10. Climate Change

10.1 Overview

This OCP recognizes that community well-being is fully dependent upon the well-being of the ecosphere. Climate change is one of humanity's greatest challenges, and this OCP provides direction for both climate change mitigation (through GHG emission reductions) and adaption.

Greenhouse Gas Emissions and Climate Change Mitigation

The Paris Agreement was established in 2015, in which Canada and the majority of countries worldwide agreed to limit global warming to well below 2°C, and continue all efforts to limit global warming to below 1.5°C.

Canada's current pledge is a 30% reduction in greenhouse gas (GHG) emissions by 2030. A joint effort by all jurisdictions, from federal to provincial to local governments will be necessary to reach this goal. The Province of BC is already a leader in this effort; in 2008, the Provincial Government enacted the Local Government (Green Communities) Statutes Amending Act ('Bill 27'). This legislation requires local governments in BC to include GHG reduction targets in their OCPs along with supporting policies to achieve these targets.

Colwood's energy and emissions profile is typical of a relatively low-density, automobile oriented community, with the majority of GHG emissions from personal vehicle transportation. Based on the most recent data (Colwood Energy and Emission Plan, 2010), transportation accounts for 66% of Colwood's GHG emissions, while buildings account for 32% and waste for 2%. The City of Colwood is undertaking a number of corporate initiatives to demonstrate leadership in climate change mitigation.

Climate Change Impacts and Adaptation

General climate projections provided by the Capital Regional District indicate that in the coming decades the region can expect: warmer winter temperatures; more extreme hot days and longer dry spells in summer months; more precipitation in fall, winter, and spring; and more intense extreme events.

Identified potential local impacts include:

- health issues such as respiratory illnesses;
- increased run-off and flooding associated with extreme events in wetter seasons, which can cause slope instability, overfilling of wetlands, and exceeding the capacity of sewer infrastructure;
- increased stream flows in wetter months that could interfere with water disinfection and treatment;
- marine shoreline erosion associated with rising sea levels;
- increased pressure on coastal waters that require heightened maintenance for shoreline access, water quality, wildlife habitat, and recreational infrastructure; and
- disruptions to agricultural production.

10.2 Colwood's GHG Reduction Targets

IMPLEMENTATION

- ACTION: The City should develop an updated Community Energy and Emissions Plan that defines achievable GHG reduction targets. The new targets should maintain Colwood's leadership role in climate action, and have a workable implementation strategy.
- TIMING: Immediately.

The targets set by the City of Colwood in 2010 are as follows:

Figure 14: Greenhouse Gas Emission Reduction Targets

Target Criteria	Target Year	
	2030	2050
Per capita GHG emissions reduction from 2007 levels	75%	93%
Total GHG emissions reduction from 2007 levels	49%	80%
Per capita energy reduction from 2007 levels	56%	70%
Total energy reduction from 2007 levels	22%	12%

10.3 Policies and Objectives

Objective: 10.3.1
To achieve Colwood's GHG emission reduction targets through complete communities, a low-carbon multi-modal transportation system, and a focus on site adaptive planning.

POLICY 10.3.1.1 SUPPORTIVE POLICIES FOR TRANSPORTATION, GROWTH MANAGEMENT, AND LAND USE

Implement the transportation policies in Section 8 (Streets and Mobility), which support mode shifts to a low carbon transportation system by focusing on active modes and transit. Implement the supportive policies in Sections 6 (Growth Management) and 7 (Land Use), that guide development of compact and complete urban areas, focusing growth in areas that are serviced by transit and by moving away from greenfield and hillside development.

POLICY 10.3.1.2 SUPPORTIVE POLICIES FOR SITE ADAPTIVE PLANNING

Implement the policies in Section 11 (Park Areas and Natural Assets), which support a site adaptive planning approach.

POLICY 10.3.1.3 INCENTIVES FOR GHG EMISSIONS REDUCTION

Consider an annual grant program to incentivize community and business participation in greenhouse gas emissions redutions.

Objective: 10.3.2
To achieve Colwood's GHG emission reduction targets with high performing and low carbon buildings and infrastructure.

POLICY 10.3.2.1 GREEN BUILDING STRATEGY

Develop a comprehensive green building strategy that:

a. Includes measures for education, partnerships, programs, incentives, regulations, financing, and corporate asset management that are tailored to and effective in Colwood's context; and
b. Incorporates the Province of BC's Energy Step Code, which is a set of incremental performance steps for new buildings that transition from the BC Building Code to Net Zero Energy ready buildings, and that focuses on outcomes-based requirements that provide industry with the flexibility to innovate.

POLICY 10.3.2.2 EXISTING AND NEW BUILDINGS

Reduce energy demands by:

a. Setting higher efficiency standards for new and existing buildings through progressive targets in conformance with the incremental energy performance standards within the BC Building Code; and
b. Working with other government, industry, and community partners to develop, deliver, and support educational programs to achieve established progressive targets that support market transformation from current energy efficient standards to net zero energy ready buildings by 2032.

Objective: 10.3.3
To achieve Colwood's GHG emission reduction targets by valuing natural assets as sinks and contributors to climate change mitigation.

IMPLEMENTATION

- ACTION: The updated Community Energy and Emissions Plan (CEEP) should include strategies for carbon sequestration that may include a climate scoring tool for use in the development approvals process. Develop mitigation strategies as part of the CEEP.
- TIMING: Before 2023.

POLICY 10.3.3.1 URBAN TREE CANOPY AND GREEN SPACES

Implement the policies in Section 11 (Park Areas and Natural Assets) to improve, increase the area of, and protect urban tree canopy and other vegetated areas throughout the city.

POLICY 10.3.3.2 CARBON SEQUESTRATION

Consider carbon sequestration and storage in all land and marine management, asset management, and acquisition decisions.

Objective: 10.3.4
To achieve Colwood's GHG emission reduction targets by optimizing waste diversion and by treating waste as a resource.

POLICY 10.3.4.1 ZERO SOLID WASTE

Apply a zero waste approach to solid waste management by:

a. Working with the CRD on implementation of the regional Integrated Solid Waste and Resource Management Plan;
b. Working with the CRD to develop and deliver programs to promote reduce, reuse, and recycle strategies; and
c. Promoting organic material diversion and the recycling of nutrients in the food system (refer to Section 14: Food System).

Objective: 10.3.5
|To adapt to the impacts of climate change.

POLICY 10.3.5.1 ADAPTATION PLANNING

Incorporate strategies for adaptation in the updated Community Energy and Emissions Plan that include:

Soft shoreline

a. Developing an understanding of local vulnerability to projected climate changes in order to identify how Colwood can adapt with minimal disruption and costs, and with maximum potential benefits;
b. Incorporating climate change projections and risks into other City strategies, plans, and policies;
c. Articulating an integrated watershed management approach – in collaboration with other municipalities, First Nations, and other partners – that adapts to changes in water flows, groundwater storage, and other water-related stressors due to climate change;
d. Incorporating climate-related disaster planning and communications into public outreach efforts;
e. Working with the Province and the Regional Emergency Partnership to reduce the risk of interface forest fires;
f. Incorporating climate change considerations into corporate asset management;
g. Incorporating best practices for rain and stormwater management that account for more extreme periods of precipitation, including wetter winters and drier summers (refer to Sections 11 and 12);
h. Accounting for the value of natural areas in climate adaptation in all land and marine management, asset management, and acqusition decisions;
i. Avoiding development in areas where sea level rise is expected;
j. Improving the resilience of the shoreline and marine habitats, through a "soft shore" restoration approach that:
    - allows natural movement of wood and gravel;
    - protects and re-establishes habitat; and
    - protects the shoreline and foreshore infrastructure (such as roads, sewer pipes, water lines, and pedestrian facilities) from erosion during storms, flooding, and sea level rise; and
k. The City recognizes that rising sea levels are likely to continue to negatively impact public and private assets. Adaptation efforts must be integrated into municipal asset management and financial planning.