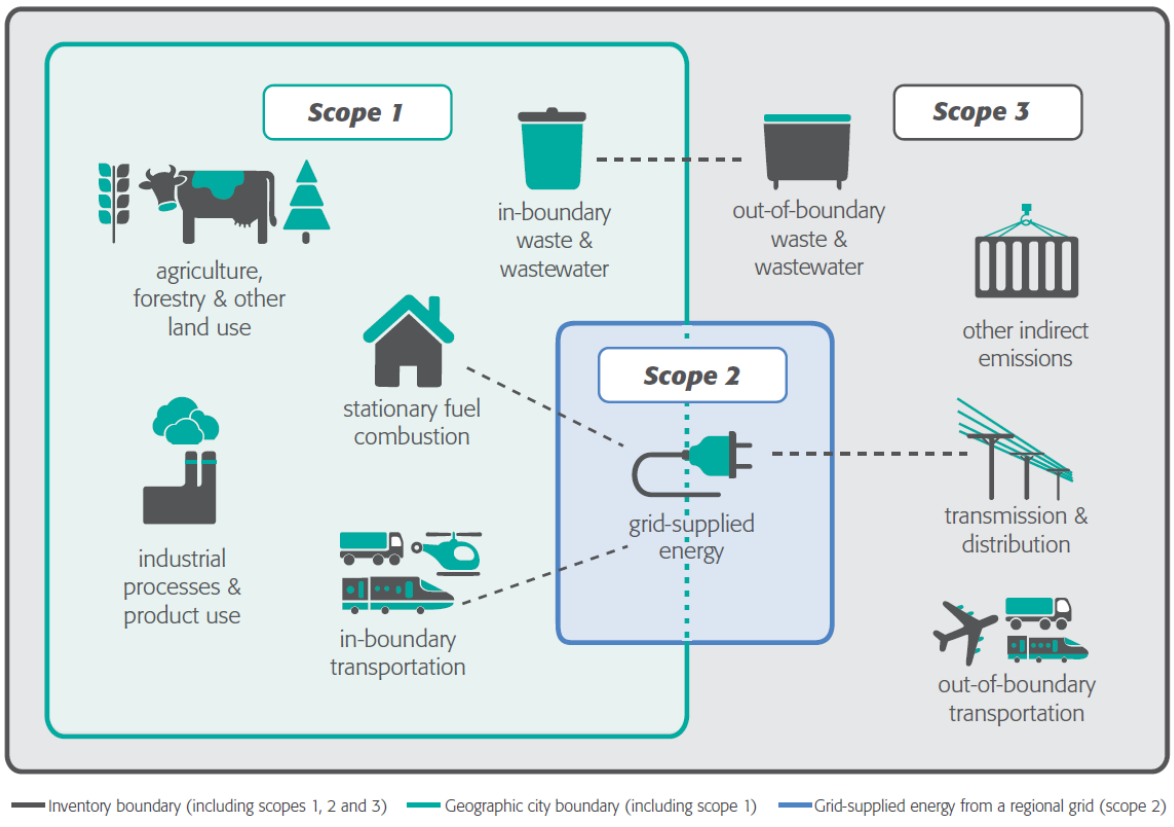

Figure 1 Sources and Boundaries of a Community's GHG Emissions (GPC 2014)

2.3 GHG EMISSION CATEGORIES

As noted previously, the GPC Protocol requires that different emission sources to be categorized into six main reporting Sectors. These high-level categories are described in more detail in Section 2.3.1 to Section 2.3.6. More information on how GHG emissions are captured within the GPC Protocol is available on the Greenhouse Gas Protocol website.

2.3.1 Stationary Energy

Stationery energy sources are typically one of the largest contributors to a community's GHG emissions. In general, these emissions come from fuel combustion and fugitive emissions. They include the emissions from energy to heat and cool residential, commercial, and industrial buildings, as well as the activities that occur within these residences and facilities, such as off-road transportation emissions from construction equipment. Emissions associated with distribution losses from grid-supplied

electricity/steam/heating/cooling are also included, as are some fugitive emissions from sources such as coal piles, and natural gas distribution systems.

The Stationary Energy Sector includes the following Sub-Sectors:

- Residential buildings
- Commercial and institutional buildings and facilities
- Agriculture, forestry, and fishing activities
- Manufacturing industries and construction
- Energy industries
- Energy generation supplied to the grid*
- Non-specific sources
- Fugitive emissions from mining, processing, storage, and transportation of coal
- Fugitive emissions from oil and natural gas systems

*Emissions related with electricity generation activities occurring within a community's boundaries are to be reported; however, the GHG emissions from these sources are not reported separately as they are accounted for elsewhere and to prevent double counting (GPC 2014).

Under the GPC Protocol, cities are to report off-road GHG emissions under the Off-road Transportation Sub-Sector if and only if the GHG emissions are occurring at transportation facilities (e.g., airports, harbors, bus terminals, train stations, etc.). Other off-road transportation GHG emissions that occur on industrial premises, construction sites, agriculture farms, forests, aquaculture farms, and military premises, etc., are to be reported under the most relevant Stationary Energy Sub-Sector (GPC, 2014). For example, GHG emissions from commercial building off-road construction equipment would be included in the Commercial And Institutional Buildings And Facilities Sub-Sector, whereas GHG emissions from residential lawn mowers would be reported under the Residential Buildings Sub-Sector.

2.3.2 Transportation

The GHGs released to the atmosphere to be reported in the Transportation Sector are those from combustion of fuels in journeys by on-road, railway, waterborne navigation, aviation, and off-road. GHG emissions are produced directly by the combustion of fuel, and indirectly using grid-supplied electricity. Unlike the Stationary Energy Sector, transit is mobile and can pose challenges in both accurately calculating GHG emissions and allocating them to a specific Sub-Sector. This is particularly true when it comes to transboundary transportation, which includes GHG emissions from trips that either start or finish within a community's boundaries (e.g., departing flight emissions from an airport outside a Community boundaries) (GPC, 2014). Transboundary GHG emissions are only required for GPC BASIC+ GHG reporting.

The Transportation Sector includes the following Sub-Sectors:

- On-road
- Railways

- Waterborne
- Aviation
- Off-road

As noted previously, cities are to report off-road GHG emissions under the Off-road Transportation Sub-Sector if and only if the GHG emissions are occurring at transportation facilities (e.g., airports, harbors, bus terminals, train stations, etc.). For example, off-road railway maintenance support equipment GHG emissions are reported under the Off-Road Transportation Sub-Sector.

2.3.3 Waste

Cities produce GHG emissions that arise from activities related to the disposal and management of solid waste. Waste does not directly consume energy, but releases GHG emissions because of decomposition, burning, incineration, and other management methods.

The Waste Sector includes the following Sub-Sectors:

- Solid waste disposal
- Incineration and open burning
- Biological treatment of waste
- Wastewater treatment and discharge

Under the GPC Protocol, the Waste Sector includes all GHG emissions that result from the treatment or decomposition of waste regardless of the source of the waste (e.g., another community's waste in a Community's landfill). However, the GHG emissions that are associated with waste from outside a Community's boundary that is treated or decomposes within a Community boundary are deemed to be "reporting only" emissions and do not contribute to the GHG inventory (GPC 2014).

Any GHG emissions that result from the combustion of waste or waste related gases to generate energy, such as a methane capture and energy generation system at a landfill, are reported under Stationary Energy Generation Supplied To The Grid Sub-Sector (GPC, 2014). Any waste related GHG emissions that are combusted but not related to energy generation are reported in the appropriate Waste Sub-Sector. Lastly, any waste GHG emissions that are released to the atmosphere are also captured in the appropriate Waste Sub-Sector.

2.3.4 Industrial Processes and Product Use (IPPU)

Emissions from this Sector are only required for BASIC+ GHG reporting under the GPC Protocol. This Sector encompasses GHG emissions produced from industrial processes that chemically or physically transform materials and using products by industry and end-consumers (e.g., refrigerants, foams, aerosol cans) (GPC, 2014).

The IPPU Sector includes the following Sub-Sectors:

- Industrial processes
- Product use

Any GHG emissions associated with energy use for industrial processes are not reported in the IPPU Sector; rather, they are reported under the appropriate Stationary Energy Sub-Sector.

2.3.5 Agriculture, Forestry, and Other Land Use (AFOLU)

Emissions from the AFOLU Sector are only required for BASIC+ GHG reporting. AFOLU GHG emissions are those that are captured or released because of land-management activities. These activities can range from the preservation of forested lands to the development of crop land. Specifically, this Sector includes GHG emissions from land-use change, manure management, livestock, and the direct and indirect release of nitrous oxides (N_2O) from soil management, rice cultivation, biomass burning, urea application, fertilizer, and manure application (GPC, 2014).

The AFOLU Sector is organized into the following Sub-Sectors:

- Livestock
- Land
- Aggregate sources and non-CO_2 emission sources on land

2.3.6 Other Scope 3 Emissions

Cities, by their size and connectivity, inevitably give rise to GHG emissions beyond their boundaries. The GPC Protocol already includes the following Scope 3 emissions in other Sectors:

- On-road, waterborne, and aviation transboundary transportation
- Transmission and distribution losses associated with grid-supplied energy
- Solid waste disposal
- Biological treatment of solid waste
- Wastewater treatment and discharge

Cities may voluntarily report on other Scope 3 emissions as they are estimated. In the case of the SCRD, no other Scope 3 GHG emissions, other than those listed above, have been estimated.

2.4 ACCOUNTING AND REPORTING PRINCIPLES

All GHG inventories following the GPC Protocol are required to meet GHG accounting principles. Specifically, these inventories should be relevant, consistent from year to year, accurate and transparent about methodologies, assumptions, and data sources. The transparency of inventories is fundamental to the success of replication and assessment of the inventory by interested parties.

The GHG inventories must also properly account for key energy and GHG emission sinks, sources, and reservoirs (SSR) that are occurring within municipal boundaries. The SSRs are a convenient way to identify and categorize all the GHG emissions to determine if they should be included or excluded from a GHG inventory. A "Source" is something that releases GHG emissions to the atmosphere, such as a diesel generator. A "Sink" is a process or item that removes GHG from the atmosphere, such as photosynthesis and tree growth. Finally, a "Reservoir" is a process or item with the capability to store or accumulate a GHG removed from the atmosphere by a GHG sink, such as a wetland or a peat bog. By assessing and reporting on the applicable SSRs, users of the GHG inventory can have confidence that the inventory is complete and representative of the types and quantities of the GHGs being released within community limits.

2.5 BASE AND REPORTING YEAR RECALCULATIONS

As communities grow and expand, significant changes to the GHG emissions profile can alter materially thus making it difficult to meaningfully assess GHG emission trends and changes over time. The GPC Protocol has requirements on how to treat changes in a community's GHG profile—this is presented in Table 2.

Table 2 GPC Protocol Recalculation Thresholds

Threshold	Example Change	Recalculation Needed	No Recalculation Needed
Changes in the assessment boundary	A local government is annexed in or removed from the administrative boundary	✓	
	Change in protocol reporting method (e.g., from BASIC to BASIC+, addition of GHGs reported, etc.)	✓	
	Shut down of a power plant		✓
	Building a new cement factory		✓
Changes in calculation methodology or improvements in data accuracy	Change in calculation methodology for landfilled municipal solid waste (MSW) that results in a material change in GHG emissions to that sector (i.e., +/-10%).	✓	
	Adoption of more accurate local emission factors, instead of a national average emission factors that results in a material change in GHG emissions (i.e., +/-10%).	✓	
	Change in electricity emission factor due to energy efficiency improvement and growth of renewable energy utilization.		✓
Discovery of significant errors	Discovery of mistake in unit conversion in formula used.	✓	

2.6 DATA QUALITY

Data collection and the assessment of its quality is an integral component of compiling any GHG inventory. Like the IPCC, the GPC Protocol requires users to establish first whether a source exists, and then assess the data availability and quality. To support GHG reporting, the following notation keys are used.

- If the GHG sink, source or reservoir does not exist, a “NO” is used to indicate it is “not occurring”.
- If the GHG sink, source or reservoir does occur, and data is available, then the emissions are estimated. However, if the data is also included in another emissions source category or cannot be disaggregated, the notation key “IE” would be used to indicate “included elsewhere” to avoid double counting.
- When GHG emissions are occurring in the SCRD, but data is not available, then the notation key “NE” would be used to indicate “not estimated”.

For GHG data that does exist, in accordance with the GPC Protocol, an assessment of quality is also made on emission factors and GHG estimation methodologies deployed. The GPC Protocol data quality assessment notation keys are summarized in Table 3.

Table 3 GPC Protocol Data Quality Assessment Notation Keys

Data Quality	Activity Data	Emission Factor
High (H)	Detailed activity data	Site-specific emission factors
Medium (M)	Modeled activity data using robust assumptions	More general emission factors
Low (L)	Highly modeled or uncertain activity data	Default emission factors

3.0 GHG ASSESSMENT BOUNDARIES

This section sets out the reporting boundaries of the SCRD's GHG inventory.

3.1 SPATIAL BOUNDARIES

This GHG inventory is defined geographically by the SCRD's jurisdictional boundaries. As shown in Figure 2, the SCRD consists of 3 municipalities and 5 electoral areas. For the purposes of this report, only the SCRD GHG emissions are presented. A breakdown of GHG emissions by each SCRD municipality and electoral area has been presented in a separate report.

GHG Assessment Boundaries
April 27, 2022

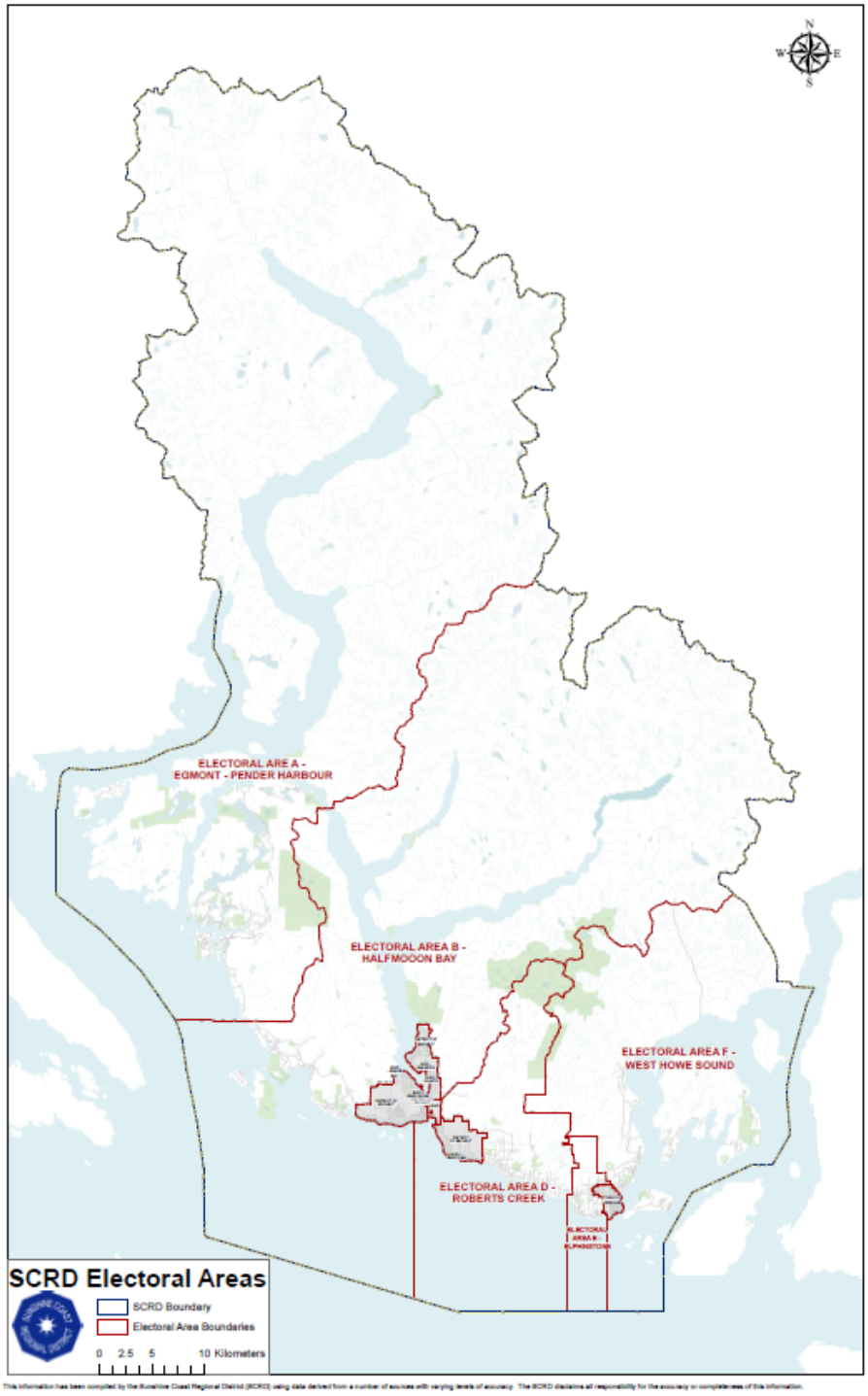

Figure 2 GHG Boundary

Table 4 Inventory Information

Inventory Boundary	Community / District Information
Name of Community / District	Sunshine Coast Regional District
Municipality / Electoral Area	• Town of Gibsons • District of Sechelt • Sechelt Indian Government District • 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
Country	Canada
Inventory Year	2019
Geographic Boundary	See Figure 2
Land Area (km^2)	5,173
Resident population	31,681
GDP (US$)	Unknown at time of reporting
Composition of Economy	Government
Climate	Temperate, warm summer

3.2 TEMPORAL BOUNDARIES

3.2.1 2007 Base Year

To maintain consistency with the current reporting year, and as required by the GPC Protocol, the SCRD has updated its 2007 GHG base year GHG emissions profile to be consistent with the GPC Protocol BASIC+ reporting level. Between the current reporting year and the 2007 base year, there were no boundary changes (e.g., annexes) and thus no additional modifications were made. However, the Province of BC and data suppliers have made changes to the data to improve accuracy which has resulted in a significant change to the baseline prior to it being recalculated as part of this project.

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 2007 and 2019 GHG emissions inventories, but have been disclosed, until a more robust measurement methodology can be developed. The GHG emissions inventory does, however, include GHG emissions sequestered as a result of biological ecosystems (e.g., forests).

Table 5 summaries the original 2007 and the updated 2007 base year GHG emissions reported as tonnes of carbon dioxide equivalent (tCO_2e).

Table 5 Original And Updated BASIC+ Base Year

Aspect	Quantification Protocol	2007 GHG Base Year (tCO_2e)
Original Base Year	CEEI Protocol	355,000
Updated Base Year	GPC Protocol BASIC+	328,800

3.2.2 GHG Reduction Target

The 2010 Our Coast, Our Climate Community Energy and Emissions Plan includes the target of a 7% reduction from 2007 emissions by 2031.

Recognizing the increased urgency and role that the SCRD plays in achieving a significant and immediate reduction in GHG emissions, and as identified as a Strategic Plan priority, the SCRD will use this GHG emissions inventory to establish a GHG emissions reduction target.

3.2.3 2019 GHG Boundary

This inventory covers all GHG emissions for the 2019 reporting year. Where 2019 data was not available, the most recent year's data have been used, and the timescale noted accordingly. These 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: 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 adjusting for 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 the harbour and an estimate of typical recreational boating fuel consumption.
- **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_2 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.

3.3 GHG EMISSION SOURCES AND SCOPES

The following table summarizes the SCRD's GHG emissions by source and GHG emission scope.

Table 6 Summary of Emissions Scope and GPC Protocol Reporting Sector

GHG Emissions Scope	GPC Protocol Reporting Sector
Scope 1	The GHG emissions occurring from sources located within the SCRD's limits: • Stationary fuel combustion: – Residential buildings – Agriculture, forestry, and fishing activities – Commercial and institutional buildings, and facilities – Energy industries – Fugitive emissions from oil and natural gas systems • Transportation: – On-road: In Boundary – Waterborne Navigation – Off-road • Waste: – Solid waste disposal – Biological treatment of solid waste – Wastewater treatment and discharge • Industrial processes and product use (IPPU): – Product use • Agriculture, Forestry, and Other Land Use (AFOLU): – Land-use: emissions sequestered – Livestock – Aggregate sources and non-CO_2 emission sources on land
Scope 2	The GHG emissions occurring from using grid-supplied electricity, heating and/or cooling within the SCRD's boundary: • Stationary fuel combustion: – Residential buildings – Commercial and institutional buildings and facilities • Transportation:

GHG Emissions Scope	GPC Protocol Reporting Sector
	– On-road
Scope 3	Other GHG emissions occurring outside of the SCRD's limits as a result of the SCRD's activities: • Stationary Energy: – Transmission, Distribution, and Line Losses • Transportation: – Aviation – On-Road: Transboundary – Waterborne Navigation

3.4 GHG REPORTING

Where relevant, the GPC Protocol recommends using methodologies that align with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The GHG inventory is required to include all seven Kyoto Protocol GHGs occurring within the geographic boundary of a community. These include:

- Carbon Dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)
- Nitrogen trifluoride (NF_3)

Each GHG listed above has a different global warming potential (GWP) due to its ability to absorb and re-emit infrared radiation. This chemical property is recognized by the GWP set out by the IPCC Fourth Assessment Report. A larger GWP value means the substance has a greater affinity to absorb and re-emit infrared radiation. The GWP of these GHGs are CO_2 = 1.0, CH_4 = 25, N_2O = 298 (IPCC, 2006).

Total GHG emissions are normally reported as CO_2e, whereby emissions of each of the GHGs are multiplied by their GWP and are reported as tonnes of CO_2e.

The GHG inventory results following the GPC Protocol reporting table format is presented in Section 5.0. The GPC Protocol reporting format is presented in Table 7 below which also indicates the reporting level (BASIC / BASIC+) for each source.

Table 7 GPC Protocol Summary Table

GPC Protocol Reference Number	Reporting Level	Emissions Scope	GHG Emissions Source
I	**Stationary Energy Sources**		
I.1	**Residential Buildings**		
I.1.1	BASIC	1	Emissions from in-boundary fuel combustion
I.1.2	BASIC	2	Emissions from consumption of grid-supplied energy
I.1.3	BASIC+	3	Transmission and distribution losses from grid-supplied energy
I.2	**Commercial and Institutional Buildings/Facilities**		
I.2.1	BASIC	1	Emissions from in-boundary fuel combustion
I.2.2	BASIC	2	Emissions from consumption of grid-supplied energy
I.2.3	BASIC+	3	Transmission and distribution losses from grid-supplied energy
I.3	**Manufacturing Industry and Construction**		
I.3.1	BASIC	1	Emissions from in-boundary fuel combustion
I.3.2	BASIC	2	Emissions from consumption of grid-supplied energy
I.3.3	BASIC+	3	Transmission and distribution losses from grid-supplied energy
I.4	**Energy Industries**		
I.4.1	BASIC	1	Emissions from in-boundary production of energy used in auxiliary operations
I.4.3	BASIC+	3	Transmission and distribution losses from grid-supplied energy
I.5	**Agriculture, Forestry, and Fishing Activities**		
I.5.1	BASIC	1	Emissions from in-boundary fuel combustion
I.5.2	BASIC	2	Emissions from consumption of grid-supplied energy
I.5.3	BASIC+	3	Transmission and distribution losses from grid-supplied energy
I.7	**Fugitive Emissions from Mining, Processing, Storage, And Transportation of Coal**		
I.7.1	BASIC	1	In-boundary fugitive emissions
I.8	**Fugitive Emissions from Oil and Natural Gas Systems**		
I.8.1	BASIC	1	In-boundary fugitive emissions
II	**Transportation**		
II.1	**On-road Transportation**		
II.1.1	BASIC	1	Emissions from in-boundary transport
II.1.2	BASIC	2	Emissions from consumption of grid-supplied energy
II.1.3	BASIC+	3	Emissions from transboundary journeys
II.2	**Railways**		
II.2.1	BASIC	1	Emissions from in-boundary transport
II.2.2	BASIC	2	Emissions from consumption of grid-supplied energy

Table 7 GPC Protocol Summary Table

GPC Protocol Reference Number	Reporting Level	Emissions Scope	GHG Emissions Source
II.2.3	BASIC+	3	Emissions from transboundary journeys
II.3	**Waterborne Navigation**		
II.3.1	BASIC	1	Emissions from in-boundary transport
II.3.2	BASIC	2	Emissions from consumption of grid-supplied energy
II.3.3	BASIC	3	Emissions from transboundary journeys
II.4	**Aviation**		
II.4.1	BASIC	1	Emissions from in-boundary transport
II.4.2	BASIC	2	Emissions from consumption of grid-supplied energy
II.4.3	BASIC+	3	Emissions from transboundary journeys
II.5	**Off-road**		
II.5.1	BASIC	1	Emissions from in-boundary transport
II.5.2	BASIC	2	Emissions from consumption of grid-supplied energy
III	**Waste**		
III.1	**Solid Waste Disposal**		
III.1.1	BASIC	1	Emissions from waste generated and treated within the Community
III.1.2	BASIC	3	Emissions from waste generated within but treated outside of the Community
III.2	**Biological Treatment of Waste**		
III.2.1	BASIC	1	Emissions from waste generated and treated within the Community
III.2.2	BASIC	3	Emissions from waste generated within but treated outside of the Community
III.3	**Incineration and Open Burning**		
III.3.1	BASIC	1	Emissions from waste generated and treated within the Community
III.3.2	BASIC	3	Emissions from waste generated within but treated outside of the Community
III.4	**Wastewater Treatment and Discharge**		
III.4.1	BASIC	1	Emissions from wastewater generated and treated within the Community
III.4.2	BASIC	3	Emissions from wastewater generated within but treated outside of the Community
IV	**Industrial Processes and Product Use (IPPU)**		
IV.1	BASIC+	1	In-boundary emissions from industrial processes

Table 7 GPC Protocol Summary Table

GPC Protocol Reference Number	Reporting Level	Emissions Scope	GHG Emissions Source
IV.2	BASIC+	1	In-boundary emissions from product use
V	**Agriculture, Forestry, and Other Land Use (AFOLU)**		
V.1	BASIC+	1	In-boundary emissions from livestock
V.1	BASIC+	1	In-boundary emissions from land
V.1	BASIC+	1	In-boundary emissions from other agriculture
VI	**Other Scope 3 Emissions**		
VI.1	BASIC / BASIC+	3	Other indirect emissions

4.0 GHG METHODOLOGIES BY SOURCE CATEGORY

The following sections describe the reporting source category, assumptions, activity data applied, and quantification methodology. The results of the analysis are presented in Section 5.0.

4.1 STATIONARY ENERGY

4.1.1 Overview

Stationery energy sources are one of the largest contributors to the SCRD's GHG emissions. For the District, the Stationary Energy Sector encompasses the following GHG emissions scopes and Sub-Sectors:

- Scope 1 Emissions:
  - Residential Buildings
  - Commercial & Institutional Buildings
  - Agriculture, Forestry & Fishing activities
  - Manufacturing Industries & Construction
  - Non-Specified Sources
  - Fugitive Emissions From Oil And Natural Gas Systems
- Scope 2 Emissions:
  - Emissions From The Consumption Of Grid-Supplied Electricity, Steam, Heating, And Cooling.
- Scope 3 Emissions:
  - Transmission And Distribution Losses Of Electricity, Steam, Heating, And Cooling.

There are GHG emissions from construction of buildings and infrastructure as the SCRD region grows and changes. However, these GHG emissions have not been quantified due to a lack of available data.

4.1.2 Scope 2: Market Based Method

As per the GPC Protocol, cities can report on Scope 2 GHG emissions using either the market-based, or the location-based method. A market-based method utilizes utility-specific grid emission intensity factor, whereas a location-based method uses a regional or Provincial average grid emission intensity factor. At present, the fuel mix and GHG emissions data relative to the SCRD's energy consumption is not available. As such, the SCRD is defaulting to the BC Provincial 2019 electricity grid consumption intensity factor of 0.02990 tCO_2e/MWh reported by the BC Government.[1]

[1] https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity

4.1.3 Activity Data

BC Hydro and Fortis BC provided the Province of BC electricity and natural gas consumption data itemized by community in MWh and GJ, respectively. Based on the utility provider descriptions of the data, each is categorized as follows:

- Residential Buildings based on the BC Hydro and Fortis BC descriptor: “Residential”
- Commercial and Institutional Buildings/Facilities based on BC Hydro and Fortis BC descriptors: “Commercial”, and “CSMI”

This draft energy data was provided to the SCRD and may be subject to change.

The Province developed 2007 and 2018 residential fuel oil, propane and wood GHG energy use estimates from the number and type of dwellings and the average dwelling consumption by authority and region from the BC Hydro Conservation Potential Review. This data was used to estimate the 2019 reporting year GHG emissions for all SCRD members.

Fortis BC provided the fugitive emission estimate.

There are two large industrial emitters within the SCRD – i.e., Howe Sound Pulp and Paper and the Fortis BC V3 Port Mellon Compressor Station. The GHG emissions data for these two sources was reported by the BC Government.

Applicable, off-road GHG emissions included in the Stationary Energy Sector are based on the 2021 NIR as prepared by Environment and Climate Change Canada. These emissions are pro-rated to the SCRD on a per capita basis.

4.1.4 Assumptions and Disclosures

The following assumptions were made in the calculation of the 2019 GHG emissions:

- 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 value, the BC Government has suggested utilizing the 2010 emission factor for 2007.
- BC Hydro estimates that the combined energy losses- transmission and distribution- to be approximately 6.28%. This value was used to calculate the Scope 3 emissions for each Stationary Energy Sub-Sector.
- Fortis BC provided total fugitive emissions for the 2019 reporting year at the SCRD level. Since no historical values for the 2007 base year were provided, the 2019 value was used to derive a 2007 value using the number of reported natural gas connections.
- 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 gas totals provided by the Province.

4.1.5 Calculation Methodology

The Province of BC developed residential fuel oil, propane and wood GHG energy use estimates for the 2007 and 2019 reporting years, using heating degree days (HDD) the number and type of dwellings and the average dwelling consumption by authority and region contained in the BC Hydro Conservation Potential Review.

To calculate GHG emissions from electricity, natural gas, heating oil, propane, and wood, the total net annual energy values (where applicable, less transmission, distribution, and line losses of 6.28%) were multiplied by applicable emissions factors. These values were then multiplied by the pollutant's GWP to give total CO_2e emissions in tonnes.

These quantification methods are captured as follows:

$$\textbf{Energy}_{\text{Stationary Energy – Electricity}} = \text{Electricity} * (1 - \text{Line Loss (\%)})$$

$$\textbf{Energy}_{\text{Stationary Energy – Transmission, Distribution, and line Losses}} = \text{Electricity} * \text{Line Loss (\%)}$$

$$\textbf{Emissions}_{\text{Stationary Energy – Electricity}} = \text{Fuel (MWh)} * EF_{tCO2e}$$

$$\textbf{Emissions}_{\text{Stationary Energy – Natural Gas}} = (\text{Fuel (GJ)} * EF_{CO2}) + (\text{Fuel (GJ)} * EF_{CH4} * GWP_{CH4}) + (\text{Fuel (GJ)} * EF_{N2O} * GWP_{N2O})$$

$$\textbf{Emissions}_{\text{Stationary Energy – Propane}} = (\text{Fuel (GJ)} * EF_{CO2}) + (\text{Fuel (GJ)} * EF_{CH4} * GWP_{CH4}) + (\text{Fuel (GJ)} * EF_{N2O} * GWP_{N2O})$$

$$\textbf{Emissions}_{\text{Stationary Energy – Wood}} = (\text{Fuel (GJ)} * EF_{CO2}) + (\text{Fuel (GJ)} * EF_{CH4} * GWP_{CH4}) + (\text{Fuel (GJ)} * EF_{N2O} * GWP_{N2O})$$

$$\textbf{Emissions}_{\text{Stationary Energy – Heating Oil}} = (\text{Fuel (GJ)} * EF_{CO2}) + (\text{Fuel (GJ)} * EF_{CH4} * GWP_{CH4}) + (\text{Fuel (GJ)} * EF_{N2O} * GWP_{N2O})$$

The emission factors used in the 2019 reporting year are from the 2021 NIR. These are summarized in Table 8.

Table 8 Stationary Energy GHG Emission Factors

Emission Factor	Units	CO_2	CH_4	N_2O	tCO_2e
Electricity (BC Hydro)	tCO_2e / MWh				0.0290000
Natural Gas	tonne CO_2e / m^3	0.0019260	0.0000000	0.0000000	0.0019374

Emission Factor	Units	CO_2	CH_4	N_2O	tCO_2e
Propane	tonne CO_2e / L	0.0015150	0.0000000	0.0000001	0.0015478
Heating Oil	tonne CO_2e / GJ	0.0681200	0.0000007	0.0000008	0.0683759
Wood	tonne CO2e / kg	-	0.0000150	0.0000002	0.0004227

4.2 TRANSPORTATION

4.2.1 Overview

Transportation covers all GHG emissions from combustion of fuels in journeys by on-road, railways, waterborne navigation, aviation, and off-road. GHG emissions are produced directly by the combustion of fuel, and indirectly using grid-supplied electricity. For the SCRD, the Transportation Sector encompasses the following GHG emissions scopes and Sub-Sectors:

- Scope 1 Emissions:
  - On-road: In Boundary
  - Waterborne
  - Aviation
  - Off-road
- Scope 2 Emissions:
  - Emissions from the consumption of grid-supplied electricity.
- Scope 3 Emissions:
  - On-road: Transboundary
  - Waterborne
  - Aviation
  - Off-road

4.2.2 Activity Data

The Province of BC provided 2007 and 2012 estimates of registered vehicles. This data was used to estimate 2019 vehicle populations.

BC Transit provided total 2019 diesel fuel use. This data was used to estimate GHG emissions from buses serving the SCRD.

Aviation GHG emissions from the Sechelt Airport were estimated using total reported fuel values for 2019. This data was provided by the Sechelt Airport. Aviation GHG emissions from float planes were based on total aircraft movements as provided by Harbour Air.

Marine ferry GHG emissions were estimated using published BC Ferries fuel statistics. GHG emissions from the use of personal and commercial watercraft, were estimated based on the number of overnight and 4 hour boating stops in the harbour for the reporting year as provided by the Gibson's Landing Harbour Authority (GLHA).

Other off-road transportation emissions are based on the 2021 NIR as prepared by Environment and Climate Change Canada.

4.2.3 Assumptions and Disclosures

The following assumptions were made in the calculation of the Transportation Sector GHG emissions:

- The Insurance Corporation of BC (ICBC) has not been able to provide detailed registered vehicle data for all SCRD areas. As such, 2012 CEEI screened data was used to estimate total number of registered vehicles using the change in the SCRD's population between 2012 and 2019. This method is not likely to result in a material overstatement (>10%) in the total GHG inventory but it is likely to have a misstatement between vehicle fuel use categories (e.g., light duty vehicles and light duty trucks).
- Vehicle fuel consumption rates were taken from the document entitled "2017 Community Energy and Emissions Inventory (CEEI) Initiative - Technical Methods and Guidance Document 2007-2012 Reports". These fuel consumption rates are estimated and will vary on a vehicle by vehicle basis.
- Vehicle fuel consumption rates and Vehicle Kilometer Travelled (VKT) were taken from the activity data summary for British Columbia on-road transportation from the 2021 National Inventory Report (1990-2019) as prepared by Environment and Climate Change Canada.
- Data from the SCRD streetlight corridor study was used to estimate in-boundary and transboundary splits at the regional (98% / 2%) and municipal level (average of 44.4% / 56.6%).
- GHG emissions from recreational watercraft were estimated based on the number of overnight and 4 hour boating stops in the harbour and an estimate of typical recreational boating fuel consumption.
- Diesel GHG emissions from BC Transit busses are pro-rated to the SCRD based on the proportion of population in each municipality within the SCRD. A more accurate estimation method would be to prorate fuel use based on total bus service kilometers in the SCRD. However, this data is not available, and thus the method applied provides the best estimate at the time of reporting.
- The aviation GHG emissions are prorated based on the each SCRD member population relative to the SCRD population.
- The marine ferry GHG emissions are prorated based on the each SCRD member population relative to the SCRD population.
- No railway GHG emissions are occurring in the SCRD.
- The off-road transportation emissions are based on the 2021 NIR as prepared by Environment and Climate Change Canada and prorated based on population. This is deemed to be the best available data.

4.2.4 Calculation Methodology

4.2.4.1 On-Road

The GPC Protocol identifies several methods for determining on-road emissions. The vehicle kilometers travelled (VKT) methodology was utilized to estimate the GHG emissions from on-road transportation (Scope 1) and transboundary transportation (Scope 3). The VKT uses the number and type of vehicles

registered in a geopolitical boundary, the estimated fuel consumption rate of individual vehicles, and an estimate of the annual vehicle kilometres traveled (VKT) by various vehicle classes. To estimate the split between on-road in-boundary and transboundary traffic, data from the streetlight corridor study was applied. The results of the survey as it applies to the SCRD is presented in Table 9.

Table 9 SCRD On-Road In-Boundary/Transboundary Split

Aspect	By Vehicle
Estimated proportion of on-road in-boundary travel	97.8%
Estimated proportion of on-road transboundary travel	2.2%

To quantify the 2019 reporting year on-road and transboundary GHG emissions, the following steps were taken:

1. Grow the 2012 vehicle population based on the change between the 2012 and 2019 SCRD populations.
2. Assign estimated vehicle fuel consumption rates, and estimated VKT to each of the vehicle classes (Table 10).
3. Estimate total fuel use by vehicle classification (Table 11).
4. Summate and allocate estimated fuel use, by vehicle class using the applicable in-boundary and transboundary split.
5. Pro-rate the diesel fuel use from busses.
6. Summate and allocate estimated bus fuel use using the applicable in-boundary and transboundary split.

Table 10 Estimated VKT And Fuel Efficiencies by Vehicle Class For Reporting Year

Vehicle Classification	Estimated VKT / Year	Estimated Fuel Efficiency (L/100 km)
Diesel-HDV	25,730	45.6
Diesel-LDT	12,916	11.8
Diesel-LDV	14,746	9.2
Diesel-ORVE	Not Estimated	45.6
Electric-HDV	9,651	30.0
Electric-LDT	10,290	20.0
Electric-LDV	11,328	20.0
Electric-ORVE	Not Estimated	30.0
Gasoline-HDV	9,180	54.1
Gasoline-Hybrid-HDV	8,214	37.9
Gasoline-Hybrid-LDT	8,901	10.0
Gasoline-Hybrid-LDV	9,799	7.0
Gasoline-Hybrid-ORVE	Not Estimated	37.9
Gasoline-LDT	8,901	12.2

Vehicle Classification	Estimated VKT / Year	Estimated Fuel Efficiency (L/100 km)
Gasoline-LDV	9,799	9.0
Gasoline-ORVE	Not Estimated	54.1
Hydrogen-Hybrid-LDV	10,883	Not Estimated
Hydrogen-LDV	11,717	Not Estimated
Hydrogen-LDT	12,840	Not Estimated
Motorcycle - Electric	1,973	17.0
Motorcycle - Non catalyst	1,973	9.9
Natural Gas-HDV	25,730	22.9
Natural Gas-LDT	12,916	8.3
Natural Gas-LDV	14,746	5.4
Natural Gas-ORVE	Not Estimated	22.9
Propane-HDV	25,730	22.9
Propane-Hybrid-LDV	16,384	13.1
Propane-LDT	12,916	12.6
Propane-LDV	14,746	8.2
Propane-ORVE	Not Estimated	22.9

Table 11 Total Registered Vehicles & Estimated Fuel Use For Reporting Year

Vehicle Classification	Total Estimated Registered Vehicles	Total Estimated Fuel Use	Units
Diesel-HDV	1,352	15,781,505	Liters (L)
Diesel-LDT	425	649,108	Liters (L)
Diesel-LDV	193	260,905	Liters (L)
Diesel-ORVE	-	-	Liters (L)
Electric-HDV	-	-	kWh
Electric-LDT	-	-	kWh
Electric-LDV	377	854,300	kWh
Electric-ORVE	-	-	kWh
Gasoline-HDV	1,037	5,412,563	Liters (L)
Gasoline-Hybrid-HDV	-	-	Liters (L)
Gasoline-Hybrid-LDT	109	111,768	Liters (L)
Gasoline-Hybrid-LDV	33	26,217	Liters (L)
Gasoline-Hybrid-ORVE	-	-	Liters (L)
Gasoline-LDT	13,462	16,842,452	Liters (L)
Gasoline-LDV	5,592	5,713,274	Liters (L)

Vehicle Classification	Total Estimated Registered Vehicles	Total Estimated Fuel Use	Units
Gasoline-ORVE	-	-	Liters (L)
Hydrogen-Hybrid-LDV	-	-	Liters (L)
Hydrogen-LDV	-	-	Liters (L)
Hydrogen-LDT	-	-	Liters (L)
Motorcycle - Electric	-	-	kWh
Motorcycle - Non catalyst	494	96,675	Liters (L)
Natural Gas-HDV	47	266,591	Kilogram (kg)
Natural Gas-LDT	-	-	Kilogram (kg)
Natural Gas-LDV	-	-	Kilogram (kg)
Natural Gas-ORVE	-	-	Kilogram (kg)
Propane-HDV	22	127,666	Liters (L)
Propane-Hybrid-LDV	-	-	Liters (L)
Propane-LDT	48	78,830	Liters (L)
Propane-LDV	-	-	Liters (L)
Propane-ORVE	-	-	Liters (L)
Total	**23,190**	**N/A**	**N/A**

Once the fuels were allocated amongst the vehicle classes and sectors, the GHG emissions were calculated accordingly. The GHG quantification method is captured, for all fuel types, is as follows:

$$\textbf{Emissions}_{\text{On-road}} = \text{In-Boundary Split \%} * ((\text{Vol. Fuel} * EF_{CO2}) + (\text{Vol. Fuel} * EF_{CH4} * GWP_{CH4}) + (\text{Vol. Fuel} * EF_{N2O} * GWP_{N2O}))$$

$$\textbf{Emissions}_{\text{Transboundary}} = \text{Transboundary Split \%} * ((\text{Vol. Fuel} * EF_{CO2}) + (\text{Vol. Fuel} * EF_{CH4} * GWP_{CH4}) + (\text{Vol. Fuel} * EF_{N2O} * GWP_{N2O}))$$

The emission factors used in the reporting year GHG inventory are from the 2020 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions. These are summarized in Table 12.

Table 12 Vehicle GHG Emission Factors

Vehicle Class	Units	CO_2	CH_4	N_2O	tCO_2e
Gasoline-LDV	tonne CO_2e / L	0.00220000	0.00000023	0.00000047	0.00234581
Gasoline-LDT	tonne CO_2e / L	0.00220000	0.00000024	0.00000058	0.00237884

Vehicle Class	Units	CO_2	CH_4	N_2O	tCO_2e
Gasoline-HDV	tonne CO_2e / L	0.00220000	0.00000068	0.00000020	0.00227660
Gasoline-ORVE	tonne CO_2e / L	0.00220000	0.00000270	0.00000050	0.00241650
Gasoline-Hybrid-LDV	tonne CO_2e / L	0.00220000	0.00000023	0.00000047	0.00234581
Gasoline-Hybrid-LDT	tonne CO_2e / L	0.00220000	0.00000024	0.00000058	0.00237884
Gasoline-Hybrid-HDV	tonne CO_2e / L	0.00220000	0.00000068	0.00000020	0.00227660
Gasoline-Hybrid-ORVE	tonne CO_2e / L	0.00220000	0.00000270	0.00000050	0.00241650
Electric-LDV	tonne CO_2e / kWh	-	-	-	0.00002990
Electric-LDT	tonne CO_2e / kWh	-	-	-	0.00002990
Electric-HDV	tonne CO_2e / kWh	-	-	-	0.00002990
Electric-ORVE	tonne CO_2e / kWh	-	-	-	0.00002990
Diesel-LDV	tonne CO_2e / L	0.00258200	0.00000005	0.00000022	0.00264884
Diesel-LDT	tonne CO_2e / L	0.00258200	0.00000007	0.00000022	0.00264926
Diesel-HDV	tonne CO_2e / L	0.00258200	0.00000011	0.00000015	0.00262975
Diesel-ORVE	tonne CO_2e / L	0.00258200	0.00000015	0.00000100	0.00288375
Hydrogen-Hybrid-LDV	tonne CO_2e / L	-	-	-	-
Hydrogen-LDV	tonne CO_2e / L	-	-	-	-
Hydrogen-LDT	tonne CO_2e / L	-	-	-	-
Natural Gas-LDV	tonne CO_2e / kg	0.00273800	0.00001300	0.00000009	0.00308863
Natural Gas-LDT	tonne CO_2e / kg	0.00273800	0.00001300	0.00000009	0.00308863
Natural Gas-HDV	tonne CO_2e / kg	0.00273800	0.00001300	0.00000009	0.00308863
Natural Gas-ORVE	tonne CO_2e / kg	0.00273800	0.00001300	0.00000009	0.00308863
Propane-LDV	tonne CO_2e / L	0.00151500	0.00000064	0.00000003	0.00153934
Propane-LDT	tonne CO_2e / L	0.00151500	0.00000064	0.00000003	0.00153934
Propane-HDV	tonne CO_2e / L	0.00151500	0.00000064	0.00000003	0.00153934
Propane-ORVE	tonne CO_2e / L	0.00151500	0.00000064	0.00000003	0.00153934
Propane-Hybrid-LDV	tonne CO_2e / L	0.00151500	0.00000064	0.00000003	0.00153934
Motorcycle - Non catalyst	tonne CO_2e / L	0.00231600	0.00000230	0.00000005	0.00238780
Motorcycle - Electric	tonne CO_2e / L	-	-	-	0.00002990

4.2.4.2 Aviation: Sechelt Airport

The SCRD's 2019 aviation emissions estimate is based on reported jet fuel sales and a jet fuel emissions factor (Table 13). The GHG quantification method is as follows:

$$\textbf{Emissions}_{\text{Per Aviation Class}} = (\text{Vol. Fuel} * EF_{CO2}) + (\text{Vol. Fuel} * EF_{CH4} * GWP_{CH4}) + (\text{Vol. Fuel} * EF_{N2O} * GWP_{N2O}))$$

These GHG emissions were reported in the Scope 3 category as directed by the GPC Protocol. It should be noted that no helicopter movement data was available and thus these GHG emissions could not be estimated.

Table 13 Aviation GHG Emission Factors

Airplane Type	Units	CO_2	CH_4	N_2O	tCO_2e
Jet	tCO_2e/L fuel	0.00256000	0.00000003	0.00000007	0.00258188

4.2.4.3 Aviation: Sea Planes

Sea plane aviation emissions were estimated using the total number of aircraft movements as provided by Harbour Air, estimated taxi times, and estimated fuel use for the DHC-6 Twin Otter type of plane (Table 15).

Table 14 Aircraft Type, Estimated Percentage of Total Reported Movements, And Estimated Fuel Use

Aviation Class	Aircraft Type	Estimated Percentage of Annual Movements	Estimated LTO Fuel Use by Aircraft Type (kg)	Estimated APU Fuel Use by Aircraft Type (kg/min)
Turboprop	DHC-6 Twin Otter	100%	56	0.00

Calculating aviation fuel use involved applying the following equation:

$$\textbf{Fuel Use}_{\text{Per Aviation Class}} = \text{Number of Aircraft Movements} * (\text{LTO Fuel Use} + (\text{APU Fuel Use} * 15 \text{ minutes}))$$

The GHG quantification method is as follows:

$$\textbf{Emissions}_{\text{Per Aviation Class}} = \text{SCRD Population} * ((\text{Vol. Fuel} * \text{Aviation Class } EF_{CO2}) + (\text{Vol. Fuel} * \text{Aviation Class } EF_{CH4} * GWP_{CH4}) + (\text{Vol. Fuel} * \text{Aviation Class } EF_{N2O} * GWP_{N2O}))$$

The airplane emission factors are from the International Civil Aviation Organization (ICAO) GHG database. These are summarized in Table 16.

Table 15 Marine Aviation GHG Emission Factors

Airplane Type	Units	CO_2	CH_4	N_2O	tCO_2e
Turbo Propeller	tCO_2e/kg fuel	0.0031380	0.0000001	0.0000003	0.0032254

These GHG emissions were reported in the Scope 3 category as directed by the GPC Protocol.

4.2.4.4 Waterborne Transportation

4.2.4.4.1 BC Ferries

Marine waterborne transportation emissions encompass GHG emissions from the use of the BC Ferries. GHG emissions from BC Ferries are estimated using a provincially derived GHG emissions factor (Table 14) and estimated fuel volumes for the following routes:

- 03 - Horseshoe Bay - Langdale
- 07 - Saltery Bay - Earls Cove
- 13 - Langdale - Gambier Island - Keats Island

Table 16 BC Ferries GHG Emission Factors

Aspect	Units	CO_2	CH_4	N_2O	tCO_2e
Ferry (Diesel)	tonne CO_2e / L	0.0025820	0.0000002	0.0000011	0.0029136

As BC Ferries operate outside of the SCRD's boundary, the GHG emissions were allocated to the Scope 3 emissions category.

4.2.4.4.2 Other Watercraft

The GHG emissions from the operation of personal and commercial watercraft were estimated based on the number of overnight and 4 hour boating stops in Gibson's harbour. During the 2019 reporting year, it is estimated that there were over 4,000 stays and stops. Of these boats, based on feedback from local marina personnel, it was assumed that 50% of the boats are sail (60% diesel; 40% gas) and 50% are power (25% diesel, 75% gas). To estimate the GHG emissions, the estimated annual fuel consumption rates from the Victoria Harbour Study "Marine Vessel Air Emissions in BC and Washington State Outside of the GVRD and FVRD for the Year 2000" and BC based emission factors were applied (Table 17).

Table 17 Watercraft GHG Emission Factors

Aspect	Units	CO_2	CH_4	N_2O	tCO_2e
Marine Gasoline	tonne CO_2e / L	0.0022000	0.0000013	0.0000001	0.0022522
Marine Diesel	tonne CO_2e / L	0.0025820	0.0000002	0.0000011	0.0029136

The GHG quantification method, that was applied to the BC Ferries and other watercraft was as follows:

$$\textbf{Emissions}_{Waterborne} = ((Vol.\ Fuel * EF_{CO2}) + (Vol.\ Fuel * EF_{CH4} * GWP_{CH4}) + (Vol.\ Fuel * EF_{N2O} * GWP_{N2O}))$$

Due to a lack of available data, no GHG emissions from commercial boats, such as tugs, could be estimated.

4.2.4.5 Off-Road

Currently, there is limited data available to estimate off-road GHG emissions. As such, a GHG emissions per capita estimate for each off-road category was developed using Provincial emissions data from the 2021 NIR, and BC's population from Statistics Canada. To develop each off-road factor, the total BC GHG emissions for each reporting category was divided by the BC population for the NIR reporting year (2021). Each derived per-capita value was applied to the current reporting year SCRD population (2019) to estimate off-road GHG emissions.

The NIR currently reports the following off-road emissions:

- Total BC off-road agriculture and forestry GHG emissions
- Total BC off-road commercial and institutional GHG emissions
- Total BC off-road residential GHG emissions
- Total BC other off-road GHG emissions

Total BC off-road manufacturing, mining, and construction GHG emissions were not included on the basis that manufacturing and mining GHG emission could not be split out and there was no local data.

Other than other off-road GHG emissions, which is reported in the Off-Road Transportation Sub-Sector, the remaining off-road GHG emissions are reported in the Stationary Energy Sector as required by the GPC Protocol.

The GHG quantification method is presented below:

$$\textbf{Emissions}_{\text{Off-Road}} = (\text{NIR Off-Road GHG Emissions}_{BC} / \text{BC Population}_{BC}) * \text{Current Reporting Year Population}_{SCRD}$$

4.3 WASTE

Cities produce GHG emissions because of the disposal and management of solid waste, incineration and open burning of waste, the biological treatment of waste, and through wastewater treatment and discharge. Waste does not directly consume energy, but releases GHG emissions because of decomposition, burning, incineration, and other management methods.

For the SCRD, the Waste Sector encompasses the following GHG emissions scopes and Sub-Sectors:

- Scope 3: Emissions:
  - Solid waste disposal
  - Biological treatment of waste
  - Wastewater treatment and discharge

4.3.1 Activity Data

The SCRD provided total waste and landfill gas volumes for the 2021 reporting year. These values were used to back calculate 2019 GHG emissions.

The SCRD provided composting volumes as well as wastewater volumes, average biological oxygen demand (BOD) and Total Kjeldal Nitrogen (TKN) annual average values (mg/L) for all relevant electoral area wastewater treatment plans and outfalls. The District of Scheldt and the Town of Gibsons provided similar data for their wastewater treatment systems.

4.3.2 Assumptions and Disclosures

The following assumptions were made in the calculation of the 2019 GHG emissions:

- it is assumed that the Province appropriately applied site specific variables to estimate landfill GHG emissions.
- Composting GHG emissions are estimated based on the total tonnage estimated by the SCRD. It is assumed that all compost is treated aerobically.
- It is likely that GHG emissions from incineration and open burning are occurring on an infrequent and controlled (property by property) basis, but without available data the GHG emissions cannot be reasonably quantified.

4.3.3 Calculation Methodology

4.3.3.1 Solid Waste

The municipal solid waste data was collected through the two Ministry of Environment surveys sent to each Regional District. The data was then used to estimate emissions from landfills using the Methane Commitment (MC) method which is accepted under the GPC Protocol.

4.3.3.2 Biological Treatment of Solid Waste

The SCRD provided 2019 composting data which is assumed to be treated aerobically at the Salish Soils. The composting emission factor used in the estimation of GHG emissions was derived from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Volume 5, Chapter 4: Biological Treatment of Solid Waste) (Table 18).

Table 18 Composting Emission Factor

Emission Factor	Units	CO_2	CH_4	N_2O	tCO_2e
Composting	tCO_2e / kg waste	-	0.0000010	-	0.0000250

To quantify GHG emissions from the biological treatment of solid waste, the following GHG quantification methods was deployed:

$$Emissions_{Anaerobic\ Waste} = Compost\ Waste_{Total} * EF_{CH4} * GWP_{CH4}$$

4.3.3.3 Wastewater Treatment And Discharge

Wastewater is currently treated prior to being sent to ocean-based outfalls. 2019 wastewater volumes (m^3), the average biological oxygen demand (BOD) and the average Total Kjeldal Nitrogen (TKN) in treated wastewater was used to estimate GHG emissions. IPCC default wastewater methane (CH_4) producing capacity (0.6 kg CH_4/kg BOD) and methane correction factor (MCF) (0.1 – unit less) were used to estimate CH_4 from the wastewater. To estimate N_2O from the wastewater, the Total Kjeldal Nitrogen (TKN) annual average in conjunction with the total wastewater volumes to calculate the total TKN in the wastewater. The IPCC default conversion value of 0.01 kg N_2O-N/kg sewage-N was used to estimate N_2O from the wastewater. These factors used are for treated wastewater being deposited into deep or moving waters. It is likely that ocean sequesters more CH_4 than what has been estimated.

To quantify GHG emissions from the wastewater treatment, the following GHG quantification method is deployed:

$$Emissions_{Wastewater\ CH4} = ((Wastewater_{m3} * (BOD_{ml/L} / 1000) * (0.06_{kg\ CH4/kg\ BOD} * 0.01)) / 1000) * GWP_{CH4}$$

$$Emissions_{Wastewater\ N2O} = ((Wastewater_{m3} * (TKN_{ml/L} / 1000) * 0.01_{kg\ N2O\text{-}N/kg\ sewage\text{-}N}) / 1000) * GWP_{N2O}$$

4.4 INDUSTRIAL PROCESSES AND PRODUCT USE (IPPU)

4.4.1 Overview

Emissions from the IPPU Sector are only required for BASIC+ GHG reporting under the GPC Protocol. This Sector encompasses GHG emissions produced from industrial processes that chemically or physically transform materials and using products by industry and end-consumers (e.g., refrigerants, foams, and aerosol cans) (GPC, 2014).

For the SCRD, the IPPU encompasses the following GHG emissions scopes and Sub-Sectors:

- Scope 1 Emissions:
  - Product use

No GHG emissions from Industrial Processes are known to be occurring and thus the notation key for “Not Occurring” has been used to indicate this.

4.4.2 Activity Data

As there is limited data available on Product Use GHG emissions, the GHG Emissions estimate was derived on a per capita basis using the 2021 NIR GHG data for the Province of BC and BC population data for the reporting year.

4.4.3 Assumptions and Disclosures

The following assumptions were made in the calculation of the 2019 GHG emissions:

- The product use emissions are based on the 2021 NIR product use GHG emissions as prepared by Environment and Climate Change Canada.
- The NIR uses the Tier 1 methodology to estimate these emissions and thus uncertainty around their accuracy remains quite high.

4.4.4 Calculation Methodology

4.4.4.1 Product Use Emissions

For the 2019 reporting year, only the emissions estimated were production and consumption of halocarbons, SF_6 and NF_3 were estimated for the Province. To estimate product use GHG emissions for the SCRD, a per capita estimate was developed using the Provincial emissions data from the 2021 NIR, and BC's NIR reporting year population from Statistics Canada. This value was applied to the 2019 reporting year SCRD population to estimate the total product use emissions.

The GHG quantification method is presented below:

$$\textbf{\textit{Emissions}}_{\textit{Product Use}} = (\textit{NIR Product Use GHG Emissions}_{BC} / \textit{NIR Population}_{BC}) * \textit{Current Reporting Year Population}$$

4.5 AGRICULTURE, FORESTRY, AND OTHER LAND USE (AFOLU)

4.5.1 Overview

The AFOLU Sector includes emissions from livestock, land-use, and all other agricultural activities occurring within a community's boundaries. For the SCRD, the AFOLU encompasses the following GHG emissions scopes and Sub-Sectors:

- Scope 1 Emissions:
  - Land
  - Livestock
  - Aggregate Sources And Non-CO_2 Emissions Sources On Land

4.5.2 Activity Data

Landsat 5 and 8 images were used to estimate land use change between 2006 and 2021.

The SCRD provided livestock estimates for the reporting year.

Aggregate sources and non-CO_2 emissions sources on land were estimated using GHG emissions data from the 2021 NIR, and land-use data from the 2016 Statistics Canada Census of Agriculture, to create a GHG emissions per hectare value.

4.5.3 Assumptions and Disclosures

The following assumptions were made in the calculation of the 2019 GHG emissions:

- It is conservatively assumed that all cropland is used for livestock and agricultural purposes.
- Infrequent and small source open burning may be occurring, but there is no data to estimate this emissions source.
- 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.
- Normally, Aggregate Sources And Non-CO2 Emission Sources On Land 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.

4.5.4 Calculation Methodology

4.5.4.1 Land Use

Remotely sensed imagery was used to estimate land-cover changes during the 2006-2021 reporting periods. Using the remotely sensed imagery an annual average land-use change between land classes (e.g. cropland forestland, etc.) was determined and applied to BC-based emission factors to estimate GHG emissions resulting from changes between land-uses for the reporting year.

The spatial data sources representing land cover in this analysis did not categorize lands by the 6 IPCC land-use categories. To align with the IPCC land classification definitions (as required by the GPC Protocol), the following data categories were re-assigned to the most appropriate IPCC land class.

Table 19 IPCC Land Use Classification Cross-References

IPCC Land Cover	Landsat Land Cover
Cropland	(Not Reported)
Forest	Forested
Grassland	ROW, Logged
Settlement	Settlement
Wetland	Wetland
Other	Other Lands

The analysis resulted in an estimate of an annual average change in hectares' value for each land class. Once the land use change values were determined for the reporting year, BC-based and IPCC emission factors were applied to estimate reported and disclosed (not-reported) GHG emissions from land use (Table 21).

Table 20 Land-Use Change Emission Factors

Land-Use Classification	Emission Factor	Units
Forestland	224.1	tCO_2e / ha
Grasslands	205.7	tCO_2e / ha
Wetlands	471.5	tCO_2e / ha
Cropland	239.8	tCO_2e / ha
Settlements	0	tCO_2e / ha
Other	0	tCO_2e / ha
Forestland	1.8	tCO_2e / ha / year
Grasslands	2.6	tCO_2e / ha / year
Wetlands	3.3	tCO_2e / ha / year
Croplands	0.4	tCO_2e / ha / year
Settlements	0	tCO_2e / ha / year
Other	0	tCO_2e / ha / year

The GHG quantification methods for land use change is presented below:

$$Emissions_{Lands\ Not\ Converted} = Land\ Type_{ha} * EF_{Sequester}$$

$$Emissions_{Lands\ Converted} = Land\ Type_{ha} * (EF_{Release} / (Current\ Land\ Reporting_{Year} - Last\ Land\ Reporting_{Year} + 1))$$

4.5.4.2 Emissions from Livestock

Emissions from Livestock includes enteric fermentation and manure management emission sources. IPCC derived emission factors were used to estimate this emissions source (Table 22).

Table 21 Livestock Emission Factors

Animal	Enteric Methane (tCO_2e / head / year)	Methane from Wastes (tCO_2e / head / year)
Dairy Breeding Herd	2.875	0.325
Beef Herd	1.200	0.069
Cattle: Others>1, Dairy Heifers	1.200	0.150
Cattle: Others<1	0.820	0.074
Pigs	0.038	0.075
Breeding Sheep	0.200	0.005
Other Sheep	0.200	0.005
Lambs < 1 year	0.080	0.002
Goats	0.125	0.003
Sheep / Lamb / Goat	0.151	0.004
Horses	0.450	0.035
Deer (Stags & Hinds)	0.260	0.007
Deer (Calves)	0.130	0.003
Poultry	-	0.002

The GHG quantification methods to estimate livestock emissions is presented below:

$$\textbf{Emissions}_{\textbf{Livestock}} = Livestock\ Type_{Head} * (EF_{Enteric\ Methane} + EF_{Methane\ From\ Waste})$$

4.5.4.3 Emissions from Aggregate Sources and Non-CO_2 Emission Sources on Land

Emissions from Aggregate Sources and Non-CO_2 Emission Sources on Land includes direct N_2O emissions from agricultural soil management and indirect N_2O emissions from applied nitrogen. To estimate these GHG emissions, the total area of farmland for BC is used in conjunction with 2021 NIR data to develop a tCO_2e / ha value. This would then be applied to the total crop land in hectares to derive a GHG emissions estimate. However, since the land use data did not calculate total area of crop lands, no estimate was derived.

To calculate GHG emissions from urea application, the calculated total crop land in hectares for the reporting year is applied against an IPCC GHG emissions factor of 0.20 tCO_2e / ha. This emission factor

is also applied in the 2021 NIR. However, since the land use data did not calculate total area of crop lands, no estimate was derived.

The GHG quantification method is presented below:

$$\textbf{Emissions}_{\text{Direct \& Indirect N2O}} = ((BC_{\text{Direct N2O Emissions}} + BC_{\text{Indirect N2O Emissions}} + BC_{\text{Indirect N2O Manure Management Emissions}}) / BC_{\text{Land In Crops ha}}) * SCRD\ Cropland_{ha}$$

$$\textbf{Emissions}_{\text{Urea Application}} = SCRD\ Cropland_{ha} * 0.66\ tCO_2e / ha$$

5.0 2019 GHG REPORTING YEAR RESULTS

5.1 OVERVIEW

This section presents the 2019 reporting year GHG emissions for the SCRD. The following table classifies each of the GPC Protocol GHG emission categories by scope and reporting level. Note that these are cumulative.

Table 22 GHG Emissions Reporting Breakdown by GPC Reporting Method

GHG Emissions Scope	BASIC Reporting Level	BASIC+ Reporting Level
Scope 1	• Emissions from in boundary fuel combustion • In boundary fugitive emissions • Emissions from in boundary transport	Everything in the box at left, plus in-boundary emissions from: • Industrial process and product use • Livestock • Land use • Emissions from Aggregate Sources and Non-CO_2 Emission Sources on Land
Scope 2	• Emissions from consumption of grid-supplied energy	• Emissions from consumption of grid-supplied energy
Scope 3	• Emissions from solid waste, and composting generated within but treated outside of the GHG boundaries	Everything in the box at left, plus: • Transmission, distribution, and line losses from grid-supplied energy • Emissions from transboundary journeys
Outside of Reporting Scopes & GPC Protocol	• Upstream fuel emission extraction, processing, and transport • Food and drink imports • Construction materials (imports) • Other supply chain emissions • Vehicle fuel exports	

5.2 SUMMARY

Total BASIC, and BASIC+ emissions for the SCRD for the 2019 reporting year are presented in the Figure 3 below.

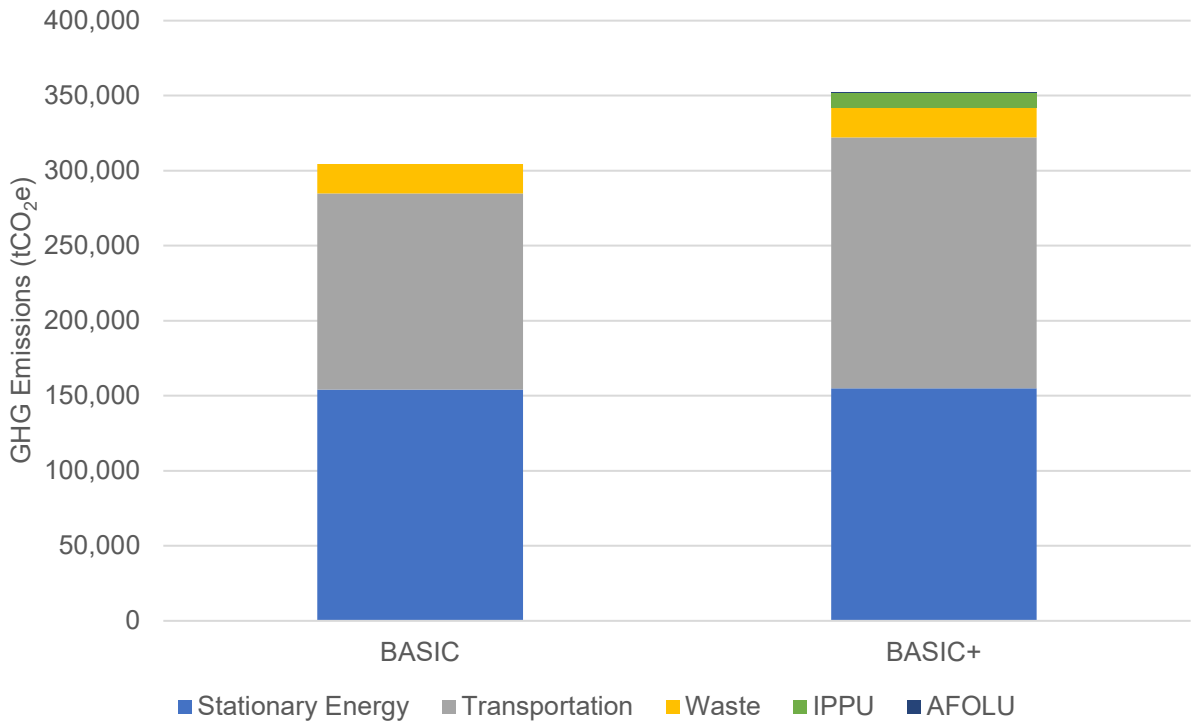

Figure 3 2019 GHG Emissions Summary by GPC Reporting Level

Emissions by reporting level are presented in the Table 24 below which shows a difference in emissions under the GPC Protocol's BASIC, and BASIC+ reporting levels. This is due to the inclusion of additional sources in BASIC+ which are very significant for almost any growing community. These additional emissions include transboundary emissions, industrial and product use emissions, and emissions from land-use change. Under the GPC Protocol, emissions included within each higher reporting level are cumulative from lower levels.

Table 23 Breakdown of the SCRD's 2019 GHG Emissions in GPC Reporting Format

GHG Emissions Source (by Sector)		Total GHGs (metric tonnes CO_2e)					
		Scope 1	Scope 2	Scope 3	BASIC	BASIC+	BASIC+ S3
Stationary Energy	Energy use (all emissions except I.4.4)	143,835	10,352	694	154,187	154,880	154,880
	Energy generation supplied to the grid (I.4.4)	NO					
Transportation	(all II emissions)	130,579	26	36,651	130,605	167,256	167,256
Waste	Waste generated in the Community (III.X.1 and III.X.2)	19,659		0	19,659	19,659	19,659
	Waste generated outside community (III.X.3)	NO					
IPPU	(all IV emissions)	9,957				9,957	9,957
AFOLU	(all V emissions)	739				739	739
Other Scope 3 (S3)	(all VI emissions)						0
TOTAL		**304,769**	**10,377**	**37,345**	**304,450**	**352,491**	**352,491**

NOTES:
Notation Keys: IE = Included Elsewhere; NE = Not Estimated; NO = Not Occurring.
Cells in green are required for BASIC reporting
Cells in green and blue are required for BASIC+ reporting
Cells in purple are for disclosure purposes only but are not included in the summary totals as required by the GPC Protocol.
Cells in orange are not required for BASIC or BASIC+ reporting

Table 25 presents the breakdown of the SCRD's BASIC+ GHG emissions by Sector and Sub-Sector.

Table 24 Breakdown of the SCRD's 2019 BASIC+ GHG Emissions in the GPC Protocol Reporting Format

GPC ref No.	GHG Emissions Source (by Sector and Sub-Sector)	Total GHGs (metric tonnes CO_2e)			
		Scope 1	Scope 2	Scope 3	Total
I	**Stationary Energy**				
I.1	Residential buildings	27,739	6,881	461	35,081
I.2	Commercial and institutional buildings and facilities	9,193	3,471	233	12,896
I.3	Manufacturing industries and construction	93,680	IE	IE	93,680
I.4.1/2/3	Energy industries	NO	NO	NO	NO
I.4.4	Energy generation supplied to the grid	NO			
I.5	Agriculture, forestry, and fishing activities	4,841	IE	IE	4,841
I.6	Non-specified sources	7,738	IE	IE	7,738
I.7	Fugitive emissions from mining, processing, storage, and transportation of coal	NO			NO
I.8	Fugitive emissions from oil and natural gas systems	644			644
Sub-Total	(community induced framework only)	**143,835**	**10,352**	**694**	**154,880**
II	**Transportation**				
II.1	On-road transportation	108,961	26	2,441	111,427
II.2	Railways	NO	NO	NO	NO
II.3	Waterborne navigation	427	IE	34,210	34,637
II.4	Aviation	17,321	IE	IE	17,321
II.5	Off-road transportation	3,871	IE	IE	3,871
Sub-total	(community induced framework only)	**130,579**	**26**	**36,651**	**167,256**
III	**Waste**				
III.1.1/2	Solid waste generated in the Community	19,350		NO	19,350
III.2.1/2	Biological waste generated in the Community	70		NO	70
III.3.1/2	Incinerated and burned waste generated in the Community	NE		NE	NE
III.4.1/2	Wastewater generated in the Community	239		NO	239
III.1.3	Solid waste generated outside the Community	NO			
III.2.3	Biological waste generated outside the Community	NO			
III.3.3	Incinerated and burned waste generated outside community	NE			

Table 24 Breakdown of the SCRD's 2019 BASIC+ GHG Emissions in the GPC Protocol Reporting Format

GPC ref No.	GHG Emissions Source (by Sector and Sub-Sector)	Total GHGs (metric tonnes CO_2e)			
		Scope 1	Scope 2	Scope 3	Total
III.4.3	Wastewater generated outside the Community	NO			
Sub-total	(community induced framework only)	**19,659**		**0**	**19,659**
IV	**Industrial Processes and Product Uses**				
IV.1	Emissions from industrial processes occurring in the Community boundary	IE			IE
IV.2	Emissions from product use occurring within the Community boundary	9,957			9,957
Sub-Total	(community induced framework only)	**9,957**			**9,957**
V	**Agriculture, Forestry, and Other Land Use**				
V.1	Emissions from livestock	739			739
V.2	Emissions from land	NE			NE
V.3	Emissions from aggregate sources and non-CO_2 emission sources on land	NO			NO
Sub-Total	(community induced framework only)	**739**			**739**
VI	**Other Scope 3**				
VI.1	Other Scope 3			NE	NE
Total	(community induced framework only)	**304,769**	**10,377**	**37,345**	**352,491**

NOTES:
Cells in green are required for BASIC reporting
Cells in green and blue are required for BASIC+ reporting
Cells in purple are for disclosure purposes only but are not included in the summary totals as required by the GPC Protocol.
Cells in orange are not required for BASIC or BASIC+ reporting

5.3 TOTAL GHG EMISSIONS

Under the BASIC+ method, the SCRD's GHG emissions totaled 352,491 tCO_2e. On a per capita basis, this works out to 11.1 tCO_2e per person (Table 26).

Table 25 Total Energy and GHG Emissions Per Person by Sector

Sector	Sub-Sector	Energy (GJ)	GHG Emissions (tCO_2e)	GJ Per Capita	tCO_2e Per Capita
Stationary Energy	Residential Buildings	1,481,786	35,081	47	1.1
	Commercial & Institutional Buildings	617,285	12,896	19	0.4
	Manufacturing Industries & Construction	1,878,578	93,680	59	3.0
	Agriculture, Forestry & Fishing activities	64,939	4,841	2	0.2
	Non-Specified Sources	-	7,738	-	0.2
	Fugitive Emissions	-	644	-	0.0
Transportation	In-Boundary On-road Transportation	1,609,770	108,986	51	3.4
	Trans-Boundary On-road Transportation	36,060	2,441	1	0.1
	Waterborne Navigation	461,188	34,637	15	1.1
	Aviation	232,791	17,321	7	0.5
	Off-road Transportation	51,918	3,871	2	0.1
Waste	Solid Waste		19,350		0.6
	Biological Treatment of Waste		70		0.0
	Wastewater Treatment & Discharge		239		0.0
IPPU	Product Use		9,957		0.3
AFOLU	Land-Use: Emissions Sequestered **(Disclosure Only - Not Included In Total)**		(962,632)		(30.4)
	Land-Use: Emissions Released **(Disclosure Only - Not Included In Total)**		835,610		26.4
	Livestock		739		0.0
	Non-CO2 Land Emission Sources		-		-
Total		**6,434,315**	**352,491**	**203.1**	**11.1**

Total GHG emissions for 2019 are 352,491 tCO_2e and have increased 7.2% from the 2007 base year. Scope 1 and 2 Emissions are 86.5% and 2.9% of the total GHG inventory. Scope 1 emissions are the

GHG emissions that result from the combustion of fuel in sources within the SCRD's boundaries, primarily from Stationary Energy and Transportation. Scope 1 GHG emissions also include IPPU and some AFOLU GHG emissions. Scope 2 emissions result from the use of electricity supplied to the SCRD which includes emissions associated with the generation of electricity and other forms of energy (e.g., heat and steam). Scope 2 emissions are low compared to other geographies, due to the predominance of hydroelectric generation technologies in the BC. Scope 3 emissions are emissions from electricity line losses, transboundary traffic, and emissions associated with the SCRD that are occurring outside of the SCRD's boundaries. For 2019, Scope 3 GHG emissions make up 10.5% of the GHG inventory. This breakdown by emission scope is depicted in Figure 4.

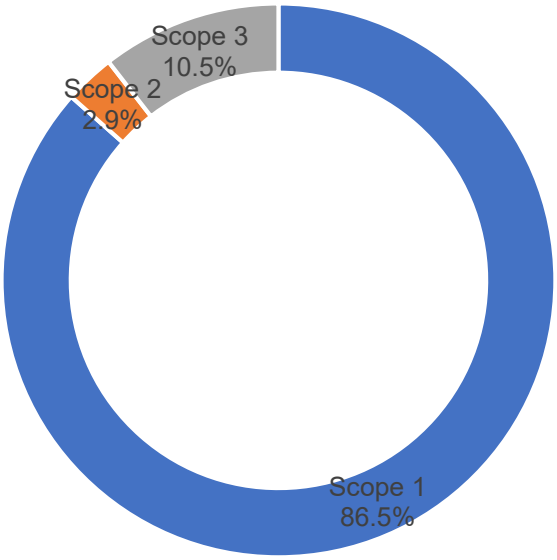

Figure 4 SCRD BASIC+ GHG Emissions by Emissions Scope

A breakdown of GHG emissions by reporting scope for the 2007 base and reporting year are presented in Table 27 below.

Table 26 Change in GHG Emissions from Base Year

Emissions Scope	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change
Scope 1	280,909	305,051	8.6%
Scope 2	12,294	10,377	-15.6%
Scope 3	35,597	37,063	4.1%
Total	**328,800**	**352,491**	**7.2%**

5.4 SECTORAL GHG EMISSIONS ANALYSIS

5.4.1 Stationary Energy

Stationary energy sources are one of the largest contributors to the SCRD's GHG emissions. In 2019, it contributed 43.9% of the community's GHG emissions. In general, stationary energy emissions include the energy to run manufacturing processes and other industrial activities (e.g., compressor stations), energy to heat and cool residential, commercial, and industrial buildings, as well as the activities that occur within these residences and facilities. Fugitive methane emissions from natural gas pipelines and other distribution facilities, and related off-road GHG emissions, are also reported in this Sector. The table below shows the breakdown of energy use in the stationary energy reporting category.

Table 28 summarizes the energy and GHG emissions for the 2019 reporting year.

Table 27 2019 Energy and GHG Emissions by Stationary Energy Sector

Sector	Electricity (tCO_2e)	Natural Gas (tCO_2e)	Heating Oil (tCO_2e)	Propane (tCO_2e)	Wood (tCO_2e)	Other Sources (tCO_2e)	**Total GHG Emissions (tCO_2e)**	**Total Energy (GJ)**
Residential Buildings	7,342	15,546	2,680	5,056	3,579	877	**35,081**	**1,481,786**
Commercial & Institutional Buildings	3,703	7,245	-			1,948	**12,896**	**617,285**
Manufacturing Industries & Construction		93,680				-	**93,680**	**1,878,578**
Agriculture, Forestry & Fishing activities						4,841	**4,841**	**64,939**
Non-Specified Sources						7,738	**7,738**	**No Data**
Fugitive Emissions						644	**644**	
Total GHG Emissions (tCO_2e)	**11,045**	**116,471**	**2,680**	**5,056**	**3,579**	**16,049**	**154,880**	
Total Energy (GJ)	**1,329,844**	**2,335,612**	**39,193**	**82,674**	**152,431**	**102,835**		**4,042,588**

It can be seen in Figure 5 that natural gas use contributed to 75.2% of the SCRD's total Stationary Energy GHG emissions.

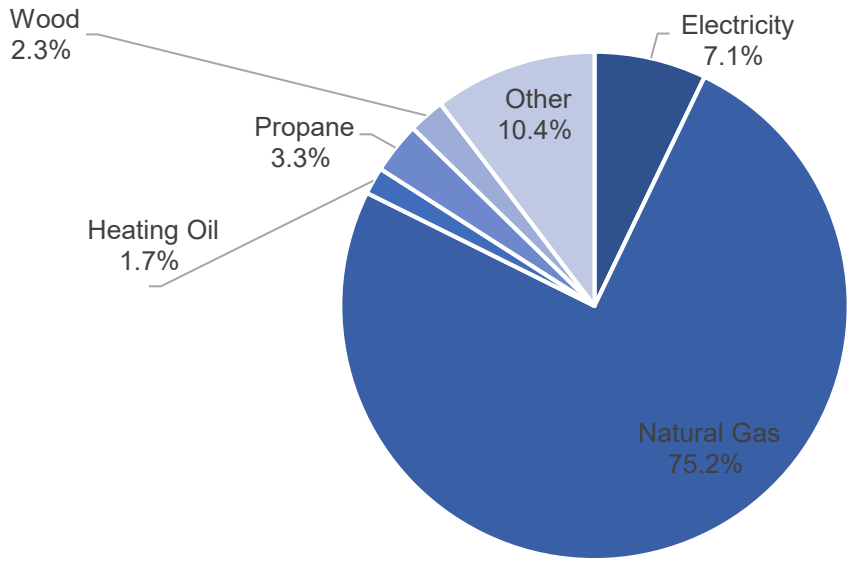

Figure 5 Stationary Energy GHG Emissions Contribution to the GHG Inventory

Figure 6 shows that the stationary GHG emissions arise from the operation of residential and commercial buildings and the operation of the Howe Sound Pulp and Paper industrial facility.

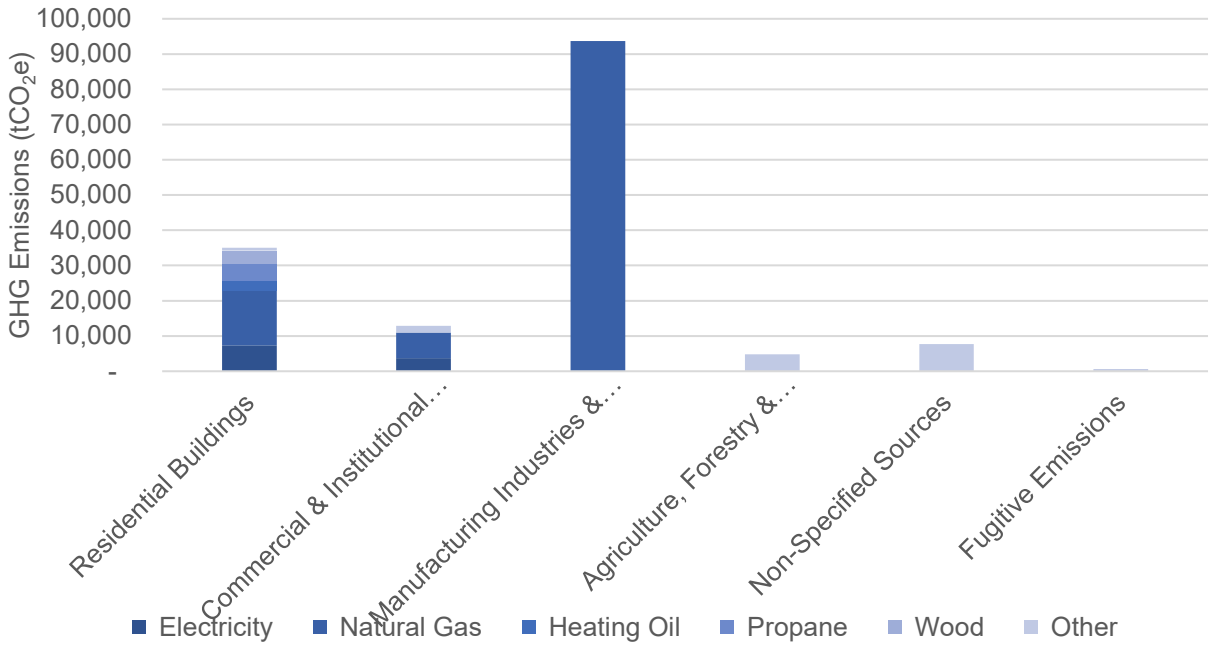

Figure 6 Total Stationary Energy Use By Sub-Sector

Stationary energy GHG emissions have increased by nearly 10.2% since the base year (Table 29). Much the increase in GHG emissions is the result of the changing electricity emission factor which increased by 12% in 2019 (as compared to 2007).

Table 28 Stationary Energy—Energy and GHG Emissions Trends

Sector	Change in GJ: 2007 & 2019	Change in tCO_2e: 2007 & 2019
Residential Buildings	-7.3%	-6.7%
Commercial & Institutional Buildings	-5.3%	3.8%
Manufacturing Industries & Construction	13.3%	15.4%
Agriculture, Forestry & Fishing activities	-16.8%	-3.0%
Non-Specified Sources	No Data	0.0%
Fugitives	Not Applicable	6.0%
Total	**10.2%**	**13.2%**

5.4.2 Transportation

Transportation covers all emissions from combustion of fuels in journeys by road, rail, water, and air, including inter-community and international travel. For the 2019 reporting year, transportation GHG emissions accounted for 47.4% of the SCRD GHG inventory with the bulk of transportation GHG emissions resulting from the on-road transportation sub-sector (66.6%). The transportation GHG emissions are produced directly by the combustion of fuel or indirectly because of the use of grid-supplied electricity. Unlike stationary emission sectors, transit is mobile and can pose challenges in both accurately calculating emissions and allocating them to the cities linked to the transit activity. The following sections summarize energy and GHG emissions by on-road transportation, which is then followed by off-road transportation (marine, aviation, and other).

Table 30 summarizes the on-road energy and GHG emissions for the 2019 reporting year.

Table 29 2019 On-Road Transportation Energy And GHG Emissions by Fuel Type

Fuel Type	Number of Registered Vehicles	Total Fuel Use	Fuel Use Units	Energy (GJ)	GHG Emissions (tCO_2e)
Electricity	377	854,300	kWh	3,075	26
Gasoline	20,726	28,202,949	Liters (L)	977,514	66,348
Diesel	1,970	16,691,518	Liters (L)	645,628	43,912
Propane	71	206,496	Liters (L)	5,272	318
Hydrogen	-	-	Liters (L)	-	-
Natural Gas	47	266,591	Kilograms (kg)	14,341	823
Total	**23,190**	**N/A**	**N/A**	**1,645,830**	**111,427**

Overall, GHG emissions from on-road transportation has increased by 1.4% compared to the 2007 base year. Figure 7 provides a breakdown of GHG emisisons by vehicle classification.

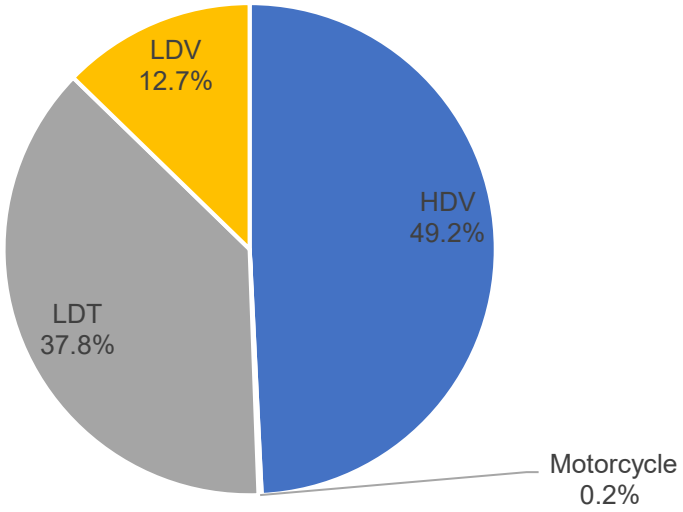

Figure 7 Breakdown of On-Road GHG Emissions by Vehicle Type

Table 31 summarizes the aviation, waterborne, and off-road transportation energy and emissions by fuel type. These GHG emissions contribute to 33.4% of the total transportation GHG emissions and 15.8% to the total inventory (Figure 8).

Table 30 2019 Aviation, Waterborne, and Off-Road Transportation Energy and Emissions by Fuel Type

Fuel Type	Total	Units	Energy (GJ)	GHG Emissions (tCO_2e)
Marine Gasoline	189,588	Liters (L)	6,579	427
Marine Diesel	11,753,082	Liters (L)	454,609	34,210
Marine Natural Gas	-	Liters (L)	-	-
Aviation Jet Fuel	65,102	Liters (L)	232,791	17,321
Other Off-Road Transportation Diesel	1,342,247	Liters (L)	51,918	3,871
Total	**N/A**	**N/A**	**745,897**	**55,829**

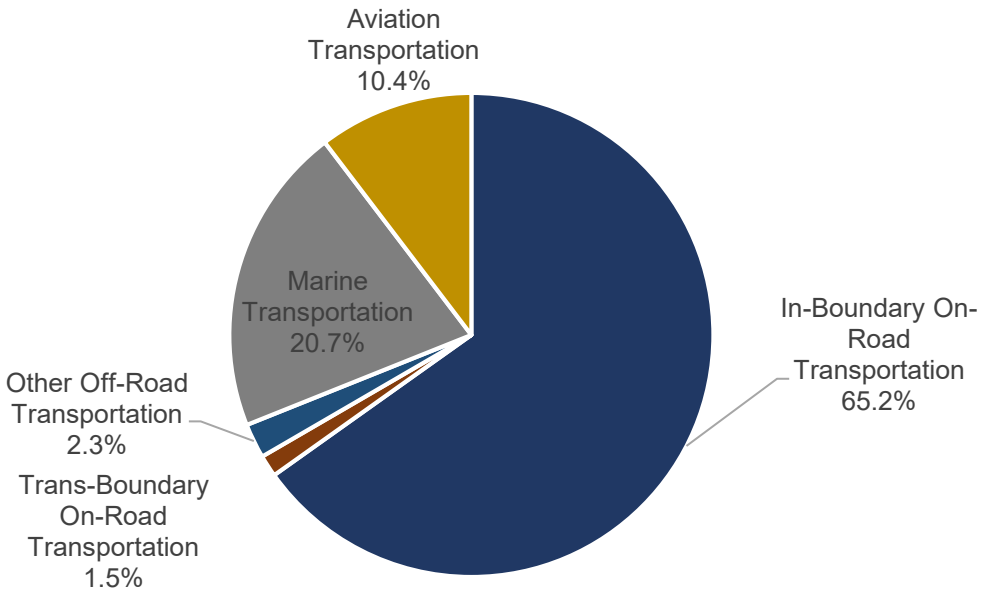

Figure 8 Summary of Transportation GHG Emissions by Sub-Sector

5.4.3 Waste

Communities produce solid waste, compost, and wastewater. Waste does not directly consume energy, but when deposited into landfills, or left exposed to the atmosphere, it decomposes and releases methane (CH_4) gas which is a potent GHG. The GHG emissions from the solid waste, composting, and wastewater facilities for the reporting year is summarized in the following table. For the 2019 reporting year, waste emissions contributed 5.6% to the GHG inventory. A breakdown of the Waste Sub-Sector GHG emissions is presented in Table 32.

Table 31 Summary of Waste Sub-Sector GHG Emissions

Sector	2019 GHG Emissions (tCO_2e)	GHG Emissions Per Capita (tCO_2e / Capita)	Change from Base Year (2007)
Wastewater Treatment And Discharge	239	0.01	3.8%
Biological Treatment of Solid Waste	70	0.00	100%
Solid Waste	19,350	0.61	57.4%
Total	**19,659**	**0.62**	**57.0%**

For the 2019 reporting year, in scope GHG emissions from waste have increased by 57.0% compared to the 2007 base year. Fluctuations in waste will occur over the reporting periods as waste is driven by both the population, as well as economic prosperity in the region. The Solid Waste Sub-Sector contributes

more than 98.4% of total waste GHG emissions (Figure 9). To reduce the amount of waste landfilled, and thus GHG emissions, the SCRD and its members are making a significant effort to reduce waste going to landfills through organics diversion and recycling.

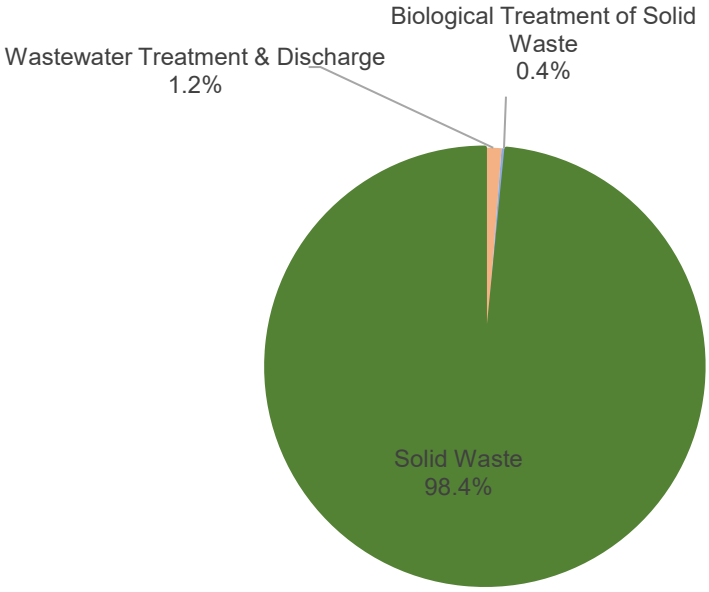

Figure 9 2019 GHG Emissions from Waste (tCO_2e)

5.4.4 Industrial Processes and Product Use (IPPU)

Reporting on IPPU GHG emissions are required for BASIC+ reporting only. Industrial GHG emissions are produced from a wide variety of non-energy related industrial activities which are typically releases from industrial processes that chemically or physically transform materials. During these processes, many different GHGs can be produced. It is not clear if there are industrial GHG emissions occurring within the SCRD's boundaries and thus a "Not Estimated" notation is used in the GPC tables.

Also included in the IPPU Sector is Product Use GHG emissions. Certain products used by industry and end-consumers, such as refrigerants, foams or aerosol cans, also contain GHGs which can be released during use and disposal and thus, as with best-practice, must be accounted for. For the reporting year, only the emissions estimated were production and consumption of halocarbons, SF_6 and NF_3 were estimated for the SCRD on the basis that other GHG emissions sources identified in the NIR are not likely to be occurring in the SCRD. The sources of these GHG emissions are typically fridges, heat pumps, and air conditioners. To estimate Product Use GHG emissions for the SCRD, a per capita estimate was developed using the Provincial emissions data from the 2021 NIR, and BC's NIR reporting year population from Statistics Canada. This value was applied to the 2019 reporting year population to estimate the total Product Use emissions for the SCRD.

Between the 2007 and 2019 reporting years, IPPU GHG emissions have increased 58.3% (Table 33). The reason for the increase is attributed to Environment and Climate Change Canada having better data available to make the estimate, than the actual GHG emissions increasing such an amount.

Table 32 Product Use GHG Emissions for the 2007 and 2019 Reporting Years

Sub-Sector	2007 GHG Emissions (tCO_2e)	2019 GHG Emissions (tCO_2e)	Change
Product Use Emissions	6,289	9,957	58.3%

5.4.5 Agriculture, Forestry, and Other Land Use

The AFOLU Sector includes GHG emissions from livestock, land use, and all other agricultural activities occurring within the SCRD's boundaries.

The following information is provided for disclosure purposes only. Using remotely sensed imagery, land cover data was used to estimate land use changes between the reporting years. In 2019, the SCRD's greenspace is estimated to have sequestered and stored 962,632 tCO_2e (Table 34), released 835,610 tCO_2e for a net reduction of 127,022 tCO_2e. Due to data limitations and concerns about the limited land-use classifications in the data, this estimate was not included in the GHG emissions inventory.

Table 33 Summary of Land-Use Change in 2019

Land Type	Total Hectares (Ha)	GHG Emissions Sequestered (tCO_2e)	GHG Emissions Released (tCO_2e)
Forest Land	197,218.6	(360,669.6)	-
Cropland	-	-	-
Grassland	52,942.5	(141,438.5)	-
Wetlands	139,240.5	(460,523.9)	-
Settlements	5,304.9	-	37,149.2
Other Land	122,628.6	-	798,461.0
Total	517,335.0	(962,632.0)	835,610.2

5.4.5.1 Livestock and Other Agriculture

In addition to land use change, GHG emissions from the AFOLU Sector are produced through a variety of non-land use pathways, including livestock (enteric fermentation and manure management), and aggregate sources and non-CO_2 emission sources on land (e.g., fertilizer application). Under this Sector, the SCRD would normally report on GHG emissions from the following sources, and Sub-Sectors:

- Scope 1 GHG Emissions:
  - Livestock:

- Methane (CH_4) Emissions from Enteric Fermentation
- Methane (CH_4) Emissions from Manure Management
- Direct Nitrous Oxide (N_2O) GHG Emissions

– Aggregate Sources and Non-CO_2 Emissions Sources on Land
- Direct Nitrous Oxide (N_2O) Emissions from Agricultural Soil Management
- Indirect Nitrous Oxide (N_2O) Emissions from Applied Nitrogen

Due to limitations in the spatial analysis, the emissions from this sector could not be estimated.

6.0 QUALITY ASSURANCE AND QUALITY CONTROL

Quality Assurance and Quality Control (QA/QC) procedures are applied to add confidence that all measurements and calculations have been made correctly and to reduce uncertainty in data. Examples include:

- Checking the validity of all data before it is processed, including emission factors
- Performing recalculations to reduce the possibility of mathematical errors
- Recording and explaining any adjustments made to the raw data
- Documenting quantification methods, assumptions, emission factors and data quality

With respect to the GHG inventory, the data was subject to various quality assurance and quality control checks throughout the collection, analysis, and reporting phases. Specifically, the following procedures were followed:

- Upon receipt of data from the SCRD, the data was checked for completeness (e.g., all months of data are present), relevancy (e.g., the correct calendar year is presented), and reasonableness (e.g., comparing similar transportation data sets). Incorrect or incomplete datasets were queried directly with the data provider.
- Where estimates were used (e.g., fuel oil consumption), all possible data sources were considered for their accuracy and relevance to the community before a final method and data source was selected.
- All manual data transfers were double-checked for data transfer accuracy.
- The inventory was compared to other third party inventories (e.g. CEEI) to assess for reasonableness of the estimates.
- The inventory underwent internal SCRD reviews to confirm assumptions, data and reasonableness of the estimates.

7.0 RECOMMENDATIONS

To remain accurate and reflective of the current community conditions, the SCRD should revise and improve its GHG emissions inventory either annually or in line with capital planning cycles (i.e., every 3-4 years), to which there are the following aspects should be focused on:

- Improving activity data collection and management, including Sector and Sub-Sector allocations.
- Performing recalculations, where applicable, and tracking GHG emissions over time.
- Reviewing methodologies and data to assess for opportunities to improve the estimates.
- Assessing changes to boundaries, methodologies, assumptions or data that may be material and require a base year restatement.

The next section provides a summary of specific GHG inventory improvement recommendations.

7.1 INVENTORY ASSUMPTIONS, ASSESSMENT, AND RECOMMENDATIONS

In the preparation of the 2019 GHG emissions inventory, there are several assumptions were made in the analysis that will have some influence on accuracy of the SCRD's estimate of GHG emissions. Most emission sources have been calculated with a high level of confidence, due to the presence of utility records, and direct energy and emissions data being provided by stakeholders. Data sources and assumptions with medium to high uncertainty are presented in Table 36 which summarizes the main assumptions, possible impacts on the data, and recommended improvement. It is recommended that the SCRD prioritize improvements that are likely to have a material (>5%) influence on the GHG inventory estimate.

Table 34 Summary of GHG Inventory Assumptions, Estimated Impacts, and Recommended Improvements

Sector	Assumption	Possible Impact on The GHG Inventory	Recommended Improvements
Stationary Energy	The energy utility providers provide energy in lump sum amounts for: residential, commercial, and industrial. As such, energy consumption from the pulp mill and agricultural buildings, could not be split out. A related accuracy issue is the assignment of mixed use buildings without separate metering.	No impact on the GHG inventory. The change would only happen between reporting sectors.	Work with the utility provider to get a more detailed breakdown of energy use by sub-sector. Reach out to the pulp mill to see if they would be amendable to sharing their energy consumption data.

Table 34 Summary of GHG Inventory Assumptions, Estimated Impacts, and Recommended Improvements

Sector	Assumption	Possible Impact on The GHG Inventory	Recommended Improvements
Stationary Energy	Propane, fuel oil and wood GHG emissions are estimated by the Province using an energy balance model. This does not likely represent actual fuel consumption within the SCRD.	Immaterial impact on the GHG inventory (<5%)	Consider completing a residential energy labelling program. With such a program, an energy and fuel profile for buildings could be developed so that a reasonable estimate of other fuel use be determined.
Stationary Energy	FortisBC provided a total estimate of fugitive emissions for the SCRD region for 2019; however, this did not include upstream fugitive emissions as suggested as best practice by the GPC Protocol.	Immaterial impact on the GHG inventory (<5%)	Work with FortisBC to refine this estimate.
Transportation	ICBC has not been collecting off-road vehicle data so this source could not be estimated.	Possible material impact on the GHG inventory (>10%)	Work with ICBC to begin collecting this data regionally.
Transportation	ICBC did not provide reporting year vehicle registration data for the SCRD. As such, 2012 vehicle registration data was used to estimate GHG emissions. Specifically, for the reporting year, the 2012 CEEI vehicle registration data was grown using the change in the SCRD's population between 2012 and 2019.	It is likely that the estimate is within the materiality threshold (10%). However, the categories of vehicles and GHG emissions are likely to be materially different.	Work with ICBC to understand the data error and request a detailed registry database that includes dates so that a better estimate of GHG emissions can be determined.
Transportation	The GHG emissions from recreational watercraft and US/Can ferries were estimated based on a publicly available year 2000 study.	Immaterial impact on the GHG inventory (<5%)	Work with the Harbor Master to deploy a database tracking the types of boats entering the harbor.
Transportation	No GHG emissions from helicopters could be estimated due to a lack of available data.	Immaterial impact on the GHG inventory (<5%)	Work private companies to collect the total number of aircraft movements.

Table 34 Summary of GHG Inventory Assumptions, Estimated Impacts, and Recommended Improvements

Sector	Assumption	Possible Impact on The GHG Inventory	Recommended Improvements
Transportation	No GHG emissions from tug-boats and the like could be estimated due to a lack of available data.	Immaterial impact on the GHG inventory (<5%)	Work private companies to collect the total fuel consumed by commercial boats per year.
IPPU	Product use emissions were estimated on a per capita basis using the 2021 NIR estimates. The product use emissions were estimated by the NIR using an IPCC Tier 1 approach and thus will have high uncertainty.	Immaterial impact on the GHG inventory (<5%)	No recommendations currently.
AFOLU	GHG estimates for land use change are based on a period of years (2006-2021) and thus were averaged for each period. As there was no annual data, land use change for the reporting year was estimated using the average value between the data years. Furthermore, there were issues with the spatial data (not being consistent, granular enough for analysis, and not all land-classes considered).	Possibly a material impact on the GHG inventory (>10%)	Work with the planning department to track land-use change annually so that a more refined estimate can be made. Work with the GIS department to gather and process LIDAR data for the region. Aim to collect this data every 3-5 years.
AFOLU	The land-use sequestration and storage GHG emission factors are taken from the literature, for BC ecozones, and may not reflect the productivity, or lack thereof, of land uses in the SCRD. The land-change emission factors for changes between land types were derived by the Province. These are average values by ecozone and are based on a 20-year horizon. Since land-use change in the SCRD is typically related to development, it was assumed that the loss of emissions is immediate which may	Possibly a material impact on the GHG inventory (>10%)	Work with the Province and the post-secondary institutions to derive refined sequestration emission factors.

Table 34 Summary of GHG Inventory Assumptions, Estimated Impacts, and Recommended Improvements

Sector	Assumption	Possible Impact on The GHG Inventory	Recommended Improvements
	overestimate GHG emission losses. In both emission factor applications, the use of non-site emission factors may result in an over or underestimate of GHG emissions.		

8.0 REFERENCES

Environment and Climate Change Canada. 2021. National Inventory Report 1990 to 2019: Greenhouse Gas Sources and Sinks in Canada. Part 1-3. April 2019. Available at: https://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php

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IPCC (Intergovernmental Panel on Climate Change). 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Available at: https://www.ipcc-nggip.iges.or.jp/public/2006gl/

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SUNSHINE COAST REGIONAL DISTRICT 2019 GPC BASIC+ COMMUNITY GREENHOUSE GAS (GHG) EMISSIONS INVENTORY REPORT

April 27, 2022

Stantec

ANNEX B

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Raphael Shay, Manager, Sustainable Development

SUBJECT: **SUNSHINE COAST CLIMATE RISK ASSESSMENT**

RECOMMENDATION(S)

THAT the report titled Sunshine Coast Climate Risk Assessment be received for information.

BACKGROUND

Canada's climate is warming two times faster than the global average.[1] This warming is causing a series of impacts that will continue to increase in severity and intensity as greenhouse gas emissions continue to rise. Even if greenhouse gas were to drop drastically, changes to the climate system have been locked in for the next decades.

The Sunshine Coast is already witnessing these impacts in the form of recurring extreme droughts, atmospheric rivers, heat domes, and poor air quality from forest fires. In addition to these extremes, slow onset impacts are also occurring, such as sea level rise and milder winters.

Local governments are mapping out climate impacts to better understand risks and develop adaptation plans. The Sunshine Coast Regional District (SCRD) worked with ICLEI Canada on the Building Adaptive and Resilient Communities (BARC) Framework in order to meet the 2019-2023 Strategic Plan priority of developing a climate change adaptation strategy. ICLEI Canada has supported hundreds of municipalities with the BARC Framework.

The BARC Framework involves 5 milestones:

1. Initiate (identify champion, pass board resolution);
2. Research (research impacts, vulnerability assessment, risk assessment, and prioritization);
3. Plan (establish Vision, objectives, goals, options for actions, drivers and constraints, indicators, budget implications, and implementation schedules);
4. Implement (implement variety of adopted tools, solidify Board and community support);
5. Monitor / Review (assess new information, evaluate effectiveness, revise adaptation plan).

The purpose of this report is to present the culmination of **Milestone 2** in the Climate Risk Assessment. The discussion also outlines the planned next steps on public education, validation of the risk assessment, and work on Milestone 3 – action planning.

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[1] Canada's National Adaptation Strategy. (2022) https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy.html

Action planning will integrate both adaptation and emissions reductions planning within a low carbon resilience framework to create a community climate emergency action plan.

This builds on other adaptation planning work including, amongst others, the 2012 We Envision Regional Sustainability Plan, riparian protection work, water strategy development along with associated conservation and supply expansion projects, and the Community Wildfire Protection Plan. A wide variety of climate adaptation plans, programs, and projects are also underway by member municipalities, First Nations, provincial agencies, Vancouver Coastal Health, and others.

DISCUSSION

The Climate Risk Assessment report in Attachment A outlines the process taken to identify, prioritize, and evaluate climate risks for the Sunshine Coast. Following BARC best practices, this work was undertaken in collaboration with an Internal Project Team and a Community Project Team.

Of the over 250 climate change impacts initially identified for the community, 15 impacts were carried to the final stage of risk assessment. Given the high number of impacts under consideration and limited staff and community project team capacity, only the impacts ranking highest on vulnerability were carried forward for a more in-depth risk assessment. There remains a material quantity of impacts for which the community is moderately vulnerable that will be monitored closely. Should the climate risk change, these impacts may require deeper assessments.

Table 1 summarizes the nine climate change impacts that ranked high on the vulnerability assessment and the risk assessment. Of these, the top two relate to increasing summer temperatures and decreasing summer precipitation as it impacts water systems and wildfire risks. Both of these impacts are subject to SCRD plans with the Water Strategy under development and the Community Wildfire Protection Plan completed in 2021.

Several of the subsequent impacts relate to critical infrastructure such as roads, ferry terminals, water mains, and power lines and how they may be damaged by sea level rise or increased extreme weather events (such as atmospheric rivers). The others relate to ecosystem and human health impacts from warming ocean temperatures, warming winters, and increased extreme weather events.

Table 1: High Vulnerability Impacts

Impact Statement	Risk Ranking
Impact 6: An increase in hot days, average summer temperatures, and extended droughts leading to strain on water systems resulting in reduced water quality and quantity	High
Impact 10: Increased annual and seasonal temperatures combined with decreased summer precipitation resulting in increased likelihood and frequency of wildfires	High
Impact 7: Sea level rise damaging or washing out critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.) resulting in increased maintenance and repair costs	Medium-high
Impact 3: Increasing ocean temperatures and acidification resulting in biodiversity loss and species die off	Medium-high

Impact Statement	Risk Ranking
Impact 2: An increase in the frequency and intensity of extreme weather events resulting in damage to critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.), unsafe travel conditions, and interruptions to service delivery and the delivery of goods and services.	Medium-high
Impact 11: Increased winter temperatures and fewer freezing days resulting in the survival and increase of invasive species (knotweed, ticks, pine beetle, etc.)	Medium-high
Impact 9: An increase in annual and seasonal temperatures resulting in impacts to habitat, low creek flow, and shifting eco-regions resulting in unbalanced ecology, impacts to biodiversity, changes to local flora & fauna	Medium
Impact 8: An increase in hot days resulting in increased exposure of marine life (e.g. Shellfish, Seaweed, Salmon, etc...) during low-tide resulting in the loss of marine life and biodiversity	Medium
Impact 4: Increase in hot days and heatwaves, drought, and back-to-back climate emergencies leading to health risks (e.g., cardiovascular disorders, heat stress, mental health effects) and heat related mortality, especially amongst vulnerable populations	Medium

The climate risk assessment also highlights impacts that lie beyond the borders of the SCRD but that may have repercussions within the SCRD jurisdiction. These impacts were not formally assessed but could be integrated into scenario planning for future work related to climate adaptation and various services. Of note are:

- Changes in global climate conditions creating an increase in climate migrants and refugees. This could materially alter the growth projections used for land use planning and service delivery.
- Impacts to community liveability with regards to food security, job security, economic viability, insurance rates, and property values. This could materially affect the vitality of the community and its adaptive capacity to other stressors.

Next steps – Education and Outreach

This report and a summary will be shared on a new webpage **letstalk.scrd.ca/climate**. A webinar will be held in mid-June to share the results of this report with the community and start the process of validating its conclusions. Public participation opportunities will begin on this webpage and expand along with the climate emergency action planning process.

Offers to present to the Town of Gibsons, the District of Sechelt, shíshálh Nation, and Sḵwx̱wú7mesh Nation councils were sent following recommendation of the February 17, 2022 Community Climate Public Participation Update report. No specific date has been identified at this point in time with any council but when dates are set, presentations will include an overview of the GHG emissions inventory and climate risk assessment.

Staff are also collaborating with staff from shíshálh Nation, Sḵwx̱wú7mesh Nation, the Town of Gibsons, and the District of Sechelt on climate planning work. Staff is grateful for the continued collaboration and will share the emissions inventory and forecasting calculator to support work in their respective jurisdictions.

Next steps – Milestone 3

The work of Milestone 2, which involves identifying all possible climate risks and diving in depth into the most critical ones, is essential to the BARC Framework. This Milestone has revealed our community will be affected by a wide breadth of serious climate impacts. The adaptive capacity of the community and the SCRD will be seriously challenged in the most optimistic of scenarios.

It is at this point in the BARC Framework that forward looking actions are investigated and all the existing plans, programs, and projects from local partners are identified for leverage. A year has been scheduled to complete an action plan under Milestone 3 and meet the next steps identified in the 2019-2023 Strategic Plan to further refine the "risk/vulnerability assessments for communities and infrastructure" and "develop and implement adaptation strategies and measures including emergency plans, for priority risk areas."

Staff will contemplate the corporate integration of adaptation action through mechanisms such as the annual budget process, asset management plans, and planning processes.

Next steps – First Nation Engagement

Alongside this process, collaboration with shíshálh and Sḵwx̱wú7mesh Nations will ensure that the Plan reflects and supports values and visions for this place. Several plans with guiding principles that should frame Milestone 3 already exist. Additionally, there are several projects underway at each Nation that relate to climate adaptation. These can be a focus for engagement as Milestone 3 progresses to identify the best ways the community climate emergency action plan can support shíshálh and Sḵwx̱wú7mesh Nations.

STRATEGIC PLAN AND RELATED POLICIES

The Sunshine Coast Climate Change Risk Assessment supports the 2019-2023 Strategic Plan priorities, including:

- Community Resilience and Climate Change Adaptation
  - DEVELOP CLIMATE CHANGE ADAPTATION STRATEGY
    - Review climate change projections and complete climate change impact mapping
    - Undertake risk/vulnerability assessments for communities and infrastructure
    - Develop and implement adaptation strategies and measures including emergency plans, for priority risk areas.
  - PROMOTE SOCIAL EQUITY
- Engagement and Communications
  - DEVELOP PUBLIC OUTREACH AND ENGAGEMENT STRATEGY
  - ENHANCE ON-LINE TOOLS TO IMPROVE FUNCTIONALITY AND USER EXPERIENCE
- Working Together
  - ENHANCE FIRST NATIONS RELATIONS AND RECONCILIATION
  - INCREASE INTERGOVERNMENTAL COLLABORATION

CONCLUSION

The Sunshine Coast is already witnessing impacts from climate change and these impacts are projected to increase in the future. The Sunshine Coast Regional District (SCRD) elected to work with ICLEI Canada on the Building Adaptive and Resilient Communities (BARC) Framework in order to meet the 2019-2023 Strategic Plan priority of developing a climate change adaptation strategy. This report presented the culmination of Milestone 2, the Climate Risk Assessment.

Through a participatory process involving an Internal Project Team and a Community Project Team, nine climate change impacts ranked high in the final risk assessment. The top two relate to increasing summer temperatures and decreasing summer precipitation as it impacts water systems and wildfire risks. Several of the subsequent impacts relate to critical infrastructure such as roads, ferry terminals, water mains, and power lines and how they may be damaged by sea level rise or increased extreme weather events (such as atmospheric rivers). The others relate to ecosystem and human health impacts from warming ocean temperatures, warming winters, and increased extreme weather events.

There are three next steps on this process. The first is sharing the results of the risk assessment with the community and validating the conclusions. The second is starting Milestone 3, action planning with the Community Project Team and the community at large. The third is continuing the process of engaging shíshálh and Sḵwx̱wú7mesh Nations on their perspective of climate risks and vision for the climate emergency action plan

ATTACHMENTS

Attachment A: 2022-MAY-11 SCRD Climate Risk and Vulnerability Assessment Report)

Reviewed by:			
Manager		CFO/Finance	X - T. Perreault
GM	X – I. Hall X – S. Gagnon	Legislative	
CAO	X – D. McKinley	Risk Management	X - V. Cropp

Attachment A

SUNSHINE COAST REGIONAL DISTRICT

CLIMATE CHANGE VULNERABILITY & RISK ASSESSMENT REPORT

SPRING 2022

SUNSHINE COAST REGIONAL DISTRICT

ICLEI Local Governments for Sustainability CANADA

Contents

INTRODUCTION

From flooding and extreme heat to increasing frequency and intensity of storms, the impacts of climate change are being experienced by municipalities across Canada and British Columbia. The Sunshine Coast has experienced its share of severe weather events. Recent heatwaves, drought, wildfires, and atmospheric river events have clearly shown the need for local action. To address these impacts and build its resiliency, the Sunshine Coast Regional District (SCRD) is embarking on the process of developing a climate change adaptation plan. This will form a pillar of the community's climate emergency action plan alongside a mitigation plan to reduce greenhouse gas emissions.

Climate change adaptation efforts that include the community ensures that those most affected by the impacts of climate change are involved in how risks are identified, assessed, and responded to. This report summarizes the most significant climate risks to the Regional District as identified by municipal staff and the broader community. This report serves as a valuable output as the SCRD continues the process of developing a climate change adaptation plan.

PROJECT BACKGROUND

Climate Adaptation Plan

The SCRD is pursuing the development of a practical and implementable climate change adaptation plan (hereby referred as The Plan). The purpose of The Plan is to scope and plan for the effects of a changing climate on the community as well as on local government managed infrastructure, assets, and services in order to reduce the risks climate change poses to Sunshine Coast's physical, economic, social, and ecological systems. A series of workshops and surveys were conducted throughout 2022 to identify climate change impacts and assess vulnerability and risk. This in turn will inform the identification of potential actions that the SCRD can take to address prioritized impacts. The Plan will recommend specific measures to enhance the SCRD's ability to address climate change impacts and assign agreed-upon responsibilities for undertaking related actions.

BARC Methodology

SCRD's climate adaptation work is guided by ICLEI's Building Adaptive and Resilient Communities (BARC) Framework. The BARC Framework guides municipalities through a comprehensive planning methodology that includes research and climate impact assessment, plan development, action-setting, implementation planning, and monitoring and review strategies. The BARC Framework is a proven methodology that has been implemented by hundreds of

municipalities across the country. A model of BARC's Milestone process is shown in Figure 1 below.

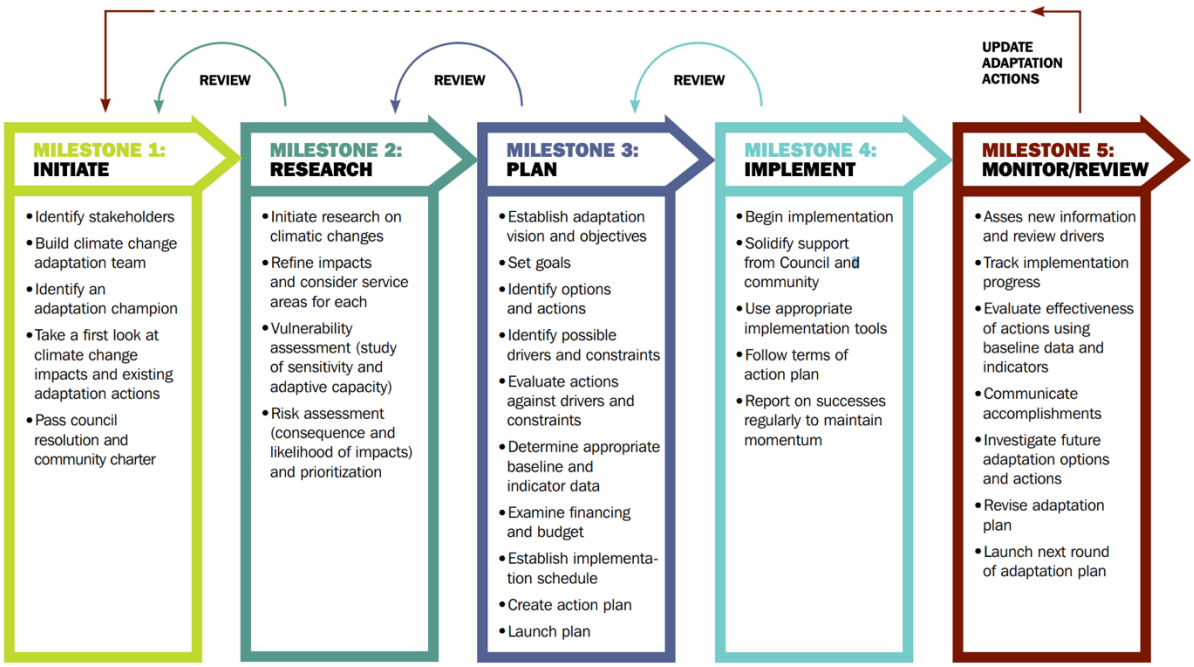


Figure 1: BARC 5-Milestone Framework

This project fulfills Milestones One, Two, and Three of the BARC Framework. Following the vulnerability and risk assessments outlined in this report, the Regional District will begin the planning stage (Milestone Three) process.

COMMUNITY ADAPTATION PLANNING PARTICIPANTS

In fulfilling the criteria of Milestone One, the SCRD worked with ICLEI Canada to identify relevant stakeholders to the adaptation planning process. The BARC framework allows for the individual examination of impacts, vulnerabilities, and risks to the Sunshine Coast. This process brings together a wide variety of corporate, community stakeholders, and First Nations, helping to build partnerships for long term and sustained climate action. Further, this allows us to learn of and capitalize on existing resources and programs within the region to support adaptation efforts.

The SCRD is also developing relations and processes to foster greater engagement with shíshálh Nation and Sḵwx̱wú7mesh Nation. Next steps in this climate adaptation planning will be congruent with and supportive of the existing work being undertaken by each Nation.

Stakeholders and First Nations

Through a process of identification and engagement, two groups were formed. The first is an Internal Project Team (IPT) comprised of Regional District staff. The second is a Community Project Team (CPT) encompassing stakeholders from agencies across the lower Sunshine Coast whose services are affected by climate change, as well as representatives from community and First Nations.

The IPT was formed to develop and shape the project direction and strategy and consists of the following members:

Division	Member
Sustainable Development	Raphael Shay (Project Lead)
Parks	Sam Adams
Planning	Julie Clark
Purchasing and Risk Management	Valerie Cropp
Protective Services	Jordan Pratt
Facilities	Allen van Velzen
Utilities	Shane Walkey
Strategic Initiatives	Alana Wittman

The CPT was formed to participate and aid in the development of this plan which includes identifying climate impacts to the community, and the scoring of these impacts. Members that continue to provide valuable direction and input for climate change adaptation planning include the following:

Department/Organization	Member
Ministry of Transportation and Infrastructure	Michael Braun
Vancouver Coastal Health	Craig Brown
Sunshine Coast Resource Centre	Katie Clogg
Ministry of Environment and Climate Change Strategy	Rob Dalziel
School District 46	Jenny Groves
Sechelt Chamber of Commerce	John Henderson
Loon Foundation	Michael Jackson
BC Hydro	Mabel Lai
District of Sechelt	Meghan Lee
Town of Gibsons	Michelle Lewis
Sḵwx̱wú7mesh Nation	Renata Rovelo
Sunshine Coast Conservation Association	Suzanne Senger
Átl’ka7tsem / Howe Sound Biosphere Region Society	Ruth Simons
Pender Harbour Chamber of Commerce	Annelise Sorg

Sḵwx̱wú7mesh Nation	Julia Stafford
Sunshine Coast Regional Economic Development Organization	Colin Stansfield
District of Sechelt	Marina Stjepovic
Shíshálh Nation	Jesse Waldorf
Sunshine Coast Tourism	Annie Wise

To date, the CPT has attended two virtual workshops and has participated in an online survey as part of the vulnerability assessment. The first workshop, held on February 22nd, 2022, was focused on presenting climate change projections for the lower Sunshine Coast as well as brainstorming climate change impacts, and assessing how climate change could affect the social, built, economic, and natural systems in the community. After this, the CPT participated in an online vulnerability assessment (through surveys) on the identified climate change impacts. Subsequently, a second workshop was held on April 13th, 2022, focused on presenting the results of the vulnerability assessment, and capturing the CPT's perceptions of risk associated with each climate change impact.

LOCAL CLIMATE CONTEXT

The Sunshine Coast is already experiencing the impacts of climate change. Some of these instances include drought and wildfires, extreme heat and the heat dome event of 2021, and extreme rainfall and the atmospheric river event of 2021. For example:

- Nine of the last thirteen summers have been below the summer precipitation average predicted for 2050 with climate change. This has resulted in the SCRD repeatedly implementing Stage 4 water conservation regulations and installing an emergency siphon at Chapman Lake for drinking water.
- Between June 25 and July 1, 2021, peaking on June 27 and 28, much of B.C. experienced an unprecedented heat event. This event included record-breaking day-time and night-time temperatures, and led to 526 heat-related deaths between June 25 and July 1, 2021, with 96% of these deaths occurring in a residential setting. (B.C. Coroners Service, 2021).
- Forest fires are increasingly affecting the Sunshine Coast. Fires in British Columbia and beyond have impacted local air quality for six of the last seven summers.
- Severe precipitation events, including the atmospheric rivers of November 2021, are increasingly damaging private and public infrastructure.

These recent events have highlighted the need to be prepared for ongoing challenges, especially as the Sunshine Coast's climate continues to change over the next century.

To gain an understanding of the changes to come and to help with adaptation planning and decision-making, ICLEI Canada worked with the SCRD to develop a climate science report. This report examines climate trends and projections on a global, national, and local scale. It further informs some of the climate change impacts that are expected to occur on the Sunshine Coast over the next century. Projections in this report are focused on temperature, precipitation, agricultural indices, freshwater indices, and extreme weather. A summary of these projections is outlined below (while a more complete graphic breakdown of these results is included within the Climate Science Infographic in Appendix A):

- **Temperature:** Temperature indices show significant warming across seasons, with an increase in the frequency of days above 30°C.
- **Precipitation:** Precipitation events in general are expected to become more intense. Annual precipitation is expected to increase, where winter and spring are projected to become significantly wetter, summers are expected to become drier.
- **Extreme weather:** Extreme weather events, including heavy storms are projected to become more frequent, last longer, and deliver more rain.
- **Growing season:** First frost dates will be later and last frost dates will be earlier contributing to a longer growing season.
- **Sea level rise:** The British Columbia Ministry of Environment suggests preparing for 0.5m of sea level rise by 2050, and 1.0m by 2080.

VULNERABILITY AND RISK ASSESSMENT

Analyzing both vulnerability and risk based on climate change projections for the Sunshine Coast is a key step in adapting to climate change and planning for the future. SCRD staff and community stakeholders went through a process of identifying existing weather stressors in the community, assessing how those could be exacerbated by climate change, and drafting a series of climate impact statements. These impact statements were then evaluated by the CPT through a vulnerability and risk assessment framework to create a prioritized list of impacts from which actions for each impact, or impact area, can be planned.

The assessment of vulnerability and risk was supplemented by additional external expert knowledge where necessary. The outcomes from the risk assessment reflect our current understanding of present climate conditions and consider anticipated climate projections for the community. The risk assessment will be revisited at regular future intervals as climate science and capacity to respond changes over time.

Impact Statements

Climate-related impact statements are the foundation of the vulnerability and risk assessment process and must be tailored to each municipality's context. These are

concise statements that outline locally relevant projected threats and how these changes are expected to affect the built, natural, social, and economic systems across the Sunshine Coast. They bring together knowledge of climate change and projected changes into the medium- and long-term as well as knowledge of the local conditions in the jurisdiction that is being studied. Impact statements are formed by answering the following questions:

- What are the climatic changes we are concerned about?
- What are the outcomes associated with these changes?
- What are the consequences associated with these outcomes?

At the first workshop, over 250 responses were initially identified by the CPT, and then revised into a long list of 43 impact statements. This list was further reviewed to more closely and concisely reflect the climatic changes that are expected to affect the community. Ultimately, through this triage and refinement process, 29 impact statements moved forward to the vulnerability assessment.

The impact statements cover a range of affected areas including infrastructure, natural environment, public health and safety, employee productivity, and more. The statements have been further organized by climate event to help the CPT better understand the focus and scope of each impact. Climate event categories include:

- Increased temperature (annual and seasonal)
- Drier conditions (summer)
- Increasing extreme summer temperatures and heatwaves
- Changes in precipitation (annual and seasonal) and changes in Intensity-Duration-Frequency (IDF)
- Increased extreme weather events (e.g., freezing rain, windstorms, thunderstorms, tornadoes, etc.)
- Changing water temperatures and water levels
- Increasing ocean temperatures and acidification
- Sea level rise

Vulnerability Assessment

Vulnerability refers to the susceptibility of a given asset, service, or group to harm arising from climate change impacts. Vulnerability is a function of two criteria – the **sensitivity** of the community to a given climate change impact, and its **adaptive capacity** (ability or access to resources to respond, recover and/or cope).

A vulnerability assessment necessitates an understanding of both biophysical and socioeconomic factors, as the focus is on understanding the processes involved with climate change impacts and the factors that influence sensitivity and adaptive

capacity. This understanding can help assist with the development of suitable adaptive actions later in the Milestone Three – planning stage.

To determine sensitivity, the degree to which the functionality of the community would be affected should the impact occur today is considered. This includes assessing how the impact would affect the community's ability to deliver and access services, maintain regular functionality, etc. In contrast, adaptive capacity refers to the ability of systems, institutions, individuals, and other assets to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. To determine adaptive capacity, we consider the time and resources required to restore the community or assets to its previous functionality should the impact occur today, as well as consider any plans, policies, and actions already in place to address this issue.

The Sunshine Coast vulnerability assessment was carried out using online surveys and was completed by the CPT. The vulnerability assessment was broken down into three surveys based on impact areas: the built environment, the natural environment, and the socio-economic environment. CPT members ranked both sensitivity and adaptive capacity on a 5-point Likert scale displayed in the tables below:

Ranking	Definition
S1	Functionality will stay the same
S2	Functionality will likely stay the same
S3	Functionality is likely to get worst
S4	Functionality will get worse
55	Functionality will become unmanageable

Figure 2: Sensitivity Legend

Ranking	Definition
AC1	Substantial costs and staff intervention ($$$$$)
AC2	Significant costs and staff intervention ($$$$)
AC3	Some costs and staff intervention ($$$)
AC4	Some slight costs and staff intervention ($$)
AC5	Little or no costs and staff intervention ($)

Figure 3: Adaptive Capacity Legend

The scores for each impact were then entered into a vulnerability matrix (displayed below) to determine the overall vulnerability of the impact.

		Sensitivity: Low → High				
		S1	S2	S3	S4	S5
Adaptive Capacity Low ↓ High	AC1	V2	V2	V4	V5	V5
	AC2	V2	V2	V3	V4	V5
	AC3	V2	V2	V3	V4	V4
	AC4	V1	V2	V2	V3	V3
	AC5	V1	V1	V2	V3	V3

Figure 4: Vulnerability Matrix

As previously noted, a total of 29 impact statements were evaluated through the vulnerability assessment, the results of which are indicated below.

Vulnerability Ranking	Number of Impacts
V5	4
V4	15
V3	9
V2	0
V1	1

Figure 5: Vulnerability Assessment Ranking Distribution

The vulnerability assessment results provided a first look at prioritization of impacts before doing a more in-depth consideration of future risk. Vulnerability rankings of V4 and V5 indicate the impacts to which the Sunshine Coast is both *sensitive* and has low *adaptive capacity*. Therefore, impacts that received a V3 or lower were not carried forward into the risk assessment process, and are identified as "climate impacts to monitor" as the District advances the monitoring and evaluation of the forthcoming Adaptation Plan. The final 19 impacts were then further refined for clarity and consistency, as a result 15 impacts were carried through to the risk assessment.

Most of the low-ranking impacts were largely related to agricultural practices, or were social or recreational in nature (i.e., climate change and its consequences on recreational facilities, activities, and administrative programming), and do not pose a major threat to food security or public health and safety. Further these impacts related to aspects of the Sunshine Coast where adaptive capacity was deemed to be high by CPT members. Although these impacts should be monitored as the SCRD moves forward, workshop participants identified protocols in place to support response to these impacts.

Impacts ranked V4 or V5 represent threats that could cause the most severe disruption, damage, or resource costs if they were to occur. Key impacts to which the Regional District was highly *sensitive* or had low *adaptive capacity* to withstand are described below.

Impact ID	Climatic Threat	Impact Statement
#1	Increased annual precipitation	An increase in annual precipitation causing an overburdening of stormwater infrastructure resulting in overland and basement flooding (private property damage)
#2	Increased frequency and intensity of extreme weather events	An increase in the frequency and intensity of extreme weather events resulting in damage to critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.), unsafe travel conditions, and interruptions to municipal services and the delivery of goods and services.
#3	Increased ocean temperatures and acidification	Increasing ocean temperatures and acidification resulting in biodiversity loss and species die off
#4	Increased frequency and intensity of extreme weather events	Increase in hot days, heatwaves, and drought, leading to health risks (e.g., cardiovascular disorders, heat stress, mental health effects) and heat related mortality, especially amongst vulnerable populations
#5	Increased hot days (>30°C)	Increase in hot days (>30°C) leading to stress and damage to transportation infrastructure (e.g., roads, bridges, etc.)
#6	Increased hot days (>30°C) average summer temperatures, and increased frequency of drought	An increase in hot days, average summer temperatures, and more frequent drought conditions leading to strain on water systems resulting in reduced water quality and quantity
#7	Sea level rise	Sea level rise damaging or washing out critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.) resulting in increased maintenance and repair costs

#8	Increased hot days (>30°C) and average summer temperatures	An increase in hot days (>30°C) and average summer temperatures resulting in increased exposure of marine life (e.g., Shellfish, Seaweed, Salmon, etc.) during low tide resulting in the loss of marine life and biodiversity
#9	Increased annual and seasonal temperatures	An increase in annual and seasonal temperatures resulting in impacts to habitat, low creek flow, and shifting eco-regions resulting in unbalanced ecology, impacts to biodiversity, changes to local flora & fauna
#10	Increased annual and seasonal temperatures, decrease in summer precipitation	Increased annual and seasonal temperatures combined with decreased summer precipitation resulting in increased likelihood and frequency of wildfires
#11	Increased winter temperatures and fewer freezing days	Increased winter temperatures and fewer freezing days resulting in the survival and increase of invasive species (knotweed, ticks, pine beetle, etc.)
#12	Increased frequency and intensity of extreme weather	An increase in the frequency and intensity of extreme weather events resulting in damage to local vegetation and tree canopy
#13	Increased frequency and intensity of extreme weather	Increased frequency and intensity of extreme weather events resulting in the increased frequency of emergency response deployment, the redeployment of Regional District staff and resources, and the decreased capacity of emergency response and responders, resulting in an increased budget requirement.
#14*	Increased sea level rise and storm surge events	Increased sea level rise and storm surges causing damage or loss of cultural sites further exacerbating existing social inequities and increasing burden on mental health/well-being
#15*	Shifting patterns of seasonality, warming temperatures, and unstable precipitation patterns	Shifting patterns of seasonality, warming temperatures, and unstable precipitation patterns leading to changes of migration patterns of local flora/and fauna, damage to the natural environment, and a loss of biodiversity negatively impacting

		traditional practices, hunting, and harvesting for First Nations groups

Figure 6: High Vulnerability Impacts

*In consultation with the Sḵwx̱wú7mesh and shíshálh Nations, these impacts were not evaluated in depth with the CPT during the risk assessment in order create space for a process that honours the spirit of reconciliation and meaningfully engages the Nations. Both the Sḵwx̱wú7mesh and Shíshálh Nations are undertaking Nation-led climate change planning and projects. The SCRD will continue to support and collaborate both the Sḵwx̱wú7mesh and Shíshálh Nations to develop adaptation actions that honour these traditional, unceded, and ancestral territories and those who call them home.

High-ranking impacts in the vulnerability assessment were related to summer temperatures and extreme heat days, increased heavy precipitation and flooding, increased extreme weather events, and sea level rise. Areas of concern were mainly spread across three categories, including impacts to the natural environment (e.g., biodiversity loss and ecosystem damage), the built environment (i.e., damage to municipal assets, private property, etc.), and threats to social systems (i.e., power/service interruptions, demand on emergency support, displacement, water quality, public health, and safety).

Risk Assessment

The risk assessment process is used to further analyze and prioritize which risks are most pertinent in a climate-adjusted future. Risk is the combination of the probability of an event occurring and its negative consequences. It can be expressed as a function of *likelihood* x *consequence*. In this case, *likelihood* refers to the probability of a projected impact occurring, and *consequence* refers to the known or estimated outcomes of a particular climate change impact.

Likelihood

The first part of the risk assessment involved determining *likelihood*. *Likelihood* was based on the probability of the projected impact occurring and considered more the outcome of the impact statement occurring rather than the climatic event itself (e.g., not whether there would be increased precipitation, but the likelihood of increased flooding and road washouts). This was informed by considering localized climate projections, historical weather events, anecdotal knowledge of past events and an understanding of how sensitive the Sunshine Coast is to the impact (i.e., by considering *sensitivity* from the vulnerability assessment).

Likelihood ratings were assigned to each of the identified impacts by the IPT prior to the risk assessment workshop and then reviewed by ICLEI Canada and the CPT. Likelihood ratings were adjusted in response to any additional expert input to

ensure they were as accurate and representative for the Regional District as possible. *Likelihood* was measured on a scale of 1–5, whereby 1 indicates a 'Rare' occurrence, and 5 indicates an 'Almost Certain' occurrence.

When determining *likelihood*, it was also important to identify if something would be a recurrent impact or a slow onset event. This helped to determine whether to assign a *likelihood* rating based on a probability of occurrence or a frequency of occurrence. A recurrent impact is something that can happen more than once – such as a flood event or infrastructure damage. A slow onset impact is one that evolves gradually from incremental changes occurring over many years of from an increased frequency or intensity of recurring events. This could include events such as a loss of biodiversity/endangered species or a permanent move of a population. The *likelihood* matrix is presented below.

Likelihood	Rating	Recurrent Impact	Slow Onset
Almost Certain	5	At least once per year (Annual chance: 100%)	Almost certain - 95% or greater chance of occurrence in next 50 years
Likely	4	Once in 1 to 5 years (Annual chance: 20%-100%)	Likely - 65% to 90% chance of occurrence in next 50 years
Possible	3	Once in 5 to 10 years (Annual chance: 10% to 20%)	Possible - 35%-65% chance of occurrence in next 50 years
Unlikely	2	Once in 10 to 50 years (Annual chance: 2% to 10%)	Unlikely - 5% to 35% chance of occurrence in next 50 years
Very unlikely	1	Once in 50 years or more (Annual chance: <2%)	Very unlikely - less than 5% chance of occurrence in next 50 years

Figure 7: Likelihood Matrix

Consequence

The second part of the risk assessment involved assigning *consequence* scores. This was completed by the CPT at the second workshop on risk assessment. Participants were asked to assign a *consequence* rating ranging from negligible (1) to catastrophic (5) for each of the *consequence* criteria, which were divided into social, economic, and environmental categories, as shown in the figure below. In addition to the numerical score, participants were asked to give written justifications for the rating they assigned to provide transparency for future reference. The detailed consequence tables can be found in Appendix B.

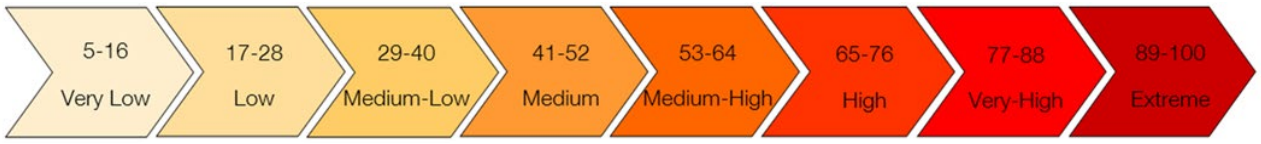
Social Factors	Economic Factors	Environmental Factors
Health and Safety	Property Damage	Air
Displacement	Local Economy and Growth	Soil and Vegetation
Loss of livelihood	Community Livability	Water
Cultural Aspects	Public Administration	Ecosystem Function

Figure 8: Consequence Categories

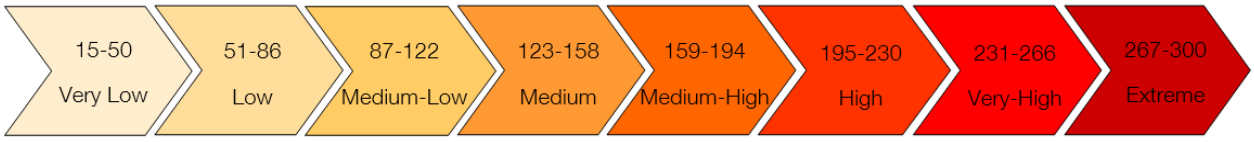
After the workshop, the IPT conducted any necessary follow ups with CPT members to either further expand on the risk scores and justifications or fill in some gaps. Additional external expert input was sought out where necessary to ensure that risks were scaled accurately and evaluated consistently. This process also provided the scoring for impact statements that the stakeholders deemed they were inadequately informed to provide scoring for.

Risk Spectrums

The evaluation of *likelihood* and *consequence* resulted in risk scores for each consequence category (e.g., social, economic, and environmental) as well as one overall risk score. The level of risk per consequence category was calculated using the spectrum below:



The total risk score (the sum of each risk category score multiplied by *likelihood* of the impact occurring) was obtained using the spectrum below:



The purpose of providing one overall risk score, as well as three category-specific risk scores, is to try and capture certain impacts that may score high in certain categories, but low in other categories. This is intended to ensure the impacts that may pose a high risk to certain aspects of the corporation will still be captured, despite having a lower overall risk score.

Limitations of the Risk Assessment

It is important to note that the risk assessment process is not an exact science; it is a subjective exercise that evaluates participants' opinions, based on either their professional expertise or their lived experience, of the risks that impacts pose to the Sunshine Coast's infrastructure, services, environment, or to the wider community. Outputs of the exercises are dependent on those that participated in the assessment. While great effort was made to engage key stakeholders throughout the Sunshine Coast, the exercise does not necessarily capture every possible perspective. It is also important to acknowledge that the impact statements themselves are also subjective, however, great effort was made to ensure the lists were both inclusive and exhaustive, and captured how climate change could impact the Sunshine Coast.

RISK ASSESSMENT RESULTS

For the Sunshine Coast, 13 impact statements were brought forward to the risk assessment. The final results are discussed below, with the complete breakdown of results shown in detail in Appendix C. The distribution of the risk assessment results is displayed in the figure below.

Risk Ranking	Number of Impacts
Extreme	0
High	2
Medium-High	4
Medium	3
Medium-Low	4
Low	0
Very Low	0

Figure 9: Risk Assessment Ranking Distribution

There were no "extreme" impacts identified. This is not unusual in the risk assessment process, as an impact will rarely rank high or extreme across all three risk categories (e.g., social, environmental, and economic). The highest overall risk scores were 230 and 200, relating to Impact 6: "An increase in hot days, average summer temperatures, and extended drought leading to strain on water systems resulting in reduced water quality and quantity" and Impact 10: "Increased annual and seasonal temperatures combined with decreased summer precipitation resulting in increased likelihood and frequency of wildfires", respectively. Justification for Impact 6 noted that drought has been experienced in the Regional District very frequently in the last 10 years resulting in stage 4 water restrictions, the closure of businesses, and extensive investment in infrastructure and time to combat water quality and quantity issues in the Regional District. Justification for Impact 10 included the increased likelihood of wildfire in the region and the very serious consequences it will have on the community; including

impacts to air quality and public health and safety; the potential displacement of residents and the loss of livelihood; impacts to community livability in relation to the local economy, service delivery, and property damages; and destruction of the natural environment.

The medium-high ranking impacts (2, 3, 7, 11) addressed the effects that climate change will have on the built environment and the natural environment. Impacts 2 and 7 highlight the consequences of increased frequency of extreme weather events (such as flooding as a result of atmospheric river events) and sea level rise will have on critical infrastructure including roads, marinas, storm-water management systems, powerlines, etc. Justifications provided included the very expensive nature of infrastructure repair or replacement, impacts to the delivery of goods and services, reduced access to emergency services, as well as the potential isolation of residents in remote settings. Further the failure of stormwater management systems in the event of extreme weather has the potential to result in flooding, impact water quality for residents, and could result in major impacts to the natural environment in the form of saltwater incursion, contaminated runoff, as well as erosion and washouts.

Impacts 3 and 11 cover how increasing temperatures (both summer and annual) will affect the natural environment in the form of biodiversity loss and an increase in invasive species (such as ticks, pine beetle, knotweed, and hogweed). The loss of ocean biodiversity has the potential to affect a wide variety of systems that include ecosystem function and water quality, as well as industry and recreational hunting and fishing. The incursion of knotweed, hogweed, and expansion of insects such as pine beetle or other diseases in the region can result in private property damage, damage to key infrastructure such as powerlines, and can upset ecological balance of the Sunshine Coast's natural systems. Additionally impacts 8 and 9 (ranked medium) were also related to changes in temperature and precipitation patterns and the resulting effects on the natural environment, shifting ecoregions, and the loss of biodiversity. Finally, Impact 4 addresses the effect that extreme heat and drought will have on the health of residents and especially vulnerable populations on the Sunshine Coast. The CPT noted that this impact poses both physical (heat stress, cardiovascular and respiratory disorders) and mental (eco-anxiety, depression) health risks, and is likely to become more frequent as temperatures rise and precipitation patterns become less predictable.

There were 4 impacts that scored medium-low. These impacts covered a diverse set of climate events and categories (e.g., social, environmental, or economically focused). The scores of these impacts reflect either a lower likelihood of occurrence or are impacts more readily managed or not necessarily presenting a high burden on the Sunshine Coast to manage in the long-term, and that likely result in minimal negative consequences on the corporation or community as a whole. Climate impact statements ranked medium-low will be monitored for any

changes in their likelihood and consequence and will be considered in future iterations of the Plan once re-evaluated.

Additional risks have been identified that are global in nature and difficult to quantify in terms of risk but will undoubtedly create impacts locally. These risks will be monitored when possible and actions will be designed to prepare for these risks and collect additional data where feasible. They include:

- Changes in global climate conditions creating an increase in climate migrants and refugees.
- Impacts to community liveability with regards to food security, job security, economic viability, insurance rates, and property values.

Impacts Moving Forward to Planning

The purpose of the vulnerability and risk assessment process was to prioritize impacts that pose a significant threat to the Sunshine Coast. It is intended that the impacts which scored the highest in the assessment process will be brought forward into Milestone Three (planning phase) of the BARC Framework, where the SCRD and the community will brainstorm adaptive actions to address them. Resources for adaptation planning should be directed towards the highest priority impacts first but designed to address as many impacts as possible whenever feasible.

When selecting priority impacts to be considered as part of the planning phase, the IPT included impacts that had an overall risk score of medium or higher. Additionally, the IPT reviewed the medium-low ranking impacts in greater depth to assess whether any of them should be brought forward into the planning stage. This was done to ensure that impacts that posed significant risk (i.e. medium-high or higher) to one or two specific consequences (e.g. certain individuals, groups, assets, natural areas, etc.) were not left out of the process.

The final list of 9 impacts to be brought forward to the planning phase are outlined below:

Impact Statement	Risk Ranking
Impact 6: An increase in hot days, average summer temperatures, and extended drought leading to strain on water systems resulting in reduced water quality and quantity	High
Impact 10: Increased annual and seasonal temperatures combined with decreased summer precipitation resulting in increased likelihood and frequency of wildfires	High

Impact Statement	Risk Ranking
Impact 7: Sea level rise damaging or washing out critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.) resulting in increased maintenance and repair costs	Medium-high
Impact 3: Increasing ocean temperatures and acidification resulting in biodiversity loss and species die off	Medium-high
Impact 2: An increase in the frequency and intensity of extreme weather events resulting in damage to critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.), unsafe travel conditions, and interruptions to service delivery and the delivery of goods and services.	Medium-high
Impact 11: Increased winter temperatures and fewer freezing days resulting in the survival and increase of invasive species (knotweed, ticks, pine beetle, etc.)	Medium-high
Impact 9: An increase in annual and seasonal temperatures resulting in impacts to habitat, low creek flow, and shifting eco-regions resulting in unbalanced ecology, impacts to biodiversity, changes to local flora & fauna	Medium
Impact 8: An increase in hot days resulting in increased exposure of marine life (e.g. Shellfish, Seaweed, Salmon, etc...) during low-tide resulting in the loss of marine life and biodiversity	Medium
Impact 4: Increase in hot days and heatwaves, drought, and back-to-back climate emergencies leading to health risks (e.g., cardiovascular disorders, heat stress, mental health effects) and heat related mortality, especially amongst vulnerable populations	Medium

Figure 10: Impacts Moving Forward to Planning

NEXT STEPS

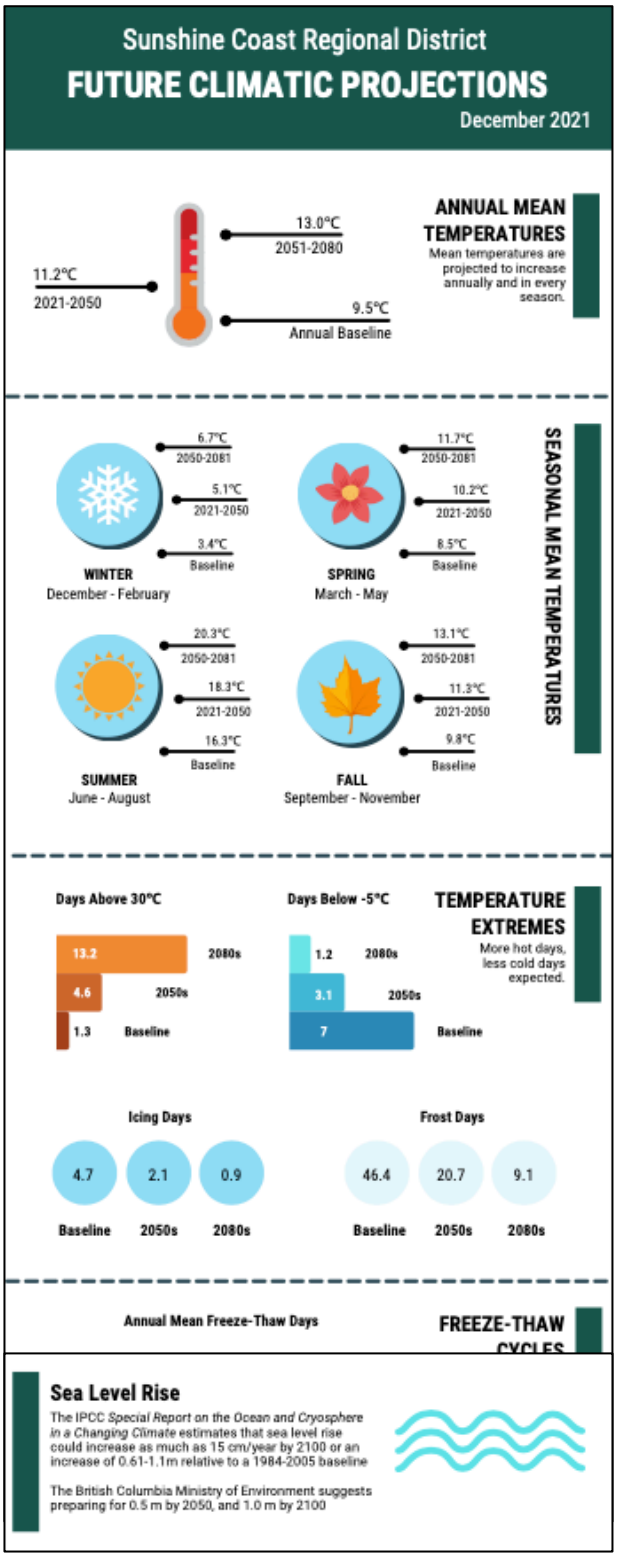
The risk assessment brings the SCRD to the completion of Milestone Two of the BARC Framework. The SCRD will now begin work on Milestone Three from June 2022 to May 2023. This phase will continue to embed community engagement as a core activity, starting with action identification and prioritization, with work in later stages to address implementation considerations.

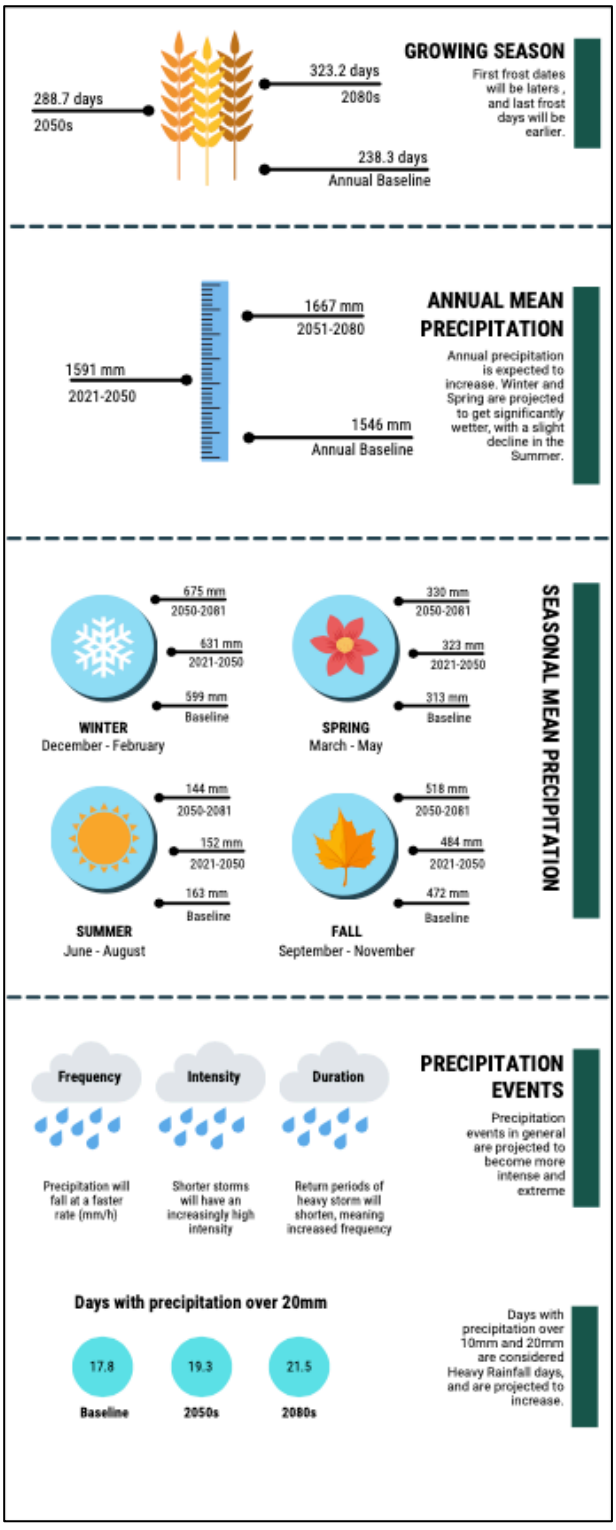
The first step of this will be to develop a Vision along with a series of Themes, Objectives, and Actions for the Plan. This will be the goal of the next workshop hosted with the CPT, tentatively scheduled for mid-June. The SCRD will then carry out an activity to identify what actions need to be prioritized and in what time frame.

Following this, and a period of internal work to prioritize and consolidate actions, a workshop will be held on implementation. This workshop will serve to finalize appropriate adaptation actions and walk through the considerations and plans surrounding their implementation. The implementation plan will outline details such as supporting actions (to be taken to achieve the overarching action/strategy), timelines, leading and supporting actors and partners in implementation, and indicators to measure progress and allow for course correction as needed. Finally, a draft adaptation plan will be circulated for review towards the end of the year.

Alongside this process, collaboration with shíshálh and Sḵwx̱wú7mesh Nations will ensure that the Plan reflects and supports values and visions for this place. Several plans with guiding principles that should frame Milestone 3 already exist. Additionally, there are several projects underway at each Nation respectively that relate to climate adaptation. These in particular will be a focus for engagement as Milestone 3 progresses.

Appendix A – Climate Science Infographic





Appendix B – Risk Assessment Materials

CONSEQUENCE TABLES
Social Factors

CONSEQUENCE RATING	SOCIAL FACTORS			
	Public Health & Safety	Displacement	Loss of Livelihood	Cultural Aspects
Catastrophic	Large number of fatalities or serious injuries, or permanent illness	Large number of permanently displaced people on a widespread scale	Large disturbances leading to permanent changes in people's normal routines and way of life	Unprecedented loss of cultural identity (i.e. traditions and customary practices) across the wider community (i.e. cancellation of flagship annual event)
	5	5	5	5
Major	Isolated instances of fatalities or serious injuries, or long-term illness	Isolated instances of permanently displaced people on a widespread scale	Large disturbances leading to prolonged changes in people's normal routines and way of life	Significant loss of cultural identity (i.e. traditions and customary practices) for multiple social groups
	4	4	4	4
Moderate	Small number of injuries or cases of illness	Isolated instances of temporary displaced people on a widespread scale	Moderate disturbances leading to short-term changes in people's normal routines and way of life	Moderate impact on cultural identity (i.e. traditions and customary practices) for multiple social groups
	3	3	3	3
Minor	Near misses or minor injuries	Isolated instances of temporary displaced people in localized areas	Minor and short-term changes to people's normal routines and way of life	Minor impact on cultural identity (i.e. traditions and customary practices) for a small number of social groups
	2	2	2	2
Negligible	Appearance of a threat but no actual harm	Appearance of a threat but no actual displacement	No changes to people's normal routine and way of life	Appearance of a threat but no actual impact on cultural identity (i.e. traditions and customary practices)
	1	1	1	1

Economic Factors

CONSEQUENCE RATING	ECONOMIC FACTORS			
	Property Damage	Local Economy & Growth	Community Livability	Public Administration
Catastrophic	Catastrophic damage and costs incurred by the owner ($$$$$)	City-scale decline leading to widespread business failure, loss of employment and hardship	Permanent decline in services, causing the city to be seen as very unattractive, moribund, and unable to support the community	Public administration would fall into decay and cease to be effective
	5	5	5	5
Major	Major damage and costs incurred by the owner ($$$$)	City-scale stagnation such that businesses are unable to thrive	Widespread and severe decline in services and quality of life within the community	Pubic administration would struggle to remain effective and would be in danger of failing
	4	4	4	4
Moderate	Moderate damage and costs incurred by the owner ($$$)	Isolated areas of reduction in economic performance relative to current forecasts	Isolated but noticeable examples of decline in services	Public administration would be under severe pressure on several fronts
	3	3	3	3
Minor	Minor damage and costs incurred by the owner ($$)	Inconveniences that cause minor shortfall relative to current forecasts	There would be minor areas in which the community is unable to maintain its current services	There would be minor instances of public administration being under more than usual stress
	2	2	2	2
Negligible	No damage and costs incurred by the owner ($)	No real impact to the local economy and growth	No real pressure on current services	No real stress on public administration
	1	1	1	1

Environmental Factors

CONSEQUENCE RATING	ENVIRONMENTAL FACTORS			
	Air	Water	Soil & Vegetation	Ecosystem Function
Catastrophic	Very frequent periods of reduced air quality.	Irreversible, widespread reduction in water quality/quantity	Irreversible, widespread impacts to soil or vegetation	Major and widespread loss of ecological functions and irrecoverable damage
	5	5	5	5
Major	Considerable increase in periods of reduced air quality in the medium term	Major, widespread reduction in water quality/quantity in the medium/long-term	Major, widespread impacts on soil or vegetation in the medium/long-term	Severe and widespread loss of ecological functions and damage that could be reversed with intensive efforts
	4	4	4	4
Moderate	Moderate increase in periods of reduced air quality in the short/medium term	Moderate, widespread reduction in water quality/quantity in the short/medium-term	Moderate, widespread impacts on soil or vegetation in the short/medium-term	Isolated but moderate instances of damage to the ecosystem that could be reversed with intensive efforts
	3	3	3	3
Minor	Minor increase in periods of reduced air quality in the short term	Minor, localized reduction in water quality/quantity in the short-term	Minor, localized impacts on soil or vegetation in the short-term	Isolated but minor instances of damage to the ecosystem that could be reversed
	2	2	2	2
Negligible	Appearance of a threat but no real impact to air quality	Appearance of threat but no real reduction in water quality/quantity	Appearance of threat but no real impacts on soil or vegetation	Appearance of a threat but no real damage to the ecosystem and its functions
	1	1	1	1

Appendix C – Detailed Vulnerability and Risk Assessment Results

Impact ID	Impact Statement	Vulnerability Ranking	Likelihood (/5)	Social Risk Score (/100)	Economic Risk Score (/100)	Environmental Risk Score (/100)	Total Risk Score (/300)	Overall Risk Ranking
1	An increase in annual precipitation causing an overburdening of stormwater infrastructure resulting in overland and basement flooding (private property damage)	5	3	30	39	36	105	**Medium-low**
2	An increase in the frequency and intensity of extreme weather events resulting in damage to critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.), unsafe travel conditions, and interruptions to municipal services and the delivery of goods and services.	5	4	48	64	56	168	**Medium-high**
3	Increasing ocean temperatures and acidification resulting in biodiversity loss and species die off	5	5	45	45	80	170	**Medium-high**
4	Increase in hot days and heatwaves, drought, and back-to-back climate emergencies leading to health risks (e.g., cardiovascular disorders, heat stress, mental health effects) and heat related mortality, especially amongst vulnerable populations	5	5	65	55	20	140	**Medium**
5	Increase in hot days leading to stress and damage to transportation infrastructure (eg. roads, bridges, etc…)	4	4	32	36	24	92	**Medium-low**
6	Increased hot days (>30°C) and average summer temperatures and increased frequency of drought	4	5	75	85	70	230	**High**

7	Sea level rise damaging or washing out critical infrastructure (roads, marinas, storm-water management systems, water system, powerlines, etc.) resulting in increased maintenance and repair costs	4	4	64	76	32	172	**Medium-high**
8	An increase in hot days (>30°C) and average summer temperatures resulting in increased exposure of marine life (e.g., Shellfish, Seaweed, Salmon, etc.) during low tide resulting in the loss of marine life and biodiversity	4	4	44	40	60	144	**Medium**
9	An increase in annual and seasonal temperatures resulting in impacts to habitat, low creek flow, and shifting eco-regions resulting in unbalanced ecology, impacts to biodiversity, changes to local flora & fauna	4	4	40	40	68	148	**Medium**
10	Increased annual and seasonal temperatures combined with decreased summer precipitation resulting in increased likelihood and frequency of wildfires	4	4	68	64	68	200	**High**
11	Increased winter temperatures and fewer freezing days resulting in the survival and increase of invasive species (knotweed, ticks, pine beetle, etc.)	4	4	48	56	60	164	**Medium-high**
12	An increase in the frequency and intensity of extreme weather events resulting in damage to local vegetation and tree canopy	4	3	30	24	39	93	**Medium-low**
13	Increased frequency and intensity of extreme weather events resulting in the increased frequency of emergency response deployment, the redeployment of District staff and resources, and the decreased capacity of emergency response and responders, resulting in an increased budget requirement.	4	4	48	36	16	100	**Medium-low**

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: SCRD Senior Leadership Team

RE: **BUDGET PROJECT STATUS REPORT – MAY 2022**

RECOMMENDATION(S)

THAT the report titled Budget Project Status Report – May 2022 be received for information.

BACKGROUND

The Budget Project Status Report (BPSR) provides the Sunshine Coast Regional District (SCRD) Board updates on projects as approved through the 2022 Budget process and other major projects added throughout the year. The focus of the BPSR is to report on the status of the various projects and to ensure the projects are on time and on budget.

DISCUSSION

Staff have updated the report and welcome comments / questions on the progress being made on the listed projects,

The recently approved projects through the 2022 Budget are included in this report as well as carried-forward projects from prior years. Approved funding related to base budget increases are not included in the BPSR. Staff have added proposed completion dates wherever possible.

For 2022 BPSR, newly approved staffing positions have been added as there is correlation between project progress and resources. Once positions are created these will be marked as completed and become part of the overall Human Resourcing Plan. It has been identified that there is an opportunity to provide a comprehensive report on the SCRD's Human Resourcing status. This report is being developed with intention to come to a future Committee of the Whole in 2022.

STRATEGIC PLAN AND RELATED POLICIES

The BPSR is a metric for reporting on projects that move the Strategic Plan and various other core documents forward.

CONCLUSION

The goal of the BPSR is to provide project status in a concise manner to the Board. The Administration is working to improve this process as we continue to use this tool.

Attachment – Budget Project Status Report – May 14, 2022

Attachment and Report Reviewed by: X - Budget Managers and Senior Leadership Team			
GM		Finance	
		Legislative	
CAO	X – D. McKinley	Human Resources	

Attachment

2022 BUDGET PROJECT STATUS REPORT

Last Revisions: May 14, 2022

Line No.	Dept.	Function	Mgr.	Budget $	Budget Expended (to date)	Funding Source	Budget Year	Proposed Completion Date	Actual Completion Date	Function Participants	Work Location	Description	Current Status	Category	% Complete
1	CA	110	Buckley	$125,145	$0	Operating Reserves	2020	Jan-22		All	Regional	General Government - Website Redesign (Phase 2)	Contracted services to develop and implement a re-designed website that provides optimal content organization, integration with applications, ease of content manageability, and improved functionality and user experience. RFP completed and in Purchasing queue to send out for Tender. **Project kick-off meeting April 26. Work is underway.**	Carryforward	**In Progress 25%**
2	CA	110	Reid	$125,000	$0	COVID-19 Restart Funding	2022			All	All	General Government - Hybrid Meeting Solutions and Board Room Modifications (Other)	Contracted services to develop audio-visual options (including hardware, sound, cameras, electrical, space needs), pricing, and an implementation plan to facilitate a range of hybrid meetings (Board, Board Committees, Advisory Committees/Commissions, Public Hearings, Intergovernmental). The Board has further recommended the scope for the Hybrid Meeting Solutions project be broadened to incorporate costs for Boardroom furniture reconfiguration, including furniture replacement, which may be necessary to facilitate the installation of new A/V hybrid technology in the Boardroom.	Other	Not Started
3	CA	110	Reid	$25,000	$0	COVID-19 Restart Funding	2022			All	All	General Government - Meeting Management Solutions (Other)	Software solution to bridge remote and in-person meeting rooms for hybrid Board and Committee meetings. In order for the virtual and physical domains to smoothly function together as a single meeting, a system is required to seamlessly manage both environments and their respective participants in real-time. Meeting management software streamlines the full cycle from report and agenda creation to electronic publishing to meeting video livestreaming and archiving. Software services are subject to an annual subscription fee. This budget request is for year-one implementation. Once implemented, annual subscription fees will apply and could be in the range of $18,000 to $20,000 per year.	Other	Not Started
4	CA	114	Perreault	$40,143	$0	COVID-19 Restart Funding	2022	Sep-22		All	Sechelt	Field Road Administration Building - Reception Centre Modification - COVID-19 (M-BC)	Temporary barriers were placed at the front reception desk to ensure protocols for health and safety were adhered to due to the COVID-19 pandemic. This was partly due to limited labour and supplies at the time to build and install a custom barrier. Due to the ongoing nature of the pandemic, a more permanent enclosure is proposed. There are also two work stations within the front reception that will also be redesigned for a more efficient workspace. This proposal will be for material, supplies and labour. **Design and quotes received. Awaiting scheduling for install.**	Business Continuity	Started
5	CA	115	Parker	$8,000	$0	Operating Reserves	2020			All	Regional	Human Resources - Certificate of Recognition (COR)	Delayed due to extended absence and impact on capacity. New resource hired March 2021 and commenced preliminary review in June 2021.	Carryforward	Started
6	CA	117	Nelson	$75,000	$13,387	Reserves	2021			All	Regional	Information Technology - Electronic Document and Records Management System (EDRMS) Functionality Enhancements	Project implements advanced Content Server functionality that was not turned on during the initial system roll out, and increases digital enablement of business processes and electronic interaction with and between staff and the public. Awarded consulting contract to Cadence. Project kickoff meeting planned.	Carryforward	In Progress 25%
7	CA	117	Nelson	$105,000	$63,078	COVID-19 Restart Funding	2021			All	Regional	Information Technology - Digital Collaboration Solutions	This request is for a 2-year increase in funding for IT operating and capital budgets to expedite online collaborative software tools, digital services, and related equipment/devices. The project includes a temporary 2-year internal resource - comprised of: a) Temporary staffing: 2021 (7months) b) Professional services consulting c) Hardware purchases d) Software purchases/subscriptions New Job Description created and posted in late June 2021. Project Initiation complete. Detailed planning phase underway. Backfill TFT staff position hired.	Carryforward	In Progress 25%
8	CA	117	Nelson	$5,000	$0	Operating Reserves	2021			All	Regional	Information Technology - Cyber Security Culture 2021	Support security culture development using cyber threat awareness training and testing for SCRD staff. Objective is to reduce risks related to external attack vectors which could capture login credentials and expose SCRD data to unauthorized third parties, potentially resulting in BC Privacy Commissioner investigations and ensuing reputational damage. Options research underway. Obtained market sounding quotations.	Carryforward	In Progress 25%
9	CA	110 / 115 / 117 / 200-290 / 365 / 366 / 370 / 504 / 520 / 615 / 650	SLT	$207,000	$91,774	Taxation / Operating Reserves / Support Services / COVID-19 Restart Funding	2020			All	Sechelt	Field Road Space Planning - additional funding approved 2021 included	2020 Project was delayed due to COVID-19, health orders and WorkSafeBC requirements. The addition of the 2021 proposal is to undertake additional work to review and update the prior analysis to respond to COVID-19. This additional work is not a new direction; it is adapting and validating the previously-directed approach. Position space analysis classification summary completed, furniture assessment continuing. The project has been reframed as an Alternative Work Strategy to allow for flexible work for staff. The IT equipment, furniture and staff needs assessments have been completed with the implementation considerations as part of COVID-19 re-start for the corporation. The tender for Thin Clients that will enable staff to virtually host meetings is on the market and the camera, mics and furniture equipment has been predominately delivered and installed.	Carryforward	In Progress 75%
10	CA	111 / 113	Perreault	$100,000	$0	Operating Reserves	2021	Dec-22		All	Sechelt	Asset Management / Financial Services - Implementation of New (PSAS) Asset Retirement Obligation (ARO)	New staff resource job description posted in late June 2021. In 2021, the SCRD implemented the new Public Sector Accounting Standard (PSAS) for Asset Retirement Obligations (ARO). Internal and external professional services will be needed to facilitate the implementation. Staff have begun project scoping and data collection for new standard. Continue to recruit for new Finance Resource to Assist with project (1 unsuccessful and 1 active recruitment underway). Internal work continues on project. **Posting for new position issued in late April 2022. The project is partly being undertaken by Asset Management Staff at this time and making good progress.**	Carryforward	In Progress 25%
11	CA	114 / 210 / 216 / 212 / 312 / 613 / 625	SLT	$30,075	$4,734	Taxation / Support Services	2020			Various	Various	SCRD Corporate Recycling Program.	Field Road project started late 2021. Staff to reassess project and timelines as the COVID protocols change and once facilities are re-opened when closed. Request for Proposal for Corporate Recycling for facilities, including food waste, is at phased implementation.	Carryforward	In Progress 50%

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12	CS	310	Walton	$6,000	$0	Operating Reserves	2021			B, D, E, F, DoS, SIGD, ToG	Sechelt	Public Transit - Building Improvements - Increased Safety (see additional approved in 2022)	Increased Safety and Security at Mason Road site (e.g. Security system, CCTV and improved external lighting). Requested a Privacy Impact Assessment (PIA) be completed for CCTV and security system on April 6, 2021. June 4 update, waiting for PIA to be completed for CCTV. Update August 12 - Quotes received for light pole installation. Will be unable to complete all the projects within the approved budget, but will move forward with the most critical item first (external parking lot lighting). Work anticipated to be completed in September 2021. CCTV and security project to be carried forwarded to 2022, additional budget request approved and included in 2022 Budget. Mar 22 Update: Additional budget approved in March 2022. Project to commence in Q2. **May 9 update- Light post installed, lights on back order until August. PIA for CCTV 50% complete.**	Carryforward	Started
13	CS	310	Walton	$3,250	$0	Operating Reserves	2022			B, D, E, F, DoS, SIGD, ToG	Sechelt	Public Transit - Security System and CCTV (LCHV)	The budget approved in 2021 for this project included the installation of exterior lighting in the parking lot. The budget was insufficient to complete both projects. This request is to fund the balance required to move forward with the security system and CCTV's. (see CF - Building Improvements Increased Safety) Mar 22 Update: Additional budget approved in March 2022. Project to commence in Q2. April 8 Update: Light post installed on March 1st. Lights on back order until mid April. **May 9 update- Light post installed, lights on back order until August. PIA for CCTV 50% complete.**	Low Cost / High Value	Started
14	CS	310	Walton	$11,500	$0	Taxation	2022			B, D, E, F, DoS, SIGD, ToG	Sechelt	Public Transit - Driver Orientation and Training (M-BC)	Over and above the qualifications for the position (i.e. Class 2 license), other things that drivers need to learn prior to their first official shift including but not limited to: safety procedures, routes, bus care, etc. This budget request is to provide a budget for the ~ 76 hours/driver training prior to their first shift alone. This initiative also requires criminal record checks for 4 drivers at $70 per record check. Mar 22 Update: This budget will be ongoing throughout the year as new drivers are recruited and trained in 2022. **May 9 Update - recruitment of new drivers occurring in Q2; training to be provided once hired.**	Business Continuity	**In Progress 25%**
15	CS	312	Walton	$10,000	$2.228.52	Capital Reserves	2020			All	Regional	Maintenance Facility (Fleet) - Fleet Loaner Vehicle	Update August 12 - New vehicles are not expected until 2022 so this project is stalled and will need to be carried forward to 2022. Mar 22 Update: Still awaiting vehicle. **May 9 update - Still awaiting vehicle**	Carryforward	In Progress 25%
16	CS	312	Walton	$10,000	$	Operating Reserves	2020			All	All	Maintenance Facility (Fleet) - Electric Vehicle Maintenance	Project planning stage complete - Update August 12 - RFQ for electric charges closed on August 6. RFQ evaluation team met on August 17. Mar 22: Once new infrastructure is installed, training will commence. **April 8 update: EV Charger installed; however training cannot commence until we have the new vehicle**.	Carryforward	Started
17	CS	312	Walton	$4,000	$0	Operating Reserves	2021			All	Sechelt	Maintenance Facility (Fleet) - HVAC Maintenance Safety System	Additional safety system for fleet staff to perform HVAC maintenance on top of busses. Received approved engineered anchor. Mar 22 Update: Purchase harness system and installation to occur in Q2/3 2022. **May 9 update - waiting for official engineer sign off on anchor point. Will purchase parts for project in Q2; installation still slated for Q3.**	Carryforward	**In Progress 25%**
18	CS	312	Walton	$6,000	$3,657	Operating Reserves	2021			All	Sechelt	Maintenance Facility (Fleet) - Building Improvements - Increased Safety (see additional approved in 2022)	Increased Safety and Security at Mason Rd site (e.g. Security system, CCTV and improved external lighting). Privacy Impact Assessment (PIA) completed for CCTV and security system on April 6, 2021. Update August 12 - Quotes received - unable to complete all the projects within the approved budget, but will move forward with the most critical item first (external parking lot lighting). Work anticipated to be completed in September 2021. CCTV and security project budget to be carried forwarded to 2022, additional budget request approved in 2022 Budget. Mar 22 Update: Additional budget approved in March 2022. Project to commence in Q2. **May 9 update- Light post installed, lights on back order until August. PIA for CCTV 50% complete.**	Carryforward	Started
19	CS	312	Walton	$131,250	$0	MFA Loan	2022			All	Sechelt	Maintenance Facility (Fleet) - Garage Hoist Replacement (CM-RC)	Replace a hoist in garage which is at the end of life (2006) and does not meet current ALI certification standards. This hoist is used to service various fleet including buses, fire trucks, dump truck and backhoe. Mar 22 Update: Additional budget approved in March 2022. Project to commence in Q2. **May 9 update - not started**	Regulatory Compliance	Not Started
20	CS	312	Walton	$3,250	$0	Operating Reserves	2022			All	Sechelt	Maintenance Facility (Fleet) - Security System and CCTV (LCHV)	The budget approved in 2021 for this project included the installation of exterior lighting in the parking lot. The budget was insufficient to complete both projects. This request is to fund the balance required to move forward with the security system and CCTV's. (see CF - Building Improvements Increased Safety) Mar 22 Update: Additional budget approved in March 2022. Project to commence in Q2. **May 9 update- Light post installed, lights on back order until August. PIA for CCTV 50% complete.**	Low Cost / High Value	Started
21	CS	345	Gagnon	$669,736	$0	Taxation	2018	Dec-22		B, D, E, F, and Islands	All	Ports Services - Ports 5 Year Capital Plan Repairs (Halkett Bay approach, West Bay float).	Mar 22 Update: SCRD notified not successful in ICIP grant for ports capital renewal. Continued staff vacancy in Ports impacts capacity to move this work forward in 2021. Major inspections to be completed in 2022 which will further inform these capital projects. Staff will review capital plan for phased tendering of work, aligned with Board-approved plan or return to Board with additional information in Q3/4 2022. **May 9 update - new Ports staff started and being oriented to portfolio.**	Carryforward	Started

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22	CS	345	Gagnon	$25,000	$0	Taxation	2021			B, D, E, F, Islands	F Islands	Ports Services - New Brighton Dock Study	Mar 22 Update - Continued staff vacancy in Ports impacts capacity to move this project forward in 2021. Staff continue to keep Squamish Nation updated. Potential condition review or other study of New Brighton Dock on Gambier Island. Scope to be determined. Shifting work priorities with current staff to resource this project. Anticipate project commencement Q2. **May 9 update - new Ports staff started and being oriented to portfolio. Delegation regarding dock at April CS Committee meeting.**	Carryforward	Not Started
23	CS	345	Gagnon	$57,600	$0	Taxation / Reserves	2020			B, D, E, F, and Islands	All	Ports Services - Ports Major Inspections	Mar 22 Update: Continued staff vacancy in Ports impacts capacity to move these inspections forward in 2021. Currently shifting work priorities with current staff to resource this project. It is anticipated these inspections will be tendered in Q2 of 2022. **May 9 update - new Ports staff started and being oriented to portfolio.**	Carryforward	Started
24	CS	400	Clarkson	$25,000	$18,339	Reserves	2018	Jul-22		All	D and E with Regional Impact	Cemetery - Business Plan	Mar 22 Update: RFP to perform a comprehensive business and service review of SCRD Cemeteries awarded in Dec 2021 (including review of existing properties and infrastructure, developing options/recommendations for the future and a fees and charges comparison and review). Project commenced Jan 2022. Anticipated completion is end of Q2 2022. **May 9 update - project continues to advance as per schedule.**	Carryforward	In Progress 75%
25	CS	615	van Velzen	$27,643	$0	Operating Reserves	2020	Apr-22	**Apr-22**	B, D, E, F (Except F Islands), ToG, DoS, SIGD	Sechelt	Community Recreation Facilities - Capital - Classified as "non-critical" in Asset Management Plan	Replace failing or end of life non critical capital components. SCA parking lot lighting replacement, SAC sound baffle replacement and re-hang lights still remain to be completed. RFP for SAC Baffles and Lights has now been completed and will be going to tender. SAC Baffles and Lights tender process completed, contract signing in progress. Project on track for completion Sept 2021. SCA parking lot lighting not started. September 3 Update: SAC Baffles and Lights completed. SCA parking lot lighting tender process started, anticipated project completion Q4 2021. October 7 Update: SCA parking lot tender documents submitted to procurement for review September 1. Tender posting pending. Due to procurement delay Q4 project completion unlikely. Carryforward to 2022. Jan 11, 2022 Update SAC Sound Baffle and Re Hang Lights Project Completed, one invoice for $3500 pending, waiting for PO amendment. SCA Parking Lot Lighting Project Awarded, completion anticipated by Q2 2022. Mar 22 Update: SAC Sound Baffle and Re Hang Lights Project Contract and PO amendment completed, one invoice for $3500 pending. SCA Parking Lot Lighting, contractor has ordered materials project on schedule for Q2 2022 completion. **May 9 Update - SCA parking lot lighting completed, invoicing pending. One invoice for sound baffle project still to be received, supplier has been contacted again to submit invoice.**	Carryforward	**In Progress 75%**
26	CS	615	van Velzen	$35,000	$0	Taxation	2022	Jun-22		B, D, E, F, DoS, ToG, SIGD	Gibsons and Sechelt	Community Recreation Facilities - Domestic Hot Water System (M-BC)	The control system for the domestic hot water tank at SAC requires an upgrade to control water temperatures. After numerous attempts to address the ongoing issue, an upgrade to the control system is required to avoid drastically fluctuating temperatures that could be a safety issue. March 1, 2022 Update Procurement for engineering design started, anticipated project completion end of Q2 2022 **May 9 Update - Engineering design awarded, anticipate completion of design phase by end of Q2**	Business Continuity	**In Progress 25%**
27	CS	615	Donn	$6,000	$0	Taxation	2021	Jul-22		B, D, E, F, DoS, SIGD, ToG	All	Community Recreation Facilities - Scheduling Software	Mar 22 Update: Project has commenced. Anticipated full implementation by end of Q3 2022. **May 9 Update: Project is underway however, due to ongoing staffing capacity challenges full implementation has been delayed until Q3/Q4.**	Carryforward	In Progress 50%
28	CS	615	Donn	$16,000	$0	Operating Reserves	2021	Jul-22		B, D, E, F, DoS, SIGD, ToG	Regional	Community Recreation Facilities - Programming Review	Mar 22 Update: Project awarded. Anticipated completion date for project is end of Q3 2022. **May 9 Update: Project underway with anticipated completion date in Q3. Data collection and handover took longer than expected to produce and review. Next step is the public engagement phase.**	Carryforward	**In Progress 50%**
29	CS	615	van Velzen	$28,600	$0	Taxation	2022	Jul-22		B, D, E, F, DoS, ToG, SIGD	Gibsons and Sechelt	Community Recreation Facilities - Non-Annual Maintenance (Other)	Large maintenance items not covered through the base budget and not occurring annually, including refinishing the gym floor at SAC and some fascia repairs and exterior painting at GACC. Mar 22 Update: Procurement process started, anticipated project completion Q3 2022. **May 9 Update: SAC gym floor refinishing awarded with anticipated completion by end of Q2. Procurement process started for GACC exterior painting.**	Other	**In Progress 25%**
30	CS	615	van Velzen	$60,000	$0	Taxation	2021	Sep-22		B, D, E, F, DoS, SIGD, ToG	DoS, ToG	Community Recreation Facilities - Fall Protection Systems Upgrades - Phase One	In December of 2019 fall protection audits were completed at GACC, GDAF, SAC and SCA and recommendations were noted. Based on estimated total project costs and staff capacity to complete projects, staff are recommending a phased approach to completing recommended upgrades. Projects will be prioritized based on a risk assessment with priority given to highest risk areas. Projects designated for phase one include GACC roof access ladders and hatch upgrades, SAC roof access ladders and hatch upgrades, SAC fall protection anchor points for surge tank maintenance, SAC fall protection anchor points for mechanical room floor hatch used to lift heavy equipment from lower mechanical room and SCA fixed ladder in mechanical room to access ammonia sensor located above mechanical equipment. October 8 Update: Jan 11, 2022 Update Project not started, this project is a priority for 2022 Mar 22 Update: Project procurement scheduled to start Q2 2022, anticipated project completion by end of Q3 2022. **May 9 update: project continues to progress**	Carryforward	Not Started

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31	CS	615	van Velzen	$26,500	$0	COVID-19 Restart Funding	2022	Sep-22		B, D, E, F, DoS, ToG, SIGD	Gibsons and Sechelt	Community Recreation Facilities - Water Management Plan Implementation (M-BC)	During the restart of recreation facilities after an extended closure due to COVID, domestic water system water management plans were highly recommended by the Health Region. Plans developed in 2021, therefore this budget is to implement the ongoing safety recommendations in the plan. Mar22 Update: Procurement for services to implement plans scheduled to start Q2 2022, anticipated completion of implementation Q3 2022. **May 9 update: continue with above mentioned timelines.**	Business Continuity	Not Started
32	CS	615	van Velzen	$11,736	$0	Taxation	2020	Sep-22		B, D, E, F (Except F Islands), ToG, DoS, SIGD	Sechelt	Sunshine Coast Arena Refrigeration Plant Regulatory Items	Installation of an additional ammonia sensor complete. Extend ammonia relief vent line extension not started. No change to progress but budget now shows as $11,736 and expended zero dollars so far in 2021. October 8 Update: Refrigeration engineer reviewing vent stack extension requirement with Technical Safety BC. Jan 11, 2022 Update Carry Forward remaining funds for vent stack extension, decision on requirement for project to move forward from engineer and Technical Safety BC is pending. No date for decision at this time but anticipated by late Q1 2022. Mar 22 Update: staff are working with TSBC Safety Officer to schedule site visit for review, possible Q2 2022 site visit but no firm date at this time. **May 9 Update No confirmed date for TSBC Safety Officer to visit site.**	Carryforward	In Progress 25%
33	CS	615	van Velzen	$105,000	$0	Taxation	2022	Dec-22		B, D, E, F, DoS, ToG, SIGD	Gibsons and Sechelt	Community Recreation Facilities - Health and Safety Requirements (CM-HSER)	After a risk assessment and review of WorksafeBC regulations, two emergency showers and an additional eye wash station are required at SAC. Mar 22 Update: Procurement scheduled to start Q3 2022, anticipated project completion Q4 2022. **May 9 update: continue with above mentioned timelines.**	Safety Requirement	Not Started
34	CS	615	van Velzen	$250,000	$0	Reserves	2019	Dec-22		B, D, E. F, DoS, ToG, SIGD	Sechelt	Community Recreation Facilities - Sechelt Aquatic Centre Facility Projects	Various projects identified. Currently reassessing wall panel conditions to develop a scope of work for repair based on current conditions. Quotation requested and received for additional testing to determine current status of wall panel condition. Scope of work being finalized. Revised quotation for additional testing to also include development of updated scope of repairs based on testing results requested. Revised quotation received. Consideration of grant application to be recommended Q4 2020. Grant Applications were submitted. Two grant applications submitted for wall panel project both still under review. September 3 Update: Received confirmation that one grant submission was not successful. October 8 Update: Second grant submission is still under review. Project is on hold until grant funds are secured. (Panel Drying and Fire Alarm system) Mar 22 Update: Second grant application unsuccessful. Will look for 2022 grant opportunities. If grants continue to be unsuccessful, will discuss further for 2023 budget planning and make recommendations on how to proceed. **May 9 update: continue with above mentioned timelines.**	Carryforward	Started
35	CS	615	van Velzen	$173,027	$0	MFA 5-Year / Taxation	2021	Jun-24		B, D, E, F, DoS, SIGD, ToG	DoS	Community Recreation Facilities – Sechelt Aquatic Centre (SAC) Fire Sprinkler System Repair or Replacement	On December 31, 2020 the fire sprinkler system at the Sechelt Aquatic Center developed a leak and a contractor was called in to repair the leak. Upon disassembly of the sprinkler piping to repair the leak it was discovered that there is significant microbiologic corrosion in the piping which has compromised sprinkler pipe walls leading to pinhole leak(s) and reducing the flow capacity of the piping. As per Board resolution, this work will commence in 2022 with a phased approach. Additional budget to complete project is a part of the 2022 Capital Renewal Plan. Mar 22 Update: Procurement of engineering design for phased replacement pending. Due to timing, Phase 1 construction anticipated to start Q2 2023. **May 9 Update - Tender documents for engineering design submitted for review and posting.**	Carryforward	**Started**
36	CS	615	van Velzen	$2,198,750	**$50,127**	Capital Renewal Fund	**2022**			B, D, E, F, DoS, ToG, SIGD	Gibsons and Sechelt	Community Recreation - Capital Renewal Plan	Mar 22 Update: 13 projects substantially completed in Q4 2021. These projects include SAC replacement pumps delivered (7) to be installed during 2022 annual maintenance, SAC UV lights main pool and hot tub, GACC Zamboni battery and charger, SCA fire alarm system, SCA office renovation. SAC replacement pumps (4) are scheduled for delivery by end of Q1 2022. 2 projects substantially completed in Q1 2022, SCA Scoreboard and SAC domestic hot water boiler. 34 projects remain to be completed in 2022. Procurement for construction has started for 8 projects, these include SCA and GDAF door replacements (6), GDAF packaged roof top unit and SCA roof modified bitumen. It is anticipated 12 projects will be carried forward to 2023, these projects include GACC refrigeration system upgrades (3), SCA HVAC replacement (4), SAC HVAC replacement (4) and SAC Fire Sprinkler replacement phase 1. 5 anticipated carry forward projects have been identified as carbon emission reduction opportunities and will require additional feasibility studies and design engineering, these include GACC refrigeration system upgrades (1), SCA HVAC replacement (3) and SAC HVAC replacement (1) **May 9 Update- SAC replacement pumps (4) received in Q1, all ordered pumps are now onsite. Tender posted and closed for SCA and GDAF door replacements, no bids received. Procurement has entered into negotiations with a supplier for this project. Construction RFP posted for SCA roof modified bitumen, closes May 9th. RFP posted for SAC packaged roof top units 3, 4 and 5, closes May 5th. GDAF packaged roof top unit construction procurement delayed due to additional roof structural assessment requirements for dehumidification unit. SCA dehumidifier electric deferred to 2023, current location not suitable for engineered support platform. Other options will need to be explored.**	Carryforward	In Progress 50%

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37	CS	615	Shay	$50,000	$0	BC Hydro Rebate (Grant)	2022			All	Sechelt / Gibsons	Community Recreation Facilities - Carbon Neutral Design - Recreation Facilities (BSCG)	Class C design for decarbonizing three biggest carbon emitting recreation facilities (SAC, GACC, SCA). **RFPs under review for SAC and GACC. RFP being issued for SCA.**	Board Strategic and Corporate Goals	Started
38	CS	625	Donn	$400	$0	Taxation	2021	Jul-22		A	A	Pender Harbour Fitness and Aquatic Centre - Scheduling Software	Project has commenced. Anticipated full implementation by end of Q3 2022. Mar 22 update - project underway. **May 9 Update: Project is underway however, due to ongoing Staffing capacity challenges full implementation has been delayed until Q3/Q4.**	Carryforward	In Progress 50%
39	CS	625	Donn	$4,000	$0	Operating Reserves	2021	Jul-22		A	A	Pender Harbour Fitness and Aquatic Centre - Programming Review	Project awarded. Anticipated completion date for project is end of Q3 2022. Mar 22 update: Project underway with anticipated completion date of Q3. **May 9 Update: Project underway with anticipated completion date in Q3. Data analysis and programming statistics took longer than expected to produce and review. Next step is the public engagement phase.**	Carryforward	**In Progress 50%**
40	CS	625	van Velzen	$1,750	$0	COVID-19 Restart Funding	2022	Sep-22		A	A	Pender Harbour Fitness and Aquatic Centre - Water Management Plan Implementation (M-BC)	During the restart of recreation facilities after an extended closure due to COVID, domestic water system water management plans were highly recommended by the Health Region. Plans were developed in 2021 and this budget is to implement the ongoing safety recommendations in the plan. Mar 22 Update: Procurement for services to implement plans scheduled to start Q2 2022, anticipated completion of implementation Q3 2022. **May 9 update: project continues with above timelines**	Business Continuity	Not Started
41	CS	625	Donn	$10,000	$0	Reserves	2022			A	A	Pender Harbour Fitness and Aquatic Centre - Non Annual Maintenance Items - Water Storage Solutions (CM-RC)	In 2022, during the annual maintenance period, the pool will be drained at the PHFAC. As the pool services as the fire suppression for the building, on site storage of water is required. This budget request includes the one time **costs related to on site storage of water.** Mar 22 Update: Budget approved in 2022, anticipate project commencement in Q2. **May 9 Update - Project is underway and on track however, this item was missed during the budget process and will require a financial plan amendment prior to proceeding with purchasing and coordination on site with the School District.**	Regulatory Compliance	**In Progress 50%**
42	CS	625	Donn	$10,000	$0	Operating Reserves	2022			A	A	Pender Harbour Fitness and Aquatic Centre - Storage Container (M-BC)	PHAFC requires an external container (sea-can) to store equipment and facility parts. Previously had been sharing an old storage container with the SD, however the SD is replacing this container with a much smaller one, and the needs of PHAFC have increased. Mar 22 Update: Budget approved in 2022, anticipate project commencement in Q2. **May 9 Update: This project requires a building permit and further coordination with the School District prior to working through the purchasing requirements and delivering to site. Project progressing with anticipated completion later in Q4.**	Business Continuity	**Started**
43	CS	625	Donn	**$12,000**	$0	Operating Reserves	2022			A	A	Pender Harbour Fitness and Aquatic Centre - Non Annual Maintenance Item - Natatorium Ceiling Painting (Other)	The natatorium ceiling is in desperate need of repainting and should be done when the pool basin is drained. The pool is drained every 2-3 years, so 2022 provides the appropriate timing for this work. Mar 22 Update: Budget approved in 2022, anticipate project commencement in Q2. **May 9 Update: Project is underway and on track with materials and supplies for this work having been ordered. Staff expect that this project will be ready for completion during the annual maintenance closure in Q3.**	Other	**Started**
44	CS	625	Donn	**$12,000**	$0	Operating Reserves	2022			A	A	Pender Harbour Fitness and Aquatic Centre - Pool Basin Painting (Other)	Pool basin painting occurs every 2-3 years in alignment with the pool being drained. This painting helps prolong the lifespan of the asset and also creates a more vibrant pool atmosphere. Mar Update: Budget approved in 2022, anticipate project commencement in Q2. **May 9 update - Project is underway and on track with materials and supplies for this work having been ordered. Staff expect that this project will be ready for completion during the annual maintenance closure in Q3.**	Other	**Started**
45	CS	650	Clarkson	$20,000	$0	Taxation	2022	Aug-22		A, B, D, E, F	Various	Community Parks - Community Led Improvement Project Support (Other)	Community groups are eager to provide capital funding for park improvements and also enter into partnership agreements for the ongoing operations/stewardship of parkland and assets. This budget request is to support the planning of these potential projects and includes such costs as public consultations, surveys, cost estimates, etc. Planning would include working through details such as capital and ongoing operating costs as well as roles and responsibilities of the parties involved. Specifically, in 2022, the two current community ideas for projects that require further exploration include a pathway around Katherine Lake and improvements / enhancements to Dan Bosch Park. Mar 22 update: Budget approved March. Staff continue to work with community groups to outline roles and responsibilities and determine a project plan, which will include community discussions regarding proposed projects. **May 9 Update: Working on Nation works permits and authorizations. Project Charter being drafted.**	Other	Started

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46	CS	650	Clarkson		$0	Taxation / Operating Reserves	2022	Sep-22		A, B, D, E, F	Various	Community Parks - Archeological and Environmental Studies (M-BC)	With protocols and shared decision making processes, more due diligence in archeological assessments, management plans and other studies are becoming common practice. This budget request not only allows Parks to move forward on protective mitigation strategies for Bakers Beach and tenure renewal on Ocean Beach Esplanade, which require AMP's and further assessments, but also provides an ongoing base budget for these types of studies that are now becoming requirements of lease renewals, re-investment in to park spaces, etc. Mar 22 Update: Budget approved in March and project to commence in Q2. **May 9 Update: Staff preparing works permit applications and service agreements for Archaeological Impact Assessment (AIA) and Site Alteration Permit (SAP) through Nation's Rights & Titles. Anticipate submission late May 2022.**	Business Continuity	Started
47	CS	650	Clarkson	$15,000	$249	Operating Reserves	2021	Oct-22		A, B, D, E, F	B, D, E, F	Community Parks - Suncoaster Trail (Phase 2) Community trail project	Multi-year, phased and strategic approach to completion of the Suncoaster Trail (Halfmoon Bay to Gibsons/Langdale) based on the Final Trail Concept Design approved by the Board. Further information about phases and a supporting funding plan provided through the budget process. Mar 22 Update: Progressing 2021 on this project was delayed due to COVID-19 and staff capacity. Anticipate discussions and planning to resume in Q2. **May 9 Update: Staff met with regional trail partners and First Nations representatives to discuss progressing the project in the late summer. Target is to support community-led trail project connecting SCRD and DoS sections of Suncoaster Phase 2 route. Nation works authorizations underway May 2022.**	Carryforward	Started
48	CS	650	Clarkson	$33,963	$0	Capital	2019	Oct-22		A, B, D, E, F	All	Community Parks - Capital Asset Renewal	**Mar 22 Update: Concrete repairs at Coopers Green Park Boat Ramp delayed in 2021 due to staff capacity, however expected to commence in Q2 2022 and be completed by the end of Q3.** **May 9 Update: progress continues as per above timelines.**	Carryforward	In Progress 25%
49	CS	650	Clarkson	$40,000	$0	Operating Reserves	2021	Dec-22		A, B, D, E, F	F	Community Parks - Bike Park / Pump Track Development at Sprockids Park	Continue to work with community group. Project will extend into 2022. Partnership opportunity with Coast Mountain Bike Trail Association. Project partnerships and efficiencies being explored. Mar 22 update: Met with partner CMBTA in Q1 and discussed preliminary next steps. RFP for consultation services slated for development mid Q2. **May 9 Update: Partner CMBTA has undergone some changes to directorship. Staff have met with partner in late Q1 and discussed preliminary next steps. RFP for consultation services still slated for development mid Q2 2022. Anticipate tender late summer 2022.**	Carryforward	Started
50	CS	650	Gagnon	$3,088,020	$44,443	ICIP Grant / Various	2021			A, B, D, E, F	B	Community Parks - Coopers Green Hall Replacement / Upgrade	Architect revising design to meet net zero readiness and completing energy modelling. Will move to detailed design and development of construction documents in Q1 2022. Updating geotechnical work and surveys. Monthly meetings with community association to develop operating business plan and budget. Anticipate a report updating the Board in Q1. Mar 22 Update: Design complete, with the exception of the septic, which is delayed waiting for permits. Currently awaiting updated Class B estimate. Update for Board anticipated early Q2. **May 9 Update: Electoral Area Services Committee report May 19th with update for Board and Board direction requested.**	Carryforward	Started
51	CS	650	Gagnon	$62,263	$19,989	Gas Tax	2016			A, B, D, E, F	B	Community Parks - Coopers Green Park - Hall and Parking Design Plans	Approval from MoTI for parking on road right of way received in 2016. Application for parking variance approved by Board of Variance (2016-Sep-30). Working with civil engineer to complete a table top study to update the site plan to include considerations for traffic flow, parking, active transportation. Plan to include cost estimates and phasing. Anticipate a report to update the Board in Q1 2022. Mar 22 Update: desk top study currently underway but not complete. Still anticipate an update in Q2. **May 9 Update: still in progress.**	Carryforward	In Progress 50%
52	CS	650	Gagnon	$300,000	$0	Capital Reserves	2020			A, B, D, E, F	Sechelt	Community Parks - Building (Replacement / Upgrade)	Project Brief in development. Options for consideration given pandemic response and guidelines. Mar 22 Update: On hold until further exploration of Mason Yards planning is complete. **May 9 update - no change**	Carryforward	Started
53	CS	680	Clarkson	$22,000	$0	Operating Reserves	2020	Oct-22		A, B, D, E, F	Regional	Dakota Ridge Snowmobile Replacement and UTV Repair	Replacement of snowmobile unit 417 and repair of UTV unit 506 proceed with funding of up to $29,000 from Dakota Ridge [680] operating reserve; UTV repairs complete. Snowmobile procurement underway; supply chain delays in 2020-2021. Mar 22 Update: Further supply chain delayed this project in 2021. Staff continue to work with Purchasing to explore options in order to expedite delivery of equipment. Expected Q4 2022. **May 9 Update: Deposit has been made on the new snowmobile. Supply chain delays will mean that new unit is not delivered and paid for fully until Q2 2023.**	Carryforward	In Progress 75%
54	CS	680	Clarkson	$33,500	$0	Operating Reserves	2020	Oct-22		A, B, D, E, F	D	Dakota Ridge Recreation Service Area - One-Time Minor Capital - Upgrades and Renewal	One-time minor capital expenses to build a new roof on storage shed, new covered area on warming hut, signage upgrades, new visitor entry stairs, a new pass printer, and a new pull-behind grooming attachment. Parks planning and operations have begun work on the design, purchase and install of minor capital items in Q2 2021. Mar 22 update - staff capacity and other priorities delayed this project in 2021. Project planning will continue and staff anticipate completion in late Q3. **May 9 Update: New grooming drag has been purchased and ordered. Expect delivery summer 2022. New kiosk signage and storage shed will be underway early summer 2022.**	Carryforward	In Progress 25%

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55	CS	114 / 310 / 312 / 365 / 366 / 370 / 650	Perreault / Shay / Gagnon	$70,000	$0	Operating and Capital Reserves / Grant	2022	Dec-22		All	Sechelt / Gibsons	Various Functions - Corporate Electric Vehicle (EV) Charging Stations (Phase 2) (BSCG)	Phase 2 involves: • electrical system assessments of Mason Road and Field Road sites; • electrical system upgrades of the Field Road site which could involve a new subpanel on the IT building with conduit from the main electrical room or separating the Search and Rescue (SAR) building from the Field Road building and SAR	Board Strategic and Corporate Goals	Not Started
56	CS	310 / 312	Walton	$10,500	$0	Reserves	2022			All	Sechelt	Public Transit / Maintenance Facility (Fleet) - Pressure Washer Replacement (CM-IAF)	The pressure washer has reached the end of its useful life and requires replacement. This heavy duty equipment is used daily for cleaning fleet. Mar 22 Update: Budget approved in March, purchase process to commence in Q2. **May 9 update: still progressing within timelines identified.**	Imminent Asset Failure	Not Started
57	CS	310 / 312 / 313 / 320 / 345 / 400 / 615 / 625 / 630 / 650 / 665 / 667 / 670 / 680	Gagnon	$41,500	$0	Taxation	2022			All	All	Community Services - Administrative Assistant (1.0 FTE) (Other)	The Community Services Administrative Assistant will provide critical support to the General Manager, Community Services and work cooperatively with other department administrative supports. Mar 22 Update: Budget approved in March. Recruitment to begin in Q2. **May 9 Update: Position posted, interview to occur later in May.**	Other	In Progress 50%
58	CS	310 / 312 / 370 / 650	Gagnon	$75,000	$0	Operating Reserves	2022			All	Sechelt	Various - Mason Rd Lease Renewal and Site Plan Implementation (0.20 FTE Temporary Project Manager) (M-BC)	Negotiation of the lease renewal at Mason Yards with Crown and First Nations as well as expansion options, especially for likely Transit service expansion. This budget request proposes an internal staff member for project management (including contract management and coordination internally and with other agencies) and procuring a consultant to support the implementation of the initiative. Mar 22 Update: Budget approved in March, project to commence in Q2 (resource dependent). **May 9 Update: request to renew current lease for Mason Yards submitted to province. In discussions to partner with BC Transit to complete a master plan strategy for transit infrastructure long term needs. This will inform planning for Mason Yards.**	Business Continuity	Started
59	IS	281	Walkey	$5,000	$0	Reserves	2022	Dec-22		A	A	Greaves Road Waste Water Plant - Septic Field Repairs (CM-IAF)	**A 2020 feasibility study identified that the west septic field at Greaves WWTP has severe root intrusion and clogging in 2 of 4 laterals that will be addressed. Trees within 3m to 5m will be removed to prevent further root intrusion. To be completed in by Q4 2022**	Imminent Asset Failure	Not Started
60	IS	350	Rosenboom	$188,905	$0	MFA 5-Year / Taxation	2021	Jul-22		All	Regional	Regional Solid Waste - Power Supply Repair Sechelt Landfill including Interim Operating Costs	The current propane generator that is used to supplement the solar-based power system for the Sechelt Landfill has failed mid-February 2021. The site is currently using a diesel generator on a temporary hook up until a new generator is procured and installed. Power is required for the scale, computer and telephone for example. Development of RFP and SRW for connection to BC Hydro grid has been initiated	Carryforward	In Progress 25%
61	IS	350	Rosenboom	$175,000	$90,990	Taxation	2020	**Dec-22**		All	Regional	Regional Solid Waste - Future Waste Disposal Options Analysis Study (Phase 1)	Results of Part 1 and 2 were presented at January 20, 2021 Special Infrastructure Services Committee meeting. Results Part 3 were presented at July ISC meeting. **RFP for feasibility study for one additional site and second opinion on landfill siting options did not resulting in securing contractor. Alternative procurement process has been initiated and contract with contractor currently being finalized. First result expected in Q3 2022**	Carryforward	In Progress 50%
62	IS	350	Rosenboom	$89,165	$0	Taxation	2022	Dec-22		All	Regional	Regional Solid Waste - Regulatory Reporting for Sechelt Landfill (CM-RC)	Mandatory Ministry of Environment reports to be prepared by the SCRD's contracted engineering firm.	Regulatory Compliance	Not Started
63	IS	350	Rosenboom	$96,000	$0	Eco-Fee	2022	Dec-22		All	A	Regional Solid Waste - Pender Harbour Transfer Station Site Improvements - Phase I (M-BC)	The site inspection by an engineer in 2021 included that significant upgrades are required to this site. Phase 1 will include the urgent upgrades and the design for Phase 2.	Business Continuity	Not Started
64	IS	350	Rosenboom	$27,000	$0	User Fees	2022	Dec-22		All	Regional	Regional Solid Waste - Pender Harbour Transfer Station Food Waste Drop-Off (BSCG)	Providing a food waste drop-off at the Pender Harbour Transfer Station is one of the initiatives of the SCRD's Regional Organics Diversion Strategy. Conduct a 2 year pilot from Q3 2022 to June 30, 2024. This ensures one full year of the program and data collection prior to a decision on the continuation that needs to be made in Q3 2023. **RFP currently being finalized**	Board Strategic and Corporate Goals	**In Progress 25%**
65	IS	350	Rosenboom	$67,571	$0	Taxation	2022	Dec-22		All	Regional	Regional Solid Waste - Staffing - Manager Special Solid Waste Projects - 0.6 FTE (BSCG)	Additional senior project-management resources are require to manage the development and construction of a new long-term waste disposal option, the design and construction of the partial (Stage H+) and final closure of the Sechelt Landfill and other capital projects for the solid waste and other divisions.	Board Strategic and Corporate Goals	Not Started
66	IS	350	Rosenboom	$2,500,000	$0	Landfill Closure Reserve Fund	2021	Dec-22		All	Regional	Regional Solid Waste - Sechelt Landfill Stage H+ Closure	The Design, Operation and Closure Plan (DOCP) requires that the landfill be progressively closed as it reaches its final height, in areas that will no longer receive waste. Stage H+ represents an area that has reached its fill capacity based on height and now requires closure. Project to be initiated in Q1 or Q2 2022.	Carryforward	Not Started
67	IS	350	Rosenboom	$100,000	$0	Eco-Fee	2021	Dec-22	Dec-22	All	Regional	Regional Solid Waste - Waste Composition Study	Conduct a waste composition study of residential garbage collection, drop-off bins at Pender Harbour Transfer Station and Sechelt Landfill and commercial garbage delivered to the Sechelt Landfill. Study would occur at two points in 2021 and will support the evaluation of the implementation of new organics diversion services and guide the SWMP update (incl. waste disposal post landfill closure). Delayed until 2022. RFP is anticipated to be issued Jan 2022. **Waste composition study underway. The first of two audits is currently taking place this spring, with the second in October. A summary report, with recommendations, will follow.**	Carryforward	**In Progress 50%**
68	IS	350	Rosenboom	$150,000	$0	Taxation	2021	**Jul-23**		All	Regional	Regional Solid Waste - Future Solid Waste Disposal Option Study (Phase 2)	Development of preliminary design, cost estimates and advance the confirmation of the feasibility of a new landfill and transfer station. Scope will depend on findings Phase 1.	Carryforward	Not Started
69	IS	350	Rosenboom	$150,000	$453	Eco-Fee	2021	Dec-23		All	Regional	Regional Solid Waste - Solid Waste Management Plan Update	Update the SCRD's Solid Waste Management Plan (SWMP) as per MoE guidelines, the expectation is at a minimum of every 10 years. The SWMP was last updated in 2011. SWMP update is dependent on decision on long-term solid waste disposal option and required to be updated for that option to be implemented. Delayed until 2022. **RFP will be issued in Q2 2022.**	Carryforward	**Started**

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70	IS	351	Rosenboom	$5,000	$0	Taxation	2021	Mar-22		All	A	Regional Solid Waste - Generator Replacement for Pender Harbour Transfer Station	Purchase and installation of a new generator for the Pender Harbour Transfer Station as current generator is failing. Generator is used as back-up power for the site. **Procurement initiated and bids are currently being reviewed**	Carryforward	**In Progress 25%**
71	IS	351	Rosenboom	$10,000	$0	Taxation	2021	Mar-22		All	A	Regional Solid Waste - Traffic Control Lights for Pender Harbour Transfer Station	Installation of traffic control lights for Pender Harbour Transfer Station to increase safety for customers and staff at site. Project to be completed in coordination with site improvement project.	Carryforward	Not Started
72	IS	352	Rosenboom	$29,500	$0	MFA 5-Year	2021	Jul-22		All	Regional	Regional Solid Waste - Forklift for Sechelt Landfill	Purchase of a used forklift for loading the mattress trailer at the Sechelt landfill to full capacity thereby reducing possible injury to staff not having to manually load the truck and full trailers reduce shipping costs and lowers transportation-related GHG emissions. This is the recommended loading measure by WorkSafeBC. Estimated timing Q2 or Q3 2022	Carryforward	In Progress 25%
73	IS	352	Rosenboom	$150,000	$0	Taxation	2021	Dec-22		All	Sechelt	Regional Solid Waste - Biocover Feasibility Study - Phase 2	Phase 2 Study to be initiated to determine the feasibility of utilizing a Biocover during the final closure of the Sechelt Landfill instead of traditional fill as cover. **Staff have been working on securing materials for the study. RFP will be issued in Q2 2022.**	Carryforward	Started
74	IS	365	Walkey	$20,000	$0	Operating Reserves	2021	Sep-22		A and SIGD	A	North Pender Harbour Water Service - Garden Bay Pump Station – Treatment Improvements (Phase 1)	Feasibility study to review engineering solutions to address the current risk of significantly increased turbidity levels and ensuring regulatory compliance in a timely manner. The study will evaluate the feasibility of treatment systems that will be capable of reducing turbidity and organics. **This project has been awarded and will be completed in Q3 2022.**	Carryforward	**In Progress 25%**
75	IS	365	Walkey	$145,000	$107,763	Reserves	2019	Sep-22		A and SIGD	A	North Pender Harbour Water Service - Garden Bay UV Reactor Purchase	**Drinking Water Regulations require that treatment facilities should have redundancy in major treatment steps. The UV reactor has been installed and is in use. Minor items required for completion. Still awaiting delivery of parts.**	Carryforward	In Progress 75%
76	IS	365	Misiurak	$75,000	$0	Operating Reserves	2020	Dec-22		A and SIGD	A	North Pender Harbour Water Service - Water Supply Plan	Intent of project is the development of water system model in support of development Water Supply Plans. **RFP is being finalized and will be posted in Q2 2022**	Carryforward	Started
77	IS	365	Walkey	$2,500	$0	Operating Reserves	2020	Dec-22		A and SIGD	A	North Pender Water System - Confined Space Document Review	A qualified professional is required to review and update the SCRD Confined Space Documents. Staff need to develop tender documents to begin this process. RFQ to be issued in Q2 2022.	Carryforward	Started
78	IS	365	**Misiurak**	$850,000	$0	Capital Reserves / Gas Tax	2022	**Jun-23**		A and SIGD	A	North Pender Harbour Water Service - North Pender Harbour Watermain Replacement (M-BC)	Replacement of the existing 100 mm asbestos cement water main on Panorama Drive with a 200 mm ductile iron water main. This section was selected for replacement as means of improving system reliability and improving fire protection to the more than 70 homes that front Panorama Drive. It has also been subject to several leaks of the past years, resulting in disruption to service and response from SCRD Utilities staff.	Business Continuity	Not Started
79	IS	365	**Edbrooke**	$7,500	$0	Operating Reserves	2022	Dec-23		A and SIGD	Regional	North Pender Harbour Water Service - Public Participation - Water Supply Plan Development (BSCG)	**Staff are engaging the public on the development of a region-wide Water Strategy, scheduled for Q2 2022. Budget is for engagement materials, events, mail out, survey and workshop development.**	Board Strategic and Corporate Goals	In Progress 25%
80	IS	365	Walkey	$125,000	$0	Gas Tax	2020	Dec-23		A	All	North Pender Harbour Water Service - Emergency Generator	The purchase of a generator for the North Pender system that can provide emergency backup energy to operate the Garden Bay Pump Station is required. **An engineering firm has been awarded the project of sizing and installation requirements specifications for completion in Q3, 2022. For efficiency this project has been combined with the Garden Bay Pump Station Treatment Improvements Project. It is expected the generator will have a long lead time.**	Carryforward	**In Progress 25%**
81	IS	366	Misiurak	$75,000	$0	Operating Reserves	2020	Dec-22		A	A	South Pender Harbour Water Service - Water Supply Plan	Intent of project is the development of water system model in support of development Water Supply Plans. RFP is being finalized and will be posted in Q2 2022	Carryforward	In Progress 25%
82	IS	366	Misiurak	$149,500	$75,507	Gas Tax	2021	Dec-22		A	A	South Pender Harbour Water Service - McNeil Lake Dam Upgrades	Consultant 60 percent designs are under review.	Carryforward	In Progress 75%
83	IS	366	Walkey	$5,000	$0	Operating Reserves	2020	Dec-22		A	A	South Pender Water System - Confined Space Document Review	A qualified professional is required to review and update the SCRD Confined Space Documents. Staff need to develop tender documents to begin this process. RFQ to be issued in Q2 2022.	Carryforward	Started
84	IS	366	Walkey	$50,000	$12,181	Capital Reserves	2020	Dec-22		A	A	South Pender Harbour Water Service - Treatment Plant Upgrades	**Replacement of treatment system components will allow for more efficient operation of the water treatment plant. Delays in delivery of parts, to be completed in Q3 2022.**	Carryforward	In Progress 75%
85	IS	366	Walkey	$50,000	$29,732	Gas Tax	2021	Dec-22		A	A	South Pender Harbour Water Service - Upgrades - Phase 2	Additional funds are required to complete some previously identified upgrades at the South Pender Harbour Water Treatment Plant including online turbidity instrumentation replacement, completion of weir automation and other upgrades that are necessary but not able to be funded utilizing Phase 1 (2020) funding balances. Some outstanding projects components still to be completed.	Carryforward	Started
86	IS	366	**Misiurak**	$525,000	$0	Reserves	2022	Dec-22		A	A	South Pender Harbour Water Service - McNeil Lake Dam Safety Improvements - Construction (CM-RC)	**Preliminary construction tendering documents were provided to the SCRD in mid May from the consultant and are under review.** The dam safety improvements will consist of replacing the stop logs with a lifting device, reinstating low level outlet operation, increasing the height of the maintenance walkway above flood lake level, installing new public access signage, a water level gauge and new dam security gate.	Regulatory Compliance	Started
87	IS	366	**Misiurak**	$600,000	$0	Capital Reserves / Gas Tax	2022	**Jun-23**		A	A	South Pender Harbour Water Service - South Pender Harbour Watermain Replacement (M-BC)	Continuation of 2018 work, and would replace the existing 150 mm asbestos cement diameter water main with a 200 mm diameter main on Francis Peninsula Road from Pope Road to Rondeview Road. This section was selected for replacement as means of improving system reliability and improving protection in that portion of the South Pender Water Service Area.	Business Continuity	Not Started
88	IS	366	Walkey	$80,000	$0	MFA 5-Year	2021	Jun-23		A	A	South Pender Harbour Water Service - 2021 Vehicle Purchases	Annual replacement of aged vehicle(s); #436 truck is 12 years old, has high mileage and rust is becoming an issue. Replace with truck with similar capabilities. Tender documents issued and awarded in Q 2022.Delivery expected in Q4, 2022.	Carryforward	In Progress 75%
89	IS	366	**Edbrooke**	$7,500	$0	Operating Reserves	2022	Dec-23		A	Regional	South Pender Harbour Water Service - Public Participation - Water Supply Plan Development (BSCG)	**Staff are engaging the public on the development of a region-wide Water Strategy, scheduled for Q2 2022. Budget is for engagement materials, events, mail out, survey and workshop development.**	Board Strategic and Corporate Goals	In Progress 25%

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90	IS	366	Walkey	$108,000	$0	Gas Tax	2021	Dec-23		A	A	South Pender Harbour Water Service - Dogwood Reservoir: Engineering and Construction	The Dogwood Reservoir is no longer in operation due to having excessive leak rates and a deteriorating structure. This project will included the modelling analysis of the need of replacement options and/or demolition is required. Analysis of the need of replacement options and/or demolition is required. Depending on the results of the modelling analyses the scope of this project will either temporarily line the existing reservoir or fully demolish and remove the existing structure. Delayed awaiting modelling project completion.	Carryforward	Not Started
91	IS	370	Misiurak	$63,378	$0	Reserves	2021	Jul-22		A, B, D, E, F and DoS	Regional	Regional Water Service - Edwards Lake Siphon	Pipe is fused. Has not been deployed. Archaeological and ecological assessments in support for regulatory approvals underway with permit issuance to follow in summer 2022	Carryforward	In Progress 25%
92	IS	370	Misiurak	$2,076,511	$141,931	Reserves	2020	Aug-22		A, B, D, E, F and DoS	B, D, E, F, DOS	Regional Water Service - Chapman Water Treatment Plant Chlorination System Upgrade	Construction underway with project completion Q4 2022.	Carryforward	In Progress 50%
93	IS	370	Edbrooke	$35,000	$7,242	Operating Reserves	2020	Aug-22		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Water Supply and Conservation Public Engagement 2020 (including Water Summit)	Ongoing Water Public Participation. This includes website updates, advertisements (print and digital), and Let's Talk water events to engage the community on new projects, such as the Church Road well field and Phase 3 water meter installations. Staff are currently developing summer outreach campaigns and communications, and incorporating capital projects into planned spring water engagements.	Carryforward	In Progress 25%
94	IS	370	Edbrooke	$46,500	$0	Short Term Debt	2020	Sep-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Vehicle Purchases - Strategic Infrastructure Division	ONLY 1 VEHICLE PURCHASE. Procurement process underway, and staff are working to overcome ongoing supply chain challenges. Bids received in early 2022 for fully electric passenger vehicles were considerably higher than budgeted amounts. **Staff will reissue the RFP in Q2 2022.**	Carryforward	In Progress 50%
95	IS	370	Misiurak	$375,000	$286,318	Operating Reserves	2020	Sep-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Groundwater Investigation - Phase 2 (Part 2)	Additional scope added and well siting currently underway. Long-term monitoring at Langdale site to continue until Q3 2022.	Carryforward	In Progress 75%
96	IS	370	Misiurak	$7,378,616	$942,644	Capital Reserves / Long Term Loan	2020	Sep-22		A, B, D, E, F, F Islands and DoS	F	Regional Water Service - Groundwater Investigation - Phase 4B - Church Road Construction	Water License issued by the Province in December 2021. Construction contract awarded in January. Groundbreaking occurred on March 8, 2022. Construction is underway with anticipated completion **Fall** 2022.	Carryforward	**In Progress 25%**
97	IS	370	Misiurak	$1,178,070	$0	Capital Reserves	2020	Sep-22		A, B, D, E, F, F Islands and DoS	F	Regional Water Service - Reed Road and Elphinstone Road Water Main Replacement	Construction will occur in 2022 as part of the Church Road Project.	Carryforward	Started
98	IS	370	Walkey	$29,092	$0	User Fees	2020	Sep-22		A, B, D, E, F and DoS	Regional	Regional Water Service - Summer Student (4 months) - Water Asset Inventory Update	**Development of Water Supply Plans Assessment Management Plans or update of the asset inventory databases (GIS and AutoCAD) for the Regional Water System. (VALUE IS NOW $29,092 being carried forward) Posted and receiving resumes. A student has been hired and will be working with the Utilities team until September completing assigned tasks.**	Carryforward	In Progress 50%
99	IS	370	Misiurak	$50,000	$8,882	Reserves	2018	Nov-22		A, B, D, E, F and DoS	E	Regional Water Service - Chaster Well Upgrades (Well Protection Plan - Phase 2)	Final drawings provided by consultant and are under review with anticipated construction Q4 2022.	Carryforward	In Progress 50%
100	IS	370	Rosenboom	$50,000	$0	Operating Reserves	2020	**Dec-22**		A, B, D, E, F, F Islands and DoS	D	Regional Water Service - Chapman Creek Environmental Flow Requirements Update	**Request for an amended EFN (combination of 200 l/s, 180 l/s and 160 l/s) have been submitted to FLNRORD for their review. Submission to DFO will be initialed at later point**	Carryforward	**In Progress 75%**
101	IS	370	Rosenboom	$25,000	$15,793	Reserves	2020	**Dec-22**		A, B, D, E, F and DoS	Regional	Regional Water Service - Implementation of shíshálh Nation Foundation Agreement	Resolution 266/19 No. 7 - Foundation Agreement, Current focus on transfer D 1592	Carryforward	In Progress 75%
102	IS	370	Edbrooke	$25,000	$0	User Fees	2019	Dec-22		A, B, D, E, F and DoS	Regional	Regional Water Service - Water Sourcing Policy	Project scoping based on current water supply source development status is underway.	Carryforward	Started
103	IS	370	Misiurak	$240,500	$143,673	Capital Reserves	2021	Dec-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Chapman and Edwards Dam Improvements	Consultant 60 percent design under review. **Construction deferred until 2023 due to extended permitting timelines**.	Carryforward	In Progress 75%
104	IS	370	Misiurak	$360,000	$275,035	Operating Reserves	2020	Dec-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Regional Water Reservoir Feasibility Study Phase 4	First Nation Consultation complete. Consultant preparing completion schedule for geotechnical work. **Geotechnical work expected to occur late summer 2022, with results of study to the Board in late Q4 2022.**	Carryforward	In Progress 75%
105	IS	370	Walkey	$200,000	$11,789	Operating Reserves	2020	Dec-22		A, B, D, E, F, F Islands and DoS	D	Regional Water Service - Chapman Water Treatment Plant Sludge Residuals Disposal and Planning	The Chapman Creek Water Treatment Plant produces residuals that need to be dewatered and disposed of. Staff are working with Lehigh (transferring residuals to Lehigh mine site for dewatering). **A RFP has been awarded for a short/long term plan, work will continue throughout the summer.**	Business Continuity	In Progress 25%
106	IS	370	Walkey	$74,125	$0	Capital Reserves	2021	Dec-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Chapman and Edwards Lake Communication System Upgrade	Installation of a radio repeater to improve the reliability and create redundancy in the communication system with the lake level monitoring and control systems for Chapman and Edwards Lake. System will also allow for video monitoring of infrastructure at the lakes.	Carryforward	Started
107	IS	370	Walkey	$22,500	$0	Operating Reserves	2020	Dec-22		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Confined Space Document Review- Regional Water System	A qualified professional is required to review and update the SCRD Confined Space Documents. Staff to develop tender documents to begin this process. RFQ to be issued in Q2 2022.	Carryforward	Started
108	IS	370	Walkey	$75,000	$0	Reserves	2022	Dec-22		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Valve Stems for Selma 2 Isolation (CM-IAF)	Selma 2 reservoir is the main reservoir for the Regional Water System. Replacement of the main isolation valves and stems is required to isolate the reservoir for cleaning, entering the service water chamber to pull service water pumps and in the event of a watermain break between the reservoir and zone 1. **Project on hold due to staff vacancies**	Imminent Asset Failure	Not Started
109	IS	370	Edbrooke	$20,000	$0	Operating Reserves	2021	Feb-23		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Water Supply Plan: Public Participation Regional Water System	**Staff are engaging the public on the development of a region-wide Water Strategy, scheduled for Q2 2022. Budget is for engagement materials, events, mail out, survey and workshop development.**	Carryforward	**In Progress 25%**
110	IS	370	Misiurak	$350,000	$0	Capital Reserves / Gas Tax / DCC	2021	Mar-23		A, B, D, E, F, F Islands and DoS	F	Regional Water Service - Eastbourne Groundwater Development	Consultant contract **finalized and preliminary work began in Q2, 2022**.	Carryforward	**In Progress 25%**
111	IS	370	Misiurak	$213,000	$5,684	Operating Reserves	2021	Jun-23		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Water Supply Plan: Regional Water System Water Distribution Model Update and Technical Analysis	**RFP being finalized for posting in Q2 2022**	Carry forward	Started
112	IS	370	Walkey	$46,500	$0	Short Term Debt	2020	Jun-23		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Utility Vehicle Purchase	Tender documents have been generated and will be advertised in Q4 2021. Tender documents issued. Tendered in Q1 and was over budget. To be retendered in Q2, 2022.	Carryforward	In Progress 50%

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113	IS	370	Walkey	$250,000	$0	Capital Reserves	2020	Jun-23		A, B, D, E, F, and DoS	A	Regional Water Service - Cove Cay Pump Station Rebuild and Access Improvements	Preliminary planning has taken place and further staff time is required to generate tender documents. **Project delayed due to staff vacancies. Sourcing parts are expected to take a long lead time.**	Carryforward	Started
114	IS	370	Walkey	$210,000	$0	MFA 5-Year	2021	Jun-23		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - 2021 Vehicle Purchases	Annually, infrastructure management and the fleet maintenance supervisor review the department's inventory of vehicles and make recommendations for replacement due to age, condition, mileage, etc. This process ensures that an optimal replacement cycle is followed to prevent excess repair costs, poor emissions, and to maintain a reliable fleet: 1) Vehicle #438: 2008 Ford F250 2WD Truck w/ Service Body Truck is 12 years old and approaching end of useful live and increasing repair cost anticipated, 2) Vehicle #474: 2012 Ford F350 Flat Deck Truck, Out of commission and 3)Vehicle #477: 2012 Ford F150 4X4 Truck, Ongoing significant repairs. Tender Documents re issued and awarded in Q1 2022. Delivery expected in Q4, 2022.	Carryforward	In Progress 75%
115	IS	370	Walkey	$100,000	$0	Reserves	2022	Jun-23		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Trout Lake Re-chlorination Station Upgrade (CM-IAF)	The Trout Lake re-chlorination station is aged and needs an upgrade. The work will involve the demolition and removal of existing roof along with engineering and installation of the replacement roof by contracted resources. A review of the best and most efficient way of replacing the current piping and chlorination assets will also be engineered and upgraded. **Project on hold due to staff vacancies**	Imminent Asset Failure	Not Started
116	IS	370	Walkey	$225,000	$0	MFA 5 YR Loan	2022	Jun-23		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Single Axle Dump Truck Replacement (M-BC)	Replacement single axle Dump Truck (1996) is required due to the condition, mechanical and maintenance history and mileage. **The vehicle will be tendered Q2 2022 2022.**	Business Continuity	**In Progress 25%**
117	IS	370	Walkey	$200,000	$0	MFA 5 YR Loan	2022	Jun-23		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Vehicle Purchases (M-BC)	This project is to purchase four (4) vehicles for the following purposes: • Two (2) new Fully Electric Vehicles to support staffing requirements (incl. the purchase of EV that was deferred as part of 2021 Budget process); • Two (2) replacement vehicles of vehicles #465 (2012) Escape and #491 (2013 F150) is required due to high mileage and increasing maintenance costs**. These vehicles will be tendered Q2 2022.**	Business Continuity	In Progress 25%
118	IS	370	Misiurak	$200,000	$73,802	Reserves	2018	Aug-23		A, B, D, E, F and DoS	B, D, DOS	Regional Water Service - Exposed Water Main Rehabilitation	Repainting of the Chapman, and Sechelt Inlet Road Segments Completed. Remaining unexpended funds to be used to fund other waterline segments in 2023.	Carryforward	In Progress 50%
119	IS	370	Edbrooke	$30,000	$0	Operating Reserves	2020	Sep-23		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Bylaw 422 Update	Reviewing potential proposals for changes to Bylaw 422. **Phase 1 was completed in Q1 2022, to update the water conservation regulations, some definitions and provisions.** Phase 2 will be scoped and initiated in Q2 2022, for broader bylaw modernization.	Carryforward	In Progress 25%
120	IS	370	Misiurak	$783,000	$0	Reserves	2022	**Oct-23**		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Chapman Lake Dam Safety Improvements - Construction (CM-RC)	Complete the tendering and construction of the dam safety improvements which will consist of strengthening the face and the base of the dam by adding steel reinforcement into adjoining bedrock, increasing the height of the maintenance walkway above flood lake level, installing a log boom upstream, new public access signage, a water level gauge and new dam security gate. **Permitting is taking longer than anticipated. Construction deferred until 2023.**	Regulatory Compliance	Started
121	IS	370	Misiurak	$625,000	$0	Reserves	2022	**Oct-23**		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Edwards Lake Dam Safety Improvements - Construction (CM-RC)	Complete the tendering and construct the dam safety improvements which will consist of replacing the stop logs with a sluice gate and a lifting device, increasing the height of the maintenance walkway above flood lake level, installing a log boom upstream, new public access signage, a water level gauge and new dam security gate. **Permitting is taking longer than anticipated. Construction deferred until 2023.**	Regulatory Compliance	Started
122	IS	370	Misiurak	$1,377,600	$0	Capital / Operating Reserves	2021	Dec-23		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Groundwater Investigation Round 2 Phase 3	Consultant contract issued. Consultant/SRCD kickoff meeting completed. BC Ferry/SCRD temporary agreement for installation of test wells ratified. **Archeological permits have been issued. Site had been cleared. Well drilling to commence in mid May 2022 at the Langdale site.**	Carryforward	Started
123	IS	370	Misiurak	$375,000	$0	Operating Reserves	2022	**Dec-23**		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Water Supply Plan: Feasibility Study Long-Term Ground Water Supply Sources (BSCG)	In order to explore the potential of new sites in 2022/2023 the following approach is recommended: - Update 2017 desktop study with most recent information and analytical tools. - Drilling of smaller wells for increased understanding of factors such as aquifer types, depth, composition - Drill, test and analyze up to 3 additional test wells to confirm their potential water supply potential. (estimated at $100,000 each) - Contingency allowance Given the current workload for the Capital Project Division it's anticipated that this project could be initiated late 2022/early 2023 for completion late 2023.	Board Strategic and Corporate Goals	Not Started
124	IS	370	Edbrooke	$47,250	$0	Grant (?)	2022	**Dec-23**		A, B, D, E, F, F Islands and DoS	All	Regional Water Service - Staffing - Water Sustainability Technician - 0.5 FTE (BSCG)	Hire a Water Sustainability Technician that will focus on leak resolution in the Sechelt area, as meters are installed. The position will also be responsible for supporting education and outreach efforts, patrols, responding to inquiries and complaints.	Board Strategic and Corporate Goals	Not Started
125	IS	370	Walkey	$250,000	$0	Capital Reserves	2020	Dec-23		A, B, D, E, F, F Islands and DoS	D	Regional Water Service - Chapman Water Treatment Plant UV Upgrade	The UV treatment process at Chapman Creek Water Treatment plant has reached the end of its operational life and needs to be replaced with a new UV system with redundancy. A contract for engineering has been awarded. **Preliminary review of design has been completed with preliminary cost estimates exceeding the current budget. Further design work will continue and a budget proposal for construction will be presented as part of the 2023 budget process. Completion of project will take place in late 2023.**	Carryforward	In Progress 25%
126	IS	370	Misiurak	$70,000	$0	Capital Reserves	2021	**Dec-23**		A, B, D, E, F, F Islands and DoS	E	Regional Water Service - Reed Road Pump Station Zone 4 Improvements	Preliminary design started. **Construction anticipated for 2023.**	Carryforward	Started
127	IS	370	Rosenboom	$7,250,000	$0	Long Term Loan	2020	**Dec-23**		A, B, D, E, F, F Islands and DoS	Sechelt and SIGD	Regional Water Service - Meters Installation Phase 3 District of Sechelt ~~and Sechelt Indian Government District~~	AAP successful to secure the electoral approval for the Long-Term Loan for this project. Resource planning to be completed in **Q3 2022** with project kick-off to follow.	Carryforward	Started

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128	IS	370	Misiurak	$125,000	$0	Operating Reserves	2021	Jun-24		A, B, D, E, F, F Islands and DoS	Regional	Regional Water Service - Feasibility Study Surface Water Intake Upgrades Gray Creek	Consultant **contract finalized. Consultant/SCRD kickoff meeting completed. Creek monitoring to begin in Q2, 2022 and continue for 2 years.**	Carryforward	Started
129	IS	382	Misiurak	$5,964	$0	Operating Reserves	2020	Jul-22		E	E	Woodcreek Park Waste Water Treatment Plant - Inspection Chamber Repairs	To be completed in Q2 2022	Carryforward	In Progress 50%
130	IS	382	Misiurak	$20,000	$498	Operating Reserves / Gas Tax	2021	**Dec-23**		E	E	Woodcreek Park Wastewater Treatment Plant – Collection System Designs	On October 22, 2020 a grant application was submitted in support of the construction phase upgrades to the treatment plant and collection system. In order to allow for an expedited start of this project phase, this budget proposal allows for the inclusion of essential upgrades to the collection system to the final design and tendering package that is currently being prepared as part of the ongoing project started in 2020. Included being draft ITT documents. Conveyance system field inspection completed in late September.	Carryforward	In Progress 25%
131	IS	384	Walkey	$9,000	$2,731	Capital Reserves / Gas Tax.	2021	Jun-23		B	B	Jolly Roger Waste Water Treatment Plant - Headworks Improvements	Both Wastewater Plants headworks need to be upgraded with new stainless steel trash screens and other related improvements. Screens have been replaced. Project final review required. **Awaiting delivery of final parts that were delayed completion in Q2 2022**	Carryforward	In Progress 75%
132	IS	385	Walkey	$9,000	$2,273	Capital Reserves / Gas Tax	2021	Jun-23		B	B	Secret Cove Waste Water Treatment Plant - Headworks Improvements	Both Wastewater Plants headworks need to be upgraded with new stainless steel trash screens and other related improvements. Screens have been replaced. Project final review required. **Awaiting delivery of final parts that were delayed completion in Q2 2022**	Carryforward	In Progress 75%
133	IS	386	Walkey	$20,000	$6,150	Operating Reserves	2020	Dec-22		A	A	Lee Bay Wastewater Treatment Plant - Collection System Repairs	During CCTV review a pipe segment and manhole have been identified in the collection system needing repairs. **Some repairs have been completed, more work to take place in Q3, 2022.**	Carryforward	In Progress 25%
134	IS	387	Walkey	$25,000	$10,323	Operating Reserves	2020	Dec-22		B	B	Square Bay Waste Water Treatment Plant - Infiltration Reduction (Started 2019 - 2020 portion)	Staff are proceeding with repairs and upgrades to the collection system to reduce infiltration. Further analysis of various sections of collection system is underway. Review of options underway.	Carryforward	In Progress 50%
135	IS	387	Walkey	$20,000	$0	Operating Reserves	2021	**Dec-22**		B	B	Square Bay Waste Water Treatment Plant - Square Bay Infiltration Reduction	Various improvements to the treatment facility, collection system and pump replacements are required to help the treatment plant achieve its design effluent quality criteria as well as meet the current permit with the Municipal Wastewater Regulation (MWR). Additionally, de-registering with the MWR and registering with Vancouver Coastal Health Sewerage Regulation is required, as the plant does not meet the flow thresholds for the MWR. Under either regulation the improvements to the treatment facility and collection system are required. **Review of as built drawings underway. Work delayed due to staff vacancies.**	Carryforward	In Progress 25%
136	IS	388	Walkey	$261,000	$0	Operating Reserves / Gas Tax / Loan	2022	**Dec-23**		F	F	Langdale Waste Water Plant - Remediation Project (M-BC)	**The Langdale WWTP system is currently operating in a bypass capacity, and residential sewage is being transferred to the YMCA treatment facility adjacent to the WWTP site. This project consist of 2 phases: Phase 1 is the completion of a legal agreement with the YMCA for the combined long term management of the YMCA facility and Phase 2 consist of the decommissioning and demolishment of the existing facility and the construction of a new and permanent tie in to YMCA WWTP. ICIP Grant proposal has been submitted. Removal of the building is required to improve safety for staff, this work will take place in June, 2022. Further construction work will await the conclusion of the grant application process.**	Business Continuity	Started
137	IS	392	Walkey	$50,000	$35,000	Operating Reserves / Gas Tax	2021	Jul-22		D	D	Roberts Creek Co-Housing Waste Water Treatment Plant - Treatment System and Regulatory Enhancements	Various improvements to the treatment facility, collection system and pump replacements are required to help the treatment plant achieve its design effluent quality criteria as well as meet the current permit with the Municipal Wastewater Regulation (MWR). Additionally, de-registering with the MWR and registering with Vancouver Coastal Health Sewerage Regulation is required, as the plant does not meet the flow thresholds for the MWR. Under either regulation the improvements to the treatment facility and collection system are required. **Work to continue with completion in Q2 2022.**	Carryforward	In Progress 75%
138	IS	393	Walkey	$35,000	$0	Reserves	2022	**Mar-23**		A	A	Lillies Lake Waste Water Plant - System Repairs and Upgrades (CM-RC)	Lily Lake WWTP is out of compliance under the Municipal Wastewater Regulation due to poor effluent quality. Several repairs and upgrades have been identified to address the current performance issues. Preliminary workplan investigation underway.	Regulatory Compliance	Started
139	IS	394	Walkey	$7,500	$0	Reserves	2022	**Sep-22**		A	A	Painted Boat Waste Water Plant - Flow Meter (CM-RC)	**As per the Municipal Wastewater Regulation wastewater treatment plants must monitor and totalize flow through the treatment plant. Funds would be used to purchase the meter, excavation for the installation as well as the required wiring and programming. Staff have met on site for preliminary workplan investigation. Flow meter has been ordered.**	Regulatory Compliance	Started
140	IS	365 / 366	**Misiurak**	$40,000	$0	Operating Reserves	2022	**Dec-23**		A and SIGD	All	North and South Pender Harbour Water Service - Water Distribution Model and Technical Analysis (BSCG)	In preparation of the Comprehensive Regional Water Plan (2013) the SCRD had a consultant prepare a hydraulic model of the distribution systems within the Regional Water system. These models have been used by the consultant to perform analyses for small areas when asked by the SCRD or developers. The model is not up-to-date and hence is not able to perform system wide analyses as required for development of a new Strategic Water plan for the water systems within the Regional Water system .Public participation will be conducted as part of the development of each of those plans and a budget would be required to fund any expenditures associated with such public participation. Regional Water Service was approved in 2021 - this is for North and South Pender Harbour Water Services. **RFP is currently being finalized for posting late Q2 2022**	Board Strategic and Corporate Goals	**Started**

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141	IS	365 / 366 / 370	Walkey	$202,500	$0	User Fees	2022	Jun-22		A, B, D, E, F, F Islands, SIGD, and DoS	Regional	Water Service- Staffing - Utility Crew - 3.0 FTE Staffing Increase	In support of expending water supply systems (including Church Rd), ongoing regulatory compliance, improved asset management and support for capital projects additional field staff area required. 1 FTE Utility Technician II 1 FTE Utility Technician I/ Operator 1 (casual) 1 FTE Utility Operator II **The two full time positions have been posted and filled. A casual posting will go out soon.**	Business Continuity	**In Progress 50%**
142	IS	365 / 366 / 370	Edbrooke	$33,000	$13,650	User Fees	2021	Jul-22		A, B, D, E, F, F Islands and DoS	Regional	Water Service - Water Metering Program: Neptune 360 - Software and Hardware	Neptune 360 Software will increase staff efficiency for collecting and managing water meter data. Staff have completed updates to utility account information, with meter details, to allow the use of the new software. **Staff training is scheduled in Q2 2022 to initiate software implementation.**	Carryforward	**In Progress 75%**
143	IS	365 / 366 / 370	Walkey	$75,000	$0	User Fees	2022	**Jul-22**		A, B, D, E, F, F Islands, SIGD, and DoS	Regional	Water Service - Staffing - Utilities Engineering Coordinator - 1.0 FTE (M-BC)	A new position Utilities Engineering Coordinator is proposed to be responsible for the day to day oversite of engineering the staff within the Utilities Services Division. The workload of this team has increased significantly and is impacting progress on other priority work, including maintaining regulatory compliance, addressing imminent Asset Failures and improving the asset management for the water and wastewater infrastructure**. The job description has been written and positon has been posted.**	Business Continuity	**In Progress 50%**
144	IS	365 / 366 / 370	Edbrooke	$50,000	$0	Operating Reserves	2021	**Dec-22**		A, B, D, E, F, F Islands and DoS	Regional	Water Service - Water Metering Program: Development of Customer Relationship Management Tool	Development of software to allow for: 1) on-line tool linked to MySCRD, 2) automatization of leak-detection and notification process and 3) improved customer support by staff. **This work that will be initiated after the Neptune 360 software implementation.**	Carryforward	Started
145	IS	365 / 366 / 370	Walkey	$40,000	$0	Operating Reserves	2021	**Dec-22**		A, B, D, E, F, F Islands and DoS	Regional	Water Service - Water Metering Program: Leak Correlator	Purchase Leak Correlator equipment and required staff training as per Board direction received following December 17, 2020 staff report. **Equipment purchased and training completed mid March. 2022. Pilot study underway.**	Carryforward	In Progress 50%
146	IS	365 / 366 / 370	Walkey	$150,000	$0	User Fees	2022	**Dec-22**		A, B, D, E, F, F Islands, SIGD, and DoS	Regional	Water Service- Utility Crew - 2 New Vehicles plus aftermarket vehicle modifications (M-BC)	This budget is for two new vehicles in support of the newly hired utility services staff. To be tendered in Q2,2022.**The generation of the tender documents for the vehicles is underway.**	Business Continuity	**In Progress 50%**
147	IS	365 / 366 / 370	Edbrooke	$40,000	$0	Operating Reserves	2022	**Jun-23**		A, B, D, E, F, F Islands, SIGD, and DoS	All	Water Service - Water Rate Structure Review (Phase 1) (BSCG)	The SCRD begin reviewing potential rate structure options, with the assistance of a consultant, based on water use and water conservation, and seek input from the public. User-based pricing would support water conservation by raising customer awareness about water use, and detecting and resolving leaks quickly, and in general, is widely supported by the public compared to a flat rate to increase equity. Report presented for initial discussion in WASAC in March 2022. **Staff have incorporated questions about volumetric rates into the Water Strategy engagement in Q2 2022.**	Board Strategic and Corporate Goals	Not Started
148	IS	365 / 366 / 370	Misiurak	$225,000	$0	Operating Reserves	2022	**Dec-23**		A, B, D, E, F, F Islands and DoS	Regional	Water Service - Water Supply Plan: Feasibility Study Long-Term Surface Water Supply Sources (BSCG)	As per Resolution 320/20 (Recommendation 9) this budget proposal is for a desktop feasibility study to confirm the technical, regulatory, and financial feasibility of several potential long-term water supply sources, including Clowhom Lake, Sakinaw Lake, and Rainy River demand (Deferred 2021 Project)	Board Strategic and Corporate Goals	Not Started
149	IS	365/ 366 / 370	Edbrooke	$60,000	$5,316	User Fees	2020	Dec-22		All	Regional	Metering Program 2: Water Meter Data Analytics	**This work will follow the Neptune 360 software implementation and customer relationship management tool, later in 2022.**	Carryforward	Not Started
150	IS	381 - 395	Walkey	$31,300	$0	Operating Reserves	2022	**Dec-22**		A, B, D, E, F	A, B, D, E, F	Wastewater Treatment Plants (Various) - Public Participation (BSCG)	At 2022 Budget R1 the Board requested a budget proposal for an increased outreach with the users of the wastewater treatment plants in 2022. **Detailed communication plan currently being finalized for start implementation in Q2 2022.**	Board Strategic and Corporate Goals	**Started**
151	IS	383 / 384 / 385 / 388 / 393	Walkey	$20,000	$0	Operating Reserves	2021	**Dec-23**		A, B, E, F	A, B, E, F	Wastewater Treatment Plants (Various) - Outstanding Right of Way	Wastewater plants and collection lines often cross private property to allow for correct alignment. Infrastructure on private land needs to be maintained and operated by the SCRD and need legal Statutory Right of Way (SROW) or easements are required. Through the Asset Management Plan development and further investigation of a number of wastewater plants and collection systems have been identified as missing these documents for various reasons. All outstanding ROW issues have ben identified and staff will be communicating with property owners. **Square Bay removed as per Board direction. Resolution of other ROWs is on hold due to staff vacancies**	Carryforward	In Progress 25%
152	PD	135	Shay	$15,000	$0	Operating Reserves	2022			All	Regional	Corporate Sustainability Services - Green House Gas (GHG) Quantification (BSCG)	External consultants, specializing in emissions quantification, to support quantifying GHG emissions reductions of projects and potential carbon offsets.	Board Strategic and Corporate Goals	Not Started
153	PD	136	Shay	$63,000	$0	Taxation	2022			All	Regional	Regional Sustainability Services - Community Climate Plan Development (BSCG)	Development of community climate plan, including BARC membership (building adaptive and resilient communities) at $20,000, public participation at $20,000 and $23,000 for summer student (0.33 FTE). Separately, will seek grant-funded summer student(s). **Student hired and planning for engagement activities started.**	Board Strategic and Corporate Goals	Started
154	PD	200	Treit	$50,000	$0	Capital Reserves	2021			A, B, D, E, F	A, B, D, E, F	Bylaw Enforcement - Bylaw Vehicle	Purchase additional vehicle for bylaw department. RFQ closed, working on award.	Carryforward	**In Progress 50%**
155	PD	210	Michael	$25,000	$0	Capital Reserves	2021	Jul-22		E, F and ToG	E, F and ToG	Gibsons and District Volunteer Fire Department - Hazardous Materials Response Trailer	Trailer for the storage and transportation of hazardous materials response equipment. Scope being developed for RFQ. RFQ closed, working on award/proceeding.	Carryforward	In Progress 25%
156	PD	210	Michael	$25,082	$0	Taxation	2022	Jul-22		E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - Deputy Fire Chief (0.4 FTE) (BSCG)	Increase to current 0.60 FTE Deputy Fire Chief. With a full complement of 45 volunteer firefighters and three support staff, increased call volume and climate change challenges, a full time Deputy Fire Chief is required to support the Gibsons and District Volunteer Fire Department. To be posted Q2.	Board Strategic and Corporate Goals	Not Started
157	PD	210	Michael	$100,000	$0	Capital Reserves	2021	Sep-22		E, F and ToG	E, F and ToG	Gibsons and District Volunteer Fire Department - Rescue Truck Upgrade	End of life upgrades to rescue truck to extend service life. Awaiting delivery of new Engine 1 prior to starting this project. Will be initiated in early 2022.	Carryforward	Not Started
158	PD	210	Michael	$150,000	$0	Capital Reserves	2021	Dec-22		E, F and ToG	E, F and ToG	Gibsons and District Volunteer Fire Department - Emergency Generator	Backup power generation for both fire halls. Q1 2022 examining grant opportunities, synergy with other electrical projects.	Carryforward	Started
159	PD	210	Michael	$50,000	$0	Recovery Fund	2021	Dec-22		E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - CRI FIreSmart Economic Recovery Fund - Firehall Roof Replacement	RFP scope being developed.	Carryforward	Started

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Line No.	Dept.	Function	Mgr.	Budget $	Budget Expended (to date)	Funding Source	Budget Year	Proposed Completion Date	Actual Completion Date	Function Participants	Work Location	Description	Current Status	Category	% Complete
160	PD	210	Michael	$10,400	$0	Capital Reserves	2022	Dec-22		E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - Capital Plan Projects - High Priority (M-BC)	Non-critical (unfunded) Capital plan projects from fire department 20 year capital plan. Flooring and hot water tank replacement.	Business Continuity	Not Started
161	PD	210	Michael	$35,000	$0	Operating Reserves	2022	Dec-22		E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - Wildfire Preparedness Gear and Equipment (LCHV)	Wildland gear for volunteer firefighters - specialized wildland coveralls and equipment for volunteer firefighters for local or Provincial wildfire events when staff or volunteers elect for deployment in other fire jurisdictions.	Low Cost / High Value	Not Started
162	PD	210	Michael	$585,000	$0	MFA Equipment Loan	2022	Jun-25		E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - Capital Plan Projects - Fire Truck Replacement (M-BC)	Replacement of frontline engine to meet Fire Underwriters Survey (FUS) requirements. Proposal to keep apparatus for reserve/wildfire deployment. Minor operating budget adjustment for maintenance, insurance and fuel. RFP scope being developed.	Business Continuity	Started
163	PD	212	Higgins	$350,000	$40,422	Capital Reserves	2020	Jun-22		D	D	Roberts Creek Volunteer Fire Department - Engine #1 Replacement	**Truck at builder and progressing**. Delivery Q2.	Carryforward	**In Progress 75%**
164	PD	212	Higgins	$75,000	$8,555	Operating Reserves	2021	Sep-22		D	D	Roberts Creek Volunteer Fire Department - Training Structure	Expected Completion Q3 2022. Project progressing.	Carryforward	**In Progress 50%**
165	PD	212	Higgins	$8,500	$0	Capital Reserves	2022			D	D	Roberts Creek Fire Protection - Capital Plan Projects (M-BC)	Capital plan projects from fire department 20 year capital plan. Ventilation exhaust fan and electrical control panel.	Business Continuity	**Started**
166	PD	212	Higgins	$30,000	$0	Operating Reserves	2022			D	D	Roberts Creek Fire Protection - Wildfire Preparedness Gear and Equipment (LCHV)	Rescue / Wildland Personal Protective Equipment - specialized wildland coveralls and equipment for volunteer firefighters for local or Provincial wildfire events when staff or volunteers elect for deployment in other fire jurisdictions.	Low Cost / High Value	**Started**
167	PD	216	Daley	$250,000	$0	Taxation	2022			B	B	Halfmoon Bay Fire Protection - Fire Hall #2 Redevelopment Project (M-BC)	**RFP prepared and working through process to get posted.**	Business Continuity	**Started**
168	PD	216	Daley	$175,900	$0	MFA Equipment Loan	2022			B	B	Halfmoon Bay Fire Protection - Self Contained Breathing Apparatus (M-BC)	**SCBA Compressor awarded, RFP for SCBA units RFP prepared and in process.**	Business Continuity	**Started**
169	PD	216	Daley	$206,100	$0	Capital Reserves	2022			B	B	Halfmoon Bay Fire Protection - Capital Plan Projects (M-BC)	**Budget approved, Car 1 RFP was awarded to HUB, Fire Hall Lighting upgrade was awarded to Olsen Electric.**	Business Continuity	**Started**
170	PD	218	Helyar	$11,500	$0	Donation	2021			A	A	Egmont Fire Protection - Egmont Fire Truck - Donation	Working on documentation for future transfer of truck to SCRD.	Carryforward	In Progress 25%
171	PD	220	Treit	$128,000	$39,309	Capital Reserves	2020			All	Regional	Emergency Telephone 911 - Radio Tower Capital Project Consulting Services	Waiting for authorization agreement to be signed. Ongoing work by Planetworks Consulting.	Carryforward	In Progress 25%
172	PD	220	Treit	$25,000	$9,817	Taxation	2018			All	Regional	Emergency Telephone 911 - 911 Tower and Spectrum Upgrading	Applications for new repeater frequencies submitted (to improve communications). Letter of Authorization with Planetworks Consulting to be signed. Currently working with ISED to acquire new frequencies.	Carryforward	In Progress 50%
173	PD	220	Treit	$46,600	$0	Capital Reserves	2020			All	Gibson	Emergency Telephone 911 - Gibsons Radio Tower	Signal Testing has been completed. Contract has been awarded to install equipment.	Carryforward	Started
174	PD	220	Treit	$268,900	$6,650	Capital Reserves	2020			All	Sechelt	Emergency Telephone 911 - Chapman Creek Radio Tower	Waiting for **second** geotech report. RFP for tower construction has been developed. Geotech report is complete. Development Permit Application is in progress. **Development permit being processed.**	Carryforward	In Progress 25%
175	PD	220	Treit	$141,400	$16,626	Capital Reserves	2020			All	Regional	Emergency Telephone 911 - 911 Emergency Communications Equipment Upgrade	Signal Testing has begun. Agreement with Telus to be signed. Roberts Creek project is complete. More upgrades to follow on various other towers.	Carryforward	In Progress 25%
176	PD	220	Treit	$10,020	$0	Taxation	2022			All	Regional	Emergency Telephone 911 - Dispatch Levy (CM-HSER)	E-Comm 9-1-1 Dispatch Levy fee is increasing	Safety Requirement	Not Started
177	PD	220	Treit	$22,000	$0	Taxation	2022			All	Regional	Emergency Telephone 911 - Project Support - 911 Towers (M-BC)	Continuing project support (one-time) for mandatory tower renewal projects; continuing casual Fire Chief support.	Business Continuity	Not Started
178	PD	222	Treit	$24,635	$12,198	Grant / Operating Budget	2020			All	Regional	Sunshine Coast Emergency Planning - Emergency Operations Centre / Mass Communications Project	Currently training with system. System is now live with continued advertising to encourage residents to register for notifications. Final report will be submitted prior to March 31. **Final report for grant has been submitted.**	Carryforward	In Progress 75%
179	PD	222	Treit	$20,000	$0	Reserves	2019			All	Regional	Sunshine Coast Emergency Planning - Contracted Services for Statutory, Regulatory and Bylaw Review	Resources are required to implement the recommendations outlined in Section 5 of the Emergency Plan Review which were prioritized for action. The scope of work would include assisting member municipalities in addressing the legislative and bylaw revisions, while ensuring alignment and communication between the parties. RFP is being developed.	Carryforward	Started
180	PD	222	Treit	$17,000	$4,490	Operating Reserves	2021			All	Sechelt	Sunshine Coast Emergency Planning - Trailer Removal	Removal and disposal of trailer at Mason Road, formerly used as secondary Emergency Operation Centre location Waiting for electrician to move electrical service on September 7. Electrical service has been moved. RFP for removal to be issued in Q1 of 2022. **There were no responses to the RFP so alternate routes are being examined to remove the trailer.**	Carryforward	Started
181	PD	222	Treit	$176,278	$0	FireSmart Economic Recovery Fund	2021			All	Regional	Sunshine Coast Emergency Planning - CRI FIreSmart Economic Recovery Fund - FireSmart Home Assessment	Contracting two FireSmart Coordinators. RFP has closed and two contractors have been selected. Outreach initiated Q1 2022. Waiting for website with assessment request forms to go live. **Program is underway with promotion and assessments being completed**.	Carryforward	In Progress 50%
182	PD	222	Treit	$110,000	$0	FireSmart Economic Recovery Fund	2021			All	Regional	Sunshine Coast Emergency Planning - CRI FIreSmart Economic Recovery Fund - Smart Projects for Critical Infrastructure	FireSmart treatments around SIGD Longhouse and wastewater plant. Service Agreement with SIGD is being developed. **Service Agreement has been provided to SIGD.**	Carryforward	In Progress 25%
183	PD	222	Treit	$11,660	$0	FireSmart Economic Recovery Fund	2021			All	Regional	Sunshine Coast Emergency Planning - CRI FIreSmart Economic Recovery Fund - Development that Leads to Employment	Training courses managed by the SIGD. Service Agreement with SIGD is being developed. **Service Agreement has been provided to SIGD**.	Carryforward	In Progress 25%
184	PD	222	Treit	$37,625	$0	Taxation	2022			All	Regional	Sunshine Coast Emergency Planning - Emergency Management Coordinator (BSCG)	Currently, the 0.4 FTE Emergency Management Coordinator is combined with the 0.6 Deputy Fire Chief. One full time employee is filling both positions and it is believed that both departments would benefit tremendously from dedicated resources. **Job description has been developed and posted.**	Board Strategic and Corporate Goals	In Progress 25%
185	PD	500	Jackson	$50,000	$10,540	Operating Reserves	2020			All	Regional	Regional Planning Services - Regional Growth Framework - Baseline Research	Planned for late 2020 initiation. Coordination with member municipalities will be part of next steps. Project brief developed and shared with member municipalities and First Nations. Tendered. In evaluation process. Kick off meeting with consultant (MODUS) and intergovernmental/regional project team anticipated late Q3/early Q4. Project underway. Project update planned for mid Q1 2022. **Policy report coming Q2 as next step.**	Carryforward	In Progress 50%
186	PD	504	Jackson	$86,001	$0	MRDT revenue	2021			A, B, D, E, F	B, D, E, F	Regional Planning Services - Regional Housing Coordinator	RFP prepared, in coordination with District of Sechelt for related work. Release early in Q1 2022 planned. RFP closed, in award process. **Contract provided to proponent for signing.**	Carryforward	In Progress 25%

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187	PD	504	Jackson	$43,990	$25,705	Reserves	2017			A, B, D, E, F	B, D, E, F	Rural Planning - Zoning Bylaw 310	Consulting contract and other project costs to assist with review/drafting of new zoning bylaw. Consultant has provided the final draft and completed the work within the scope of their project proposal. Staff are reviewing the draft and refining. Focused time being applied to this project to finish draft. As reported in December 2021, introduction and public information planned for Q1 2022. **First reading May 12, 2022. Public Information Meetings being planned.**	Carryforward	In Progress 75%
188	PD	504	Hall	$203,050	$0	UBCM grant	2021			A, B, D, E, F	B, D, E, F	Rural Planning Services - Planning Enhancement Project	RFP in development. Input from member munis to be sought. **Posting for incremental staff resource (grant-funded) posted and closed, selection process underway.**	Carryforward	Started
189	PD	504	Hall	$180,000	$0	Taxation	2022			A, B, D, E, F	Regional	Rural Planning Services - Planning Enhancement (M-BC) - additional	Annual investment in operating budget to support OCP renewal/harmonization, zoning bylaw alignment to OCPs, technical studies, while protecting (or enhancing) development processing and customer service levels. Proposed to be ongoing. Grants, if received, can offset taxation the following year. 2022 funding recommended to be pro-rated at 50% $180,000 with $360,000 ongoing from taxation including a 0.5FTE.	Business Continuity	Not Started
190	PD	210, 212, 216, 218	Treit	$10,000	$0	Reserves	2018			A, B, D, E, F and ToG	Various	Fire Department Records Management Software	VFD Document System - Fire Pro 2 Software Package. Draft project initiation brief developed. Fire Chiefs, IT and RMS team meeting in Q4. On basis of needs assessment, RFP for new software solution being developed. **RFP posted.** Project is moving forward.	Carryforward	In Progress 25%

COMPLETED

Line No.	Dept.	Function	Mgr.	Budget $		Funding Source	Budget Year	Proposed Completion Date	Actual Completion Date	Function Participants	Work Location	Description	Current Status	Category	% Complete
1	CA	110	Reid	$80,600	$0	Taxation	2022		May-22	All	All	General Government - Information and Privacy Coordinator (Other)	New resource for the Administration and Legislative Services department to ensure capacity for SCRD statutory responsibilities with respect to public access to information and protection of privacy. The addition of this resource also supports the transition to a digital/electronic service business model for the SCRD and acknowledges the increasing service expectations of the public with respect to accessing local government records and online information services. Budget request is 0.75 FTE in year-one (2022), and 1.0 FTE for subsequent years. Amount includes 24.96% for benefits and $5,000 overhead for software licenses, equipment, etc. **The Information and Privacy Coordinator role has been filled, Start date: May 9, 2022**	Other	**Completed**
2	CA	117	Nelson	$20,000		Support Services	2022		Mar-22	All	Regional	Information Technology - Online Engagement Software-Annual Subscription-Let's Talk SCRD (BSCG)	Annual subscription renewal for Bang the Table which is the online community engagement platform tool for Let's Talk SCRD. Procured in 2020 and fully implemented in early 2021, the Let's Talk online platform has proven to be an effective tool in support of the Board's strategic priority for public engagement. Annual subscription fees apply and are increased annually per the Consumer Price Index (CPI). The Budget request is for the 2022 subscription amount (not including taxes).	Board Strategic and Corporate Goals	Completed
3	CA	131	Reid	$30,000	$0	Operating Reserves	2021	Jan-22	May-22	A, B, D, E, F	A-F, Islands, SD46	Elections / Electoral Area Services - Ballot Tabulators	Contracted services to provide vote tabulating machines for 2022 local government election. Scope of work for procurement process under development. **Automated voting machines have been procured and services agreement executed.**	Carryforward	**Completed**
4	CA	110 / 130	Reid	$83,987		Taxation	2022		Feb-22	All	Regional	General Government - Executive Assistant (Other)	Board requested new resource that will primarily focus on supporting advocacy efforts as set out in the Board's Strategic Plan. The role will facilitate communication between the Regional District, various Provincial ministries and other local governments and relevant agencies in relation to advocacy initiatives being pursued by the SCRD. It will also provide administrative support for rural area directors as well as for the Office of the CAO and other General Government functions. This is 0.75 FTE in year-one (2022), and 1.0 FTE for subsequent years. Amount includes 24.96% for benefits and $5,000 overhead for software licenses, equipment, etc.	Other	Completed
5	CA	114 / 310 / 312 / 370 / 650	Perreault/Shay	$40,000	$9,782	CARIP	2021	Mar-22	May-22	All	Sechelt	Electric Vehicle (EV) Charging Stations-Field Rd and Mason Rd (Phase 1)	Phase 1 to meet immediate needs for EV charging is underway. Business process flow completed and approved. **Installation complete and awaiting final billing.** Staff training and integration into business processes will follow.	Carryforward	**Completed**
6	CS	310	Walton	$87,667	$0	Taxation	2022			B, D, E, F, DoS, SIGD, ToG	Sechelt	Public Transit - Transit Superintendent (1.0 FTE) (M-BC)	Recruit a second Transit Superintendent to address safety and support for drivers during operating hours, reduce overtime of current supervisory staff, address current capacity challenges, and support future expansion opportunities Mar 22 Update: Recruitment process has commenced. **May 9 Update - New Superintendent started on April 17. Completed**	Business Continuity	**Completed**
7	CS	313	van Velzen	$25,000		Short Term Debt	2020		Mar-22	All	All	Building Maintenance Services - Vehicle	Procurement process planned for end of Q3. Deferred to Q4. Mar 22 Update: Project completed in 2021, a vehicle that was no longer needed by Bylaw was transferred to building maintenance. Requested funding not required	Carryforward	Completed
8	CS	615	van Velzen	$4,000	**$2,160**	Taxation	2021	Mar-22	**Mar-22**	B, D, E, F, DoS, ToG, SIGD	All	Community Recreation Facilities - Building Water Systems Management Plan	Potential contractor delays due to flooding, potentially completed by December 2021. Jan 11, 2022 Update, plans received from consultant Jan 4th. Staff review and invoicing pending, anticipated completion of staff review by Jan 21, 2022. Mar 22 Update: Draft plans reviewed by staff and returned to contractor for revisions. Anticipated project completion end of Q1 2022. **May 9 Update Project Completed.**	Carryforward	**Completed**
9	CS	625	Donn	$10,000		Taxation	2020		Mar-22	A	A	PHAFC Annual Fitness Equipment Replacement	October 8 Update: Staff have identified which item is to be replaced and have received budgetary quotes for its replacement. Purchasing has been engaged to confirm which procurement instrument is appropriate. Mar 22 Update: PO Issued, enroute, invoice submitted. Project complete.	Carryforward	Completed

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10	CS	625	**van Velzen**	$1,000	**$214**	Operating Reserves	2021	Mar-22	**Mar-22**	A	A	Pender Harbour Fitness and Aquatic Centre - Building Water Systems Management Plan	Potential contractor delays due to flooding, potentially complete by December 2021. Jan 11, 2022 Update, plans received from consultant Jan 4th. Staff review and invoicing pending, anticipated completion of staff review by Jan 21, 2022. Mar 22 Update Draft plans reviewed by staff and returned to contractor for revisions. Anticipated project completion end of Q1 2022. **May 9 Update Project Completed.**	Carryforward	**Completed**
11	CS	650	Clarkson	$70,000	$0	MFA 5-Year	2021	Mar-22	**Apr-22**	A, B, D, E, F	All	Community Parks - Equipment Purchase- (Sports Fields) - New Cab Tractor	2020 inspections indicated this asset for retirement. Failure is possible and would require urgent response but staff consider this as asset stewardship rather than imminent failure based on condition. **May 9 Update: Project Complete. Equipment has been delivered, field tested and incorporated into regular operations. Project variance requires updates on Business world to reflect actual expenditures to date.**	Carryforward	**Completed**
12	CS	650	Clarkson	$26,700	$12,755	Operating Reserves	2021	Dec-22	**Apr-22**	A, B, D, E, F	Various	Community Parks - Priority Repairs to Community Halls	Strategic priority repairs related to asset stewardship and community resilience. Projects identified and prioritized through condition assessments including minor capital and small energy efficiency projects that do not fit within capital plan. **May 9 Update: Project completed.**	Carryforward	**Completed**
13	CS	650	Clarkson	$15,500	$0	Taxation	2022	May-22	**May-22**	A, B, D, E, F	A	Community Parks - Katherine Lake and Lions Field Water Service Operations (M-BC)	The water systems at Katherine Lake and Lions Field are currently operated by Parks staff, there is expertise required for various annual tasks. This has historically been provided by the SCRD Utilities staff and charged back to Parks. Due to capacity challenges, Utilities are not able to continue with this service, therefore this service will require a contractor. **May 9 Update: Project complete, and contract awarded to Swens Contracting Ltd. (aka Pristine Parks Inc.).**	Business Continuity	**Completed**
14	CS	650	Clarkson	$38,231	$0	Taxation	2022	May-22	**May-22**	A, B, D, E, F	Regional	Community Parks - Parks Labourers (M-BC)	Addition of parks labourers to assist in maintaining current service levels in parks, especially in the peak seasons. **May 9 Update: Project Complete. Job posting expired mid-April and candidate evaluations completed. Positions offered for a late May 2022 start date.**	Business Continuity	**Completed**
15	CS	650	Clarkson	$91,266	$0	COVID-19 Restart Funding	2022	May-22	**May-22**	A, B, D, E, F	Regional	Community Parks - Temporary Parks Backfill (M-BC)	One year temporary position to address backlog of parks annual tasks and projects that accumulated during 2021 due to staff vacancies. **May 9 Update: Project Complete. Job posting expired mid-April and candidate evaluations completed. Positions offered for a late May 2022 start date.**	Business Continuity	**Completed**
16	IS	150	Edbrooke	$89,836	$624	Healthy Watershed Initiative Grant	2021	Mar-22	May-22	All	Regional	Feasibility Studies (Regional) - Water Service - Regional Watershed Management Plan (formerly project: Watershed Management Action Plan Development)	Development of a business case for the feasibility of a new regional watershed protection service. Engagement and draft reports are complete. Staff will present the results at March ISC. Anticipated project completion is March 2022.	Carryforward	Completed
17	IS	350	Rosenboom	$40,000		User Fees	2022	Dec-22	Mar-22	All	Regional	Regional Solid Waste - Sechelt Landfill Cover Material Base Budget Increase (CM-RC)	Additional budget for the costs and trucking of cover material to the Sechelt Landfill site.	Business Continuity	Completed
18	IS	350	Rosenboom	$125,000		Taxation	2022	Dec-22	Mar-22	All	Regional	Regional Solid Waste - Gypsum Testing and Abatement (BSCG)	This budget proposal is intended to have the operating budget for this service to reflect the current expenditures associated with testing and the abatement of two loads of gypsum containing asbestos. These costs are estimated at $125,000. The remainder of the additional revenue received due to the tipping fee increase ($180,300) is proposed to be transferred to [350] Landfill Operations Operating Reserves should there be more than two loads of gypsum that need to be abated within a given year.	Business Continuity	Completed
19	IS	350	Rosenboom	$7,500		Taxation	2022	Dec-22	Mar-22	All	Regional	Regional Solid Waste - Waste Reduction Initiatives Program (LCHV)	Program to provide funding to community groups, non-profit societies, charitable organizations and school groups to implement projects that contribute to waste reduction and diversion.	Business Continuity	Completed
20	IS	350	Rosenboom	$5,000		Taxation	2022	Dec-22	Mar-22	All	Regional	Regional Solid Waste - Islands Clean-up (LCHV)	Expansion of the Islands Clean-up program to include Hardy Island as part of the Nelson Island Clean up event day.	Business Continuity	Completed
21	IS	350	Rosenboom	$7,500		Taxation	2022	Dec-22	Mar-22	All	Regional	Regional Solid Waste - Home Composter Rebate (LCHV)	The Home Composter Rebate Program is an initiative of the SCRD's Regional Organics Diversion Strategy to assist with providing options to divert food waste and other compostable materials from the landfill.	Business Continuity	Completed
22	IS	350	Rosenboom	$100,000	$0	Taxation	2022	Dec-22	May-22	All	Regional	Regional Solid Waste - Sechelt Landfill Closure/Post Closure Funding (M-BC)	Increase of the annual contribution to the Closure/Post Closure reserve fund for the Sechelt Landfill to address current underfunding of the landfill closure/post closure liability for this site based on an anticipated closure date of 2025. **Additional fund included in 2022-2026 Financial Plan**	Business Continuity	**Completed**
23	IS	352	Rosenboom	$67,900	$6,932	Taxation	2021	Mar-22	May-22	All	Regional	Regional Solid Waste - Sechelt Landfill Monitoring Well Installation	As per the Operating Certificate, the SCRD is required to monitor groundwater conditions in and around the Sechelt Landfill. The SCRD samples water via 18 wells multiple times throughout the year. A recent Hydrogeological Assessment recommended installation of 4 new wells and decommissioning 2 old wells. **Work completed early May 2022.**	Carryforward	**Completed**
24	IS	370	Walkey	$25,000		Capital Reserves	2020	Mar-22	Mar-22	A, B, D, E, F, F Islands and DoS	D	Regional Water Service - Chapman Water Treatment Plant Hot Water Upgrade	Staff are coordinating this project with the on site generation project to find efficiencies and cost savings. Design is complete and tanks are being installed. Removal of existing equipment completed and some new installed. Completed.	Carryforward	Completed
25	PD	136	Shay	$20,000	$10,000	Operating Reserves	2021			All	Regional	Regional Sustainability Services - Building Adaptive and Resilient Communities	ICLEI Building Adaptive and Resilient Communities Project underway. Climate Impact Statement completed. Vulnerability survey and risk assessment workshop being prepared for Community Project Team. Preparations underway for stakeholder and community at large public participation to validate risk and vulnerability assessments. Starting this summer, another phase (BARC Milestone 3) will start under new project. **Milestone 2 final report to be presented at May 26 CoW meeting. Outreach activities will follow.**	Carryforward	**Completed**
26	PD	136	Shay	$50,000	$0	Operating Reserves	2021			All	Regional	Regional Sustainability Services - Community Emissions Analysis	Quantification and verification support for community energy and emissions inventory. Holistic inventory following the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories. First draft of inventory received. Completing revisions and starting work on forecasting scenarios. **Final Report to be presented at CoW May 26. Outreach activities will follow**	Carryforward	**Completed**

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27	PD	210	Michael	$37,500		Taxation	2022		Mar-22	E, F and ToG	E, F and ToG	Gibsons and District Fire Protection - Capital Renewal Plan Funding (M-BC)	The 20 year capital plan demonstrated that an additional $75,000 of capital reserve contributions per year is necessary to maintain existing critical fire department assets (including equipment). Increase to 2022 base budget complete, additional increase scheduled for 2023.	Business Continuity	Completed
28	PD	216	Daley	$500,000	$0	Capital Reserves / ST Loan	2020	Jul-21	May-22	B	B	Halfmoon Bay Volunteer Fire Department - Tanker (Tender) Replacement	**Delivered in April**	Carryforward	**Completed**
29	PD	216	Daley	$45,000	$0	Taxation	2021		May-22	B	B	Halfmoon Bay Volunteer Fire Department - Firehall #2 Redevelopment	**Completed and final report received in April**	Carryforward	**Completed**
30	PD	216	Daley	$48,000	$0	Taxation	2022		May-22	B	B	Halfmoon Bay Fire Protection - Capital Renewal Plan Projects (M-BC)	**Capital plan funding increase was approved**	Business Continuity	**Completed**
31	PD	222	Treit	$25,000		Taxation	2022		Mar-22	All	Regional	Sunshine Coast Emergency Planning - Establish Reserve for Future Emergency Events (M-BC)	There are currently almost no operational reserves at this time to draw from for emerging operational projects or to respond to emergencies. It is recommended that an operational reserve be established with a starting annual contribution of $25,000 for 2022 and ongoing. This value will be re-assessed as events unfold. Completed as part of 2022 adopted budget.	Business Continuity	Completed
32	PD	520	Whittleton	$52,733	$0	User Fees	2022		May-22	All	All	Building Inspection Services - Building Clerk (1.0 FTE) (Other)	Building Inspection Services Additional FTE for Building Clerk to respond to increased service demand. **Posted, selection completed successfully.**	Other	**Completed**

CANCELLED PROJECTS

Line No.	Dept.	Function	Mgr.	Budget $	Budget Expended (to date)	Funding Source	Budget Year	Proposed Completion Date	Actual Completion Date	Function Participants	Work Location	Description	Current Status	Category	% Complete

DEFERRED PROJECTS

Line No.	Dept.	Function	Mgr.	Budget $	Budget Expended (to date)	Funding Source	Budget Year	Proposed Completion Date	Actual Completion Date	Function Participants	Work Location	Description	Current Status	Category	% Complete
1	CA	150	Reid									Feasibility (Regional) - Feasibility for Establishment of Community Social Service (CF-2021)	Initiate a feasibility study for the establishment of a new contribution service for Community Social Services. Project was deferred at 2022 Budget to 2023.		Deferred
2	CS	665	Gagnon									Bicycle and Walking Paths - Lower Road Retaining Wall Repair Resolution #079/21 from March 11, 2021	Engineered mitigation of a retaining wall adjacent to a bike lane. Mar 22 Update: Consultant working on Geotechnical report with design/construction options. Once report is complete Staff to meet with stakeholders and review the options in Q2.		Deferred
3	PD	222	Treit									Sunshine Coast Emergency Planning - Evacuation Route Planning	CEPF 100% Grant-funded development of evacuation route(s), with area of work selected based on risk analysis - Deferred Pending Grant. **Grant of $25,000 has been received for evacuation route planning.**		Deferred

Open Projects by Year	
2016	1
2017	1
2018	6
2019	5
2020	47
2021	63
2022	67
TOTAL	190

% Complete Summary			DEFINITION
Not Started	35	15.6%	Work has not been started for project.
Started	60	26.7%	Work is in preliminary stages.
In Progress 25%	46	20.4%	Up to 25% progress
In Progress 50%	28	12.4%	Up to 50% progress
In Progress 75%	21	9.3%	Up to 75% progress
Completed	32	14.2%	100% Finished
Deferred	3	1.3%	Project was deferred by motion.
Cancelled	0	0.0%	The project listed as cancelled was determined as a) not required by Board or b) the project
TOTAL	225	100%	evolved into a new project and is referred to in status column (line number)

Policy Codes Key
SP - Strategic Plan
WE - We Envision
ITSP - Integrated Transportation Study Plan
CRWP - Comprehensive Regional Water Plan
PRM - Parks and Rec Master Plan
SARP - Chapman Creek Watershed Source Assessment Response Plan
EVDF, HMBF, RCF, GF - Fire Departments (strategic plans)
PDTNP - Parks Division Trail Network Plan
TFP - Transit Future Plan
AAP - Agricultural Area Plan
AMP - Asset Management Plan
ZW/S - Zero Waste / Sustainability

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Sherry Reid, Corporate Officer

SUBJECT: **2022 UNION OF BRITISH COLUMBIA MUNICIPALITIES (UBCM) RESOLUTIONS**

RECOMMENDATION(S)

THAT the report titled 2022 Union of British Columbia Municipalities (UBCM) Resolutions be received for information;

AND THAT the Committee identify resolutions to be prepared for the 2022 UBCM Convention.

BACKGROUND

The UBCM Convention is scheduled to be held in Vancouver from September 12-16, 2022 in Whistler, BC. The annual convention provides members with the opportunity to bring forward issues and concerns from their communities through resolutions and debate.

DISCUSSION

The purpose of this report is to identify resolutions to be prepared for the 2022 UBCM Convention. The Sunshine Coast Regional District (SCRD) sponsored two resolutions that were endorsed earlier this year by the Association for Vancouver Island and Coastal Communities (AVICC). Those resolutions will be forwarded to the UBCM Convention as follows:

Enforcement Tools for Short-Term Rentals

WHEREAS, according to the June 2021 Report of the Joint UBCM-Province Advisory Group on Short-Term Rentals, the short-term rental industry has seen significant growth since the arrival of online accommodation platforms such that effective regulation of short-term rental activity is necessary to ensure community economic benefits of the industry are balanced with reducing impacts of concern such as long-term rental housing availability, affordability and neighbourhood livability;

AND WHEREAS many popular vacation areas lie outside of municipal boundaries in electoral areas;

AND WHEREAS enforcement tools to regulate short-term rentals (STRs) are more limited for regional districts than they are for municipalities;

AND WHEREAS the recommendations in the June 2021 report do not adequately consider the urgency of the matter nor the practical barriers to the implementation of business licensing in electoral areas:

THEREFORE BE IT RESOLVED THAT UBCM urge the provincial government to develop and implement short-term rental enforcement solutions for all local governments, such as broadening authority to enforce compliance through simplified ticketing procedures, collection of evidence and the establishment of proof based on online investigation of accommodation listings, and expanding options to compel payment of unpaid fines through alternative mechanisms such as applying uncollected ticket fines to property taxes.

Stormwater Management

WHEREAS property, infrastructure and the natural environment are vulnerable to extreme weather events and other impacts of climate change, particularly in relation to stormwater run-off;

AND WHEREAS increasingly extreme weather events are intensifying the frequency and severity of stormwater issues causing overland flooding which is damaging critical infrastructure such as roads, bridges, culverts, and active transportation systems, as well as impacting the natural environment, such as salmon-bearing streams, and further compounding challenges with respect to the management of stormwater run-off:

THEREFORE BE IT RESOLVED THAT UBCM urge the provincial government to bring together the Ministry of Transportation and Infrastructure, the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, the federal Department of Fisheries and Oceans, and local governments to collaborate on the development of an action plan that implements best practices for stormwater management, assigns clearly defined jurisdictional responsibilities, and includes strategies to address risks to property, critical infrastructure and the natural environment.

UBCM prefers that resolutions first be endorsed by Area Associations prior to coming forward at the UBCM Convention. However, if necessary, Board-endorsed resolutions may be directly submitted to UBCM by the June 30 deadline. Staff request that the Committee identify any additional resolution(s) that should be prepared for submission to the UBCM Convention.

Timeline for Next Steps

If new resolutions are identified, staff will prepare and present draft resolutions for consideration at the June 16 Electoral Area Services Committee meeting. The Committee's recommendation must go to Board for final endorsement no later than June 23, 2022 to meet UBCM's June 30 submission deadline.

STRATEGIC PLAN AND RELATED POLICIES

Submission of resolutions to UBCM is in alignment with SCRD's strategic focus areas for Advocacy.

CONCLUSION

Staff recommend that the Committee identify resolutions to be presented for consideration at the 2022 UBCM Convention. New resolutions must be Board-endorsed prior to submission to UBCM on or before June 30, 2022.

Reviewed by:			
Manager		CFO/Finance	
GM		Legislative	
CAO	X – D. McKinley	Other	

ANNEX E

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Sherry Reid, Corporate Officer

SUBJECT: **ESTABLISHMENT OF FINANCE STANDING COMMITTEE**

RECOMMENDATION(S)

THAT the report titled Establishment of Finance Standing Committee be received for information;

AND THAT the Terms of Reference for the Finance Standing Committee be approved;

AND THAT the Committee of the Whole Terms of Reference be amended to remove "Audit and Financial Reporting" from its mandate;

AND FURTHER THAT the Corporate and Administrative Services, Infrastructure Services, Planning and Development, and Community Services standing committees be dissolved.

BACKGROUND

The SCRD Board Chair has recommended changes to the Sunshine Coast Regional District (SCRD) standing committee structure. Newly established standing committees for Committee of the Whole (COW), Electoral Area Services (EAS), and Board Policy Review (BPR) were affirmed at the April 28, 2022 Board meeting and the new committee structure came into effect on May 6, 2022 replacing the former departmentally focused SCRD standing committees.

At the April 28, 2022 regular Board meeting, direction was also provided to bring back terms of reference for a Finance Committee that would broaden the purpose and mandate of the proposed Budget Committee, as follows (in part):

107/22 **Recommendation No. 2** *2022 Chair's Appointment to Standing Committees*

THAT the report titled 2022 Chair's Appointments to Standing Committees be received for information;

…AND FURTHER THAT the Terms of Reference for the Budget Committee be referred to a future Committee meeting with options to expand the Committee Terms of Reference to a broader mandate for a Finance Committee.

DISCUSSION

The purpose of this report is to bring forward revised terms of reference for a newly established Finance Committee and to affirm the Chair's appointments to that committee.

The proposed Terms of Reference identifying the purpose, mandate, membership and operation of the Finance standing committee are provided in Attachment A. The Chair has recommended appointment of the following members to the Finance Committee:

Finance Committee	Chair	Darnelda Siegers
	Vice Chair	Donna McMahon
	Members	All SCRD Directors

STRATEGIC PLAN AND RELATED POLICIES

N/A

CONCLUSION

Terms of Reference and member appointments to a newly established Finance Committee have been outlined above. Staff recommend that the Board receive and affirm the appointments and adopt the terms of reference.

Reviewed by:			
Manager		Finance	X – T. Perreault
GM		Legislative	
CAO	X – D. McKinley	Other	

Attachment

TERMS OF REFERENCE

Finance Committee

1. Purpose

1.1 The purpose of the Finance Committee is to consider matters related to the Sunshine Coast Regional District (SCRD) annual budget process, financial policy, administration, and financial reporting and to make recommendations to the SCRD Board on these matters.

2. Duties/Mandate

2.1 The Finance Committee is a Standing committee of the Board that will consider and make recommendations to the Board on matters that include:

- Corporate Financial Management, including financial policies
- Financial Monitoring and Reporting
- Corporate Budget and Financial Planning process
- Audit Compliance

This list may be amended as the need arises. Matters outside of the mandate of the Committee may be considered as necessary to meet operational requirements.

3. Membership

3.1 The Finance Committee is comprised of all directors of the SCRD Board.
3.2 The Chair and Vice Chair of the Committee will be appointed annually by the Chair of the Sunshine Coast Regional District.

4. Operations

4.1 The Finance Committee will meet from time to time, and as required by the SCRD Board or the Chair of the Committee.
4.2 The Chief Financial Officer will act as the liaison to the Committee.

Approval Date		Resolution No.	
Approval Date		Resolution No.	
Approval Date		Resolution No.	

ANNEX F

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Matt Treit, Manager, Protective Services

SUBJECT: **COMMUNITY EMERGENCY PREPAREDNESS FUND GRANT APPLICATION FOR SUNSHINE COAST EMERGENCY PROGRAM EMERGENCY OPERATION CENTRE COMMUNICATION MODERNIZATION**

RECOMMENDATION(S)

THAT the report titled Community Emergency Preparedness Fund Grant Application for Sunshine Coast Emergency Program (SCEP) Emergency Operation Centre (EOC) Communication Modernization be received for information;

AND THAT a grant application for SCEP EOC Communication Modernization be submitted to Union of British Columbia Municipalities on behalf of the Sunshine Coast Regional District.

BACKGROUND

The Community Emergency Preparedness Fund (CEPF) is a suite of funding streams intended to enhance the resiliency of local governments and First Nations communities in responding to emergencies. Funding is provided by the Province of BC and is administered by the Union of British Columbia Municipalities (UBCM).

Funding of up to a maximum amount of $25,000 is currently available for Emergency Operation Centers (EOC) and Training.

DISCUSSION

An application for this project was submitted to seek funding to enhance the Sunshine Coast Regional District (SCRD) Emergency Program. It was submitted prior to seeking a resolution of Board support based on a short application window and with consideration of currently-identified needs and interests related to emergency preparedness.

A resolution of support is needed as a next step.

Project: EOC Communication Modernization - This project continues to build resiliency for communication links utilized by the EOC and the Emergency Communications Team (ECT) through the purchase of upgraded equipment. Existing equipment is failing and requires costly repairs or replacement. This new communication equipment will provide increased reliability, capacity, and efficiencies. This, in turn, will improve the ability of the ECT to support the EOC during emergencies in the event that normal methods of communication fail. In addition, funds

will be used to purchase appropriate Personal Protective Equipment (PPE), first aid equipment, and vests to enhance the safety and effectiveness of those working in, and with, the EOC.

Financial Implications

This grant is expected to cover 100% of the eligible costs associated with the proposed project. A future financial plan amendment will be required to accept the grant, if approved.

Timeline for next steps or estimated completion date

The application deadline for the EOC grant was February 25, 2022. An application for the grant has been submitted pending Board approval. The results of the EOC grant application are expected approximately 90 days from the submission of that grant application.

The SCRD provides a certified Board Resolution in support of the application. This resolution can be submitted after the application has been submitted.

STRATEGIC PLAN AND RELATED POLICIES

This grant application is consistent with the SCRD Financial Sustainability Plan: seeking alternative funding for SCRD projects.

CONCLUSION

An application to the CEPF has been submitted seeking funding for the EOC to enhance the SCRD's Emergency Program. The application for grant funding requires a Board resolution to support the application.

Reviewed by:			
Manager	X – M. Treit	Finance	
GM	X – I. Hall	Legislative	
CAO	X – D. McKinley	Other	

ANNEX G

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Matt Treit, Manager, Protective Services

SUBJECT: **COMMUNITY EMERGENCY PREPAREDNESS FUND GRANT APPROVAL FOR SUNSHINE COAST EMERGENCY PROGRAM EMERGENCY SUPPORT SERVICES RECEPTION CENTRE MODERNIZATION**

RECOMMENDATION(S)

THAT the report titled Community Emergency Preparedness Fund (CEPF) Grant Approval for Sunshine Coast Emergency Program (SCEP) Emergency Support Services (ESS) Reception Centre Modernization be received for information;

AND THAT the SCRD Board approve the application of the CEPF Grant toward the ESS Reception Centre Modernization;

AND THAT the CEPF - SCEP ESS Reception Centre Modernization Grant receipt in the amount of $24,967 be approved;

AND THAT the delegated authorities be authorized to execute the agreement;

AND FURTHER THAT the 2022-2026 Financial Plan be amended accordingly.

BACKGROUND

The Community Emergency Preparedness Fund (CEPF) is a suite of Union of British Columbia Municipalities (UBCM) funding streams intended to enhance the resiliency of local governments and First Nations communities in responding to emergencies. Funding is provided by the Province of BC and is administered by the UBCM.

100% funding of up to $25,000 is available for supporting the development of Emergency Support Services (ESS).

The Protective Services Division applied to the UBCM CEPF grant stream seeking funding to improve our volunteer ESS team's ability to support the community during emergencies. The application was submitted earlier this year prior to seeking a resolution of Board support based on a short application window and with consideration of currently-identified needs and interests related to emergency preparedness. On April 20, 2022, notification from UBCM that funding had been approved was received.

The purpose of this report is to seek approval for the application to UBCM for this grant, the receipt of the grant, and its inclusion in the 2022-2026 Financial Plan. The project will be funded in its entirety by the grant.

DISCUSSION

The funding will be used to establish Reception Centre kits at dispersed Sunshine Coast Regional District (SCRD) facilities that will potentially be utilized as reception centres in the event of events involving evacuations. It will also help ensure that our volunteers have the equipment and supplies to keep themselves and the public safe during those events. The SCRD ESS Team is also building a "travelling" kit for expedited deployment to, for example, our island communities that may experience disasters with the goal that our volunteers have easy access to equipment, supplies, and Personal Protective Equipment (PPE) required to establish reception centers there in a timely manner.

CONCLUSION

On April 20, 2022, the SCRD was informed that the CEPF SCEP ESS Reception Centre Modernization grant in the amount of $24,967 was approved.

This report seeks Board support to approve and include this project in the 2022-2026 Financial Plan.

Reviewed by:			
Manager	X - M. Treit	Finance	
GM	X – I. Hall	Legislative	
CAO	X – D. McKinley	Other	

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Trevor Rutley, Capital Projects Senior Coordinator

SUBJECT: **WESCAN MARINE CROSSING WATERMAIN REPLACEMENT - CONTRACT AWARD**

RECOMMENDATION(S)

THAT the report titled Wescan Marine Crossing Watermain Replacement - Contract Award be received for information;

AND THAT a contract be awarded to Fraser Burrard Diving Ltd. for a value not to exceed $600,000;

AND THAT the delegated authorities be authorized to execute the contract.

AND FURTHER THAT these recommendations be forwarded to the May 26, 2022 Board meeting.

BACKGROUND

In 2019, a leak was detected on a section of watermain that crosses Secret Cove along the marine bed between Wescan Road and Sans Souci Road. In March 2021, staff released a Request for Proposal (RFP) requesting engineering services related to the replacement of this section of watermain. Great Pacific Consulting Ltd. has been working on the design and permitting for this project since summer 2021.

The purpose of this report is to request that the Board award the construction contract for the Wescan marine crossing watermain to Fraser Burrard Diving Ltd. (FBD) for a value not to exceed $600,000 (excluding GST).

DISCUSSION

Analysis

In April 2022, RFP 2237007 was issued to secure a contractor to complete the construction of the new marine crossing watermain. Two compliant proposals were received. A summary of the proponents and prices is provided in the table below.

Proponent	Proposal Price (exc. GST)
ASI Marine L.P.	$734,184
Fraser Burrard Diving Ltd.	$515,923

The evaluation team of 5 was led by the Sunshine Coast Regional District (SCRD) Purchasing and Risk Management Division. The proposals where reviewed and scored based on the evaluation criteria included in the RFP. Based on this evaluation committee review, staff recommend awarding the construction contract to FBD, as their proposal is considered to provide the best overall value.

It is recommended that the awarded contract be in the amount not to exceed $600,000, which provides a 16% contingency on the construction costs.

Financial Implications

This work will be funded out of the Regional Water System [370] watermain replacement base budget, which has an annual budget of $1,258,940. To date, the following expenses have been committed out of that base budget:

Project	**Expense**
Chaster Road Watermain (asphalt restoration)	$105,000
Various Minor Expenses (surveying, etc.)	$20,000
Wescan Marine Crossing Watermain Construction (this contract)	$600,000
Wescan Marine Crossing Consulting Fees (includes engineering and archaeology)	$80,000
Total committed	**$920,000**

As the recommended contract award can be funded from uncommitted base budget, there is no need to amend the 2022-2026 Financial Plan.

Timeline for next steps or estimated completion date

This project involves work within the marine environment and is therefore subject to the Department of Fisheries and Oceans construction windows. The summer construction window in this area is July 1 to August 31, and all activity within the marine and intertidal zones must be completed within this timeframe.

Based on the preliminary construction schedule provided by FBD, it is expected that work will begin on July 4, 2022 and complete by August 12, 2022. It is therefore recommended to forward the recommendation to award this contract to the May 26, 2022 Board meeting for adoption consideration.

Communications Strategy

This project will have the following impacts to the community:

- temporary water shut-off; and,
- disruption and/or temporary closure of the boat launch.

SCRD staff are finalizing a communication plan for this project. At minimum, it will include the following:

- Posting a Notice of Work on the SCRD website and social media;
- Issuing a news release to alert the broader community of this work;
- Using the SCRD Bulletin Board in the Coast Reporter newspaper to notify the community that the work is being done;
- Direct mailing notifications to residents in the immediate project area;
- Posting informational signage at the top of the Sans Souci boat launch and at the Sans Souci bridge crossing, notifying of disruption and/or temporary closure of the boat launch;
- Proactive outreach to local community associations to ensure they and their members can help spread the word about the work being done; and,
- Notification to Sunny Harbour Estate, the land co-operative that owns a portion of Sans Souci Road, and several properties on Sans Souci Road.

STRATEGIC PLAN AND RELATED POLICIES

This watermain replacement project reflects the objectives identified in the 2019-2023 Board Strategic Plan, including the Strategic Focus Area of *Asset Stewardship.*

CONCLUSION

In accordance with the SCRD's Purchasing Policy, RFP 2237007 was issued for the construction of the Wescan marine crossing watermain replacement. Two compliant bids were received.

Staff recommend awarding a contract for construction of the watermain to Fraser Burrard Diving Ltd. for the amount not to exceed $600,000, which includes a 16% contingency.

Reviewed by:			
Manager	X - S. Misiurak	CFO/Finance	X - T. Perreault
GM	X - R. Rosenboom	Legislative	
CAO	X - D. McKinley	Purchasing	X - V. Cropp

ANNEX I

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Remko Rosenboom, General Manager, Infrastructure Services
Mia Edbrooke, Manager, Strategic Initiatives

SUBJECT: **PROPOSED AMENDMENTS WATER SUPPLY ADVISORY COMMITTEE TERMS OF REFERENCE**

RECOMMENDATION(S)

THAT the report titled Proposed Amendments Water Supply Advisory Committee Terms of Reference be received for information;

AND THAT the Board approve the amended Water Supply Advisory Committee Terms of Reference as presented.

BACKGROUND

The Sunshine Coast Regional District (SCRD) Board approved the initiation of the Water Supply Advisory Committee (WASAC) on February 27, 2020 (069/20). As per the February 20, 2020 staff report, the purpose of this Committee was proposed "to advise the Board on the development and implementation of water supply and water conservation plans for the SCRD's water systems". The application process for this Committee was launched in April 2020, and the first WASAC meeting was held on July 14, 2020. The WASAC's two-year term ends shortly, in June 2022, with the last meeting in May 2022.

The purpose of the WASAC, as per the current Terms of Reference, is to provide recommendations on the development and implementation of water supply plans for the SCRD water systems, along with policies related to SCRD water services, and related public participation processes. Since the WASAC was initiated, the SCRD has initiated the development of the Water Strategy as a first step for drafting 5-year action plans related to water supply, infrastructure, efficiency, water quality and source protection in the region. Staff held several meetings and one visioning workshop with WASAC to discuss key elements of a draft discussion paper that outlines the proposed Water Strategy framework. Staff also presented the draft engagement strategy and discussion paper to WASAC in March 2022 for input prior to the SCRD Board approving staff to engage the community on the further development of the strategy in May and June this year.

The purpose of this report is to present amended WASAC Terms of Reference for the Board's consideration.

DISCUSSION

To update the Terms of Reference, staff have proposed amendments to the Terms of Reference included as Attachment A. The updates are mainly for clarity and to update terms such as water supply plans to Water Strategy, and Infrastructure Services Committee to Committee of the Whole.

Section 1, "Purpose", is expanded to include the project timeline and a scope that centers around the development and implementation of Water Strategy, as was originally intended for this advisory committee.

Section 4.1 is expanded to include the option for virtual meetings and notes no meetings will be held in August to mirror the Board meeting schedule.

Section 4.7 was removed and replaced with a "Code of Conduct" in Section 5 to promote a respectful workplace and guidelines for staff and committee members, and to support effective discussions in and outside of meetings.

Financial Implications

There are no financial implications associated with any of the above presented options.

Timeline for next steps

Once the Board decides if the Terms of Reference should be updated, staff will begin a new application process in June. Staff will present the applications to the Board early September for their consideration and to make appointments. The inaugural meeting of the new WASAC could be scheduled as early as October 2022.

Communications Strategy

To notify the public about opening of applications for the WASAC, staff will issue a media release, update the website, and place advertisements in the newspaper and on social media. Staff will notify existing members should they wish to reapply. In addition, staff will reach out to residential participants in the Water Strategy engagement to make them aware of the purpose of the WASAC and invite them to apply.

STRATEGIC PLAN AND RELATED POLICIES

The WASAC supports Strategic Focus Area 1: Engagement and Communications, and the goal to 'To proactively engage with our residents, partners and staff in order to share information and obtain their input on issues and decisions that affect them'; and the tactic to 'Review role and mandate of Advisory Committees and Commissions' in the Board's 2019 – 2023 Strategic Plan. The formation of the WASAC was to support the development of the water supply plans, noted under Strategic Focus Area 2: Asset Stewardship.

CONCLUSION

The Water Supply Advisory Committee has reached the end of its first two-year term. Staff have updated the Terms of Reference to reflect updated language relating to the purpose of this committee, specifically the development and implementation of an SCRD Water Strategy and

related policies and public engagement plans. Once the SCRD Board decides on the WASAC Terms of Reference, staff will initiate an application process to invite applications from residents. Staff anticipate bringing the results of the application process for committee appointments in early September, and the inaugural meeting of the new WASAC could be scheduled as early as October 2022.

Attachments

Attachment A – Proposed Amendments to the Water Supply Advisory Committee Terms of Reference

Reviewed by:			
GM		Legislative	X - S. Reid
CAO	X - D. McKinley	Other	

Attachment A

TERMS OF REFERENCE

WATER SUPPLY ADVISORY COMMITTEE

1. Purpose

1.1 *In 2022 and 2023, the Sunshine Coast Regional District (SCRD) will engage with residents, local governing authorities, including First Nations, agencies, and representatives from community groups and key sectors on the development of an SCRD Water Strategy and associated action plans. The Water Strategy will identify focus areas where the SCRD would like to work and improve on how it delivers safe and reliable drinking water. The action plans will list the specific actions to be undertaken in support of the tactics identified in the Water Strategy.*

~~1.1~~1.2 *The purpose of the Water Supply Advisory Committee is to ~~advise the Sunshine Coast Regional District (SCRD)~~ provide a forum for contribution from residents and provide recommendations to the SCRD Board on the development and implementation of the Water ~~Supply~~Strategy, including policies and ~~Water Conservation Plans for the SCRD's water systems~~public engagement.*

These Terms of Reference describe the role of the Committee.

2. Duties

2.1 The ~~purpose of the~~ Water Supply Advisory Committee (~~WASAC) is to~~ the Committee) serves at the pleasure of the Board and may be reconstituted as required.

2.2 The Committee may provide recommendations on:

a. the development and implementation of Water ~~Supply Plans for the SCRD water systems~~Strategy and associated action plans;
b. new or updated policies related to water supply expansion and water conservation; ~~and~~
~~c. public participation regarding water supply expansion and water conservation plans and policies.~~

c. the development of related engagement plans and materials.

~~2.2 In support of these purposes, typical duties of the WASAC will include:~~

~~*providing*~~3 The Committee may provide recommendations for the SCRD Board's approval in support of section 2.2:

a. on documents referred to the Committee by the SCRD Board;
b. ~~providing recommendations to the Board~~ for ~~their~~the Board's consideration as part of their decision making on a topic;
c. ~~providing~~on proposals for new water-related projects or programs;

d. on related Board staff reports that are exploratory in nature where operational feasible.

2.4 The Committee's recommendations ~~for inclusion in SCRD staff's future work on a topic; providing recommendations on new initiatives~~should support the SCRD ~~*Board could consider to initiate; and,*~~Board's governance role.

~~c. undertake these duties with a regional and residential perspective.~~

2.~~3~~5 While the SCRD Board ~~could~~may refer any documents within ~~the scope of~~ section 2.2 to this Committee ~~to this committee~~, SCRD staff may present the following types of draft documents ~~in a draft form~~ to the Committee: ~~without them first being presented to the SCRD Board~~

a. public participation plans and materials;
b. ~~draft~~ documents with ~~factual~~ technical information.

~~2.4 The WASAC serves at the pleasure of the Board and may be reconstituted as required.~~

3. Membership

3.1 The ~~WASAC is comprised of not~~SCRD Board will appoint no less than 6 and ~~not~~no more than 11 voting members to the Committee, with the following representation:

a. Public representation from all SCRD water systems will be pursued in a manner that all water systems and interests of residential users are adequately represented.
b. Public representation of a wide variety of relevant interest and technical backgrounds will be pursued.
~~b.~~c. Members shall be appointed for a term of two ~~(2)~~ years.
~~c.~~d. Members who are appointed part way through a two-year term will be appointed for the remainder of the two-year term.

3.2 The ~~WASAC~~Committee will include one elected representative from the SCRD Board as a non-voting member to provide direct liaison between the ~~WASAC~~Committee and the SCRD Board.

3.3 The ~~WASAC~~Committee may include one elected official appointed by and representing each of the Town of Gibsons, District of Sechelt and Sechelt Indian Government District as a non-voting member to provide direct liaison between the ~~WASAC~~Committee and their respective councils.

3.4 One ~~Regional District~~SCRD staff member will be assigned to serve in a liaison capacity as a resource ~~to this committee.~~. Other staff members may attend when appropriate. The role of the staff liaison includes:

a. ~~providing~~provide information ~~and professional advice~~;
b. ~~facilitating~~prepare reports;
~~b.~~c.facilitate discussions during meetings as per code of conduct in section 5;
~~c.~~d.~~assisting~~assist the committee secretary in preparing agendas and minutes;
~~d.~~e. ~~assisting~~assist the committee secretary in writing ~~reports and~~ recommendations to the Board as requested by the ~~committee~~Committee;

~~e.~~f. ~~bringing~~bring such matters to the committee's attention as are appropriate for it to consider in support of SCRD Board direction;
~~f.~~g. ~~providing~~provide advice to the Board that is at variance to a Committee recommendation~~;~~.

3.5 The SCRD ~~Board is responsible for appointing new~~will provide a staff member as Committee secretary whose duties will include:

a. prepare and distribute agendas to the Committee members ~~as needed.~~in advance of the meeting;
b. prepare minutes of all meetings using SCRD standard practices;
c. forward the approved minutes to the Committee of the Whole for further consideration and approval.

~~3.5~~3.6 The Chair and Vice Chair ~~is a~~are voluntary ~~position~~positions that will be elected at the first meeting of each year by ~~WASAC~~Committee voting members.

~~3.6~~3.7 The ~~WASAC~~Committee Chair has the following additional responsibilities:

a. ~~Review~~review and provide input into the agenda~~.~~;
b. ~~Chair WASAC~~ chair Committee meetings~~.~~;
c. ~~Review~~review final meeting minutes before distribution~~.~~ to ensure alignment with Corporate minute standards and format;
d. delegate responsibilities, including chairing Committee meetings, to the Vice Chair, as required.

~~3.7~~3.8 All ~~WASAC~~Committee members are expected to:

a. ~~Undertake~~undertake research and review materials~~.~~;
b. ~~Share~~share knowledge and keep current on the topic of community water supply and conservation~~.~~;
~~c. Contribute to discussions and formulating of recommendations.~~
~~d. Engage in a respectful and constructive manner in all WASAC activities.~~
~~e.~~c. ~~Engage~~engage on the full scope of the Committee as defined in Section 1~~.~~;

~~3.8 The WASAC reports to the Infrastructure Services Committee.~~

d. contribute to discussions and formulate recommendations as per section 2.2, 2.3 and 2.4;
e. review and follow the Code of Conduct outlined in Section 5.

4. Operations

4.1 The ~~WASAC~~Committee will meet bi-monthly in the first full week of the month at the SCRD Office located at 1975 Field Road, Sechelt~~.~~ or by virtual meeting. The Committee may recommend that the SCRD Board increase the meeting frequency to monthly for a predetermined period of time. ~~The Committee can elect to choose an annual 2 months recess if desired~~No meetings will be held in August.

4.2 A quorum of the voting members of the Committee will be a majority of the members appointed.

4.3 All Committee meetings must be open to the public except where the ~~WASAC~~Committee resolves to close a portion of it pursuant to Section 90 of the *Community Charter*.

4.4 All formal recommendations of the Committee will be duly passed by a majority of the voting members present.

4.5 Delegations may appear upon written request and in accordance with the *SCRD Board* ~~Procedures~~*Procedure* *Bylaw*~~.~~ *No. 717* (Procedure Bylaw).

4.6 The authority of the Committee is limited as follows:

a. The ~~WASAC~~Committee does not have the authority to bind the SCRD in any way, nor engage or otherwise contact third parties, consultants, organizations or authorities in a manner which may appear to be officially representing the SCRD.
b. The ~~WASAC~~Committee may communicate with external organizations and agencies to collect information and make inquiries.
c. The duties of the ~~WASAC~~Committee as listed under section 2 are limited to the development and implementation of plans, and excludes the implementation of individual water supply expansion and water conservation projects (e.g. detailed design, engineering, and construction phases) ~~and projects~~ or operations of a more routine nature.

4.7 Committee members are encouraged to:

a. attend and participate in meetings of the Committee;
b. share experiences and ideas while maintaining an open mind to others' perspectives;
c. ~~Speak~~speak to the SCRD staff Liaison first regarding information, issues or recommendations related to the Committee purposes.

4.8 Members who are absent for four consecutive ~~bi-monthly~~ meetings will be deemed to have resigned their position unless the absence is because of illness or injury or is with the leave of the SCRD Board.

4.9 In carrying out its mandate, the Committee will work towards conducting operations in a way that:

a. improves the economic, environmental, and social well-being for present and future generations;
b. encourages and fosters community involvement;
~~c. enhances the friendly, caring character of the community;~~
~~d. maintains an open, accountable, and effective operation;~~
~~e. preserves and enhances the unique mix of natural ecosystems and green spaces in the SCRD while mitigating and adapting to climate change;~~
~~f.~~c. is consistent with the goals and objectives of the SCRD's Board Strategic Plan;
~~g.~~d. conducts business in the spirit of reconciliation with First Nations; and
~~h.~~e. recognizes advisory committees are one of many channels that the SCRD Board may ~~utilize~~use to obtain opinions and advice when making decisions.

~~4.10 The SCRD will provide a staff member as committee secretary whose duties will include:~~

~~b. preparing meeting agendas and distributing them to the Committee members in advance of the meeting;~~
~~c. preparing minutes of all meetings using SCRD standard practices;~~
~~d. forwarding the approved minutes to the Infrastructure Services Committee for further consideration and approval.~~

~~4.11~~4.10 Unless otherwise provided for, meetings shall be conducted in accordance with the ~~rules of procedure set out in the Board~~ Procedure Bylaw.

4.~~12~~11 Committee members are subject to the Conflict of Interest legislation outlined in Section 100 – 109 of the *Community Charter*. The terms "Council" and "Committee" shall be interchangeable for the purpose of interpretation of these sections.

4.~~13~~12 Committee members must respect and maintain the confidentiality of the issues brought before them.

4.~~14~~13 Committee members serve without remuneration but may be eligible to have reasonable expenses reimbursed in accordance with the SCRD Policy on Committee Volunteer Meeting Expenses.

5. Code of Conduct

5.1 This code of conduct is intended to guide the spirit and intent of how members are expected to deliver on the Committee's purpose and objectives in a respectful manner towards all involved.

a. Respect and Collaboration: Discussions and debates shall take place in an atmosphere of mutual respect and solutions-oriented collaboration, recognizing the value of different perspectives and seeking to understand the interests and needs of all affected parties.
b. Treatment of other Members and SCRD Staff: Members have a duty to treat other members and SCRD Staff with respect during Committee meetings. Specifically, members have a duty to avoid:
   - disrupting meetings;
   - making offensive or abusive remarks;
   - ignoring the legitimate direction of the Chair or Vice Chair.
c. Members and SCRD staff who object to the behaviour of anyone involved in the Committee are asked to identify their concerns immediately to the Chair, Vice Chair or SCRD Board liaison. A member whose behaviour repeatedly does not meet the code of conduct requirements may be asked to resign by the Chair or Vice Chair or may have its appointment revoked by the SCRD Board.

~~5.~~6. Reference Documents

~~5~~6.1 SCRD Procedure Bylaw No. 717

~~5~~6.2 *Community Charter*, Section 100 – 109 – Conflict of Interest

~~5~~6.3 *Community Charter*, Section 90 – Open/Closed Meetings

~~5~~6.4 *Committee Volunteer Meeting Expenses*

Approval Date	March 26, 2020	Resolution No.	119/20 rec. No. 2
Amendment Date:	October 8, 2020	Resolution No.	320/19 rec. No. 20
Amendment Date:	TBC	Resolution No.	TBC

ANNEX J

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – May 26, 2022

AUTHOR: Shelley Gagnon, General Manager, Community Services

SUBJECT: **COMMUNITY SERVICES DEPARTMENT 2022 Q1 REPORT**

RECOMMENDATION

THAT the report titled Community Services Department 2022 Q1 Report be received for information.

BACKGROUND

The purpose of this report is to provide an update on activity in the Community Services Department for the First Quarter (Q1) of 2022 (January 1 to March 31, 2022).

The report provides information from the following Community Services Department Divisions:

- Parks [650]
- Cemeteries [400]
- Dakota Ridge [680]
- Building Maintenance Services [313]
- Community Recreation Facilities [615]
- Pender Harbour Aquatic and Fitness Centre [625]
- Transit [310]
- Fleet [312]
- Ports [345 & 346]

PARKS [650]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Parks maintenance	Completion of ongoing inspections, operations, and maintenance of SCRD parks, beach accesses, active transportation routes, and park infrastructure. Includes: Landscaping, tree and brush maintenance, litter and graffiti control, wildfire risk prevention, pest management, trail and bike path maintenance, ongoing repairs, maintenance and replacement of park assets, removal of unauthorized structures, adherence to regulations and legislation.	Ongoing	Continued progress and all items regularly completed as work plan and emerging priorities permit. Due to a number of staff absences and the delay in recruitment of new positions, work is started to get backlogged again. There is a degree of scheduling and shifting priorities when funeral service demands dictate staff involvement. However, this is cyclical and demand-driven, and adjustments so far have had a minimal effect on the maintenance and operations work plan for 2022. Staff scheduling moving to 7-day operations the end of May through to September.
Playground Maintenance	Conduct regular inspections, maintenance and repairs. Seasonal maintenance, start up and shutdown of water park.	Ongoing	All 10 playgrounds inspected once per month. Seasonal spray park start-up and operations scheduled prior to May long weekend, weather and systems troubleshooting permitting.
Sports Fields Maintenance	Annual aeration, turf maintenance, repair and maintenance of irrigation systems.	Ongoing	Ongoing and currently advancing seasonal adaptive maintenance practices (i.e. aeration and coring, fertilizing and drainage/tree management at all sports fields.
Management and Maintenance of Community Halls	Ensure safe, regulation-compliant operation of community halls. Plan, schedule and complete preventative maintenance tasks. Prevent breakdowns/service interruptions. Maximize useful life of community assets. Provide community rentals and bookings with support from Recreation Services.	Ongoing	Annual preventative maintenance inspections scheduled and occurring. Anticipate a late Q2 completion of new caretaker contracts for all community halls. Recreation Services continues to provide coordinated support for facility bookings. Currently recruiting for additional hours supported in 2022 budget.
Campground Operations	Secure contractor for Campground operations. Conduct seasonal maintenance projects.	Ongoing	Contractor secured for campground operations, and begins early May 2022. On-line registration will be available for campers. Revising website to provide new operator information and contact. Seasonal maintenance projects, including beach area maintenance, supplemental sand, vegetation clean-up, hazard tree mitigation and water systems troubleshooting all in progress. Working with contractor to align priorities and communicate transition.

Core Operations	Renewal and extension of various licenses, leases, agreements and contracts to align with core services of land management, administration and community partnerships.	Ongoing	A number of unanticipated and extended staff absences, as well as the delay in the recruitment of new staff, are resulting in a backlog of work. Staff are working with HR to fill the new positions approved in 2022. All major contracts and agreements have been renewed and awarded prior to deadlines in Q2.
Completion of Carry Forward Projects	Complete 2021 Carry Forward projects including: 1. Cemetery Master Plan 2. Coopers Green Hall Replacement 3. Coopers Green Boat Ramp Repairs 4. Bike Park /Pump track at Sprockids Park 5. Suncoaster Trail Phase 2 - Volunteer 6. Sport field equipment purchase 7. Priority repairs to community halls	Ongoing	1. Cemetery Master Plan on track for completion in July 2022. 2. Coopers Green Hall replacement project continues to progress. 3. Coopers Green Boat Ramp repairs planning slated to begin in Q3. 4. Parks staff currently working with partners on drafting an RFP for the Bike Park /Pump track at Sprockids, which is anticipated in late Q3. 5. Discussions with the Nation, DoS, SCTS underway regarding the Suncoaster Trail Phase 2 - Volunteer project, slated for late Q3. 6. New tractor purchased - complete 7. Priority repairs to community halls to begin in Q4.
Asset Management Plan	Complete asset registry for park assets and community halls and develop long term capital plan. Includes: - Trails - Park infrastructure (i.e. benches, garbage receptacles, bridges, etc.) - Park signs - Community Halls (5) Work with Finance on asset retirement obligations.	Q1-Q4	Major asset inventory/registry is now complete for all Parks. Staff now aligning assets with classification and also conducting condition assessments. Working with Asset Management staff to develop the capital asset renewal plan. Some sections of parks assets may be done in time for inclusion in the 2023 budget deliberations. Staff are reviewing all agreements relevant to the asset retirement obligations for all assets. Staff are working with SCRD Asset Management to document and verify all information for all properties.
Document park service levels	Develop a thorough inventory of all parkland and assets including ownership or agreements Establish a classification system with appropriate levels of service Compare current service level to desired service levels Improve statistics reporting, tracking and management (i.e. campground visitation, operational metrics, etc.)	Q1-Q3	Park asset inventory complete. Aligning assets with park classifications and beginning to document associated service levels based on past practice and approved budgets. Property agreements inventory in progress and in alignment with asset registry and retirement obligations work.
Update important Bylaws and Policies impacting Parks.	Review and update Parks Bylaw as well as Fees and Charges and present	Q1-Q4	Not started

	recommendations for Board consideration.		
Develop Park Signs Standards	Develop standards for the different classifications of parks signs (include considerations for integration of First Nations history/language) Completion of an inventory of current signs and condition report.	Q3-Q4	An inventory of all current signs is nearly complete. Individual signs still need to be registered. This process will include condition assessments on all existing signage infrastructure, which is underway and nearly half complete. Development of a Sign Guideline document has started with anticipated completion by late Q4 2022.
Engaging the community in park stewardship	Implement the newly developed Community-Led Initiatives/Improvements Projects (CLIP's) process including: - Application process - Prioritization and planning - Approvals and Agreements	Ongoing	Application form/template completed for community groups interested in leading improvement projects in their area. As groups contact Parks with ideas, the first step is now to complete the application which provides greater understanding of project scope, roles and responsibilities. 5 (five) Community Lead Improvement Project applications received in Q2, and staff are prioritizing applications and determining which items align with capacity for the 2023 work plan. Pender Harbour Rotary Club CLIP for the Reading Centre Mobility Ramp project complete.
Planning for the future	Support the scoping for "Connected Coast" planning (connecting non-vehicular transportation infrastructure throughout the Sunshine Coast)	Q4	Not started.
Website Updates	As per the corporate initiative to update the website, Parks will need to assign resources to populate and update the new website pages	Q2-Q3	Parks have been tracking required and suggested changes to website and beginning to work with SCRD Communications in Q2 on advancing the project.

Key Performance Indicators:

Community Hall Bookings

	Q1 Number of Bookings		Q1 Total Hours Booked		Usage Rate	
	2022	**2019**	**2022**	**2019**	**2022**	**2019**
Chaster House	0	38	0	128	0	9.48%
Coopers Green	16	38	33	82	2.44%	6.07%
Eric Cardinall	25	32	105.5	129.5	7.81%	9.59%
Frank West	40	48	99.5	157.25	7.37%	11.65%
Granthams	19	0	31	0	2.30%	0
Total	**100**	**156**	**269**	**496.75**	**3.99%**	**9.20%**

2019 Q1 – Granthams Hall closed
2022 Q1 – Chaster House closed

Sports Field Bookings

	Q1 Number of Bookings		Q1 Total Hours Booked		Usage Rate	
	2022	**2019**	**2022**	**2019**	**2022**	**2019**
Cliff Gilker	206	181	552	475	40.89%	35.19%
Connor	91	65	277.5	201.5	20.56%	14.93%
Lions	27	39	45.5	84.5	3.37%	6.26%
Maryanne West	65	64	230	256	17.04%	18.96%
Shirley Macey 1 & 2	206	130	905.5	534.5	67.07%	39.59%
Total	**595**	**479**	**2010.5**	**1551.5**	**29.79%**	**22.99%**

The following KPI's will be reported on annually:
- # of km of trails (based on classification)
- Acres of parkland (various classifications)
- Katherine Lake Campground statistics (in Q3 and Q4)

Emerging Issues:

Flood Recovery Projects: Due to staff shortages and delay in recruitment of new staff, the recovery projects from the flooding in 2021 have not advanced. Efforts have been focused on Katherine Lake Campground recovery efforts given its time sensitivity. Recovery work at the campground may be delayed due to timeframes required to get approvals and permits. Staff continue to work with the provincial recovery officer related to recovery projects and possible funding from the government.

Parks Planning Referrals: There has been an unprecedented influx of development referrals related to parkland dedication, acquisition, as well as dedication opportunities and land use issues. Staff are working collaboratively with SCRD Planning division to develop and formalize internal process and procedure to be able to adequately handle the uptick in work load and requirements to respond within adequate timeframes.

CEMETERIES [400]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Ongoing cemetery / park maintenance	Completion of ongoing maintenance and repairs to the cemetery grounds, signage, landscaping, pruning, headstone installations, maintenance of fencing, columbarium's and other assets.	Ongoing	Ongoing and in progress. Staff and contractors continue to dedicate resources towards the regular maintenance and repairs of all cemetery services assets and property.
Delivery of cemetery services to the public	Plot and niche sales, administration, counter service, updating of public facing materials and communications, accounting, and responding to customer inquiries.	Ongoing	Cemetery services administration and sales continue to be delivered and are consistently busy. Staff are updating public information, materials and responding to inquiries.
Ensure regulatory compliance	Adherence to the Cemetery Act and mandated compliance inspections by Consumer Protection BC.	Ongoing	Service was audited in 2021 by Consumer Protection BC. All management, administration and operation of SCRD services continue to be carried out in accordance with all acts and regulations.
Planning for the future	Completion of the Cemetery Master Plan	Q3	Project is nearing its final stages with a draft cemetery business plan nearly complete. Anticipate final report presentation to the Board in July 2022.
Asset Management Plan	Begin an asset registry for Cemetery Services equipment, machinery and assets and start to develop long term capital plan. Work with Finance on asset retirement obligations as required.	Q2-Q3	Asset inventory collection well underway and working with Asset Management to populate information and complete the Asset registry by late Q2. Staff are reviewing all agreements relevant to the asset retirement obligations for all assets. Staff are working with SCRD Asset Management to document and verify all information for all properties.
Document service levels	Develop a thorough inventory of all equipment, machinery and assets. Document service levels.	Q1-Q3	In progress and occurring in alignment with both asset registry and business planning priorities. Anticipate completion by targeted Q3 deadline.

Key Performance Indicators:

<u>Current available inventory:</u>

- Full plots – 52 (14 are plots in the Jewish section)
- Cremation plots – 248
- Niches - 15

	Q1 2022 Jan - Mar	Q2 2022 Apr – Jun	Q3 2022 July - Sept	Q4 2022 Oct - Dec	*Q1 2021 (for comparison)*
Burials					
Plots Sold	0				7
Interments	2				3
Cremations					
Plots Sold	2				1
Niches Sold	1				2
Interments	1				3
Inurnments (Niche)	0				0

Emerging Issues:

None

DAKOTA RIDGE [680]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Ongoing Operations	Conduct ongoing trail maintenance and management & facility operations, facility and equipment maintenance, ticket sales and accounting and marketing and promotions of service.	Ongoing	Both the Piston Bully and the Snowmobile had breakdowns towards the end of the season. Staff were able to prioritize repairs in the field and are scheduling annual repairs in the shop.
Core operations	Intergovernmental liaison for agreements/permits/leases and communications. Work with Recreation Officer on renewing the *Section 56* partnership agreement issued by the Ministry of Forests Lands Natural Resource Operations and Rural Development (FLNRORD), South Coast Recreation District, under *Section 118* of the *Forests and Range Practices Act.*	Ongoing Q2	Discussions, reviews, edits with RSTBC/FLNRORD, as well as internal discussions and work with Purchasing & Risk Management, operations and planning and community development staff have occurred. Management reviewed final draft agreement.
Seasonal Snow Removal and Access Road management	Road maintenance conducted to repair upper road sections and improve drainage including: - Road Plowing/Maintenance - Brushing, trimming and vegetation maintenance Regular public communications and updates.	Ongoing	Road plowing was for moderate snowfall during winter season. Conditions were regularly communicated to public. Road to be inspected for summer maintenance planning in Q2.
Volunteer Management and Support	Continued focus on volunteer recruitment, training, coordination and retention, technical and safety training and risk management.	Ongoing	Staff maintained daily and weekly communications with volunteers and are planning for volunteer recognition in Q2. Staff working with the Dakota Ridge Recreation Society related to increased involvement in volunteer operations in the 2022/23 season and will develop a report for Board consideration in Q3.
Asset Management Plan	Begin an asset registry for Dakota Ridge assets and start to develop long term capital plan. Work with Finance on asset retirement obligations as required.	Q2-Q3	Asset inventory and registry nearly completed. Assigning lifecycle cost assumptions and calculating long-term asset management costs for the service via Finance directives and guidance.
Completion of Carry Forward Projects	Complete 2021 Carry Forward projects including: 1. Drag Behind Groomer 2. Storage Shed 3. Kiosk map/signage	Ongoing	1. Drag Behind Groomer quote received and in process. 2. Nothing to report 3. Nothing to report 4. High demand for snowmobiles; anticipated delivery of in fall of 2023.

	4. Snowmobile		
Document service levels	Develop a thorough inventory of all equipment, machinery and assets. Document service levels. Improve statistics reporting, tracking and management (i.e. visitation, operational metrics, etc.).	Q1-Q3	As a result of the opportunity cost of exploring a new community stewardship model for service volunteer programs, service level documentation will not commence until 2023.

Key Performance Indicators:

Season Pass Sales

Year	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Total Season Pass Sales	**127**	**107**	**112**	**209**	**221**

Seasonal Number of Trail Host, Groomer and Work Party Volunteers

Number of Volunteers	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
Trail Hosts	28	22	15	20	20
Groomers	9	9	9	7	8
Fall Work Party	13	7	10	10	5
Total	**50**	**38**	**34**	**27**	**28**

Number of Days of Facility Was Open in 2021/22 Season – 110 days

Emerging Issues:

Infrastructure and machinery are showing signs of ongoing wear at Dakota Ridge. Long-term asset management planning will need to occur to support future decision making on capital replacements, upgrades and service levels (anticipated for 2023).

Building Maintenance [313]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Core Service: Preventative maintenance.	Plan, schedule and complete routine scheduled preventative maintenance tasks at supported buildings.	Ongoing	Scheduled preventative maintenance is given priority and the division is on schedule and budget in most areas. The staff shortage is starting to create a backlog of some larger quarterly maintenance tasks.
Core Service: Maintenance support as capacity permits	Prioritize and complete tickets received for support to complete emerging repairs and priority tasks.	Ongoing	See table below. Staffing shortages are limiting our capacity to provide maintenance support resulting in longer than normal response times to tickets. This is having a greater impact on tickets that require a larger resource commitment to complete. Supply chain issues are also resulting in delays completing tickets.
Relocate Building Maintenance Office to SCA	Complete planned move of building maintenance office to SCA	January to March	**Complete**
Development of Safety Procedures	Review work tasks to identify where additional safe work procedures are needed and develop procedures. Review and update existing safe work procedures	January to December	Not started, work planned for Q3 – Q4
Asset Retirement Obligations	Work with Finance to identify asset retirement obligations	January to December	Completed review of ARO task sheets provided by asset management. Reviewed lease documents to determine term, expiry date and asset retirement obligations.

Key Performance Indicators:

Building Maintenance Tickets	**Q1 2022**	**Q2 2022**	**Q3 2022**	**Q4 2021**	***Q1 2021 (for comparison)***
Tickets received	40	-	-	36	50
Tickets resolved	46	-	-	24	34
Unresolved tickets	21	-	-	27	22

Emerging Issues:

Staff Shortages - Building maintenance has been experiencing staffing shortages throughout Q1. Some hours were backfilled through casual staffing however there were approximately 500 hours not backfilled in Q1 creating backlogs in work.

COMMUNITY RECREATION FACILITIES [615]

Recreation Facilities Services [613]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Facility operation and preventative maintenance	Ensure safe, regulation-compliant operation of facilities. Prevent breakdowns/service interruptions. Maximize useful life of community assets.	Ongoing	Division is experiencing cost increases for supplies, materials and contracted labor in the current market place. Budgets are being closely monitored, some maintenance work may be deferred to stay within budget. Supply chain issues are resulting in longer than normal lead times to complete maintenance and repairs.
Planning and coordination of capital renewal projects.	Planning, coordination and procurement of goods and services to implement capital renewal projects. Provide project oversite	Ongoing	Planning for 2023 and beyond begins in Q2
Annual Facility Maintenance	Plan, schedule and complete annual maintenance at recreation facilities	Q1-Q3	Planning for annual maintenance substantially completed. Procurement for contracted annual maintenance services has commenced. Supply chain shortages may result in delays or deferral of some annual maintenance activities being completed. SAC Annual Maintenance Closure May 28 – June 26 GDAF Annual Maintenance Closure July 1 – August 1 Arena annual maintenance activities are performed during the dry floor season. GACC March 20 – July 16 SCA April 24 – September 10
Development of Safety Procedures	Review work tasks to identify where additional safe work procedures are needed and develop procedures. Review and update existing safe work procedures	Q1-Q4	Not started, work planned for Q3 – Q4
Climate Adaptation Internal Project	Work with Sustainable Development to collaborate on vulnerability mapping, risk analysis and adaptive design work.	Q1-Q4	Q1 Climate Adaptation Work Completed: • Attended Climate Impact statement workshop • Review of impact statements developed in workshop • Vulnerability assessment survey completed • Attended Risk Assessment workshop

Asset Retirement Obligations	Work with Finance to identify asset retirement obligations	Ongoing	Completed review of ARO task sheets provided by asset management. Reviewed lease documents to determine term, expiry date and asset retirement obligations.
Completion of Carry Forward Capital Renewal Projects	Complete 2021 carry forward projects a) GDAF Packaged Roof Top Unit b) SCA Exterior Door Glazed c) SCA Roof, Modified Bitumen d) SCA Dehumidifier, Electric e) SAC Water Piping, Pump Room(CPVC) f) SAC Building Envelope Panel Drying g) SAC Domestic Hot Water Boiler	Q1-Q3	a) Design work will be completed in early Q2. Construction tender to be posted in Q2. Lead time for equipment will result in construction phase being carried forward to 2023. b) Tendered in Q1 as part of 2022 facility door replacement capital project. Tender has closed with no bids received. Staff have commenced negotiations with a contractor to move project towards completion. c) Design work completed in Q1. Construction tender being posted early Q2. d) Project deferred to 2023 for carbon emission opportunities if combined with other capital replacement projects. e) Project deferred to 2023, bid received substantially exceeded project budget. f) Not started. g) Completed.
Completion of Carry Forward One Time Budget Projects	a) Fall Protection Upgrades Phase One b) SCA Refrigeration Plant Regulatory Items c) SCA Parking Lot Lighting	Q1-Q3	a) Procurement scheduled to start in Q2. b) Project on hold pending review by TSBC Safety Officer. c) Project awarded and schedule for completion in Q2.
SAC Fire Sprinkler System Replacement	Plan and coordinate the SAC sprinkler system replacement to occur in two phases starting in 2022	Q1 and Q2	Project design work being retendered. Design work tendering to occur in Q2, which delays project initiation until Q2 2023.
Training and Development Program Implementation	Implement program to enhance staff skills, knowledge and experience	Q1-Q4	Supervisors working with HR to develop training plans for staff.
2022 Capital Projects	Plan, procure services, schedule and complete 27 new capital projects for 2022.	Q1-Q3	Planning and initiation of projects s ongoing throughout the year, with many projects being completed during annual maintenance timeframes. Several projects were identified as carbon emission reduction opportunities which result in additional planning time and carryforward to 2023, these projects are identified in the BPSR.

Key Performance Indicators:

Quarterly Electricity Consumption in kWh

GACC:

Year	Q1	Q2	Q3	Q4	Annual Total	% Total 615 Facilities
2020	327,878	50,366	110,741	306,071	795,056	46.11%
2021	284,143	66,775	234,679	328,804	914,401	42.37%
2022	297,021	-	-	-	-	41.02%

SAC:

Year	Q1	Q2	Q3	Q4	Annual Total	% Total 615 Facilities
2020	236,632	48,995	93,678	214,610	593,915	34.44%
2021	225,979	188,278	111,083	186,926	712,266	33.01%
2022	203,036	-	-	-	-	28.04%

SCA:

Year	Q1	Q2	Q3	Q4	Annual Total	% Total 615 Facilities
2020	151,385	32,792	23,033	43,452	250,662	14.54%
2021	127,517	40,689	36,555	168,616	373,377	17.30%
2022	178,982	-	-	-	-	24.72%

GDAF:

Year	Q1	Q2	Q3	Q4	Annual Total	% Total 615 Facilities
2020	42,690	14,662	8,092	19,184	84.628	4.91%
2021	40,151	38,595	33,316	45,921	157,983	7.32%
2022	44,996	-	-	-	-	6.21%

Annual Natural Gas Consumption in GJ (% Total All Facilities)

Year	GACC	SAC	SCA	GDAF	Annual Total
2020	1189.1 (15.99%)	3479.4 (46.78%)	779.6 (10.48%)	1989.4 (26.75%)	7437.5
2021	1199.5 (12.43%)	5013.7 (51.95%)	741.2 (7.68%)	2696.8 (27.94%)	9651.2
2022	-	-	-	-	-

Note: Due to variations in billing periods and meter reading dates, quarterly natural gas consumption data cannot be accurately compared from year to year. Quarterly data may become available in future years if gas meters are upgraded to smart meters. The BC Utilities Commission decision is expected in 2022 and if positive, installations of smart meters are anticipated to occur in 2023 – 2025.

Emerging Issues:

Equipment Failures Impacting Service Levels

Facility	Equipment	Impact	Failure Date	Days Impacted
SAC	Steam Generator	Steam Room Closure	Feb 14th	46

Human Resources - Facility services has undergone several personnel changes in Q1 with new incumbents in the manager and coordinator roles as well as two experienced facility services operators moving into new roles in parks and building maintenance, and one moving into a blended role in parks and facility services. This has led to a temporary loss of efficiency as staff are transitioning into their new roles. These staffing changes have also brought new perspectives and ideas into the division and we are looking forward to new and better ways of delivering our services over the remainder of 2022 and into 2023.

RECREATION SERVICES DIVISION [614]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Provide public access to Aquatics, Arenas, Fitness and Programming	Return the facility to traditional operating hours and service levels. (Pending Public Health Orders and staffing)	Ongoing	• All aquatic facilities are operating at reduced hours due to lifeguard shortages. • Rental bookings are down due to a delayed return of one of our ongoing user groups and one-time bookings from various community youth groups. • Attendance numbers down due to the PHO's, closed weight rooms in January, and restricting fitness classes until mid-February. • SD46 participation realized at both aquatic facilities. • PHO restrictions impacted arena use/participation (youth tournaments lifted February 1, 2022 and adults on February 17, 2022). • Staff worked with ice user groups on spring ice applications (extended the deadline for application for ice use due to the lifting of PHO restrictions). Unfortunately, not enough ice time was booked to cover the variable cost as per administrative policy. • Staff worked with, and supported Minor Hockey to provide the Esso Girl's Hockey program held during Spring Break. The program more than doubled participation year over year (with 25 participants in 2021 and 52 participants in 2022). Staff supported the program by supplying rental skates and hockey equipment. • Staff continued working with Shíshálh Nation and were able to facilitate six two-hour rentals sessions from January to March. • The ice was removed from GACC on March 14th • Staff worked with Dry floor users to allocate the dryfloor use at the two facilities. The Sunshine Coast Lacrosse and the Sunshine Coast Roller Girls are rebuilding their memberships after two years of the pandemic. See performance indicators below.
Program Delivery	Delivery of accessible recreation programs in Aquatics, Arenas and Fitness	Ongoing	• Delivered winter programs (Jan-Mar) • Aquafit participation remains steady and staff continue to work on offering more classes. • Winter Fitness programs were canceled due to PHO • Winter Registration for other programs was good considering the pandemic being present and proof of vaccine being required for all activities. Swim lessons were almost full at both aquatic facilities. A few extra classes at SAC were added to accommodate those on waitlists.

			• Two full aquatic leadership programs ran over spring break with 12 participants completing each. • Spring Registration began March 18. Swimming lessons filled on the first day of registration. • Staff have been working to attract more program instructors as many have moved on to other work arrangements during the pandemic. • Recruitment of lifeguards and instructors is ongoing • Arena ice programming was successful with a full (28 participants plus waiting list) Adult Learn to Play Hockey program which will return again in the Fall. • One Goal Hockey program also returned to full participation (20 participants) in February after a change in day and time lead to lower participation in January. • Dry floor programming began on March 21st at GACC with four sessions of Pickleball taking place per week. See performance indicators below.
Community group partnership/space rental	Support community recreation priorities through providing facility space/services	Ongoing	• Partner programs with SCCSS, SCACL and VCH continued through PHO's • Staff worked with the YMCA in preparation of the Youth Centre opening in early Q2. • Staff are in conversations with the Alzheimer's Society to reinstate the Minds in Motion program at SAC • The reduced Multi-purpose Room bookings in 2022 compared to 2019 at GACC, SAC, and SCA is directly related to the impacts of the pandemic and the PHO restrictions on programming, events and gatherings. See performance indicators below.
Business Process/Customer service Improvements	To support policy and procedure development.	Ongoing	• January 1, 2022 introduced a new policy regarding helmet requirements for ages 12 and under while on the ice. This policy has been put in place to increase safety and to prevent the potential for concussions and other serious injuries for young people taking part in ice activities. Feedback received to date has been very positive and encouraging.
Respond to ongoing pandemic	As the pandemic continues and new Public Health Orders announced, the facility will be required to respond accordingly which may impact the services being offered.	Q1-Q2	• Continued PHO's in Q1 • Weight rooms were permitted to open with some restrictions January 20 • Youth Sport Tournaments were permitted as of February 1.

			• Fitness classes and Adult Sport Tournaments were permitted as of February 17 • Mask mandate was lifted on March 11 • Staff capacity was severely limited during Q1 due to illness, impacting all areas and facilities. Q2 – as of April 8, 2022, all PHO's were lifted.
Provision of facility bookings support for Parks	Continue to provide facility booking services for the Parks Department	Ongoing	• Job description for designated staff (as per 2022 budget approval) drafted, recruitment to begin in Q2.
Joint-Use Agreement	Provide access to Recreation Facilities for School District groups/activities. Resume recreation programming in schools	Q4	• SD46 provided limited access for SCRD Recreation programs in school facilities starting mid-February. Staff continue to work with potential instructors to re-introduce programming on school sites in the Fall. • SCRD re-introduced JUA bookings effective January 1. Demand for SCRD facility access is high and aquatic facility access is limited based on staff availability.
Scheduling software implementation	See through the implementation of the scheduling software in Aquatics	Q3	• Due to ongoing Staff capacity challenges, final implementation of the scheduling software program has been delayed and is now slated for the end of Q3.
Programming Review and implementation	Complete the programming review and implement recommendations	Q1-Q4	• Consultants hired and project is underway. Project is taking longer than anticipated, due to staff capacity, challenges with our Activenet database for data/reports required by consultant. Anticipate completion by late Q3 early Q4.
Fees and Charges Bylaw Review and Recommendations	Complete the fees and charges review, and bring forward recommendations for Board consideration	Ongoing	• Have conducted market research (what other like-facilities are charging). • A thorough review is required, however, we do not have the staff capacity nor expertise. Will develop alternate strategy for Board consideration in 2023.
LIFE program Review (Financial Assistance program)	Complete a review of the Leisure Involvement For Everyone program and bring forward recommendations for Board consideration	Q2-Q4	• Not started.
Staff Recruitment, Training and Development	Continue to recruit staff to address shortages, provide opportunities for training and development, and for staff to strengthen their skills and abilities as it relates to their career.	Ongoing	• Many aquatics staff completed recertifications as required by the position and several staff have also started down the path to become trained as Aquatic Fitness Instructors (Aquafit).

	Strengthen the provision of aquatics through coordinated leadership, new training opportunities and new systems designed with input from staff and adapting to lifeguarding during COVID		• Aquatics staff recruitment remains ongoing and plans to introduce internal training for staff is underway with positions and training opportunities expected to be posted early in Q2.
			• SCRD Lifeguard recruitment campaign included:
			  ○ YouTube video https://www.youtube.com/watch?v=VTosqW86T8s
			  ○ Facebook Posts
			  ○ In facility posters
			  ○ Information shared with schools for distribution in their e-newsletters
			• Planning for annual Staff training/in-services is underway with the goal to offer one training session each Quarter.
			• HIGH FIVE training took place in February and March with 4 Staff attending and completing the course. HIGH FIVE is the only recognized certification for recreation and sport in Canada based on the Five Principles of Healthy Child Development for children aged 4-12 years. HIGH FIVE helps organizations enhance the quality of their children's programs and provide positive experiences for children.

Aquatic Facility Safety Plans	Update the aquatic facility safety plans	Ongoing	• In progress 25% complete
Programming Equipment Asset Management Plan	Continue to develop the Programming Asset Management Plan is currently underway	Ongoing	• Continue to develop complete equipment inventory and condition assessment.
Website Updates	As per the corporate initiative to update the website, Recreation Services will need to assign resources to populate and update the new website pages	Q2-Q3	• Not started.
Music Licensing Fee	Adhere to federal music licensing fee requirements when playing music in public facilities	Q1	• All licenses updated and facilities are all compliant. Complete.

Emerging Issues:

In January 2022, Staff were informed that Red Cross would be winding down their swim lesson program with it ending by December 31, 2022. Red Cross is working with the Lifesaving Society on a transition plan to their Swim for Life program. The Lifesaving Society has started to provide the details of the transition plan and Staff are working to complete the required certification transition for a Fall 2022 launch. This is a significant under-taking both from an internal planning and implementation as well as an external communications perspective. Staff will be reviewing priorities accordingly.

Pender Harbour Aquatic & Fitness Centre [625]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Facility operation and preventative maintenance	Ensure safe, regulation-compliant operation of facility. Prevent breakdowns/service interruptions. Maximize useful life of community assets.	Ongoing	Ensure safe, regulation-compliant operation of facility. Prevent breakdowns/service interruptions. Maximize useful life of community assets.
Annual Facility Maintenance	Annual Facility Maintenance	Q3	Planning for annual maintenance substantially completed. Procurement for contracted annual maintenance services has commenced. Supply chain shortages may result in delays or deferral of some annual maintenance activities being completed. PHAFC Annual Maintenance Closure July 30 – September 5
Provide public access to Aquatic and Fitness facility and programs	Return the facility to traditional operating hours and service levels. (Pending Public Health Orders and staffing)	Ongoing	• Operating at reduced hours due to staffing challenges. • Additional weight room hours (3:30-5:00pm) on Tues/Wed/Thurs started late Q1 and will continue until May 19. • Programs are down due to the PHO's closing weight rooms until January 19 and restricting fitness classes until mid-February. See performance indicators below.
Program Delivery	Delivery of accessible recreation programs in Aquatics and Fitness	Ongoing	• Delivered winter programs (Jan-Mar). • Winter Fitness program were canceled due to PHO. • Winter Registration was good considering the pandemic being present and proof of vaccine being required for all activities. Swim lessons were full. A few extra classes at PHAFC were added to accommodate those on waitlists. • Spring Registration began March 18. Swimming lessons filled on the first day of registration. • Program space is limited, staff have explored using the school for programming but the available times do not match instructor availability or participant desired times. • Staff have been working to attract more program instructors as many have moved on to other work arrangements during the pandemic. • Recruitment of more Lifeguards is ongoing

			• Aquafit participation remains steady and Staff continue to work on offering more classes. See performance indicators below.
Community group partnership/space rental	Support community recreation priorities through providing facility space/services	Ongoing	• Staff participate in the PH Community Recreation Group. • PH Secondary School aquatic leadership programs and fitness bookings continue. • PH Aquatic Society continue to meet/communicate monthly. See performance indicators below.
Business Process/Customer service Improvements	To support policy and procedure development.	Ongoing	• Nothing to report
Respond to ongoing pandemic	As the pandemic continues and new Public Health Orders announced, the facility will be required to respond accordingly which may impact the services being offered.	Q1-Q2	• Continued PHO's in Q1 • Weight rooms were allowed to open with some restrictions January 20 • Youth Sport Tournaments were allowed as of February 1. • Fitness classes and Adult Sport Tournaments were allowed as of February 17 • Mask mandate was lifted on March 11 • Staff capacity was severely limited during Q1 due to illness Q2 - As of April 8, 2022, all PHO's were lifted.

Joint-Use Agreement	Provide access to Recreation Facilities for School District groups/activities.
	
	Resume recreation programming in schools
		Q4	• SD46 provided limited access for SCRD Recreation programs in school facilities starting mid-February. Staff continue to work with potential instructors to re-introduce programming on school sites in the Fall.
			• SCRD re-introduced JUA bookings effective January 1
			  ○ Students resumed drop-in use of the facility January 20 (once the PHO closing weight rooms was lifted).
			  ○ P.E. Teachers have booked weight room orientation for their classes and an ongoing Fitness class.
			  ○ Staff worked with the PHSS to reintroduce the Junior Lifeguard Club and Bronze Medallion at PHAFC in March.

Scheduling software implementation	See through the implementation of the scheduling software in Aquatics	Q3	• Due to ongoing Staff capacity challenges, final implementation of the scheduling software program has been delayed and is now slated for the end of Q3.
Programming Review and implementation	Complete the programming review and implement recommendations	Q1-Q4	• Consultants hired and project is underway. Project is taking longer than anticipated, due to staff capacity, challenges with our Activenet database for data/reports required by consultant. Anticipate completion by late Q3 early Q4.

Fees and Charges Bylaw Review and Recommendations	Complete the fees and charges review, and bring forward recommendations for Board consideration	Ongoing	• Have conducted market research (what other like-facilities are charging). • A thorough review is required, however, we do not have the staff capacity nor expertise. Will develop alternate strategy for Board consideration in 2023.
LIFE program Review (Financial Assistance program)	Complete a review of the Leisure Involvement For Everyone program and bring forward recommendations for Board consideration	Q2-Q4	• Not started.

Staff Recruitment, Training and Development	Continue to recruit staff to address shortages, provide opportunities for training and development, and for staff to strengthen their skills and abilities as it relates to their career.
	
	Strengthen the provision of aquatics through coordinated leadership, new training opportunities and new systems designed with input from staff and adapting to lifeguarding during COVID
		Ongoing	• Conducted successful internal instructor staff training session.
			• Aquatics staff recruitment remains ongoing and plans to introduce internal training for staff is underway with positions and training opportunities expected to be posted early in Q2.
			• SCRD Lifeguard recruitment campaign included:
			  ○ YouTube video https://www.youtube.com/watch?v=VTosqW86T8s
			  ○ Facebook Posts
			  ○ In facility posters
			  ○ Information shared with schools for distribution in their e-newsletters
			• Planning for annual Staff training/in-services is underway with the goal to offer one training session each Quarter.
			• HIGH FIVE training took place in February and March with 4 Staff attending and completing the course. HIGH FIVE is the only recognized certification for recreation and sport in Canada based on the Five Principles of Healthy Child Development for children aged 4-12 years. HIGH FIVE helps organizations enhance the quality of their children's programs and provide positive experiences for children.

Aquatic Facility Safety Plans	Update the aquatic facility safety plans	Ongoing	• In progress 50% completed.
Website Updates	As per the corporate initiative to update the website, PHAFC will need to assign resources to populate and update the new website pages	Q2-Q3	• Not started.
Music Licensing Fee	Adhere to federal music licensing fee requirements when playing music in public facilities	Q1	• All licenses updated and facilities are all compliant. Completed.
Capital Asset Management Plan	Continue to develop a Capital Asset Management Plan for this Facility.	Ongoing	• Not started. Will need to be deferred to 2023 based on staff capacity.

Key Performance Indicators:

Quarterly Electricity Consumption in kWh

PHAFC:

Year	Q1	Q2	Q3	Q4	Annual Total
2020	102,121	42,673	47,771	103,339	295,904
2021	107,664	68,108	51,094	101,761	328,627
2022	99,548	-	-	-	-

Emerging Issues:

Equipment Failures Impacting Service Levels

Equipment	Impact	Failure Date	Days Impacted
-	-	-	-

Human Resources - Facility services has undergone several personnel changes in Q1 with new incumbents in the manager and coordinator roles as well as two experienced facility services operators moving into new roles in parks and building maintenance, and one moving into a blended role in parks and facility services. This has led to a temporary loss of efficiency as staff are transitioning into their new roles. These staffing changes have also led to some reorganization of the division will result in enhanced consistency of the schedule for facility services at PHAFC beginning Q2.

RECREATION SERVICES AND PENDER HARBOUR AQUATIC & FITNESS CENTRE

Key Performance Indicators: *(2019 is used as a comparison due to COVID closures and restrictions in 2020 & 2021)*

Admissions (*Includes paid drop in admissions, membership use or swipes, and lobby games participation (GACC only)*

	2022				2019
Facility	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**
GACC	7,617				14,360
GDAF	4,324				5,368
SAC	31,290				42,500
SCA	1,415				1,699
PHAFC	2,800				4,133
Total	**47,446**				68,060

Facility Bookings/Rentals

Arena - Ice Only

Prime Time: 3:00pm-midnight on school days and 8:00am-midnight on non-school days.
Non-Prime Time: 6:00am-3:00pm on school days and 6:00-8:00am on non-school days

	Q1 2019			Q1 2022		
	Hours Booked	**Hours Available**	**Usage Rate**	**Hours Booked**	**Hours Available**	**Usage Rate**
GACC						
Prime	641.50	845	75.92%	535.25	823	65.04%
Non-prime	3.00	523	0.57%	95.00	473	20.08%
GACC TOTAL	644.50	1,368	47.11%	630.25	1,296	48.63%
SCA						
Prime	612.25	1,069	57.27%	613.25	1,083	56.63%
Non-prime	43.00	551	7.80%	73.50	537	14.06%
SCA TOTAL	655.25	1,620	40.45%	688.75	1,620	42.52%
GRAND TOTAL	**1,299.75**	**2,988**	**43.50%**	**1,319.00**	**2,916**	**45.23%**

Pools

	Q1 2019		Q1 2022	
	Number of bookings	**Hours booked**	**Number of bookings**	**Hours booked**
GDAF	9	14.50	7	11.00
SAC	446	443.08	162	322.75
PHAFC	0	0	0	0
TOTALS	**455**	**457.58**	**169**	**333.75**

Multi-Purpose Rooms

**Available Hours - Operating hours of Centre x No. of Rooms available.*
Partner programs do not include the Joint Use Agreement, which will be reported on annually.

Q1 - 2019				
	Number of bookings	Hours booked	Available Hours*	Usage Rate
GACC (Rooms 204, 209, 217 & 219)				
SCRD Programs	477	530.25		11.67%
Rentals	100	289.75		6.38%
Partner Programs	231	510.75		11.24%
TOTAL	**808**	**1,330.75**	**4,544**	**29.29%**
SAC (Community Room and Fitness Room)				
SCRD Programs	455	464.50		20.00%
Rentals	15	22.50		0.97%
Partner Programs	36	42.00		1.81%
TOTAL	**506**	**529.00**	**2,323**	**22.77%**
SCA (Community Room)				
SCRD Programs	19	19.00		1.17%
Rentals	17	32.75		2.02%
TOTAL	**36**	**51.75**	**1,620**	**3.19%**

Q1 - 2022				
	Number of bookings	Hours booked	Available Hours*	Usage Rate
GACC (Rooms 204, 209, 217 & 219)				
SCRD Programs	98	86.75		1.91%
Rentals	105	158.00		3.48%
Partner Programs	123	242.00		5.33%
TOTAL	**326**	**486.75**	**4,544**	**10.71%**
SAC (Community Room and Fitness Room)				
SCRD Programs	131	164.50		7.08%
Rentals	13	13.00		0.56%
Partner Programs	26	32.50		1.40%
TOTAL	**170**	**210.00**	**2,323**	**9.04%**
SCA (Community Room)				
Rentals	2	4.00		0.25%
TOTAL	**2**	**4.00**	**1,620**	**0.25%**

Registered Programs *(Includes only pre-registered programs. Drop-ins are counted with admissions)*

Season	Quarter	Dates
Winter	Q1	January 1 to March 31
Spring	Q2	April 1 to June 30
Summer	Q3	July 1 to August 31
Fall	Q4	September 1 to December 31

	Ice Programs		Aquatic Programs		Fitness Programs		Totals	
Quarter 1	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**	**2019**	**2022**
No. of Registered Programs	5	3	179	99	155	36	**339**	**138**
No. of Spaces Available	100	68	904	765	1,771	419	**2,775**	**1,252**
No. of Spaces Filled	44	57	440	309	693	106	**1,177**	**472**
No. on Waitlist	11	5	134	115	15	9	**160**	**129**

Marketing – Q1

- Facebook Page: SCRD.Parks.Recreation
    1. Number of followers: 2,114
    2. Reach* 12,382 people.

- Facebook Page: Pender Harbour Aquatic and Fitness Centre
    1. Number of followers: 667
    2. Reach* 3,099

- Number of E-Newsletters subscribers: 248

- Comment cards received: 44

*Reach is the number of people who saw any content for the specified Facebook page throughout Q1.

The following performance indicators will be reported annually in the Q4 report.

- LIFE (Leisure Inclusion For Everyone) program and admission statistics
- JUA (Joint Use Agreement) statistics

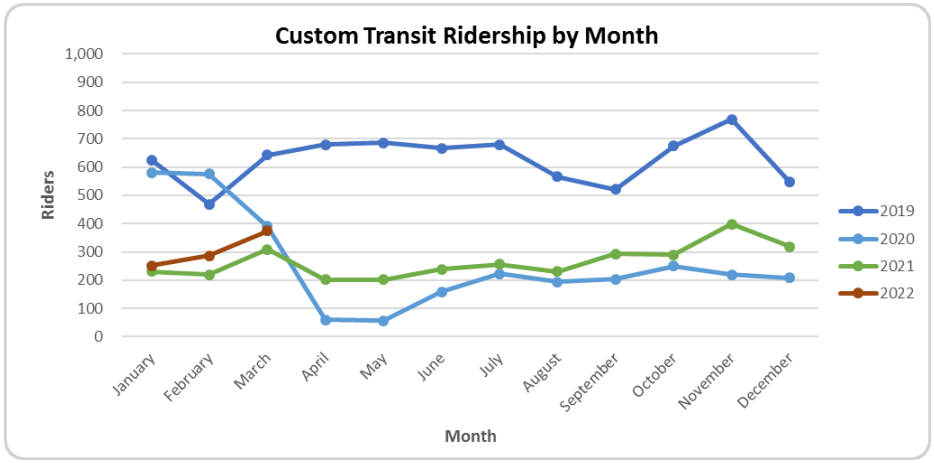
TRANSIT DIVISION [310]

Progress on Priorities from 2022 Service Plan Lite

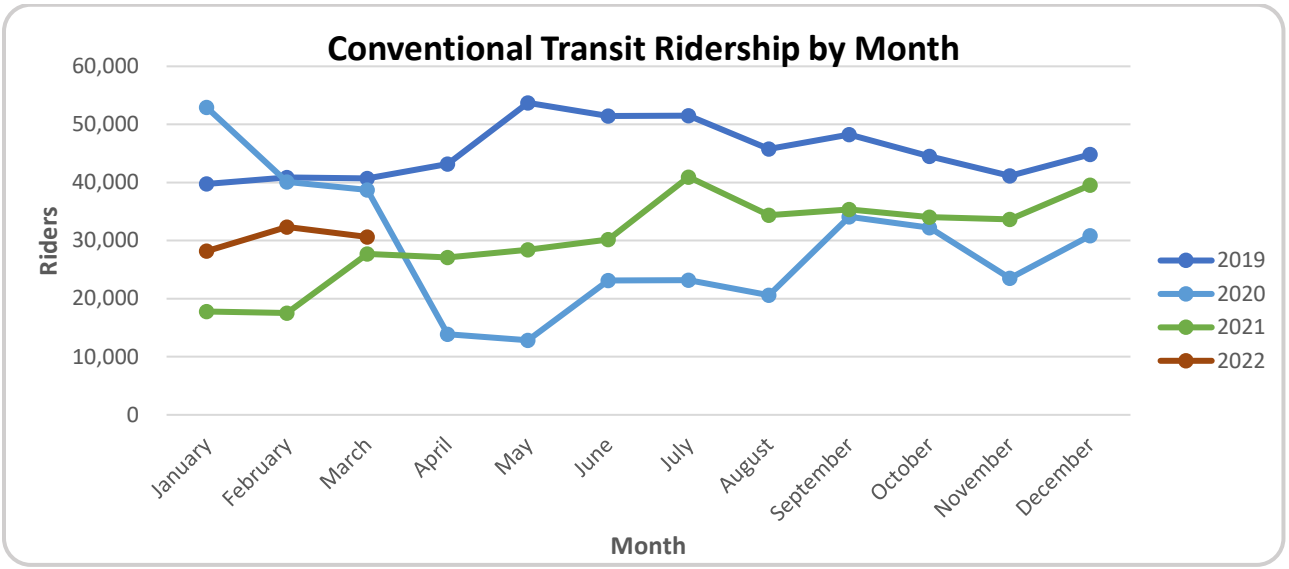
Core Service/Project	**Goal**	**Timeline**	Progress
Transit Operations	Continue to provide conventional and custom transit services as per the Annual Operating Agreement with BC Transit	Ongoing	Service levels for Conventional and Custom transit maintained in Q1
Transit Operations	Continue to provide enhanced cleaning and disinfecting of buses.	Ongoing	Enhanced cleaning service levels have been maintained in Q1 Note that on March 30 the requirement for level 3 cleaning(fogging) has been removed
Transit Operations	Ongoing recruitment, orientation and training of Transit Drivers to maintain service levels.	Ongoing	No driver recruitment in Q1
Transit Operations	In partnership with BC Transit, identify the gaps in service levels between operations and the new BC Transit Operations Standards manual.	Q1-Q4	Waiting for new standards manual from BC Transit.
Transit Future Action Plan (TFAP)	In partnership with BC Transit, completion of the Transit Future Action Plan review. Implementation strategy for the revised priorities identified in the TFAP update.	Q1-Q3	In progress – the 2022 Transit Future Action plan presented to the Board on April 21 for adopting as a planning tool.
Bus Shelter Program Development	To develop a bus shelter program that includes: - current inventory and asset condition assessments - standards for bus shelters - implementation plan (phased approach) - budget implications (capital, operational, asset replacement) - Identification of possible funding opportunities	Q2-Q4	Not Started
Custom Transit Review	Depending on BC Transits capacity to partner, conduct a Custom Transit Review.	Q3-Q4	Not Started
Bike Locker Program	Provide recommendation on future of Transit Bike Locker program.	Q1	In progress Use of the bike locker program over the past five years has been almost non-existent. Lockers themselves are in poor condition. Bike Lockers removed from service. Asset disposal process complete and lockers will be sold via bid site in May.
Website Updates	As per the corporate initiative to update the website, Transit will need to assign resources to populate and update the new website pages	Q2-Q3	Not started

Key Performance Indicators:

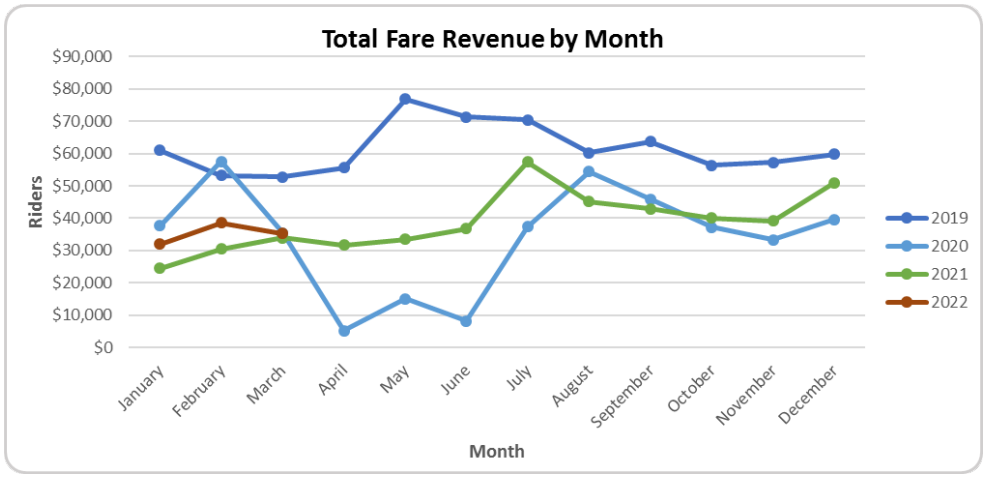
Transit Ridership - The average monthly ridership for Custom buses throughout the winter was 304 trips which represents a 47.44% decrease of average monthly trips from the pre COVID winter of 2019 and a 20% increase of average monthly trips from the same reporting period in 2021.



The average monthly ridership for Conventional buses throughout the winter was 30,390 trips which represents a 24.87% decrease of average monthly trips from the pre COVID winter of 2019 and a 44.58% increase of average monthly trips from the same reporting period in 2021.



Transit Fare Revenue - Revenue has decreased 36.59% from the same reporting period pre COVID in 2019 and increased 19.14% from the same reporting period in 2021. The actual monthly revenue might differ slightly to what is presented in this graph due an increased irregularity in the timing of registration of cash revenue.



*Includes all data received from BC Transit to date

Emerging Issues:

- SCRD staff and BC Transit conducted a Transit Budget Workshop for the SCRD board on March 30.
- BC Transit conducted its annual Site Review Audit with SCRD Transit staff on March 29. Feedback from this audit will be used for continuous improvement opportunities.

FLEET DIVISION [312]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Fleet Operations	Conduct annual Commercial Vehicle Inspections	Q2-Q3	Not started
Fleet Operations	Conduct annual fleet inspections on all BC Transit Buses	Q3-Q4	Not started
Fleet Operations	Annual fleet servicing of SCRD generators	ongoing	In progress
Fleet Operations	Preventative and scheduled maintenance of SCRD vehicles and equipment	ongoing	Annual maintenance is ongoing and service levels are being maintained
Fleet Management	Begin to develop the scope of a Corporate Fleet strategy.	Q3-Q4	Not started

Other:

- Fleet staff received Refrigerant Handling Certificates for working on bus HVAC systems.
- Fleet received 2 new units to prepare for service:
    - 2022 Freightliner fire truck for Halfmoon Bay Fire
    - 2022 Kubota 4WD Tractor for Parks

PORTS AND DOCKS DIVISION [345 & 346]

Progress on Priorities from 2022 Service Plan Lite

Core Service/Project	Goal	Timeline	Progress
Routine preventative maintenance and minor repairs	Completion of annual inspections / repair visits completed through a master service agreement (3x/yr.). Sustainable, cost-effective asset management and prevention of service interruptions	Ongoing	First round of 2022 inspections currently being planned for beginning of Q2.
Public information on docks/moorage	Provide timely, reliable information to residents and visitors about SCRD ports.	Ongoing	Ongoing as required.
Community cooperation and knowledge sharing	Support an effective Ports Monitors Committee (POMO), and host meetings 2x per year.	Ongoing	POMO meeting scheduled for Q2.
Asset management	Completion of a major inspection of all nine ports will identify priorities for repair and replacements to maintain the asset. Collection of valuable information to populate an asset management plan.	Every 5 years	Intending to have major inspections complete by end of year. Ports staff recruited and begins in Q2, which will help provide capacity to advance this project.
Capital improvement projects	Complete capital replacement carry forward projects adhering to environmental regulations and limiting service disruption.	2022/2023	Major inspections are intended to contribute to an asset renewal plan and identify priorities for capital investment. Carry forward projects will be reviewed for prioritization and completion.
Facilitate and support the provision of public docks (New Brighton Dock)	In partnership with the Squamish Nation Marine Group, and Gambier Island Community Association, facilitate a community conversation regarding the New Brighton dock and conduct any studies required in the process.	2022	Staff have been in contact with representatives from several organizations to re-engage discussions related to facilitating community solutions for the New Brighton dock. (Gambier Island Community Association, Squamish Nation representative, Islands Trust representative). Ports staff recruited and begins in Q2, which will help provide capacity to advance this project.

Reviewed by:			
Manager	X – A. VanVelzen X - K. Clarkson X – G. Donn X – J. Walton	Finance	
GM	X – S. Gagnon	Legislative	
CAO	X – D. McKinley	Other	