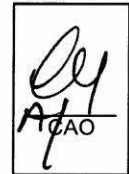
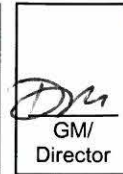
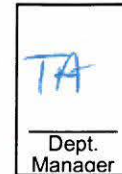


AGENDA INFORMATION	
<input checked="" type="checkbox"/> Regular Meeting	Date: <u>June 15, 2020</u>
<input type="checkbox"/> Other:	Date: _____



The District of North Vancouver REPORT TO COUNCIL

May 27, 2020

File: 13.6770/Climate Change/File

AUTHOR: Adam Wright, Community Planner
Brett Dwyer, Assistant General Manager, Regulatory Review and Compliance

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

RECOMMENDATION:

THAT the District of North Vancouver request participation as a municipal partner in the provincial CleanBC Better Homes Program;

AND THAT Council request the Province of BC to include the District of North Vancouver as a participating local authority in the Tall Wood Early Adoption Initiative.

REASON FOR REPORT:

The purpose of this report is to seek Council's authorization to request participation in two innovative programs offered by the Province of B.C.: the CleanBC Better Homes Program and the Tall Wood Early Adoption Initiative. These programs would encourage low carbon buildings and assist the District in meeting its energy and emissions reduction targets as set out in the Community Energy and Emissions Plan (CEEP).

BACKGROUND

Since the approval of the Community Energy and Emissions Plan on December 2, 2019, District staff have identified programs, funding, and partnership opportunities in order to leverage funds and support priority climate actions.

In 2018, the Province of B.C. announced CleanBC, a plan to reduce GHG emissions through programs and policies focused largely on the building and transportation sectors.

The **CleanBC 'Better Homes' Program** provides homeowners access to information, rebates and support to reduce energy use and GHG emissions from buildings. The program emphasizes fuel-switching (e.g. shifting from gas to low carbon electric heating systems) in existing buildings. High efficiency and low carbon electric heat pumps, for example, are able

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 2

to use energy from the outdoor air to provide comfortable heating in the winter and cooling in the summer.

Local governments have been invited to participate in the CleanBC Better Homes Program and may provide additional incentives to further reduce costs for participants. Eighteen municipalities currently participate in the program. These include the District of West Vancouver, the City of North Vancouver, and the City of Vancouver.

In 2019, the Province of B.C. invited all interested jurisdictions to participate in the **Tall Wood Early Adoption Initiative**. Through this initiative, the Province is authorizing and regulating encapsulated mass timber building construction of up to 12 storeys in height, in advance of Province-wide adoption in 2022. Through the first intake, thirteen local authorities were included in a jurisdiction specific regulation to allow mass timber buildings up to 12 storeys in height. Jurisdictions included in this first round are Surrey, Richmond, Victoria, Kelowna and the City of North Vancouver.

This type of construction uses mass timber elements that are encapsulated (covered) in gypsum board or concrete in order to enhance fire resistance. The wood products used in mass timber construction can have lower embodied GHG emissions when compared to traditional concrete materials¹. For example, the emissions released from producing the wood products used can be lower than those released from producing concrete.

The District's participation in the CleanBC Better Homes Program and Tall Wood Early Adoption Initiative would:

- Support implementation of key actions identified in the CEEP;
- Help reduce energy use (and associated GHG emissions) from buildings and meet the District's energy and emissions reduction targets;
- Respond to Council's interest in reducing 'embodied' emissions;
- Leverage funding available from the Province of BC; and,
- Demonstrate leadership and advance climate action partnerships.

EXISTING POLICY:

Council has identified climate action as a priority issue to address during its mandate.

- **2019 Council Directions:** Prioritizes projects that raise awareness about climate change and reduce GHG emissions in the community.
- **2019 Climate Emergency Declaration:** Council passed a resolution declaring a climate and ecological emergency and calling for transformative climate action. Council directed staff to incorporate more urgent climate action and ecological protection into strategic and financial planning processes.

¹ Tall Wood Institute, 'Cross Laminated Timber - Info Sheets', 2019. Accessed April 2, 2020.

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 3

- **2019 Community Energy and Emissions Plan (CEEP):** provides strategies for achieving emissions reduction targets of 45% by 2030 and 100% by 2050 (below 2007 levels) and highlights buildings as a focus area for achieving these targets.
- **2011 Official Community Plan (OCP):** includes policies for residential energy conservation and building retrofits, and promoting access to incentive programs.
- **The Targeted OCP Review - Climate Emergency White Paper:** Input received through the Climate Emergency Stakeholder Workshop in February 2020 indicated support for prioritizing actions that reduce GHG emissions related to the building and transportation sectors, with a particular emphasis on building retrofits.

The following initiatives support action to reduce building-related energy and GHG emissions in the District:

- **2019 Corporate Strategic Energy Management Plan (SEMP):** reduces energy and GHG emissions from corporate infrastructure.
- **2018 BC Energy Step Code (ESC):** the District has commenced early consultation on requiring higher energy and GHG emissions performance standards for new buildings, as recommended in the CEEP.
- **2012 Energy, Water, and GHG Reduction Development Permit Area:** areas in the District that require the efficient use of energy and water and reduced building-related GHG emissions. Areas include all zones and OCP designations intended for commercial, multi-family, or industrial uses.
- **2009 Climate Action Revenue Incentive Program (CARIP):** a conditional grant program that provides annual funding in the form of a carbon tax rebate for signatories to the B.C. Climate Action Charter. Through the program, the District reports on climate action including measures to reduce energy and GHG emissions from buildings.

ANALYSIS:

Building Retrofits in the DNV

Heating and powering buildings consumes the most energy in the District (64% of total energy use), and represents approximately 41% of total GHG emissions. The CEEP highlights the need for moving away from fossil fuel based energy sources (e.g. natural gas) towards the use of electricity in all building types, in order to meet the District's energy and GHG reduction targets. Recently, the District has reduced energy and emissions in municipally owned buildings such as Karen Magnussen Community Recreation Centre and District Hall.

The majority of buildings in the District are single family detached houses (68% of building area). Retrofitting existing single family houses is therefore integral to reducing building

related emissions. While municipalities have limited tools to regulate heating systems (and their associated GHG emissions) in existing single family buildings, programs that incentivize fuel switching and build awareness can help facilitate the shift towards low carbon homes.

CleanBC Better Homes Program

The goal of the CleanBC Better Homes program is to drive down GHG emissions by stimulating uptake of energy efficient and low carbon building improvements in single family detached houses. The Province provides financial rebates for a range of home energy retrofits. The highest incentives are available to homeowners who replace a fossil fuel heating system (e.g. gas furnace) with a low carbon electric system (e.g. heat pump). The Province administers the program by:

- enabling homeowners to apply for a rebate through the CleanBC Better Homes website;
- screening participants to ensure they meet eligibility requirements such as building type and utility information; and
- providing information and resources to participants, including free access to an 'Energy Coach'.

Municipalities who choose to participate in the program typically 'top-up' provincial rebates with additional funding as a way to encourage broader uptake in the program. Municipalities are able to choose which building upgrades to incentivize (e.g. window upgrades or switching from gas to low carbon electric heating systems).

Proposed District Participation Levels

Table 1, below, shows the level of support currently provided by the District of West Vancouver, the City of North Vancouver, the City of Vancouver and the Province. Staff recommend that the District provide a similar top up \$2,000 per house that would be combined with \$3,000 offered by the Province. Staff further recommend that the District focus on incentivizing low carbon electric heating systems as they offer the greatest potential for GHG reductions.

**SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood
Early Adoption Initiative**

May 27, 2020

Page 5

Table 1

Proposed and Existing Incentives for Electric Heat Pumps (Space Heating)*				
	District of North Vancouver <i>(Proposed)</i>	District of West Vancouver (Existing)	City of North Vancouver (Existing)	City of Vancouver (Existing)
B.C. Rebate	\$3,000	\$3,000	\$3,000	\$3,000
Municipal 'Top-Up'	\$2,000	\$2,000	\$2,000	\$2,000
Total Available	\$5,000	\$5,000	\$5,000	\$5,000

** Participants who switch from a fossil fuel (oil, natural gas or propane) space heating system to an electric air-source heat pump are eligible for a \$3,000 rebate from the Province plus a \$2,000 'top-up' rebate from the participating municipality.*

The Province provides promotional efforts for the CleanBC Better Homes Program in participating municipalities. Enhanced promotion for the North Shore is also anticipated, should the District join the program.

Staff recommend that a one-time amount of \$20,000 be assigned to support the CleanBC Better Homes Program. These funds are currently available in the 2020 Financial Plan for CEEP implementation. This amount would leverage an additional \$30,000 from the Province to provide access to \$50,000 for fuel switching retrofits in the District. This would support 10 single family households to make the important switch from fossil fuels to a cleaner energy source.

While seemingly modest, this would provide direct support to residents through an existing program in a relatively short period of time. It could start reducing GHG emissions in participating homes year after year once fuel switching retrofits are completed. The proposed amount is expected to be sufficient for this year, given the pace of uptake seen in other local communities to date. If uptake is stronger, staff would come back to Council with an update.

Participation in the CleanBC Better Homes program would also complement additional District efforts to raise awareness and capacity about fuel switching. One of these additional endeavours is the North Shore Heat Pump Project. This is a new partnership that seeks to increase awareness and uptake of high efficiency heat pumps on the North Shore. BC Hydro, the City of North Vancouver, the District of West Vancouver and the District of North Vancouver are partners on this project. The project will include research on barriers and how they may be addressed through capacity building and other means.

Additional Fuel Switching Incentives

The Province has recently announced additional programs to support homeowners who switch from fossil fuel to electric heat pump heating systems. These programs include:

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 6

- **CleanBC Better Homes Low-Interest Financing Program:** loans for switching to a heat pump with interest rates as low as 0% for up to \$40,000 for 5 years. This financing allows for broader access to fuel switching incentives by removing the need to pay for equipment upfront and by providing access to a larger amount of funding. It is provided as an alternative to the \$3,000 portion of the CleanBC rebate but could be combined with the proposed municipal top amounts.
- **Heat Pump Group Purchase Rebate:** up to \$500 per home for groups of homeowners who switch to a heat pump. This can be combined with the CleanBC Better Homes rebate and proposed municipal top-up; and
- **Rebates for Home Energy Improvement Bonus:** additional rebates of up to \$2,000 are available for homeowners who install multiple energy efficiency upgrades (e.g. heat pump and new windows).

Staff are also exploring other funding opportunities from senior levels of government as well as innovative financing models. These may supplement or replace direct incentives over the longer term and provide broader access to resources for low carbon building improvements.

Tall Wood Early Adoption Initiative

The Province of B.C. is allowing interested jurisdictions to participate in the Tall Wood Early Adoption Initiative. This initiative enables jurisdictions to allow mass timber construction of up to 12 storeys in advance of updates to the BC Building Code anticipated in 2022. Through the first intake, thirteen local authorities, including the City of North Vancouver, were included in a jurisdiction specific regulation to allow mass timber buildings up to 12 storeys in height. The province is seeking interest from local authorities again for a potential second jurisdiction specific regulation. Amongst other municipalities, the District of West Vancouver has expressed interest. With the addition of the District of North Vancouver, this would create a consistent framework for the construction industry across the North Shore while promoting mass timber construction.

Mass timber construction, and the engineered wood products it employs, can offer several benefits when compared to concrete². These include:

- Lower GHG emissions;
- Faster construction times;
- Application of a renewable resource; and
- Comparable structural strength.

Mass timber construction support strategies in the CEEP that seek to reduce energy and GHG emissions from new buildings in the community. The use of mass timber construction also aligns with Council's interest in reducing 'embodied' GHG emissions (e.g. emissions released from the production and disposal of concrete).

² Tall Wood Institute, 'Cross Laminated Timber - Info Sheets', 2019. Accessed April 2, 2020.

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 7

To join the Tall Wood Early Adoption Initiative, the Province requires organizational alignment, staff capacity, supporting land use bylaws and a Council resolution confirming interest. The District has met all other requirements and now requires a Council resolution to participate in the early adoption initiative to allow mass timber construction.

Building Resilience

The CleanBC Better Homes Program and the Tall Wood Early Adoption Initiative can help to build resilience in the context of the climate emergency by:

- Improving technology in homes (e.g. heat pumps with air conditioning) that can provide cooling and better indoor air quality during extreme weather events such as heat waves and wildfire smoke events;
- Moving away from fossil fuel based energy towards the use of renewable electricity (e.g. hydropower) in all buildings; and,
- Moving towards the use of renewable construction resources (e.g. wood products).

Shifting towards renewable sources of energy and building materials and incorporating high efficiency technology in homes can help to build resilience in the built environment.

Through the COVID-19 pandemic, the District has been working closely with health care partners and North Shore Emergency Management to continue to deliver services and adapt to the changing circumstances. Building a resilient community, including through the programs described in this report, will continue to be integral to the District's response to the climate emergency and other challenges.

Timing/Approval Process:

The Provincial deadline for new municipal partners to request participation in the CleanBC Better Homes program is September 1, 2020. Subject to Council's direction, this would allow the District's participation to formally begin on October 1, 2020. Although a formal Council resolution is not required, staff are recommending that Council's direct staff to request participation.

The Province requires a Council resolution to confirm interest in participating in the Tall Wood Early Adoption Initiative as soon as possible and has indicated they may consider a second intake for the program.

Concurrence:

This report has been review by the Planning, Building and Finance departments.

Financial Impacts:

Funds have been allocated for implementing CEEP actions in 2020. Staff recommend that a one-time contribution amount of \$20,000 (10 homes) is assigned to 'top-up' fuel switching incentives offered by the Province through the CleanBC Better Homes Program. The

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 8

Province administers the program and would issue quarterly invoices to the District for any rebates utilized by participants (e.g. homeowners).

Environmental Impact:

Reducing energy and GHG emissions from buildings is critical to achieving the District's energy and GHG reduction targets. The CleanBC Better Homes Program and Tall Wood Early Adoption Initiative are aligned with priority actions identified in the CEEP.

Public Input:

Extensive public consultation was carried out through the development of the CEEP. During this engagement, a majority of survey respondents (77%) supported or strongly supported the action to 'improve new residential building efficiency' and 'improve existing building efficiency'. A key theme from stakeholder and public engagement indicated that the District should work to 'incentivize building retrofits'.

Early input on the targeted OCP review engagement process included a Climate Emergency Stakeholder Workshop held in February 2020. Feedback showed strong support for prioritizing actions that reduce GHG emissions related to the building and transportation sectors, with particular emphasis on establishing a building retrofit program.

Through the upcoming North Shore Heat Pump Project, research on increasing awareness and removing barriers to heat pump uptake will take place. Engagement is anticipated and will proceed as restrictions in BC ease and in a manner tailored to the District's unique circumstances. The outcomes of this study are expected to support parallel initiatives like the CleanBC Better Homes Program.

Conclusion:

The CleanBC Better Homes Program and the Tall Wood Early Adoption Initiative are aligned with priority actions in the District's Community Energy and Emissions Plan to reduce greenhouse gas (GHG) emissions from the construction and operation of buildings. Participation in these innovative programs provides an opportunity to take advantage of funds offered by the Province, coordinate efforts with municipal neighbours on the North Shore, and kick start broader work to support low carbon buildings in the District.

Additional updates to Council on CEEP implementation, including actions to reduce energy and GHG emissions from the transportation sector, is anticipated for later this year.

SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood Early Adoption Initiative

May 27, 2020

Page 9

Options:

1. THAT the District of North Vancouver request participation as a municipal partner in the provincial CleanBC Better Homes Program;
2. AND THAT Council request the Province of BC to include the District of North Vancouver as a participating local authority in the Tall Wood Early Adoption Initiative;

OR

3. THAT Council provide staff with alternative direction on the CleanBC Better Homes Program and Tall Wood Early Adoption Initiative.

Respectfully submitted,



Adam Wright,
Community Planner




Brett Dwyer,
Assistant General Manager,
Regulatory Review and Compliance

REVIEWED WITH:					
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<input type="checkbox"/> Permits and Licences	_____	<input type="checkbox"/> Communications	_____	<input type="checkbox"/> Library Board	_____
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<input type="checkbox"/> Human Resources	_____	<input type="checkbox"/> Real Estate	_____		

**SUBJECT: Low Carbon Buildings: CleanBC Better Homes Program & Tall Wood
Early Adoption Initiative**

May 27, 2020

Page 10

REVIEWED WITH:		
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