Pitt Meadows Climate Action Strategy

Draft

May 5, 2025

Land acknowledgement

We acknowledge with respect and gratitude that the City of Pitt Meadows is located on the traditional, unceded territory of q̓ic̓əy̓ (Katzie) First Nation who were stewards of this land since time immemorial.

The City stands with Indigenous peoples, committed to learning and evolving, as we acknowledge this historical truth and take meaningful steps towards reconciliation.

Acknowledgements

We would like to extend our gratitude to all the individuals and organizations who contributed to developing the City of Pitt Meadows Climate Action Strategy. Your input was essential in refining and enhancing the final Plan. We deeply appreciate your time and dedication to this important work.

Project Consultants

Pinna Sustainability and Licker Geospatial Consulting

Participating Organizations

- Metro Vancouver - Agriculture and Food Security
- Metro Vancouver - Air Quality and Climate Change
- City of Pitt Meadows Advisory Committee Members:
    - Advisory Design Panel
    - Economic Development Advisory Committee
    - Community Support and Accessibility Committee
    - Active Transportation Advisory Committee
- Ridge Meadows Seniors Society
- Ridge Meadows RCMP
- Fraser Health
- Alouette River Management Society

Executive Summary

Pitt Meadows is already experiencing the impacts of climate change, from more frequent extreme heat events and poor air quality to increased flood risk and shifting seasonal weather patterns. These changes pose risks to public health, infrastructure, local ecosystems, and the economy. Without proactive measures, the community could face rising costs, disruptions, and long-term environmental and social consequences.

This report outlines the City of Pitt Meadows' strategic approach to addressing climate change, focusing on both reducing greenhouse gas emissions and strengthening resilience to climate hazards. While local government plays a critical role in planning and implementing climate action, success depends on collaboration across all levels of society—including residents, businesses, industry, and other government partners.

Key areas of focus include:

- **Public Infrastructure and Corporate Responsibility** – Strengthening municipal infrastructure to withstand climate impacts while embedding sustainability into City operations and decision-making.
- **Health, Wellbeing, and Emergency Management** – Enhancing community preparedness for climate-related emergencies, protecting vulnerable populations, and addressing risks such as extreme heat and wildfire smoke.
- **Buildings and Development** – Encouraging climate-smart development, improving energy efficiency, and integrating resilience into land use and building policies.
- **Transportation and Mobility** – Expanding low-carbon transportation options, supporting active and public transit, and phasing out reliance on fossil fuels.
- **Local Economy and Agriculture** – Helping local businesses and farmers adapt to changing climate conditions while promoting a resilient, sustainable economy.
- **Ecosystems and Green Spaces** – Preserving and restoring natural areas to enhance biodiversity, mitigate flooding, and provide cooling benefits in urban spaces.

Pitt Meadows can protect its residents, economy, and environment from the growing risks of climate change while creating a more livable, sustainable, and resilient community. The City is committed to leading by example, but collective action from the entire community will be essential in building a climate-ready future.

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Definitions

Carbon dioxide equivalent (CO_2e): is a standardized unit of measurement used to quantify the global warming potential of different greenhouse gases.

Coastal flooding: refers to the inundation of land along the coast by seawater. This occurs primarily due to acute events such as storm surges or high tides, as well as long-term processes like sea-level rise.[1] Coastal flooding may also be used to describe rising water levels in lakes, although this is less common.

Intensity-Duration-Frequency (IDF) curves: graphical tools that describe the likelihood of a range of extreme rainfall events. Environment and Climate Change Canada produces IDF curves using statistical techniques and records of past rainfall.[2]

Pluvial flooding: occurs when heavy rainfall accumulates and causes flooding over land. This flooding occurs independently from an overflowing water body (e.g., lake or river).[3]

Riverine flooding: also called "fluvial flooding", refers to when rivers overflow their banks, leading to temporary inundation of water of adjacent land areas.[4] This is a recurring natural event that typically occurs in the spring and can be influenced by many factors, including changes to freshet patterns caused by climate change.

Urban heat island effect (UHI): this describes why urban areas experience higher temperatures than surrounding peri-urban and rural areas. Urban and impermeable materials, like roadways, parking lots, and large structures, absorb heat during the day and release it back into the environment at night, making conditions hotter. The difference between air temperature in urban versus green and rural spaces can be as high as 12 °C in the evening.[5]

Vulnerability: the degree to which people and places are sensitive and susceptible to being adversely affected by climate hazards.[6]

[1] Government of Canada. (2019). Canada's changing climate report. Natural Resources Canada. https://natural-resources.canada.ca/sites/www.nrcan.gc.ca/files/energy/Climate-change/pdf/CCCR_FULLREPORT-EN-FINAL.pdf

[2] Government of Canada. (accessed 2025). https://climatedata.ca/interactive/idf-curves-101/

[3] Government of Canada. (2021). Federal Flood Damage Estimation Guidelines for Buildings and Infrastructure. https://natural-resources.canada.ca/science-data/science-research/flood-mapping/federal-flood-damage-estimation-guidelines-buildings-infrastructure

[4] Government of Canada. (2023). Federal Hydrologic and Hydraulic Procedures for Food Hazard Delineation. https://natural-resources.canada.ca/science-data/science-research/flood-mapping/federal-hydrologic-hydraulic-procedures-flood-hazard-delineation

[5] Health Canada. (2011). Adapting to Extreme Heat Events: Guidelines for assessing health vulnerability. https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/hecs-sesc/pdf/pubs/climat/adapt/adapt-eng.pdf

[6] International Panel for Climate Change. (2014). Climate Change 2014 Impacts, Adaptation, and Vulnerability. https://apps.ipcc.ch/outreach/documents/295/1440604756.pdf

1 Introduction

Pitt Meadows is at a pivotal moment. As climate change accelerates, this vibrant and close-knit community faces increasing challenges—rising flood risks from an aging dike system, the growing threat of wildfires in the wildland-urban interface, and more frequent heat waves and droughts that strain infrastructure, farms, and livelihoods. These impacts are already shaping how people live, work, and interact with the environment in Pitt Meadows.

The science is clear—climate change is unequivocally caused by human activity, and global temperatures are on track to rise between 2.2 to 3.5°C by 2100, according to the Intergovernmental Panel on Climate Change (IPCC's) Sixth Assessment Report (AR6).[7] Canada has already warmed at twice the global average,[8] making climate impacts particularly urgent for Canadian communities. Even with rapid reductions in greenhouse gas emissions, some climate impacts are now unavoidable, underscoring the need for both reducing emissions and adapting to the changes.

This **Climate Action Strategy** is the Pitt Meadows' roadmap to both reduce greenhouse gas (GHG) emissions and prepare for climate impacts. Built with extensive input from community members, it sets ambitious goals and aligns with provincial, federal, and global climate commitments. Indigenous communities, including the q̓ic̓əy̓ (Katzie) First Nation, whose traditional lands include Pitt Meadows, are particularly affected by climate change and bring invaluable knowledge and perspectives to help guide this journey.

Taking action now is both necessary and cost-effective—every dollar invested in proactive adaptation can save six dollars in future costs.[9] Beyond reducing risks, climate action is an opportunity to protect what makes Pitt Meadows special while improving the quality of life for all residents. Strengthening flood protection, reducing wildfire risks, supporting sustainable agriculture, and improving energy efficiency will help ensure a strong and thriving future.

Every part of the community has a role to play. By working together, Pitt Meadows can build a more resilient, inclusive, and sustainable future—one where homes, businesses, farms, and natural spaces are ready for the challenges ahead.

Climate Action: Reducing Emissions and Adapting to Climate Change

As highlighted above, climate action involves two key components: reducing emissions that drive climate change (also called "mitigation") and preparing the community to adapt to the impacts of those changes (also called "adaptation"). The faster we can significantly reduce global emissions, the less we

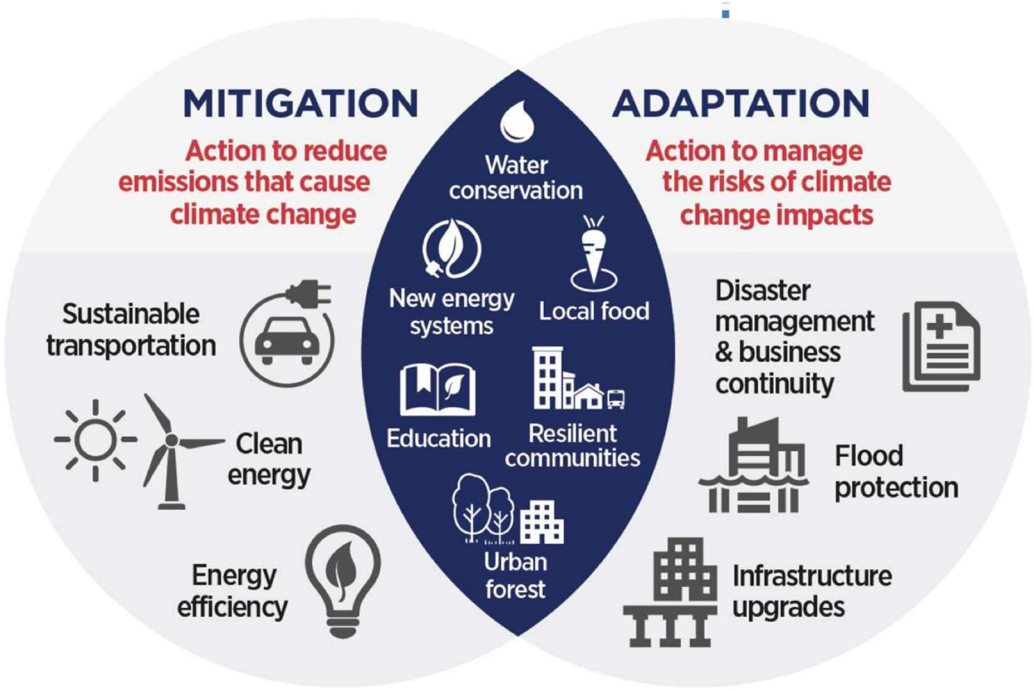
[7] IPCC. (2023). AR6 Synthesis Report. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

[8] Government of Canada. (2019). Canada's climate is warming twice as fast as global average. https://www.canada.ca/en/environment-climate-change/news/2019/04/canadas-climate-is-warming-twice-as-fast-as-global-average.html

[9] Federation of Canadian Municipalities (2020). Investing in Canada's Future: The Cost of Climate Adaptation at the Local Level – Final Report.

will need to adapt to extreme climate shifts. In some cases, actions that reduce emissions can also help communities adapt to climate change. Taking an integrated approach to both mitigation and adaptation ensures that efforts in each area work together to build a more resilient community. Figure 1 below illustrates example actions in both areas and highlights where they intersect.

Figure 1. Examples of climate change mitigation and adaptation actions[10]



Overview of Pitt Meadows

Nestled between the Fraser River and the Golden Ears Mountains, Pitt Meadows is a picturesque city in southwestern British Columbia. Known for its expansive farmland and deep agricultural roots, it is home to over 19,500 residents and is part of the traditional, unceded territory of the ḳiċəẏ̓ (Katzie) First Nation. As we work to reduce emissions and adapt to climate change, it is important to consider the context shaping climate action in Pitt Meadows. Key factors include:

- **Agriculture**: Local farms play a vital role in the region's food security and economy. About 78% of Pitt Meadows' land area is designated as Agricultural Land Reserve. Uses include berry farms, crops, forage and dairy farms.
- **Infrastructure**: Critical systems provided by the City of Pitt Meadows (City) include water, sewer, drainage, dikes, and parks. Other critical systems include Metro Vancouver regional water and sewer systems, utility energy systems (power and fuel), and the provincial government roads and bridges.

[10] Department of Water and Environmental Regulation (Government of Western Australia). 2020. Climate change risk management guide.

- **Economic assets**: Agriculture, the urban core, industrial areas, and the Pitt Meadows Regional Airport all provide local jobs and contribute to the regional economy. The Vancouver Intermodal Facility in Pitt Meadows serves as an important container terminal for rail transport of domestic and international shipments.
- **Land use and development**: Development is concentrated within the Urban Containment Boundary, preserving farmland and rural character. With a projected population increase of 4,300 residents by 2040, growth will increasingly focus on multi-unit homes that increase density in the urban centre.
- **Transportation**: City and provincial roads and bridges provide access to all aspects of the community. While single-occupant vehicles remain the primary mode of travel, the City and TransLink are expanding bikeways, sidewalks, trails, and transit to support sustainable options.

Social and Economic Considerations for Climate Action[11]

Climate change affects everyone, but not equally. Some residents face greater risks due to age, income, housing, language barriers, or other social and economic factors. Understanding these vulnerabilities is essential to ensuring that climate action strengthens community resilience for all by protecting lives, reducing disparities, and enhancing well-being.

Extreme heat, flooding, and wildfire smoke pose serious health and financial risks, particularly for seniors, young children, renters, and low-income households. Immigrants and Indigenous Peoples may experience additional barriers, from access to emergency information to disproportionate climate-related costs. The following factors highlight key social and economic considerations that must be integrated into climate planning:

- Seniors over the age of 65 years (18% of the population and increasing) face heightened risks during extreme heat, flooding, and wildfire events, while children under the age of five (5% of the population) are more vulnerable to long-term health impacts from air pollution and climate-related stress.
- Indigenous Peoples often feel the costs of climate change more acutely due to their close relationship with the environment and its resources. Over 4% of the population identifies as Indigenous within the city boundaries (and does not include those living on the Katzie Reserve). Census data may not fully represent this population.
- Immigrants who have arrived within the past five years (over 2%) and those who do not speak English or French (1%) may face barriers to accessing resources or recovering from climate events. Providing translated materials and tailored communication may be necessary.
- 58% of dwellings are multi-unit dwellings, which may be more prone to overheating if not designed/constructed for current and future temperature changes. Renters (over 20% of residents) have fewer options on cooling devices, increasing their risk.

[11] British Columbia Centre for Disease Control. Climate Health Data App. [accessed 2023-January-16]. https://bccdc.shinyapps.io/Climate_Health_Data_App/

- 58% of residents report a strong sense of community, which is strongly correlated with physical and mental health, indicating stronger resilience to climate events.[12]

These factors need to be addressed through inclusive and innovative solutions that protect residents, enhance well-being, reduce emissions, and celebrate the community's cultural and natural heritage.

Climate Action Strategy Development

This Climate Action Strategy was developed over the past year through a combination of research, analysis, and significant community and staff engagement. A dedicated group of community members actively provided valuable input throughout the process.[13] This collaborative approach led to clear goals and actions tailored to Pitt Meadows' unique needs. The strategy outlines specific actions across six climate action themes to move towards a more resilient and low-emission community.

Project Steps

- Review existing policies, data, and climate action plans
- Develop energy and GHG emissions inventories and forecasts
- Analyze local climate projections and identify key risks and vulnerabilities
- Establish vision, goals, and actions for climate action in Pitt Meadows
- Integrate emerging best practices from other regions
- Prepare draft and final Climate Action Strategy

Engagement

- Public survey and open house to gather community perspectives on climate action
- Regular meetings with internal City departments
- Four workshops with staff and interested parties to identify risks, gaps, and opportunities
- Public feedback on the draft strategy through survey and open house

[12] BC COVID-19 SPEAK Round 3 Survey in 2023

[13] Pinna Sustainability. (2025). Pitt Meadows Climate Action Strategy Engagement Summary Report. Internal document.

2 Climate Impacts in Pitt Meadows

How the Climate is Changing

Figure 2 below provides an overview of projected climate changes for Pitt Meadows over the coming decades relative to the climate experienced in the past. Note that the projections represent averages over 30-year periods (e.g., 2041-2070) rather than projections for any specific year. For simplicity, we refer to the period between 1991-2020 as 'the Past,' between 2041-2070 as 'the 2050s,' and between 2071-2100 as 'the 2080s.'

Already Pitt Meadows is experiencing noticeable climate changes, and projections indicate further shifts over the coming decades that may affect everyday life. Rising temperatures and extreme heat events are becoming more frequent, with more days over 30°C and more nights staying over 18°C projected by the 2050s. In lower-elevation areas of Metro Vancouver, average summer daytime high temperatures are expected to surpass present-day San Diego by the 2050s, with further increases by the 2080s.[14] Hotter conditions will increase cooling demands and may strain cooling systems and the electrical grid.

As the region experiences fewer frost days throughout the year, the growing season is expected to lengthen almost year-round by the 2050s, bringing both opportunities and challenges for agriculture, including shifts in crop suitability and increased water demand. Summers are also expected to become hotter and drier, further extending and intensifying the wildfire season. By the 2050s, projections point to a nearly year-round fire risk, increasing the frequency and severity of wildfires.[15]

Although summers are expected to get drier, overall, annual precipitation is expected to increase. Heavier rainfall events and an extended storm season are expected, raising the likelihood of pluvial (surface) and riverine flooding. Meanwhile, sea levels are projected to rise by approximately one metre by 2100,[16] increasing the risk of coastal flooding along the Fraser and Pitt Rivers. At the same time, snowpack in Metro Vancouver's watersheds is expected to decline by 56% by the 2050s and 84% by the 2080s, reducing water availability during the spring and summer. [17]

[14] Metro Vancouver. (2016). Climate Projections for Metro Vancouver. https://metrovancouver.org/services/air-quality-climate-action/Documents/climate-projections-for-metro-vancouver-2016.pdf

[15] https://climatedata.ca/fire-weather/

[16] Metro Vancouver. (2016). Climate Projections for Metro Vancouver. https://metrovancouver.org/services/air-quality-climate-action/Documents/climate-projections-for-metro-vancouver-2016.pdf

[17] Ibid

Figure 2. Climate Projections for Pitt Meadows.

Projection	Variable	Past (1991-2020)	2050s (2041-2070)	2080s (2071-2100)
Increasing Temperature	Mean temperature (annual)	11 °C	13 °C	15 °C
Increasing Precipitation	Total precipitation (annual)	1,575 mm	1,650 mm	1,730 mm
Rising Summer Temperatures	Days with Tmax > 30 (annual)	3 days	15 days	40 days
Increasing Number of Hot and Humid Days	Hottest day (annual)	31 °C	34 °C	37 °C
	Days with Humidex > 30 (annual)	20 days	50 days	80 days
More Tropical Nights	Tropical nights - Tmin > 18 (annual)	0 days	5 days	40 days
Higher Cooling Demands	Cooling degree days (CDD) (annual)	80 CDD	290 CDD	600 CDD
Extension of the Growing Season	Frost-free days (annual)	240 days	300 days	335 days
	Growing degree days (GDD) (annual)	2,280 GDD	2,960 GDD	3,725 GDD
Heavier Rainfall Events	Maximum 5-day precipitation (annual)	125 mm	135 mm	145 mm
	Wet days >=20mm (annual)	13 days	16 days	18 days

Disclaimer: The projections presented in this report are based on data sourced from climatedata.ca, using the high-emissions scenario (RCP8.5). While global efforts and recent studies suggest that RCP8.5 is becoming less likely, this scenario remains a key benchmark for assessing climate risks and planning in British Columbia. This approach aligns with the Province's Preliminary Strategic Climate Risk Assessment for British Columbia (2019), which identifies RCP8.5 as a standard for evaluating potential impacts (see Appendix A: Why was RCP8.5 chosen for this analysis?).

Climate Indicators Definitions [18]

Cooling Degree Days (CDD): describes the amount of space cooling (e.g., air conditioning) required to maintain comfortable indoor conditions when it is hot outside. When the average temperature is hotter than the threshold temperature (typically 18°C in Canada), cooling-degree days are accumulated. Note that cooling degree days are expressed as "degree days" rather than actual days. The number of cooling-degree days accumulated in a single day depends on how much hotter the average temperature is than

[18] Definitions are sourced from climatedata.ca

the threshold temperature (18°C). For instance, if the average temperature is 23°, the day would accumulate five cooling-degree days.

Days with Humidex > 30: describes the number of days per year that the humidex (measures how hot and humid the weather feels to the average person) is greater than 30. In Canada, it is recommended that outdoor activities be modified when the humidex exceeds 30.

Growing Degree Days (GDD): is a measure of heat accumulation used to estimate the growth and development of plants and crops during the growing season. GDD is calculated by summing the daily mean temperatures that exceed a base temperature threshold (e.g., 5°C), below which plant growth typically does not occur.

Hottest Day: describes the warmest daytime temperature averaged over the year in a 30-year period. In general, the hottest day occurs during the summer months.

Tmax: refers to the maximum (or warmest) temperature of the 24-hour day – sometimes referred to as the daytime high. Tmax > 30 refers to the number of days in a given year that the warmest daytime temperature exceeds 30°C.

Tmin: refers to the minimum (or coldest) temperature of the 24-hour day – sometimes referred to as the daily low, usually occurring at night.

Tropical Nights: describes the number of days that the nighttime low temperature is warmer than 18°C. Tropical nights make it more difficult for the body and buildings to cool down and recover from hot days.

Wet days >= 20mm: describe the number of days where there is at least 20mm of precipitation (rain or snowfall) in a 24-hour period, over a year.

Who and What is Most At Risk

As a result of the changing climate described above, several hazards pose a risk to the community of Pitt Meadows, including extreme heat, wildfire, drought, flood, and severe storms. Some of these are already being felt, and the projections indicate they will continue to increase and intensify. To help the City prioritize resources and support community preparedness, it is important to understand the level of risk each hazard presents. **Risk** is determined by two main factors:

- How likely a hazard is to occur
- How severe the impacts would be if it does

The severity of impacts depends on how exposed and vulnerable people, infrastructure, and ecosystems are—and how well they can adapt. **Vulnerability** is the degree to which people and places are sensitive and susceptible to being adversely affected by climate hazards.[19] It depends on:

- How exposed a person or place is to the hazard (exposure)

[19] International Panel for Climate Change. (2014). Climate Change 2014 Impacts, Adaptation, and Vulnerability. https://apps.ipcc.ch/outreach/documents/295/1440604756.pdf

- How strongly they are affected when the hazard occurs (sensitivity)
- How well they can respond or recover (adaptive capacity)

For example, someone without access to air conditioning during a heatwave is more vulnerable than someone who has air conditioning. A strong support network, financial resources, or access to emergency services can improve adaptive capacity and reduce risk.

Not everyone, and not every place, is affected by climate hazards in the same way. Research demonstrates that some groups are more vulnerable due to health, economic, or social factors, while certain areas and infrastructure are more exposed or less able to withstand climate impacts.[20] In order to minimize the risks of climate change impacts in Pitt Meadows, it will be important to consider the needs of the following:

People at higher risk	**Places and infrastructure at higher risk**
• **Older adults, infants, and people with health conditions** who are more sensitive to extreme heat, poor air quality, and other hazards and stresses. • **People with disabilities or mobility challenges** who may have difficulty evacuating or accessing emergency services. • **Low-income households and renters** who may lack resources to prepare for or recover from climate impacts. • **People in rural or remote areas** with limited access to emergency services and cooling centers. • **People without stable housing** who are more exposed to extreme weather. • **Indigenous and racialized communities** who may face systemic barriers to resources and emergency support. • **Newcomers and people with language barriers** who may have difficulty accessing critical information.	• **Aging infrastructure** (e.g., roads, bridges, water systems) that may fail under extreme conditions. • **Infrastructure and natural assets in hazardous areas** such as floodplains, landslide areas, or wildland urban interface. • **Assets in low-lying areas** prone to overland flooding. • **Infrastructure not designed for high temperatures** (e.g. asphalt, railways, public transit, airports, electricity transformers, and more). • **Neighbourhoods with limited tree cover** that experience higher temperatures during heat waves. • **Buildings without adequate cooling** or insulation, increasing risks from heat and cold. • **Transportation routes and emergency access roads** that could be cut off by flooding or landslides. • **Critical services** (e.g., emergency shelters) that need protection to function during disasters.

[20] Health Canada. (2020). Climate Change and Health Vulnerability and Adaptation Assessments: A knowledge to action resource guide. https://www.canada.ca/content/dam/hc-sc/documents/services/publications/healthy-living/healthadapt-report-eng.pdf

• **Single-parent households and people living alone** who may have less support during emergencies. • **People experiencing job instability or unemployment** who may struggle financially to recover from climate-related disruptions. • **People living in known hazardous areas** may not be provided insurance and cannot recover as well after major events. • **People who work outdoors** are more subjected to extreme weather, and work interruptions due to unsafe conditions which can impact incomes and well-being. • **Agricultural producers** are more susceptible to climate-related health risks due to the exposures to extreme weather, compounding with growing variability affecting mental health and well-being. • **First responders and emergency service personnel,** dealing with sometimes long drawn out and compounding events.	• **Agricultural lands** facing increased unpredictability of the climate, stressing soils and water management. • **Ecosystems and natural areas** that provide flood protection, air quality benefits, and cooling effects but are threatened by climate change. • **Traditional food systems and cultural practices** are land-based activities important to Indigenous peoples who have used areas for time immemorial that can be threatened by climate change. • **Water quality can be impacted** due to changes in hydrology, increased sedimentation, and saltwater intrusion from drought conditions. • **Air quality** may be impacted due to wildfire smoke and the increase in fine particulate matter during drought conditions.

By identifying both social and physical vulnerabilities, Pitt Meadows can take targeted actions to protect people, infrastructure, and natural systems. The rest of this section describes each of the climate-related hazards that are of most concern in Pitt Meadows.

Flooding

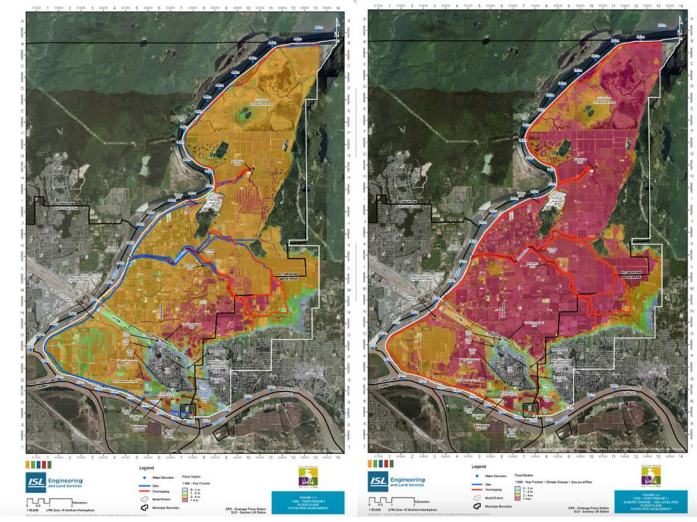
In this section, flooding refers to coastal and riverine flooding. Coastal flooding events can be triggered by winter storms coinciding with high tides and could be exacerbated by sea level rise, with a rise of approximately one meter projected by 2100.[21] Riverine flooding, on the other hand, refers to when a river overflows its banks due to excessive rainfall or snowmelt.

Approximately 95% of Pitt Meadows lies within the Fraser River and Pitt River floodplains. The Fraser River undergoes annual freshet and, due to its extensive drainage area, is the most significant flood hazard in the community. There is a 60 km diking system providing protection from the rivers, however, it was built to older standards and does not meet current provincial design standards.[22]

Since 1894, three significant flood-causing events have occurred in Pitt Meadows along the Fraser River (in 1894, 1948, and 1972). A present-day Fraser River flood equal to the 1894 flood of record (1:500-year event) would likely overtop the perimeter dikes. The risk of dike overtopping and failure is expected to increase further due to the combined impacts of climate change and sea-level rise.[23] Figure 3 highlights the areas of the community most at risk during a 1:500-year flood driven by freshet, while Figure 4 shows areas at risk due to a 1:500-year flood caused by a combination of freshet, climate change, and sea-level rise. In both of these scenarios, the rural areas are heavily affected. While the downtown would be not be significantly affected by floodwaters, it is at risk of being isolated from transportation networks due to surrounding floodwaters.

Figure 3. 1:500-Year Riverine Flood Event with Freshet. Source: Pitt Meadows Flood Hazard Risk Assessment (2018).

Figure 4. 1:500 Flooding Event with Freshet, Climate Change and Sea-level Rise. Source: Pitt Meadows Flood Hazard Risk Assessment (2018).



[21] climatedata.ca: sea-level change

[22] Pitt Meadows Flood Hazard Risk Assessment (2018)

[23] Ibid

Groups, areas, and elements that may be most impacted by flooding

- People living in the floodplain
- First Nations and communities near the Fraser River
- Low-lying rural and agricultural lands
- Agricultural producers
- Buildings, recreational trails, cultural and heritage sites in the flood zone

Potential impacts of flooding

Theme	Potential impacts
Public Infrastructure and Corporate Responsibility	Increased maintenance to patrol, inspect and repair dikes, and keep them clear of debris Significant flood event would damage utilities, pump stations, roads, bridges, and buildings
Health, Well-being and Emergency Preparedness	Risks to human life and displacement of residents from affected areas Flooding may impede access for providing emergency and public services Simultaneous incidents may overwhelm local resources Psychological impacts including stress, anxiety, and in more extreme cases, depression, and post-traumatic stress disorder
Buildings and Properties	Large flood event results in significant repair costs for extensive damages[24]
Transportation and Mobility	Road closures and disruption to transportation networks, potentially isolating areas, including downtown
Local Economy and Agriculture	Insurance costs may rise in flood-prone areas, or insurance may not be available Disruptions to local businesses and economies Saltwater damage to crops due to coastal flooding Damage or destruction of crops in vulnerable areas and causing erosion Damage to agricultural infrastructure, structures, and equipment Evacuation and relocation of livestock during floods
Ecosystems and Green Spaces	Increased pollution in water bodies due to runoff, and erosion of riverbanks Disruption of aquatic and riparian ecosystems, altering sediment deposition patterns

[24] In the Pitt Meadows Flood Hazard Risk Assessment (2018), ISL Engineering estimates that a significant 1:500 year flood event with climate change and sea level rise could damage over 6,000 homes, a school, 11 hectares of commercial and industrial land, and 5,700 hectares of agricultural land. The estimated economic losses for this event are over $700 million in Pitt Meadows.

Severe Storms and Landslides

Severe storms refer to intense rainfall events that lead to pluvial (rainfall-induced) flooding, leading to overwhelming drainage systems and surface water accumulation. These events can occur independently of river or coastal flooding. With more extreme rainfall days expected in the future, Pitt Meadows may experience more pluvial flooding events. This could lead to overwhelming stormwater systems, pooling water in residential, commercial and low-lying areas, as well as slope failures, landslides, and debris flow.

Storm drainage outside of the urban centre is managed by ditches and culverts to facilitate the flow of water in addition to approximately 50 km of drainage pipes that discharge into environmentally sensitive nutrient-bearing or fish-bearing streams. Storm drainage is also a primary source of irrigation for Pitt Meadows' agricultural lands.

There are select areas identified with potential slope hazards, including the region south of Loon Lake, the area to the north of McNeil Road, and the land east of Swaneset Bay Resort and Country Club.[26]

Groups, areas, and elements that may be most impacted by severe storms

- Stormwater and sewer systems (aging or areas with more limited capacity)
- Roadways with blocked or constrained catch basins
- Residents and businesses in low-lying or slope areas
- Lower-lying areas with drainage limitations (ditches or culverts that overflow)
- Steep slopes or lands with unstable soil conditions

Potential impacts of severe storms

Theme	Potential impacts
Public Infrastructure and Corporate Responsibility	Overwhelmed sewer and stormwater infrastructure Damage to buildings, roads, dikes, and utilities (leading to electricity disruptions) from both storms and landslides

[26] Pitt Meadows Official Community Plan, Map 10B: Rural Development Permit Areas

Health, Well-being and Emergency Preparedness	Localized flooding may impede access for providing emergency and public services Simultaneous incidents may overwhelm local resources Mental health distress caused by short warning periods for overland flooding events Risk of injury from storm debris, flooding, or landslides
Buildings and Properties	Higher costs associated with implementing resilient building standards
Transportation and Mobility	Damage to roads and trail networks
Local Economy and Agriculture	Damage to crops and livestock safety
Ecosystems and Green Spaces	Landslides triggered by heavy rains Damage to recreational trails, limiting recreation access Degraded water quality from overland flooding carrying debris and contaminants into water sources

Extreme Heat

B.C.'s provincial Heat Alert and Response System (HARS) describes extreme heat events as involving high temperatures that may be combined with high humidity. This system provides a standardized approach to assess and manage heat-related risks using the following alerts:[27]

- **Extreme heat warning**: Issued when two or more consecutive days of daytime maximum temperatures are expected to reach 33°C or warmer, and night-time minimum temperatures are expected to stay at or above 17°C.
- **Extreme heat emergency**: Declared when heat warning criteria have been met, and daytime maximum temperatures are expected to substantively increase day-over-day for three or more consecutive days.

In Pitt Meadows, the average number of days over 30°C is projected to increase by five times by the 2050s. This could increase extreme heat impacts experienced by the community (see below). The B.C. Coroners Service review of the 2021 heat dome found that 619 deaths in B.C. were attributable to the heat dome. Most of the deceased were older adults with compromised health who lived alone.[28] A study from the B.C. Centre for Disease Control found that heat-related illness was lower for those living within 100 m of "greenness" and that vegetation, trees, and permeable surfaces appeared to moderate the urban heat island effect (UHI).[29] The urban heat island effect occurs when heat from the sun is absorbed and retained by built surfaces in urban areas, making them five to ten degrees Celsius warmer than rural or well-treed counterparts. This means that during an extreme heat event in Pitt Meadows, the rural peripheral areas of the community may experience fewer impacts than those living in the urban core, where there are more hard surfaces and less greenery.

Groups, areas, and elements that may be most impacted by extreme heat

- Older, less energy efficient buildings and buildings without cooling
- Urban areas with less shaded areas and green spaces that reduce urban heat island effects
- Infrastructure not designed for high temperatures (e.g. asphalt, railways, public transit, airports, electricity transformers)
- Agricultural crops, trees, aquatic ecosystems, and urban greenery
- Public facilities without adequate cooling
- Older adults, young children, and those with pre-existing health conditions
- People experiencing precarious housing or homelessness
- People living or working in buildings without cooling
- Outdoor workers

[27] BC Government. 2023. Provincial Heat Alerting Response System

[28] https://www2.gov.bc.ca/assets/gov/birth-adoption-death-marriage-and-divorce/deaths/coroners-service/death-review-panel/extreme_heat_death_review_panel_report.pdf

[29] Henderson, S, B. et al. 2022. Analysis of community deaths during the catastrophic 2021 heat dome

Potential impacts of extreme heat

Theme	Potential impacts
Public Infrastructure and Corporate Responsibility	Increased demand for public cooling services and spaces Increased cooling demand stressing power grids Disruption of outdoor public services, including parks operations and outdoor recreation programs Potential damage to roads, railways, and other infrastructure (systems over their design temperature may fail)
Health, Well-being and Emergency Preparedness	Increased risk of heat-related illnesses and deaths, especially among heat-vulnerable populations Overwhelmed first responders leading to delayed response and impacts to responder well-being Social isolation and mental health impacts due to limited outdoor activities, reduced social interactions and increased stress
Buildings and Properties	Implementation of water restrictions
Transportation and Mobility	Reduced access to public transportation if no safe way to get there
Local Economy and Agriculture	Reduced worker productivity in outdoor industries or in buildings without air conditioning Increased cooling costs and decreased foot-traffic leading to losses for local businesses Crop and livestock stress and reduced yields Increased irrigation needs Increased susceptibility to pests and disease
Ecosystems and Green Spaces	Stress on local flora and fauna (increased water temperatures can affect aquatic species) Loss of urban vegetation and long-term damage to vegetation structure

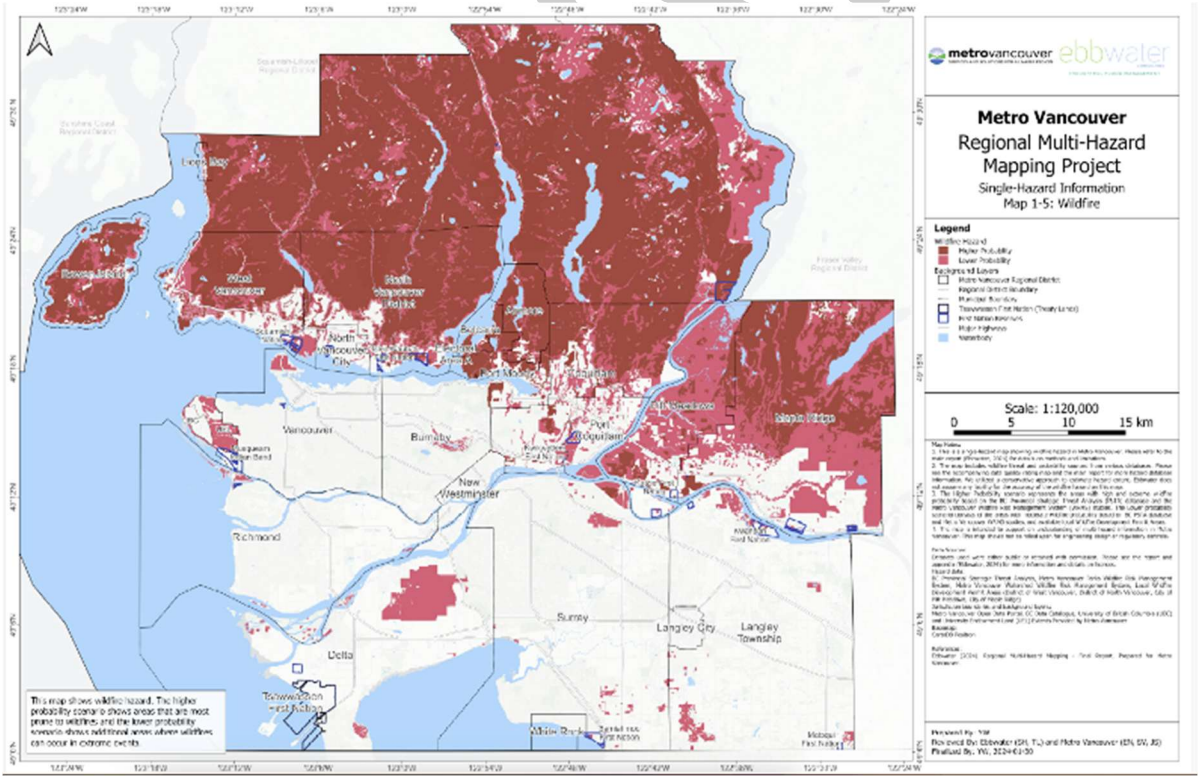
Wildfire and Smoke

Each year, B.C. experiences approximately 1,600 wildfires.[30] With prolonged periods of dry conditions, the likelihood of wildfire ignition and activity is on the rise. Fire season—the time of year when weather conditions make wildfires more likely—has historically peaked in the summer but now is lengthening due to climate change. Given Pitt Meadows' large rural area and extensive wildland-urban interface, the community faces a higher risk of being impacted by wildfires and grassfires. By the 2050s, Pitt Meadows is projected to experience an almost year-round fire season, greatly increasing the likelihood of more frequent and severe wildfires.

In addition to direct fire risks, wildfire smoke is a growing hazard, even when fires occur far from the community. Smoke from large wildfires can travel hundreds or thousands of kilometres, reducing air quality and increasing respiratory and cardiovascular health risks.

The Metro Vancouver fire hazard map below (Figure 5) highlights several areas of higher wildfire risk within Pitt Meadows, including the Northeast boundary with Maple Ridge, the southwest boundary of the community abutting the Fraser River, and other smaller pockets north of Lougheed Highway. Properties and infrastructure in close proximity to forested areas and grasslands are particularly at risk.

Figure 5. Metro Vancouver Wildfire Risk Map. Source: Metro Vancouver Regional Multi-Hazard Mapping - Final Report (2024).



[30] BC Climate Ready. (n.d.). Wildfires. https://climatereadybc.gov.bc.ca/pages/wildfires

Groups, areas, and elements that may be most impacted by wildfire and smoke

- Older adults, infants and children, and people with pre-existing health conditions affected by poor air quality
- People experiencing precarious housing or homelessness
- People living or working in buildings without particulate matter filtration
- Outdoor workers
- Urban-wildland interface areas, with higher risk in the forested area bordering Maple Ridge

Potential impacts of wildfire and smoke

Theme area	Potential impacts
Public Infrastructure and Corporate Responsibility	Increased costs for air filtration in public facilities Disruption of outdoor public services, including parks operations and outdoor recreation programs due to poor air quality Potential strains on emergency services if a significant fire event occurs
Health, Well-being and Emergency Preparedness	Potential interruption of service for utilities
Buildings and Properties	Increased respiratory issues due to wildfire smoke; coincident extreme heat and wildfire events can require people to keep windows opened in evenings to support cooling, increasing exposure to poor air quality Impacts to mental health due to reduced outdoor exercise, dark skies, social isolation during smoke events
Transportation and Mobility	Reduced tourism due to poor air quality events that last consecutive days or weeks Disruptions to local businesses and economies due to recommendations to stay indoors and/or travel bans
Local Economy and Agriculture	Impact to health of livestock Damage to crops and agricultural infrastructure
Ecosystems and Green Spaces	Ecosystem loss and soil de-stabilization, increasing the risk of landslides on slopes

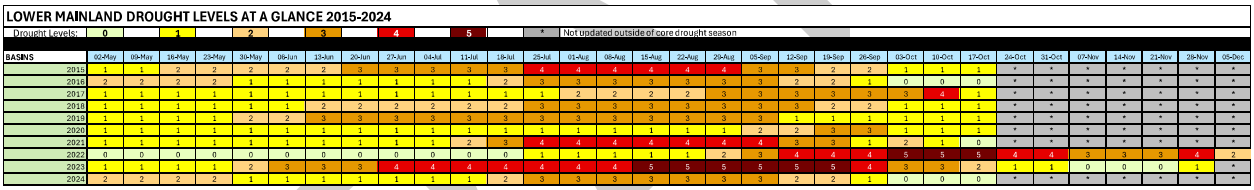
Drought and Water Shortage

Drought can be defined as a deficiency of precipitation over an extended period of time, resulting in a water shortage. The B.C. government uses a six-level classification to rate the severity of drought conditions, as follows:

Level 0 – There is sufficient water to meet socio-economic and ecosystem needs.
Level 1 – Adverse impacts to socio-economic or ecosystem values are rare.
Level 2 - Adverse impacts to socio-economic or ecosystem values are unlikely.
Level 3 - Adverse impacts to socio-economic or ecosystem values are possible.
Level 4 - Adverse impacts to socio-economic or ecosystem values are likely.
Level 5 - Adverse impacts to socio-economic or ecosystem values are almost certain.

Like much of the province, Pitt Meadows has experienced increasing drought conditions recently, particularly between 2021 and 2023. While the causes of this drought are complex and influenced by multiple factors, including natural climate variability, climate change is projected to contribute to more frequent and severe droughts by intensifying summer dryness, altering precipitation patterns, and increasing evaporation rates. Figure 6 below shows the lengthening drought season experienced in the Lower Mainland during this period.

Figure 6. Drought Levels in the Lower Mainland Area 2021 - 2023. Source: B.C. Government Drought Portal.



Groups, areas, and elements that may be most impacted by drought and water shortage

- Agricultural land and producers
- Water supply systems
- Traditional food systems and cultural practices, and people who rely on these
- Fish and aquatic ecosystems

Potential impacts of drought and water shortage

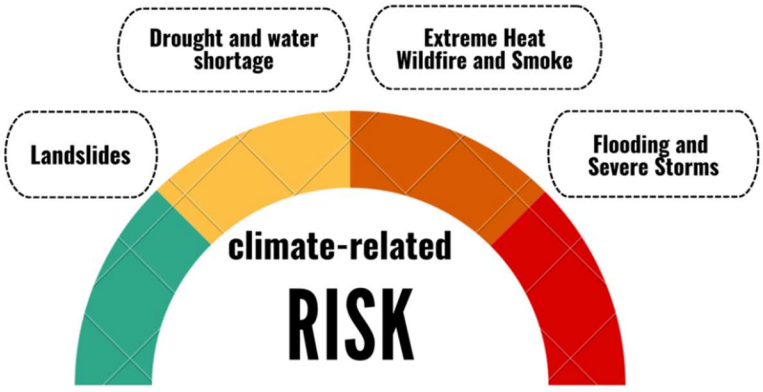
Theme	Potential impacts
Public Infrastructure and Corporate Responsibility	Increased costs for keeping sports fields green and increased urban tree watering needs Increased pressure on water supply and damage to infrastructure due to low flows
Health, Well-being and	Drier environmental conditions leading to health risks from dust and airborne particulates

Emergency Preparedness	Impacts on water-based activities and green spaces and reducing opportunities for recreation
Buildings and Properties	Strain on water supply systems leading to water restrictions
Local Economy and Agriculture	Reduced crop yields, increased irrigation and water storage needs and potential crop failures, leading to losses of income and increased stress Increased susceptibility to pests and disease leading to decreased yields Increased risk to livestock health due to changes in water quality Disruptions to industries that rely on water during water restrictions
Ecosystems and Green Spaces	Reduced streamflow, water quality, and increased stream temperatures leading to negative impacts on aquatic species Increased risk of tree failure due to weakened roots, making them more susceptible to wind or heavy rain events and pests and disease Increased levels of contaminant concentrations in ground and surface waters due to stagnation of water sources

Summary of Hazards and Risks for Pitt Meadows

The following figure provides an overview of the relative risk levels (ranging from low to high) for each hazard type assessed in Pitt Meadows. This continuum is informed by climate projections and the potential impacts discussed above, but it should not be interpreted as a prescriptive tool. A comprehensive risk assessment is necessary to determine precise risk levels. It is important to note that risk is highly dependent on geographic factors such as topography, micro-climates, proximity to water bodies, urban density, and vegetation cover. As a result, Figure 7 offers a broad generalization, but certain areas may experience hazards at varying intensities. For instance, steeper sections of the City are likely to face a greater risk of landslides.

Figure 7. Relative Risk Continuum for Climate Hazards in Pitt Meadows.



3 Community GHG Emissions

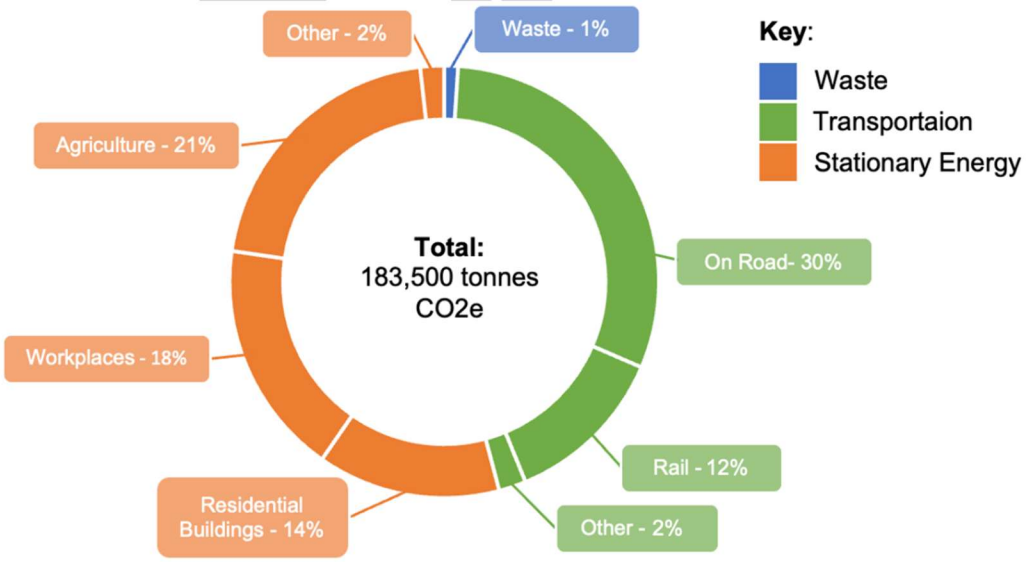
Having explored the types of climate hazards and their impacts on Pitt Meadows, it is also important to consider how the community can minimize its contributions to climate change. As noted in the introduction, GHG emissions from human activities are the primary driver of climate change. In Pitt Meadows, these emissions primarily come from heating and cooling buildings, transportation, industrial activities, agricultural operations, and waste disposal. In 2021, these activities generated approximately 183,500 tonnes of CO_2e emissions.[31]

GHG Emissions Breakdown

Together, energy used in buildings and agricultural activities (together called "stationary energy") and transportation account for more than 95% of the community's emission profile (see Figure 8). These broad categories include many independent components, each presenting unique challenges and opportunities for reducing emissions.

Between 2010 and 2021, the community's GHG emissions stayed relatively flat—increasing by less than 1%—despite a population growth of approximately 4%. On a per-person basis, emissions went down during this time.

Figure 8. Breakdown of community GHG emissions in Pitt Meadows (2021).



On Road: Emissions from on-road vehicles represent over half of the transportation-related emissions in the community and 30% of total community emissions. Most of these emissions (67%) come from light-duty gasoline vehicles like passenger cars, while heavy-duty diesel vehicles such as commercial trucks

[31] Licker Geospatial Consulting. 2024. Pitt Meadows GHG Inventory. Data sources include the Provincial Community Energy and Emissions Inventory, Metro Vancouver Emissions Inventory, and other supplementary data sets. The inventory adheres to standards set out in the Global Protocol for Community Emissions.

contribute 21%. Reductions in this segment will rely on transitioning to electric vehicles and municipal planning efforts to decrease driving within the community.

Rail: Passenger and freight rail lines operating within Pitt Meadows contribute 12% of the community's emissions. The West Coast Express, a commuter train linking Mission to Vancouver, stops in Pitt Meadows, while Canadian Pacific Kansas City Limited (CPKC, formerly known as Canadian Pacific Railway Limited) operates an intermodal freight facility.

Other Transportation: Activities like aviation at Pitt Meadows Regional Airport and waterborne transit along the Fraser or Pitt Rivers account for 2% of the community's emissions.

Residential Buildings: Residential buildings produce about 14% of emissions in the community primarily through heating and hot water with fossil fuels, as well as a small amount from electricity use. Single-family homes are a significant contributor. Building code, the rate of retrofits, and the level of Step Code adopted by the municipality influence the emissions intensity of newly constructed buildings.

Workplaces: Emissions from workplaces—including retail, industrial, and construction sectors—make up just under 18% of the community's total emissions. Industrial activities contribute 15,750 tonnes of GHG emissions, reflecting the high proportion of employment lands in Pitt Meadows relative to other land uses.

Agriculture: Agriculture is a vital part of Pitt Meadows' identity and economy, contributing 21% of local emissions due to the substantial agricultural land base. This estimate includes emissions from agricultural equipment and greenhouse boilers.

Other Stationary Energy: Small energy uses like lawn and garden and commercial equipment account for just under 2% of all emissions in Pitt Meadows.

Waste: Waste management contributes just over 1% of the community's emissions. This includes waste generated by households, businesses, and other sources disposed of in landfills, as well as emissions from wastewater treatment.

Future Emissions Scenarios

As Pitt Meadows grows, GHG emissions will likely increase unless proactive measures are taken to reduce energy consumption, transition to cleaner energy sources, and minimize waste. The City can rely on some provincial efforts, such as mandated updates to the B.C. Energy and Zero Carbon Step Codes and mandates for zero-emission vehicle sales; however, these are only part of the answer. The City can play a role in accelerating progress by adopting more ambitious policies, such as achieving higher Step Code levels in advance of provincial requirements, expanding safe routes for sustainable transportation, and ensuring growth is focused and well-planned to support a connected and low-carbon community.

Scenarios for Emissions Reduction

This strategy examines three emissions scenarios, each based on varying levels of effort and success in reducing the community's emissions. These scenarios help illustrate the potential impact of certain policies and interventions, highlighting areas where further action is needed.

1. Current Path Scenario

The Current Path Scenario reflects the emissions trajectory if no new actions are taken beyond existing federal and provincial policies. These include requirements for automakers to achieve 100% zero-emission light-duty vehicle sales by 2035 and provincial commitments to include the highest levels of the B.C. Energy and Zero Carbon Step Codes into the base building code by 2032. This scenario establishes a baseline for expected reductions without additional local interventions (see Appendix 1 for detailed policy assumptions).

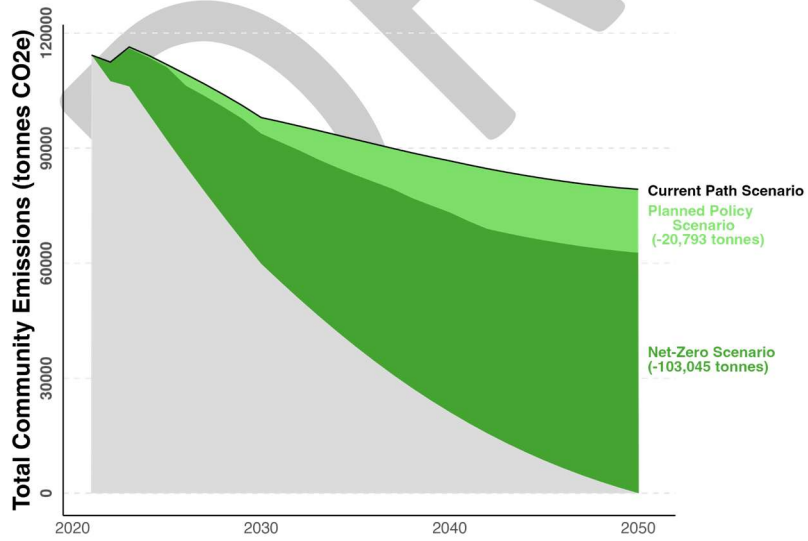
2. Planned Policy Scenario

The Planned Policy Scenario builds on the Current Path scenario by including additional federal and provincial policies that have been announced but not yet implemented. Examples include stricter energy efficiency standards for heating equipment, increased renewable content in B.C.'s fuel supply, and expanded adoption of medium- and heavy-duty zero-emission vehicles (see Appendix 1 for detailed policy assumptions).

3. Net-Zero Scenario

The Net-Zero Scenario identifies the further emissions reductions needed to reach Net-Zero by 2050. "Net-Zero" means balancing the amount of greenhouse gases emitted into the atmosphere with an equivalent amount removed or offset, effectively resulting in no net increase in emissions. This scenario assumes that additional efforts at all levels of government are utilized to close the remaining gap. Key municipal actions include achieving Net-Zero emission City operations, zoning and land use changes that encourage compact, mixed-use development that reduces car dependency, expansion of sustainable transportation networks, and other measures to support deeper emission reductions. While not all emissions will be eliminated by 2050, some may be offset through measures such as preserving and expanding green spaces and wetlands, which store carbon.

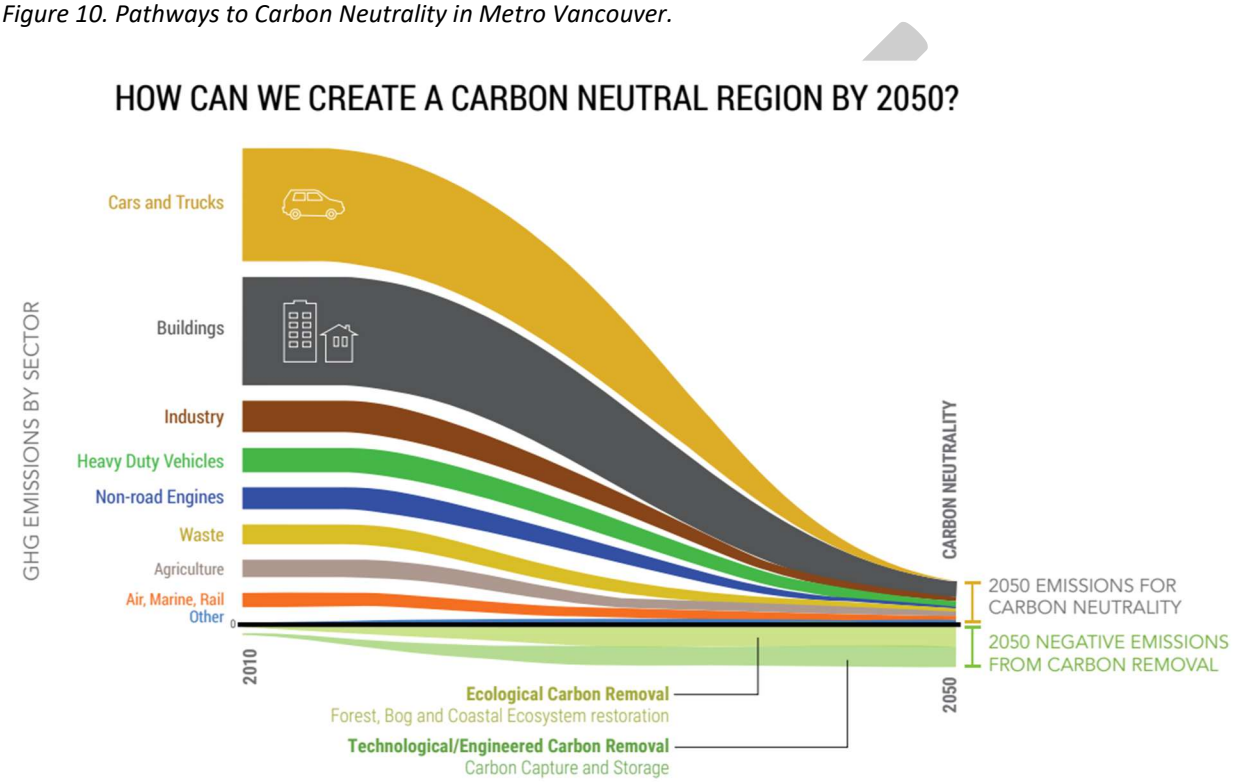
Figure 9. Net-Zero Scenario.



Towards Net Zero

Pitt Meadows supports the Metro Vancouver goals to reduce GHG emissions by 45% by 2030 from 2010 levels and achieve carbon neutrality by 2050.[32] The Metro Vancouver Climate 2050 Strategic Framework lays out pathways to achieving net zero emissions in the region (shown in Figure 10). Actions in this strategy are designed to ensure the City contributes to achieving these ambitious targets.

Figure 10. Pathways to Carbon Neutrality in Metro Vancouver.



Significant effort is required across all sectors to become a carbon neutral region by 2050; however, some sectors are more difficult to decarbonize and will take longer to phase out fossil fuels. Passenger vehicles, for example, are expected to switch almost entirely to zero-emission vehicles because of legislation and the business case, as they become the most cost-effective and viable option. Some of the hardest to decarbonize sectors are expected to have some remaining emissions by 2050—the scenario above shows that these have potential to be offset through carbon removal methods.

As in the region, passenger vehicles represent a large share of emissions in Pitt Meadows and are likely to be easier to get to net zero than other sectors. Heavier-duty vehicles and agricultural equipment also have potential, but these sectors will take longer as the technology becomes commercially available and feasible to adopt. For buildings, many new residential and commercial buildings can already be built to Net-Zero standards without significant cost impacts, and this will become the base building code in B.C. by 2030. In existing buildings, heat pumps can replace furnaces, particularly in single-family homes,

[32] Official Community Plan, City of Pitt Meadows, 2022.

duplexes, and other less complex buildings. Buildings with high heat requirements (e.g. pools) will take longer to transition as those technologies become viable. Two of this strategy's major themes are devoted to addressing emissions in these areas.

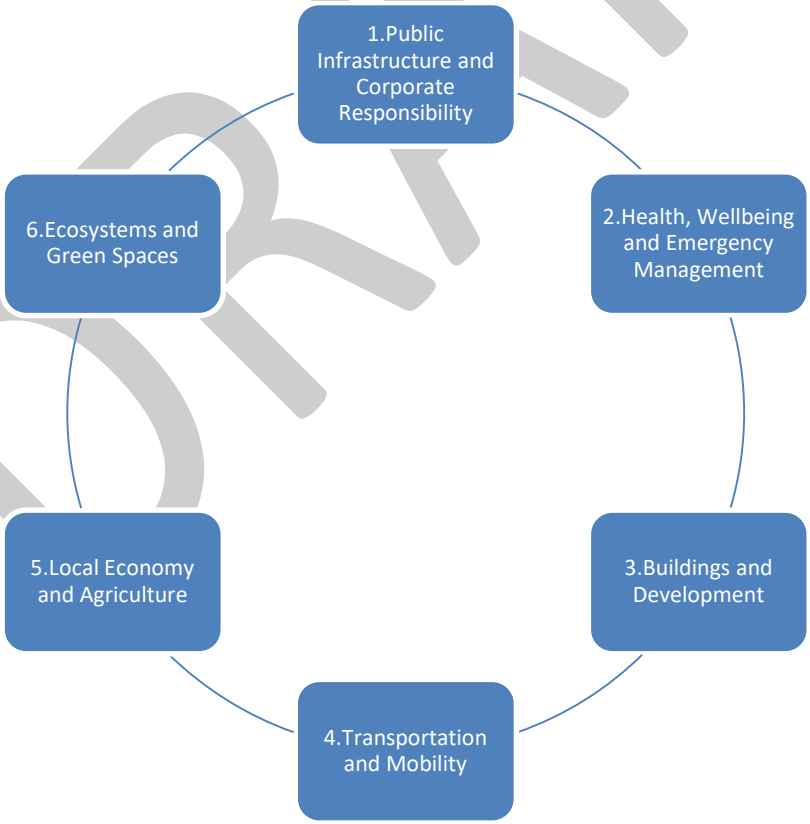
In addition, the City can reduce emissions from City operations, support the ongoing decarbonization efforts of local industry and agriculture, and promote expansion of green spaces and ecosystems that represent local carbon sinks. In doing so, the City will not only achieve its goal of supporting a Net-Zero region, but also achieve valuable co-benefits for residents in the form of improved health and security, and a thriving and resilient local economy.

4 Our Climate Action Strategy

The actions outlined in this strategy are the result of input gathered from extensive public consultation. They reflect the City's commitment to enhancing resilience to the impacts of a changing climate and reducing community-wide GHG emissions. These actions are designed to align with the City's capacities and jurisdiction, while leveraging opportunities for collaboration with other levels of government, community groups, and private sector partners.

While this strategy focuses on the City's role, based on its mandate and jurisdiction, the City recognizes that achieving these objectives will require active involvement of all levels of government, businesses, individuals, and the broader community. Provincial and federal funding programs, legislative support, and private investments will be essential to turn these actions into impactful outcomes. Achieving the City's climate goals will require collective effort and shared responsibility.

The strategy is organized into the following six theme areas, each contributing to the overall resilience of Pitt Meadows in response to climate change. Many existing City initiatives already align with and support the goals of this strategy. The rest of this section outlines how each theme connects to ongoing efforts, establishes goals for future progress, identifies how to measure success, and presents key actions to achieve the goals.



Theme 1: Public Infrastructure and Corporate Responsibility

Public infrastructure and corporate operations are core to the City's services and essential to maintaining a high quality of life for residents. These areas present an opportunity for the City to demonstrate leadership in sustainability while ensuring essential services remain resilient to future climate impacts.

It is vital to ensure that public infrastructure and facilities are prepared for the increasing frequency and severity of climate hazards, such as flooding, extreme heat, and storms. This requires proactive investments in climate-resilient design, critical system upgrades, and adaptation best practices to protect essential services and community well-being.

Municipal operations also contribute to GHG emissions through activities such as building energy use and fleet operations. By adopting energy-efficient technologies, transitioning corporate fleets to electric vehicles and advocating for sustainable waste practices, the City can significantly reduce its environmental footprint while lowering operational costs over the long term.

What is already happening

Existing policies and plans:

- Council's Strategic Goals (2024) include climate change initiatives to strive for greenhouse gas reduction and focus actions on building enhanced local resilience to climate related threats.
- The City's Flood Mitigation Plan (2020) identifies significant funding allocated for dike upgrades, building on findings from the Flood Hazard Risk Assessment (2018). The City continues to advance the recommendations within the plan, and advocating to the provincial and federal governments for resources to upgrade drainage infrastructure and bring dikes up to current standards. In addition, the Mayor participates on the Regional Flood Resiliency Committee for regional collaboration.
- The City's Parks, Recreation and Culture Master Plan (2021) prioritizes asset management and sustaining existing infrastructure in indoor and outdoor facilities and spaces.

Ongoing initiatives and projects:

- A capacity assessment of stormwater infrastructure is underway, based on projected rainfall increases, and identification of areas with a high risk of overflow.
- Drainage, culverts, pump stations, and associated backup power systems are being upgraded to improve climate resilience.
- Replacement of street lights with energy efficient, longer-lasting LEDs, anticipated to complete in 2029.

Goal 1A Increase the climate-resilience of City infrastructure, facilities and operations

Indicator:	**Target:**
• Number of City infrastructure and facilities built / upgraded with climate resilience measures (e.g., flood resistance, energy efficiency, sustainable materials, stormwater management) annually	• Climate risk assessment becomes standard practice for all major infrastructure and facility decisions and is considered in broader policy decisions.

1.1 **Develop a tool to apply a climate lens into City decision-making** (e.g. for asset management, contracts, policies, bylaws, or development) that evaluates and addresses climate impacts, emission reductions and resilience in capital projects and operations.

1.2 **Explore green infrastructure** pilot projects and expand green infrastructure standards in the Subdivision and Development Servicing Bylaw, such as permeable pavements or bio-retention systems, to manage stormwater and reduce urban heat. Identify potential partnerships (e.g., SD42) to implement these pilot projects.

Goal 1B Accelerate corporate emission reductions

Indicator:	**Target:**
• Total annual corporate GHG emissions from the City's traditional services	• Total annual corporate GHG emissions from traditional services are decreasing year to year and are eliminated by 2050

1.3 **Investigate the potential for a Shared Corporate Energy Manager** position through the Community Energy Association and BC Hydro, with associated grant funding and potential cost recovery analysis, to lead corporate emission reduction initiatives.

1.4 **Develop a phased plan to reduce operational GHG emissions** from City facilities and infrastructure. Begin by conducting energy audits and resilience assessments on civic facilities to identify opportunities to minimize GHG emissions while enhancing resilience.

1.5 **Develop and implement a corporate Green Fleet Plan**, including off-street equipment, such as mowers, blowers, etc., with phased targets for transitioning to a zero-emission fleet.

1.6 **Ensure GHG emissions reduction in future solid waste collection contracts** during the request for proposal and purchasing process, considering efficiency, alternative fuels, and GHG reduction plans.

Goal 1C Reduce waste going to landfills and transition to a circular economy

Indicator:	**Target:**
• Annual GHG emissions from solid waste collected and transferred to regional landfill	• Waste stream to the regional landfill is reduced year to year, with recovery, re-use, recycling and composting undertaken as standard practice

1.7 **Amplify Metro Vancouver's educational campaign on reducing organic waste contamination** and ensure organic waste is composted. Identify potential partnerships (e.g., SD42, agriculture community) for education campaign.

Theme 2: Health, Well-being and Emergency Preparedness

Pitt Meadows is increasingly vulnerable to climate-related emergencies such as flooding, extreme heat, wildfires and severe storms. These events can significantly impact public safety, health, and overall quality of life. Addressing these challenges requires integrating climate risks into emergency management planning, strengthening collaboration with regional and provincial emergency management partners, and ensuring that critical infrastructure is resilient to these hazards.

Equally important is equipping residents with the knowledge and resources to prepare for and respond to emergencies. Public awareness campaigns, community events, and partnerships with schools and local businesses can help ensure residents have the tools and knowledge to stay safe during climate-related emergencies. By focusing on both proactive planning and community readiness, Pitt Meadows can enhance its resilience and safeguard the well-being of its residents.

What is already happening

Existing policies and plans:

- Council's Strategic Goal (2024) identifies the opening of cooling centres to mitigate heat-related illnesses.
- A Community Hazard Risk and Vulnerability Assessment is currently underway.

Ongoing initiatives and projects:

- Cooling centres are opened during business hours with air filtration systems to address heat and wildfire smoke events and provide support for transportation to the cooling centres.
- Operate a dedicated Emergency Operations Centre (EOC) and training at the fire hall for first responders and EOC staff, with ongoing training.
- Use the local flood alert system and social media for flood warnings and advisories. Other seasonal emergency preparedness information is also shared.
- Implemented and promoted the Voyent Alert! Mass notification system, for the public.
- Review and update of Emergency Plans and maps are reviewed and updated on an ongoing basis to account for climate change risks.
- Provide emergency supplies, like sandbags, to residents.
- The City's Neighbourhood Emergency Preparedness Program provides free workshops to equip residents for disasters and promote neighbour assistance during emergencies

Goal 2A Enhance climate resilience in emergency preparedness

Indicator:	**Target:**
• Number / Percent of emergency plans updated	• Update all City emergency plans to incorporate climate considerations before 2030

2.1 **Assess the need to expand the City's contingency fund for emergency events**, ensuring adequate resources are available for unforeseen costs.

2.2 **Engage Fraser Health Authority (including home health), the RCMP, and other community partners to identify and integrate the needs of vulnerable populations during emergencies**, clarifying roles and lines of communication to supplement existing outreach efforts during emergencies.

Goal 2B Enhance public awareness and readiness for climate-related emergencies

Indicator:	**Target:**
• Number of climate-related communications	• Increase engagement with the public on topics of climate change, resilience, and preparedness through a diversity of City communication channels

2.3 **Convene community partners and explore grant funding to develop a neighbour check-in program**, leveraging existing templates from other jurisdictions to encourage community-based support during emergencies.

Theme 3: Buildings and Properties

Improving building design, retrofitting existing structures, and preparing properties also enhances resilience to climate hazards such as extreme heat, flooding, storms, and drought. Measures like improving air-tightness, adding heat pumps that provide cooling, enhancing home ventilation with filtration systems, water smart landscaping, and reusing water help mitigate the impacts of climate change. In addition to these efforts, thoughtful development practices are critical to protecting residents and reducing risk. Avoiding construction in flood-prone areas, applying Development Permit Area (DPA) guidelines to enhance wildfire resilience, and incorporating climate-adaptive infrastructure into new developments can help safeguard the community while supporting sustainable growth.

Buildings play a crucial role in our daily lives by providing safety and comfort, but they also significantly contribute to GHG emissions. In Pitt Meadows, residential, commercial, and industrial properties are major contributors to community-wide emissions. Enhancing the energy efficiency and resilience of these buildings offers a significant opportunity to tackle climate change while improving the quality of life for residents.

The B.C. government has implemented regulations to help achieve emissions targets and climate goals. The B.C. Energy Step Code, introduced in 2017, sets a progressive standard for energy efficiency, with progressive integration into the B.C. Building Code, reaching Net-Zero energy-ready buildings by 2032. Additionally, the Zero Carbon Step Code focuses on reducing direct emissions from heating and hot water systems, with phased requirements leading to mandatory zero-carbon standards by 2030. As of March 10, 2025, new buildings in Pitt Meadows must meet at least EL-1 of the Zero Carbon Step Code. By supporting energy-efficient upgrades—such as better insulation and the installation of heat pumps—the City can help residents and businesses reduce GHG emissions, improve energy efficiency, and lower energy costs.

What is already happening

Existing policies and plans:

- The City's Official Community Plan (OCP) (2022) includes goals and objectives that address climate change (e.g., compact community development, green infrastructure, dike improvements, rainwater retention, residential water metering).
    - The Urban Containment Boundary focuses growth and prioritizes the development of complete, walkable communities with mixed-use areas, away from hazardous areas including floodplains and steep slopes
    - Development Permit Areas guide new developments, aiming to protect them from wildfires, erosion, or landslides in steep slope areas, and preserve sensitive ecosystems, farmland, and natural environments.
- The City's Zoning Bylaw (2024) now allows up to three to six units in most of its single-family and duplex zones as a way to increase density, pursuant with the Provincial Small-Scale, Multi-Unit Housing (SSMUH) legislation.
- The City's Floodplain Designation and Construction Bylaw (2012) specifies construction requirements for developments in floodplain areas, including minimum building elevation

standards. This bylaw will be reviewed and updated based on information provided through the updated drainage model.

- The City's Subdivision and Development Servicing Bylaw will be updated to incorporate Intensity-Duration-Frequency curves and climate load data and develop green infrastructure guidelines to encourage the use of natural stormwater management solutions.
- A Complete Communities Assessment and implementation plan for the Town Centre and surrounding areas is currently under review.
- The City's Environmental Inventory Management Strategy (2022) includes strategies to address flooding.
- The City's Waterworks Bylaw was amended (2023) to include more water conservation and expand water metering program.

Ongoing initiatives and projects:

- New buildings must meet 20% better energy efficiency for most new construction as of January 1, 2022 (one year in advance of the B.C. Building Code requirements).
- Zero Carbon New Buildings (2025): New buildings must measure and report operational GHG emissions as part of the permit process (Level 1 of the Zero Carbon Step Code).
- FireSmart information is provided to the community through the emergency program.

Goal 3A Strengthen the climate resilience of buildings and properties

Indicators:	**Targets:**
• Adoption of water meters • Number of FireSmart Neighbourhood Champions	• Water consumption decreases year to year, with the number of users with water meters increasing on an annual basis • Increased number of FireSmart workshops and education provided to the public (?)

3.1 **Develop climate-resilient landscaping guidelines** for public and private spaces, considering drought tolerance and best practices.

3.2 **Review and, as required, update the Flood Designation and Construction Control Bylaw** to account for latest climate projections.

3.3 **Continue to expand implementation of water metering** for residential and commercial users, with a long-term plan for broader adoption to reduce water consumption.

Goal 3B Support and increase energy efficiency, electrification and low emission in new and existing buildings

Indicator:	**Targets:**
• Number of homes with access to cooling	• The number of permits for heat pumps with cooling capacity increases from year to year

• Percent new buildings / major renovations meeting each level of the Zero Carbon Step Code	• All new buildings and those undergoing significant renovations meet the top level of the Zero Carbon Step Code from 2030 or earlier

3.4 **Review form and character guidelines** to identify and remove specific barriers to heat pump and air conditioning installations, such as noise and aesthetic restrictions, aligning with best practice guidance.

3.5 **Identify a pathway to adopt Zero Carbon Step Code EL-4** in consultation with builders and designers working in Pitt Meadows, in accordance with best practices.

3.6 **Promote grants for energy efficient and low emissions improvements** by integrating information into renovation permit applications and targeting outreach to diverse building types. Investigate potential to provide top-up incentives to extend the provincial grants. Educational resources should connect owners of residential buildings with wood-burning stoves with rebates such as Metro Vancouver's Wood Stove Exchange Program. Explore delivery of awareness programs to strata councils and building owners on programs like the BC Retrofit Accelerator and BC Hydro's Multi-Unit Residential Building Retrofit Program to support retrofits of residential and commercial properties (see also local economy theme).

Goal 3C Support district or renewable energy systems in new development

Indicator:	**Target:**
• Percent new buildings connected to district or renewable energy systems.	• Large new developments incorporate district or renewable energy systems.

3.7 **Identify opportunities to support or mandate the connection to renewable energy** or district renewable energy systems for large new developments in compact, multi-use forms.

Theme 4: Transportation and Mobility

Transportation is essential to connecting people, goods, and places. However, it can also be a major contributor to GHG emissions and vulnerability if interconnected and efficient networks and systems are not established. Transportation is one of the major contributors to emissions in Pitt Meadows. Most of these emissions come from light-duty gasoline and heavy-duty diesel vehicles. Infrastructure improvements, advocacy, and strategic partnerships could support reductions in transportation-related GHG by shifting towards alternative modes of transportation, including active, public, and zero-carbon alternatives.

The B.C. Ministry of Transportation and Transit and TransLink are advancing initiatives to create a low-carbon, climate-resilient transportation network. These include the CleanBC Roadmap to 2030, which mandates 100% zero-emission vehicle sales by 2035, and investments in zero-emission public transit, cycling, and active transportation infrastructure to reduce car dependency.[33] At the municipal level, there are many opportunities to build on these strategies, including expanding electric vehicle charging infrastructure, advocating for improved transit service, and developing safe and accessible cycling and pedestrian networks. Promoting micro-mobility is another opportunity for the City. Micro-mobility refers to the use of small, lightweight transportation options (e.g., scooters, e-bikes) that are designed for short urban commutes. Expanding micro-mobility infrastructure can support safe micro-mobility, lowering GHG emissions, and contributing to a more livable and healthy community environment.

What is already happening

Existing policies and plans:

- The City's OCP includes objectives for a connected community, accessible by all modes of transportation; increasing transit ridership; efficient commercial transport movement; and incorporating electric vehicle infrastructure development.
- The City's Active Transportation Plan (2023) strives to connect neighbourhoods and key urban amenities through active transportation networks. The City continues to expand safe and accessible infrastructure for walking and biking, prioritizing routes to schools, parks, and transit hubs. The plan also includes reviewing and improving transportation corridors for active transportation and micro-mobility options, exploring recommended tactics to increase sustainable trips and advocating for increased TransLink service on priority routes such as rapid transit to Lougheed and industrial zones.

Ongoing initiatives and projects:

- The Golden Ears Business Park has developed, increasing local jobs and supporting multi-modal infrastructure through sidewalks, multi-use pathways, pedestrian bridge, and crossing improvements.

[33] Clean BC. (2021). Roadmap to 2030. https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf; Translink (2022). Translink Climate Action Plan. https://www.translink.ca/-/media/translink/documents/about-translink/corporate-sustainability/translink_climate_action_plan.pdf

- The Active Transportation Road Safety Campaign educates users on road and active transportation safety.
- The Zoning Bylaw is being reviewed to require Level 2 charging infrastructure in new developments for intensive residential developments and rental apartments, in underground parking areas, and electrical charging infrastructure for bicycle storage areas. Transit-oriented development and parking requirements are also included in the Zoning Bylaw.
- The City is striving to expand public Electric Vehicle (EV) Infrastructure throughout the City.
- The City advocates for air quality around railways, advocating for emission reductions, and supporting the uptake of renewable fuels and electrification.

Goal 4A Promote and expand sustainable and active transportation options

Indicators:	**Targets:**
• Annual funding for active transportation infrastructure • Percentage of [commuter] trips using sustainable and active transportation annually	• Seek additional funding through grants to enhance active transportation infrastructure annually • Increase the active transportation network connections to better serve the airport, business park, and future employment areas

4.1 **Explore the feasibility of partnering with School District 42 in developing a** School Active Travel Program to promote walking, biking, and rolling to schools.

4.2 **Support TransLink and School District 42 in providing a share program** for active transportation alternatives and/or cars in Pitt Meadows in collaboration with service providers.

Goal 4B Support the adoption of efficient and zero-emission vehicles (ZEVs)

Indicators:	**Targets:**
• Annual GHG emissions from light-duty vehicles • Number of public EV charging stations. • Percentage of vehicles registered in Pitt Meadows that are electric	• Emissions from light-duty vehicles are decreasing year to year • Increase the accessibility to EV charging in Pitt Meadows to support the transition to electric vehicles

4.3 **Encourage and build awareness for** businesses and strata buildings to implement electric vehicle charging **installation** with information on costs, benefits, and permitting processes.

Theme 5: Local Economy and Agriculture

Agriculture is significant to the community's economy and local livelihoods, accounting for 78% of Pitt Meadows' land base.[34] Local food production can reduce broader GHG emissions in supply chains, while locally it contributes GHG emissions from agricultural equipment, greenhouse boilers, fertilizer use, livestock, and soil management. At the same time, the sector is vulnerable to the impacts of climate change such as pests and extreme weather. Adapting to these changes is crucial for long-term agricultural resilience. The Province supports this with programs like the Extreme Weather Preparedness for Agriculture program and the Agricultural Water Infrastructure program, funding initiatives such as farm-level climate risk assessments and practices to reduce vulnerabilities to heat, wildfires, and flooding.

At the municipal level, the City supports local agriculture through services and advocates for the sector at other levels of government.[35] The City can further help drive climate action by facilitating access to provincial programs and promoting climate-smart farming practices. Additionally, the City can work with local agricultural producers to explore innovative solutions such as on-farm water storage systems, improved irrigation techniques, and flood-resilient infrastructure.

Pitt Meadows' economy continues to grow and diversify, with local businesses creating quality jobs and enhancing commercial and recreational amenities. By integrating climate risk assessments and business continuity planning into operations, businesses can identify vulnerabilities and seize adaptation opportunities. The City can support these efforts by fostering partnerships, offering resources, and advocating for regional collaboration to strengthen the adaptability of all local industries.

What is already happening

Existing policies and plans:

- The City's OCP prioritizes agricultural protection, with goals and strategies to preserve farmland for food production.
    - The Farmland Protection Development Permit Area aims to minimize land-use conflicts and support agriculture in and near the Agricultural Land Reserve
- The City's Agricultural Viability Strategy (2023) highlights the impacts of climate change on agriculture, and the potential for local food production in reducing emissions
- The City's Economic Development Strategic Plan (2023) puts forward a vision and actions to support local business viability and identifies a variety of actions to invest in critical farming infrastructure and agri-tech innovation to respond to climate change, flooding, water shortages and pest management.

[34] Pitt Meadows. (n.d.). Agriculture. https://www.pittmeadows.ca/our-community/agriculture#:~:text=Did%20you%20know%20that%2078%25%20of%20Pitt%20Meadows%20is%20agricultural%20land%3F

[35] City of Pitt Meadows. (2023). Economic Development Strategic Plan. https://www.pittmeadows.ca/sites/default/files/2023-08/Pitt%20Meadows%20Economic%20Development%20Strategic%20Plan%202023%20FINAL.pdf

Ongoing initiatives and projects:

- With the support of a $100,000 grant from the Investment Agriculture Foundation of B.C., the City is undertaking a comprehensive study to assess the irrigation needs of the local agriculture sector and identify feasible irrigation sources.
- The City's EOC is helping to develop and distribute emergency livestock evacuation planning templates to assist commercial and non-commercial agricultural producers in preparing for emergencies.

Goal 5A Enhance agricultural resilience and adaptability, and reduce fossil fuel reliance

Indicator:	**Targets:**
• Number of local businesses with Environmental Farm Plans • Number of on-farm innovative projects to reduce waste and GHG emissions, number having emergency preparedness plans, and number having riparian enhancement projects on farmland **from Agricultural Viability Strategy* • The ALR is protected and preserved for agriculture **from Agricultural Viability Strategy*	• Increase engagement with the agricultural community on topics related to climate change mitigation and adaptation

5.1 **Explore the City's role in supporting co-generation of energy from agricultural waste**, such as facilitating access to resources, connecting producers with funding and technical support, or advocacy. [Links to OCP policy 2.4.4]

5.2 **Provide educational materials, resources, and identify funding** opportunities or case studies to support the shift to alternative fuels and electrification for equipment and greenhouse boilers, and/ or to support non-potable water systems.

Goal 5B Enhance local businesses' climate resilience and adaptability

Indicator:	**Targets**:
• Number of climate-related communications / outreach with local businesses	• Grow the number of local jobs to a 1:1 ratio with the workforce population • Increase engagement with the business community on topics related to climate change mitigation and adaptation

5.3 **Research and promote practices in supporting and encouraging local businesses to be climate-adapted and energy efficient.** Engage with businesses to identify opportunities to reduce emissions from facilities and vehicles, including within their operations, and through employee commuting.

Theme 6: Ecosystems and Green Spaces

Healthy ecosystems and green spaces are essential for the community's well-being. They absorb carbon, reduce flood risks, and improve the quality of life by providing fresh air, clean water, beautiful scenery, biodiversity, and recreational areas. However, these natural spaces are becoming more vulnerable to climate impacts like extreme weather, invasive species, drought, and wildfires.

To manage these risks, the City aims to boost the resilience of its urban forest and preserve natural environments through strategies that integrate ecological protection with climate action. Efforts such as wetland restoration, expanding green infrastructure, and stricter tree protection will support adaptation and help maintain and enhance natural carbon storage across the community. This City can also explore innovative solutions like payment for ecosystem services to incentivize the preservation of valuable natural areas.

Regionally, Pitt Meadows collaborates with Metro Vancouver to preserve natural spaces. Provincially, the City aligns with B.C.'s CleanBC plan, which emphasizes natural climate solutions, including urban reforestation and ecosystem conservation, to sequester carbon and reduce climate change impacts.

What is already happening

Existing policies and plans:

- The City's OCP includes policies around conservation and enhancement of local environments and natural areas.
- The City's Urban Forest Strategy (2024) aims to increase tree canopy and protect the existing urban forest, including adopting a tree protection bylaw, providing a Recommended Tree Species list, and increasing tree canopy cover on public and private spaces.
- The City's Environmental Inventory Management Strategy (2022) guides planning to improve the management of natural assets.
- An Invasive Species Management Plan (2025) is currently underway and will address key invasive species best management practices; threats to critical infrastructure (e.g., dikes); and community education on prevention of spread.

Ongoing initiatives and projects:

- The City continues to offer Tree Water Bags for sale to residents.

Goal 6A Enhance urban green space resilience

Indicator:	**Target:**
• Canopy cover in the urban containment boundary (excluding ALR)	• Increase canopy cover to 30% in Pitt Meadows' urban containment boundary by 2050 (excluding ALR) **from the Urban Forest Strategy*

6.1 **Prioritize climate-related actions in the Environmental Inventory Management Strategy**, including developing green infrastructure guidelines for natural stormwater management, and increasing planting in riparian areas on public lands.

6.2 **Investigate the feasibility of expanding vegetated corridors and an interconnected trail network, as well as making new connections** throughout the community to support community and ecological wellbeing, providing outdoor cool spaces, supporting biodiversity, and encouraging active transportation. Partner with other organizations, such as SD42.

See also Action 1.2 to pilot green infrastructure.

Goal 6B Preserve and enhance natural environments and parks

Indicator:	**Target:**
• Residents per hectare of dedicated park land	• At minimum maintain the current provision of 307 residents per hectare of dedicated park land **from Parks, Recreation and Culture Master Plan*

6.3 **Explore and develop strategies to acquire and protect high-value environmental areas (e.g., wetlands and forested areas)**, focusing on flood mitigation, carbon sequestration, and biodiversity preservation.

5 Putting the Strategy into Action

The implementation of the Climate Action Strategy will be led by the City's Planning and Development Department, working in collaboration with other departments across the City. This collaborative approach ensures the integration of climate action across all areas of municipal governance and service delivery.

To support this work, dedicated staff time and a supportive budget will be required to ensure successful delivery of the identified actions. Ongoing training and capacity building will equip staff to integrate climate considerations into their work, while partnerships with community interest holders will enhance impact and alignment.

Prioritizing Action

The implementation of the recommended actions should be prioritized by considering their potential to:

- Reduce or address potential hazards and impacts identified
- Reduce corporate or community GHG emissions
- Reduce disproportionate impacts for vulnerable populations
- Demonstrate leadership in City operations
- Provide co-benefits and align with other City priorities
- Secure resources for implementation

These priorities may evolve over time as new information, partnerships, and funding opportunities emerge. The City may adjust priorities taking into account the following:

- **Being opportunistic**: Taking advantage of emerging opportunities, such as new funding, partnerships, or technologies, to accelerate action.
- **Seeking equitable outcomes**: Ensuring that climate action benefits all members of the community, particularly vulnerable populations.
- **Showing leadership**: The City will lead by example, adopting best practices and demonstrating commitment to climate action in municipal operations.
- **Collaborating**: Engaging with the q̓ićəy̓ (Katzie) First Nation, interested parties, including local businesses, community organizations, and other levels of government, to ensure collective action and maximize impact.
- **Taking an adaptive management approach**: Continuously monitoring progress and making adjustments to strategies as needed based on new information, emerging challenges, and evolving best practices.

Costs and Benefits of Climate Actions

Climate change is causing widespread economic impacts across Canada. These costs are expected to continue to grow as climate change progresses. Without significant mitigation and adaptation efforts,

national climate-related damage could reach approximately $140 billion per year by 2050[36] and $865 billion per year by[37] 2100 under a high-emissions pathway (RCP 8.5). These costs are the result of immediate and long-term degradation of our lifeline systems, including infrastructure, ecosystems, public health, and others. Municipalities are experiencing these economic impacts through increased disruption to essential services, higher costs of repair and operations and maintenance, emergency response, and rising insurance costs. As climate change continues to intensify and the value of municipal assets grows, costs for municipalities are expected to rise.

There is a growing body of research that demonstrates how combining climate mitigation and adaptation efforts can significantly reduce these projected losses. Research emphasizes the importance of implementing adaptation and mitigation in tandem. The up-front costs of mitigation can be significant, but like adaptation, the long-term savings by avoiding damages tend to be much greater. For instance, the Canadian Climate Institute finds that "... each dollar invested in adaptation returns $13-$15 in direct and indirect benefits" and that when adaptation measures are combined with mitigation, the future costs of climate change could be reduced by 75%.[38] Without mitigation efforts, adaptation becomes increasingly expensive and less effective due to the compounding nature of climate change. If no action is taken, the cumulative financial burden of climate impacts could overwhelm public budgets, strain or cause failures in critical infrastructure systems, and increase socio-economic disparities. Municipalities that take action towards adaptation and mitigation now will likely be in a better position to reduce risk, protect vulnerable populations, and ensure essential services can be maintained as the climate changes.

Monitoring

To monitor and report progress on the Climate Action Strategy, the City will track key performance indicators (KPIs) and report annually on progress toward achieving targets (see Appendix 2). This approach will ensure transparency and accountability in the City's climate efforts and help guide ongoing improvements.

This Climate Action Strategy outlines a comprehensive, collaborative approach to building a resilient and sustainable future for Pitt Meadows. By aligning with existing plans, supporting innovative solutions, and fostering community engagement, the City is committed to reducing emissions, adapting to climate impacts, and ensuring a vibrant and healthy environment for all residents.

[36] GHD. (2022). Aquanomics: The Economics of Water Risk and Future Resilience. https://aquanomics.ghd.com/

[37] Sawyer, D., Ness, R., Lee, C., & Miller, S. (2022). Damage Control: Reducing the costs of climate impacts in Canada. Canadian Climate Institute. https://climateinstitute.ca/reports/damage-control

[38] Canadian Climate Institute. (n.d.). Counting the Costs of Climate Change. https://climateinstitute.ca/map-climate-costs-tracker/#:~:text=Indeed%2C%20Institute%20research%20finds%20that,more%20stable%20and%20affordable%20future.

Appendix 1: GHG Emissions Analysis Policy Assumptions

Policy assumptions included in BAU forecast

Policy	Assumptions
The Clean Electricity Standard	• 100% clean electricity by 2030
RNG integration	• 15% RNG integration by 2030
Low Carbon Fuel Standard	Emissions factors for the transportation sector include the impact of BC's Low Carbon Fuel Requirements • 30% Renewables by 2030
Light-Duty EV sales targets	• 100% sales by 2035
Heavy Duty Vehicle Efficiency Program	• 20% reduction in emissions intensity in 2025 relative to 2015 • 24% reduction in emissions intensity in 2030 relative to 2015
BC Energy Step Code	Part 9 • Step 2 starting in 2022 • Step 4 starting in 2027 Part 3 • Step 3 starting in 2022 • Industrial and Institutional are excluded
BC Zero Carbon Step Code	• EL-4 (net-zero ready) starting in 2030
Waste	• Solid waste produced at a constant per capita rate

Policy assumptions included in policy forecast

In addition to policies included in the BAU forecast, the following policies are considered for the policy forecast:

Policy	Assumptions
Highest Efficiency Equipment Standard	• Policies to come into place by 2030 • Applied to residential and small-to-medium scale commercial and institutional existing buildings (part 9) • Space and water heating equipment sold will be 100% efficient by 2030 • TOR compliance schedule: 100% compliant from 2030 • DHW replacement: 13 years • Heating replacement: 13 years • Commercial / institutional heating + DHW replacements: 15 years Highest Efficiency Equipment Standards Regulatory Consultation
Incentives and Supports	• 5% reduction in GHG emissions per year from 2026, applied to all existing buildings
Light Duty Zero Emission Vehicles	• Retirement rate is increased by 10% (compared to BAU scenario)
Medium/Heavy Duty Zero Emission Vehicles	• 33.5% electric/hydrogen fuel sales by 2030 (Average of: By 2030, 44% of class 4-8 vehicles, and 23% of truck tractors sold are required to be zero-emissions) • Hydrogen fuel cell and EVs are assumed to have the same engine economies and emissions factors
BC Zero Carbon Step Code	• EL-4 (net-zero ready) starting in 2030

Appendix 2: Summary of Goals, Indicators and Targets

Theme 1: Public Infrastructure and Corporate Responsibility

Goal 1A Increase the climate-resilience of City infrastructure, facilities and operations

Indicator: • Number of City infrastructure and facilities built / upgraded with climate resilience measures (e.g., flood resistance, energy efficiency, sustainable materials, stormwater management) annually	**Target:** • Climate risk assessment becomes standard practice for all major infrastructure and facility decisions and is considered in broader policy decisions.

Goal 1B Accelerate corporate emission reductions

Indicator: • Total annual corporate GHG emissions from the City's traditional services	**Target:** • Total annual corporate GHG emissions from traditional services are decreasing year to year and are eliminated by 2050

Goal 1C Reduce waste going to landfills and transition to a circular economy

Indicator: • Annual GHG emissions from solid waste collected and transferred to regional landfill	**Target:** • Waste stream to the regional landfill is reduced year to year, with recovery, re-use, recycling and composting undertaken as standard practice

Theme 2: Health, Well-being and Emergency Preparedness

Goal 2A Enhance climate resilience in emergency preparedness

Indicator: • Number / Percent of emergency plans updated	**Target:** • Update all City emergency plans to incorporate climate considerations before 2030

Goal 2B Enhance public awareness and readiness for climate-related emergencies

Indicator:	Target:
• Number of climate-related communications	• Increase engagement with the public on topics of climate change, resilience, and preparedness through a diversity of City communication channels

Theme 3: Buildings and Properties

Goal 3A Strengthen the climate resilience of buildings and properties

Indicators:	Targets:
• Adoption of water meters • Number of FireSmart Neighbourhood Champions	• Water consumption decreases year to year, with the number of users with water meters increasing on an annual basis • Increased number of FireSmart workshops and education provided to the public (?)

Goal 3B Support and increase energy efficiency, electrification and low emission in new and existing buildings

Indicator:	Targets:
• Number of homes with access to cooling • Percent new buildings / major renovations meeting each level of the Zero Carbon Step Code	• The number of permits for heat pumps with cooling capacity increases from year to year • All new buildings and those undergoing significant renovations meet the top level of the Zero Carbon Step Code from 2030 or earlier

Goal 3C Support district or renewable energy systems in new development

Indicator:	Target:
• Percent new buildings connected to district or renewable energy systems.	• Large new developments incorporate district or renewable energy systems.

Theme 4: Transportation and Mobility

Goal 4A Promote and expand sustainable and active transportation options

Indicators:	Targets:
• Annual funding for active transportation infrastructure • Percentage of [commuter] trips using sustainable and active transportation annually	• Seek additional funding through grants to enhance active transportation infrastructure annually • Increase the active transportation network connections to better serve the airport, business park, and future employment areas

Goal 4B Support the adoption of efficient and zero-emission vehicles (ZEVs)

Indicators:	Targets:
• Annual GHG emissions from light-duty vehicles • Number of public EV charging stations. • Percentage of vehicles registered in Pitt Meadows that are electric	• Emissions from light-duty vehicles are decreasing year to year • Increase the accessibility to EV charging in Pitt Meadows to support the transition to electric vehicles

Theme 5: Local Economy and Agriculture

Goal 5A Enhance agricultural resilience and adaptability, and reduce fossil fuel reliance

Indicator:	Targets:
• Number of local businesses with Environmental Farm Plans • Number of on-farm innovative projects to reduce waste and GHG emissions, number having emergency preparedness plans, and number having riparian enhancement projects on farmland **from Agricultural Viability Strategy* • The ALR is protected and preserved for agriculture **from Agricultural Viability Strategy*	• Increase engagement with the agricultural community on topics related to climate change mitigation and adaptation

Goal 5B Enhance local businesses' climate resilience and adaptability

Indicator:	Targets:
• Number of climate-related communications / outreach with local businesses	• Grow the number of local jobs to a 1:1 ratio with the workforce population • Increase engagement with the business community on topics related to climate change mitigation and adaptation

Theme 6: Ecosystems and Green Spaces

Goal 6A Enhance urban green space resilience

Indicator:	Target:
• Canopy cover in the urban containment boundary (excluding ALR)	• Increase canopy cover to 30% in Pitt Meadows' urban containment boundary by 2050 (excluding ALR) **from the Urban Forest Strategy*

Goal 6B Preserve and enhance natural environments and parks

Indicator:	Target:
• Residents per hectare of dedicated park land	• At minimum maintain the current provision of 307 residents per hectare of dedicated park land **from Parks, Recreation and Culture Master Plan*