The Corporation of the District of North Vancouver

CORPORATE POLICY

Title	Climate Ready Municipal Buildings Policy
Section	Engineering Operations and Facilities

POLICY

This policy reflects the District's goals to ensure municipal (ie. District-owned) buildings reduce emissions and help strengthen the community's resilience to climate change impacts. The policy sets out requirements for the design and construction of new municipal buildings and also provides guidance for major building upgrades.

1. BACKGROUND AND CONTEXT

In 2019, District of North Vancouver Council declared a climate and ecological emergency and subsequently adopted a Community Energy and Emissions Plan which set a target of 45% emissions reduction by 2030 and net zero emissions by 2050. The District's Climate Change Adaptation Strategy and Official Community Plan (OCP) - Action Plan provide direction to strengthen the resilience of our built environments to the impacts of climate change. These community-wide plans complement the District's Strategic Energy Management Plan and Strategic Facilities Planning Framework towards ensuring the District is demonstrating leadership in the design and construction of municipal buildings.

This policy is to be applied in conjunction with the Strategic Facilities Planning Framework, endorsed by Council June 14, 2021 (Attachment 1).

2. APPLICABILITY

This policy applies to the design and construction of new District-owned buildings, and is intended to guide major building upgrades, that are in the concept stage after approval of this policy.

The Director, Climate Action, Natural Systems, and Biodiversity may provide an exemption for an exceptional circumstance where the requirements are demonstrated to be not feasible, or where an alternative approach is deemed to be equivalent.

3. REQUIREMENTS

a. Design standard

i. Design new buildings to attain one of:
   1. Zero Carbon Building Design Standard (Canada Green Building Council) (“CaGBC ZCB Design Standard”);

      OR

   2. Passive House Standard (International Passive House Association).

b. Renewable energy

i. Design buildings to operate exclusively with the use of grid-supplied renewable electricity or other renewable energy sources.

c. Embodied emissions and materials

i. Measure and minimize embodied emissions through design strategies and material choices to minimize embodied emissions (e.g., mass timber, low carbon concrete, natural insulation materials). Embodied emissions reporting and analysis will be completed using a protocol such as the CaGBC ZCB Design Standard.

ii. Consider designing for disassembly, reuse, and recycling and consider opportunities to salvage materials for reuse where possible.

d. Refrigerant emissions

i. Limit refrigerant emissions by selecting a refrigerant with the lowest possible Global Warming Potential (GWP), mitigate risk of refrigerant leakage through installation, maintenance, and testing performed by manufacturer-recommended installers and contractors, and optimize refrigerant recovery, consistent with best practices.

ii. Estimate and report refrigerant emissions consistent with section c(i) of this policy.

e. Enhanced commissioning

i. Implement a comprehensive commissioning process following a standard such as ASHRAE Standard 202 or CSA Z5000.

ii. Retain a commissioning provider as owner's representative to manage all aspects of the comprehensive commissioning process. The commissioning provider should be involved as part of the integrated design process throughout all phases including pre-design planning, design, construction, and first year of operation.

iii. Work with the commissioning provider to deliver appropriate training for building operations and maintenance staff and undertake regular monitoring and auditing to ensure operational performance continues to align with design performance through building lifecycle.

f. **Cooling and ventilation**

i. Design buildings to mitigate the risk of overheating by implementing passive design strategies (e.g., building orientation, reducing window-to-wall ratio, exterior shading devices, low Solar Heat Gain Coefficient glazing).

ii. To mitigate the impacts of poor air quality events and extreme heat events, provide active mechanical cooling capable of maintaining a comfortable indoor temperature, with windows closed, where appropriate, and design ventilation systems to include filtration devices with a Minimum Efficiency Reporting Value (MERV) of 13 as defined by ANSI/ASHRAE 52.2 prior to introduction of outdoor air into indoor occupied spaces.

g. Biodiversity: Site and landscaping

i. Integrate green infrastructure and seek opportunities to preserve, improve, create, restore and connect natural systems through site and landscaping design that supports healthy ecosystem processes.

ii. Consider best practices that support healthy ecosystems with respect to drainage features, lighting, and landscaping. Focus plant selection on native plants, pollinator friendly, and drought tolerant species.

iii. Minimize the potential for bird strikes through implementing bird friendly approaches to glazing and lighting design.

iv. Foster connections with nature and promote a positive stewardship ethic through site design and appropriate signage of key features such as innovative rainwater management.

v. Document biodiversity considerations through the project management framework.

Policy approved on: February 27, 2023
Policy amended on:

Attachment 1: Strategic Facilities Planning Framework





District facilities will support the District's goals and objectives and will provide safe and inclusive spaces in a sustainable manner.



Implement the District's goals and user group strategic plans as endorsed by Council.



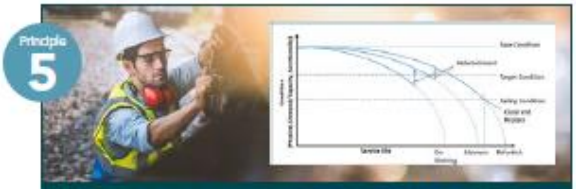
Locate services where most needed and most easily accessed.



Consolidate uses into shared buildings or sites.



Optimize energy efficiency and reduce GHG emissions achieving zero emissions well in advance of the 2050 target.



Invest in building maintenance and refurbishment to extend the life cycle of buildings and improve the economic, environmental, and social sustainability of facilities.



Plan for the closure of buildings reaching the end of their useful life.



Plan ahead – thereby allowing time to plan for improved service and reduced net costs.