

Our City, Our Voices.

reimagine
NANAIMO

HOW WE ADAPT

Adaptation means responding to changes in our community and preparing for a successful and resilient future. In 2008, Nanaimo put targets in place to reduce greenhouse gas (GHG) emissions. However, like almost all BC municipalities, desired GHG reductions have been difficult to achieve. In 2019, Nanaimo City Council declared a climate emergency to bring a new focus to energy and emissions management.



GHG reductions are needed

In keeping with international targets, Nanaimo council has recently set a target to reduce GHG emissions by at least 50% by 2030 from 2010 levels.



We're taking climate change action

Nanaimo has a number of policies and actions to reduce emissions, including investing in active transportation and implementing new energy requirements for new buildings.



Transportation is our top source of GHGs

A reliance on personal vehicles to get around, along with a growing population, means there are more cars contributing to greenhouse gas emissions.



We're adapting to risks

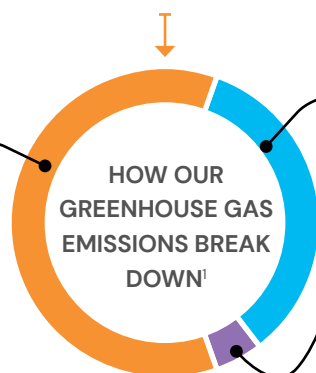
We are experiencing more extreme weather, which increases Nanaimo's risk for forest or brush fires, flooding, and drought. We must continue to assess risks and prepare.



Infrastructure requires wise investment

Infrastructure systems like water supply, storm sewer, sanitary, roads, and City service buildings are the highest costs our community faces. Proactive planning allows us to be more prepared for future climate impacts.

65% On-Road Transportation
Reducing the amount we drive or switching to zero emissions vehicles reduces our transportation emissions



28% Buildings

Building new buildings to greener standards, retrofitting older buildings, and using near zero-emissions energy reduces building emissions

7% Solid Waste

Reducing the amount of organic waste we throw in the garbage by composting reduces solid waste emissions

WHAT DO OUR PLANS SAY NOW?

- ▶ Encourage planning, design, and construction of energy efficient neighbourhoods and buildings.
- ▶ Reduce GHG emissions by 39% of 2007 emissions levels by the year 2050.
- ▶ Improve community liveability and air quality by reducing local sources of pollution through reducing energy consumption and increasing the use of cleaner energy alternatives.
- ▶ Foster the development of new energy supply options.
- ▶ Work toward meeting the BC Energy Step Code targets.
- ▶ Support development of innovative green spaces to reduce the urban heat island effect.

OPPORTUNITIES

- ▶ BC has abundant low carbon hydroelectricity which helps support GHG reductions.
- ▶ The policy for changing the way we construct our buildings is important now. Fortunately, we can carry out these policies and adaptations gradually, as buildings are redeveloped, or at the end of their life.
- ▶ Transit improvements have encouraged more transit use in Nanaimo and the Region.
- ▶ Our [Parks, Recreation & Culture Plan](#), [Transportation Master Plan](#), & [Trail Implementation Plan](#) lay a foundation for a connected system of street transportation, parks, greenways, and trails.
- ▶ Our [Community Wildfire Protection Plan](#) identifies how to prepare for and manage fire risks.
- ▶ Our [Climate Change Resilience Strategy](#) presents over 60 action items to build Nanaimo's resilience.
- ▶ The provincial and federal governments are providing assistance to local governments investing in GHG reduction projects.



Wildfire is a risk.

Over the past decade, communities across BC have been threatened by wildfire. Nanaimo is fortunate to not have been heavily impacted in the past, but we are vulnerable to urban interface wildfires.

CHALLENGES

- ▶ Our reliance on single-occupant vehicles impacts our ability to reduce greenhouse gas emissions.
- ▶ While Nanaimo's current GHG targets are in-line with federal targets, meeting them will require substantial investment and buy-in from individuals.
- ▶ While the availability of zero-emission vehicles is rising, not all types of vehicles are likely to be zero emissions in time to reach 2030 targets.
- ▶ Securing waterfront and floodplain lands can help our City be more resilient to extreme weather events, but securing these areas can compete with development demands and can be a high cost.
- ▶ Integrating climate change adaptation into sites and buildings can increase initial investment costs, even if longer-term costs are reduced.
- ▶ Tracking greenhouse gas emissions at the community-scale is difficult.
- ▶ Aspects of emissions reduction rely on personal decisions outside the scope of local government.

Sea Level Rise of a metre or more is predicted to occur by the end of this century and will put our waterfront properties at risk of flooding during large storms that coincide with high tides.



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HOW WE STAY GREEN

Natural scenery and biodiversity are hallmarks of Nanaimo. The harbour and estuaries, islands, lakes, forests, hills, and watercourses that make our community attractive also play key roles in making our City less vulnerable to the impacts of climate change. These areas can be affected by development and human activity. The current Official Community Plan (OCP) guides us to plan our community to protect and enhance our environment.



Our harbour and estuary are valuable

The sheltered waters of Nanaimo's harbour and the rich resources of the estuary are home to a broad diversity of sensitive flora and fauna and are important to our community.



We protect watersheds & ecosystems

Watersheds and riparian areas like the Millstone and Nanaimo Rivers are protected inside City boundaries and stewardship efforts are actively improving watercourses throughout the City.



We protect and promote trees & forests

Our urban forest protection regulations encourage street trees and retention of natural forest areas in our parks and neighbourhoods. Forest areas support rainwater management and healthy streams.



We're adapting our urban stormwater

New development is required to mimic the runoff of natural forests to keep our water resources healthy. In older neighbourhoods retrofits are needed to reduce runoff.



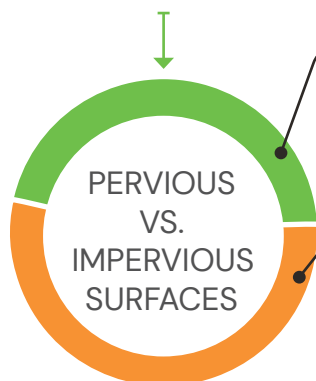
We're developing greener

New development is required to follow sustainability checklists that encourage a high standard in climate-conscious and eco-friendly design.

Our harbour is vital to our ecology and identity.



Millstone River in Bowen Park.



~49% Pervious Area Tree Cover, Natural Areas, Lawns, & Landscape

Streams flow naturally when there is extensive cover of natural forest and meadows. Increasing pervious surfaces helps keep our City green.

~51% Impervious Area Buildings and Pavement

Where natural flows are disrupted by impervious surfaces, stormwater best practices can be used to reduce peak flows and improve water quality to protect streams.

WHAT DO OUR PLANS SAY NOW?

- ▶ Encourage energy-efficient neighbourhoods and buildings, reduce energy consumption, and foster new energy supply options.
- ▶ Protect environmentally sensitive areas, preserve aquatic habitat, and provide opportunities for nature appreciation and for fish and wildlife to thrive.
- ▶ Manage development to protect life and property from natural and human-made hazards such as steep slopes, floodplains, and abandoned mining structures.
- ▶ Design with nature to protect hillside character using cluster development to preserve open space.
- ▶ Control erosion during development.
- ▶ Sustain urban forests, treed areas, and wildlife trees.
- ▶ Create a network of riparian and upland corridors to link natural habitat and support wildlife movement.
- ▶ Assist the Province in regulating use and rehabilitation of contaminated sites.

OPPORTUNITIES

- ▶ Undeveloped areas present opportunities for sensitive and smart infill and development, including preservation of natural resources.
- ▶ Development Permit Areas (DPAs) support extra care in planning and design for sensitive areas. Our current DPAs include:
 - » Watercourse DPAs to protect watercourses and their streamside riparian areas.
 - » Environmentally Sensitive DPAs and Development Approval Information Areas that require environmental assessments to define non-disturbance areas to protect sensitive ecosystems.
 - » Natural Hazard Lands DPAs to protect areas of bank instability and require professional engineering to guide potential modifications.
 - » Steep Slope DPAs to achieve environmentally-sound, safe, and livable hillside neighbourhoods.
- ▶ Our [Parks, Recreation, and Culture Master Plan](#) and [Trails Implementation Plan](#) lay a foundation for a connected system of parks, greenways, and trails.

Major additions to our parks system

have been made since 2005, including parts of Linley Valley, the Greater Nanaimo Water District lands, as well as agricultural, floodplain, and habitat lands along the Millstone River.



Restoration of urban streams is underway.

Departure Creek restoration is a collaboration between the City, Snuneymuxw First Nation, Departure Bay Neighborhood Association, and Departure Bay Streamkeepers to enhance fish and wildlife habitat and create more opportunity for residents to enjoy nature in their neighborhood.

CHALLENGES

- ▶ Most low-lying and gently sloping lands in Nanaimo have been developed, except for parts of the South End.
- ▶ Development patterns on hillsides have continuing challenges including fragmented green areas and extensive earthworks to meet safety standards.
- ▶ Waterfront steep slopes and ravines can be locally unstable and increased rainfall intensity further impacts stability, leading to washouts.
- ▶ Urban roof areas and pavement reduces rainfall infiltration into soil and groundwater, causing rapid runoff into streams, leading to erosion and water quality impacts.
- ▶ Stormwater best practices are required in new development, but improving watershed health in older neighbourhoods will require retrofit which has costs.
- ▶ For climate change challenges, see "How We Adapt Backgrounder."