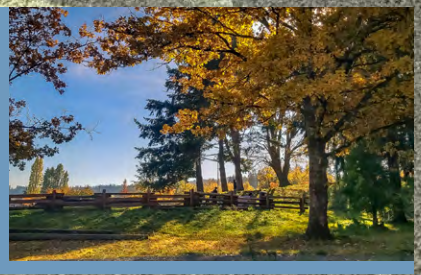
REGIONAL DISTRICT OF NANAIMO

FINAL REPORT | NOVEMBER 2021

Climate Action

Technical Advisory Committee



Executive Summary

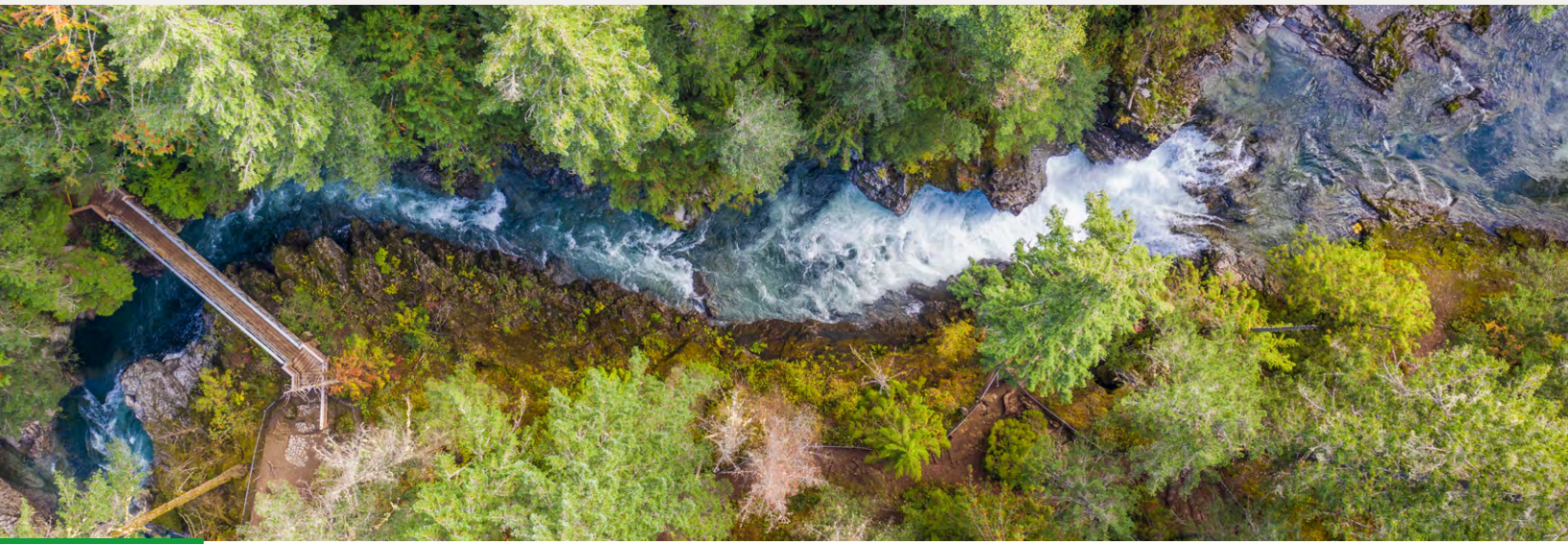
Decisions made by the Regional District of Nanaimo (RDN) and other levels of government, directly influence the vulnerability of RDN residents to the effects of climate change, and how easily residents can take action to reduce emissions and manage their risk. While the RDN considers climate change within its programming, more action is required to reduce risk and support residents in reducing emissions: the RDN response needs to reflect the severity and immediacy of the risk posed by climate change. The Climate Action Technical Advisory Committee (CATAC) recommends the following top, focused priorities for Climate Adaptation and Mitigation:

→ CATAC recommends the top three actions listed below be implemented immediately:

1 **Ensure ongoing Water Supply Resiliency, supported by Natural Asset Management**

2 **Review and update existing RDN policies and bylaws to remove barriers to climate mitigation and adaptation and ensure RDN policies support climate-appropriate development**

3 **Increase support for home energy/ adaptation retrofits**



→ CATAC recommends the following RDN plans and programs already proposed or underway receive sustained or expanded support that is responsive to evolving risk:

- ☐ Wildfire Preparedness and Risk Management
- ☐ Sea Level Rise Adaptation Program and Flood Plain Mapping and Adaptation Program
- ☐ Drinking Water and Watershed Protection (DWWP) Action Plan
- ☐ Transit ridership expansion and positioning for electrification
- ☐ Sustainable Procurement
- ☐ Participation in Regional and Local-Government driven climate initiatives (e.g., Help Cities Lead)
- ☐ Zero Waste Initiatives and progressive reduction of landfill gas
- ☐ Corporate Carbon Neutral Plan 2032
- ☐ Electric Vehicle Charging Network Strategy Development
- ☐ Net Zero Building and Renewable Energy Generation Strategy Development
- ☐ Parks acquisitions

→ CATAC recommends the following strategic supports be built into the delivery of all recommended new priorities and existing plans and programs:

- ☐ Equity-centered design and delivery
- ☐ Well-resourced, professional outreach and education for public, RDN staff and Board
- ☐ Active advocacy
- ☐ Collaboration and regional participation
- ☐ Interdepartmental approach
- ☐ Regular reporting, accountability, and adaptive approaches

1. Call to Action

Climate change is intensifying the water cycle, changing weather patterns, raising sea levels, and has increased global warming by 1.2 degrees Celsius. Local governments across the world are at the frontline dealing with the climate emergency in both their own operations and their communities. Urgent efforts are required on climate action through mitigation, adaptation and resilience. Mitigation actions reduce emissions that increase global temperatures. Adaptation actions prepare for significant climatic changes, and resilience actions better predict and recover from severe climatic events.

Adaptation is particularly important for protecting vulnerable populations, such as low-income communities, people with disabilities, children, minority groups, and the elderly. As members of these groups may be at higher risk from climate-related damage, CATAC has applied a social equity lens in determining its recommendations. The cost of inaction is exponentially higher than prevention. To protect lives, livelihoods and landscapes, local governments must mitigate, adapt and improve their resilience to current and increasingly risky future climate impacts.

Within the RDN, climate change is already impacting the wellbeing and livelihoods of residents. These impacts, including more frequent extreme heat events, prolonged wildfire seasons, extended drought, sea level rise, and severe winter storms and flooding will become worse within our lifetime. Some of the impacts of climate change are already unavoidable, and we must adapt how we live and operate within the region to minimize the severity of those impacts on RDN residents, infrastructure, and landscapes. This will require immediate action to address current risk, and sustained commitment to longer-term adaptation planning and development. Without this, the RDN risks being caught in a state of constant response and recovery as climate-driven events become more frequent and extreme. Inaction is the highest risk and cost option.

While some impacts are already unavoidable, we can avoid the worst impacts of climate change by dramatically reducing global greenhouse gas emissions within the next decade. This requires concerted effort across all societies and an ‘all-hands-on-deck’ approach. All levels of government, including the RDN, critically must commit significant resources to reducing emissions, supporting climate-adaptive development, and making it as easy as possible for residents and business to take personal action.

For the RDN, this means investing more money up front on the zero-emission design option; sustained investment in programs and policy changes that better support adaptation of homes, infrastructure, and land use; and more supports for residents to make low-emission and climate adaptive choices. It also means recognizing action cannot be delayed based on short-term costs, convenience, or the inaction of others. We know what we need to do, and we must now do it.

2. CATAC Approach

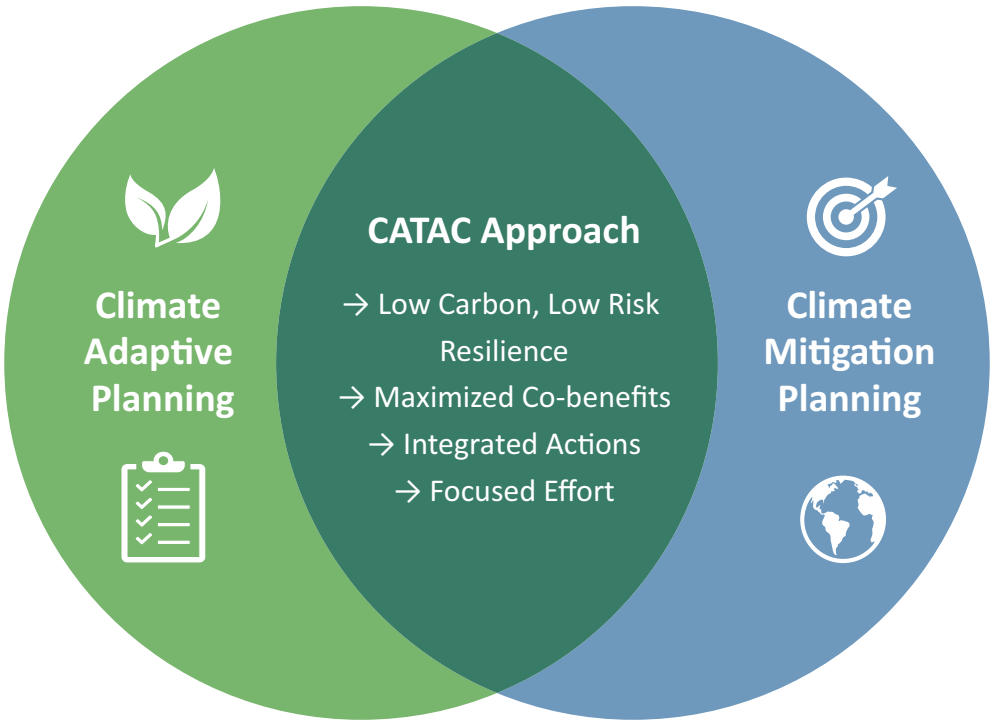
In 2019, the RDN Board (the Board) created the CATAC to prepare a Climate Adaptation and Mitigation strategy containing recommendations to the Board for immediate action. Following a significant delay from the COVID-19 pandemic, work was undertaken in 2020/2021 focusing on developing a concise list of actions for immediate implementation.

Action is prioritized by focusing resources on a few key areas having both a high likelihood of success and high potential for impact within the RDN context. Recognition is given to RDN climate adaptation and mitigation measures already incorporated into key work programs and that these programs need sustained support.

2.1 Core Principles

The CATAC Terms of Reference prioritize integrated approaches to support both adaptation and mitigation while maximizing co-benefits and reducing overall costs to the Regional District and its residents (Figure 1). Focusing efforts on a few top priorities helps ensure they are quickly addressed amidst competing workloads and local government priorities.

Figure 1. *CATAC approach to prioritization and planning*



2.2 Integrated, Nature-Based Approaches

Different RDN services can be strategically designed to support one another for better outcomes, maximizing potential co-benefits and reducing costs for RDN residents. Climate adaptation and mitigation actions cut across disciplines and can help identify these strategic points of support. Ensuring each plan and strategy specifically considers climate adaptation and mitigation and cross-connections with other RDN plans and services, will support lower cost progress on climate change. Focusing on nature-based approaches, including land acquisition and restoration, can also reduce costs by protecting the natural areas and systems that support existing service delivery, thereby avoiding more expensive engineered solutions.

3. Prioritization Methodology

All decisions were consensus-based following the Board-approved CATAC Terms of Reference (TOR).

CATAC members proposed actions based on their expertise and knowledge of the RDN context. A longlist was established by scoring proposed actions against the Board-approved Terms of Reference criteria and Strategic Plan direction, and against additional criteria selected by the CATAC (Table 1).

Table 1. *Criteria used for shortlisting of climate adaptation and mitigation areas*

Source	Criteria
CATAC Terms of Reference	■ Have the lowest ratio of cost to GHG emissions reductions using a benefit/cost or return on investment methodology (for mitigation work) ■ Can be undertaken by the RDN and its members within existing legislative authority ■ Provide co-benefits for other local government functions ■ Are equitable across the socio-economic income spectrum
RDN Board Strategic Plan (2019-2022)	■ Immediate Action (within 1-2 years)
CATAC Membership	■ Effectiveness in addressing risk (adaptation actions) ■ Positive effect on local economy

The longlisted priorities were then shortlisted following circulation to RDN staff for comments on feasibility/impact and whether proposed actions were already underway.

Where additional information was required, staff developed business cases for shortlisted priorities to assist CATAC members in making prioritized recommendations to the Board. Business cases included best practice and jurisdictional scans, examples of possible approaches with high level costing, estimated impact, and more in-depth analysis of alignment with the CATAC TOR. CATAC members used the business cases alongside their own expertise and consensus discussion to develop the final ranked set of high-priority actions for recommendation to the RDN Board.

4. Recommended Priorities

Note: While all actions, including existing programs, need to be completed for meaningful progress on climate adaptation and mitigation, the Top Three priorities require more immediate attention. The three priorities also need to be Board strategic priorities to ensure support and implementation.

4.1 Top Three Immediate Priorities

The CATAC recommends immediate action on these top three priorities.

1. Ensure water supply resilience, including effective integration of Natural Asset Management.
2. Review and update existing RDN land use and building policies, bylaws and regulations to remove barriers to climate mitigation and adaptation and ensure RDN policies support climate-appropriate development and operations.
3. Increase support for climate-adaptive home retrofits.

Table 2. *Attribute Summary - Top Priorities*

Summary of Attributes – Priority Recommendations			
	 **Water Supply Resilience**	 **Policy/Zoning/ Standards Review**	 **Climate-adaptive Home Retrofits**
Within existing legislative authority	Yes	Yes	Yes
GHG emissions	Reduced	Reduced	Reduced
GHG $/tCO$_2$e	Cost savings to RDN	Savings or low cost to RDN	Medium cost to RDN
Equity	Positive	Positive	Positive
Co-benefits for other local government functions	■ Improved resident wellbeing ■ Improved Governance ■ Lower overall service costs	■ Improved resident wellbeing ■ Supports sustainable procurement, corporate carbon neutral plan, DWWP activities	■ Improved resident wellbeing ■ Lower pressure on emergency services
Economy	Positive	Positive	Positive
Adaptation - risk mitigation	High – water shortages	Medium – climate-adaptative development	Medium – climate-adaptive homes

4.2 Existing RDN Activities Requiring Ongoing Funding and Support

CATAC's top recommended actions are in addition to climate work currently underway and rely on that work continuing. Climate adaptation and mitigation work is needed across departments and must continue to be integrated into existing plans/strategies.

Existing programs are essential for minimizing risk to RDN residents and for reducing overall costs. Existing programs address key climate risks to RDN residents and allow preventative action. The programs reduce overall costs to the RDN and area residents by avoiding more costly, reactive responses, which are also less effective.

CATAC recommends the Board provide sustained, long term investment for the following RDN adaptation and mitigation programs underway, including future expansion in response to evolving risk:

- Wildfire Preparedness and Risk Management Programs (Emergency Services, Planning, Parks Services)
- Sea Level Rise Adaptation Program and Riverine Flood Risk Assessment and Planning Program (Long Range Planning, GIS, Emergency Services)
- Drinking Water and Watershed Protection (DWWP) Action Plan and all related activities (DWWP Service)
- Transit expansion and positioning for fleet electrification (Transit)
- Sustainable Procurement (Purchasing)
- Participation in Regional and Local-Government driven climate initiatives (e.g., VICC-CLP, Help Cities Lead) – Board/Energy and Sustainability
- Zero Waste Initiatives and landfill emission reductions (Solid Waste)
- Corporate Carbon Neutral Plan 2032 and associated reductions (Organisational)
- Electric Vehicle Charging Network Strategy Development (Energy and Sustainability)
- Net Zero Building and Renewable Energy Generation Strategy Development (Energy and Sustainability)
- Parks Acquisition (Recreation and Parks Services, DWWP, Long Range Planning)

4.3 Additional Actions

These additional actions should be addressed if additional resources become available in the near term:

- **Increase support for local food production and distribution to improve local food security:** Food security within the RDN is likely to worsen with climate change if food systems are disrupted. Local food production and distribution, adapted for future climate effects, can help reduce this impact. The RDN has existing plans (Agricultural Area Plan (AAP), Vancouver Island Regional Adaptation Strategy) that prioritize its role as a supporter in local food production. These plans identify actions, though they do not include actions for community production/distribution or have a strong focus on equity. The RDN has completed some of these actions but needs prioritization and resourcing for further implementation and review of the AAP, and for implementation of recommendations within the Vancouver Island Regional Adaptation Strategy.
- **Accelerate adoption of BC Energy Step Code and, when possible, Greenhouse Gas Intensities for new buildings:** The BC Energy Step Code is a voluntary energy efficiency standard for new Part 3 (complex, higher density) and Part 9 (low density) Buildings. By enacting the higher levels of Step Code, the RDN can require new buildings in its jurisdiction to meet a high level of energy efficiency that better protects occupants from external temperature extremes, lowers operational costs and decreases greenhouse gas emissions. The Province intends to mandate higher levels of efficiency through the BC Building Code as early as 2022, with further increases planned in 2027, and again in 2032. By accelerating Step Code adoption, the RDN would ensure more buildings are constructed to net zero standards, which lowers greenhouse gas emissions and increases the proportion of more climate resilient building stock. The Province may also soon release a voluntary standard that limits greenhouse gas emission intensities of new buildings which, if suitable, the RDN should adopt to further reduce greenhouse gas emissions.

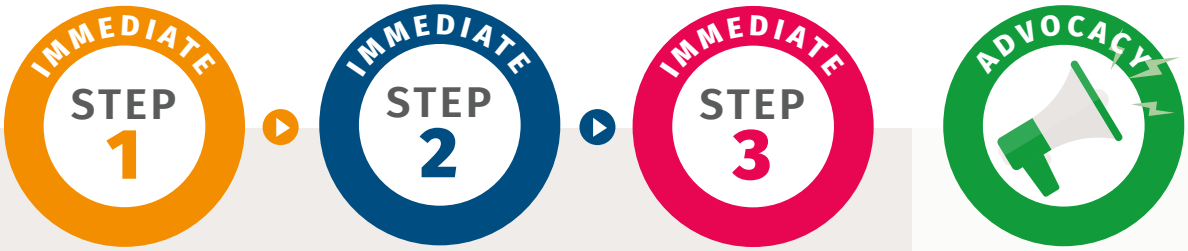
5. Immediate Next Steps for Top Three Priorities (2022-2023)

5.1 Water Supply Resilience supported by Natural Asset Management

CATAC recommends ensuring water services in which the RDN is involved (both current and any proposed for the future) and areas within the RDN not served by community water systems, have water supply resilience, including emergency back-up under expected future climate scenarios (an approximate 40-50 year time horizon). Renewable energy generation should be included where feasible.

The RDN should also encourage all water purveyors within the RDN to adopt high quality, public-facing, climate-informed water supply planning (if not already in place).

IMMEDIATE STEPS FOR WATER SUPPLY RESILIENCE:



Document state of existing, climate-informed supply planning across water purveyors in the RDN (where purveyors are willing), including contingency/ emergency supplies.

Make RDN information easily accessible and understandable by the public and encourage other water purveyors to do the same. Identify areas where additional supply planning work is needed.

Develop formal policy, approach, and sustainable funding mechanisms for natural asset management integration within the RDN, including land acquisition.

Advocate for high quality, climate-informed and public-facing water supply planning across all water purveyors in the RDN. Support advocacy work identified in the Drinking Water and Watershed Protection Plan.

and

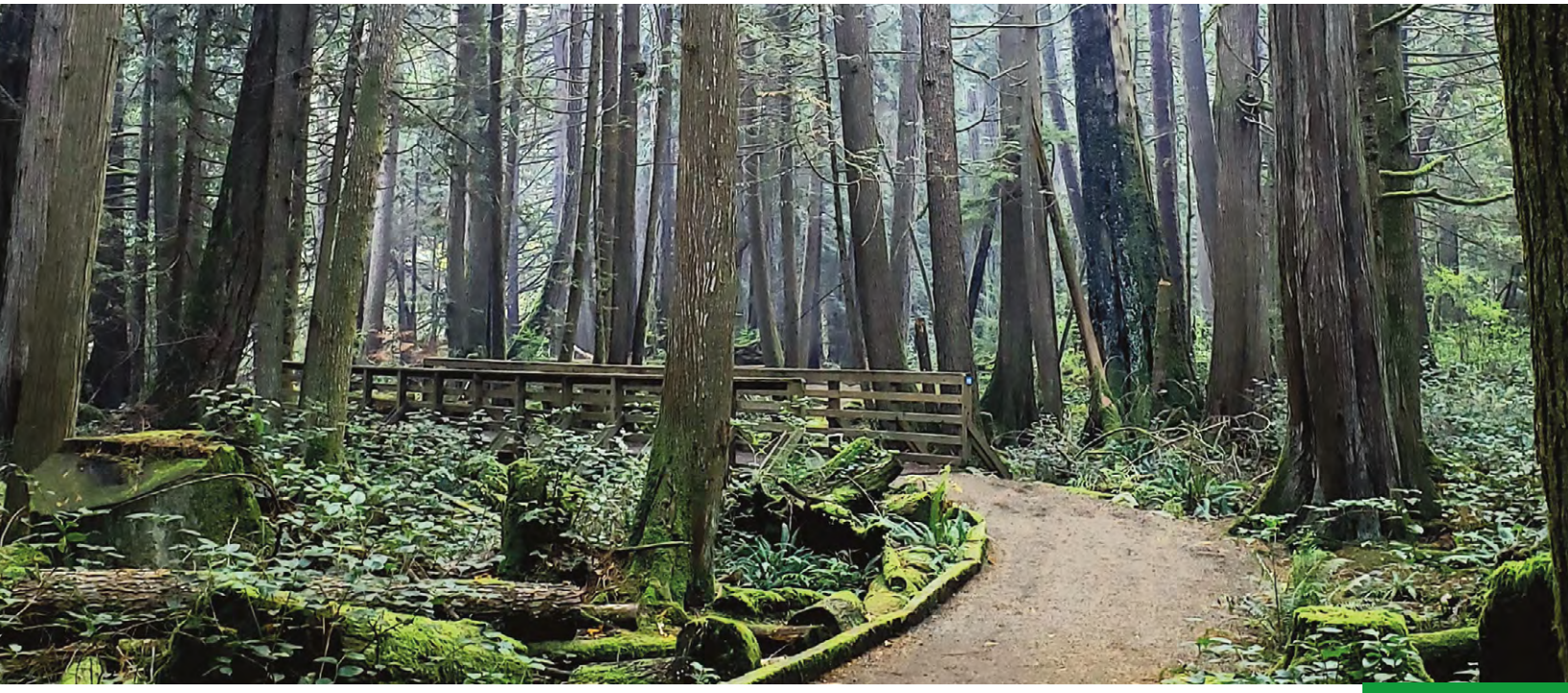
Continue all work outlined in the Drinking Water and Watershed Protection Program Action Plan, including:

1. Complete water budgets proposed for higher risk areas, informed by:
    - projected agriculture water demand (e.g., 30% increase by 2050)
    - projected household demand (given proposed development)
    - environmental flow requirements
    - impacts of different demand-side management policies
    - expected climate change impacts to surface water and groundwater
    - emergency service water demand – fire management
2. Distributed and natural water storage initiatives under the DWWP Action Plan - rainwater harvesting, landscape/topsoil management, water conservation, added development permit areas for water conservation, and water-centric development.

FUTURE STEPS (2024 onwards):

- Using water budget results and results of climate-informed supply planning, identify RDN water services and well-based areas where demand-side management and disaggregated water storage options may not be adequate for sustaining supply resilience:

    → For these areas, scope water supply options beyond demand-side management.
- Using water budgets, prioritize acquisition/protection of natural assets required to sustain aquifer recharge. Using results of climate-informed water supply planning, identify additional storage needs.
- Include ongoing integration of natural asset management practices as a standard for RDN asset management.



5.1.1 Timeline and Resource Requirements

Table 3 Next Step Activities for Water Supply Resilience

2022 – 2023

Draft proposed activity (in addition to current policy reviews)	*Resources Needed (estimated)*	*Department(s)*	*Notes*
Work Plan Development	**0.1 FTE**	DWWP or E&S	An additional/new DWWP work plan priority in 2022 may come at expense of other planned DWWP activities. To mitigate, funding is proposed through RGS service and will be implemented in cooperation with DWWP.
Document state of supply planning across water purveyors and unserviced areas in the RDN (2022)	**$20-50K**	DWWP or E&S	
Continue work on water budgets (existing)	**Already assigned**	DWWP	
Publish water supply planning info in public-friendly format (2023)	**$15-20K**	DWWP or E&S with GIS	
Develop preliminary natural asset management approach and supporting policies, expand inventory work (2023)	**$30-80K + $30-200K inventory / startup**	AM, E&S, DWWP	Supported by all RDN departments, costs could be shared with stakeholders

2024 – onwards

Continue water budget work	**Already assigned**	DWWP	Advocate for all water purveyors to do the same work
Additional supply forecasting studies where required	**TBD**	RDN water utilities & DWWP	
Develop acquisition/ protection plans (including DPAs1) for key natural asset areas as water budget results become available	**TBD**	AM, DWWP, Parks, E&S	
For RDN-involved systems where demand side management inadequate, evaluate storage options	**TBD**	RDN water services	
Ongoing natural asset policy development and implementation of natural asset management	**$120-140K + 2% asset value/yr**	AM, E&S, DWWP	Supported by all RDN departments, costs could be shared with stakeholders

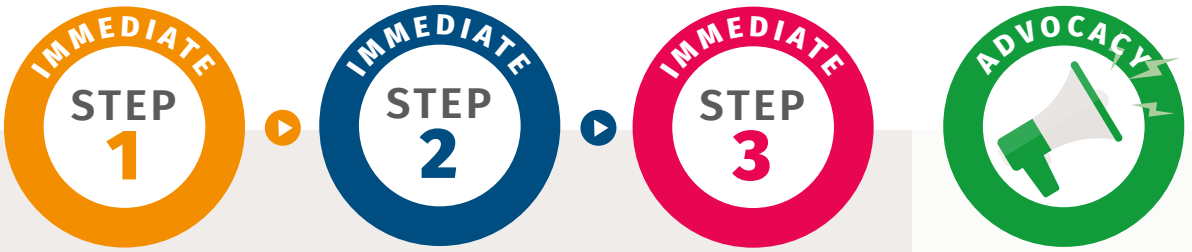
Note – Currently planned DWWP activities continue throughout, unless otherwise indicated.

[1] DPAs are Development Permit Areas that, in this context, can allow for specific requirements external to a new building to support water efficiency, energy efficiency, or greenhouse gas reductions

5.2 Review and update existing RDN policies and bylaws to remove barriers to climate mitigation and adaptation and ensure RDN policies support climate-appropriate development and operations

A climate-focused, triple bottom line (environment, economy and social impacts) review of the RDN's policies, plans and regulations to identify barriers preventing climate appropriate development/operations and driving loss of natural areas needed for sustainable service delivery should be completed. Policies, plans, fees and regulations influence land use decisions and have long lasting impacts that can be costly to reverse or change. These policies have long term impacts on resident ability to take action for climate adaptation and mitigation. Changes can have long term impacts on regional emission reductions and climate adaptation while protecting rural character. The scope of work includes review of internal corporate policies that guide development and operations.

IMMEDIATE STEPS FOR POLICY AND BYLAW REVIEW:



Work plan development to integrate climate focus into existing policy development (e.g., RGS review, OCP updates, Bylaw 500 review, Corporate Carbon Neutral Plan implementation).

External review of RDN policies against best practice for climate-appropriate development for rural areas (triple bottom line – social, environmental and economic).

Provide recommendations to update policies, plans and regulations.

Advocate the Province for completion of a long term, sustainable, regional transportation plan (RDN and surrounds) that aligns with stated provincial climate objectives, and for sustainable, long-term funding for climate change action.

FUTURE STEPS (2024 ONWARDS):

- Public reporting on implementation, including specific changes and specific decisions affected by those changes.

5.2.1 Timeline and Resource Requirements

Table 4 Next Step Activities for Review of RDN Land Use Planning, Zoning and Corporate Policies and Standards to support Climate-Appropriate Development

2022 – 2023

Draft proposed activity (in addition to current policy reviews)	*Resources Needed (estimated)*	*Department(s)*
Work Plan Development and identificaton of priority policies	**0.2 FTE**	E&S, LRP, Current Planning, Engineering
Consultant summary of best practices, key recommendations for zoning /bylaw updates and implications (triple bottom line)	**$30K – 80K/yr Consultant Costs, 0.3-0.5 FTE/yr**	E&S, LRP
Review, update, and development of corporate standards	**$5K-15K per standard**	E&S with interdepartmental consultation

2024 – onwards

Review of additional policies

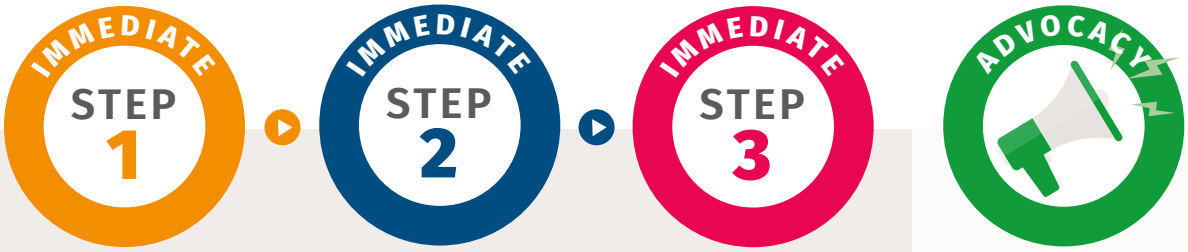
Supports Complimentary Activities

- Improvement of tree, aquifer, and natural area protections
- RGS review
- Review of Bylaw 500 (Zoning)
- OCP Reviews
- Corporate Carbon Neutral 2032 Plan implementation
- Sustainable Procurement Policy
- Rainwater Management Strategy Development
- Sustainable Site Planning Guide promotion

5.3 Expand Support for Climate Adaptive Home Energy Retrofits

Energy retrofits to existing buildings reduce energy costs, reduce greenhouse gas emissions, and better protect occupants against broader temperature swings expected under climate change. The RDN's green building program is not adequately resourced for effective outreach to drive the rate of retrofits required. There is currently strong federal and provincial financial support for retrofits, so the RDN can undertake a targeted, strategic outreach role to help residents take advantage of those programs at relatively low cost. Supporting alternative financing mechanisms, including property-assessed approaches, will ensure RDN residents can choose financing approaches that work best for their individual situation. Further, as local government legislation is expected to be amended to enable green building retrofit financing, the RDN will be positioned to successfully apply for funding grants and programs.

IMMEDIATE STEPS TO EXPAND SUPPORT FOR CLIMATE ADAPTIVE HOME RETROFITS:



Update and implement the Green Building Outreach Plan, including a reporting structure.

Design and implement fossil fuel to heat pump-focused campaign and a residential energy retrofit (windows/ insulation) how-to program and outreach campaigns. Support with one-stop-shop structure, if feasible. Sponsor training for local suppliers/ contractors.

Position to implement property-assessed clean energy/retrofit financing when available in BC, identify sustainable financing mechanisms for RDN residents.

Engage with the Help Cities Lead initiative to encourage Provincial regulations for mandatory home energy labeling, alternative financing programs, and climate pollution standards for new and existing buildings.

FUTURE STEPS (2024 ONWARDS):

- Implement sustainable financing mechanisms (PACE), develop long term support program.

5.3.1 Timeline and Resource Requirements

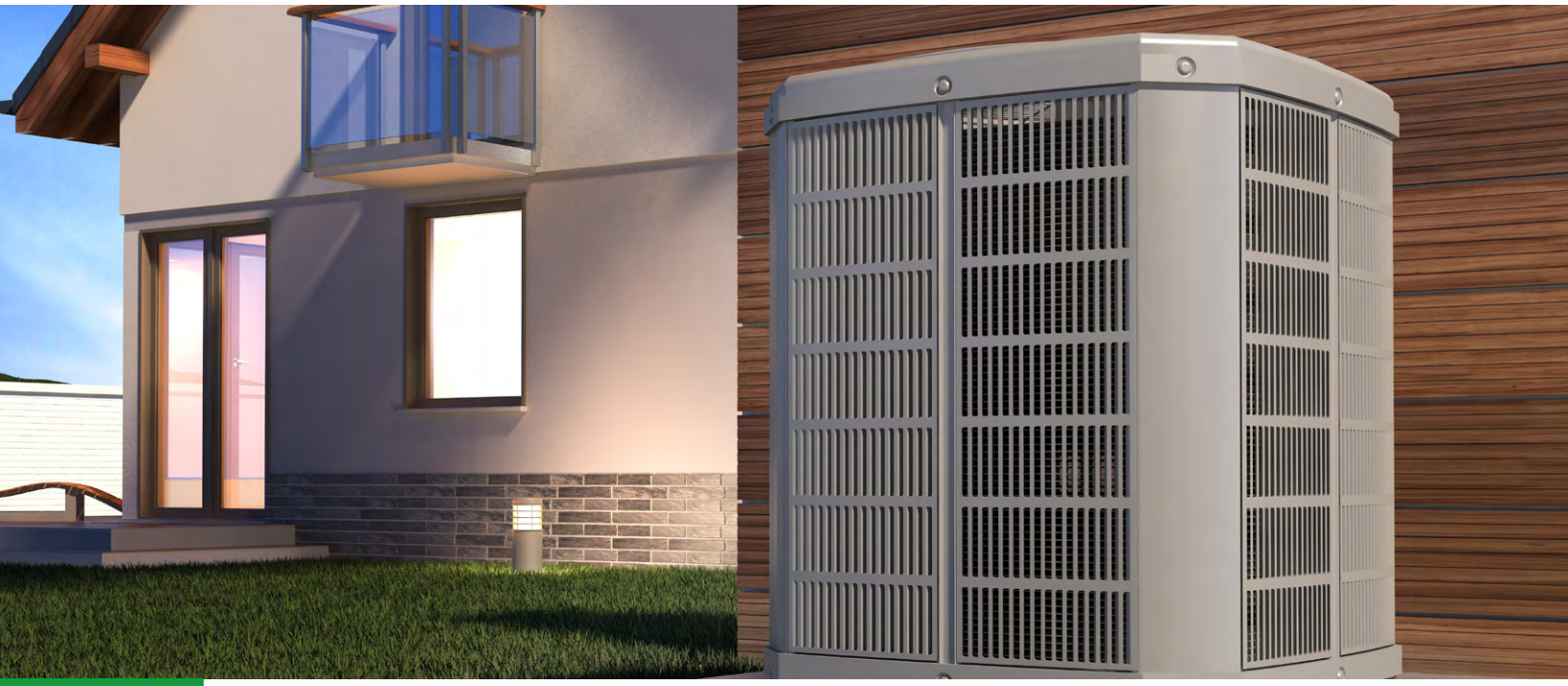
Table 5 Next Step Activities for Expanded Support of Climate Adaptive Home Retrofits

2022 – 2023

Draft proposed activity (in addition to current policy reviews)	*Resources Needed (estimated)*	*Department(s)*	*Notes*
Green Building and Retrofit Outreach Plan and materials Redesign (2022)	**$20-40K consultant costs**	E&S	In consult with DWWP, Building Inspection
Initial outreach/ support program design, pilot delivery(2022-2023)	**$50-80K Consultant costs, 0.5 FTE**	E&S	
Home efficiency financing mechanism identification and preparation (2022-2023)	**$20 - $180K**	E&S	In consultation with Finance, cost depends on grant receipt / collaboration

2024 - onwards

Ongoing program delivery, reporting, adjustment	**$110-130K annual budget (1 FTE or 0.25 FTE and contracted services)**	E&S	Work with local NGOs for program delivery where feasible, regional program if possible



6. Strategic Supports for Successful Implementation

To ensure RDN resources are used effectively, CATAC recommends climate action is supported by the following elements.

6.1 Equity

Ensure all climate adaptation and mitigation work is equity centered, and further, the Urban Sustainability Directors Network Guidelines[2] for equity be used during program development and implementation to better ensure equity-centered climate action. And finally, costs to implement those guidelines be included in program budgets.

6.2 Educate to Mobilize

Action on these priorities will not succeed unless supported by awareness and understanding of the Board, staff and public. Each of the priorities must be supported with budgets and staff/consultant resources for professional-quality, equity-informed outreach that goes beyond side-of-desk approaches.

Programs reliant on public/voluntary action or voter support must include budgets for professionally designed, targeted outreach that motivates action and supports equity. Inward facing programs (e.g., Sustainable Procurement) should include staff resources and funding to develop Board and staff awareness to support effective adoption and implementation. Existing educational tools and resources should be used and adjusted for local circumstances.

6.3 Active Advocacy

On its own, the RDN cannot achieve effective climate adaptation and mitigation. Each priority that relies on other jurisdictions/stakeholders (e.g., other levels of government, private landowners, industry) for effective implementation needs to develop and implement a clear advocacy plan, including both collaborative advocacy (e.g., through UBCM resolutions and coordinated lobbying efforts with other local governments) and advocacy driven by the RDN.

[2] 2018. Urban Sustainability Directors Network – A Guidebook on Equitable Clean Energy Program Design for Local Governments and Partners.
https://cuspnetwork.ca/wp-content/uploads/2020/03/USDNEquitableCleanEnergyGuidebookCompressed-2.pdf

6.4 Collaboration and Regional Participation

Implementation of each priority should be supported by an assessment for potential collaboration with, and active outreach to other jurisdictions, local NGOs, or potential industry partners. This often requires more advance planning and development of agreements but can deliver a better result than might be achieved individually. Directing staff across all departments to support collaborative efforts, including through project management with interdepartmental teams, can support this. Engaging with and supporting existing opportunities that move local government interests forward (e.g., VICC-CLP, Help Cities Lead), can help deliver more cost-effective solutions.

6.5 Interdepartmental Approach

All the RDN's major strategies and initiatives need to advance climate adaptation and mitigation. To ensure this is done efficiently across the RDN and different strategies are mutually supportive, the RDN should ensure staff from other departments, not just the lead department, are involved in strategy development. This reduces risk of siloed work and will better support an integrated approach to climate adaptation and mitigation across RDN services.

6.6 Reporting, Accountability, Adaptive Approaches

Regular, public-facing reports on progress through a formal reporting framework and standard (e.g., Carbon Disclosure Project) should be required. This includes an annual report and budgeting for acquisition of baseline, trending and reporting data across the RDN. Higher level reporting should be supported by program level targets and reporting to track implementation within all RDN services. A triple bottom line reporting approach is recommended. Reporting keeps the electorate informed of progress on climate adaptation and mitigation measures, enables them to see policy results in action, and provides the Board with readily accessible, replicable progress results. Action should not be delayed by a lack of data but adapted as data becomes available and external supports change.

7. Review Cycle

In addition to annual public-facing reports, priority actions and recommendations should be reviewed every 3 years to ensure ongoing improvement of existing actions and development of new actions. This will allow for changes to prioritization as new information becomes available and external supports/risks change.

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