

ATTACHMENT A

DRAFT TERMS OF REFERENCE: 2050 NANAIMO CLIMATE ACTION PLAN

1. INTRODUCTION

The City of Nanaimo (the City) is undertaking a review and update of both its Corporate Climate Change Plan (2007) and its Community Sustainability Action Plan (2012). A key component of the update will be a citywide greenhouse gas (GHG) emissions inventory with guidelines and training for staff to continue to maintain and update the GHG inventory data going forward.

1.1 Background

Over the last decade, the City has applied a consistent approach to GHG reductions in the community. Starting with the City signing onto the provincial Climate Action Charter and adopting its first Corporate Climate Change plan in 2007, the City set a strong foundation to become a community leader in lowering GHG emissions. Later, planNanaimo established the City's first community wide GHG reduction target. This was later followed up by the Community Sustainability Action Plan, which included a framework and actions to help achieve the OCP reduction target of reducing GHG emissions to 3% below 2007 levels by 2020 and 39% of 2007 levels by 2050.

Both the Corporate and Community Climate Change Plans identified actions and programs to help lower overall GHG emissions in the City. Multiple actions have been implemented since the adoption of these plans. However, the need to accurately and consistently monitor our community emissions is critical for measuring success and informing future policy and program development.

Nanaimo had its community GHG emissions monitored through the Community Energy and Emissions Inventory (CEEI), a provincial framework established in 2007 for tracking and reporting energy, GHG emissions and supporting indicators at a community wide scale. This was intended to not only assist with monitoring progress against targets but also satisfy the City's commitment under the provincial Climate Action Charter to measure and report on our community GHG emission profile. The CEEI reports provided energy consumption and greenhouse gas emissions data organized around four primary sectors:

1. Buildings	2. Municipal Solid Waste
3. On-road transportation (only for the Lower Mainland); and	4. Land-use changes from deforestation

The CEEI provided primarily "in-boundary" reports for 2007, 2010 and 2012 with no data available since that time for Nanaimo, primarily due to reliance on census information. In

addition, due to an aging (2007) and limited sample size of real odometer readings in regional districts outside of Metro Vancouver and the Fraser Valley, transportation data was withheld in the 2012 CEEI reports. As such, there has been limited information available for community GHG emissions monitoring since the Community Sustainability Action Plan was adopted.

In April 2019, recognizing the rising global concern raised by the International Panel on Climate Change (IPCC) to limit global warming to 1.5°C, Council declared a Climate Emergency and required that new community-wide emission reduction targets be set to between 50% and 58% below 2010 levels by 2030, and between 94% and 107% below 2010 levels by 2050.

In December 2019, Council also signed onto the Global Covenant of Mayors Canada (GCoM). The GCoM is a collaboration between the Federation of Canadian Municipalities (FCM), International Council for Local Environmental Initiatives (ICLEI) Canada, the Global Covenant of Mayors Secretariat and the International Urban Cooperation Project, supported by funding from the European Union.

The GCoM promotes the use of the *Global Protocol for Community-scale Greenhouse Gas Emission Inventories* (GPC) to support cities in the development of robust, comprehensive and consistent inventories. The GPC provides a clear framework for calculating and reporting city-wide GHG emissions, consistent with the International Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories. The GPC groups emissions into three categories based on where they occur:

- Scope 1: 'Territorial emissions' - GHG emissions from sources located within the city boundary
- Scope 2: GHG emissions occurring as a consequence of the use of grid-supplied electricity, heat, steam and/or cooling within the city boundary
- Scope 3: all other GHG emissions that occur outside the city boundary as a result of activities taking place within the city boundary.

In order to remain consistent with other Canadian local governments that have signed onto the GCoM, the City will be following this emissions inventory protocol.

The update will include an implementation action plan that will identify concrete actions the municipality can take to lower emissions for homeowners, businesses, and travelers, on a community-wide level, including the City's corporate facilities, vehicle fleet and purchasing policy. The plan will include the following five general steps: 1) research/background 2) emissions profile / inventory / projections 3) implications review 4) recommended actions and programs 5) monitoring.

As part of the Climate Action Plan update, public engagement will be a combination of engagement with targeted external stakeholders and the general public. Engagement with external stakeholders will focus on a consultative level. External stakeholders will be invited to participate more collaboratively alongside City staff in workshops or smaller

group discussions focussing on GHG reductions action and policy, targeting residential / commercial buildings and city-wide transportation. Engagement with the general public will be at an informational level on proposed actions and programs for meeting the City's climate emergency targets. This information will be presented as part of the public engagement for the City's 2020 Strategic Planning updates for the Official Community Plan and Parks Master Plan.

1.2 Goals

The goal of the 2020 Nanaimo Climate Action Plan is to put Nanaimo on track to meet its GHG reduction targets of lowering community wide emissions to between 50% and 58% below 2010 levels by 2030, and between 94% and 107% below 2010 levels by 2050.

1.3 Objective

The main objective of the work will be to identify action, programs, and policies for the City to adopt that meet the City's goal of lowering community wide emissions to between 50% and 58% below 2010 levels by 2030, and between 94% and 107% below 2010 levels by 2050. A secondary objective is for staff to be given the tools and capacity to continue to maintain and update the community GHG emissions inventory, going forward.

2. SCOPE OF WORK

The project scope will be flexible and open for innovation and ingenuity on the part of the successful consultant and project funding.

A key component of this work will be to develop a model or calibrate/amend an existing model with research, data gathering and data augmentation, and use this to model two future energy and GHG emissions scenarios:

- a. Scenario 1 - Business As Usual (BAU) GHG emissions reductions by 2030 and 2050
- b. Scenario 2 –58% GHG emissions reduction from 2010 levels by 2030 and 107% GHG emission reduction below 2010 levels by 2050.

It is expected that the successful proponent will, for each of the scenarios identified, use a model that captures both energy supply and demand considerations in the context of cost, as well as policy and public behavior constraints. An understanding of current Corporate, Regional, Community, Provincial, and Federal legislation, plans, policies and programs on a broad range of topics in addition to knowledge of social and political acceptance of climate actions will be required.

Climate actions and recommendations for the Action Plan can include, but should not be limited to policies, bylaws, regulation, municipal infrastructure, municipal operations, education campaigns, incentive programs, partnerships and advocacy.

The results of the model will be used to identify several factors, including, but not limited to:

- a. The role to be played by different energy generation sources and sectors such as transportation, buildings, waste and industry.
- b. The nature and impact of different climate actions, including:
 - i. GHG emissions reductions;
 - ii. Costs (capital, operating, life-cycle if available and non-financial behavioral); and
 - iii. Social and political acceptance (e.g. based on discussions with Nanaimo staff, survey results, published literature, empirical evidence, or case studies).
- c. Interim 2030 and 2040 GHG emission targets, overall and by sector.
- d. How Nanaimo fits into the broader energy context on Vancouver Island, the Province of BC and the Pacific Northwest.

The modelling work should include:

- a. Developing an energy model or amending an existing model for the City of Nanaimo. Ideally, this model is spatial including for instance land use, density, transportation corridors, land use conversion etc.
- b. Using the model to develop a Business As Usual (BAU) GHG emissions scenario for 2030, 2040 and 2050 based on the energy sources required for GPC BASIC reporting, stipulating data sources and assumptions made (some of which would be developed in collaboration with City of Nanaimo staff.)
- c. Using the model to engage City of Nanaimo staff and key stakeholders to identify the climate actions needed to achieve Scenario 2: 58% GHG emissions reduction from 2010 levels by 2030 and 107% GHG emission reduction below 2010 levels by 2050:
- d. Providing best practice research (literature review) of the most effective municipal climate actions appropriate to the Nanaimo context.
- e. Using the model to identify potential climate actions. Model the relative GHG emissions impact of individual climate actions implemented at different levels of intensity, such that they can be bundled in varying combinations to achieve the target. For instance, a high, medium and low density build out, or a 50%, 70% or 90% uptake of electric vehicles by 2050, or a 50%, 60% or 70% active transportation mode share by 2050 etc.
 - i. Climate actions can include, but should not be limited to, policies, bylaws, regulation, municipal infrastructure, municipal operations, education campaigns, incentive programs, partnerships and advocacy.
- f. Evaluate any proposed climate action impact using the following criteria:
 - i. GHG emissions reductions.
 - ii. Costs (capital, operating, life-cycle if available and non-financial behavioral).
 - ii. Social and political acceptance (e.g. based on discussions with City staff, survey results, published literature, empirical evidence, or case studies).

- iii. Prioritize the proposed action with a timeline for implementation.
- iv. The role to be played by different energy generation sources and sectors/sub-sectors such as transportation, buildings, waste and industry, informed by research including, but not limited to:
 - 1. Technological advancements;
 - 2. Projected market uptake;
 - 3. Future federal and provincial legislation; and
 - 4. Innovative policy and legislation.
- v. Use the model and climate actions to identify how the mid-stage 2030 and 2050 GHG reduction targets are to be met.
- vi. Use the model and climate actions to identify energy sector and sub-sector targets for 2030, 2040 and 2050 such as mode share targets, transportation sector energy use by fuel type, building sector energy use by fuel type etc.
- vii. Generate visual or graphical outputs useful for clearly communicating the scenario development, results and climate action evaluation to key stakeholders, Council and the community.

Data sources and assumptions should be made clear. These should be informed by discussions with Nanaimo staff and key stakeholder engagement.

The City of Nanaimo understands that models to undertake this work may not already exist, or may be readily built with amendments to existing models. There is no expectation that the model be “built from scratch”.

2.1 Project Deliverables

- a. A community GHG Inventory report of the City of Nanaimo for the years 2010, 2012, 2015, and 2018 (plus projections for 2030, 2040, and 2050) in accordance with:
 - i. The BASIC+ reporting level of the Global Protocol for Community (GPC) Scale Greenhouse Gas Emission Inventories: An Accounting and Reporting Standard for Cities, and
 - ii. ISO14064 Part 1: Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals.
- b. Written report outlining methodology and results of assessments
- c. Implementation actions and monitoring recommendations provided as part of the plan and presented to staff and stakeholders.
- d. Visual or graphical outputs useful for clearly communicating the scenario development, results and climate action evaluation to key stakeholders, Council and the community.

2.2 Project Timeline

A detailed project schedule will be negotiated as part of the work plan. The deadline for completion of this project will be October 31, 2020.

2.3 Project Resources

Resources that will be available for the study:

- a. City of Nanaimo Community Sustainability Action Plan (2012)
- b. Corporate Climate Change Plan (2007)
- c. Official Community Plan (planNanaimo) (Update in progress)
- d. City of Nanaimo Parks Masterplan Update (in progress)
- e. City of Nanaimo Strategic Plan (2019-2022)
- f. Global Protocol for Community-scale Greenhouse Gas Emission Inventories
- g. City of Nanaimo Climate Resiliency Strategy (2020)
- h. Leadership in Asset Management Program
- i. Urban Forest Management Strategy (2010)