Climate Action Plan

Town of Sidney

2022

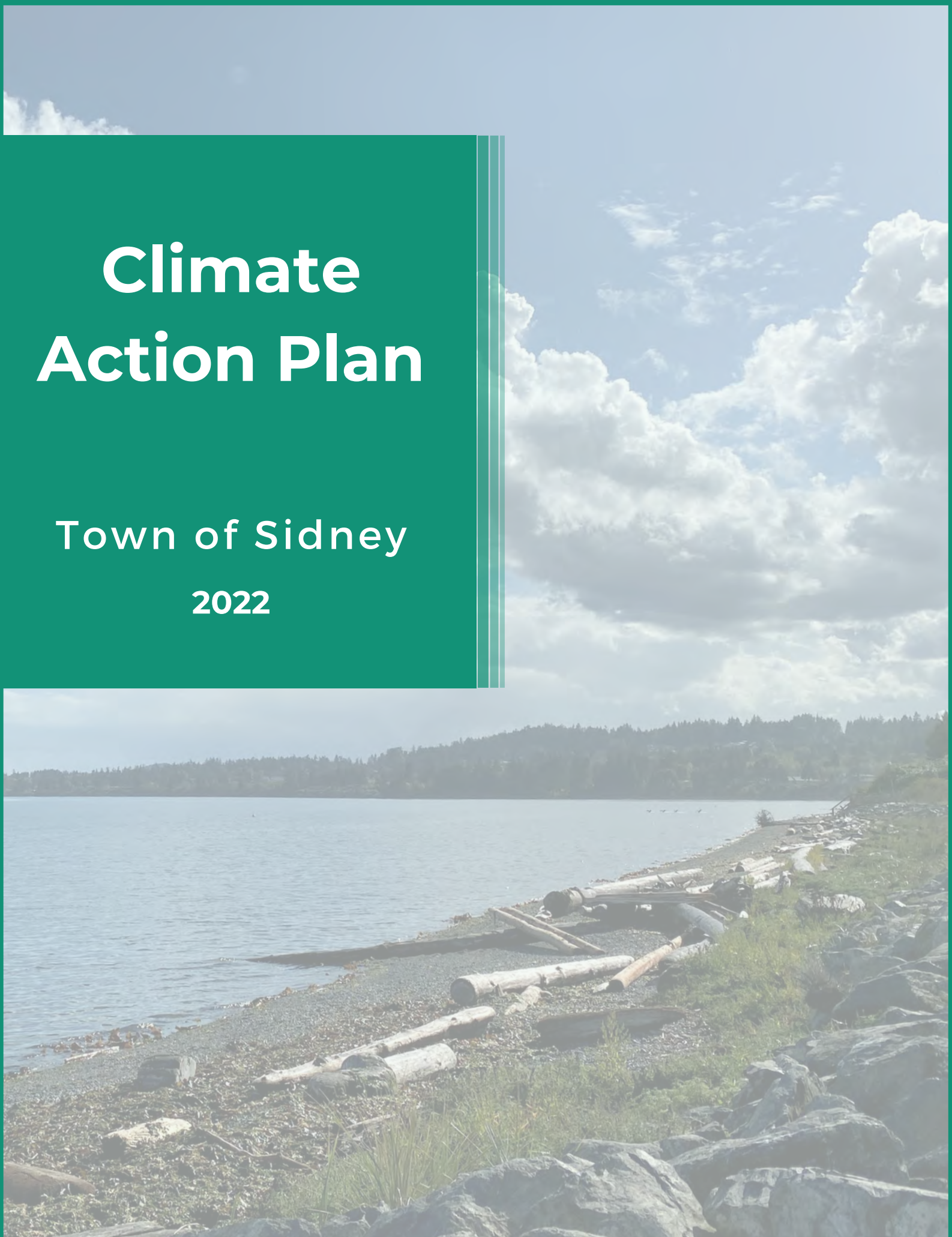


Table of Contents

PART 1

Where We Are Today

Background

Sidney Today

The Town of Sidney is a small and vibrant seaside community in the northeast of the Saanich Peninsula on southern Vancouver Island, within the traditional territory of the W̱SÁNEĆ People.

At 5.1 square kilometres and home to approximately 12,300 people, this compact community supports numerous independently owned local businesses, from bookshops and boutiques to bakeries and breweries. Sidney's major economic drivers are manufacturing, retail, and tourism, and it serves as a commercial hub for the two other municipalities on the Saanich Peninsula: North Saanich and Central Saanich.

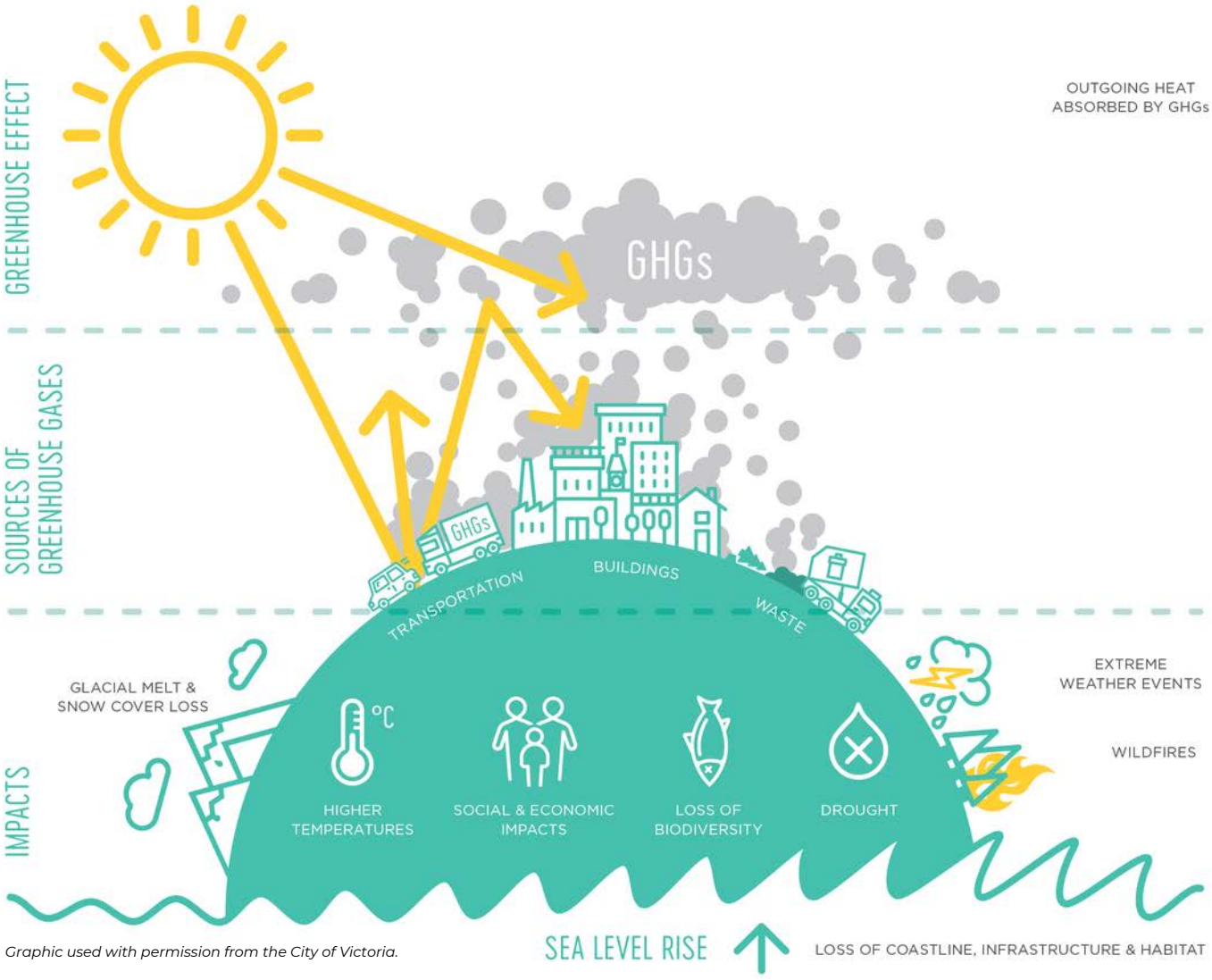
The relatively flat terrain, moderate climate, and compact settlement pattern make Sidney a highly walkable community. Approximately a third of trips taken within the Town's borders are on foot, one of the highest levels of walking in the Capital Regional District (CRD).

Sidney's population consists of a high proportion (~39%) of adults in the 65+ age range, which is almost double that of the CRD overall (20%). As of the 2016 census, Sidney had a labour participation rate of approximately 48%. These statistics suggest that future plans must balance the needs of an aging population, while also attracting a younger demographic to maintain a well-balanced community. As Sidney's population grows, the Town will have to adjust to meet demand for infrastructure and services while minimizing its impact on the environment and ensuring it is resilient to current and future risks posed by climate change.

What is Climate Change?

Climate change is the shift in average weather conditions such as temperature and precipitation within a region over a long period of time. Much like a greenhouse in your garden, heat from the sun is trapped in our atmosphere due to greenhouse gases (GHGs). While heat retained in the atmosphere is part of what makes life on earth possible, too much heat trapped from excess human-created GHGs leads to increased warming overall and diverse impacts to our climate that vary depending on the region. These include changes such as higher temperatures locally, droughts, increased storm frequency and intensity, and sea level rise, all with their own social and economic impacts.

The graphic below helps illustrates the warming process and highlights some of the associated impacts:



Graphic used with permission from the City of Victoria.

Global & Local Context

The response to climate change worldwide has changed significantly over time as the world becomes more aware of its causes and effects. In response to the increase in concern, many groups and associations have been formed to help study and provide guidance on actions that can be taken to address climate change. One of the world's leading organizations in the field is the Intergovernmental Panel on Climate Change (IPCC), a group of volunteer scientists from around the world supported by the United Nations. The IPCC releases periodic reports about climate change to support scientifically-informed government policymaking. In a 2018 report, the IPCC discusses the importance of keeping future temperature increases to 1.5°C or below to reduce the severity of climate change impacts. They also highlight the need to significantly reduce human-created GHG emissions by 2030 in order to meet that target.

This report has led to a renewed sense of urgency for climate action among governments, organizations, businesses, and people all over the world, as seen in the growth of climate activism and climate emergency declarations. In 2019, the Mayor and Council for the Town of Sidney declared a climate emergency in recognition of this global movement. This declaration signifies that Council acknowledges the urgency of climate change and the need to reduce emissions within the community to contribute to the global effort to mitigate climate change.

IPCC: Intergovernmental Panel on Climate Change, the United Nations body for assessing the science related to climate change. Find out more at www.ipcc.ch/about

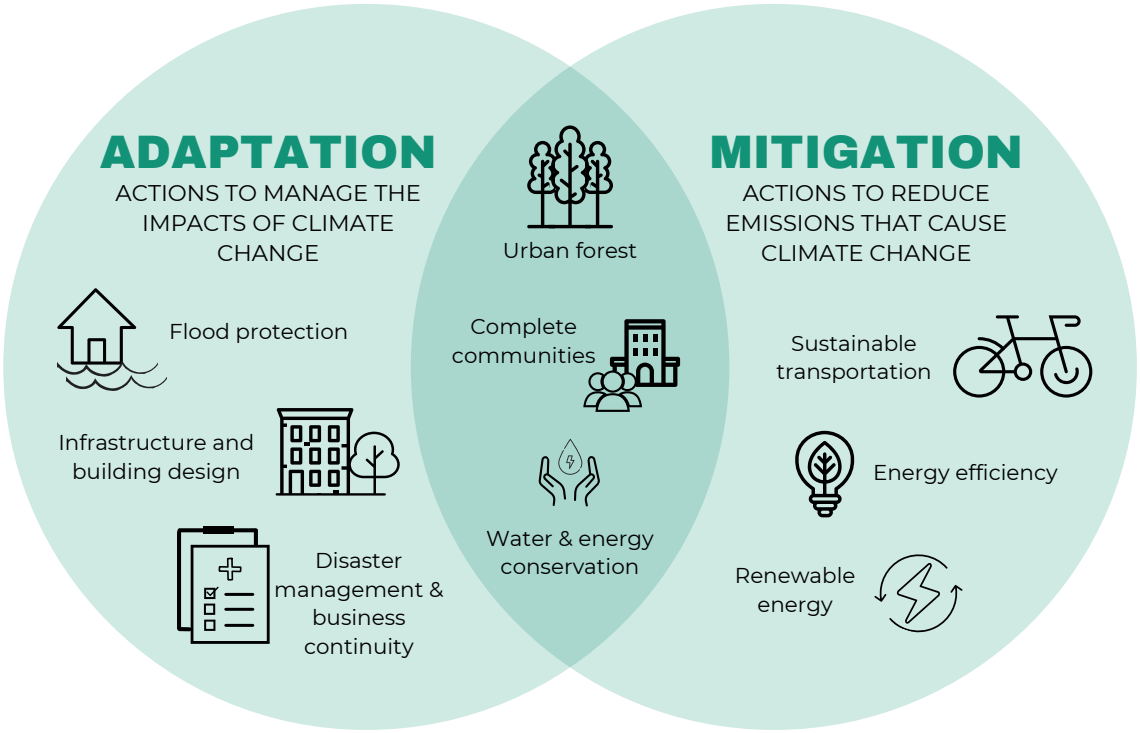
Climate Impacts Worldwide

Half a degree makes a difference. The 2018 IPCC report reviewed the different impacts at 1.5°C warming verses 2.0°C at a global level. Projected impacts with a higher level of warming include the following:

- People experiencing water scarcity doubled
- Higher risks of heat related illness and mortality
- An additional 457 million people exposed to climate risks and related poverty
- Double the plant species and triple the insect species losing their habitat
- Higher levels of food insecurity due to impacts on crops, livestock, and fisheries

What is Climate Action?

Climate Action is a multifaceted response to climate change that includes mitigation (i.e. reducing emissions), adaptation (preparing for impacts), and emergency preparedness (responding to specific impacts or events). Taken together, these responses are crucial in reducing overall planetary warming (i.e., limiting it to 1.5C), preparing for its projected impacts, and ensuring our communities are resilient to potential risks. There is a need for action across all parts of society, as different levels of governments, businesses, organizations, and individuals have different tools and decision points available to them.



Local governments like Sidney have the opportunity to influence land use patterns and uses to enable its residents and visitors to contribute to lowering overall community emissions. Local government policy decisions can also influence how buildings in the community are designed so they produce less emissions and are resilient to climate risks like heatwaves. See the table below for a summary of the ways in which local governments can reduce GHG emissions.

CONTROL	INFLUENCE
DIRECT: e.g., leading by example through our municipal infrastructure and operations, such as how we heat our buildings or our fleet vehicle choices	DIRECT: e.g., policies, incentives, and partnerships with stakeholders and other levels of government
INDIRECT: e.g., through land use and transportation planning and policy	INDIRECT: e.g., through advocacy, information sharing, and municipal education programs

Local governments are influenced by and respond to policy decisions at higher levels of government as well. At the provincial level, legislation requires that local governments set emissions reduction targets and determine actions that will help meet those targets in their Official Community Plans (*Local Government Act*). Another piece of provincial climate change related legislation is the Zero-Emission Vehicles Act (ZEV), which requires automakers to produce increasing levels of zero-emissions vehicles to ensure a greater availability of electric vehicles. The Province has also established the BC Energy Step Code ("Step Code"), an energy efficiency standard for all buildings. While the Step Code was launched as an optional measure that local governments can use to incentivize or require more energy efficient buildings, over time the requirements of the Step Code will become part of the mandatory baseline BC Building Code.

Action at higher levels of government is crucial to effectively respond to climate change because both the Provincial and the Federal governments have higher levels of influence over industry than local governments. Opportunities include setting emissions standards, establishing retraining programs, and developing large-scale renewable energy projects.

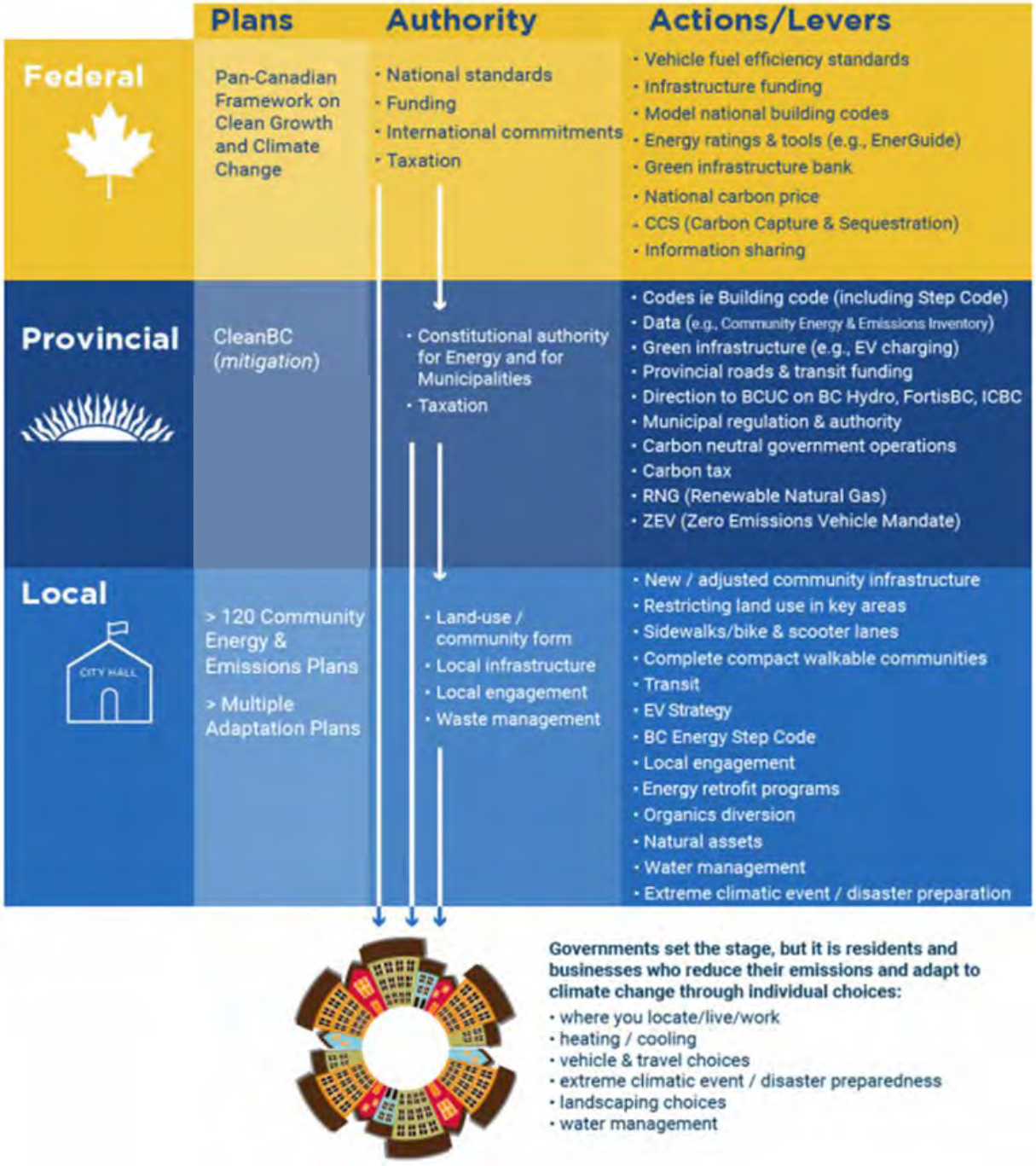
Want to learn more? Visit energystepcode.ca

ENERGY STEPCODE
BUILDING BEYOND THE STANDARD

While local governments have a key role to play in climate action, in other critical areas they lack any direct control and can exert only very limited influence. Realistically, to reach net zero community emissions in Sidney by 2050, there will need to be changes made by higher levels of government in sectors where the Town has little to no influence or regulatory authority. The graphic below shows the areas of authority and opportunities for action at the local, provincial, and federal level.

Net Zero: When the total amount of GHG emissions produced are balanced out by removing extra GHG emissions from the atmosphere (including by carbon sequestration).

Carbon Sequestration: A natural or artificial process by which carbon dioxide is removed from the atmosphere and stored.



Low Carbon Resilience

Low Carbon Resilience is a climate action approach developed between Simon Fraser University and BC local governments who participated in their research project aimed at exploring ways BC communities can work to integrate climate change mitigation and adaptation. Essentially, the purpose of using this approach is to encourage local governments to strategically integrate climate change mitigation and adaptation considerations into all levels of policy, planning, and practice.

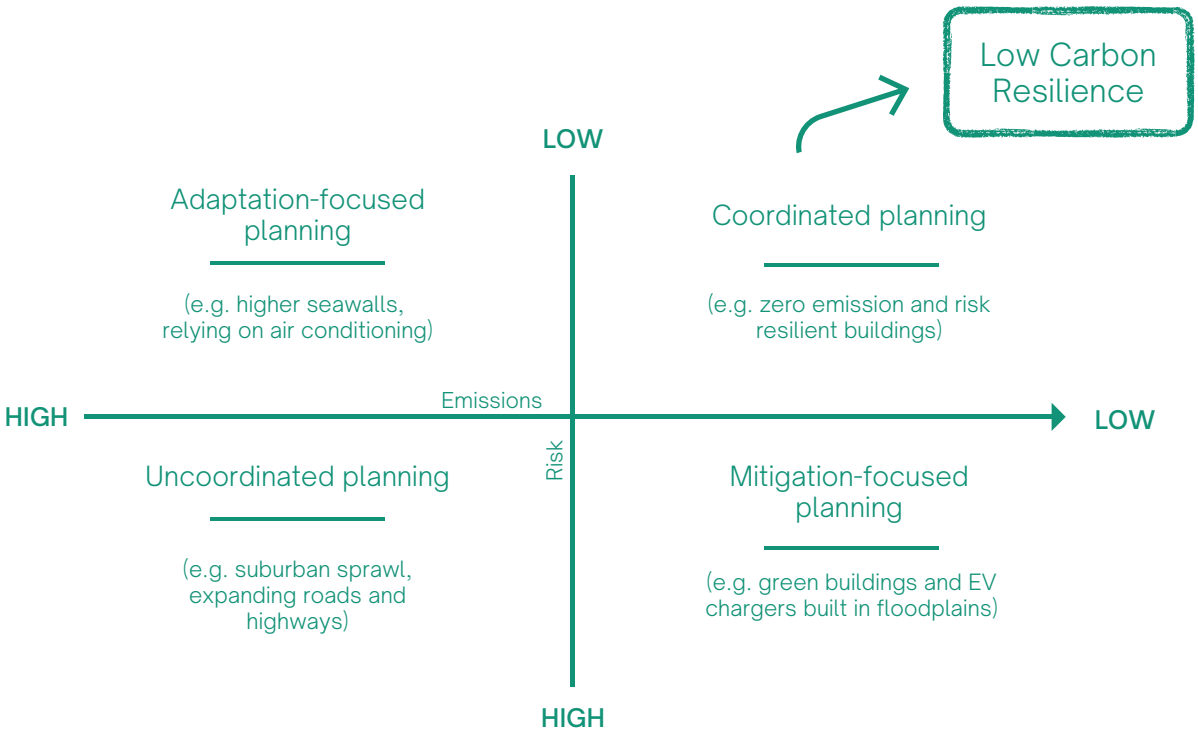
Low Carbon Resilience also encourages local governments to think about how climate action can have multiple benefits (like community safety and economic impacts). Local governments that participated in developing this climate action approach also found it helped reduce redundancy in their organization by promoting interdepartmental collaboration within their operations.

Taking a Low Carbon Resilience approach in Sidney means the Town will work to contribute to the global effort to reduce climate change, while also working to reduce risk in our communities through adaptation and improving resilience.

The graphic below illustrates the potential benefits of integrating climate risk and GHG emissions considerations into decision-making.

While it's not perfect, in some ways, the need for climate action (both mitigation and adaptation) can be seen through **the bathtub analogy**.

Producing GHGs is like filling up a bathtub. We need to turn off the "tap" by reducing our emissions, but unless we find ways to sequester carbon, those emissions stay in the atmosphere (or "tub") for extended periods of time continuing to trap heat. Therefore, we not only need to reduce our emissions, but also prepare for the impacts of emissions already in the atmosphere.



Intro to the Plan

Climate Action Plan Development Process

In 2021, the Town of Sidney initiated an update of the 2010 Climate Action Plan. The 2022 plan was developed though detailed research, community engagement, interdepartmental participation, and intergovernmental support.

Engagement Phase One

Pop-up Info Booth at the Sidney Market

October 10, 2021

50+ people engaged
Purpose: to raise awareness of the Climate Action Plan update, and share information about Sidney's emissions, climate change risks, and what we can do about it.

Climate Action Plan Initial Survey

November 18 - December 17 2021

150 survey participants
Purpose: to gather feedback on key barriers community members face in climate action and assess support for select potential initiatives.

- Media Release
- Social media post series on Facebook & Twitter
- Ad in the Peninsula News Review
- Posters around Sidney

Engagement Phase Two

Pop-up Open Houses (Tulista Park & Beacon Ave)

April 16 & 22, 2022

40+ people engaged
Purpose: to share the draft Climate Action Plan highlighting the proposed actions, and gathering feedback from the community

Promotion of Public Review Period for Draft Plan

- Social media posts
- Posters & sandwich boards around town
- Printed plans available for review at the library and Town Hall
- Ads in the Peninsula News Review

How to Read this Plan

When reading the Climate Action Plan, look out for the following elements:

A Climate change and climate action language can be technical. Key terms will be coloured green. All defined terms and concepts will be included in a Glossary in the Appendix section. Some will be defined in the text, while some will be defined in boxes to the side of the page that look like this.

The "A" symbol will be placed next to some sections of the plan to flag where more information can be found in the **Appendix**.

Part One of the plan contains the background information and existing conditions analysis that serves as the foundation for the actions set out in Part Two of the plan.

Part Two of the plan is broken down into eight Focus Areas for action. The Focus Areas have the following components: Overview, Objectives, Existing Initiatives, and Actions.

Each climate action identified in Part 2 of the plan includes the following information:

Lead - Which department(s) will lead the implementation

Departmental shorthand: →

- **CAC**: Climate Action Coordinator
- **DS**: Development Services / Planning
- **Eng**: Engineering
- **PW**: Public Works
- **Parks**: Parks
- **FNC**: Finance
- **Admin**: Administration
- **Fire**: Fire
- **EMO**: Emergency Management Office

Status

- Planned ..... the Town is planning to undertake this action
- Budgeted ..... the action has already been approved within an existing budget
- Underway ..... the action has already been initiated
- Ongoing ..... the action is something Town staff are already doing. The plan provides direction to continue this work.

Timeline

- Short: less than 2 years
- Medium: 2-5 years
- Long: 5+ years

Cost

- N/A: Within existing budgets
- Low: less than $5,000
- Medium: $5,000-$20,000
- High: $20,000-$200,000
- Very high: $200,000+

Climate Action Focus Areas

The actions in Part Two of the Climate Action Plan are organized into eight focus areas, each of which will include the actions the Town is planning to undertake, and will highlight some opportunities for how community members can participate in local climate action. These focus areas are as follows:

Town Leadership:	Be intentional about integrating climate change mitigation and adaptation considerations into Town processes, operations, and projects.
Infrastructure:	Ensure the community's infrastructure is resilient to projected climate impacts.
Transportation & Mobility	Enable and promote community members and visitors to make low carbon choices when moving within and visiting the town.
Land Use:	Encourage compact community development to be closer to where we want to go.
Buildings:	Promote low carbon and resilient building design and retrofits to make sure where we live, work, and play is safe and comfortable year-round, while reducing GHG emissions.
Natural Environment:	Conserve and enhance Sidney's urban forest and ecosystems to help reduce climate change impacts.
Emergency Preparedness:	Ensure the Town and community are aware of the projected climate impacts for the region and have Town response plans in place.
Food & Waste:	Minimize and divert waste, especially organics, going to the landfill.

Existing Conditions

Policy Context

2010 Climate Action Plan

In 2010, the Town of Sidney adopted its first Climate Action Plan to help fulfill its commitment to reducing greenhouse gas emissions. This plan established reductions targets along with policies and actions to help reach those goals. The plan focused on six areas: Town operations, land use & development, residential buildings, transportation, solid waste, and alternative energy. Twenty-two actions were identified across the six focus areas.

Since the adoption of the plan, seven actions were completed, thirteen are ongoing or in progress, and only two have not been started. Examples of completed actions include hiring a Climate Action Coordinator, implementing an alternative energy demonstration project (i.e.: wind-powered pump at Iroquois Park), and conducting a district energy pre-feasibility study. Examples of ongoing actions include evaluating capital expenditures with a life cycle approach, exploring incentives for energy efficient development, and providing energy efficiency information to homeowners.

Targets

The 2010 plan set the following targets for GHG emissions reductions in Town operations (corporate) and for the greater community of Sidney:

- Corporate: 15% below 2009 levels by 2015
- Corporate: 20% below 2009 levels by 2020
- Community: 15% below 2007 levels by 2020

The plan also set a per capita target of 30% below 2007 levels by 2020. A per capita target accounts for population growth by dividing total emissions by the number of people in the community.

Solar Panels on Parks Building. Photo by Steven Haywood, Sooke News Mirror, 2018.

Did we meet our 2010 targets?

The Town as an organization became carbon neutral in 2015. In doing so, the Town of Sidney has met its provincial requirements to work towards carbon neutrality as a local government set in the *Climate Change Accountability Act*, and the voluntary commitment to be carbon neutral under the Climate Action Charter. Even though the Town has fulfilled its basic requirements under Provincial legislation, there are still opportunities for the Town to take action to reduce its emissions as will be seen in Part 2 of the Climate Action Plan. The less emissions are produced, the less need to be offset going forward.

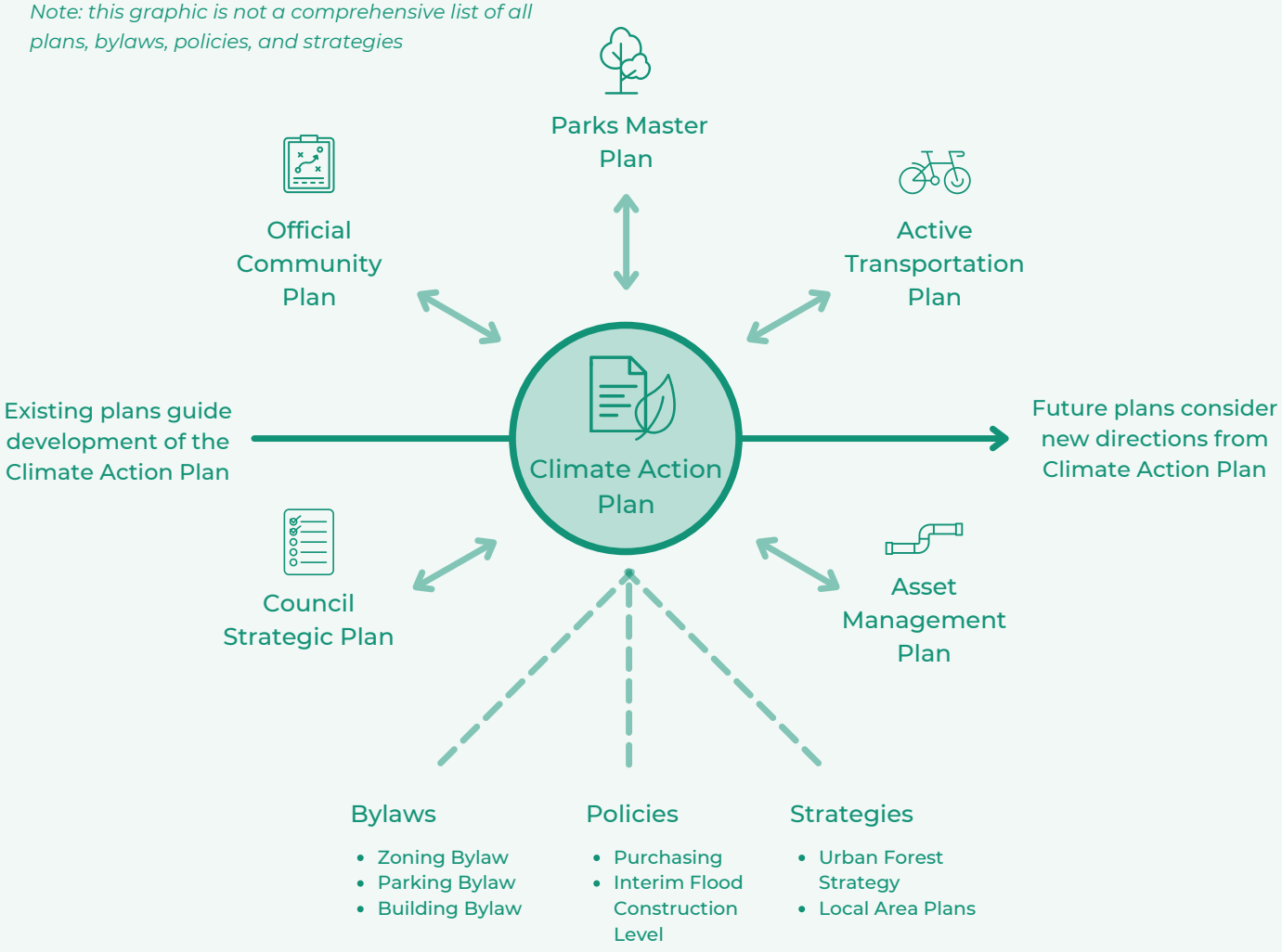
Sidney's 2020 Community GHG Inventory completed by the CRD showed that there was an overall 15.1% reduction in GHG emissions between 2007 and 2020, meeting the target in the 2010 plan. However, this is largely due to the 2008 recession and Covid-19 as noted in the Emissions Inventory section of the plan.

Per capita emissions in the 2010 plan were approximately 4.63 tCO2e. Using the CRD's latest 2020 emissions inventory and 2021 Census data, 2020 per capita emissions were approximately 4.33 tCO2e. It is important to note that different organizations (using different methodologies) calculated the GHG emissions inventories for these two years, so these two figures are not directly comparable.

Supporting Policy

Many of the Town's existing plans, bylaws, policies, and strategies guiding development within Sidney already include language that supports climate action. The Climate Action Plan update is informed by and seeks to build on existing supportive policy. Throughout the planning process, there are also opportunities to identify where policy can be updated to strengthen the integration of climate action measures throughout the organization. See the graphic below for an illustration.

Note: this graphic is not a comprehensive list of all plans, bylaws, policies, and strategies



Climate Risks and Vulnerabilities Overview

To prioritize the actions that will be the most effective in preparing for climate change impacts, it's important to understand Sidney's specific risks. This section will provide an overview of some of the key risks identified in recent reports by the Province and the Capital Regional District (CRD) (see Climate Projections for the Capital Region, 2017; Preliminary Strategic Climate Risk Assessment, 2019; and Coastal Sea-level Rise Risk Assessment Report, 2015).

The info box below highlights some of the changes projected in our region over the next few decades. These projections have been used to inform a risk review specific to Sidney.

Increasing Temperatures

Days above 25°C
- Past: 11 days
- 2050s: 40 days
- 2080s: 67 days

Heat waves

Fewer frost days
- Past: 30 days
- 2050s: 7 days
- 2080s: 3 days

Wetter Winters, Drier Summers

More frequent and intense rainfall

Single day max. precipitation:
- Past: 70mm
- 2050s: 20% more
- 2080s: 35% more

Increasing summer dry spells

Sea Level Rise

2050: 0.5m
2100: 1.0m

Possibility for localized flooding during storm surges at high tides

Flood risk areas:
- South Sidney
- Tsehum Harbour

A high-level risk review has been conducted to inform the adaptation measures included in this plan. This review used the Provincial Climate Risk Assessment as a baseline, and used the CRD's climate risk projections, the 2018 Sidney Community Risk Assessment, and staff knowledge to localize its risk ratings where needed.

The Province's risk ratings are based on the likelihood these events will occur in the 2050s. If a risk is said to be high on the following page, it means that there is a strong likelihood that this will happen in the 2050s and/or that the event could have a significant impact on community wellbeing. Climate projections are not an exact science given that these projections may change depending on how successful climate action is moving forward, but they do give a general sense of what type of risks our community might face, so we can prioritize what will be done to address those risks.

A high-level review of all the risks in the BC Climate Risk Assessment within the context of Sidney can be found in Appendix B. It is important to remember that these events may occur earlier or later than the 2050s, as seen by the record-breaking heatwave of June 2021. A

The following are potential high risks for Sidney:

Heat wave: The heatwave that hit BC in June 2021 revealed that higher than normal temperatures in a localized area can have significant impacts such as hospitalization and mortality, without adequate preparation. It also revealed that risk was disproportionately higher in some age classes, such as seniors. Given the high proportion of seniors in Sidney's population, this is considered a high risk for the Town.

Severe coastal storm surge: With sea levels projected to rise 0.5 m by the 2050s, a severe coastal storm surge could lead to localized flooding in the Town, unless mitigated in some way. A flood mapping study was completed in 2015 which identified that the South East area of the Town's boundary and Tsehum Harbour are areas with high flooding risk. Some flooding has already been seen in the past decade during storm surges at high tide.

The following are potential moderate risks for Sidney:

Seasonal water shortage: The Provincial climate risk assessment rates seasonal water shortage as high risk due to its high likelihood of occurring and potential impacts, such as economic hardship, psychological impacts, degradation of habitats, and disruption to electricity production. The magnitude of this water shortage is equal to drought level 4 as defined in the BC Drought Response Plan. This is a moderate risk in Sidney as the CRD water reservoirs are well equipped to deal with drought conditions.

Severe wildfire season: As a primarily urban municipality, there is limited risk of wildfires taking place within and around Sidney's borders. However, Sidney may still be indirectly impacted by severe wildfires taking place in other parts of the region (i.e. other areas of the Island and the mainland) which have experienced an increase in the occurrence and intensity of wildfires. This could impact air quality and lead to associated health issues for residents. This is of particular concern given the high proportion of seniors living in Sidney who are more vulnerable to poor air quality due to age and higher likelihood of having pre-existing health conditions.

Moderate flooding: Flooding is not only an outcome of sea level rise and storm surge, but also heavy rainfall, as seen during the November 2021 rain storms. The area of Sidney most impacted by flooding during this storm was Reay Creek Park, where the pump station was flooded. 2013 also saw flooding due to heavy rain at high tide, flooding some streets near Tulista Park. This risk is listed as moderate as even though some infrastructure upgrades are needed, the existing system has been capable of handling significant rain events to date.

Increase in invasive species: Invasive species can impact ecosystems by disturbing availability of food sources or space for native species. The Provincial climate risk assessment rates the increase in invasive species a moderate risk, as its likelihood is "almost certain," but considers their impacts to be minor given their climate risk analysis criteria. While the Provincial risk assessment focuses on knotweed, Sidney has seen invasive species such as the European Wall Lizards and the European Green Crab.

Long term water shortage: The Provincial climate risk assessment rates long term water shortage as a high risk due to potential for economic loss from impacted industries and natural resource dependent livelihoods. Natural resources are not a major economic driver in Sidney. However, if there are disruptions to provincial hydroelectricity production as identified in the risk assessment, this could impact the community.

Risk Management

Planning for climate change is essentially a risk management exercise. If we know what our risks are, their likelihoods, and how they might impact our community specifically, that information can be used to inform planning decisions to reduce those risks for current and future residents, businesses, and visitors. This information is meant to support data-driven decision-making which can help us prepare for changing local weather patterns and keep the community resilient in the long-term. For example, data from models predicting sea level rise or storm surge frequency and intensity can be used to help inform Flood Construction Level regulations. Modelling regarding temperature increases can help governments and individuals be more prepared for various heat events. This data helps inform heat response planning and determine whether design guidelines are needed to promote the comfort and safety of our homes and workplaces.

Approximately every 3-4 years, the Town undertakes a Community Risk Assessment that reviews various risks the community might face, including earthquakes, fires, tsunamis, and atmospheric risks, such as extreme rainfall and heatwaves. Going forward, Sidney's climate risks – those caused or worsened by climate change – will be reviewed through this assessment process. The Community Risk Assessment primarily informs Emergency Management procedures for the Town, but the findings can also be used to inform longer-term planning decisions surrounding adaptation.

What is the Town doing about climate risk?

While the Town's ongoing and planned future actions will be outlined in more detail in Part 2 of the plan, this section highlights some of the existing work that has already been completed.

Given the heat wave during the summer of 2021 and that this is one of the community's highest risks, the Emergency Management team of the Sidney Fire Department worked with consultants to develop a Heat Response Plan. This includes guidance on provision of cooling areas, provision of drinking and cooling water, and monitoring of vulnerable residents.

The other high risk for Sidney is coastal storm surge. To date, the Town has been working on improving resilience by ensuring that modelling completed for storm water and sewer pipe upgrades includes how tide and storm surge impact water levels.

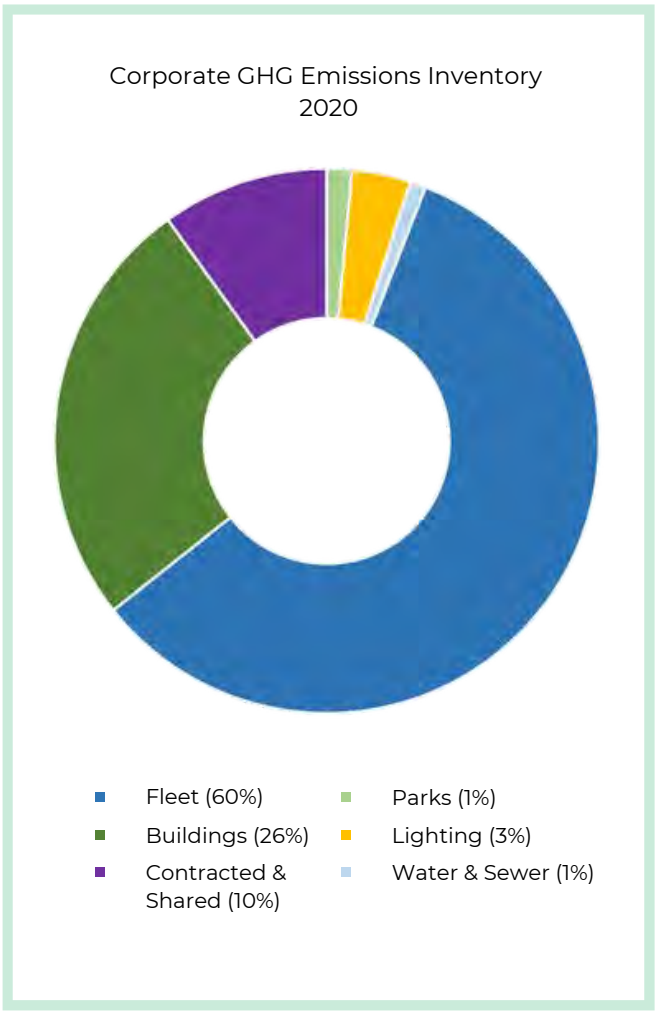
As noted above, the Town also periodically reviews a range of potential community risks through the Community Risk Assessment completed every 3-4 years.

Emissions Inventories

Local Government (Corporate) Inventory

The emissions resulting from a local government's operations and service delivery are known as "corporate emissions." For example, this would include emergency services (like fueling fire trucks), parks and trails maintenance, heating municipal buildings, powering streetlights, and more. In 2020, the Town's corporate emissions were approximately 408 tCO2e, with the majority of emissions coming from the Town's vehicle fleet and buildings (60% and 26% respectively).

While taking corporate action to reduce emissions shows good leadership, given the scale of Town operations compared to the size of the wider community, the Town's corporate emissions are only a fraction of the community's overall emissions (see scale comparison graphic below). Therefore, the Town needs to support the reduction of community emissions, as this is where there is a greater opportunity for significant emissions reductions, while also working to lower corporate emissions. See the graphic below for a visual comparison of the scale of Town versus the emissions for the entire community, based on the most recently completed inventories.



tCO2e: Tonnes of carbon dioxide equivalent. A standardized unit of measurement that includes carbon dioxide, methane, nitrous oxide, and other greenhouse gases.

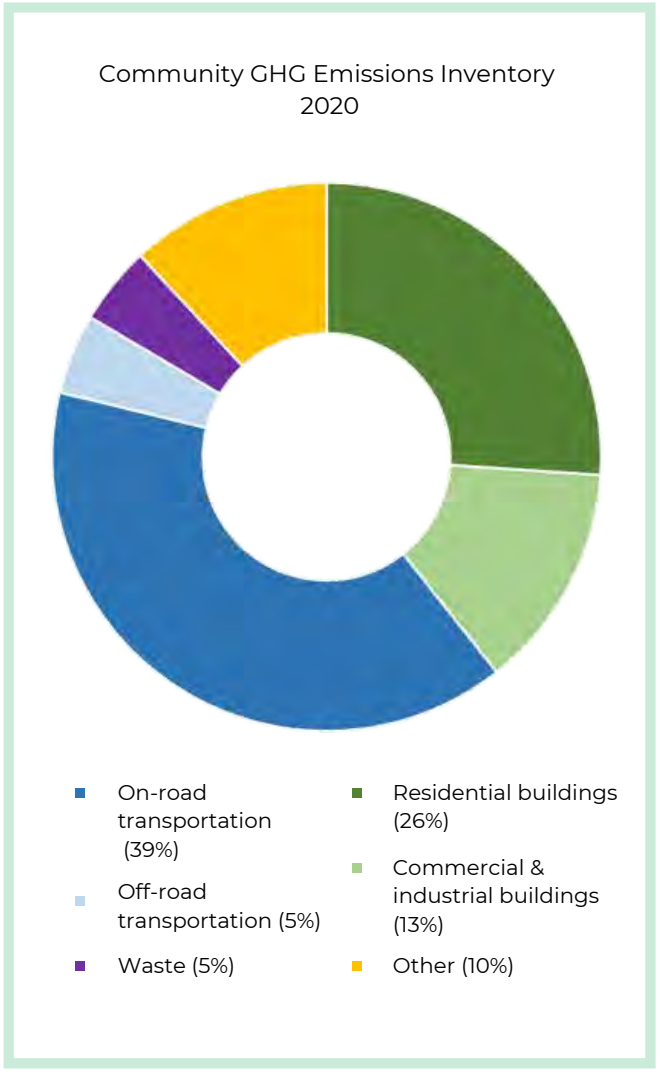
Corporate Emissions vs. Community Emissions

2020
Corporate Emissions
408 tCO2e

2020
Community Emissions
53,276 tCO2e

Community Inventory

In 2021, the Capital Regional District released an emissions inventory report conducted for all of its member municipalities that included emissions data for 2007 and 2020. This inventory found that in 2020, Sidney as a community emitted approximately 53,000 tCO2e. In terms of emissions per capita, Sidney is in the middle of the pack when comparing with other CRD member municipalities. The sectors that had the most emissions were on-road transportation (39%) and residential buildings (26%). These are Sidney's biggest opportunities to reduce emissions. Specific actions to tackle these emissions will be discussed in Part Two of the plan. The graph below shows the breakdown of emissions by category (or "sector").



The Impact of COVID-19

It is important to highlight that the emissions inventory (especially transportation) would have been impacted by the COVID-19 pandemic and is not necessarily representative of long term emissions reductions in the region. During 2020, many people in the region worked from home and were generally leaving the home less frequently than before the pandemic. To compare, in the 2018 inventory on-road transportation was approximately 50% of community emissions. It is likely that reported transportation emissions will increase again in the future as the transition back to workplaces and the resumption of many social activities continues.

A comparison between the 2007 and 2020 emissions inventories shows we have reduced our emissions overall, but this does not show the ups and downs in between. Specifically, there were emissions reductions between 2007 and 2012 – where emissions went from over 60,000 tCO2e to below 51,000 tCO2e – due to the 2008 recession; however, this was followed by a trend of increasing emissions to 2018. Between 2018 and 2020 there was another reduction likely due primarily to the lifestyle changes that accompanied the COVID-19 pandemic.

While no emissions inventory is perfect, and methodologies change and improve over time, they can give us a good idea of what our major emissions sources are and whether we're increasing or decreasing our emissions over time. As such, they are a critical tool in both prioritization of actions and monitoring progress over time.

The Path Forward

Targets

Targets are an important part of a Climate Action Plan. They serve as a way to measure whether we have met our goals, and can help visualize the scale of change needed. Through the Official Community Plan update engagement, the community supported a target of 50% emissions reductions below 2007 levels by 2030, and net zero emissions by 2050. This is consistent with the targets set by the IPCC to limit warming to 1.5C. While ambitious, the IPCC found that this is still possible with coordinated action across all levels of government and within our communities.

GHG REDUCTION TARGETS:

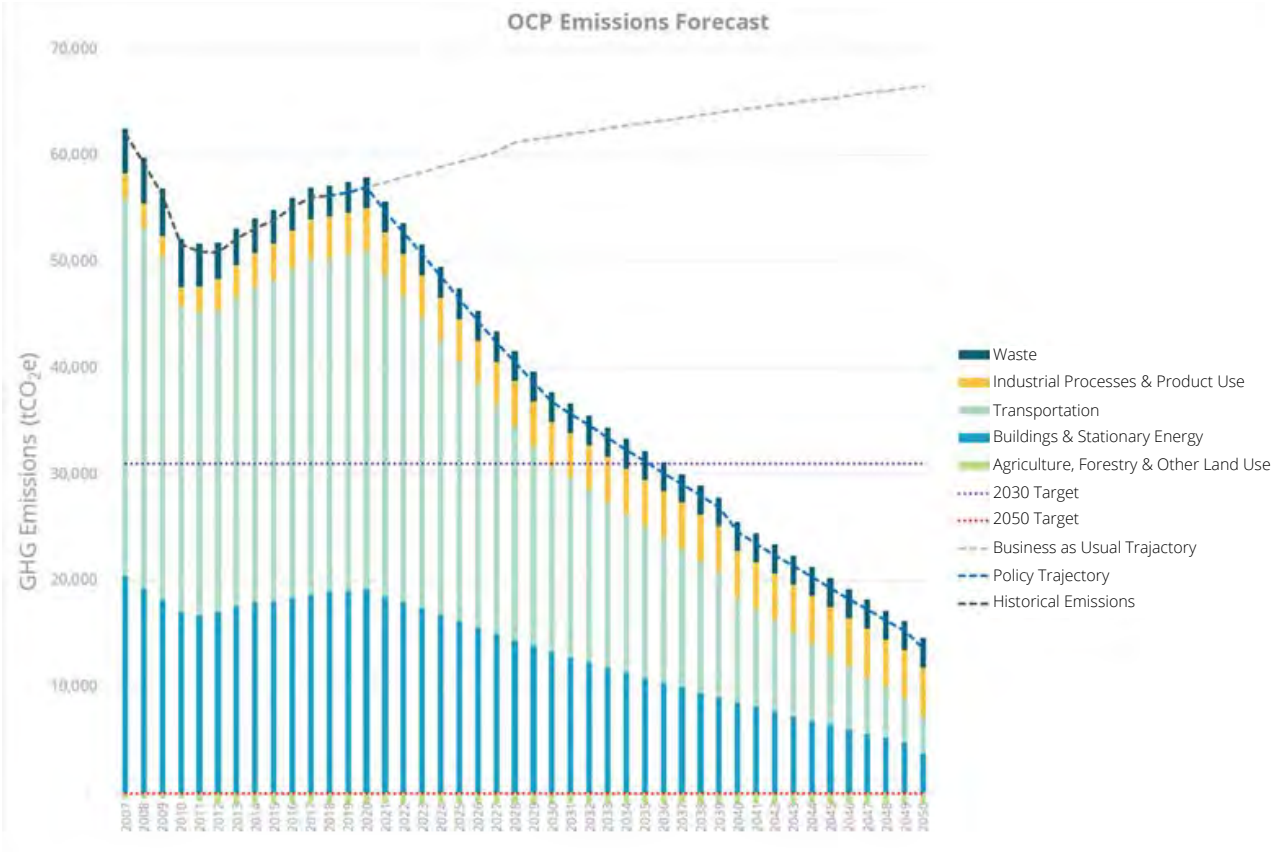
50% by 2030
Net Zero by 2050

These targets serve to highlight the need for urgent action within the municipality in the areas where local governments have jurisdiction and influence, while also advocating for change at higher levels of government and encouraging action among non-governmental organizations, businesses, and individuals. Meeting these targets will require incentives, policy, and regulatory change from the Provincial and Federal governments as well as community participation over the long-term.

Actions planned to contribute to the global effort to mitigate climate change are outlined in Part Two of the Plan.

GHG Forecast

A GHG forecast provides a high level illustration of how changes in the community (i.e. travel mode shift, building retrofits) impact the level of emissions produced. The GHG forecast below was developed for the Official Community Plan based on the GHG targets established throughout the OCP engagement. Given that many of the actions that local governments take (i.e. policy change) do not necessarily have directly measurable outcomes, the actions themselves are not reflected in this forecast. Instead, the forecast demonstrates the scale of change needed to meet the targets established.



PART 2

Where We're Going

Town Leadership

Be intentional about integrating climate change mitigation and adaptation considerations into Town processes, operations, and projects.

Overview

There are two key ways that the municipal government (the "Town") can take action on climate change: Reducing the greenhouse gas (GHG) emissions the Town directly produces, as well as indirectly influencing GHG reductions throughout the community through policy, regulations, and education.

The emissions the Town directly produces from its daily operations are "corporate emissions," which come from sources such as the local government's vehicle fleet, municipal buildings, and equipment used by staff.

Corporate emissions can be reduced through projects and initiatives that tackle specific sources of emissions (like converting the Town's vehicle fleet to electric vehicles, where possible) but also through integrating climate action considerations throughout the organization's decision-making processes. The latter is also valuable in supporting emissions reductions in the broader community, as climate change is considered when developing new policy and regulations (e.g. development guidelines or bylaws) that help shape Sidney.

Objectives

- Evaluate and refine Town policies to maximize opportunities to reduce GHG emissions and adapt to climate change.
- Build staff capacity to understand climate science and its implications for the local government and its operations.

Existing Initiatives

Town Hall Heat Pumps

Three rooftop electric heat pump units on Town Hall were installed to replace the previous A/C units and reduce the reliance on the natural gas powered boilers used to heat the building. The 2019 energy audit that recommended this upgrade estimated a total GHG savings of 21.5 tCO2e annually would result from the switch.

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Town Operations					
Build internal climate action capacity	CAC	Ongoing	Ongoing	N/A - Low	High
Expand the use of automated and online services to reduce trips to Town Hall	All depts involved	Underway	Ongoing	Medium - High	Medium
Reduce waste from town operations (i.e. paper, plastic)	CAC-led, all depts involved	Planned	Ongoing	N/A	Medium
Embed a "climate lens" into decision-making processes	CAC-led, all depts involved	Planned	Short	Planning: N/A *Could lead to budget impacts at implementation*	High
Formalize the inclusion of energy and GHG considerations in the Town's purchasing policy	FNC	Planned	Short	Planning: N/A *Could lead to budget impacts at implementation*	Medium / High
Formalize sustainable fleet management policy	PW / Parks / FNC	Planned	Short - Medium	Planning: N/A - Low *Could lead to budget impacts at implementation*	High
Improve the energy efficiency of existing Town facilities	Eng / PW	Planned	Medium	Medium	Medium
Reduce the use of fossil fuels in Town buildings	Eng / PW / FNC	Planned	Long	Medium - Very High	Medium / High
Partnerships					
Partner with the CRD, other local governments (particularly Central Saanich and North Saanich), and First Nations to coordinate regional and local mitigation and adaptation initiatives	CAC-led, all depts involved	Underway	Ongoing	N/A - Medium: *depends on the scope of the project*	Medium / High
Advocacy					
Advocate for additional climate change mitigation and adaptation measures to the Union of BC Municipalities	Council	Planned	Annually	N/A	Medium

*Reminder: The "**How to Read This Plan**" section (found on page 13) outlines what the shorthands mean for the lead departments, and define what is implied by the different terms used in the action tables (like how many years are associated with a short, medium, and long term time frames).*

Infrastructure

Ensure the community's infrastructure is resilient to projected climate impacts.

Overview

The infrastructure that serves the community has a significant impact on how we live our lives. The underground storm water pipes enable rainwater to be taken away instead of flooding our roads, and the sidewalks built in the community encourage people to walk more. Resources are required to build, maintain, and replace infrastructure.

When it comes to adaptation and resilience of buildings to climate change impacts, the community's infrastructure is a crucial element, including that on both public and private property. While the Town is responsible for building and maintaining the infrastructure that gathers rain during storms, property owners can help reduce the amount of rain that flows into the stormwater systems. If more rain water is managed on private property, this can help reduce impact to downstream habitats and infrastructure, and reduce costs to the taxpayer.

The two main risks faced by Sidney's infrastructure are more frequent and higher intensity rain storms and sea level rise. While the former is the more immediate risk, as demonstrated by the intense rain storms of November 2021, improving resilience to both of these risk factors can take time; so it's important to start early. Planning for these changes is important when replacing and maintaining municipal infrastructure.

Importance of Asset Management

Careful management of infrastructure (also known as Asset Management) is a key component of ensuring infrastructure is resilient to current and future risks associated with climate change, as well as making sure that unnecessary resources are not spent on the Town's assets prematurely.

Asset management allows the Town to assess all of its infrastructure and prioritize maintenance and upgrades where there may be higher risks, either due to the age of the infrastructure or where there could be higher likelihood of impacts from extreme weather events (like intense rain storms) or low-lying areas more vulnerable to sea level rise.

Asset management also allows staff to make decisions on lower emission repair and maintenance solutions, such as trenchless inspections and repair of underground infrastructure, and optimizing how often infrastructure needs to be replaced.

Objectives

- Optimize infrastructure replacement plans to minimize emissions from repairs

Existing Initiatives

Modelling for Climate Impacts

Modelling completed on our storm water infrastructure has already begun to consider the impacts of tide and storm surge, as well as the impacts of higher intensity rain events and sea level rise associated with climate change. An upcoming project will examine alternatives to upsizing all Town underground infrastructure.

Infrastructure Actions

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Town Operations					
Use permeable materials where appropriate (e.g. pathways, pavers)	Eng	Planned	Ongoing	Medium - High	Low - Medium
Complete a stormwater alternatives study	Eng	Budgeted	Short	High	High
Develop an Asset Management Plan	Eng	Underway	Short - Medium	High - Very High	High
Incorporate climate change considerations into the Town's Asset Management Plan process (i.e. as a risk factor)	Eng	Budgeted	Short - Medium	N/A - *Part of Asset Management Plan action*	High
Review opportunities to manage projected risk of sea level rise on infrastructure by evaluating both hard and soft infrastructure adaptation options (e.g. dikes vs coastal ecosystem rehabilitation)	Eng	Planned	Long	High - Very High	High
Education & Outreach					
Encourage new developments to manage stormwater on site	Eng	Planned	Ongoing	N/A	Medium

What you can do

Slow the release rate of rain into our stormwater collection systems by managing rain water on your property. You can do this by:

- Rain detention devices, such as a rain barrel
- Reducing impervious areas on your property (such as concrete patios)
- Embracing a soggy yard
- Mow your lawn less frequently
- Plant trees and native plant species on your property to help absorb water

Aerial photo over Orchard Neighbourhood. Sidney Business Improvement Area Society.

Transportation & Mobility

Enable and promote community members and visitors to make low carbon choices when moving within and visiting the town.

Overview

As the source of approximately half of the community's GHG emissions, on-road vehicle transportation represents a significant opportunity to reduce emissions. According to the most recent regional transportation report completed by the CRD in 2017, approximately 70% of trips made to, from, or within Sidney were by car (as a driver). The next two most common transportation methods were as a car passenger at 13% and walking at 9%.

Other key takeaways from the CRD's 2017 transportation report:

- The majority of people driving during the morning "peak period" are going between Sidney and North Saanich
- 51% of total trips within Sidney are taken by driving
- 34% of total trips within Sidney are taken by walking

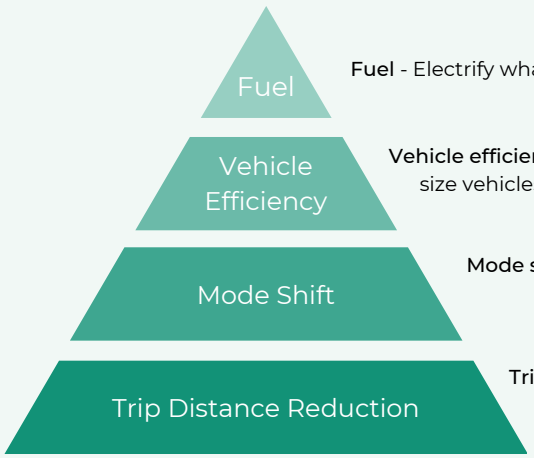
The Sustainable Transportation Pyramid

When working to reduce emissions from transportation, the Sustainable Transportation Pyramid shown below provides an illustration of the various strategies available. While local governments alone do not have direct control or influence over all the strategies on the pyramid, it demonstrates the hierarchy of effectiveness and how different actions build on each other, with the bottom being the most important strategy.

As highlighted in the Land Use section of the plan, a key element of reducing transportation emissions is reducing the distance of trips and, where possible, reducing the need to drive altogether by locating people and services closer to each other. This also supports mode shift, because the closer people are to their destinations, the more convenient it is to choose to walk, bike, and take transit.

Mode shift: A change from one type of transportation to another, like choosing to take your bike to the pharmacy instead of your car.

While the top two layers of the pyramid – vehicle efficiency and fuel switching of cars – are not something the Town has control over, it is something the Town can encourage with supportive policies, regulations, and advocating for policy change at higher levels of government. Supporting "fuel switching" (e.g. EV adoption) is especially important when trying to reduce emissions associated with long trips where most people choose to drive. For example, if there isn't enough EV charging infrastructure, people travelling long distances to come to Sidney are much less likely to choose their electric vehicles to make that trip.



Fuel - Electrify what is left of the fleet and/or consider biofuels and natural gas for the heavy duty fleet

Vehicle efficiency - reduce the size of vehicles and improve engine efficiency, right-size vehicles to the need, minimize tons of steel being used to move a person

Mode shift - Shift remaining kilometres traveled to cycling, walking, public transit, ride-sharing, and out of the single-occupancy vehicle

Trip distance reduction - Reduce the need to travel by vehicle through urban form and transportation demand management

Sustainable Transportation Pyramid

Objectives

- Review key policies and bylaws for opportunities to encourage the development of low carbon transportation
- Build infrastructure that supports mode shifting by making sure low carbon options are safe and convenient to choose
- Advocate for supportive projects and legislative change at higher levels of government

Existing Initiatives

EV Charging Around Town

The Town of Sidney currently operates four public EV charging stations. These are located at Town Hall, Tulista Park, Iroquois Park, and in the Third Street parking lot. The Town has also partnered with BC Hydro to install a DC Fast Charging Station in Parking Lot E (at Seventh St. and Bevan Ave.).

Transportation & Mobility Actions

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Policy & Regulations					
Develop and implement an Active Transportation Plan	Eng / DS	Underway	Planning: Short Implementation: Long	Planning: High Implementation: Very High	High
Review the Off-Street Parking and Loading Bylaw for opportunities to enhance low emissions transportation infrastructure and guidelines	DS / Eng	Planned	Medium	Medium *(For consultant support)*	Medium
Review the Streets & Traffic Bylaw for opportunities to enhance low emission and active transportation infrastructure and guidelines	Eng / DS	Planned	Medium	Medium *(For consultant support)*	Medium
Consider an option for developers to include transportation demand management (TDM) strategies in proposals for potential large development projects	DS	Planned	Medium	Medium (*Add onto bylaw review*)	Medium
Develop an e-mobility strategy to guide decision-making, policy updates, and infrastructure investments (e.g. support for shared e-bike services and public and private EV charging infrastructure)	DS	Planned	Medium	Medium	Low / Medium

Transportation & Mobility Actions Continued

Action	Lead	Status	Timeline	Cost	Priority
Advocacy					
Advocate for policy with service providers and higher levels of government that reduce transportation emissions (i.e. CRD, BC Transit, Province, Federal Government). For example: Right-to-Charge legislation, clean fuel standards, improved regional and local transit service, and increased availability of rideshare options	CAC + senior staff	Underway / Ongoing	Ongoing	N/A	Ongoing
Programs & Projects					
Investigate bike parking opportunities and install in key locations	Eng	Planned	Short - Medium	Low - Medium	High
Financial Support					
Participate in Provincially- or Federally-led financial top-up programs when available	CAC / Council	Planned	As opportunities arise	Medium - High	As opportunities arise
Partnerships / Education & Outreach					
Participate in Regional (CRD-led) Zero Emission Vehicle Awareness Initiative (ZEVAI)	CAC	Underway	Short	N/A	Ongoing

What you can do

Choose to walk, roll, bike, bus, or carpool whenever possible

Consider switching to an electric vehicle or hybrid

Consider choosing a place to live or work that minimizes the need to drive

Roll: Using a mobility aid, skateboard, scooter, wagon, etc. Anything with wheels, either without a motor or considered "low-power" by ICBC.

Land Use

Encourage compact community development to be closer to where we want to go.

Overview

The layout of a community impacts the decisions people make through their daily lives. Living close to the businesses, services, and transit routes that people use on a regular basis makes it easier to choose human-powered ways to move around (like walking or biking) for activities done on a regular basis, such as going to work or grocery shopping. This can be supported by encouraging a compact land use pattern that allows for diverse housing options such as suites, duplexes, and townhouses in locations close to commercial areas.

Rising housing costs in recent years have made it more difficult for people to enter the housing market, which also increases the need for other tenure options, like rental units. This is especially crucial for people who work in Sidney, but may not be able to afford to buy a house (or even rent) in the community. For example, young adults working entry level jobs in town may not be able to afford a place to live here, creating longer commute distances and increased reliance on vehicle ownership. This highlights how, when working to address climate action, other planning challenges like affordable housing within Sidney can influence the ability to reduce emissions in some climate action areas, such as transportation.

Objectives

- Promote land use patterns that minimize emissions and are resilient to climate impacts by supporting development in strategic locations close to key amenities
- Balance hard and soft surfaced areas to enhance climate change resilience

Existing Initiatives

Official Community Plan Update

The Town of Sidney's Official Community Plan (OCP) review was in its final stages as the Climate Action Plan was adopted. The OCP is a plan that guides future land use decisions throughout the community into the future, and was developed with participation from Sidney residents, businesses, and other key stakeholders. This document also includes Development Permit Area (DPA) guidelines that influence how new development unfolds. DPAs can support climate action, as they are regulatory tools. For example, they can establish guidelines for new development to reduce GHG emissions and conserve energy through building and site design.

Aerial photo over Downtown. Sidney Business Improvement Area Society.

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Policy & Regulations					
Incorporate energy efficiency guidelines into Sidney's Development Permit Area regulations	DS	Underway	Short	N/A *Within OCP costs*	High
Encourage development that continues to support Sidney as a compact and complete community that enables residents easy access to daily needs via active transportation	DS	Underway / ongoing	Ongoing	N/A	Ongoing
Reduce the impacts of hard surfaced areas in new developments (including parking lots) and encourage increased tree canopy coverage and the use of alternative paving surfaces on public and private property	Eng / DS	Planned	Ongoing	N/A - *Tied to other projects / staff time*	Ongoing

Aerial photo over Downtown facing east. Sidney Business Improvement Area Society.

Buildings

Promote low carbon and resilient building design and retrofits to make sure where we live, work, and play is safe and comfortable year-round, while reducing GHG emissions.

Overview

Sidney's buildings are an integral part of the community, but also a significant source of GHG emissions. People spend a lot of time in buildings: they are our homes, places of work, where we connect with families and friends, shop, access services, and more. Many activities happening in buildings require energy – to heat, cool, and power devices, from fridges to phones. With that in mind, it makes sense that buildings are the second largest source of emissions here in Sidney.

Buildings make up 39.4% of the community's overall emissions. 69% of those emissions are from residential buildings, 31% are from commercial and institutional buildings. See the donut chart to the right for a breakdown of emissions by energy source and building type for 2020.

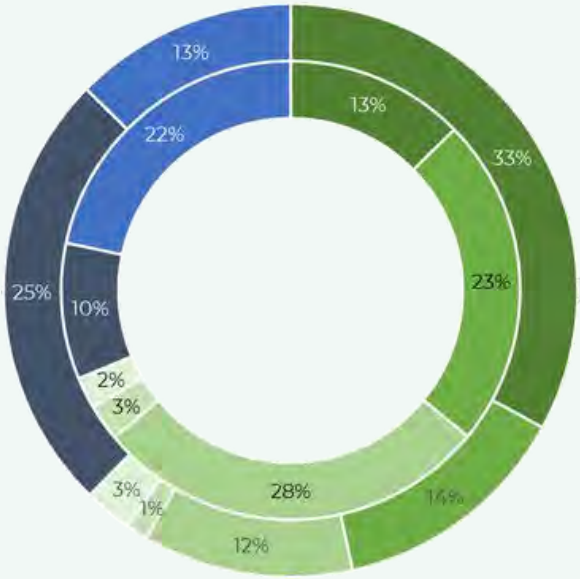
Importance of Fuel Choice

Building emissions come from the energy used to power, heat, and cool the buildings, like electricity, natural gas, heating oil, and others. Electrifying Sidney's buildings and using renewable forms of energy are an important part of climate action, as there are much fewer emissions from electricity than fossil fuels. For example, the Sidney Building Emissions graph shows that 33% of the energy used for the community's buildings is from electricity for residential buildings, yet it only accounts for 13% of building emissions. In contrast, heating oil for homes makes up approximately 12% of energy used for buildings, but represents almost 30% of building emissions.

This graph shows that while none of our primary sources of energy are emissions-free, using electricity from BC Hydro (or other forms of renewable energy) can provide more energy with fewer greenhouse gases.

Resilient building design: How buildings are designed impacts occupants' resilience to extreme weather (especially temperature). It's important for buildings to be designed to make sure the space is safe and comfortable year round, especially since buildings built today will be here for decades.

Sidney Building Emissions, 2020



***Interior circle**: GHG emissions by source*
***Exterior circle**: Energy provided by source*

Residential
- Electricity
- Natural Gas
- Heating Oil
- Propane
- Wood

Commercial & Institutional
- Electricity
- Natural Gas

Overview Continued

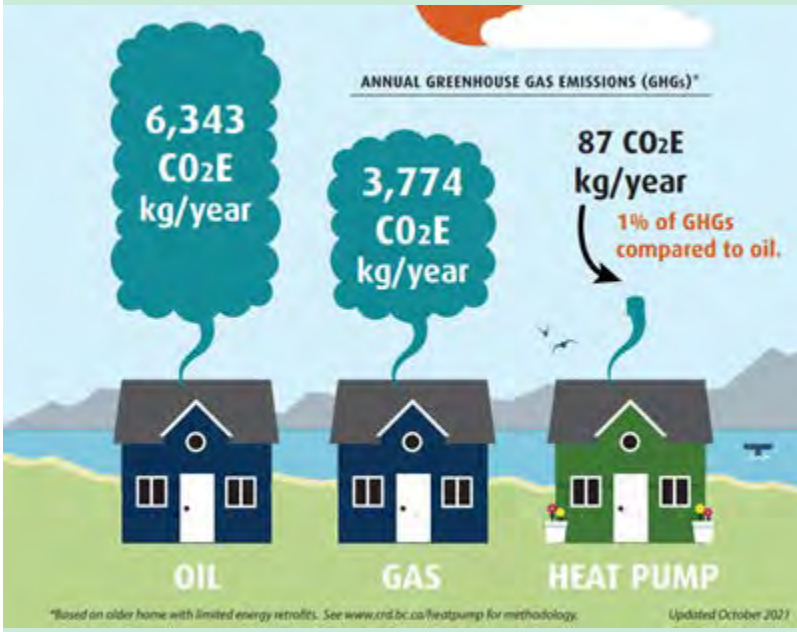
While not everyone can afford a heat pump, or has the ability to switch to one, simply using electric baseboard heating, which is what many homes already use, still creates much less emissions than natural gas and oil.

Local governments currently do not have the power under the Local Government Act to regulate what energy sources are used inside of buildings. It is up to individual building owners that use electricity to power and heat their homes to continue using electricity (i.e. not switch to a fossil fuel), and up to those not using electricity already to make the switch voluntarily. This can be encouraged by local governments through incentives and education.

Buildings and Adaptation

Given projected warming temperatures and the amount of time people spend inside buildings, making sure they are designed to help keep people cool is crucial. With warming temperatures and more frequent extreme heat projected for the region, cooling our buildings is likely to become a much larger focus of building design. Already, BC Hydro has reported an over 50% increase in air conditioner use over the past decade, rising from around 25% of British Columbians using it at home to nearly 40%.

There are multiple ways that buildings can be adapted to be more resilient to future increases in temperature. Existing buildings can be retrofitted with energy efficient cooling devices (i.e. heat pumps, window shading), and new buildings can be designed to incorporate suitable ventilation and cooling mechanisms. These measures are important to reduce risk of buildings overheating and minimize associated adverse health effects. Given that the expected lifespans of buildings built today are estimated to be around 80 years, it's important to encourage building design that will be safe and comfortable throughout that lifespan.



Objectives

- Reduce barriers to low carbon and resilient design by reviewing relevant policy and regulations that impact new development and homeowner retrofits
- Promote retrofits by community members by participating in and sharing information about financial incentives organized by higher levels of government

Existing Initiatives

Rebates for Retrofits

The Town participates in the Municipal top-up rebate program: when residents complete a qualifying home retrofit (i.e. installing a heat pump) and apply for Provincial rebates, they may also be eligible for additional rebates from the Town.

EV Charging Requirements

The Town's parking bylaw requires EV charging infrastructure in new apartment and condo buildings.

Buildings Actions

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Town Operations					
Prioritize municipal building retrofits on more emissions intensive buildings	Eng / FNC	Planned	Ongoing	N/A *Will have cost implications at implementation and ongoing operations*	Ongoing
Policy & Regulations					
Develop a Flood Construction Level Bylaw	DS	Planned	Short	N/A	High
Update the Zoning Bylaw to reduce barriers to installing low emissions and resilient building features (i.e. passive design strategies)	DS	Planned	Short	Medium *In house + contracted work*	High
Adopt the BC Energy Step Code in advance of the Provincial timeline (align with North Saanich and Central Saanich where appropriate/feasible)	DS	Planned	Short	Medium	High
Investigate options to encourage builders to incorporate low emissions and resilient development features if requesting a variance or rezoning (i.e. a checklist)	DS	Planned	Medium	Low	Medium
Advocacy					
During local government engagement opportunities with the Provincial and Federal governments, advocate for authority, financing tools, benchmarking, and other policies essential for achieving low/zero emissions buildings	CAC + Senior staff	Underway	Ongoing	N/A	Ongoing

Buildings Actions Continued

Action	Lead	Status	Timeline	Cost	Priority
Financial Support					
Participate in Provincially- or Federally-led financial top-up programs when available (i.e. CleanBC Better Homes Rebate)	Council / CAC	Underway	Ongoing	Medium	Ongoing / as available
Education & Outreach					
Encourage homeowners using fossil fuels in their homes to switch to cleaner and/or more efficient home energy systems (i.e. BC Hydro, solar water heating) by providing information on rebate opportunities and free resources	CAC / DS	Underway	Ongoing	N/A - Low	Ongoing

What you can do

If your home is already using electricity for power, continue to use that instead of switching to a fossil fuel source (like natural gas)

If your home does not use electricity for power, consider switching

Install an electric heat pump – these are not only great for energy efficiency, but they provide year-long warmth and cooling to keep your space comfortable whatever the season

Improve the energy efficiency of your home: add some insulation, upgrade your window coverings, or improve the seals around your windows and doors

Investigate whether home renewables (like solar panels on your roof) might be appropriate for you

Natural Environment

Conserve and enhance Sidney's urban forest and ecosystems to help reduce climate change impacts

Overview

Similar to the built environment, the natural environment is both impacted by climate change and can play a supportive role in making the community more resilient to climate change risks. The natural environment includes dedicated green spaces like parks, streams (Riparian areas), and beaches, as well as smaller pockets of vegetation, like backyards and the trees that line our streets.

When it comes to trees for example, changing weather patterns can mean that certain species may no longer thrive in Sidney like they might have in the past. On the other hand, there are opportunities to select species of trees that are drought tolerant or that can help absorb rain water. Choosing native species can also support resilient ecosystems.

Other benefits include protection against erosion and reducing the impacts of heat by providing shade. These shading benefits are valuable to provide cover when spending time outside, and, when planted in strategic locations, can help reduce building overheating as well. Planting drought tolerant species can also improve the resilience of green spaces as they are more likely to survive dry spells over the summer.

The community's shorelines are another opportunity to reduce climate risks associated with storms and sea level rise. Enhancing natural waterways and shorelines (such as using a Green Shores approach) can be an effective way to reduce risk of erosion and flooding while maintaining access to the water for community members.

Objectives

- Recognize the benefits of natural assets when assessing capital projects and development applications
- Evaluate policy and support projects that improve healthy ecosystems throughout Sidney

Existing Initiatives

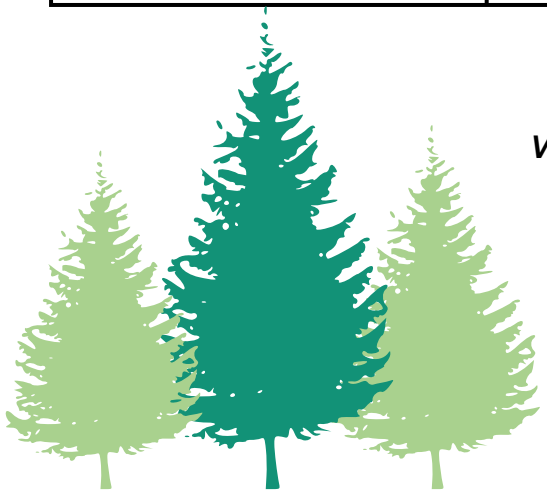
Greening our Community

1. Restoration of Reay Creek
2. Prioritizing planting native species in parks and on public land
3. Encouraging plantings of native species on private property
4. Partnerships with non-governmental organizations to support stewardship initiatives, like Tree Appreciation Day

Tree Appreciation Day 2021

Town Actions

Action	Lead	Status	Timeline	Cost	Priority
Town Operations					
Consider the value of natural assets in climate change adaptation (i.e. in providing shade) during decision-making on capital projects	Eng / Parks	Underway	Ongoing	N/A - Medium	Ongoing
Consider the value of natural assets in climate change adaptation when assessing development applications	DS	Planned	Medium	N/A	Medium
Evaluate the need for physical (hard or soft) interventions to respond to sea level rise (i.e. dikes or implementing Green Shores principles)	Eng	Planned	Long	High - Very High	High
Policy & Regulations					
Continue to implement the Urban Forest Strategy	Parks / Eng / DS	Underway	Ongoing	N/A - High	Ongoing
Review Streets and Traffic Bylaw, Parks Bylaw, and Boulevard Maintenance Bylaw with respect to allowable boulevard plantings	Eng	Planned	Medium - Long	N/A	Low
Programs & Projects					
Continue to support and partner with community organizations in hosting stewardship events	All depts involved	Underway	Ongoing	Low	Ongoing
Consider implementing an "Adopt a Tree" program	Eng / Parks	Planned	Short - Medium	N/A - Low	Low / Medium



What you can do

- Host or participate in a stewardship event (e.g. Tree Appreciation Day)
- Plant native species on your property (i.e. trees, shrubs, grasses)

Emergency Preparedness

Ensure the Town and community are aware of the projected climate impacts for the region and have response plans in place.

Overview

As outlined in the Risk and Vulnerability Overview in Part One of this plan, key projected changes for the region include increasing temperatures, more frequent and intense rainfall, and sea level rise. These projected changes reflect Sidney's primary climate change risks, being heat wave and severe coastal storm surge (see Part 1 for the full overview of risks). Knowing these risks is crucial in supporting long-term emergency preparedness.

There are several different ways the community can prepare for these risks. The potential impacts associated with the risks can be minimized by improving resilience, such as encouraging building design that moderates inside temperatures, and preparing to respond to those risks during potential emergency events. Emergency preparedness can include establishing response plans for what the Town will do during emergency events as well as community outreach to educate households about what they can do to prepare at home. Extreme weather events demonstrate the connection between climate risk and emergency management.

Objectives

- Periodically evaluate and plan for climate risks and their potential impacts for Sidney
- Build community resilience through education about emergency preparedness

Existing Initiatives

Assessing and Responding to Climate Change Impacts

- The Emergency Management team at the Town periodically reviews and reports on the community's potential hazards. This is called the Town's "Community Risk Assessment" and addresses hazards such as earthquake, disease, urban fire, and atmospheric hazards (such as those associated with climate change)

- In response to the 2021 summer heat wave, the Emergency Management team developed a Heat Response Plan to guide response to future extreme heat events

What the Town is planning to do

Action	Lead	Status	Timeline	Cost	Priority
Town Operations					
Incorporate a climate lens and include climate change-related risks when Community Risk Assessments are periodically updated	EMO	Underway / Ongoing	Short term / Ongoing *2022, and every 3-4 years*	N/A	High
Continue to inform and facilitate community education about preparedness for community risks (including climate risks like extreme weather events)	EMO	Underway / Ongoing	Short term / Ongoing	N/A	High
Partnerships					
Collaborate on connecting the most vulnerable to the impacts of climate change with available services (i.e. cooling centres)	Fire	Planned / Underway *Ready to be implemented*	As needed	N/A - Medium	High

What you can do

Host an information session about emergency preparedness with your neighbours (contact the Sidney Fire Department non-emergency line for more info)

Learn about Sidney's risks and make a plan with your household (i.e. in case of a heatwave or flood)

Food & Waste

Minimize and divert waste, especially organics, going to the landfill.

Overview

Waste generated within the community forms a part of the emissions inventory completed by the CRD for Sidney, and makes up approximately 5% of Sidney's emissions. These emissions primarily result from organic waste (like food and garden scraps) that end up in the landfill.

When organic waste goes to the landfill, it doesn't have access to the oxygen it needs to decompose like it would in a composting environment, which leads to the production of methane, a greenhouse gas 25 times more powerful than carbon dioxide at trapping heat in the atmosphere. This is why it is important to maximize the amount of organic waste that is diverted from the landfill.

Minimizing non-organic waste, like plastics, is also valuable because it means less overall waste is going to the landfill and less emissions are resulting from the production of those new items.

BC is a leader in household recycling due to its Extended Producer Responsibility (EPR) initiative (Recycle BC). This requires producers of designated products to take full responsibility for the lifecycle of their products, including collection and recycling.

The greenhouse gas emissions from the food we eat is not included in Sidney's inventory, but is still worth addressing within the plan given the overall impact of food production on worldwide emissions.

While all food production results in GHG emissions, some foods result in more emissions than others. For example, the production of most plant-based foods result in much less GHG emissions than the production of animal-based foods. Swapping in more plant-based foods and buying sustainably sourced local foods are two opportunities for community members to participate in the global effort to reduce climate change.

Objectives

- Develop policy and support regional initiatives that encourage waste reduction from residential and commercial sources
- Maximize diversion of waste through composting and recycling initiatives

Existing Initiatives

Collecting Kitchen Scraps

The Town participates in and operates the Kitchen Scraps Program to collect organic waste from residents to be composted

Single Use Plastics Bylaw

In May 2022, the Town adopted a Single Use Plastics bylaw to come into effect January 2023.

Hartland Landfill

What the Town is planning to do

Action	Lead	Status	Timeline	Cost	Priority
Policy & Regulations					
Support regional diversion efforts by working with the CRD, residents, and businesses to maximize organic waste diversion from residential and commercial sources	CAC / Eng	Underway	Ongoing	N/A	Medium
Consider opportunities to increase residents' abilities to produce their own food (e.g. community gardens)	DS / Eng / Parks	Underway	Ongoing	N/A - Medium	Low - medium / ongoing
Investigate the feasibility of reducing garbage pick-up to a two-week cycle	Eng	Planned	Short - Medium	N/A	Medium
Investigate opportunities to improve waste diversion from construction and demolition	DS	Planned	Medium	N/A	Medium
Work with partner organizations on public education campaigns to raise awareness of waste reduction tools, programs, and information	CAC	Planned	As opportunities arise	N/A - Low	Low - Medium

What you can do

When shopping, consider first looking to see if products are available second-hand

Use re-usable options instead of single use plastics when possible (i.e. shopping bags, cups, food containers)

Separate recyclable materials and either drop off at a local depot or save for blue box pickup

Swap in more plant-based meals

Consider buying in-season and locally-sourced foods

Implementation & Monitoring

NEXT STEPS: *After the plan is adopted*

Implementation

This plan was developed with its implementation as a key consideration throughout the process, as seen by the action planning matrix in each focus area. Following the adoption of the plan, these matrices will be revisited with each department in the Town to evaluate how actions can be most effectively incorporated into work plans and budgets moving forward. Actions will be prioritized based on what could have the greatest impact on Sidney reducing emissions sources or tackling community members' barriers to low carbon choices and what had the most community support. Many of the actions listed in this plan will feature targeted community engagement.

Funding

The actions in this plan will be funded in a number of different ways depending on how the action fits within existing workplans and budgets. Some actions may be funded through existing departmental budgets, some can be funded through the Town's Climate Action Reserve Fund, and some will require one-time funding approvals from Council. Where grants are available these will be pursued to offset costs. The Province of BC recently announced a 3-year funding program to assist with climate action initiatives. The Town will take advantage of this funding to broaden its efforts to respond to climate change.

Monitoring

Given that success in reducing community emissions is dependent on a range of factors, many of which are outside of the control of the local government, the primary aim of the plan is to complete the initiatives outlined within it. The periodic emissions inventories completed by the CRD will also be used to assess changes in community GHG emissions over time, while corporate inventories can be completed by Town staff to assess progress within the organization. A reporting approach will be developed through the implementation planning process so that these two processes can support each other in the long term.

Aerial photo over waterfront. Sidney Business Improvement Area Society.

Appendix A

Glossary

Term	Definition
Adaptation	Actions to manage the impacts of climate change. Successful adaptation leads to improved resilience.
Carbon sequestration	A natural or artificial process by which carbon dioxide is removed from the atmosphere and stored.
IPCC	Intergovernmental Panel on Climate Change, the United Nations body for assessing the science related to climate change. Find out more at www.ipcc.ch/about
Green Shores™	A program of the Stewardship Centre for BC that promotes sustainable use of shoreline ecosystems through education, planning, and design that recognizes the ecological features and functions of shoreline systems.
Low Carbon Resilience	An approach to municipal planning, decision-making and implementation that supports communities in advancing towards a resilient future by breaking down the silos between adaptation, mitigation, and other municipal priorities.
Mitigation	Actions to reduce emissions that cause climate change.
Net zero	When the total amount of GHG emissions produced are balanced out by removing extra GHG emissions from the atmosphere (including by carbon offsetting).
Resilient building design	How buildings are designed impacts occupants' resilience to extreme weather (especially temperature). It's important for buildings to be designed to make sure the space is safe and comfortable year round, especially since buildings built today will be here for decades.
Roll	Using a mobility aid, skateboard, scooter, wagon, etc. Anything with wheels, either without a motor or considered "low-power" by ICBC.
tCO2e	Tonnes of carbon dioxide equivalent. A standardized unit of measurement that includes carbon dioxide, methane, nitrous oxide, and other greenhouse gases.

Appendix B

Vulnerability Assessment Summary Table

The following table reviews each of the provincially assessed climate risks, as they apply to Sidney. Note that these risk ratings are based on the likelihood these events will occur in the 2050s, but these events may occur earlier or later, as seen by the record-breaking heatwave of June 2021.

Risk	BC Rating	Sidney Rating	Rationale
Severe wildfire season	High	Moderate	Sidney is an urban area with limited opportunity for wildfire within its boundaries. Residents, especially the high proportion of seniors in the region, may still be at risk of health impacts from poor air quality resulting from wildfires in other jurisdictions.
Seasonal water shortage	High	Moderate	The magnitude of this water shortage is equal to drought level 4 as defined in the B.C. Drought Response Plan (the highest level where water supply is insufficient to meet socio-economic and ecosystem needs). This level of water shortage could affect drinking water quality, ecosystem health, community water supply, and water dependent industries.
Heat wave	High	High	Given the high proportion of seniors in Sidney's population, this would be considered a high risk for the Town. Extreme heat poses the highest risk to those who do not have access to cooling mechanisms. The experience gained from the June 2021 heat wave supports this rating.
Ocean acidification	High	Low	The "high" rating for the Province is largely based on coastal communities whose livelihoods are based on ocean-reliant industries such as fishing and aquaculture. This is not a significant economic driver in Sidney, though may impact some local seafood-based businesses, recreational fishing, and tourism.
Glacier mass loss	High	N/A	There are no glaciers in Sidney and the CRD's water supply does not rely on glacial melt.
Long-term water shortage	High	Moderate	A key contributor to BC's "high" risk rating is economic loss from industry and natural resource dependent livelihoods. This is not a major economic driver in Sidney. The risk assessment notes that the BC interior is the highest risk due to economic impacts and increased risk of wildfire which are not major factors in Sidney. If there are disruptions to provincial hydroelectricity production as identified in the report, this could still impact the community.
Reduction in ecosystem connectivity	Moderate	Low	The Provincial "moderate" rating is largely due to economic losses from industries reliant on natural resources, but it also refers to the implications on biodiversity within an ecosystem and the services that ecosystem provides. Although Sidney is primarily an urban community, natural features such as Reay Creek and Mermaid Creek are still valuable parts of an ecosystem. However, they have already experienced loss of connectivity due to development in those areas.

Vulnerability Assessment Summary Table Continued

Risk	BC Rating	Sidney Rating	Rationale
Saltwater intrusion	Moderate	Low	While Sidney is a coastal community, saltwater intrusion is a low risk given that the Town relies on piped water from the CRD rather than wells. The Town does have wells that it uses during severe water restrictions for watering trees, which could be impacted if saltwater intrusion occurs. Agriculture, which is a contributor to the Provincial risk rating, is also not a significant industry for the Town.
Loss of forest resources	Moderate	Low	Sidney is an urban community that has very limited forest habitat. Therefore, this is a low risk for the community.
Increase in invasive species	Moderate	Moderate	An increase in invasive species is considered a “moderate” risk for Sidney. While the consequences are relatively low in terms of human health, they can impact local ecosystems. An increase in invasive species is also considered “almost certain” to take place as per the Provincial report, which puts it into the moderate risk category in their methodology. Sidney may be more impacted by marine invasive species than land-based invasive species.
Moderate flooding	Moderate	Moderate	Flooding is a risk in Sidney due to projected sea level rise, increased storm frequency and intensity, and its urban environment with impermeable surfaces.
Severe riverine flooding	Moderate	N/A	There are no rivers in Sidney.
Severe coastal storm surge	Moderate	High	Flood areas identified by a 2015 CRD Flood Mapping study suggest that certain parts of Sidney are at high risk of flooding during severe coastal storm surges. Key risk areas are Tsehum Harbour and the East side of South Sidney. Property and infrastructure damage could be in the millions of dollars. See 2015 study referenced above for maps identifying the area.
Extreme precipitation and landslide	Moderate	Low	Due to its flat topography, Sidney is not at risk of major landslide. There is a minor risk of slope erosion along the coastline, but this would be of limited impact to human or ecological health.
Increase in incidence of vector-borne disease	Low	Low	The Provincial risk assessment reviews the risk of an increase in Lyme disease given that temperature and precipitation can influence the behavior and range of ticks, which can carry and transmit the bacteria that causes Lyme disease. There is no Sidney-specific data that would support increasing this risk rating.