



**AGENDA
ENVIRONMENT COMMITTEE**

Wednesday, January 22, 2020, 5:00 P.M. - 7:00 P.M.

Training Room, 2nd Floor

455 Wallace Street, Nanaimo, BC V9R 5J6

[NOTE: This meeting has been rescheduled from 2020-JAN-15.]

	Pages
1. CALL THE MEETING OF THE ENVIRONMENT COMMITTEE TO ORDER:	
2. INTRODUCTION OF LATE ITEMS:	
3. ADOPTION OF AGENDA:	
4. ADOPTION OF MINUTES:	
a. Minutes	1 - 4
Minutes of the Environment Committee Meeting held in the Boardroom, Service and Resource Centre, Nanaimo, BC on Wednesday, 2019-NOV-20 at 5:00 p.m.	
5. PRESENTATIONS:	
6. DELEGATIONS:	
7. REPORTS:	
a. 2020 Environment Committee Workplan	5 - 8
To be introduced by Rob Lawrance, Environmental Planner.	
<i>Purpose: To provide the Environment Committee with a draft workplan for consideration and recommendation to Council.</i>	
Recommendation: That the Environment Committee recommend that Council endorse the draft 2020 Environment Committee Workplan.	

b. Draft Scope of Work: 2050 Nanaimo Climate Action Plan

9 - 17

To be introduced by Rob Lawrance, Environmental Planner.

Purpose: To receive feedback and comment on a draft Terms of Reference for the 2050 Nanaimo Climate Action Plan.

Recommendation: That the Committee provide input and comment on the scope of work for the 2050 Nanaimo Climate Action Plan.

c. Approved 2020 Environment Committee Key Date Calendar

18 - 18

To be introduced by Sky Snelgrove, Deputy Corporate Officer.

Purpose: To provide the Environment Committee with their adopted 2020 Key Date Calendar.

8. OTHER BUSINESS:

9. QUESTION PERIOD:

10. ADJOURNMENT:

MINUTES
ENVIRONMENT COMMITTEE MEETING
BOARD ROOM, SERVICE AND RESOURCE CENTRE
411 DUNSMUIR STREET, NANAIMO, BC
WEDNESDAY, 2019-NOV-20, AT 5:00 P.M.

Present: Councillor T. Brown, Chair
D. Chen
H. DesRoches
L. Frey
J. Lesemann
L. McCunn
W. Wells

Absent: Councillor B. Geselbracht
E. Boulanger

Staff: D. Lindsay, General Manager, Development Services
B. Sims, General Manager, Engineering and Public Works
R. Lawrence, Environmental Planner
J. Holm, Director, Development Approvals
S. Snelgrove, Deputy Corporate Officer
K. Gerard, Recording Secretary

1. CALL THE ENVIRONMENT COMMITTEE MEETING TO ORDER:

The Environment Committee Meeting was called to order at 5:00 p.m.

2. ADOPTION OF AGENDA:

It was moved and seconded that the Agenda be adopted. The motion carried unanimously.

3. ADOPTION OF MINUTES:

It was moved and seconded that the Minutes of the Environment Committee Meeting held in the Boardroom, Service and Resource Centre, 411 Dunsmuir Street, Nanaimo, BC, on Tuesday, 2019-OCT-29 at 5:00 p.m. be adopted as circulated. The motion carried unanimously.

4. REPORTS:

(a) 2020 Environment Committee Key Date Calendar

Introduced by Sky Snelgrove, Deputy Corporate Officer, Legislative Services.

It was moved and seconded that the Environment Committee recommend that Council adopt the 2020 Environment Committee Key Date Calendar. The motion carried unanimously.

(b) Overview of Climate Action and Environmental Management in the City of Nanaimo

Introduced by Dale Lindsay, General Manager, Development Services.

Presentation:

1. Rob Lawrance, Environmental Planner, provided a presentation regarding the following:
 - Implementation of climate emergency declaration plan is one piece which lead into discussion to terms of reference, where does the Committee want go and initiatives in the community that the city may be missing
 - Legislative framework:
 - Federal: *Fisheries Act, Species at Risk Act*
 - Provincial: *Wildlife Act, Riparian Areas Regulation Act, Water Sustainability Act and Contaminated Site Regulation*
 - Regional District of Nanaimo: Regional Growth Strategy, OCP, Water Conservation Strategy, Parks Master Plan, Bylaw and Council Policy
 - City of Nanaimo plans/strategies, bylaws and Council policies
 - Riparian areas protection required under *Riparian Area Protection Act* to protect fish and habitat
 - Environmentally sensitive areas: non-fish bearing watercourses and wetlands, terrestrial herbaceous, older forest and critical habitat protection
 - Urban Forestry – benefits of a well-functioning urban forest are environmental, social and economic
 - 2010 Urban Forestry Management Strategy developed to improve forest, vegetation and ecosystem, identified need for a new tree bylaw, established goal of increasing tree canopy coverage by 4% over 10 years
 - “Management and Protection of Trees Bylaw 2013 No. 7126” allows home owner to remove up to four non “protected” trees in a year without a permit, other program and projects regarding tree planning are also underway
 - Provided an overview of policies and guidelines for stormwater management including Stormwater management projects include: Longwood Station, Hawthorne Subdivision and Greenrock Industrial Subdivision
 - Adoption of Manual of Engineering Standards and Specifications (MoESS) Section 7 in November, 2016 for Stormwater Management, evolved to look at more environmentally friendly materials
 - Provided an overview of Sanitation Services including current services, regulatory framework and plans going forward

Committee discussion took place regarding the role of the new Zero Waste Coordinator, soft plastics and glass being included in curbside recycling and contamination of compost materials.

Rob Lawrance, Environmental Planner, continued the presentation:

- Fleet initiatives to date include:
 - Installing automated fuel management system
 - Implemented a preventive maintenance system
 - Anti-idling policy
 - Car pool program
 - Adopted bio-diesel 5 blend in 2009
- 17% decrease in diesel fuel used in 2007 – 2018 and 4% decrease in gasoline used in 2008 – 2018
- 22% fleet is using alternative fuels and 29% fleet is using Bio-Diesel
- Current Initiatives:
 - Partnering with neighbouring municipalities
 - Right-sizing vehicles at time of purchase
 - Evaluating preventative maintenance program
 - Fuel consumption reports
 - Developing Corporate Green Fleet Strategy
- Goal to prepare formal Fleet Strategy for Council and join E3 Fleet challenge program in the future
- Energy Recover Facility at Reservoir No. 1 generated an average of \$7,600/month from electricity production
- South Fork Dam requirements for water flow and methods used for managing water usage
- Average water demands in City of Nanaimo have decreased by 10% in the last five years, lower than Canadian average
- Future expansion of South Fork Dam and prediction of longer drier summers
- Provided an overview of ecosystems found in parks and examples of rare species in Nanaimo Parks – Vancouver Island Beggartricks
- Restoration projects in parks – Bowen Park side channel, knotweed/hogweed control, education and awareness
- Buttertubs March Conservation Area – 55HA wetland co-managed by the Nature Trust of BC, Ducks Unlimited and City of Nanaimo, restore, conserve and ensure that the public can enjoy these areas
- Other programs include Partners in Parks, Woodstream Park, Broom Busters and Adopt a Park Program
- Provided an update on climate action: relevant policies, corporate versus community greenhouse gas emissions
- Corporate Energy and Emissions – reduced emissions by 42% over the past 10 years, received \$1.93M in incentives, annual energy and cost savings of \$1.1M
- Corporate Energy and Emissions moving forward:
 - Update Energy Conservation and Management Policy
 - Update 2007 Corporate Climate Change Plan
 - Explore and implement new technologies and alternative energy options
- Actions taken regarding community energy and emissions
- Climate Resiliency Strategy includes two parts: Sea Level Rise Mapping Study and Climate Resiliency Study

- Methods for encouraging emission reductions – education/outreach, non-financial incentives, financial incentives and regulation
- Goals include creating actions that meet climate change targets, communication and engagement with the public

Committee discussion took place regarding:

- Focusing on and targeting measures that can be taken community wide to lessen impact on climate change
- Promoting parks and green spaces to the public and tourists

It was moved and seconded that the Environment Committee receive the report and presentation titled “Overview of Climate Action and Environmental Management in the City of Nanaimo” dated 2019-NOV-20, for information. The motion carried unanimously.

(c) Discussion Regarding Implementing the City's Climate Emergency Declaration

Dale Lindsay, General Manager, Development Services, advised that the Official Community Plan (OCP) and other policy documents will be reviewed in the new year and that a public engagement session will be included in that review. The Climate Action Plan may be included in the new OCP and the Environment Committee will be asked for input during the review.

5. ADJOURNMENT:

It was moved and seconded at 7:01 p.m. that the meeting terminate. The motion carried unanimously.

CERTIFIED CORRECT:

CHAIR

CORPORATE OFFICER

DATE OF MEETING | JANUARY 15, 2020 |

AUTHORED BY | ROB LAWRANCE, ENVIRONMENTAL PLANNER |

SUBJECT | **2020 ENVIRONMENT COMMITTEE WORKPLAN** |

OVERVIEW

Purpose of Report

To provide the Environment Committee with a draft workplan for consideration and recommendation to Council. |

Recommendation

That the Environment Committee recommend that Council endorse the draft 2020 Environment Committee Workplan.

BACKGROUND

The City of Nanaimo Environment Committee’s mandate includes offering innovative ideas and providing advice (information, options, and recommendations) to Council on Climate Change, green technology, energy efficiency, urban forestry, and other topics associated with environmental sustainability in the City of Nanaimo.

The draft 2020 Environment Committee Workplan is intended to set a timeline for the Committee’s involvement in projects scheduled for 2020 that align with and further the Committee’s mandate. |

DISCUSSION

The draft 2020 Environment Committee Workplan outlined below is presented for the Committee’s consideration and recommendation to Council for endorsement.

2020 Environment Committee Workplan			
Topic	Project Lead	Overview	Introduction and Review Timeline
Nanaimo Climate Action Plan (Update the Community Sustainability Action Plan)	Development Services	Review and provide input into a draft terms of reference and provide a recommendation to Council for the final draft of the Nanaimo Climate Action Plan.	January - October 2020

2020 Environment Committee Workplan			
Topic	Project Lead	Overview	Introduction Date
Draft East Wellington Park Management Plan	Parks, Recreation and Culture	Review and provide comment on the final draft management plan for East Wellington Park.	January - March 2020
Climate Resiliency Strategy	All Departments	Review and recommend to Council on the City's Climate Resiliency Strategy.	March 2020
Residential Building Retrofit Initiative	Development Services / Environment Committee	Review and recommend a report to Council on new building energy retrofit rebates for Nanaimo.	March - May 2020
Earth Day Community Outreach	Development Services / Parks, Recreation and Culture / Environment Committee	Participate in hosting a facilitated forum, as part of Nanaimo Earth Day, for residents and environmental groups, on working with the City on environmental monitoring and restoration projects in the community.	March 2020
Strategic Planning Review (Official Community Plan, Parks, Trails and Recreation Plan, Active Transportation Plan)	All Departments	Work with staff in designing and overseeing a survey on public perceptions on the state of the City's environment. The survey will be coordinated with the public engagement process for the City Strategic Planning Review.	2020

Regional Air Quality Mapping Project	Vancouver Island University / Development Services	Review and recommend to Council, a report on the results of the Nanaimo air quality study, conducted by Vancouver Island University, on the effectiveness of the Nanaimo woodstove change-out program.	March 2020
2020 Environment Committee Workplan			
Topic	Project Lead	Overview	Introduction Date
B.C. Energy Step Code Strategy Review	Development Services	Council has referred the B.C. Energy Step Code Strategy to the Committee for review including consideration of a potentially expedited implementation plan.	May - September 2020
Natural Asset Inventory and Strategy	Engineering and Public Works / Development Services	Review and recommend to Council, a Natural Asset Management Strategy for the City.	June - September 2020
Wildlife Management Initiatives	Development Services / Parks, Recreation and Culture	Review of Council reports on Geese and Rabbit wildlife management options in the City of Nanaimo.	June 2020

Additional items that fall under the Committee's mandate may come up that require Council's attention or may be referred by Council for the Committee's consideration

SUMMARY POINTS

- The workplan is intended to show Council how the committee will meet its mandate and offer input and advice on the environment.
- Additional items that fall under the Committee's mandate may come up that require Council's attention or may be referred by Council for the Committee's consideration.

Submitted by:

Dean Mousseau
Manager, Engineering and Environment

Concurrence by:

Jeremy Holm
Director, Development Approvals

Dale Lindsay
General Manager, Development Services

Bill Sims
General Manager, Engineering and Public
Works

Richard Harding
General Manager, Parks, Recreation and
Culture

DATE OF MEETING | JANUARY 15, 2020 |

AUTHORED BY | ROB LAWRANCE, ENVIRONMENTAL PLANNER |

SUBJECT DRAFT SCOPE OF WORK: 2050 NANAIMO CLIMATE ACTION PLAN

OVERVIEW

Purpose of Report

This report to the Environment Committee is to receive feedback and comment on a draft Terms of Reference for the 2050 Nanaimo Climate Action Plan |

Recommendation

That the Committee provide input and comment on the scope of work for the 2050 Nanaimo Climate Action Plan.

BACKGROUND

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 recommended community actions, guidelines to achieve the GHG reduction targets, and training for staff to continue to maintain and update GHG inventory data going forward.

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. Subsequently, 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.

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. |

DISCUSSION

The goal of the 2050 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.

The main objective of the work will be to identify actions, 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 have the capacity to continue to maintain and update the community GHG emissions inventory, going forward.

Staff will be working with a consultant to review and update both the City Corporate Climate Change Plan (2007) and the Community Sustainability Action Plan (2012). The review will include the use of a climate and energy model, that the consultant will research, input data and develop projections for two future energy and GHG emissions scenarios:

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

It is expected the model will capture both energy supply and demand considerations in the context of economic (cost), policy and public behavior constraints. The consultant will need to incorporate applicable Corporate, Regional, Provincial, and Federal legislation, plans, policies and programs into these scenarios, as well as any knowledge of social and political acceptance of any proposed climate actions.

The overall structure of the plan will include the following five general components:

- research/ background
- emissions profiles / inventory / projections
- implications review
- recommended actions and programs
- monitoring plan.

Public engagement for the plan will be sought through targeted consultation with external stakeholders and by providing opportunity for general public to review and comment on draft actions.

Engagement with external stakeholders will focus on a consultative level. External stakeholders may be invited to participate in workshops or smaller group discussions focussing on GHG reduction policy and program development, targeting residential / commercial building retrofits and new construction and city-wide transportation.

Engagement with the public is anticipated to 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, Parks, Recreation and Culture Master Plan, and Active Transportation Plan.

Final deliverables will include:

1. 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:
 - o The BASIC+ reporting level of the Global Protocol for Community (GPC) Scale Greenhouse Gas Emission Inventories: An Accounting and Reporting Standard for Cities
2. A written report outlining methodology and results of assessments and scenario projections.
3. Implementation actions and monitoring recommendations in the body of the report and presented to staff and stakeholders.
4. Storyboards or other graphic outputs useful for clearly communicating the scenario development, results and proposed climate actions to key stakeholders, Council and the general public.

Staff are looking for input on the Committee's overall views and comment on the draft terms of reference, with specific focus on how the consultant and City staff best engage the public on the issue of climate change and in developing the 2050 Nanaimo Climate Action Plan. |

Submitted by:

Dean Mousseau |
Manager, Engineering and Environment

Concurrence by:

Jeremy Holm
Director, Development Approvals

Jeremy Holm for Dale Lindsay
General Manager, Development Services |

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)

City of Nanaimo

**ENVIRONMENT COMMITTEE
KEY DATE CALENDAR – 2020**

The Environment Committee meetings are held in the Boardroom, Service and Resource Centre, 411 Dunsmuir Street, unless otherwise stated.

Committee	Start Time	End Time	Day of the Month
Environment Committee	5:00 p.m.	7:00 p.m.	Select Wednesdays, every two months

January 1 *New Years Day*
January 15 **Environment Committee**

March 11..... **Environment Committee**

May 6 **Environment Committee**
May 18..... *Victoria Day*

July 1 *Canada Day*
July 15 **Environment Committee**

September 7..... *Labour Day*
September 9..... **Environment Committee**

November 11..... *Remembrance Day*
November 4..... **Environment Committee**

December 9..... **Environment Committee**
December 25..... *Christmas Day*