

Introduction

(0.1) Please give a general description and introduction to your city including your city's reporting boundary in the table below.

	Administrative boundary	Description of city
City boundary	City / Municipality	The City of Victoria is a coastal city on Vancouver Island located in the traditional territory of the Esquimalt and Songhees First Nations. Victoria is the capital city of British Columbia and is widely recognized for its high quality of life, heritage, physical beauty, character and charm. Victoria's current challenges include the impacts of climate change, infrastructure deficits and an aging population. Council, through adoption of the Victoria Sustainability Framework and its 2012 Official Community Plan, has charted a course towards a future where Victoria becomes a more sustainable and resilient city in the face of this uncertainty. Over the past 30 years Victoria has grown and changed dramatically. The city's population has increased from 63,800 in 1981 to more than 86,000 in 2016, with most of that growth occurring in the city core and on former industrial lands near the harbour. The economic transition that saw the departure of most of the primary manufacturing and shipping from the harbour and the core has seen these lands redeveloped as thriving residential and mixed-use neighbourhoods, with greatly increased public access to the water through an expanding network of harbourside parks and trails. This rediscovery of the centre has also resulted in the revitalization of many of Victoria's high quality Victorian and Edwardian buildings, returning new life to Old Town and Chinatown and further enhancing the quality of place. Over the next 30 years, Victoria is expected to grow by an additional 20,000 residents through building on the advantages of its harbour location, compact urban form, and human-scaled neighbourhoods, undergoing a deeper transition, to become a leader in urban sustainability while remaining one of Canada's most livable cities. The foundation for this transition is a growth management concept based on a strong Urban Core and network of walkable Town Centres and Urban Villages.

(0.2) If you have not previously submitted your Letter of Commitment to the Global Covenant of Mayors, either through the relevant regional covenant or through the Global Covenant secretariat, please attach the letter signed by an appropriately mandated official (e.g. Mayor, City Council) to this question.

City Details

(0.3) Please provide information about your city's Mayor or equivalent legal representative authority in the table below:

	Leader title	Leader name	Current term end month	Current term end year
Please complete	Mayor	Lisa Helps	Please select	2022

(0.4) Please select the currency used for all financial information disclosed throughout your response.

CAD Canadian Dollar

(0.5) Please provide details of your city's current population. Report the population in the year of your reported inventory, if possible.

	Current population	Current population year	Projected population	Projected population year
Please complete	92000	2018	103000	2040

(0.6) Please provide further details about the geography of your city.

	Land area of the city boundary as defined in question 0.1 (in square km)
Please complete	19.47

Governance and Data Management

Governance

(1.0) Does your city incorporate sustainability goals and targets (e.g. GHG reductions) into the master planning for the city?

Yes

(1.0a) Please detail which goals and targets are incorporated in your city's master plan and describe how these goals are addressed in the table below.

Goal type	How are these goals/targets addressed in the city master plan?
Emissions reduction targets	A chapter in Official Community Plan "Climate Change and Energy" provides GHG reduction target, goals and objectives
Adaptation targets	Chapter in Official Community Plan "Climate Change and Energy" provides climate resiliency goals and objectives

(1.1) Has the Mayor or city council committed to climate adaptation and/or mitigation across the geographical area of the city?

Yes

(1.1a) Please select any commitments to climate adaptation and/or mitigation your city has signed and attach evidence.

Name of commitment and attach document

Individual city commitment  
COV 2019-2022 Strategic Plan FINAL March 29, 2019.pdf

Type of commitment

Both

Comments

The 2019-2022 strategic plan adopted by Council identifies Climate Leadership and Environmental Stewardship as a strategic objective

Climate Hazards & Vulnerability

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Risk and Vulnerability Assessment

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**(2.0) Has a climate change risk and vulnerability assessment been undertaken for the city area?**

Yes

**(2.0a) Please select the primary process or methodology used to undertake the risk and vulnerability assessment of your city.**

	Primary methodology	Description
Risk assessment methodology	Building Adaptive and Resilient Cities (BARC) toolkit (regional – Canada)	The risk and vulnerability assessment has been updated for 2019. Previous assessment was completed in 2012

**(2.0b) Please attach and provide details on your climate change risk and vulnerability assessment. Please provide details on the boundary of your assessment, and where this differs from your city’s boundary, please provide an explanation.**

**Publication title and attach the document**

City of Victoria Climate Risk Assessment Summary Report (2019)

**Year of adoption from local government**

2019

**Web link**

**Boundary of assessment relative to city boundary (reported in 0.1)**

Larger – covers the whole city and adjoining areas

**Explanation of boundary choice where the assessment boundary differs from the city boundary**

Captures regional impacts on community

**Areas/sectors covered by the risk and vulnerability assessment**

- Energy
- Water Supply & Sanitation
- Environment, Biodiversity and Forestry
- Commercial
- Residential
- Public health
- Community & Culture
- Emergency Management
- Land use planning

**Primary author of assessment**

Consultant

**Does the assessment identify vulnerable populations?**

Yes

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Climate Hazards

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**(2.1) Please list the most significant climate hazards faced by your city and indicate the probability and consequence of these hazards, as well as the expected future change in frequency and intensity. Please also select the most relevant assets or services that are affected by the climate hazard and provide a description of the impact.**

**Climate Hazards**

Extreme Precipitation > Rain storm

**Did this hazard significantly impact your city before 2019?**

Yes

**Current probability of hazard**

Medium High

**Current consequence of hazard**

Medium

**Social impact of hazard overall**

- Increased demand for public services
- Increased risk to already vulnerable populations

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Immediately

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**Most relevant assets / services affected overall**

Water supply & sanitation  
Transport  
Environment, biodiversity, forestry

**Please identify which vulnerable populations are affected**

Elderly  
Low-income households  
Persons living in sub-standard housing

**Magnitude of expected future impact**

Medium

**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

Potential for sanitary sewer system backflows in localized areas. Streets and homes flooded. Weakening of tree roots leading to trees falling during windstorm

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**Climate Hazards**

Extreme hot temperature > Extreme hot days

**Did this hazard significantly impact your city before 2019?**

Yes

**Current probability of hazard**

Medium

**Current consequence of hazard**

Medium Low

**Social impact of hazard overall**

Increased demand for public services  
Increased demand for healthcare services  
Increased risk to already vulnerable populations

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Short-term (by 2025)

**Most relevant assets / services affected overall**

Residential  
Public health  
Emergency services

**Please identify which vulnerable populations are affected**

Women & girls  
Children & youth  
Elderly  
Low-income households  
Persons living in sub-standard housing

**Magnitude of expected future impact**

Medium

**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

Vulnerable citizens suffer health impacts or mortality due to sustained period of extreme heat

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**Climate Hazards**

Biological hazards > Vector-borne disease

**Did this hazard significantly impact your city before 2019?**

No

**Current probability of hazard**

Medium Low

**Current consequence of hazard**

Medium Low

**Social impact of hazard overall**

Increased demand for healthcare services  
Increased risk to already vulnerable populations

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Short-term (by 2025)

**Most relevant assets / services affected overall**

Residential  
Public health

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Emergency services

**Please identify which vulnerable populations are affected**

Women & girls

Children & youth

Elderly

Persons with chronic diseases

**Magnitude of expected future impact**

Low

**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

New ailments arrive (e.g., Lyme disease, West Nile Virus) or existing ailments are exacerbated.

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**Climate Hazards**

Flood and sea level rise > Coastal flood

**Did this hazard significantly impact your city before 2019?**

Yes

**Current probability of hazard**

Medium Low

**Current consequence of hazard**

Medium Low

**Social impact of hazard overall**

Increased demand for public services

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Immediately

**Most relevant assets / services affected overall**

Transport

Commercial

Residential

**Please identify which vulnerable populations are affected**

**Magnitude of expected future impact**

Low

**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

Low-lying coastal areas are flooded, resulting in property damage, and road closures

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**Climate Hazards**

Wild fire > Forest fire

**Did this hazard significantly impact your city before 2019?**

Yes

**Current probability of hazard**

Medium

**Current consequence of hazard**

Medium Low

**Social impact of hazard overall**

Increased incidence and prevalence of disease and illness

Increased demand for healthcare services

Increased risk to already vulnerable populations

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Immediately

**Most relevant assets / services affected overall**

Public health

**Please identify which vulnerable populations are affected**

Women & girls

Children & youth

Elderly

Persons with chronic diseases

**Magnitude of expected future impact**

Low

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**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

Smoke from wildfires on the mainland has created health challenges for vulnerable populations in Victoria. Although robust data is currently not available, increases in hospital visits for conditions like asthma occurred.

**Climate Hazards**

Storm and wind > Severe wind

**Did this hazard significantly impact your city before 2019?**

Yes

**Current probability of hazard**

Medium

**Current consequence of hazard**

Medium

**Social impact of hazard overall**

Increased demand for public services

Increased risk to already vulnerable populations

**Future change in frequency**

Increasing

**Future change in intensity**

Increasing

**When do you first expect to experience those changes?**

Short-term (by 2025)

**Most relevant assets / services affected overall**

Energy

Commercial

Residential

Emergency services

**Please identify which vulnerable populations are affected**

Persons with disabilities

Low-income households

Persons living in sub-standard housing

**Magnitude of expected future impact**

Medium

**Please describe the impacts experienced so far, and how you expect the hazard to impact in the future**

In December of 2018, a severe windstorm hit Victoria with gusts topping 100km/hr., causing thousands of residents to lose power. BC Hydro has since reported this was the most damaging storm in BC's history and required the largest mobilization of BC Hydro's resources they have ever experienced.

**(2.2) Please identify and describe the factors that most greatly affect your city's ability to adapt to climate change and indicate how those factors either support or challenge this ability.**

Factors that affect ability to adapt	Support / Challenge	Please describe the factor and the degree to which it supports or challenges the adaptive capacity of your city
Housing	Challenge	The city's homeless population is more vulnerable to weather extremes (e.g., extreme heat events).
Poverty	Challenge	Lack of resources to access adequate food and shelter lead to increased vulnerability to climate impacts.
Infrastructure conditions / maintenance	Challenge	Aged underground infrastructure, increases risk of localized collapse or blockage and consequent flooding during heavy rainfall or storm event.
Land use planning	Support	The City's OCP supports the creation and enhancement of complete compact communities, bringing resources and services close to where people live and thereby increasing community resilience to climate impacts.

**Adaptation**

**Adaptation Actions**

**(3.0) Please describe the main actions you are taking to reduce the risk to, and vulnerability of, your city's infrastructure, services, citizens, and businesses from climate change as identified in the Climate Hazards section.**

**Climate hazards**

Extreme Precipitation > Rain storm

**Action**

Nature based solutions for water

**Action title**

Rainwater Rewards program

**Status of action**

Operation

**Co-benefit area**

Ecosystem preservation and biodiversity improvement

**Action description and implementation progress**

The City of Victoria has developed an incentive program for properties that manage rainwater sustainably.

**Finance status**

Finance secured

**Total cost of the project****Total cost provided by the local government****Primary fund source**

Local

**Web link**

[https://www.victoria.ca/EN/main/residents/water-sewer-stormwater/stormwater/rainwater\\_rewards\\_program.html](https://www.victoria.ca/EN/main/residents/water-sewer-stormwater/stormwater/rainwater_rewards_program.html)

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**Climate hazards**

Extreme hot temperature > Extreme hot days

**Action**

Public preparedness (including practice exercises/drills)

**Action title**

Connect and Prepare program

**Status of action**

Operation

**Co-benefit area**

Enhanced resilience  
Social inclusion, social justice  
Improved public health

**Action description and implementation progress**

Connect and Prepare helps residents identify their neighbourhood's assets, skills, and challenges they may face based on their community's risks, and to develop solutions and actions that will be most valuable to their community to prepare for, respond to and recover from a major emergency. It seeks to identify and connect vulnerable residents with each other to increase disaster preparedness. It should be noted that this program addresses multiple hazard s(e.g., extreme storms).

**Finance status****Total cost of the project****Total cost provided by the local government****Primary fund source****Web link**

<https://www.victoria.ca/EN/main/residents/public-safety/emergency-preparedness/neighbourhood-preparedness.html>

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**Climate hazards**

Flood and sea level rise > Coastal flood

**Action**

Sea level rise modelling

**Action title**

Regional SLR mapping initiative

**Status of action**

Pre-implementation

**Co-benefit area**

Enhanced climate change adaptation

**Action description and implementation progress**

The City of Victoria is part of a project being led by the Capital Region District that is funded through the National Disaster Mitigation Program that will produce detailed SLR hazard maps for the City and region.

**Finance status**

Please select

**Total cost of the project****Total cost provided by the local government****Primary fund source**

Please select

**Web link****Climate hazards**

Flood and sea level rise > Coastal flood

**Action**

Hazard resistant infrastructure design and construction

**Action title**

Duck bill valve installation on vulnerable stormwater outfalls

**Status of action**

Pre-implementation

**Co-benefit area**

Enhanced resilience  
Economic growth

**Action description and implementation progress**

This work will be undertaken as part of a comprehensive program of seismic and climate resiliency work funded in part by Infrastructure Canada through the DMAF.

**Finance status**

Finance secured

**Total cost of the project**

**Total cost provided by the local government**

**Primary fund source**

(Sub)national

**Web link**

<https://www.canada.ca/en/office-infrastructure/news/2019/05/canada-helps-protect-victoria-residents-from-impacts-of-coastal-natural-hazards.html>

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## Adaptation Planning

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**(3.1) Does your city council have a published plan that addresses climate change adaptation?**

Yes

**(3.1a) Please provide more information on your plan that addresses climate change adaptation and attach the document. Please provide details on the boundary of your plan, and where this differs from your city's boundary, please provide an explanation.**

**Publication title and attach the document**

Climate Leadership Plan

**Areas covered by adaptation plan**

Building and Infrastructure  
Public Health and Safety  
Social Services

**Year of adoption from local government**

2018

**Boundary of plan relative to city boundary (reported in 0.1)**

Same - covers entire city and nothing else

**If the city boundary is different from the plan boundary, please explain why and any areas/other cities excluded or included**

Uses territorial boundary, but supports and advocates for actions outside jurisdictional boundary where those actions influence climate change in the community.

**Stage of implementation**

Plan developed but not implemented

**Type of plan**

Integrated mitigation / adaptation

**Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?**

Intending to undertake in the next 2 years

**Comment or describe the synergies, trade-offs, and co-benefits of this interaction**

**Primary author of plan**

Dedicated city team

**Description of the stakeholder engagement processes**

The actions in the Climate Leadership Plan resulted from a climate vulnerability and risk assessment that involved staff from multiple departments, and a number of community organizations (e.g., Island Health, BC Healthy Communities) and other levels of government (e.g., BC Climate Action Secretariat). The public was also engaged about the adaptation direction proposed in the plan.

**Web link**

[https://www.victoria.ca/assets/Departments/Engineering~Public~Works/Documents/City%20of%20Victoria%20Climate%20Leadership%20Plan%20\(1805\).pdf](https://www.victoria.ca/assets/Departments/Engineering~Public~Works/Documents/City%20of%20Victoria%20Climate%20Leadership%20Plan%20(1805).pdf)

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## Adaptation Goals

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**(3.2) Please describe the main goals of your city’s adaptation efforts and the metrics / KPIs for each goal.**

**Adaptation goal**

All climate-related risks to City infrastructure are minimized through early and wise planning and action.

**Target year**

2023

**Metrics / indicators**

A monitoring and evaluation approach for this goal is currently under development.

**Percentage of target achieved so far**

**Does this target align with a requirement from a higher level of government?**

Please select

**Adaptation goal**

Victoria’s natural environment flourishes in a changing climate.

**Target year**

2023

**Metrics / indicators**

A monitoring and evaluation approach for this goal is currently under development.

**Percentage of target achieved so far**

**Does this target align with a requirement from a higher level of government?**

Please select

**Adaptation goal**

All Victorians are empowered and prepared for climate impacts and emergencies.

**Target year**

2023

**Metrics / indicators**

A monitoring and evaluation approach for this goal is currently under development.

**Percentage of target achieved so far**

**Does this target align with a requirement from a higher level of government?**

Please select

**City Wide Emissions**

**City-wide GHG Emissions Data**

**(4.0) Does your city have a city-wide emissions inventory to report?**

Yes

**(4.1) Please state the dates of the accounting year or 12-month period for which you are reporting your latest city-wide GHG emissions inventory.**

	From	To
Accounting year dates	January 1 2018	December 31 2018

**(4.2) Please indicate the category that best describes the boundary of your city-wide GHG emissions inventory.**

	Boundary of inventory relative to city boundary (reported in 0.1)	Excluded sources / areas	Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)
Please explain	Same – covers entire city and nothing else		Follows GPC BASIC Plus scope, so includes emissions from power generated outside city boundaries and trans boundary transportation emissions.

**(4.3) Please give the name of the primary protocol, standard, or methodology you have used to calculate your city’s city-wide GHG emissions.**

	Primary protocol	Comment
Emissions methodology	Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC)	

**(4.3a) The Global Covenant of Mayors requires committed cities to report their inventories in the format of the new Common Reporting Framework, to encourage standard reporting of emissions data. If your city is reporting an updated inventory, we encourage reporting this in the CRF format, for which guidance can be found in the link below. Would you like to report your inventory in the CRF format or continue to report in the GPC format? Please ensure you respond to this question in order for the correct emissions breakdown questions to be displayed.**

Yes – use the CRF format

**(4.4) Which gases are included in your city-wide emissions inventory? Select all that apply.**

- CO2
- CH4
- N2O
- HFCs
- PFCs
- SF6
- NF3

**(4.5) Please attach your city-wide inventory in Excel or other spreadsheet format and provide additional details on the inventory calculation methods in the table below.**

**Emissions inventory format**

GPC format: City Inventory Reporting and Information System (CIRIS) GPC Reporting tool

**Document title and attachment**

cov\_ghg\_community\_calc\_20180628\_01.xlsx  
 cov\_gpc\_rpt\_20190627\_1.xlsx

**Emissions factors used**

Other (Canada, 2019 National Inventory Report (NIR) and BC Provincial Government published emission factors)

**Global Warming Potential (select relevant IPCC Assessment Report)**

IPCC 5th AR (2013)

**Please select which additional sectors are included in the inventory**

Industrial process and/or product use  
 Agriculture, forestry or other land use sectors

**Population in inventory year**

92041

**Overall Level of confidence**

High

**Comment on level of confidence**

**(4.6a) The Global Covenant of Mayors requires committed cities to report their inventories in the format of the new Common Reporting Framework, to encourage standard reporting of emissions data. Please provide a breakdown of your city-wide emissions by sector and sub-sector in the table below. Where emissions data is not available, please use the relevant notation keys to explain the reason why.**

	Direct emissions / Scope 1 (metric tonnes CO2e)	If you have no direct emissions to report, please select a notation key to explain why	Indirect emissions from the use of grid-supplied electricity, heat, steam and/or cooling / Scope 2 (metric tonnes CO2e)	If you have no indirect emissions to report, please select a notation key to explain why	Emissions occurring outside the city boundary as a result of in-city activities / Scope 3 (metric tonnes CO2e)	If you have no emissions occurring outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	Please explain any excluded sources, identify any emissions covered under an ETS and provide any other comments
Stationary energy > Residential buildings	63230	Please select	3094	Please select	251	Please select	
Stationary energy > Commercial buildings & facilities	112987	Please select	4828	Please select	391	Please select	Institutional and industrial emissions included here
Stationary energy > Institutional buildings & facilities		Integrated Elsewhere		Integrated Elsewhere		Integrated Elsewhere	
Stationary energy > Industrial buildings & facilities		Integrated Elsewhere		Integrated Elsewhere		Integrated Elsewhere	
Stationary energy > Agriculture		Integrated Elsewhere		Integrated Elsewhere		Integrated Elsewhere	
Stationary energy > Fugitive emissions	1200	Please select		Please select		Please select	
Total Stationary Energy	177417	Please select	7922	Please select	642	Please select	
Transportation > On-road	42580	Please select		Please select	106745	Please select	
Transportation > Rail		Not Occurring		Not Occurring		Not Occurring	
Transportation > Waterborne navigation	384	Please select		Integrated Elsewhere	38809	Please select	
Transportation > Aviation	606	Please select		Integrated Elsewhere		Integrated Elsewhere	
Transportation > Off-road	11687	Please select		Integrated Elsewhere		Integrated Elsewhere	
Total Transport	55257	Please select	0	Please select	151800	Please select	

	Direct emissions / Scope 1 (metric tonnes CO2e)	If you have no direct emissions to report, please select a notation key to explain why	Indirect emissions from the use of grid-supplied electricity, heat, steam and/or cooling / Scope 2 (metric tonnes CO2e)	If you have no indirect emissions to report, please select a notation key to explain why	Emissions occurring outside the city boundary as a result of in-city activities / Scope 3 (metric tonnes CO2e)	If you have no emissions occurring outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	Please explain any excluded sources, identify any emissions covered under an ETS and provide any other comments
Waste > Solid waste disposal		Not Occurring		Please select	23833	Please select	
Waste > Biological treatment		Not Occurring		Please select	854	Please select	
Waste > Incineration and open burning		Not Occurring		Please select		Not Occurring	
Waste > Wastewater		Not Occurring		Please select	6392	Please select	
Total Waste	0	Please select		Please select	31078	Please select	
IPPU > Industrial process		Not Occurring		Please select		Please select	
IPPU > Product use	29919	Please select		Please select		Please select	
Total IPPU	29919	Please select		Please select		Please select	
AFOLU > Livestock		Not Occurring		Please select		Please select	
AFOLU > Land use		Please select		Please select		Please select	We record emissions from land use as -550 (not recordable in form sheet)
AFOLU > Other AFOLU	2	Please select		Please select		Please select	
Total AFOLU		Please select		Please select		Please select	We record -548, which cannot be entered in the form sheet.
Generation of grid-supplied energy > Electricity-only generation		Not Occurring		Please select		Please select	
Generation of grid-supplied energy > CHP generation		Not Occurring		Please select		Please select	
Generation of grid-supplied energy > Heat/cold generation		Not Occurring		Please select		Please select	
Generation of grid-supplied energy > Local renewable generation		Not Occurring		Please select		Please select	
Total Generation of grid-supplied energy	0	Please select		Please select		Please select	
Total Emissions (excluding generation of grid-supplied energy)	262045	Please select	7922	Please select	183521	Please select	

(4.8) Please indicate if your city-wide emissions have increased, decreased, or stayed the same since your last emissions inventory, and describe why.

	Change in emissions	Primary reason for change	Please explain and quantify changes in emissions
Please explain	Decreased	Increased energy/electricity consumption	Estimated consumption of heating oil decreased. Part of a consistent trend due to high price of heating oil and home insurance challenges associated with insuring an oil heated home. Commercial natural gas consumption also decreased, likely to due to increased efficiency measures and price spike in Oct 2018 due to natural gas pipeline rupture.

(4.9) Does your city have a consumption-based inventory to measure emissions from consumption of goods and services by your residents?

	Response	Provide an overview and attach your consumption-based inventory if relevant
Please complete	Yes	Victoria EF PILOT SUMMARY REPORT DEC12.pdf

## City-wide external verification

(4.11) Has the city-wide GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

Intending to undertake in the next 2 years

**(4.11b) Please explain why your city-wide emissions inventory is not verified and describe any plans to verify your city-wide emissions in the future.**

	Reason	Comments
Please explain	Verification is not prioritised	Understood not to be a requirement for the CDP or Covenant of Mayors

### Historical emissions inventories

**(4.12) Please provide details on any historical and base year city-wide emissions inventories your city has, in order to allow assessment of targets in the table below.**

### Re-stating previous emissions inventories

**(4.13) Since your last submission, have you needed to recalculate any past city-wide GHG emission inventories previously reported to CDP?**  
No

### Emissions Reduction

#### Mitigation Target setting

**(5.0) Do you have a GHG emissions reduction target in place at the city-wide level? Select all that apply.**

Base year emissions (absolute) target

**(5.0a) Please provide details of your total city-wide base year emissions reduction (absolute) target. In addition, you may add rows to provide details of your sector-specific targets, by providing the base year emissions specific to that target.**

**Sector**

All emissions sources included in city inventory

**Where sources differ from the inventory, identify and explain these additions / exclusions**

Transportation emissions target includes transboundary emissions of vehicles registered within city boundaries. Grid/Power generation emissions are included in target.

**Boundary of target relative to city boundary (reported in 0.1)**

Same – covers entire city and nothing else

**Base year**

2007

**Year of target implementation**

2016

**Base year emissions (metric tonnes CO2e)**

412875

**Percentage reduction target**

80

**Target year**

2050

**Target year absolute emissions (metric tonnes CO2e)**

82575

**Percentage of target achieved so far**

10.4

**Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?**

Yes - 1.5 °C

**Please indicate to which sector(s) the target applies**

- Energy industry
- Heating and cooling supply
- Commercial buildings
- Residential buildings
- Public facility
- Industrial facilities
- Transport
- Water

**Does this target align to a requirement from a higher level of sub-national government**

Yes, but it exceeds its scale or requirement

**Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.**

80% reduction in GHG emissions from 2007 baseline by 2050. Shift away from fossil fuels to 100% renewable energy by 2050. 50% reduction in community GHG emissions by 2030

**(5.1) Please describe how the target(s) reported above align with the global 1.5 - 2 °C pathway set out in the Paris agreement.**

The City of Victoria is aiming to be net zero carbon by 2050 through its 100% renewable energy target and Zero Waste Strategy (underway). These combined targets will align with the October 2018 IPCC Special Report pathway consistent with limiting warming to 1.5 degrees through "reaching net zero CO2... around 2050 and concurrent deep reductions in emissions of non-CO2 forcers, particularly methane".

**(5.2) Is your city-wide emissions reduction target(s) conditional on the success of an externality or component of policy outside of your control?**

Yes

**(5.2a) Please identify and describe the conditional components of your city-wide emissions reduction target(s).**

Provincial commitments to renewable natural gas supply must be met or exceeded. EV technology must continue to develop, become more affordable and model range expand. Provincial and Federal EV incentives and ZEV requirements must continue/be implemented. Provincial Low Carbon Fuel Standard commitments must be fulfilled. Federal and Provincial investment in low carbon economy must continue. Carbon Tax must continue to increase. Access to affordable renewable energy is essential.

**(5.3) Does your city-wide emissions reduction target(s) account for the use of transferable emissions units?**

No

## Mitigation Actions

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**(5.4) Describe the anticipated outcomes of the most impactful mitigation actions your city is currently undertaking; the total cost of the action and how much is being funded by the local government.**

**Mitigation action**

Buildings > Building codes and standards

**Action title**

BC Step Code Implementation

**Means of implementation**

Development and implementation of action plan

**Implementation status**

Implementation complete

**Estimated emissions reduction (metric tonnes CO2e)**

17438.99

**Energy savings (MWh)**

**Renewable energy production (MWh)**

**Timescale of reduction / savings / energy production**

Projected lifetime

**Co-benefit area**

Enhanced resilience

Reduced GHG emissions

Improved resource efficiency (e.g. food, water, energy)

Greening the economy

**Action description**

Implementation of BC's energy performance based step code for new buildings

**Finance status**

Finance secured

**Total cost of the project**

**Total cost provided by the local government**

**Primary fund source**

Local

**Web link to action website**

<https://www.victoria.ca/EN/main/residents/planning-development/development-services/green-buildings.html>

**Name of the stakeholder group**

<Not Applicable>

**Role in the GCC program**

<Not Applicable>

**Name of the engagement activities**

<Not Applicable>

**Aim of the engagement activities**

<Not Applicable>

**Attach reference document**

<Not Applicable>

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**Mitigation action**

Buildings > Energy efficiency/ retrofit measures

**Action title**

Oil to Heat Pump Replacement

**Means of implementation**

Financial mechanism

**Implementation status**

Operation

**Estimated emissions reduction (metric tonnes CO2e)**

62339

**Energy savings (MWh)****Renewable energy production (MWh)****Timescale of reduction / savings / energy production**

Projected lifetime

**Co-benefit area**

Disaster Risk Reduction

Enhanced climate change adaptation

Reduced GHG emissions

Greening the economy

Improved resource quality (e.g. air, water)

Improved public health

Ecosystem preservation and biodiversity improvement

**Action description**

Oil to Heat Pump Top Up Program. City of Victoria tops up a provincial initiative supporting the replacement of oil furnaces for home heating with air source heat pumps.

**Finance status**

Finance secured

**Total cost of the project****Total cost provided by the local government**

18000

**Primary fund source**

Local

**Web link to action website**

<https://www.victoria.ca/EN/main/residents/climate-change/programs-and-rebates-faq.html>

**Name of the stakeholder group**

<Not Applicable>

**Role in the GCC program**

<Not Applicable>

**Name of the engagement activities**

<Not Applicable>

**Aim of the engagement activities**

<Not Applicable>

**Attach reference document**

<Not Applicable>

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**Mitigation action**

Buildings > Energy efficiency/ retrofit measures

**Action title**

Clean BC Better Homes

**Means of implementation**

Financial mechanism

**Implementation status**

Implementation

**Estimated emissions reduction (metric tonnes CO2e)**

66899

**Energy savings (MWh)****Renewable energy production (MWh)****Timescale of reduction / savings / energy production**

Projected lifetime

**Co-benefit area**

Reduced GHG emissions

Improved resource efficiency (e.g. food, water, energy)

Poverty reduction / eradication

Greening the economy

Economic growth

Job creation

Improved resource security (e.g. food, water, energy)

**Action description**

The City of Victoria tops up a Province led program that supports energy efficiency retrofits in homes. Note funding is annual commitment.

**Finance status**

Finance secured

**Total cost of the project****Total cost provided by the local government**

21000

**Primary fund source**

Local

**Web link to action website**

<https://www.victoria.ca/EN/main/residents/climate-change/programs-and-rebates-faq.html>

**Name of the stakeholder group**

<Not Applicable>

**Role in the GCC program**

<Not Applicable>

**Name of the engagement activities**

<Not Applicable>

**Aim of the engagement activities**

<Not Applicable>

**Attach reference document**

<Not Applicable>

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**Mitigation action**

Community-Scale Development > Compact cities

**Action title****Means of implementation****Implementation status**

Implementation

**Estimated emissions reduction (metric tonnes CO2e)**

20645

**Energy savings (MWh)****Renewable energy production (MWh)****Timescale of reduction / savings / energy production**

Projected lifetime

**Co-benefit area**

Reduced GHG emissions

Poverty reduction / eradication

Greening the economy

Improved public health

Improved access to and quality of mobility services and infrastructure

Shift to more sustainable behaviours

**Action description**

Phase 1 implementation of an All Ages and Abilities (AAA) cycling route which when completed will provide over 32 kilometers of enhanced bicycle infrastructure

**Finance status**

Feasibility finalized, and finance partially secured

**Total cost of the project**

12000000

**Total cost provided by the local government****Primary fund source**

(Sub)national

**Web link to action website**

<https://www.victoria.ca/EN/main/residents/transportation/cycling.html>

**Name of the stakeholder group**

<Not Applicable>

**Role in the GCC program**

<Not Applicable>

**Name of the engagement activities**

<Not Applicable>

**Aim of the engagement activities**

<Not Applicable>

**Attach reference document**

<Not Applicable>

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## Mitigation Planning

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**(5.5) Does your city have a climate change mitigation or energy access plan for reducing city-wide GHG emissions?**

Yes

**(5.5a) Please attach your city's climate change mitigation plan below. If your city has both action and energy access plans, please make sure to attach all relevant documents below.**

**Publication title and attach document**

City of Victoria Climate Leadership Plan

**Year of adoption from local government**

2018

**Web link**

<https://www.victoria.ca/EN/main/residents/climate-change/climate-action.html>

**Areas covered by action plan**

Energy  
Transport (Mobility)  
Building and Infrastructure  
Waste  
Public Health and Safety

**Boundary of plan relative to city boundary (reported in 0.1)**

Same – covers entire city and nothing else

**If the city boundary is different from the plan boundary, please explain why and any areas/other cities excluded or included**

**Stage of implementation**

Plan in implementation

**Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?**

In progress

**Comment or describe the synergies, trade-offs, and co-benefits of this interaction**

Opportunities to address areas such as housing affordability, equity, accessibility and mobility.

**Has there been a stakeholder engagement plan to develop the plan?**

Yes

**Primary author of plan**

Dedicated city team

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## Opportunities

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### Opportunities

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**(6.0) Please indicate the opportunities your city has identified as a result of addressing climate change and describe how the city is positioning itself to take advantage of these opportunities.**

Opportunity	Describe how the city is maximizing this opportunity
Increase opportunities for partnerships	The City has partnered with regional government, the provincial government, utilities non-profits and academia to deliver energy efficiency projects and identify and address climate risks.
Development of sustainable transport sector	The City is investing in an all ages and abilities network, encouraging active transportation modes in the city. Encouraging citizens to use active transportation provides health benefits, improves air quality and reduces GHGs.

**(6.1) Does your city collaborate in voluntary partnership with businesses in your city on sustainability projects?**

Intending to undertake in the next 2 years

(6.2) List any emission reduction, adaptation, water related or resilience projects you have planned within your city for which you hope to attract financing and provide details on the estimated costs and status of the project. If your city does not have any relevant projects, please select No relevant projects under Project Area.

**Project area**

Buildings

**Project title**

City Hall Boiler Replacement Project

**Stage of project development**

Scoping

**Status of financing**

Project partially funded and seeking additional funding

**Project description**

City Hall, a national historic site, requires a replacement for its aged boiler. Options are being explored to replace with a 100% renewable energy HVAC system. Projected cost is over a million dollars.

**Total cost of project**

2000000

**Total investment cost needed**

**Project area**

Transport

**Project title**

All Ages and Abilities Mobility Network Phase 2

**Stage of project development**

Scoping

**Status of financing**

Project not funded and seeking partial funding

**Project description**

Second phase of a project to build a network of safe connected bicycle and pedestrian routes across the entire city. The goal is to support and encourage more people who live, work, play and visit Victoria to walk and ride bikes.

**Total cost of project**

**Total investment cost needed**

**Project area**

Buildings

**Project title**

EV Charging Infrastructure

**Stage of project development**

Scoping

**Status of financing**

Project not funded and seeking partial funding

**Project description**

Electric vehicles adoption rates are growing at approximately 50% annually. This rate of growth is sufficient to meet our long-term electrification targets, but needs to be sustained. Current EV ownership is concentrated among those residents living in ground-oriented residences with easy access to home charging. Some 67% of Victorians live in apartment buildings with no or limited access to charging. An extensive public EV charging infrastructure will assist with providing access to EV charging for apartment dwellers and support maintenance of high EV adoption rates.

**Total cost of project**

**Total investment cost needed**

Local Government Emissions

Local Government Operations GHG Emissions Data

(7.0) Do you have an emissions inventory for your local government operations to report? Reporting a Local Government Operations emissions inventory is optional.

Yes

(7.1) Please state the dates of the accounting year or 12-month period for which you are reporting an emissions inventory for your local government operations.

	From	To
Accounting year dates	January 1 2018	December 31 2018

(7.2) Please indicate the category that best describes the boundary of your local government operations emissions inventory.

Departments, entities or companies over which financial control is exercised

(7.3) Please give the name of the primary protocol, standard, or methodology used to calculate your local government operations emissions inventory and attach your inventory using the attachment function.

	Primary protocol and attach inventory	Comment
Emissions methodology	Other (BC Carbon Neutral Government)	

(7.4) Which gases are included in your emissions inventory? Select all that apply.

CO2  
CH4  
N2O

(7.5) Please give the total amount of fuel (refers to Scope 1 emissions) that your local government has consumed this year.

Source	Fuel	Amount	Units	Emissions (tonnes CO2e)
Buildings	Natural gas	29850	GJ	
Municipal vehicle fleet	Compressed Natural Gas (CNG)	3778	GJ	
Municipal vehicle fleet	Motor gasoline (petrol)	477049	L	
Municipal vehicle fleet	Diesel/Gas oil	359328	L	

(7.6) Please provide total (Scope 1 + Scope 2) GHG emissions for your local government operations, in metric tonnes CO2e. Scopes are a common categorization method.

Local government emissions breakdown

Total Scope 1 + Scope 2 emissions (metric tonnes CO2e)  
3184

Total Scope 1 emissions (metric tonnes CO2e)  
3018

Total Scope 2 emissions (metric tonnes CO2e)  
166

Comment

(7.7) Do you measure local government Scope 3 emissions?

Not intending to undertake

(7.7b) Please explain why not and detail your plans to do so in the future, if any.

	Reasoning	Explanation
Please explain	Lack of funding / resources	We have interest in measuring these emissions in future.

(7.8) Please indicate if your local government operations emissions have increased, decreased, or stayed the same since your last emissions inventory, and please describe why.

	Change in emissions	Primary reason for change	Please explain
Please explain	Decreased	Technological change	Increased vehicle fuel efficiency, implementation of telematics.

## Local Government Emissions Verification

(7.9) Has the GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

Yes

(7.9a) Please provide the following information about the emissions verification process.

	Name of verifier and attach verification certificate	Year of verification	Please explain which parts of your inventory are verified
Verification details	GHG Accounting 2018 Compliance Report Signed-City of Victoria.pdf	2018	

## Energy

(8.0) Does your city have a renewable energy or electricity target?

Yes

(8.0a) Please provide details of your renewable energy or electricity target and how the city plans to meet those targets.

**Scale**

City-wide

**Energy / electricity types covered by target**

All energy consumed (in MWh)

**Base year**

2007

**Total renewable energy / electricity covered by target in base year (in unit specified in column 2)**

8821882

**Percentage renewable energy / electricity of total energy or electricity in base year**

36.6

**Target year**

2050

**Total renewable energy / electricity covered by target in target year (in unit specified in column 2)**

8821882

**Percentage renewable energy / electricity of total energy or electricity in target year**

100

**Percentage of target achieved**

41

**Plans to meet target (include details on types of energy/electricity)**

Removal of oil heated furnaces. Energy efficiency and low carbon retrofit incentives. Fuel switching to renewable sources such as hydro electricity, renewable natural gas and biofuels. Support for distributed renewable energy, e.g. photovoltaic solar. Support for renewable district energy projects. Support for transportation mode shift to cycling and walking and renewably powered transit.

(8.1) Does your city have energy consumption data to report?

Yes

(8.2) Please indicate the energy mix of electricity consumed in your city.

**Percent**

**Coal**

0

**Gas**

2

**Oil**

0

**Nuclear**

0

**Hydro**

96

**Biomass**

2

**Wind**

0

**Geothermal**

0

**Solar**

0

**Other sources**

0

**Total - please ensure this equals 100%**

100

(8.3) What scale is the energy mix data reported above?

Other (Provincial scale)

(8.5) How much (in MW capacity) renewable energy is installed within the city boundary in the following categories?

	MW capacity	Please describe the scale of the energy source
Renewable district heat/cooling	2	
Solar PV		
Solar thermal		
Ground or water source		
Wind		
Other: (please specify)		

**(8.6) Does your city have a target to increase energy efficiency?**

Intending to undertake in the next 2 years

**(8.6b) Please explain why you do not have an energy efficiency target and any plans to introduce one in the future.**

	Reasoning	Comment
Please explain	Target is under development / consideration	The City of Victoria will evaluate becoming a local energy utility as part of its strategic planning and energy efficiency targets will be considered under that process.

## Transport

**(10.0) Do you have mode share information available to report for the following transport types? Select all that apply.**

Please select

**(10.5) Please provide the total fleet size and number of vehicle types for the following modes of transport:**

	Number of private cars	Number of buses	Number of municipal fleet (excluding buses)	Number of freight vehicles	Number of taxis	Transport Network Companies (e.g. Uber, Lyft) fleet size	Customer-drive carshares (e.g. Car2Go, Drivenow) fleet size
Total fleet size							
Electric							
Hybrid							
Plug in hybrid							
Hydrogen							

**(10.7) Do you have a low or zero-emission zone in your city? (i.e. an area that disincentivises fossil fuel vehicles)**

No

## Food

**(12.0) How many meals per year are served through programs managed by your city? (this includes schools, canteens, hospitals etc.)**

0

**(12.4) Does your city have any policies relating to food consumption within your city? If so, please describe the expected outcome of the policy.**

	Response	Please describe the expected outcome of the policy
Please complete	No	

## Water Security

### Water Supply

**(14.0) What are the sources of your city's water supply? Select all that apply.**

Surface water

**(14.1) Where does the water used to supply your city come from?**

From adjacent river basins (by water transfer schemes) outside the city boundary

**(14.2) What percentage of your city's population has access to potable water supply service?**

100

**(14.3) Are you aware of any substantive current or future risks to your city's water supply?**

Yes

**(14.3a) Please identify the risks to your city's water supply as well as the timescale and level of risk.**

Risks	Estimated timescale	Estimated magnitude	Risk description
Drought	Long-term	Serious	Longer drier summers have been identified as a climate change risk, resulting in potential for reduced seasonal water supply. Steps have been taken to secure water supply through water conservation measures and infrastructure investment (dam raised).
Declining water quality	Medium-term	Serious	Wildfire risks in watershed will increase with longer drier summers, with consequent risks to water supply due to increased water temperature, reduced BOD and indirectly through increased sedimentation due to soils on slopes exposed due to wildfire.

### Water Supply Management

**(14.4) Please select the actions you are taking to reduce the risks to your city's water supply.**

**(14.5) Does your city have a publicly available Water Resource Management strategy?**

Not intending to undertake

**(14.5b) Please explain why your city does not have a public Water Resource Management strategy.**

	Reason	Explanation
Please explain	Water Resource Management is covered in other plans	Managed by regional government

Submit your response

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**What language are you submitting your response in?**

English

**Please read and accept our Terms and Conditions**

I have read and accept the Terms and Conditions

**Please confirm how your response should be handled by CDP.**

	Public or non-public submission
I am submitting my response	Publicly (recommended)