Reducing the impact of climate change has become a primary concern for many municipalities. Drawing from the experience of the District of North Vancouver (DNV), this case-in-point will focus on the Green Building Checklist as one tool in a broader suite of mechanisms to significantly reduce energy consumption and overall community greenhouse gas emissions.

The DNV Vision is, “by 2020 we will be recognized among the most sustainable communities in the world….” Keeping with this vision the DNV has developed a Green Building Strategy to ensure new buildings are the most environmentally friendly and energy efficient in the Province.

The DNV’s checklist, when approved, will be the first Comprehensive Green Building Checklist in B.C. The comprehensive checklist is comprised of two separate checklists; one for homes and small residential buildings and one for industrial, commercial, and institutional and multi-unit residential buildings. Each checklist includes three separate pathways, and may be eligible for performance based incentives. The Green Building Checklist was developed using best practice and encourages progressive development, as the DNV continues to take steps to become a leader of community sustainability.

This case study will serve as a useful learning tool for municipalities. It will compare checklists from across Canada, and the lessons learned from this work can be used to inform Canadian municipalities who want to establish their own, or improve on their existing, Green Building Checklist.
The District of North Vancouver is a regional municipality of British Columbia, separated from the City of Vancouver on the south by Burrard Inlet and bound to the north by the Coast Mountain range. It is the largest of the three North Shore municipalities with over 82,000 residents and more than 3000 businesses. The DNV is made up of several neighbourhoods which are mainly single-family houses, some higher density residential, light and heavy waterfront industrial, mixed-use, and commercial areas. One third of the area is urban and the remaining two thirds is naturally forested, which is a major attraction of living there.

The DNV has adopted a vision statement that, “By 2020, we will be recognized among the most sustainable communities in the world as demonstrated through our environmental stewardship, strong network of neighbourhoods, a vibrant economy and community-driven growth and change”. The DNV is committed to this vision and has taken significant steps in the past few years to move towards reducing energy use and green house gas emissions. Some of these commitments include; a review of its Official Community Plan (OCP), which will include reduced greenhouse gas (GHG) targets, designation as a “Solar Community” by SolarBC, adopted The Natural Step Framework, signed the B.C. Climate Action Charter, received Community Action on Energy Efficiency (CAEE) Gold Status and is in the process of adopting a Green Building Strategy, which prominently features a Green Building Checklist.

### Green Building Checklist

A Green Building Checklist is used to encourage and promote development that meets community sustainability objectives set by the Official Community Plan. They ensure development follows the community’s sustainability principles. Checklists are mainly required for rezoning, development permits, and development variance permits. There are three types of checklists primarily used by municipalities; Scorecard, Checklist, and Descriptive. A scorecard uses a points system for completing strategies and is usually associated with a third party rating system, a checklist is a list of strategies that are valued by the municipality, and descriptive checklists describe in writing sustainable aspects of their development proposal and are often prompted by questions. Incentives are offered by some municipalities, but not all of them, for meeting specific requirements of the Green Building Checklists. Incentives include: expedited approvals, Development Cost Charges (DCC’s) exemptions, Grants, density bonuses, and it should be mentioned, a healthier planet.

Checklists are still not widely used in Canada, but there are quite a few municipalities in B.C. that have started to use them in some
buildings, transportation, and solid waste management influence approximately 50% of emissions. (HB Lanarc Consultants, 2009)

Under the CAEE the DNV has committed to achieve energy performance of 25% better than Model National Energy Code for Building (MNECB) by 2010 for multi-unit residential and commercial, institutional and industrial buildings. To help meet these goals, in 2008 the DNV engaged the Light House Sustainable Building Centre and the Pembina Institute to deliver a Green Building Strategy. The overall goal of the Strategy is to address CAEE commitments, reduce GHG emissions, provide support for other climate change and energy initiatives, encourage innovative building design, expand community awareness on green building measures, and flexible to respond to changing building code requirements and rating system metrics.

Currently, the DNV planning department is working with Council to finalize the Green Building Strategy, which consists of three primary components; two checklists, two corporate policies, and a series of tools consisting of

DNV Green Building Strategy

Buildings in the DNV account for 51% of GHG emissions; residential and commercial buildings make up 30% of that. There is considerable potential to reduce energy and GHG emissions of buildings because 40% of the housing stock was built before 1970, 75% before 1985, and there are plans to develop higher density mixed-use nodes. In addition, local government can play a significant role in reducing emissions. A report from the Government of Canada demonstrated local government decisions on land use patterns, using the checklist have found it a valuable communication tool, resulting in better development. (Jennifer Paton, personal communication)

Community Emissions

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The two corporate policies offer the overarching authority for application of the strategy, with the DNV leading the way by demonstrating leadership by aspiring to a higher building standard. The municipal policy will require all new municipal projects to be certified LEED (Leadership in Energy and Environmental Design) Gold plus a minimum of four EA1 (Energy and Atmosphere) points or Built Green Gold plus Energuide 83.

The private sector policy will employ the Green Building Checklist as a tool to implement the Green Building Strategy. How the applicant completes the checklist will determine their level of performance, which will ultimately lead to the available incentives.

To implement the Strategy amendments to several bylaws will be brought forward. Under Bill 27, council can amend the OCP to designate new Development Permit Area guidelines for energy and water conservation and greenhouse gas emission reductions which would be used to evaluate new applications. Also, zoning amendments will be made for minimum or height exemptions to accommodate the installation of alternative energy equipment. To compliment the height amendment, the floor space ratio exemptions are suggested to provide space for interior equipment.

DNV Checklists

To support the implementation of the Green Building Strategy everyone will have to complete one of the two checklists regardless of the type of development. The intention of the DNV Checklist is to provide guidance and education of green design to applicants for Rezoning, Development Permits and Building Permits. The initial focus will be on new construction and major renovations and will be required at the beginning of the permit process. Two separate checklists are available depending on the type of project planning to be developed. One is for Homes and the other is for Multi-unit Residential and Industrial, Commercial, and Institutional buildings. If an application requires an Official Community Plan amendment and/or rezoning, compliance with the checklist commitment will be mandatory, and will be enforced through covenants and security deposits. For other types of applications compliance is voluntary, but going through the checklist will be seen as an educational tool that could influence an applicant’s design choices.

Unlike other municipalities’ Green Building Checklists, the DNV’s has three paths, A, B, and C, to achieve the encouraged minimum energy performance targets: A) Green building rating systems, B) enhanced energy performance, or C) set standards. The path an applicant chooses to complete will determine their level of performance which will
in turn establish the available incentives. In the case where compliance is mandatory, Path C is not an option. Path A uses third party green building rating systems. The two preferred rating systems are LEED Gold with at least 2 credits under the EA2 or Built Green BC to Gold standard and energy performance of at least Energuide 80. Path B encourages the achievement of overall building energy performance of at least 15% better than ASHRAE 90.1 2001 or achieving building energy performance of at least Energuide 80. Path C is a list of required energy efficiency strategies.

The goal is to get builders to strive for the highest performance, and the higher the performance the greater the level of incentives that will be available to them. For large projects incentives available could include Development Cost Charge (DCC) reductions, density bonusing, and project recognition. Single Family project incentives include eco-feebeates, green stream (expedited) permitting, floor space bonus, and project recognition.

Implementation of these measures would see vast improvement over the CAEE targets of 25% better than MNECB. Energy modeling studies of a model multi-family residential building by Light House Sustainable Building Centre showed 27.3% energy savings and 56.9% GHG savings over BC Building Code performance and a 35.3% energy savings and 60% GHG savings over MNECB.

Lessons Learned

Throughout the process the DNV has been in communication with multiple stakeholders including, other municipalities, council, and the industry. Once the Checklist was well developed, the DNV held an industry workshop to get feedback on the proposed Green Building Checklist. The Checklists were presented one at a time and then the groups broke off into discussion groups with facilitators. At the end of the workshop feedback forms were collected for each checklist. Strengths, Weaknesses, Advantages and Difficulties, were assessed for the key implementation issues necessary to successfully introduce the checklist and about the Checklist as presented. The following were overall themes that emerged:

- **Incentives** – Need to make
sure the incentives align with the strategy are effective enough to encourage green building measures
- Expediting the process might be difficult
  - **Education** – Good as an education tool and further education is needed for greater buy in
- Inspectors and those who enforce the policy will need to be educated on technologies
  - **Certification** – A good way to improve visibility and marketability
  - **Ease of Use** - Flexible and has Clear Steps
  - **Based on Proven Systems**
  - **Accountability**

In addition, Council, who has ultimate say, has been working closely on the Checklist and has some concerns. They support the need to pursue more energy efficient buildings, but are reluctant to support incentives especially those that take revenue away from the municipality, such as DCC reductions/tax exemptions. Council would also like to see the checklist kept simple.

Other challenges from checklists used in other municipalities include; getting buy in from applicants and inspectors, re-doing checklists filled incorrectly, a lack of understanding, need of a coordination of grant money as an incentive so there are no overlaps, building code needs to compliment the building checklist strategies. (R. McDonald, personal communication, April 9, 2010).

**Next Big Steps**

“While a checklist, focussed on building energy efficiency, is one tool to address building-generated greenhouse gas emission reductions, I think the bigger ghg issue is in getting the land use, densities and transportation right in the first place and that’s something an OCP should direct”. Doug Allan

Green Building Checklists will become an important tool as more municipalities adopt Sustainability Policies and include them in their Official Community Plan. However, checklists are one piece of a larger puzzle in solving climate change. They are a good introductory tool to use because they are accessible and becoming more recognizable, but need to be more aggressive if communities want to move toward significantly reducing their impact on climate change.

A challenge for planners is getting Council on board to adopt the proposed changes.

Council shows support for more energy efficient and low emission communities, but they need to take bigger steps towards action. That being said, although municipalities have some opportunity to influence change they are bound by the building code which makes it difficult for communities to set higher targets than the code. The Province needs to lead the way and be proactive. As a result of the Province not taking big enough steps, the code becomes restrictive for those municipalities that want to.
Resources


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