



AGENDA
ENVIRONMENT COMMITTEE

Wednesday, November 20, 2019, 5:00 P.M. - 7:00 P.M.

Board Room, Service and Resource Centre,
411 Dunsmuir Street, Nanaimo, BC

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 - 3

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.

5. PRESENTATIONS:

6. DELEGATIONS:

7. REPORTS:

a. 2020 Environment Committee Key Date Calendar

4 - 6

To be introduced by Sky Snelgrove, Deputy Corporate Officer, Legislative Services.

Purpose: To present for the Environment Committee's consideration the draft 2020 Key Date Calendar.

Recommendation: That the Environment Committee recommend that Council adopt the 2020 Environment Committee Key Date Calendar.

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

7 - 50

To be introduced by Dale Lindsay, General Manager, Development Services.

Purpose: To provide the Environment Committee with an overview of environmental practices within the City of Nanaimo.

Presentation:

1. Rob Lawrance, Environmental Planner.

Recommendation: 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.

c. Discussion Regarding Implementing the City's Climate Emergency Declaration

To be introduced by Dale Lindsay, General Manager, Development Services.

8. OTHER BUSINESS:

9. QUESTION PERIOD:

10. ADJOURNMENT:

MINUTES
ENVIRONMENT COMMITTEE MEETING
BOARD ROOM, SERVICE AND RESOURCE CENTRE
411 DUNSMUIR STREET, NANAIMO, BC
TUESDAY, 2019-OCT-29, AT 5:00 P.M.

Present: Councillor B. Geselbracht (Chair)
Councillor T. Brown
E. Boulanger (arrived 5:21 p.m.)
D. Chen
H. DesRoches
L. Frey
J. Lesemann
L. McCunn
W. Wells

Staff: J. Rudolph, Chief Administrative Officer
R. J. Harding, General Manager, Parks, Recreation and Culture
D. Lindsay, General Manager, Development Services
B. Sims, General Manager, Engineering and Public Works (vacated
6:07 p.m.)
S. Gurrie, Director, Legislative Services
S. Snelgrove, Deputy Corporate Officer (vacated 5:31 p.m.)
K. Gerard, Recording Secretary

1. CALL THE ENVIRONMENT COMMITTEE MEETING TO ORDER:

The Environment Committee Meeting was called to order at 5:03 p.m.

2. ADOPTION OF AGENDA:

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

3. REPORTS:

(a) Introductions

Councillor Geselbracht and Councillor Brown introduced themselves and stated their interest in the Environment Committee and their goals for the committee.

1. Environment Committee members introduced themselves and stated their interest and goals for the Environment Committee.

E. Boulanger entered the Boardroom at 5:21 p.m.

2. City of Nanaimo Staff introduced themselves and explained their role regarding the Environment Committee, their background and work in relation to the environment, sustainability and initiatives each departments has taken to protect the natural areas and climate change.

(b) Meeting Procedures

Introduced by Sheila Gurrie, Director, Legislative Services.

Sky Snelgrove, Deputy Corporate Officer, provided the Environment Committee with a presentation regarding:

- Committee operating guidelines including roles of Committee members
- Council Procedure Bylaw 2018 No. 7272
- Committee proceedings
- Meeting basics including agenda printing timeline and quorum
- Presentations and delegations
- Motions and Minutes
- Notice of Motion procedures and closed meetings
- Question Period

S. Snelgrove vacated the Boardroom at 5:31 p.m.

(c) Terms of Reference

Dale Lindsay, General Manager, Development Services, provided committee members with an overview of the Terms of Reference, which included the following information:

- Bylaws and policies that will be brought forward to the committee by different departments, such as building code policies
- Capital and pilot projects to promote energy efficiency and environmental sustainability will be reviewed by the committee for input and recommendations to Council such as the Transportation Master Plan, BC Energy Step Code and the Complete Streets initiative

(d) Next Meeting Date

Introduced by Sheila Gurrie, Director, Legislative Services.

It was moved and seconded that the next Environment Committee Meeting will be held on Wednesday, 2019-NOV-20, 5:00 p.m. to 7:00 p.m. in the Boardroom, Service and Resource Centre, 411 Dunsmuir Street, Nanaimo, BC. The motion carried unanimously.

(e) Future Meeting Items

Introduced by Dale Lindsay, General Manager, Development Services.

- Nov 20th – Environmental Projects/Programs Orientation
- Update on Active Transportation Masterplan and Complete Streets program
- Climate Resiliency Strategy
- Global Covenant of Mayors for Climate and Energy

Committee discussion took place regarding:

- Cycle of recycling materials: from pick up to drop off
- Discuss creating a “one-stop shop” regarding green initiatives, resources and groups in Nanaimo working toward environment sustainability and protection of natural areas
- Creating a environmental expo or fair where developers, environmental groups, youth and others will be brought together with awards given out for green initiatives in the community
- Communicating with Snuneymuxw First Nations
- Creating a webpage or communication strategy to showcase what the City is doing regarding environmental sustainability and future initiatives
- Creating a survey for residents regarding environmental issues
- Where can community members and residents go to see what is being done and how to join environmental resources/groups
- Promoting active transportation and creating an active transportation route map for all of Nanaimo

B. Sims vacated the Boardroom at 6:07 p.m.

- Invite other environmental groups to the Environment Committee meetings
- Short and long term goals and initiatives for climate change
- Create relationship with School District 68 and engage youth and school councils in green initiatives within the schools
- Research and communicate with other municipalities regarding green initiatives
- Look into encouraging strata type residential units to implement an organics recycling program

4. ADJOURNMENT:

It was moved and seconded at 6:21 p.m. that the meeting terminate. The motion carried unanimously.

CHAIR

CERTIFIED CORRECT:

CORPORATE OFFICER

DATE OF MEETING | NOVEMBER 20, 2019 |

AUTHORED BY | KELLY GERARD, STENO, LEGISLATIVE SERVICES |

SUBJECT 2020 ENVIRONMENT COMMITTEE KEY DATE CALENDAR

OVERVIEW

Purpose of Report

| To present for the Environment Committee's consideration the draft 2020 Key Date Calendar. |

Recommendation

That the Environment Committee recommend that Council adopt the 2020 Environment Committee Key Date Calendar.

BACKGROUND

| Prior to December 31st of each year, a key date calendar for the upcoming year is prepared for each Council, committee or task force. Environment Committee (the committee) meetings are held every 2 months on Wednesdays and run from 5:00 p.m. to 7:00 p.m. Meetings are held in the Service and Resource Centre, Boardroom. Depending on content and the availability of speakers, the start time of a meeting may be changed; however, if changed a notice will be provided. |

DISCUSSION

| Staff have prepared the attached key date calendar (Attachment A) for the committee's consideration. The draft Environment Committee key date calendar has been prepared in accordance with the committee's Terms of Reference.

Recent amendments to the "Council Procedure Bylaw 2018 No. 7272" include a clause that no Regular Council Meetings will be held in August to allow for a summer break. Environment Committee Meetings have not been scheduled in August in order to align with this schedule; however, special meetings may still be held, if required. |

OPTIONS.

- | 1. That the Environment Committee recommend that Council adopt the 2020 Environment Committee Key Date Calendar.
 - The advantages of this option: If adopted the key date calendar would provide meetings dates for 2020 and Staff can begin preparing for these meetings.
 - The disadvantages of this option: None identified at this time.

2. That the Environment Committee provide alternate direction regarding the 2020 Key Date Calendar.
- The advantages of this option: The Environment Committee could adjust the schedule as needed.
 - The disadvantages of this option: Delays in adopting the Environment Committee Key Date Calendar would delay meetings if not adopted before December 31st. |

SUMMARY POINTS

- Environment Committee meetings are held every 2 months on Wednesdays from 5:00 p.m. to 7:00 p.m. in the Service and Resource Centre Boardroom.
- No committee meetings are scheduled in August to align with “Council Procedure Bylaw 2018 No. 7272”
- Council, Committee and Task Force key date calendars need to be adopted by December 31st each year to avoid meeting delays.

ATTACHMENTS:

Attachment A – 2020 Environment Committee Key Date Calendar. |

Submitted by:

Sheila Gurrie
Director, Legislative Services|

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*

DATE OF MEETING | NOVEMBER 20, 2019

AUTHORED BY | ROB LAWRENCE, ENVIRONMENTAL PLANNER

**SUBJECT | OVERVIEW OF CLIMATE ACTION AND ENVIRONMENTAL
MANAGEMENT IN THE CITY OF NANAIMO**

OVERVIEW

Purpose of Report:

To provide the Environment Committee with an overview of environmental practices within the City of Nanaimo.

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.

BACKGROUND

At the Council Meeting held 2019-APR-29, Council passed a motion officially declaring a climate emergency “for the purpose of identifying and deepening our commitment to protecting our economy, our ecosystems, and our community from Global Warming.” On May 13th, the Governance and Priorities Committees received a staff presentation on the City’s climate and environmental programs and projects.

DISCUSSION

Declaring a climate emergency will challenge the City to do more to support the community to lower Greenhouse gas emissions (GHG) and prepare for a changing climate. Council identified four actions in support of the motion that include updating the City’s Community Sustainability Action Plan and revising the City’s GHG reduction targets to reflect the target goals identified in the latest Intergovernmental Panel on Climate Change (IPCC) report.

To provide better context for the Environment Committee members, it is important to understand the range of environmental management practices currently employed across the organization. There are several programs underway incorporating environmental policies addressing several different areas that have both direct and indirect impacts on the City’s response to our climate emergency declaration. Some of these practices include:

- Solid waste and recycling
- Water conservation
- Rainwater management
- Transportation
- Building and vehicle energy efficiency
- Urban forestry
- Environmental bylaw compliance
- Environmental and climate action policy development
- Ecological restoration and stewardship

Staff engage with a broad spectrum of projects, often in partnership with other governments, community groups and consultants.

Climate Action

The City of Nanaimo efforts on Climate Action has been multi-faceted. Corporately, the City has focussed on improving energy efficiency of its buildings, infrastructure and green fleet vehicles. On the community side, focus has been on improvements to transportation through the Complete Streets program, allowing for greater mobility choice throughout the City. Ongoing education and financial incentives have been available to encourage more home energy retrofits, since 2012.

The attached presentation (Attachment A), is intended to provide a high-level overview of current Climate Action and Environmental Management policies and processes in the City of Nanaimo in order to provide the Committee with an overview of the City's various Climate Action and environmental management initiatives.

SUMMARY POINTS

- The City of Nanaimo environmental policies and programs are being implemented across the organization.
- Environmental practice in the City includes solid waste and recycling, water conservation, rainwater management, transportation, building and vehicle energy efficiency, urban forestry, and ecological restoration and stewardship.
- Declaring a climate emergency will challenge the City to do more to support the community to lower GHG and prepare for a changing climate.

ATTACHMENTS

ATTACHMENT A: Presentation Slides on Environmental Roles and responsibilities |

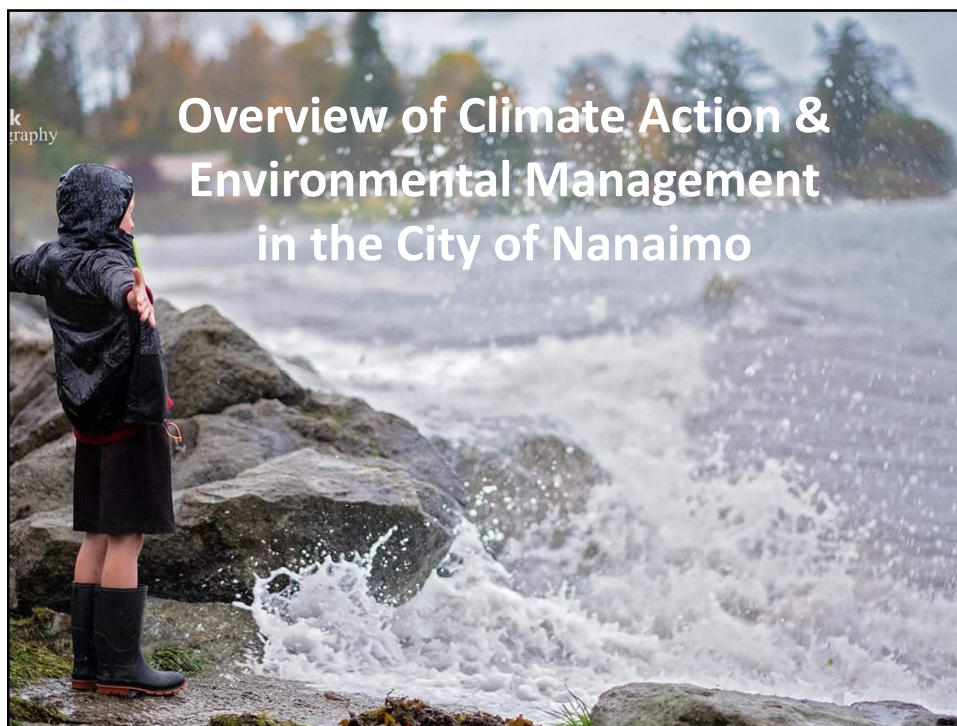
Submitted by:

Rob Lawrance
Environmental Planner |

Concurrence by:

Jeremy Holm
Director, Development Approvals

|
Dale Lindsay
General Manager, Development Services



Overview of Climate Action & Environmental Management in the City of Nanaimo

Overview of Session

- Legislative Framework
- Environmental Management
- Storm Water Management
- Operations
- Environmental Stewardship & Community Involvement
- Climate Change
- Conclusion



Legislative Framework

Federal & Provincial Legislation

Federal Legislation

- Fisheries Act
- Species at Risk Act

Provincial Legislation

- Wildlife Act
- Riparian Areas Regulation Act
- Water Sustainability Act
- Contaminated Site Regulation






Legislative Framework

Plans / Bylaws / Policies

Regional District

- Regional Growth Strategy

City of Nanaimo



- Strategic Plan
- Official Community Plan
- Water Conservation Strategy
- Water Supply Strategic Plan
- Parks Master Plan
- Transportation Master Plan
- Neighbourhood Plans

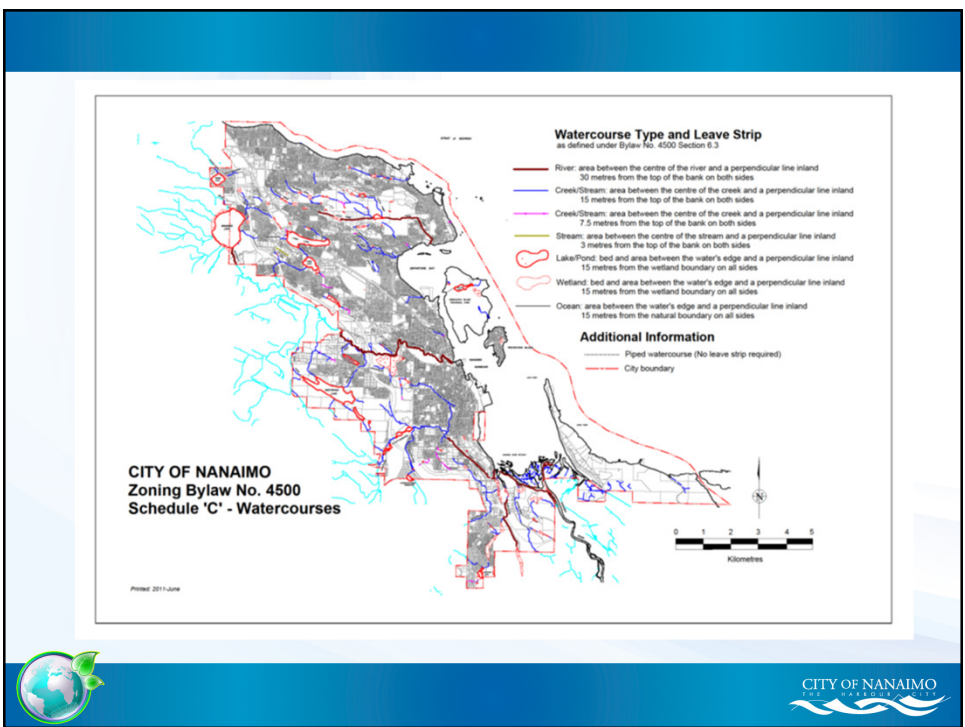
Bylaws

- Zoning Bylaw 4500
- Tree Management and Protection Bylaw No. 7126
- Pesticide Use Bylaw No. 7102
- Regional Emissions Reduction Reserve Fund Bylaw No. 7184
- Soil Removal and Depositing Bylaw 1976 No. 1747

Council Policy

- Energy Conservation and Management Policy
- Purchasing Policy
- Green Building Strategy
- Anti-Idling Policy



Environmental Management

Watercourses

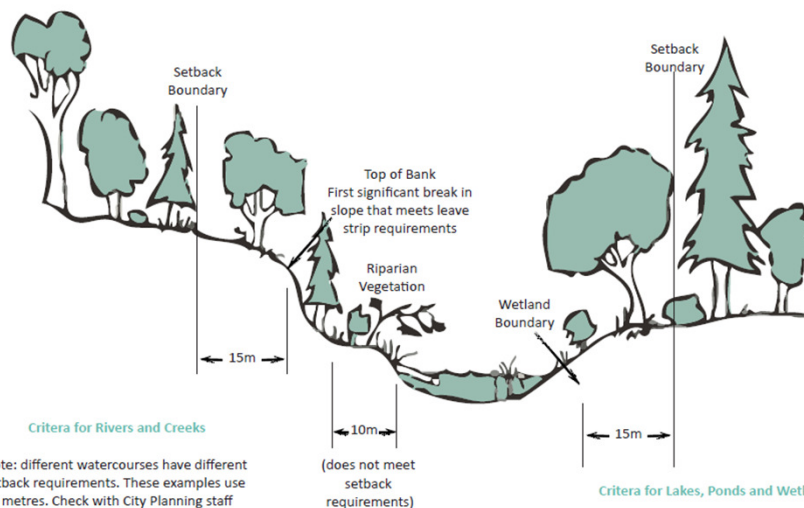
Zoning Bylaw 4500 – Watercourses – Schedule C

- 15m or 30m setback from top of bank of a stream
- 15m setback from wetland boundary of a lake or wetland
- Variances through DPA



CITY OF NANAIMO
THE NATURE CITY

Environmental Management



CITY OF NANAIMO
THE NATURE CITY

Environmental Management

Riparian Areas Protection Regulation (RAPR)

- Provincial regulation from the Riparian Area Protection Act
- For the protection of fish and fish habitat only
- Streamside Protection and Enhancement Area (SPEA) measured from high water mark
- SPEA is the minimum protection to avoid HADD under Fisheries Act



Environmental Management

Environmentally Sensitive DPA

- Non-fish bearing watercourses and wetlands
- Terrestrial herbaceous
- Older forest
- SARA (critical habitat protection) and Red/Yellow listed species



Environmental Management Environmentally Sensitive DPA

Process

- Development application
- Request environmental assessment be completed by Qualified Environmental Professional (RPBio)
- Assessment review by staff
- ESA protection through DP conditions



Urban Forestry



Urban Forestry

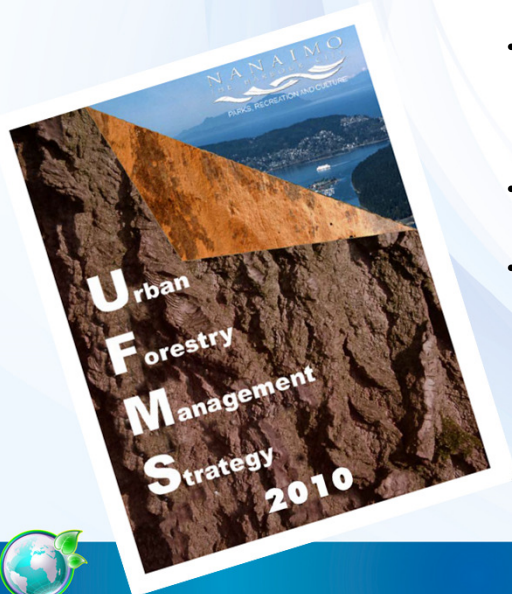
Benefits of a well-functioning Urban Forest

- Environmental
 - Sequester Carbon
 - Mitigate Flooding
 - Improve water quality
- Social
 - Create sense of place
 - Mental and Physical Health
 - Food Security
- Economic
 - Natural Asset
 - Extends life of Infrastructure
 - Reduce heating and cooling costs



CITY OF NANAIMO
THE PACIFIC NORTHWEST

Urban Forestry



- Developed to fulfill the need for better forest, vegetation and ecosystem management throughout the City.
- Identified the need for a new tree bylaw
- Established a goal of increasing tree canopy coverage by 4% over ten years



CITY OF NANAIMO
THE PACIFIC NORTHWEST

Urban Forestry

Bylaw No. 7126 Management & Protection of Trees within the City of Nanaimo



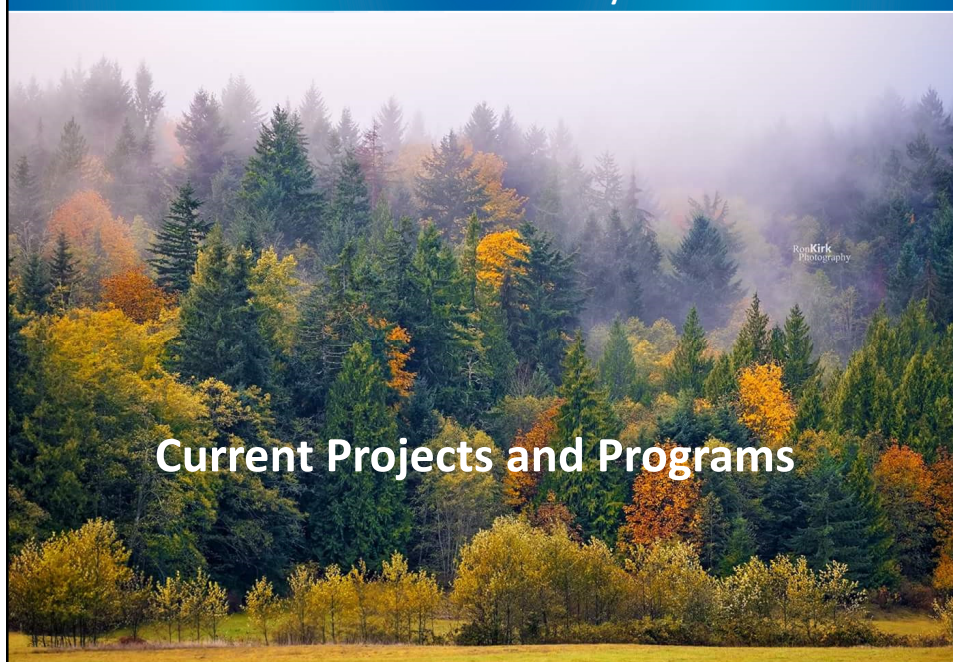
- Adopted in 2013
- A home owner is allowed to **remove up to 4** non “protected” trees in a calendar year without a permit.
- If a permit is required, replacement trees must be replanted.
- If a parcel of land being developed is **over 0.5ha in size, 20% of the trees onsite** must be retained.

It takes many years for a tree planted today to provide the same environmental benefits as retaining a mature tree.



CITY OF NANAIMO
Forest Management

Urban Forestry



Current Projects and Programs

Urban Forestry



1300 Vouchers sold since 2017!
Funded by money collected through
fines, permits and development.



CITY OF NANAIMO
THE HARBOUR CITY

Urban Forestry

Beaufort Food Forest

- Planted in December 2017.
- Collaboration between the City, Neighborhood, MYCDC, and BC Hydro Greening Grant.
- 59 fruit and nut trees and many edible shrubs.
- Watering done by City Park staff and volunteers.
- Will serve to provide, food security, forest cover, educational opportunities, sense of community, wildlife habitat, recreation.

BEAUFORT PARK FOOD FOREST

These gardens were designed to demonstrate edible landscaping in the City.

A Food Forest is intended to mimic a natural forest ecosystem with plants chosen and located around the trees in a way that helps support and sustain them. Many of the plants you will see are chosen to act as pollinator attractors, nutrient accumulators and soil stabilizers.

- Be gentle when picking fruit
- Be respectful of all users in this space
- During summer months, help us keep our "gator" bags filled with water

We welcome everyone to enjoy this space and to enjoy the food it provides.

Interested in helping out at the Beaufort Forest? Contact us!

Beaufort Food Forest Tree List

APPLES: According to local climate, apples are the most common fruit to grow in the Beaufort Food Forest. They were planted throughout the country by the government who are then now, instead of being sold as fruit, they are sold as food.

CHERRIES: Sweet cherries are a popular fruit to grow in the Beaufort Food Forest. They were planted throughout the country by the government who are then now, instead of being sold as fruit, they are sold as food.

PEARS: Pears are a popular fruit to grow in the Beaufort Food Forest. They were planted throughout the country by the government who are then now, instead of being sold as fruit, they are sold as food.

PLUMS: Plums are a popular fruit to grow in the Beaufort Food Forest. They were planted throughout the country by the government who are then now, instead of being sold as fruit, they are sold as food.

OTHER TREES: Other trees that are planted in the Beaufort Food Forest include: Apples, cherries, pears, plums, and more.

CITY OF NANAIMO
www.nanaimo.ca • 250-756-5200 • parksandcreation@nanaimo.ca



CITY OF NANAIMO
THE HARBOUR CITY

Urban Forestry

Shaw Tree Planting Grant

- Administered through Tree Canada, Shaw provided \$3000.00 for materials and 30 volunteers.
- 250 trees and shrubs planted.
- Reforested the top of the bank along the Millstone.



Stormwater Management

Overview of Policies and Guidelines

- OCP
- Stormwater Management in Nanaimo Guidelines
- Steep Slope Development Guidelines
- Stormwater Planning Guidebook
- ISMP's (Wexford & Walley)
- MoESS Section 7



Stormwater Management

Project Highlights

Longwood Station



CITY OF NANAIMO
THE PASSION FOR LIFE

Stormwater Management

Project Highlights

Hawthorne Subdivision



CITY OF NANAIMO
THE PASSION FOR LIFE

Stormwater Management

Project Highlights Greenrock Industrial Subdivision







Stormwater Management

Adoption of MoESS Section 7

November, 2016

- Capture, retain, infiltrate or reuse 6-Month, 24-hour rainfall (31mm +/-)
- Detain for areas that discharge into watercourses to minimize erosion
- Treatment to remove 90% of suspended particles
- Account for climate change

Stormwater Management

Ongoing Collaboration & Implementation

- Continuing to refine development requirements
- Collaboration with Parks & Recreation and E&PW to identify opportunities
- Review and recommend bylaw amendments to Council



CITY OF NANAIMO
THE PASTORAL CITY

Sanitation Services

- Service Levels
- Regulatory Framework
- Looking Forward



CITY OF NANAIMO
THE PASTORAL CITY

Sanitation Services

GREEN CART
(Yard & Food Waste)

Weekly



BLUE CART
(Recyclables)

Biweekly



BLACK CART
(Garbage/Landfill)

Biweekly



The blue and black carts are collected at the curb every other week. One week you will put out the green and blue carts at the curb. The next week, the green and black carts.



Cart location and accessibility



100+ streetside receptacles -primarily downtown

28,962 households

+361 in Q1 2019

+443 in H2 2018






Sanitation Services

Regulatory Framework

Waste Management Act

- Includes Recycling Regulation (EPR Programs)
- Requires Regional Districts to develop Solid Waste Management Plans and update regularly – RDN waiting approval on latest update

Local Government Act

- Confers authority on Regional Districts to establish bylaws related to services and facilities
- Does not impede Municipalities from setting higher standards

Solid Waste Management Plan



- Sets regional goals, targets, and programs
- Applies to private and public sector activities

City of Nanaimo Bylaw 7128

- Municipal Solid Waste Collection Bylaw
- Last update 2018-DEC-17
- Sets service levels, rates, and requirements related to municipal collection services

RecycleBC Collection Contract

- EPR Stewardship Agency under the Recycling Regulation
- Contract with City to collect recyclables from eligible curbside households. Expires ?

Sanitation Services

Looking Forward

- New programs included in the RDN Solid Waste Management Plan
- What's in the garbage? – **waste composition study**
- Promote use of the **NanaimoRecycles** App as a primary information source for residents
- Improve collection efficiency through routing optimization
- Continue **citizen engagement** education through hiring of Zero Waste Coordinator
- Monitor safety outcomes associated with automation implementation
- Plan for new resources as the City grows



CITY OF NANAIMO
THE PASTORAL CITY

Fleet Operations



City of Nanaimo

Green Fleet






CITY OF NANAIMO
THE PASTORAL CITY

Nanaimo's Fleet

Fleet Services repairs and maintains over 400 vehicles and equipment

Compact cars to fire rescue equipment



CITY OF NANAIMO
THE CASCADIAN ADVANTAGE

Initiatives to Date

Alternative fuel vehicles

- 4 Hybrid
- 21 Propane / CNG pickup trucks
- 9 CNG garbage truck fleet
- 5 fully electric cars
- 5 fully electric ice resurfacing machines



CITY OF NANAIMO
THE CASCADIAN ADVANTAGE

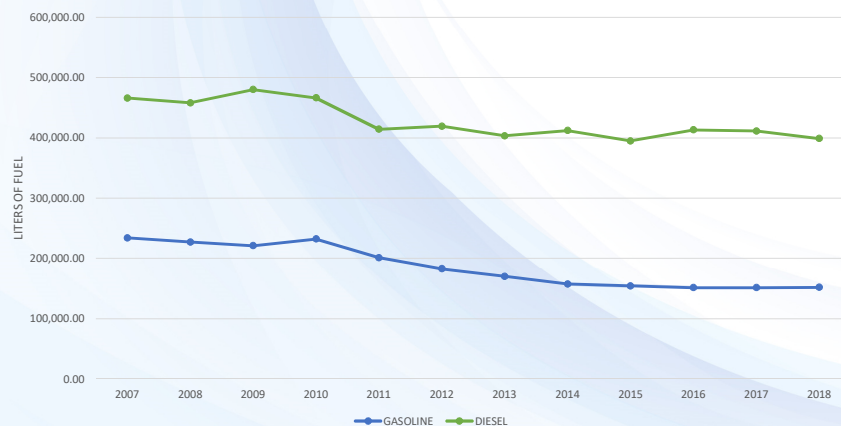
Initiatives to Date

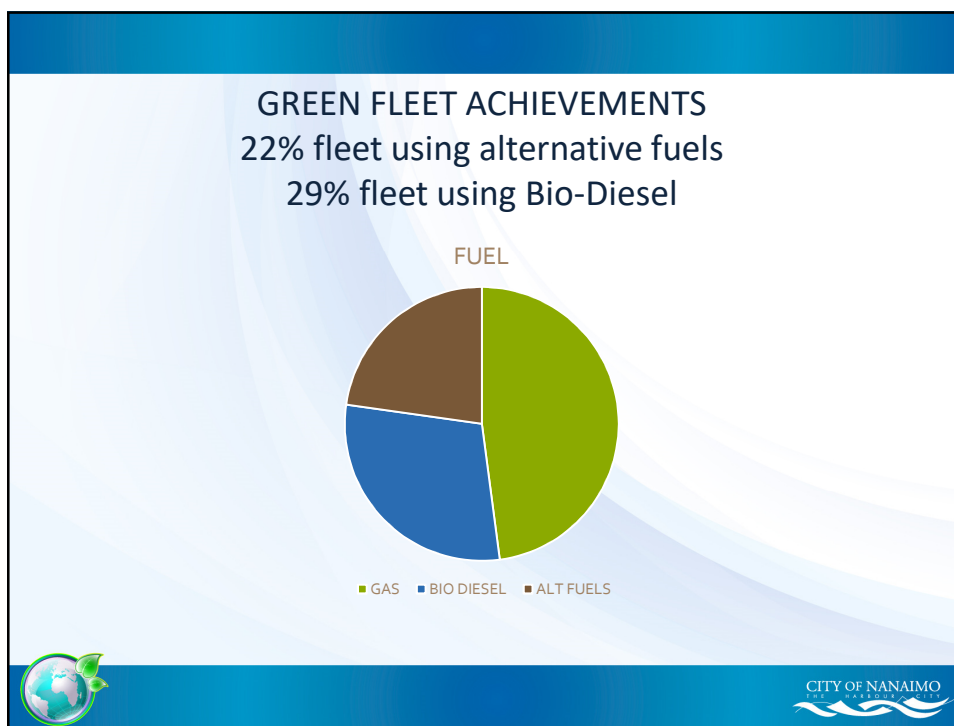
- Installed automated fuel management system
- Implemented a preventive maintenance system
- Adopted a corporate anti-idling policy in 2007
- Implemented a pool car program in 2008
- Adopted bio-diesel 5 blend in 2009



17% Decrease in Diesel fuel used 2007-2018 4% Decrease in gasoline used 2007-2018




10 YEAR DIESEL & GASOLINE USAGE





Current Initiatives

- Partnering with neighbouring municipalities to share best practices
- Right-sizing vehicles at time of purchase
- Annually evaluating the preventative maintenance program
- Provide fuel consumption reports to departments
- Assessing 10 year purchase of vehicles for potential alternative fuel vehicles
- Currently developing a **Corporate Green Fleet Strategy**

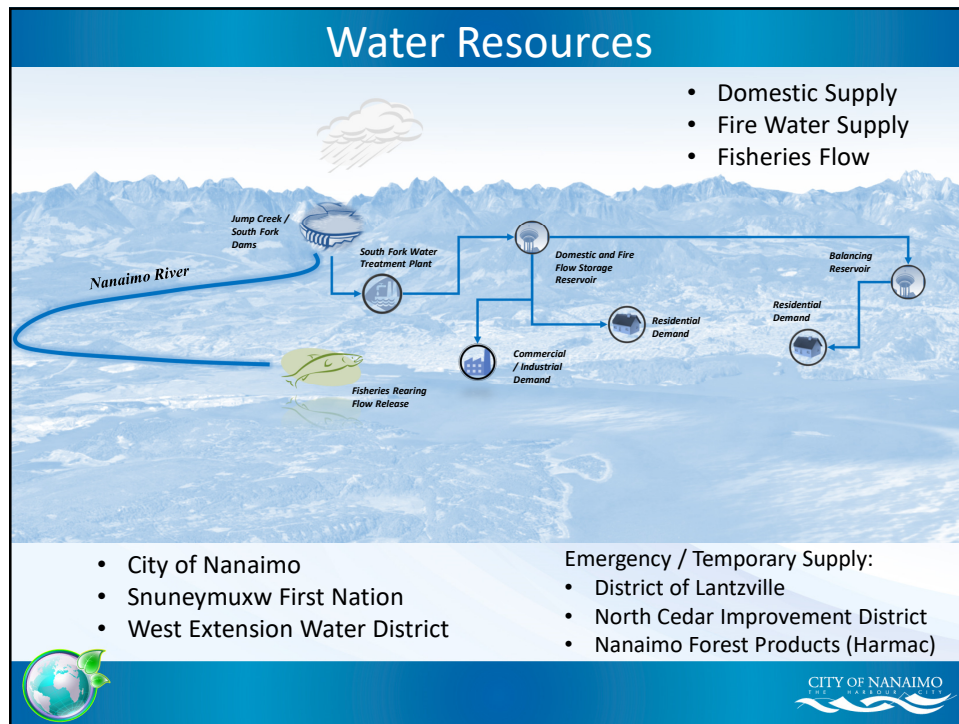
Future Goals

- Preparation of formal Fleet Strategy for Council
- Joining the **E3 Fleet challenge program**
- Complete a Corporate Green Fleet Strategy with data provided from E3 Fleet review



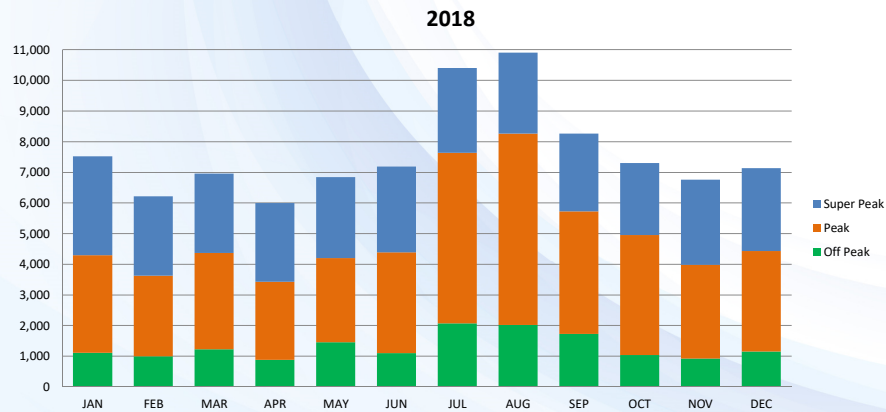
Water Resources





Energy Recovery Facility

- In 2018 the Reservoir No. 1 Energy Recovery Facility generated an average of \$7,600 / month income for the City from electricity production care of BC Hydro, enough power for **60-70 residential homes** or \$91,450 for the year.



CITY OF NANAIMO
THE PASTORAL CITY

Fisheries Release

South Fork Dam – Fisheries Release:

- Min. Requirement below South Fork Dam:
0.28 m³/s (10 Olympic sized pools / day)
- Additional Requirement Downstream of the Nanaimo River Bridge (Above Nanaimo Forest Product's Water Intake),
Min. Flow: **3.9 m³/s** (138CFS)

Shared Allocations between:



Nanaimo Forest Products 75 %
City of Nanaimo 25%



CITY OF NANAIMO
THE PASTORAL CITY

Water Conservation

How do we manage and encourage efficient water use?

- Universal Water Metering (since 1983)
- Tired Billing Rate (more water use = more you pay)
- Full-cost pricing (since 1992)
- Water Audits
- Regulation of permitted uses and summer watering restrictions
- Annual user rate increases to ensure funding sustainable for major capital and ongoing operations (2007)
- Low-Flow Toilet Rebate Program / BC Hydro Rebates (since 2009)
- Computerized water system monitoring and operation (SCADA)
- 2008 Water Conservation Strategy (updated 2014)
- Instrumentation: Rainfall / Snow / River Flows
- RDN & *Team WaterSmart* partnership

**Managing
your water**



CITY OF NANAIMO
THE VANCOUVER AREA

Water Conservation

Public Education

- Partnering with the Regional District of Nanaimo Team WaterSmart program includes a Water-Wise Education component.
- School presentation tours in conjunction with Forestry companies



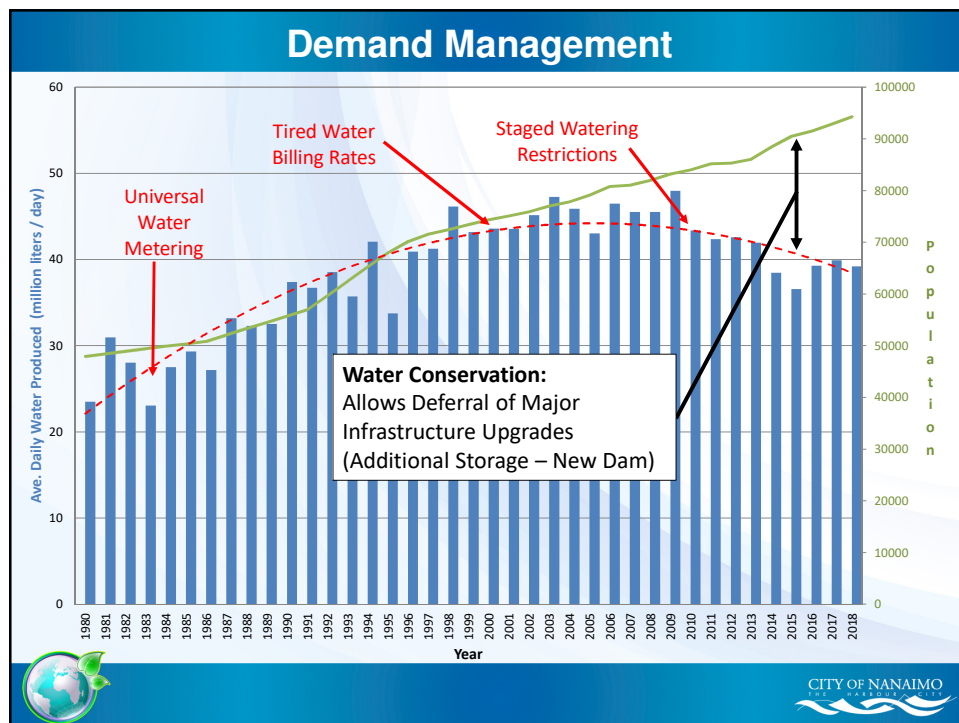
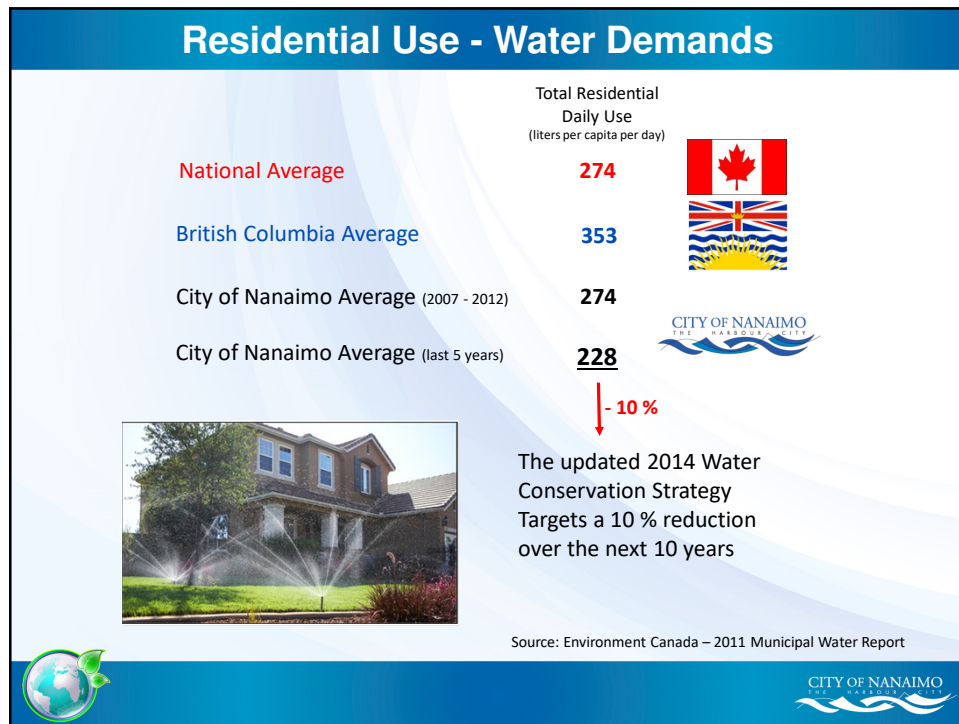
team
watersmart
because every drop counts

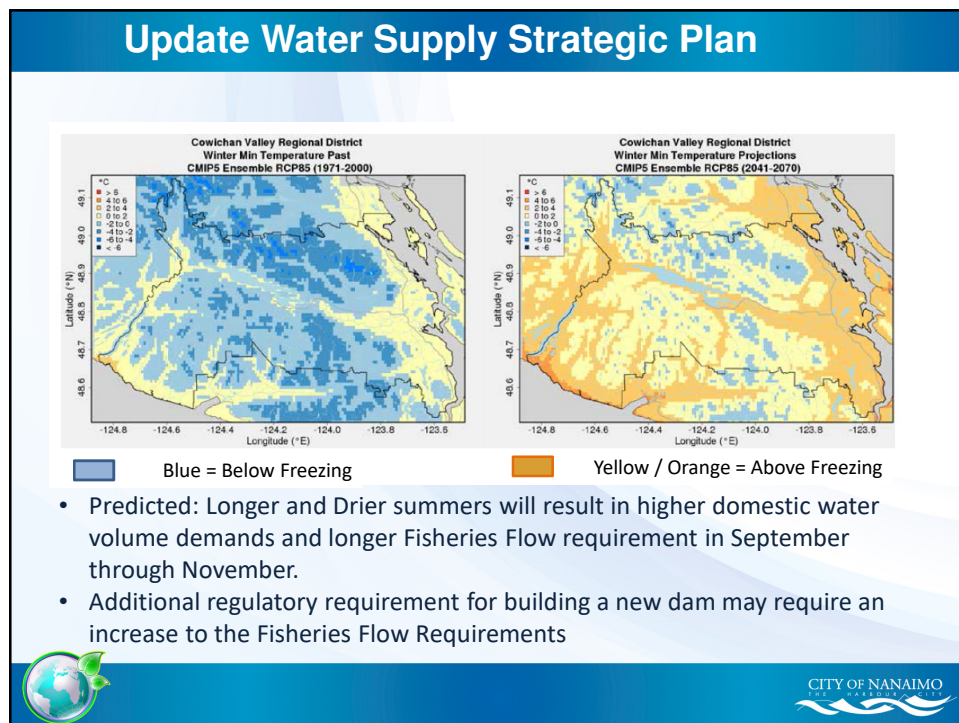
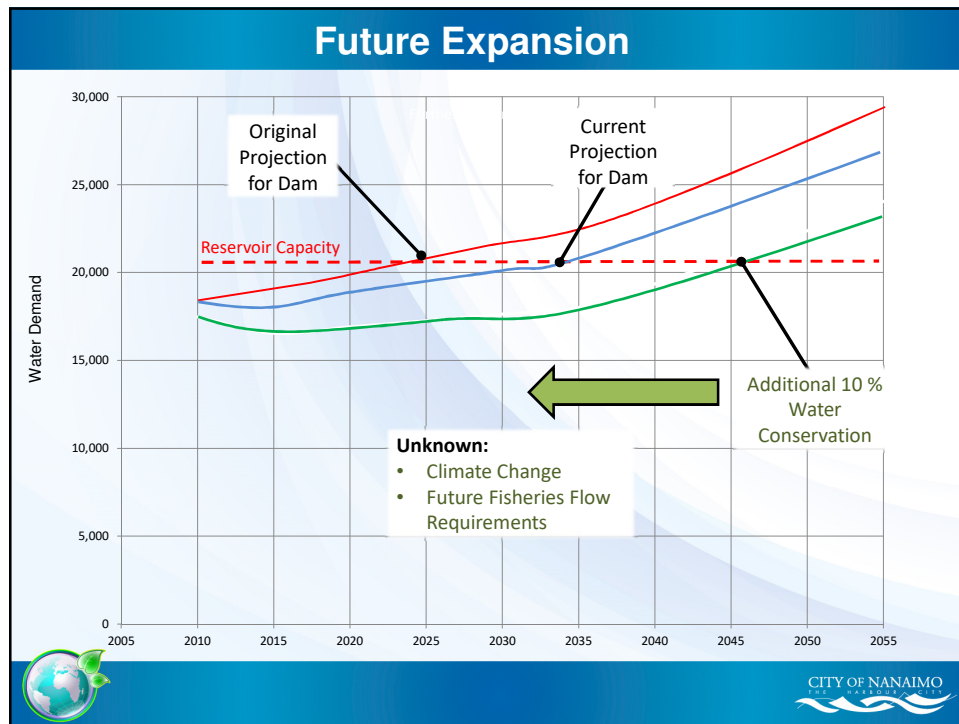


DRINKING WATER
WATERSHED
PROTECTION



CITY OF NANAIMO
THE VANCOUVER AREA





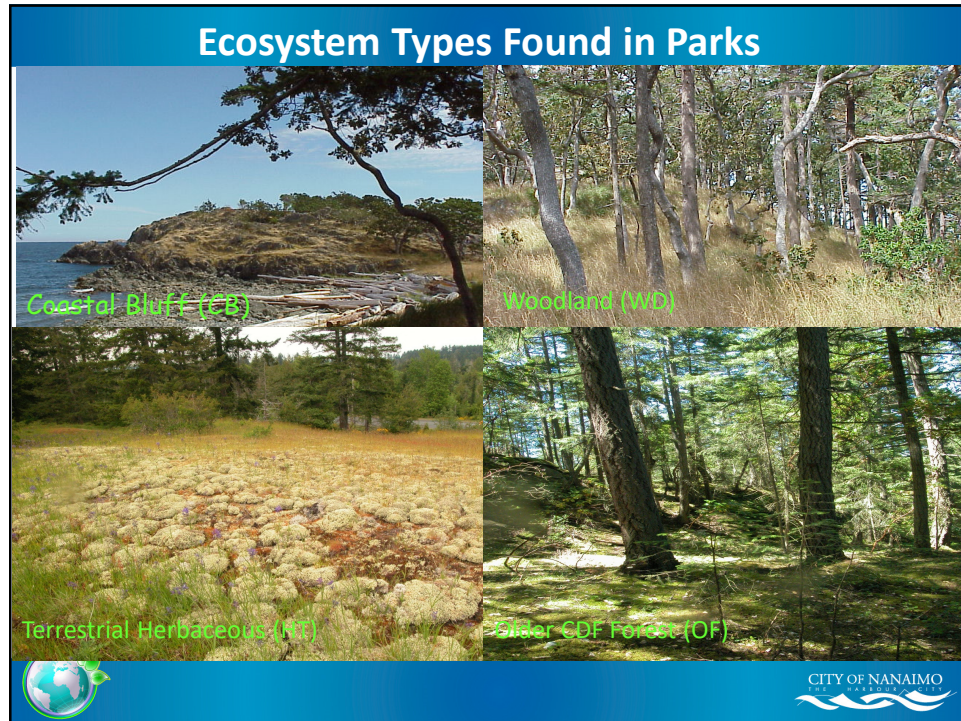


Parks Operations

Parkland in Nanaimo	
Owner	Hectares
City of Nanaimo	1079
Province	317
Nature Trust of BC	133
Other	188
Total	1717

City Parkland by Zone	
Zone	Hectares
PRC - 1	753.75
PRC - 2	192.73
PRC - 3	132.30





Parks Operations

Examples of rare species found in Nanaimo Parks



Hocksackia pinnata
Bog bird's foot trefoil



Bidens amplissima
Vancouver Island Beggartick



Aster curtus
White-top aster



CITY OF NANAIMO
THE PASTORAL CITY

Parks Operations

Restoration Projects in Parks

Vancouver Island Beggarticks

- SARA listed species
- 59 sites in BC/ Washington
- Funding awarded through Environment and Climate Change Canada
- Reintroduced to Jingle Pot (Third Street) Marsh
- Only site in Nanaimo
- 165 plants observed



CITY OF NANAIMO
THE PASTORAL CITY

Parks Operations

Restoration Projects in Parks

Bowen Park Side Channel

- In 2007, a major fish bypass channel was constructed from Deadman Falls upstream to a point above major fish barriers
- Side channel is 857 m long and contains significant fish habitat
- Ongoing partnership with Fisheries and Oceans and Vancouver Island University



CITY OF NANAIMO
THE PASTORAL CITY

Parks Operations

Restoration Projects in Parks

Knotweed / Hogweed Control

- Contract with Invasive Species Committee since 2015
- Education and Awareness
 - Coordinated between CISC and City
- Field Program (Sites Treated)
 - 140 Knotweed Sites
 - 7 Giant Hogweed Sites
- Data collected and posted to provincial database (IAPP)



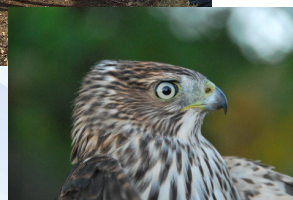
CITY OF NANAIMO
THE PASTORAL CITY

Parks Operations

Conservation Partnerships

Buttertubs Marsh Conservation Area

- 55 Ha wetland complex currently co-managed by the Nature Trust of BC, Ducks Unlimited and the City of Nanaimo
- Ongoing environmental research and training by VIU in the West Marsh of Buttertubs
- Conservation Area Management Plan adopted by Council in 2016



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THE NATURE TRUST

Parks Operations

Municipal Natural Capital Initiative:
Buttertubs Marsh Pilot Study

M
naí Making Nature Count

Buttertubs Marsh Conservation Area is a 55 HA reclaimed wetland/floodplain

Site and natural assets: Entire marsh under consideration including adjacent forest.

Emerging project model: Determine role marsh plays in mitigating localized flooding and increasing storm events; determine value of the Marsh in attenuating downstream flooding on the Millstone.

Possible outcome: developing a marsh restoration and maintenance plan built around an asset management approach.



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Parks Operations Community Outreach Partners In Parks Program (PIP)

- The Volunteers in the Park Program (VIP) was initiated by the City in 1982.
- Since then it has been renamed Partners in Parks Program (PIP) and grown to include:
 - Neighbourhood Playground Development
 - Community Gardens
 - Park Beautification and Tree Planting
 - Gatekeepers & Park Naturalists
 - Public Art
 - Invasive Plant Removal Work parties
 - Park Ambassadors
 - Adopt-A-Park Program
 - Eco Club/School Group Ecological Stewardship Projects (invasive plant removal, restoration, monitoring)



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Parks Operations

Broom Busters Partnership (2014 – 2019)

- 60 Volunteers involved in cutting flowering broom
- City coordinates broom chipping and disposal at the end of the season
- Broom cut on:
 - 33 City Parks
 - Over 50 sections of City road right of way
 - 8 Elementary Schools
 - 18 Commercial Properties



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Parks Operations

Student Ecological Stewardship Program

Examples of Student Ecological Stewardship Projects:

- Plant Identification – native and invasive
- Plant Mapping (Barefoot Mapping)
- Invasive Plant Removal
- Restoration - replanting & watering of new native plants
- Student Partnerships with NS3 and the Great Shoreline Clean Up Initiative ie. Trash to Treasures
- Involvement in the **Adopt-a-Park Program** – ongoing stewardship in one particular park



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Departure Bay Elementary School & Stream Keepers



Restoration in
Woodstream Park in 2016



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Departure Bay Elementary School & Stream Keepers



Departure Creek Realignment and Enhancement Project in 2018



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THE PASSION FOR LIFE

Dover Bay Secondary School Eco Club



Periwinkle Removal & Snowberry Planting



Tree Planting – Camas Park



Broombusting – McGirr Sports Fields



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THE PASSION FOR LIFE

MyCDC & John Barsby School

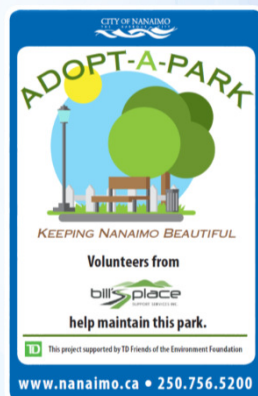


Chase River
Restoration Project



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Parks Operations Volunteer Recognition



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Climate Action in Nanaimo

1. Corporate Energy and Emissions Management
2. Community Energy and Emissions Management
3. Climate Resiliency Strategy
4. Climate Emergency Declaration
 1. Next steps and group discussion

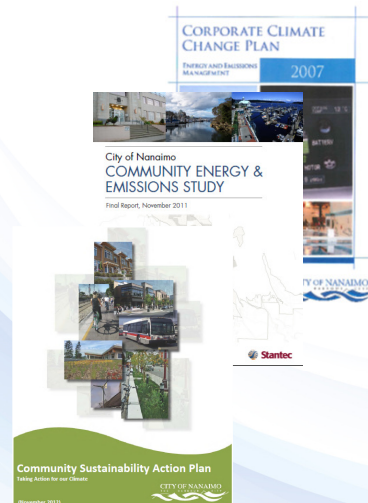


CITY OF NANAIMO
THE PAST IS OUR HISTORY

Climate Action Update

Policy Development

- Corporate Climate Action Plan (2007)
- Community Sustainability Action Plan (2012)
 - Energy Conservation and Management Policy
 - Purchasing Policy – Green Purchasing
 - Green Building Strategy
 - Anti-Idling Policy




CITY OF NANAIMO
THE PAST IS OUR HISTORY

Climate Action Update


Corporate vs. Community GHGs

Corporate Emissions





Objective:
Carbon neutral
operations since 2010
(Climate Action Charter)

Community Emissions



Objective:
Community in OCP
(LG Act, Bill 27 – 2008)

Corporate Energy and Emissions

What we are doing

- Partnerships / Programs / Agreements
- Collaboration with other departments
- Incorporating efficiency into projects
- Funding from Sustainability or General Capital Reserves
- Sharing Results
- Climate Action Revenue Incentive Reporting (CARIP)





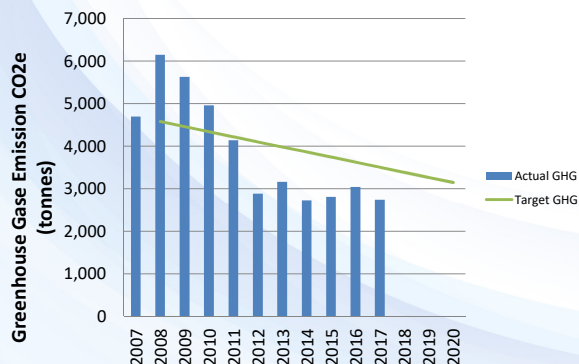

Corporate Energy and Emissions

How are we doing?

- Targets, monitoring, reporting
- Low-hanging fruit
- Program Changes
 - Conservation
 - Low Carbon Electrification

Over the past 10 years

- Reduced emissions by 42%
- Received \$1.93M in incentives
- Annual Energy & Cost Savings \$ 1.1M



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Corporate Energy and Emissions

Plans moving forward

Update :

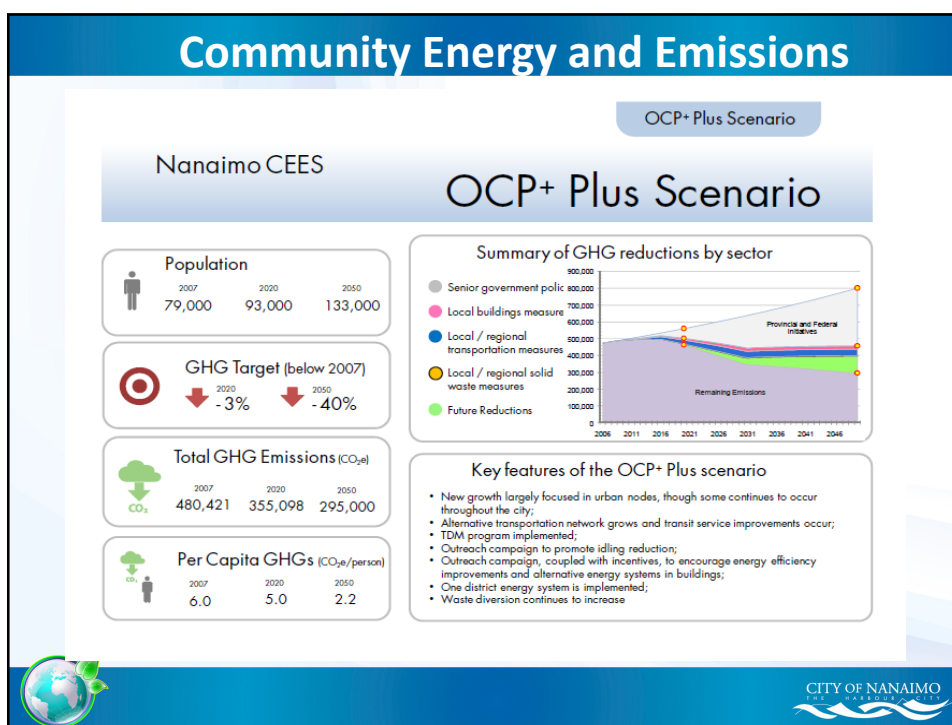
- Energy Conservation and Management Policy
- 2007 Corporate Climate Change Plan (Energy and Emissions Mgt.)

Continue to develop:

- Low Carbon Electrification – Feasibility and benefits of Retrofits and New Construction Projects
- Fleet Electrification – BC Hydro Study Funding – Charging infrastructure and vehicle options
- Explore and implement new technologies and alternative energy options



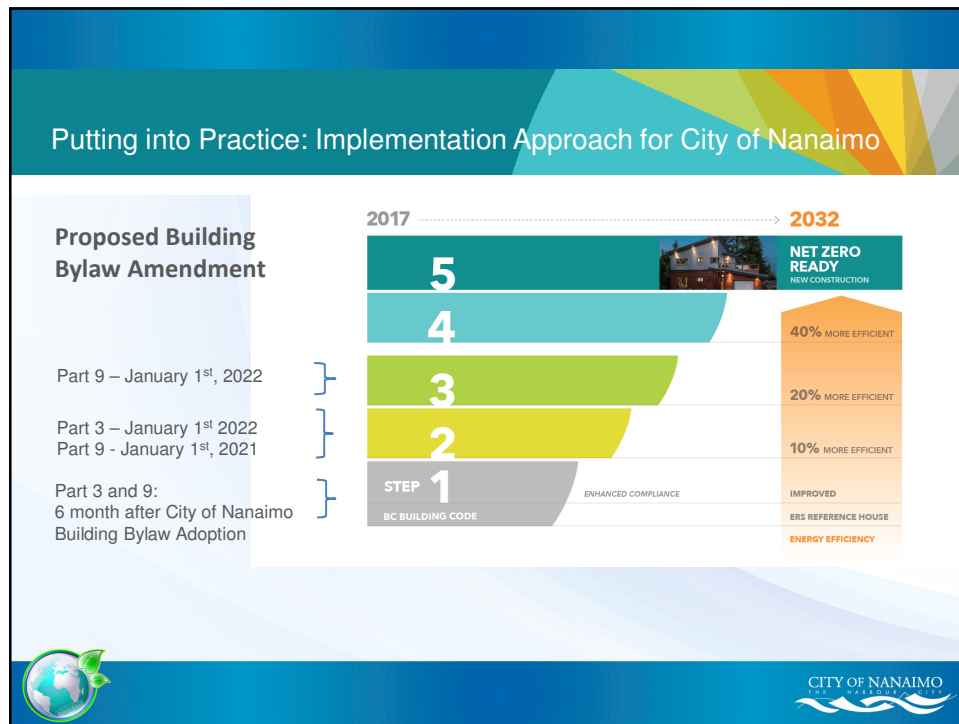
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Community Energy and Emissions

Actions Taken to Date

Theme	Strategies	Examples
Land Use and Transportation	<ul style="list-style-type: none"> Compact, Complete Community Alternative and Active Transportation Low Carbon Mobility 	<ul style="list-style-type: none"> Urban Containment Boundary OCP Policy EV Charging Fleet Greening
Buildings	<ul style="list-style-type: none"> Energy Efficient Existing Buildings Energy Efficient New Buildings 	<ul style="list-style-type: none"> Realtor Energy Efficiency Program Realtor Energy Efficiency Rebate BC Energy Step Code
Solid Waste	<ul style="list-style-type: none"> Composting / Zero Waste 	<ul style="list-style-type: none"> Sort Toss Roll





Climate Action Update

Climate Resiliency Strategy

Two parts:

- Sea Level Rise Mapping Study
 - Determines the extent of impacts of sea level rise and storm surge for 2050 and 2100 along the City's shoreline.
- Climate Resiliency Strategy
 - To identify risks and vulnerabilities affecting city land use, infrastructure, parks, public health and safety. Provide direction to help minimize or avoid the identified risks and vulnerabilities.



 CITY OF NANAIMO
THE PASTORAL CITY

Climate Action Update

Global Covenant of Mayors Covenant

The Global Covenant of Mayors Canada is a collaboration between the Federation of Canadian Municipalities, ICLEI Canada, the Global Covenant of Mayors Secretariat and the International Urban Cooperation Project supported by funding from the European Union.

The initiative combines two leading domestic climate programs, the Partners for Climate Protection (PCP) program and Building Adaptive and Resilient Communities (BARC), with the leading global climate program. Together we can further advance Canadian local climate action by adding value, opportunities and streamlined support for members.



FEDERATION OF CANADIAN MUNICIPALITIES
FÉDÉRATION CANADIENNE DES MUNICIPALITÉS



CITY OF NANAIMO
THE NANAIMO REGION

Climate Action Update

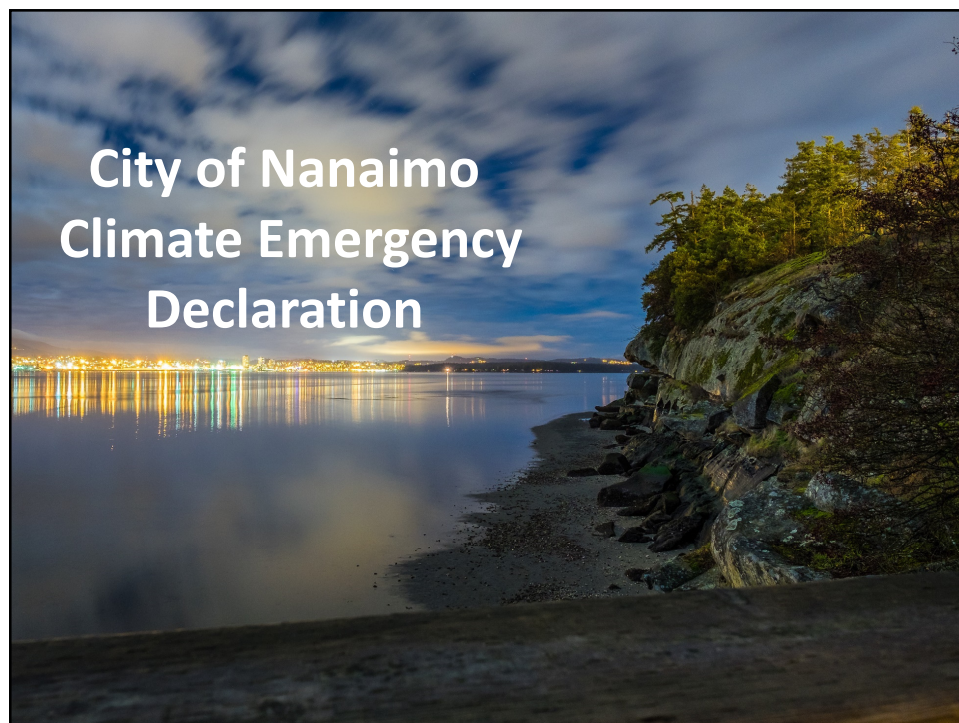
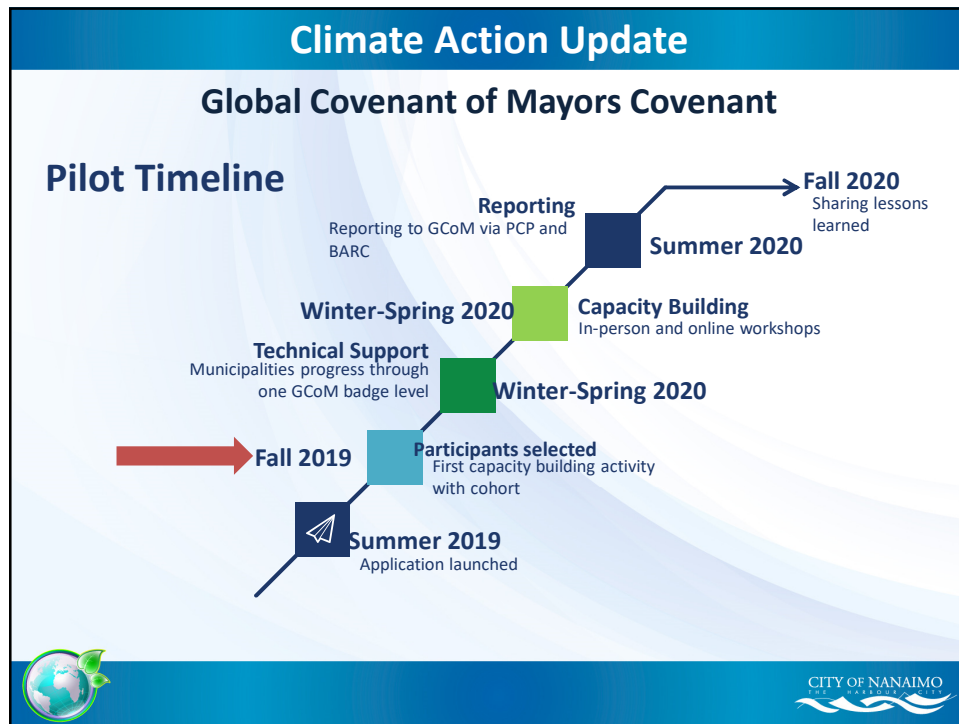
Global Covenant of Mayors Covenant

What is the Showcase Cities Pilot Project?

- Tailored **workshops** for municipal staff on themes including GHG inventories, risk and vulnerability assessments and climate change adaptation and mitigation planning
- **One-on-one support** for municipal staff working through local climate planning processes
- Assistance with reporting to the **GCoM, Partners for Climate Protection (PCP) program** and **Building Adaptive and Resilient Communities (BARC) program**
- Access to exclusive **networking opportunities** and showcasing of municipal actions nationally and internationally
- **Free of cost** for Canadian municipalities



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THE NANAIMO REGION



City of Nanaimo Climate Emergency Declaration



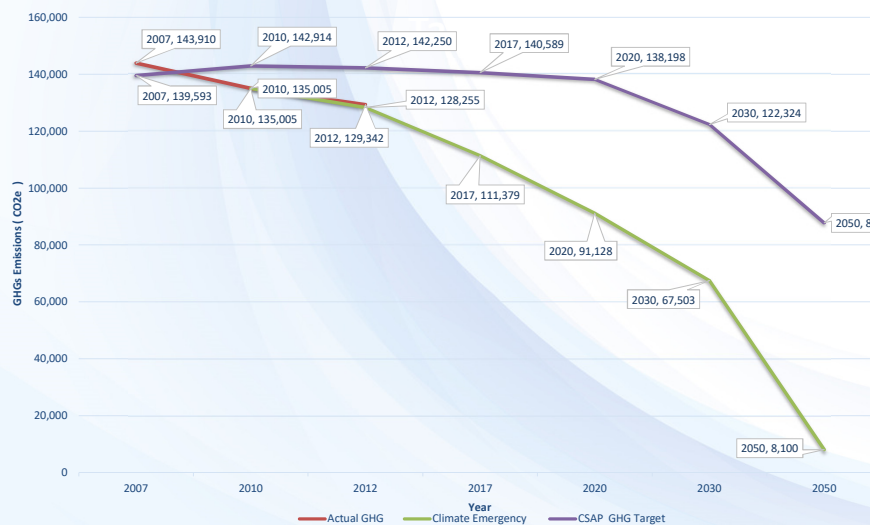
On April 29th, 2019 Council declared a Climate Emergency with the following actions:

- The Regional Emissions Reduction Reserve be moved to a new reserve fund for the purpose of supporting projects, plans and initiatives that reduce the **City of Nanaimo's community wide CO² emissions to between 50% to 58% below 2010 levels by 2030, and between 94% and 107% below 2010 levels by 2050.**
- The framework, strategies, actions, and implementation of the City of Nanaimo Community Sustainability Action Plan be updated to reflect the target goal, based on the information contained in the latest Intergovernmental Panel on Climate Change report.



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City of Nanaimo Climate Emergency Declaration Comparing Community Emission Reduction Targets



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City of Nanaimo Climate Emergency Declaration		
Making Choices on Further Action		
Policy Tool	Potential Impact	Description
Education and Outreach	Low ~ 0 – 10% uptake	<ul style="list-style-type: none"> • Low effort, low cost, low result • BUT foundations for other actions (Still necessary!)
Non-financial incentives	Low to Medium ~ 10 to 50% uptake	<ul style="list-style-type: none"> • Infrastructure / amenities to encourage action
Financial Incentives	Medium ~ 50 to 75% uptake	<ul style="list-style-type: none"> • Rebates, pricing, tax incentives • Higher cost, higher impact
Regulation	High ~ 75 to 100% uptake	<ul style="list-style-type: none"> • Requirements that are often enforced (i.e. Bylaws) • High impact

