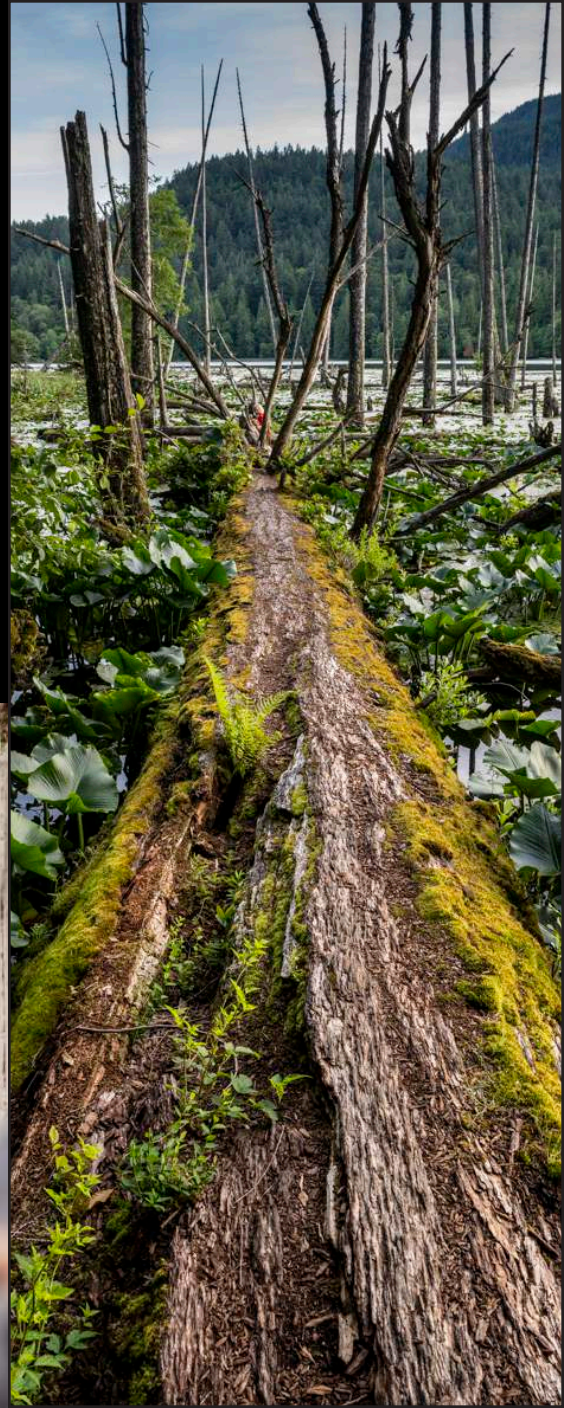


Climate Action Strategy 2020



BOWEN ISLAND
🌲 Municipality 🌲

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Context

The latest science tells us every community and every level of government large and small must do its part to limit global temperature increases to well below 2 degrees Celsius while pursuing efforts to limit the increase to 1.5 degrees. Bowen Island is already seeing increased infrastructure replacement costs associated with extreme weather, as well as higher risks of drought, storm damage and wildfire. International scientific bodies studying climate change state that limiting the temperature increase to 1.5 degrees could avoid the most catastrophic consequences for societies across the globe.

It is time to increase our efforts to both reduce greenhouse gas emissions and take steps to adapt to the inevitable changes in our climate. However, achieving meaningful results will be challenging; Bowen Island is a small municipality with limited financial resources, and without the jurisdiction to act on many of the key drivers of emissions.

The tools within Bowen Island Municipality's (BIM) sphere of influence include land use planning; new regulations, bylaws or policies within areas of municipal authority; investments in green and engineered infrastructure; advocacy to other organizations for complementary efforts or investments; and connecting with Bowen's residents to encourage and enable positive initiatives.

Collaboration is Key to Success

Other levels of government have developed or are developing powerful, implementable strategies to address climate change. An efficient strategy for BIM would be to align its efforts with theirs, where appropriate, so that initiatives could be complementary. For example, Metro Vancouver has recently adopted the 1.5 degree target that scientists recommend, which requires emissions to be reduced to zero by 2050. The Regional Government is in the process of developing " " to meet that ambitious target and adapt to the changing climate. Aligning BIM's work with regional initiatives as they develop could provide synergies and amplify Bowen's efforts.

The evolving nature of other major players' efforts to address climate change suggests that BIM's strategy remain flexible and adaptable. New information, technologies and initiatives will provide opportunities and challenges for BIM.

Strategic Framework

Ten strategies with a series of potential actions for each are highlighted. The strategies and actions are aimed toward reducing Bowen Island's greenhouse gas emissions so that zero becomes feasible by 2050, aligning with scientists' recommendations. The strategies will also increase our Community's ability to respond to and recover from climate-related impacts and events.

Budget and Implementation

Some actions may be costly, others could reduce expenses for the Municipality and for residents. Ultimately, actions with financial implications will require Council's direction and approval, public engagement, and research in order to proceed and progress towards successful completion.

For actions that have financial implications, a cost benefit analysis may be carried out to fully understand the expenditure in terms of climate action.

Many actions included in this strategy will be incorporated into future Official Community Plan updates, Land Use Bylaw amendments, Community Energy and Emissions Plan updates, and other current and future relevant plans. Detailed implementation plans will include achievable steps and progress will be tracked.

Measuring, monitoring, and adjusting strategies

Effective strategies cannot be developed without a clear understanding of the sources of Bowen's emissions and carbon sequestration principles. While emissions will have changed somewhat since a 2003 Bowen Island analysis, to date there have been no significant developments that would have altered the general structure of Bowen's emissions as identified in the 2003 analysis. However, as actions to cut emissions are implemented it will

be important to calculate reductions and adjust strategies appropriately.

Periodic measurement of Bowen's carbon footprint from sources such as emissions, loss of tree canopy, and impacts to fresh water and marine environments are important. The environmental implications section in BIM Council reports, as implemented in late 2019, will provide a source of reference material when reporting out on measurements.

As data, measurement metrics, pertinent reference materials, understanding of cumulative effects and analysis techniques improve, annual reporting on successes and failures, along with strategic adjustments will be a critical element of an evolving and adaptive Climate Action Strategy.

Timing of Initiatives

The actions have been organized into three groupings:

- **Quick Wins** - These could be implemented within 1-3 years
- **Longer Term** - Because of cost or complexity implementation will take longer than 3 years
- **Support and Advocacy** - BIM to take a collaborative approach but ultimately implementation is outside of BIM's jurisdictional authority

Strategies to reduce the emissions causing climate instability

Currently, transportation contributes more than 80% of Bowen's greenhouse gas emissions, while heating buildings is another significant source. Four strategies to reduce and eventually eliminate fossil fuel use in both areas could cut emissions dramatically, and potentially to zero by 2050.

1. Promote a shift from single occupancy vehicles to alternatives

Quick Wins

- For new developments, set a policy to cluster homes near transit routes and facilitate the growth of shared transportation solutions, and require amenity packages that contribute to alternative transportation options.
- Add an e bike with visible branding to the BIM vehicle fleet; set policy to encourage its use.
- Support road sharing initiatives that promote a culture of active transportation.

Longer Term

- Accelerate investments in active transportation infrastructure above the level identified in the Bowen Island's Transportation Plan, so that by 2030, a majority of Bowen Island residents have

access to a system of multi use transportation paths aligning with the recommendations of BC's 2019 Active Transportation Strategy.

- Add electric vehicles to the municipal fleet where appropriate.

Support and Advocacy

- Work with TransLink, BC Ferries and community organizations to ensure residents traveling beyond Horseshoe Bay have reliable, convenient alternatives to the private vehicle through expanded foot passenger marine and express bus services.
- Work with community organizations and TransLink to develop a comprehensive and possibly fare free public transit system that serves all Island neighbourhoods and aligns with new options for foot passenger marine service.

2. Encourage and facilitate the transition to low and zero emission transportation options

Quick Wins

- Amend BIM's Land Use Bylaw to require all parking spaces in new multi family homes to be wired for an outlet capable of providing electric vehicle charging and create incentives for retrofitting existing multi family homes.
- Amend BIM's Land Use Bylaw to require electric vehicle charging capacity in at least one parking space for new single family

homes and create incentives for retrofitting existing homes.

Longer Term

- Look for opportunities to develop fast charging stations on Bowen to support the introduction of heavy duty e vehicles, such as buses.

Support and Advocacy

- Publicly call for BC Ferries to continue transitioning to a fleet that will produce zero operational greenhouse gas emissions, and work with the Province and Islands Trust, BIM Committees, local action groups and others to support this goal.
- Call for BC Ferries to emphasize pedestrian and active transportation amenities rather than increasing reliance on personal vehicles, such as by placing higher rate increases on vehicles than pedestrians.

3. Reduce the need for transportation, both on and off the Island

Quick Wins

- Work with Metro Vancouver, the provincial government, community groups, and the private sector to develop an on island composting system to process local organic waste, and where possible compostable plastic, into a resource for local use.
- Facilitate the development of an on island community centre and health care centre.
- Encourage the development of shared, fully

serviced office space in Snug Cove.

- Explore how improvements in internet capacity could reduce transportation needs while enhancing local economic development.
- When considering new residential developments, give priority to those located in or near Snug Cove.
- Encourage the development of local agriculture.

Longer Term

- Consider, through appropriate zoning, the on island location of businesses, including light industrial, serving Bowen.
- Encourage small businesses at the neighbourhood level such as creation of small pop up businesses in the outlying areas of the Island.

4. Increase the energy performance of buildings

Short Term

- Work with the construction industry and the community to prepare for higher levels of the Step Code, to achieve net zero ready new buildings by 2030.

Longer Term

- Work with other levels of government, community organizations and the private sector to develop a program, including incentives, rebates and education, for home and business owners to cost-effectively

upgrade building energy efficiency, and replace propane and oil heating with efficient electric heating and cooling systems such as heat pumps.

- Require all new public buildings to be built to meet the requirements of the top step of the BC Energy Step Code to the extent that it is feasible.

Strategies to increase Bowen's resilience to the effects of an unstable climate

Hotter, longer, drier summers, more frequent and intense storms, as well as rising sea levels, will threaten Bowen's natural and built assets. Five strategies could protect the built infrastructure and sustain the quality of life for residents from storms, storm surges and other climate-related threats; and help sustain the natural systems that provide drinking water, manage storm water, store carbon and provide habitat for wildlife.

5. Protect built infrastructure

Quick Wins

- Include, in the Asset Management Plan, assessments of the vulnerability and risks to infrastructure from climate impacts.
- Develop and disseminate educational

materials about green infrastructure (natural assets, enhanced assets and engineered assets).

- Develop a stormwater management master plan.
- Seek funding from senior governments for flood planning and mitigation activities.
- Develop development permitting and other regulatory tools in fire zones, shoreline areas and other vulnerable places.

Longer Term

- Develop plans, including anticipated timing and estimated costs, to reduce vulnerability and risks where possible and adapt to unavoidable changes.
- Update vulnerability maps and identify high-risk areas, such as those vulnerable to sea-level rise, restrict development appropriately and promote natural shoreline principles
- Assess floodway capacity consideration for increased winter precipitation. Determine culvert capacities and establish new Flood Construction Levels (FCL) where appropriate.
- Ensure the five-year financial plan includes appropriate financing for the creation and/or implementation of adaptation-related plans.

6. Increase protection from droughts

Quick Wins

- Reduce the stress on engineered and natural water systems by assessing the feasibility of requiring rainwater catchment systems on new buildings and encouraging their use on

existing buildings.

- Investigate opportunities, identify barriers around greywater usage.
- Investigate water conservation strategies
- Require all new public buildings to be built to meet the requirements of the top step of the BC Energy Step Code to the extent that it is feasible.

7. Increase protection from wildfire

Quick Wins

- Continue to implement the Community Wildfire Protection Plan.
- Consider safe access and egress to neighbourhoods in land-use planning.
- Encourage and support site appropriate FireSmart planning.

Longer Term

- Establish a Development Permit Area for the entire island, requiring all new buildings to have FireSmart protections such as fire-resistant roofing, siding, decks, and other fire suppression systems.

8. Protect and enhance natural systems and carbon sequestration

Quick Wins

- Continue to adhere to Official Community Plan Policies, environmental protection bylaw provisions and create a conservation-

oriented development/design policy to help protect forests, wetlands, shorelines and environmentally sensitive areas.

- Work with the Province of British Columbia, Metro Vancouver and the Islands Trust to remove the logging designation from the Island's Crown Lands.
- Increase protection of forest lands by working with Metro Vancouver to expand Crippen Park into the Crown Lands.
- Engage in re-greening projects where applicable.
- Develop a water conservation master plan, including but not limited to, water source protection, storage, collection, site permeability, and infrastructure opportunities on Crown and Municipal land, and guidelines for water-wise landscaping and irrigation protocols.
- With the intent of balancing FireSmart principles with potential loss of protective and carbon sequestering forested land, develop a clearcutting bylaw to regulate clearcutting activities on private land.
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Longer Term

- Conduct a comprehensive Ecological Assets Inventory identifying and quantifying the value of the natural systems in terms of biodiversity values, carbon sequestration properties, and other characteristics.
- Where gaps in ecological protection exist, develop relevant regulatory and enforcement tools.

- Retain ecological connections through an expanded greenways network as outlined in BIM's Parks Plan and other relevant plans.
- Protect identified ecological assets through management plans, education and regulation.

9. Protect and enhance regenerative agricultural practices

Quick Wins

- Collaborate with local farm artisans, agriculture alliances and food resiliency groups.
- Through education, workshops and advisory groups address soil fertility and its ability to store carbon by encouraging regenerative agricultural practices.

Longer Term

- Enhance agricultural zoning provisions in Official Community Plan and Land Use Bylaw updates.
- Develop incentives for on-island food resiliency and food production.

Engaging Bowen Residents

The strategies and actions to reduce emissions and adapt to the unstable climate cannot be achieved without the active support of Bowen residents.

10. Gain active support for the Climate Action Strategy

Quick Wins

Delegate responsibility to Environment Staff with assistance from the Communications Coordinator to develop an outreach and engagement strategy, following the Communicating with the Public Policy, with emphasis on:

- Presenting to BIM committees and volunteer organizations.
- Obtaining community feedback by hosting a workshop.
- Including elements of the Climate Action Strategy in Bowen tourism and branding.
- Using experts for presentations when needed.
- Revising actions to accommodate public ideas and priorities.
- Seeking consensus on actions and identifying champions to promote and assist in implementation.
- Collaborating with community groups to host climate action events and to co-produce education materials.
- Collaborating with Islands Trust, Metro Vancouver, and other organizations with similar goals to engage with the public and encourage participation.





BOWEN ISLAND Municipality

981 Artisan Lane

Bowen Island BC V0N 1G2

www.bowenislandmunicipality.ca

604-947-4255

bim@bimbc.ca

facebook.com/bowenislandmunicipality@

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Haig Farris, Len Gilday, Martin Pykalo,

Bonny Brokenshire, Bronwyn Beairsto,

Bob Turner