Jurisdiction Options for Energy Efficiency and Renewable Energy in Buildings

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Green Building Leaders: Jurisdiction Options for Energy Efficiency and Renewable Energy in Buildings

Discussion Paper

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Report Summary

This Jurisdiction Options Discussion Paper is one of the research reports providing technical information for the Green Building Leaders Project. The purpose of the Project is to generate technical and legal information to help participating local governments (both municipalities and regional districts) understand how existing local government jurisdiction can be used to implement high energy performance in buildings, and to engage with the provincial government on possibilities to enable local governments to take leadership in this area. The ultimate goal is to increase energy efficiency in buildings, reduce the amount of energy the building uses, and reduce GHG production.

The Green Building Leaders Project focuses on regulations for three promising green building policy approaches, and the law reform opportunities for their implementation. These priority green building policy approaches are:

1. Energy labelling and energy efficiency standards for existing buildings;
2. Renewable energy requirements for new buildings; and
3. Higher energy performance standards for new buildings.

The focus of this Discussion Paper is to describe existing local government jurisdiction for regulating buildings and renewable energy, and to propose law reform options for implementing the priority green building policy approaches.

Existing jurisdiction is described under the headings of building regulation, land use plans, other regulation, fiscal measures, and other tools. Local governments have some jurisdiction to obtain enhanced energy performance in buildings, renewable energy infrastructure, and the disclosure of building energy performance. However, there is no clear area of jurisdiction that allows local governments to both require the priority green building policy approaches and enforce their maintenance over time. Local governments may enact bylaws that regulate buildings, however they cannot deviate from the standards established in the provincial Building Code. Other regulatory ways to achieve the priority energy performance measures, such as through rezoning and amenity bonus, are largely voluntary. The use of development permit areas can mandate the installation of renewable energy infrastructure, however it is unclear whether local governments can require the interior buildings systems needed to operate that infrastructure (although, in practice, most landowners would connect the infrastructure systems in any case).

Fiscal mechanisms, such as local service areas, development cost charge regimes and revitalization tax exemption zones, provide a way for local governments to create incentives for the construction of high performance buildings and the installation of renewables. They can also help to equalize the cost of conventional versus green building, making green building relatively less expensive and thus compensating for some of its additional costs. However, the cost benefit of using these approaches, particularly development cost charges, may be too small to create a sufficient incentive to promote energy efficiency and the use of renewable energy.

While local governments can require applicants for permits and specified bylaw changes to provide information, it is not clear that they can require that disclosure to third parties. The most common way of securing the continued operation and maintenance of enhanced energy performance and the use of renewable energy is through registering covenants on the title to

land. However, covenants are costly to create, monitor, and enforce, and there is little direction from courts in B.C. on how positive covenants that require upkeep of renewable and energy efficiency equipment will be enforced.

To conclude on existing jurisdiction, although local governments can facilitate the construction of high performance buildings, renewable energy, and the disclosure of building energy performance, achieving all those goals depends in large part on the participation of landowners and some jurisdictional acrobatics.

Building on this analysis, the Discussion Paper describes a variety of law reform options for either enhancing local government authority to provide clearer jurisdiction or enabling other agencies to achieve the priority energy performance measures.

The provincial government has the authority to simply amend the B.C. Building Code to include high energy performance standards and building labelling for new buildings, and it may have jurisdiction to require the use of renewable energy. The provincial government could also amend the Buildings and Other Bylaws Regulation pursuant to the *Community Charter* to enable local governments to adopt a third party standard or new green building section of the Building Code.

In addition to these relatively simple, from an administrative perspective, approaches, other options for the labelling of buildings include utilities such as BC Hydro evaluating the energy efficiency of customer buildings while, at the same time, offering energy retrofit programs. Another possibility is to amend real estate marketing legislation and industry practice to require building labelling. Law reform to impose standards on new and existing buildings could include the use of the *Energy Efficiency Act* and standards of maintenance jurisdiction.

1. Introduction: Green Building Regulation in B.C.

1.1 Project Scope and Context: Improving the Energy Performance of Buildings in B.C.

Many local governments across British Columbia are working towards improved energy performance in buildings to reduce greenhouse gas emissions (GHG) and energy costs, and to contribute to the overall sustainability performance of their communities.[1] Partly in response to their communities' desire for action and partly due to requirements from the provincial government to develop targets for reducing GHGs,[2] they are using a variety of land use and regulatory tools to address the approximately 12 percent of GHG emissions that buildings generate in B.C. They have secured higher energy performance in new buildings through density bonus, zoning, incentives, and education for applicants, as well as adopted green building policies for municipal and regional district buildings.

This local government action takes place in the context of a provincial climate action initiative that aims to reduce GHG emissions by 33% by 2020 and 80 percent by 2050.[3] The 2007 provincial Energy Plan also commits to energy efficient building standards by 2010 and BC Hydro using all cost-effective demand side management opportunities before pursuing new supply. It sets a minimum of acquiring 50% of its incremental resource needs through conservation by 2020.[4]

The most innovative local governments are quickly exhausting the jurisdiction available to them, such as negotiation during rezoning, to secure high energy performance for new buildings. Absent owner/developer cooperation, local governments have no ability to require applicants to build to a standard that exceeds the provincial Building Code, or to generate energy on site through the installation of renewable technologies. They also have little ability to increase the energy efficiency of the existing building stock. Although they can now enact building regulations for the purpose of reducing GHGs and energy conservation, this authority can be used only with the approval of the provincial government.

The Green Building Leaders Project is addressing these barriers to local government implementation of high energy performance standards by working with local government leaders to advance the most promising regulations for new and existing buildings.[5] The purpose of the Project is to generate technical and legal information to help participants understand how existing local government jurisdiction can be used to implement high energy performance in

[1] The *Local Government Act*, R.S.B.C. 1996 c.323 at section 5 prescribes the term "greenhouse gas" the same meaning as that found in the *Greenhouse Gas Reduction Targets Act*, S.B.C. 2007 c.42, which says "any or all of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and any other substance prescribed by regulation" at section 1.
[2] *Local Government Act*, s.877(3).
[3] Greenhouse Gas Reductions Targets Act, S.B.C. 2007, c.42 s.2(1).
[4] Province of British Columbia, *The BC Energy Plan: A Vision for Clean Energy Leadership* (undated) at 5-6. www.energyplan.gov.bc.ca. The web page indicates that the provincial government released the *Energy Plan* in 2007.
[5] The founding local government project partners are Dawson Creek, Smithers, Terrace, Prince George, Whistler, and Delta.

buildings, and engage with the provincial government to enable local governments to take leadership in this area. The ultimate goal is to increase energy efficiency in buildings, reduce the amount of energy the built form uses, and reduce GHG production.

The Green Building Leaders Project focuses on requirements for three promising energy efficiency or renewable energy policy approaches, and the law reform opportunities for their implementation.[6] These approaches are:

1. Energy labelling and energy efficiency standards for existing buildings – requiring designated buildings to undergo energy audits and energy performance labelling prior to sale or during major renovations. Such regulation could also impose minimum energy efficiency standards that could be based on overall energy performance or prescriptive measures;

2. Renewable energy requirements for new buildings – requiring production of a specified percentage of predicted energy requirements for the site from the installation of renewable energy production equipment; and

3. Higher energy performance standards for new buildings – establishing higher minimum standards for energy efficiency than the existing provincial Building Code, or enabling local governments to adopt high performance standards, for example by reference to a third party certification system.

Chapter 1 explains the scope of the project, the three priority green building policy approaches (summarized above) in some detail, and the assumptions made in the analysis in this Discussion Paper. Chapter 2 describes the existing local government jurisdiction for regulating buildings and renewable energy, and highlights those tools that are most effective in this regard. Finally, Chapter 3 proposes law reform options for implementing the priority green building policy approaches, and identifies those options that are the most attractive from the perspective of effectiveness, administration and ease of implementation.

The scope of this Discussion Paper includes both municipalities and regional districts. The term "local government" is used when regional districts and municipalities have essentially the same jurisdiction. Where their jurisdiction is different, the terms "municipality" and "regional district" are used specifically. In general, jurisdiction over land use planning and regulation found under Part 26 of the *Local Government Act* is the same for municipalities and regional districts, as is authority to administer the Building Code. Regulatory jurisdiction differs somewhat, and municipalities have some powers, such as revitalization tax exemption, that regional districts do not have.

The Discussion Paper focuses on a local government's ability to impose energy performance requirements for buildings and development within the existing spheres of jurisdiction of local governments (land use, regulation, and other powers related to land development and servicing).

[6] Pembina Institute staff chose these energy performance approaches by evaluating successful programs in other jurisdictions. See the Background Reports for the project – Hayes Zirnhelt (2009). *Energy Labelling and Performance Requirements for Existing Buildings* and *On-Site Renewable Energy Requirements for Buildings* (Vancouver: Pembina Institute), and Jesse Row (2010). Local Energy Efficiency Standards for Buildings: Background Report (1st Draft) (Vancouver: Pembina Institute).

It also provides some analysis (in Chapter 3, Options for Implementation) of requirements by the provincial government and utilities for energy performance that benefit local governments. This includes any project that is planned and approved as a project through the usual application process with a local government. It would normally include only one owner, but in special circumstances could include several owners where there has been collaboration for creating a vision for rezoning an area. It can be as small as a lot for a detached home, or as large as an apartment building, a commercial building, an office park, an industrial facility, or a mixed-use neighbourhood. The analysis does not differentiate between these types of projects (e.g. residential, commercial, industrial), but provides general discussion and application. It does not include projects within federal and provincial jurisdiction for which no local government approvals are required. It also does not include commercial production of energy that is not tied to servicing a specific building or neighbourhood.

Three primary assumptions are made in the analysis. The first is that mandatory energy performance and energy production requirements are more effective than voluntary initiatives, and therefore local governments or other agencies (the provincial government or utilities) require the ability to impose energy efficiency standards.[7] The second is that clear local government jurisdiction is preferred over jurisdiction that is inferred or analogized. An example of this is clear authority to require renewable energy infrastructure in buildings and external to buildings as part of the Building Code, rather than enabling equipment requirements through land use permitting processes. The third is that rather than having local governments establish their own standards, the provincial government prefers consistent Building Code regulations across B.C., in order to maintain a level playing field and for ease of professional training.[8] These assumptions do not preclude or detract from the importance of voluntary measures and incentives that make energy efficient building more attractive to landowners. Finally, it is important to note that the analysis in this Discussion Paper is limited to regulatory fit for local governments and does not include evaluation using cost-benefit or other criteria.

1.2 Priority Green Building Policy Approaches

This section describes the three priority green building policy approaches – labelling and efficiency requirements for existing buildings, project-specific renewable energy, and high performance buildings - that serve as the framework for the legal and law reform analysis in this Discussion Paper.

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[7] An example of the importance of mandatory standards can be seen in the academic literature where researchers have found voluntary approaches to be important for fostering best practices, but the biggest energy performance improvements spurred by minimum energy efficiency standards. W.L. Lee and F.W.H Yik, "Regulatory and Voluntary Approaches for Enhancing Building Energy Efficiency," Progress in Energy and Combustion Science 20 (May 19, 2004), www.elsevier.com/locate/pecs (accessed September 18, 2009). This conclusion is supported by the literature evaluating the mandatory building labelling program in Denmark that provides information to building owners but does not require energy performance upgrades. See, for example, Vibeke Hansen Kjærbye, *Does Energy Labelling on Residential Housing Cause Energy Savings?* Working Paper (2008). (Nyropsgade, Copenhagen: AKF, Danish Institute for Governmental Research) at 28 http://www.akf.dk/udgivelser/2008/pdf/energy_labelling.pdf (accessed January 9, 2010).

[8] This position can be seen in the provincial government's communications around greening the Building Code:

> We are trying to accommodate communities that want additional building standards. However, we also have to balance local innovation with the need for consistent standards across B.C.

Government of British Columbia, Ministry of Housing and Social Development website www.housing.gov.bc.ca/building/gree/faq.htm#14

1.2.1 Energy Labelling and Efficiency Requirements for Existing Buildings[9]

Energy labelling refers to testing buildings and assigning the building a rating on a defined scale. Testing can take on many different forms with different levels of comprehensiveness, from a quick visual check on the presence or absence of equipment to an energy audit (or blower test) to estimate the overall energy consumption of the home based on existing equipment, weather stripping, and insulation. Energy labelling allows potential purchasers, utilities, and agencies to compare building performance, and to factor energy costs and GHG emissions into decisions such as purchasing or qualification for programs. The object is to make energy labelling widespread so that it has a market impact such as increased property value for high energy efficiency.[10] For example, the primary objective of Denmark's energy labelling program is to encourage energy and water conservation in the building stock by informing new owners and potential buyers of future energy costs and potential energy- and water-saving strategies.[11]

Building on the information that energy labelling provides, some local governments are imposing energy conservation requirements for existing buildings at the time of sale or another trigger event such as renovations requiring a local government permit. The City of Berkeley has both residential and commercial Energy Conservation Ordinances that it applies at the point of sale or transfer of property, or to major renovations.[12] The seller or buyer may assume responsibility for compliance, and the cost of the upgrades may be incorporated into the mortgage financing. Efficiency requirements for existing buildings recognizes the energy inefficiency of the majority of these buildings, and begins to address energy retrofitting.

1.2.2 Renewable Energy Requirements for Buildings[13]

Renewable energy requirements refer to a local government's ability to require on-site renewable energy generation in primarily new buildings. The extent of requirements is characterized by performance-based and prescriptive policies. The most famous performance-based approach is the "Merton Rule" in the United Kingdom that requires landowners of new developments of 1000 square metres or more to generate 10 percent of the energy consumed on site from renewable energy. This percentage is reduced if a landowner invests in additional energy efficient building design or energy systems. Prescriptive approaches include Spain's mandate that 30 to 70 percent of hot water must be supplied by solar thermal technology in new buildings.

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[9] The information in this section is summarized from H. Zirnhelt (2009). *Energy Labelling and Performance Requirements for Existing Buildings: Background Report* (Vancouver: Pembina Institute) Draft 1 at 6.

[10] For example, the Australian Bureau of Statistics found higher house prices for more energy efficient homes in a 2008 study. The Bureau found home prices increased, on average, by 3 percent with the addition of each energy efficiency level, and that the increase in value far outweighed the cost of energy efficiency upgrades. Australian Bureau of Statistics (2008). *Energy Efficiency Rating and House Price in the ACT* (Canberra, Australia: Department of Environment, Water, Heritage and the Arts) http://www.nathers.gov.au/about/publications/pubs/eer-house-price-act.pdf (accessed on January 9, 2010).

[11] Vibeke Hansen Kjærbye (2008). *Does Energy Labelling on Residential Housing Cause Energy Savings?* Working Paper (Nyropsgade, Copenhagen: AKF, Danish Institute for Governmental Research) at 7 http://www.akf.dk/udgivelser/2008/pdf/energy_labelling.pdf (accessed January 9, 2010).

[12] City of Berkeley, *Residential Energy Conservation Ordinance (RECO): A Compliance Guide for Berkeley's Residential Property Owners, Buyers, and Sellers,* 2; City of Berkeley Commercial Energy Conservation Ordinance http://www.caleep.org/docs/resources/greenbuildings/Berkeley_CECO_Ordinance.pdf (accessed July 14, 2009).

[13] The information in this section is summarized from H. Zirnhelt (2009). *Onsite Renewable Energy Requirements for Buildings: Background Report* (Vancouver: Pembina Institute) Draft 1 at 6.

These European policies are resulting in reduced GHG emissions and improved energy efficiency, as well as stimulating growth in renewable energy technologies. A study of the City of London's program concluded that immediate greenhouse gas reductions in new development from a policy like the Merton Rule is 26 percent.[14]

1.2.3 Higher Energy Efficiency Standards for New Buildings and Substantial Renovations

Building codes that are developed at the national, provincial or state level typically establish the standards by which local governments must regulate building construction. Aimed at achieving public health and safety goals, building codes mandate separate standards for different kinds of buildings. They often also employ both performance-based approaches where a landowner can choose to meet the outcome of the code standard by different means, and prescriptive standards that establish the specific quality and dimensions of construction.

From energy efficiency and production of renewable energy perspectives, the British Columbia Building Code sets standards for insulation, wiring, windows, heating, building envelope, light fixtures, insulation for pipes, sealing and insulation for duct work, and HVAC systems. Building codes do not deal with energy standards for appliances.[15]

The B.C. Building Code establishes some of the highest energy efficiency standards in the country, requiring compliance with EnerGuide 77 for small buildings and ASHRAE 90.1 (2004) for large buildings.[16] However, other provinces will be requiring EnerGuide 80 starting in 2011, and the City of Vancouver already requires a more advanced standard for large buildings, ASHRAE 90.1 (2007). There may be rationale and opportunity for B.C. municipalities to encourage the provincial government to further advance the provincial Building Code.

Some local governments, through state building codes or local government-specific legislation, have enacted more stringent standards than are generally required in those jurisdictions. Under the *Vancouver Charter* legislation, the City of Vancouver requires an energy usage display meter, heat recovery ventilators, EnerGuide audits, and a vertical service shaft and cable raceway to make new homes solar-ready.[17] Florida allows local governments to set a maximum energy budget for homes that cannot be exceeded.[18]

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[14] H. Zirnhelt (2009). *Onsite Renewable Energy Requirements for Buildings: Background Report* (Vancouver: Pembina Institute) Draft 1 at 6 citing the Greater London Authority.
[15] This is governed by the *Energy Efficiency Act*, R.S.B.C. 1996, c.114.
[16] For a description of what these standards mean, see J. Row (2010). *Local Energy Efficiency Standards for Buildings* (Vancouver: Pembina Institute).
[17] For an example of building code-related energy efficiency measures see the City of Vancouver By-Law No. 9691 (2008), green building strategy for one family homes, one family homes with secondary suites, and two family homes http://vancouver.ca/blStorage/9691.PDF.
[18] The "energy budget" approach is used in Florida. Philip Fairey (2009). *Effectiveness of Florida's Residential Building Code: 1979-2009* (Cocoa, Florida: Florida Solar Energy Centre).

1.3 Final Note: Location, Urban Form and Energy Efficiency

The focus of this Discussion Paper is to explore the somewhat unclear jurisdiction for local governments to require enhanced energy performance and the provision of renewable energy in new buildings, as well as building labelling and building performance standards for existing buildings. It is important to note that local governments have clear jurisdiction for growth management, land use, urban form and the location of buildings, all factors that when considered together can have a greater impact on total energy use associated with buildings than does building construction. The location of buildings, urban form (compact, mixed-use neighbourhoods) and density dictate how much users must rely on automobiles and other energy-intensive forms of transportation for travel associated with building use. Building form (attached dwellings or buildings) also plays a significant role in the energy efficiency of any unit or building.[19]

[19] For a comprehensive review of this topic's primary literature see Maged Senbel, Sarah Church and Rose Maghsoudi (2009). *The Relationship Between Urban Form & GHG Emissions* (Vancouver: Smart Growth BC).

2. Scope of Existing Local Government Jurisdiction for Building and Renewable Energy Requirements

The purpose of this chapter is to evaluate how the priority energy performance policy approaches (labelling, renewable energy, and high energy performance) can be required using existing regulatory tools. Table 1 provides a summary of the findings on this existing jurisdiction as grouped into the subheadings of building regulation, land use plans, other regulation, fiscal measures, and other tools. Empty cells demonstrate a lack of jurisdiction in that area.

Existing local government jurisdiction is evaluated using the following framework:

- Is the jurisdiction comprehensive? Can a local government require energy efficiency/renewable energy/building labelling infrastructure, its maintenance over time, and enforce those requirements?
- Is it simple for local governments to administer?
- Does it require significant resources on the part of the applicant owner or local government?
- Does it change industry norms overall rather than create different standards across the province?

It is important to note that the provision of renewable energy may implicate utilities regulation under the *Utilities Commission Act* from the perspectives of both energy production and land use regulation of energy installations.[20] Energy production facilities that provide energy to a development or a neighbourhood may meet the definition of "public utility," thus requiring the owner to obtain a certificate of public convenience and necessity from, and be regulated by, the BC Utilities Commission.[21] A developer may be forced to become a public utility if it is compensated for producing, storing or providing electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public. Two important exceptions to this broad definition of public utility are local governments providing energy services within their own boundaries and a landowner servicing only itself or its employees or tenants (an owner-operated building) as long as the service is not used by or resold to others.

The *Utilities Commission Act* also prohibits anything done under the *Community Charter* or *Local Government Act* from impairing authorizations granted to a public utility, such as a certificate of public convenience and necessity.[22] This means that local government zoning and

[20] R.S.B.C. 1996, c.473.

[21] *Utilities Commission Act*, section 45. A public utility under section 1 of the Act includes a person who owns or operates in British Columbia equipment or facilities for the production, generation, storage, transmission, sale, delivery or provision of electricity, natural gas, steam or any other agent for the production of light, heat, cold or power to or for the public or a corporation for compensation, but does not include:

- a municipality or regional district providing services within its own boundaries;
- a person who provides the service only to the person or the person's employees or tenants, if the service or commodity is not resold to or used by others;
- those engaged in the petroleum industry;
- a person who is engaged in the production of a geothermal resource, as defined under the Geothermal Resources Act; or
- BC Hydro for certain purposes.

[22] At section 121.

other regulatory powers cannot limit public utilities where there is a conflict with an authorization under utilities regulation; however local government bylaws apply to landowners that supply heat and/or electricity to their own buildings because they are exempted from being a public utility under the *Act*.

Finally, consideration of subdivision powers is not included in this analysis as it does not directly affect requirements for the priority energy performance policy approaches. The *Local Government Act* gives local governments the authority to require landowners to construct a variety of infrastructure systems pursuant to standards established by bylaw, with the important exception that these standards do not apply to subdivisions under the *Strata Property Act*.[23] The subdivision power does not significantly implicate energy efficiency and the provision of renewable energy in individual buildings. However, local government may need to amend subdivision servicing bylaws to support renewable energy systems in subdivisions, for example by establishing new requirements for underground wiring.

[23] At s.938(1)(b-c) and (3).

Table 1: Potential of Existing Local Government Jurisdiction

Existing Jurisdiction	Description of Tool	Building Labelling & Standards for Existing Buildings		Renewables		High Energy Performance	
		Strengths	Weaknesses	Strengths	Weaknesses	Strengths	Weaknesses
	Building Regulation						
Building Code + *Community Charter* jurisdiction	Provincial construction standards for buildings on health, safety, accessibility, fire & structural protection, protection from water/sewer damage, and energy/water efficiency *Community Charter* & regs do not give additional jurisdiction to local gov'ts	- may require building performance information as part of building or occupancy permit application	- cannot require applicant to release to other parties - apply only at renovation				
	Land Use Plans						
Regional Growth Strategy	Regional plan setting policy for growth management and development for 20 years			- can establish regional targets for renewables - can commit municipalities & regional districts to a regional energy or climate action plan	- no enforcement mechanism - no direct jurisdiction to require	- can establish regional targets - can commit municipalities & regional districts to a regional energy or climate action plan	- no enforcement mechanism - no direct jurisdiction to require
Official Community Plan	Local plan setting policy for land use & development for at least 5 years Includes designation & guidelines for development permit areas	- can require labelling as part of DPA process	- authorization to release to third parties unclear	- can establish local targets and actions for renewables - can implement through DPA guidelines	- does not authorize or require a local gov't to implement renewables	- can establish local targets and actions for high performance buildings	- does not authorize or require a local gov't to implement
	Other Regulation						
Zoning & Amenity Bonus	Establish use, density, and other regulations on each parcel of land Amenity bonus allows voluntary increase in density in return for landowner providing amenities	- can obtain through negotiation	- voluntary - may not bind future purchasers	- can obtain through negotiation - condition of rezoning may be secured through covenant - can tailor to building size or energy use	- voluntary - unclear if binding on future purchasers - long term enforcement unclear - may detract from other needed amenities	- can obtain through negotiation - quality of built form may be secured through covenant - can tailor to building size or energy use	- voluntary - unclear if binding on future purchasers - long term enforcement unclear - may detract from other needed amenities
Phased Development Agreements (PDA)	Agreements for specific projects that freeze zoning & other requirements for up to ten years (20 years with provincial approval)	- may require building performance information as part of the application process	- cannot require applicant to release to other parties	- can obtain through negotiation - PDA runs with the land	- limits local gov't ability to impose better standards in the future	- can obtain through negotiation - PDA runs with the land	- limits local gov't ability to impose better standards in the future
Development Permit Areas (DPA)	Overlay zones (based on geography or type of development) that set additional standards development must meet	- may require building performance information as part of the permit application process	- cannot require applicant to release to other parties	- can require as part of permit - permit runs with the land	- cannot require internal building systems to connect to external renewables		

Existing Jurisdiction	Description of Tool	Building Labelling & Standards for Existing Buildings		Renewables		High Energy Performance	
		Strengths	Weaknesses	Strengths	Weaknesses	Strengths	Weaknesses
	Fiscal Measures						
Local Area Service[24]	Financing mechanism for local gov't to recoup the cost of new infrastructure that benefits a particular area from property taxes			- potential to fund installation of centralized renewables - may support retrofits of existing buildings	- untried in B.C. - maintenance on private property may pose challenges if local gov't responsible		
Development Cost Charges (DCC)	Fees paid by landowners for the incremental cost that new development places on macro infrastructure			- can provide reduced DCCs for units with renewables - creates incentive to include renewables	- may be a small overall incentive - complex administration - reduced revenue for local gov'ts	- can provide reduced DCCs for units with high performance (low water use) - creates incentive to build using high performance design	- may be a small overall incentive - complex administration - reduced revenue for local gov't
Revitalization Tax Exemption	Tax exemption scheme for areas appropriate for redevelopment Municipality may impose conditions and other requirements on features of redevelopment for properties to qualify	- may require building performance information as part of the application process - may require disclosure to third parties during life of exemption (up to 10 years)	- may not enable long term disclosure and updating of building performance information	- may require renewables as part of the requirements & conditions of exemption - penalties if exemption holder fails to abide by conditions	- limited in scope (to revitalization areas) - may not provide for long term use and maintenance of renewables (10 years maximum) - applies to existing development only	- may require high performance construction as part of the requirements & condition of tax relief - penalties if exemption holders fail to abide by conditions	- limited in scope (to revitalization areas) - may not provide for long term maintenance of high performance features (10 years maximum) - applies to existing development only
	Other Tools						
Development Information	Ability to require applicants for development to supply information and studies on the impact of the development	- may require building performance information as part of the permit application process	- cannot require applicant to release to other parties				
Covenants	Charges registered on the title to land restricting or requiring activities or maintenance of the property in a certain way	- may require disclosure of building performance information	- voluntary - costly to create (including monitoring & enforcement) - enforcement of positive covenants unclear	- may require installation and upkeep of renewable energy systems	- voluntary - costly to create - must be monitored & enforced - enforcement of positive covenants unclear	- may require construction and maintenance to a specified building performance standard	- voluntary - costly to create - must be monitored & enforced - enforcement of positive covenants unclear

[24] The City of Dawson Creek evaluated the potential for funding the purchase and installation of individual renewable energy technologies and energy efficiency upgrades for buildings. The legal jurisdiction for this approach is unclear and no local government to date has pursued this approach.

2.1 Building Regulation

The regulation of building standards is achieved through the application of the British Columbia Building Code, and some local government standards of maintenance bylaws.

2.1.1 Building Code and Concurrent Jurisdiction

The provincial government, by regulation, enacts the British Columbia Building Code that establishes standards for the construction, alteration, repair or demolition of buildings.[25] It applies to all local governments with the same force and effect as a validly enacted bylaw.[26] The responsible minister may, by regulation, exempt all or part of a municipality or regional district, or people, buildings, classes of buildings, materials or areas from the application of all or part of the building code and may adopt other regulations for those exempted factors.[27] By regulation, the government may adopt all or part of a third party building code or standard.[28]

Where regional districts provide the service of building inspection,[29] they have the authority to regulate the construction, alteration, repair or demolition of buildings and other structures, as well as the heating, air conditioning, electrical wiring and equipment of buildings,[30] for the purposes of:[31]

- The provision of access to a building or other structure, or to part of a building or other structure, for a person with disabilities;
- The conservation of energy or water;
- The reduction of greenhouse gas emissions; and
- Health, safety or the protection of persons or property.

Municipalities have more general authority under the *Community Charter* to regulate, prohibit and impose requirements in relation to buildings and other structures for the same purposes as regional districts.[32] This local government authority includes requiring that building and occupancy permits be obtained prior to undertaking work and occupying the building, respectively.[33]

It is important to note that this local government authority in relation to buildings is subject to concurrent jurisdiction with the provincial government.[34] Concurrent jurisdiction requires that any bylaw dealing with building regulation must be approved by the Minister, enacted under a regulation, or enabled by agreement between a local government and a provincial Ministry.

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[25] *Local Government Act*, R.S.B.C. 1996, c.323 s.692(1)(a). The regulation is the British Columbia Building Code Regulation, B.C. Reg. 216/2006.
[26] *Ibid*, s.692(2).
[27] *Ibid*, s.692(1)(e) and (2.1).
[28] *Ibid*, s.692(1)(c).
[29] *Local Government Act*, s.693.1(1).
[30] *Local Government Act*, s.694(1)(a-b). This authority is subject to the *Health Act*, *Drinking Water Protection Act*, and the *Fire Services Act*.
[31] *Local Government Act* s.694(1.1).
[32] S.B.C. 2003, c.26 ss.8(3)(l) and 53.
[33] For regional districts this permit authority comes from s.694(1)(c-d) and for municipalities from the *Community Charter* ss.8(3)(l), 15 and 54(2).
[34] *Local Government Act* s.693.1(2) and *Community Charter* s.9.

Local governments have no independent jurisdiction in relation to buildings because, according to section 9 of the *Community Charter,* they must receive some approval or further definition by the provincial government.

The provincial government has given this direction in the Buildings and Other Structures Bylaws Regulation,[35] which allows local governments to regulate buildings by bylaws that establish standards for the construction, alteration, repair or demolition of buildings or structures that:

- Are listed in sentence 1.1.1.1 (2) of Division A of the Code [structures to which the Code does not apply such as public infrastructure located in a street, utility towers, hydro electric dams and accessory buildings less than 10 square metres. Notably this sentence lists at (c) mechanical or other equipment and appliances not specifically regulated in these regulations], or
- Are not "buildings" as defined in the Code.

For buildings or structures not referred to above, a council may adopt a bylaw that establishes standards for construction, alteration, repair or demolition of a building or structure subject to the restrictions that the bylaw must not:

- Establish standards *that are additional to or different from* the standards established by the Code,
- Extend or change the application of scope of the code as specified in articles 1.3.2.1 [the application of the Parts 1, 2 and 3 of Division A of the Code to all buildings covered by the Code], 1.3.3.1 [the application of Parts 1, 7 and 8 of Division B of the Code to all buildings covered by the Code], 1.3.3.2 or 1.3.3.3 [the application of specific part of the Codes to different types of buildings] of Division A or subsection 2.2.7 of Division C [professional design and review] of the Code, or
- Change the form of a letter that is set out in a schedule to subsection 2.2.7 of Division C [professional design and review] of the Code.

[emphasis added]

The effect of the Buildings and Other Structures Bylaws Regulation is to emphasize that local government bylaws cannot establish standards that are additional to or different from the standards established by the Code for most buildings. For example, local governments cannot establish a higher energy efficiency standard than is required by the Code. Bylaws that established different standards could only be validly enacted with approval from the minister or by an agreement, as per section 9 of the *Community Charter*.

The lack of additional jurisdiction provided in the Building and Other Bylaws Regulation, as well as the additional requirements to seek approval of building bylaws, means that most local governments will not use this authority to enhance building performance because of the uncertainty of, and the delay in waiting for, provincial approval. This authority has been in place since 2003 and no local government has asked for or received approval from the provincial government to alter Building Code standards in the area of energy efficiency.[36]

[35] B.C. Reg. 86/2004.

[36] Since 2004 local governments have submitted 11 bylaw requests dealing with fire sprinklers, adaptable housing and Letters of Assurance. Working groups on adaptable housing and Letters of Assurance have resulted in Building

Local government lawyers are discussing the difference between setting standards (e.g. the quality of PVC pipe) and establishing requirements (that a PVC pipe be installed). Some argue that requiring, for example, a PVC pipe between the roof and utility room for a building to be solar hot water ready is simply a requirement that does not alter the standards established by the B.C. Building Code. In any case, there is no clear jurisdiction for local government to exceed the B.C. Building Code for high energy efficiency or to require the installation of renewable energy systems without Ministerial approval.

Finally, local governments may be able to require that information about the energy efficiency of a building be provided as part of a building or occupancy permit application.[37] However, they do not have the jurisdiction to require that the building label or rating be disclosed by the applicant to potential purchasers or other parties. They may be able to disclose information in their possession, subject to privacy legislation.

2.1.2 Requirements for Existing Buildings

While energy efficiency requirements for new and substantially renovated buildings are relatively easy to establish in law, mandating retrofits for existing buildings is somewhat more challenging. Generally, when governments change laws anything done under the old law is deemed to be valid if undertaken properly under the old law.[38] New activities, such as the repair or alteration of buildings, must conform to the new law. Changes to the Building Code apply to older buildings but are generally enforced only when triggered by a building permit application. Therefore, absent another regulatory trigger, such as a renovation that requires a building permit or resale of a building if law reform made it activate regulatory requirements, existing buildings are unaffected by new regulations except in special circumstances for health and safety reasons.

2.2. Land Use Plans

Both regional growth strategies and official community plans can contain policies and actions relating to the priority energy performance policy approaches.

2.2.1 Regional Growth Strategies

A regional growth strategy (RGS) is a long term (20 year) plan adopted by a regional district and its member municipalities intended to guide growth and development based on social, environmental and economic goals. It must establish objectives relating to projected population requirements for housing, transportation, regional district services, parks and natural areas, and economic development. The *Local Government Act* states that an RGS should work towards a

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Code changes, with fire sprinklers being an unresolved issue. Christine Webb, Building and Safety Policy Branch, Ministry of Housing and Social Development. Personal communication January 13, 2009.

[37] Municipalities may establish application procedures under the *Community Charter* s.15. Regional districts may require building and occupancy permits under the *Local Government Act* s.694(1)(c-d).

[38] Section 1 of the *Interpretation Act*, R.S.B.C. 1996 c.238 defines "enactment" to include an Act or regulation or a portion thereof. A "regulation" includes a bylaw or other instrument enacted in the execution of a power conferred under an Act. Section 35(1) states that the repeal of an enactment does not affect the previous operation of the enactment or anything done under it, or affect a right acquired under the repealed enactment. See also Pierre-Andre Cote, *The Interpretation of Legislation in Canada (2nd Ed.)* (Montreal: Les Editions Yvon Blais, 1991).

variety of goals, including "[p]lanning for energy supply and promoting efficient use, conservation, and alternative forms of energy."[39] All regional district bylaws and services must be consistent with the RGS.[40] An RGS does not authorize or require local governments to undertake specific actions;[41] rather, a municipality conforms to an RGS by including a regional context statement in its official community plan that describes how its official community plan will be made consistent with the RGS over time.[42]

An RGS can set regional energy policies, either directly or through commitment to developing a regional energy plan or climate action plan. However, it does not provide the jurisdiction to implement the policies or plans, which are made effective through other local government resolutions or bylaws. Arguably, an RGS has a greater impact on energy efficiency from a land use perspective, such as commitment to densification, urban containment, and a higher percentage of attached dwellings as it relates primarily to land use not building regulation. To date, none of the seven regional districts that have adopted an RGS have included significant energy efficiency policies relating to buildings or renewables.[43]

2.2.2 Official Community Plans

Official community plans (OCPs) establish objectives for land use, development and local government operations for a municipality or a local area within a regional district for at least a five year period. An OCP must establish policies for a variety of topics, including the location, amount and type of residential, commercial, and industrial development to meet anticipated needs and may address any other topic within local government jurisdiction.[44] It must also include targets for the reduction of GHG emissions, and proposed policies and actions to achieve those targets.[45] An OCP does not authorize or require a local government to act,[46] but all subsequent bylaws must be consistent with OCP policies, meaning they must not be in direct conflict with them.[47]

Like RGSs, OCPs establish policies that are implemented through other regulations, financial mechanisms and incentives. The exception is the designation of development permit areas as their guidelines are usually contained in the OCP. As noted above, all subsequent bylaws must be consistent with the targets for reducing GHG emissions, however they are not enforceable against a local government unless a court finds that local government action is in direct conflict with the targets.

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[39] At s.849.
[40] *Local Government Act*, s.865(1).
[41] *Local Government Act*, s.865(3).
[42] *Local Government Act*, s.866.
[43] Existing RGSs include Nanaimo, Metro Vancouver, Thompson-Nicola, Central Okanagan, Capital Region, Fraser Valley, and South Okanagan. New RGSs under development include Comox Valley, North Okanagan, and Squamish-Lillooet.
[44] *Local Government Act*, ss.877-878.
[45] *Local Government Act*, s.877(3).
[46] *Local Government Act* s.884(1).
[47] *Local Government Act* s.884 (2); *Shell Canada v. BC Transit*, 2007 BCCA 64, [2007] B.C.W.L.D. 1888, 2007 CarswellBC 195 (B.C.C.A.), *Rogers v. Saanich* (1983), 22 M.P.L.R. 1 (B.C.S.C.) and *Brooks v. Courtenay (City)* (1991), 78 D.L.R. (4th) 662 (B.C.C.A.).

2.3 Other Regulation

Several land use and other regulatory approaches can secure energy efficiency in buildings and the provision of renewable energy infrastructure. These include zoning and amenity bonus, phased development agreements, and development permit areas.

2.3.1 Zoning and Amenity Bonus

While local governments cannot "sell" zoning (the use and density of that use on a parcel of land), they can accept promises or gifts of, for example, high performance building from a developer as part of a rezoning.[48] The appropriate way to negotiate for specific amenities and features in a development is under the *Local Government Act* section 904, which enables local governments to give applicants increased density in exchange for providing amenities, affordable housing or special needs housing. While the term "amenity" is not defined in the *Local Government Act*, broadly defined it can be treated as a feature that a local government views as in the best interest of its constituents.[49] Local governments have obtained a variety of amenities under section 904 that have included landscaping, ecological restoration and high efficiency or green building design.[50] Amenities can be provided on-site or off-site as there is no restriction in the legislation. A cash contribution is also considered an amenity because section 904 allows "conditions relating to" the provision of amenities. Cash contributions collected for energy efficiency purposes could be used towards community infrastructure, such as a community energy system or solar or ground source heat infrastructure upgrades.

Several local governments treat high performance buildings as part of an amenity package for density bonus, including the Cities of North Vancouver, Port Coquitlam and Victoria.[51] The City of Burnaby also allows a green building "bonus" in the UniverCity neighbourhood; enhanced energy efficiency of 23% better than ASHRAE 90.1 and meeting or exceeding EnerGuide 80 and/or R-2000 standards qualifies the applicant for a 5% floor area ratio bonus, with an alternative energy system, such as solar or ground source heat, qualifying a building for a bonus of 10%.[52] Finally, Hailey, Idaho, provides a density bonus of 10% if solar, wind, geothermal or other alternative renewable energy sources will provide at least 50% of the total energy needs of a planned unit development.[53]

Building labelling, the provision of renewable energy, and high performance building construction can be obtained through rezoning and amenity bonus. However, choosing to provide them as part of a rezoning package or amenity bonus zoning is voluntary on the part of the

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[48] *Pacific National Investments v. Victoria (City)* [2000] 2 S.C.R. 919 (S.C.C.); *Lambert v. Whistler (Resort Municipality)* 2004 BCSC 342, 46 M.P.L.R. (3d) 203, 28 B.C.L.R. (4th) 125.

[49] Section 904(2)(a) of the *Local Government Act* provides for "conditions relating to the conservation or provision of amenities, including the number, kind and extent of amenities" in exchange for increased density.

[50] This partial list is derived from a review of case law dealing with s.904, the B.C. Office of Housing and Construction Standards, *Density Bonus Provisions of the Municipal Act: A Guide and Model Bylaw* (1997), and the Smart Bylaws Guide website, section on Compact Complete Communities: Density Bonus http://www.wcel.org/issues/urban/sbg/Part3/compact/densitybonus/.

[51] Kim Fowler, Former Director of Planning, City of Port Coquitlam. Personal communication May 15, 2008; Susan Rutherford, Green Buildings Guide (Vancouver: West Coast Environmental Law Association, 2006).

[52] Fraser Basin Council and Community Energy Association (2007). *Energy Efficiency & Buildings: A Resource for BC's Local Governments* at 43.

[53] Hailey Zoning Ordinance, Article 10.4.1 http://www.haileycityhall.org/planning/zoningOrd.asp

landowner. Their maintenance and continued use over time is also unclear because their enforcement would rely on private law mechanisms like covenants registered on the title to the property, not through public law means like bylaws (and ticketing with fines). Enforcement would be through the courts and it is unclear, given the lack of case law in this area, how courts would enforce positive covenant conditions such as the requirement to maintain renewable energy systems. Finally, there are many different priority amenities that communities desire, such as affordable housing and ecological restoration. It may be an inefficient use of density bonus amenities to accept high performance buildings or renewables as part of the package unless it is specifically tailored to compensate for energy inefficiencies as units increase in size.

2.3.2 Phased Development Agreements

Another voluntary way local governments can secure energy efficiency and building performance features in new development is by using phased development agreements (PDA), agreements between a local government and landowner/developer that "freeze" zoning bylaws and certain development permit requirements (siting, size or dimensions of buildings and land uses) to the standards in place at the time the local government and developer entered into the PDA.[54] Except for under special enumerated circumstances, new zoning and development permit regulations do not apply to the land covered by the PDA for up to ten years (or longer with the approval of the inspector) unless agreed to by the landowner. In exchange for this certainty of regulation, landowners agree to the imposition of additional terms and conditions that may include specific features, amenities, and the registration of covenants under the *Land Title Act* s.219.[55]

The benefit of PDAs rests in the certainty it provides to landowners, which reduces risk and can make financing easier for large projects, the phases of which are built over many years. The drawback is that PDAs require local government to give up the authority to change zoning and other regulations regarding the land for up to a decade. While some local government lawyers view the terms "specific features" and "amenities" as granting broad jurisdiction for PDAs that include renewable energy or high performance buildings,[56] others caution that the subject of PDAs should remain within a local government's land use planning powers.[57] As a relatively new local government tool, there are no publicized examples of local governments using PDAs for renewable energy or energy efficiency requirements.

2.3.3 Development Permit Areas

Local governments may designate areas within their jurisdiction as development permit areas (DPAs) for which guidelines in OCPs or zoning bylaws direct how development will occur at a site-specific level.[58] Called "overlay zones" in some other jurisdiction, purpose-specific DPA designations and guidelines allow a local government to impose conditions and requirements on development in an area through a permitting process before subdivision, construction or alteration of a building, or alteration of the land or a structure occurs, unless the development

[54] *Local Government Act*, s.905.1(5) and (7).
[55] *Local Government Act* s.905.1(4).
[56] Colin Stewart (2009). *Re-fashioning the Old Regulatory Tool Kit for New Purposes* (Vancouver: Continuing Legal Education Society) at 12.
[57] Luigi Carvello (2009). *Master Plans and Development Agreements* (Vancouver: Continuing Legal Education Society) at 7.
[58] *Local Government Act* s.919.1(1(2) and (3).

activity is exempt from the permitting process.[59] These conditions are site- and project-specific and are in addition to zoning requirements.

Local governments may designate DPAs for a variety of purposes, including the establishment of objectives to promote energy conservation and the reduction of GHG emissions.[60] A development permit issued under a DPA designated for energy conservation and the reduction of GHG emissions may include requirements respecting:[61]

- Landscaping, including restrictions on the type and placement of trees and other vegetation in proximity to the buildings and other structures;
- Siting of buildings and other structures;
- Form and exterior design of buildings and other structures;
- Specific features in the development; and
- Machinery, equipment and systems external to buildings and other structures.

These provisions give broad authority for local governments to require exterior design features of, and systems that are external to, buildings. For example, the siting of buildings could include clustering development and solar orientation. Specific features or equipment could include solar panels. Some local governments in B.C. currently apply guidelines that address GHG reduction in DPAs, such as the City of Richmond's requirements for sunlight access, south-facing orientation of windows to maximize solar gain, and operable windows.[62] The Resort Municipality of Whistler has had solar design guidelines for its village core since 2006.[63]

There is ongoing discussion in B.C. about establishing performance-based measures for energy production through DPAs. For example, over 100 local governments in the United Kingdom have adopted variations of the "Merton Rule" that all new development larger than 1000 square metres provides at least 10% of predicted energy needs from renewable resources.[64] Local governments in B.C. could adopt a similar approach through the use of DPAs for GHG reduction and energy conservation. For example, a DPA designation for the establishment of objective to promote energy conservation and the reduction of GHG emissions could contain a performance-based guideline of producing 10% of new energy requirements from renewable sources on site. As a performance-based measure it would be up to an applicant to decide how to meet that objective, or through explicit authority a local government could require a combination of external machinery and building features.[65] However, it is important to note that this authority does not allow local governments to impose permit conditions that alter or exceed the Building Code, or give them the ability to require that buildings connect to the external renewable energy features or machinery. This is a gap in the interaction between Building Code and DPA jurisdiction that in practice would likely not create problems, as most landowners who install

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[59] *Local Government Act* s.920(1).
[60] *Local Government Act*, s.919.1(1)(h) and (j).
[61] *Local Government Act* s.920(10.1) and (10.2).
[62] Fraser Basin Council and Community Energy Association (2007). *Energy Efficiency & Buildings: A Resource for BC's Local Governments* at 38.
[63] Resort Municipality of Whistler, Whistler Village: Solar Access Protection Guidelines (Whistler: Resort Municipality of Whistler, 2006). http://www.whistler.ca/images/stories/PDF/Bylaw/Schedule%20Y%20-%20Solar%20Access.pdf
[64] http://www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080125/debtext/80125-0002.htm) http://www.communities.gov.uk/documents/planningandbuilding/pdf/ppsclimatechange.pdf (at s. 26)
[65] As is authorized by s.920(10.1).

renewable energy infrastructure would connect it to building systems voluntarily. However, it is an ambiguity that should be clarified through law reform or local government practice because it makes the enforcement of renewable energy requirements unclear.

Some recent discussion amongst some local government lawyers has focused on how this prohibition against tinkering with the Building Code prohibits local governments from establishing new *standards*, such as increased energy efficiency. However, it may be that under development permits and in conformance with the Building Code local governments may establish *requirements*, such as mandatory solar panels on roofs or a ground source heat unit as a condition of a development permit with a *requirement* (not a standard) to install solar-ready infrastructure inside the building (see the discussion about the Building Code under section 2.1 above).[66] It is safe to say that the jurisdiction to require renewable energy installations using DPAs is clear; what is unclear is how that external infrastructure connects with internal systems where local governments have no authority to deviate from the Building Code. In practice, where a landowner or developer installs external systems they will, in most cases, also install and connect to internal systems to facilitate operation of the overall energy system.

Development permits "run with the land," meaning they continue to apply to the property to which they were issued. Local governments do not have explicit authority to require maintenance of renewable energy facilities, unless they obtain a covenant registered on the title to the land as part of the development approvals package (see section 2.13 on covenants below). Finally, information about building energy ratings can be required as part of the application requirements for a development permit.

2.4 Fiscal Measures

Existing jurisdiction for fiscal incentives or tax exemptions include local area services/local service areas, development cost charges and the use of revitalization tax exemption zones. All fiscal measures are voluntary and, thus, do not require uptake by building developers or owners. They can often supplement other measures to increase overall support for new policies.

2.4.1 Local Area Services and Local Service Areas

A regional district may operate a service in a local area that the board considers "necessary or desirable,"[67] and a municipality may provide a local area service where the council considers that the service provides "particular benefit" to part of the municipality.[68] The term "service" is defined as "an activity, work or facility undertaken or provided by or on behalf of the municipality."[69] The intent of these provisions is to allow local governments to facilitate the financing of the capital cost of services that benefit a particular area and recoup those costs through property taxes in that area. The capital cost is paid back over time and the debt remains with the property rather than with the person who owned the property at the time of the improvements, a cost that is not necessarily reflected in the value of the property when sold.

[66] Personal Communication, Raymond Young, Young Anderson August 2009.
[67] *Local Government Act*, s.796(1), and more generally Part 24 of the *Act*.
[68] *Community Charter*, s.210(1) and (2), and more generally Division 5 of Part 7.
[69] *Community Charter*, Schedule.

Lawyers who practice local government law in B.C. suggest that local governments do have the legislative authority to use local improvement charges to fund renewable energy upgrades to existing buildings, such as solar and, by analogy, ground source and other energy efficiency capital.[70] However, to date no local government in B.C. has used this approach. According to a 2009 report prepared for SolarBC, only local governments in the Yukon have used this tool,[71] operating under a different legislative regime. The City of Dawson Creek has recently explored its use.[72] It is up to local governments to demonstrate that solar or ground source heat infrastructure is necessary or desirable, or provides a particular benefit for the designated local service area.

2.4.2 Development Cost Charges

Local governments may require the payment of development cost charges (DCCs) at the time of subdivision or issuance of a building permit for new construction to help fund the cost of a variety of community infrastructure upgrades (water, sewer, drainage, roads and parkland) needed as a result of new growth.[73] DCC rates can be set for different geographic areas in a community and can vary by land use and density,[74] acknowledging that different types of uses and locations have varying infrastructure servicing costs.[75] High performance building features that reduce demand for water and wastewater treatment result in minor savings in local servicing networks and potentially major savings in local government-wide infrastructure costs by lowering the demand for supplying water and treating wastewater.[76]

Local governments may waive or reduce DCCs for eligible development, including subdivisions of small lots designed to result in low GHG emissions and development that is designed to result in low environmental impact.[77] Local governments may establish the type of development that constitutes an eligible development, such as high energy performance buildings or development with renewable energy infrastructure, and the requirements that must be met to obtain a waiver or reduction in DCCs.[78] The scope of DCC jurisdiction exempts small unit housing from DCCs,[79] and requires local governments to consider how developments with low environmental impact have an impact on the capital cost of infrastructure when establishing DCC rates by

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[70] See, for example, the legal opinion by Bill Buholzer, Letter dated January 2 2007 to Ms. Roslyn Tanner, Director of Financial Services, District of Central Saanich. On file with author. See also Colin Stewart (2009). *Re-fashioning the Old Regulatory Tool Kit for New Purposes* (Vancouver: Continuing Legal Education Society of BC) at section VII, p.13.

[71] Compass Resource Management, *Advancing Solar Hot Water in B.C. – Local Government Policy Scoping Report* (Victoria: SolarBC, 2009) at 31.

[72] Claire Becksted, "Using Local Improvement Charges to Finance Energy Efficiency and Renewable Energy: Dawson Creek, B.C." Powerpoint presentation for the Community Energy Association workshop *Build to Zero*, Vancouver, December 9 2009.

[73] *Local Government Act*, s.933.

[74] *Local Government Act*, s.934(3).

[75] Coriolis Consulting Corp., *Do Development Cost Charges Encourage Smart Growth and High Performance Building Design?: An Evaluation of Development Cost Charge Practices in British Columbia* (Vancouver: West Coast Environmental Law, 2003).

[76] *Ibid*.

[77] *Local Government Act*, s.933.1(2-3).

[78] *Local Government Act*, 933.1(3)(a) and (c).

[79] *Local Government Act*, s.933 A DCC is not payable on self-contained dwelling units if, subject to certain bylaws and regulations, each unit is no larger than 29 square metres (312 square feet) and each unit is used solely for residential purposes. At section 25, amending *Local Government Act* s.933.

bylaw.[80] A local government must also consider whether DCC rates will discourage development designed to result in low environmental impact.[81]

Development cost charges that truly reflect the additional capital cost of different types of construction to local governments can be tailored to reflect the low incremental cost of high performance buildings. For example, per unit DCC charges in some areas of Kelowna and Nanaimo amount to more than $5,000 over DCC charges for units in the downtown.[82] Overall, reduced DCCs for high performance buildings and small lot/infill can create an incentive for that type of development and pay for the additional cost of some green infrastructure, such as renewable energy systems. Their limitation is that they apply only at the time of subdivision or building permit and therefore do not create an incentive for retrofitting existing buildings.

2.4.3 Revitalization Tax Exemptions

Municipalities may establish Revitalization Tax Exemption Zones pursuant to section 226 of the *Community Charter* in which eligible properties may receive a tax exemption for up to 10 years if the landowners meet the requirement of the bylaw and conditions contained in the "exemption certificate." This gives municipalities broad authority to establish requirements by bylaw, such as the provision of renewable energy, and impose conditions by exemption certificate. One example is the City of Victoria's *Revitalization Tax Exemption (Green Power Facilities) Bylaw* that encourages the sustainable redevelopment of land in the City by supporting the use of environmentally sustainable building construction methods and environmentally sustainable building heating, cooling or energy systems in connection with the redevelopment of lands, and reducing GHG emissions produced through the generation of energy for heating, cooling or the generation of electricity for new developments within the City.[83] Although focused on the provision of "green power facilities" that supply energy to multiple buildings that have achieved a LEED certification of silver or better, this type of bylaw could support the installation of renewable energy on individual buildings.

Revitalization tax exemptions can provide a financial incentive to landowners to install renewable energy, or to build to an energy efficient standard through infill development. However, it is limited in that it only applies to redevelopment in areas that a municipality has designated for revitalization, and the conditions apply only for the duration of the tax exemption, which is up to 10 years unless secured on title with a covenant.

2.5 Other Tools

Finally, local governments can require applicants and landowners to provide information about the energy performance of buildings in some circumstances, for example the building energy rating. Local government may also secure long term energy efficiency and the provision of renewable energy commitments by using covenants registered on the title to land.

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[80] *Local Government Act*, s.934(4)(d).
[81] *Local Government Act*, s.934(4)(e)(iv).
[82] Coriolis Consulting Corp., *Do Development Cost Charges Encourage Smart Growth and High Performance Building Design?: An Evaluation of Development Cost Charge Practices in British Columbia* (Vancouver: West Coast Environmental Law, 2003) at 16.
[83] City of Victoria Bylaw No. 09-040. May 2009. http://www.victoria.ca/common/pdfs/bylaw09-040.pdf.

2.5.1 Requiring Information

Local governments can require specific information to be provided to them by applicants as part of application processes in two ways. First, any local government with an OCP or zoning bylaw must define, by bylaw, procedures under which an owner of land may apply for an amendment to the OCP or zoning bylaw, or for the issue of a development permit.[84] This procedure bylaw can specify the types of information necessary for the evaluation of an application. A local government may also designate development approval information areas or circumstances in OCPs, which enable the local government to request information on the potential impacts of development.[85] The impacts for which information may be requested are unrestricted in the legislation. Under this authority local governments can ask for information about building energy efficiency, the provision of renewables, and building performance.

One local government example in the area of energy performance is the City of Santa Cruz that requires the engagement of a variety of professionals, including a solar energy expert, where appropriate, before the City will consider an application for a larger planned development.[86]

Receiving information about building energy efficiency, building performance, and the provision of renewable energy allows local governments to evaluate how well they are meeting their GHG reduction targets and actions, as well as other policies in OCPs and plans. Local governments may be able to provide this information about buildings to interested parties. However, in the majority of cases the requirement for providing information would only apply to new or substantially renovated buildings because the information is provided as part of a permit application process. The information would not be supplied automatically to third parties as a factor that might affect market behaviour. Individual local governments could develop programs with realtors, for example, to provide for a consistent release of this information to the public at the time of sale (see the description of the Time of Sale Home Energy Labelling Pilot Project in section 3.1.5 below), however protection of privacy concerns may prevent local governments from generally releasing this information to the public.

2.5.2 Covenants

Promises obtained from landowners such as the provisions of amenities or other features in a development, or requirements or restrictions imposed through bylaws, can be secured to a property and bind future landowners by the registration of a covenant on the title to the land under section 219 of the *Land Title Act*.[87] This approach is particularly common when a local government and landowner reach an agreement for rezoning. Local governments can have covenants registered in their favour, which enable them to enforce the covenant conditions against the landowner.[88] Covenants may impose both negative (restrictions on activities) and positive (require the landowner to do something) conditions, and include provision about the use of land or use of a building on the land, that land is to be built on according to the covenant,[89] and that a specified amenity be protected, preserved, maintained or kept in its existing state in

[84] *Local Government Act*, s.895(1).
[85] *Local Government Act*, s.920.01.
[86] Chapter 24.08.730(3)
http://www.codepublishing.com/CA/SantaCruz/html/SantaCruz24/SantaCruz2408.html#24.08.430
[87] R.S.B.C. 1996, c.250.
[88] *Land Title Act*, s.219(1) or (3).
[89] *Land Title Act*, s.219(2).

accordance with the covenant.[90] An "amenity" includes any architectural or environmental value relating to the land.[91] Covenants registered on title "run with the land," meaning they apply to all future landowners. Covenants that are voluntarily given by a landowner and validly drafted are enforceable against the landowner.[92] Local governments that are parties to covenants must enforce them to maintain their validity.[93]

Covenants must be registered with the consent of the landowner, therefore they do not, in isolation, require landowners to install renewable energy equipment or construct high performance buildings. They are the legal means to ensure that those features are in fact constructed and maintained pursuant to a development agreement. A covenant could require the disclosure of a building's energy rating from time to time to the local government as a party to the covenant. It may be possible to craft a covenant requiring disclosure of the energy rating each time the land is sold. However, covenants are expensive to draft because both parties usually desire legal representation and they require ongoing monitoring. The enforcement of positive conditions, for example to install and maintain renewable energy infrastructure, is largely untested under B.C. law.[94] Finally, many local governments are unwilling to become parties to covenants because of the ongoing monitoring and enforcement costs.

2.6 Conclusions

In conclusion, local governments have some jurisdiction to obtain enhanced energy performance in buildings, renewable energy infrastructure, and the disclosure of building energy performance. However, there is no clear area of jurisdiction that allows local governments to both require the priority energy efficiency measures and enforce their maintenance over time. Local governments may enact bylaws that regulate buildings, however they cannot deviate from the standards established in the provincial Building Code without ministerial approval. Other regulatory ways to achieve the priority energy performance measures, such as through rezoning and amenity bonus, are largely voluntary. The use of development permit areas can mandate the installation of renewable energy infrastructure, however it is unclear whether local governments can require the interior building systems needed to operate that infrastructure. However, in practice it is likely that landowners who install external systems will connect them to internal building systems.

Fiscal mechanisms such as local service areas, development cost charge regimes, and revitalization tax exemption zones provide a way for local governments to create incentives for the construction of high performance buildings and installation of renewables. They can also help to equalize the cost of conventional versus green building, making green building relatively less expensive and thus compensating for some of its additional costs. Local service areas may provide a long-term financing mechanism for green infrastructure whereas DCCs and revitalization tax exemptions provide a smaller exemption from conventional development costs.

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[90] *Land Title Act*, s.219(4).
[91] *Land Title Act,* s.219(5).
[92] See, for example, *Burnaby (City) v. Marando*, 2003 BCCA 400; *Burnaby (City) v. Rancanelli* (1998), 45 M.P.L.R. (2d) 117 (B.C.S.C.).
[93] See, for example, *Capital Regional District v. Millstream Industrial Park Ltd*., 1990 BCSC 349.
[94] The common law has not traditionally enforced positive covenant conditions: Bruce Ziff, *Principles of Property Law* 4th ed. (Toronto: Thomson Carswell, 2006), and there are recent statements by B.C. courts confirming that view: *Strata Plan VIS2968 v. K.R.C. Enterprises Inc,* 2007 CarswellBC 1243 (B.C.C.A.).

Revitalization tax exemption bylaws can provide up to a ten-year tax reduction benefit, with DCCs resulting in a one-time relatively small cost saving, when total development costs are taken into account.

Finally, while local governments can require applicants for permits and specified bylaw changes to provide information, it is not clear that they can require that disclosure to third parties. The most common way of securing the continued operation and maintenance of enhanced energy performance and the use of renewable energy is through registering covenants on the title to land. Covenants are costly to create, monitor, and enforce, and there is little direction from courts in B.C. on how they will enforce positive covenants.

This analysis of existing jurisdiction demonstrates that although local governments can facilitate the construction of high performance buildings, renewable energy and the disclosure of building energy performance, achieving all those goals depends in large part on the voluntariness of landowners and jurisdictional acrobatics. Building on this analysis, Chapter 3 evaluates a variety of law reform options for either enhancing local government authority to provide clearer jurisdiction or enabling other agencies to achieve the priority energy performance measures.

3. Options for Implementation

This chapter provides an assessment of the law reform options to implement the priority energy performance policy approaches. These options go beyond local government jurisdiction and explore provincial utilities regulation as well as real estate industry practice. The analysis does not assess the likelihood of achieving a particular law reform. It also does not provide law reform recommendations because of the uncertainty in moving forward with any one model. The analysis is summarized in Table 2.

As with Chapter 2, the following framework is used to evaluate the law and other reform options outlined in this chapter:

- Is the jurisdiction comprehensive, that is, can a local government require energy efficiency/renewable energy/building labelling infrastructure, its maintenance over time, and enforce those requirements?
- Is it simple for local governments, if applicable, to administer?
- Does it require significant resources on the part of the applicant owner or local government?
- Does it change industry norms overall rather than create different standards across the province?

This Chapter assumes that "smart meters" will become standard hardware in buildings in the near future, as required by the *Utilities Commission Act*.[95] These meters allow utilities to monitor energy use remotely using a number of variables such as total use and time of day. They will provide a sophisticated baseline of electricity use for different building types.

Finally, an ideal program that addresses all three priority energy performance policy approaches (labelling and efficiency requirements for existing buildings, renewable energy and high energy performance) may include the use of several of the options outlined in this and the previous chapters. The most effective program may rely on the interdependent and flexible use of a variety of legal and policy tools. For example, it may be more cost effective and reduce energy use overall by allowing developments to be more energy efficient and produce less energy from renewables onsite.[96] How the program(s) are structured also depends on whether the primary goal is energy efficiency or the reduction of GHGs, given that almost all electricity in B.C. is generated using "clean" hydroelectricity.

[95] *Utilities Commission Act*, R.S.B.C. 1996, c.473, s.64.04.

[96] This is allowed in the London Borough of Merton's program. Exceeding Building Code energy efficiency requirements offsets the amount of renewable energy that must be provided onsite. Zirnhelt, Hayes (2009). *Onsite Renewable Energy Requirements for Buildings: Background Report* (Vancouver: Pembina Institute) at 10 citing Adrian Hewitt, former Environment Officer, London Borough of Merton, e-mail communication, July 3, 2009.

Table 2: Options for Law and Other Reforms

Potential Reform	Description of Potential Reform	Building Labelling & Energy Standards for Existing Buildings		Renewables		High Energy Performance	
		Strengths	Weaknesses	Strengths	Weaknesses	Strengths	Weaknesses
Building Code	Provincial standards regulating building components & quality	- applies across the province or as prescribed - will influence industry practice	- currently only applies to projects where a building permit is necessary	- may be able to require with Code amendment - applies across the province or as prescribed - will affect industry practice	- currently only applies to projects where a building permit is necessary	- can clearly require - applies across the province or as prescribed - will change industry practice	- currently only applies to projects where a building permit is necessary
Concurrent Jurisdiction	Specific areas of concurrent provincial/municipal jurisdiction from ss. 8 & 9 *Community Charter* Does not give additional jurisdiction to local gov'ts for building regulation beyond Building Code standards	- could enable through local government jurisdiction	- limited to local implementation & leadership - may not change industry practice because may result in incomplete adoption	- could enable through local government jurisdiction	- local implementation - may not change industry practice	- could enable through local government jurisdiction	- local implementation - may not change industry practice
Standards of Maintenance	Municipal bylaws that require maintenance of specified health and safety features of rental buildings such as running water and fire alarms	- could require maintenance of energy efficiency standards - ongoing enforcement mechanism	- would not necessarily apply to existing buildings - currently limited to rentals	- could require maintenance of renewable systems - ongoing enforcement mechanism	- currently limited to rentals	- could require maintenance of specified high energy performance features - tied to Building Code standards	- may not require retrofits of existing buildings - currently limited to rentals
Utilities Regulation	Regulation of electrical and other utilities Mandating demand side management approaches to new energy supply	- could provide as part of the electrical service - province-wide reach	- mandatory disclosure to third parties uncertain - retrofit programs likely voluntary	- landowners may adopt as part of retrofit programs	- applies only to electrical utilities	- landowners may adopt as part of retrofit programs	- applies only to electrical utilities

Potential Reform	Description of Potential Reform	Building Labelling & Energy Standards for Existing Buildings		Renewables		High Energy Performance	
		Strengths	Weaknesses	Strengths	Weaknesses	Strengths	Weaknesses
Real Estate Development Marketing & Strata Property Acts	Legislation regulating the marketing of real estate in B.C. Requiring disclosure of features of new development	- province-wide application - applies to most new marketed or strata properties - could apply to all marketed properties & stratas	- no local gov't role - uncertain disclosure to third parties - administration complex	- landowners may adopt as part of retrofit programs			
Industry Practice	Standard practices used in the real estate industry for the purchase and sale of residential properties	- no law reform needed	- voluntary - can contract out of				
Energy Efficiency Act	Legislation establishing minimum energy efficiency standards in B.C. for machinery, appliances and other items	- consistent with the Act's mandate - catch new and existing buildings	- traditionally part of Building Code jurisdiction			- consistent with the Act's mandate - catch new and existing buildings	- traditionally part of Building Code jurisdiction
Land Use Plans	Long term local or regional plans directing land use and development	- establish goals	- will not require action	- establish goals	- will not require action	- establish goals	- will not require action

3.1 Building Labelling and Energy Efficiency Requirements for Existing Buildings

The primary impediments in existing local government jurisdiction for building labelling and requirements for existing buildings is that local governments can require information from applicants for development but cannot require actual labelling that is disclosed from time to time to third parties. Nor can they require upgrades for existing buildings under current law absent new work on the building. Law reform in this area will need to identify what events activate the obligation for building energy efficiency information (an energy audit), the necessity to disclose that information, and the requirement to upgrade building energy efficiency. An example of this is the program from Berkeley that applies energy efficiency standards at the time of renovation or point of sale but does not require owners to spend more than 1% of the cost of a renovation that is $50,000 or more.[97]

3.1.1 Building Code

The Building Code establishes standards for construction, repair, alteration or demolition of buildings and could require building labelling for all new buildings and any building where additional work implicates the Building Code under the authority of "regulating buildings generally for matters not included in the building code,[98] or "providing for the administration of the building code."[99] A local example of this approach is the City of Vancouver's Building Bylaw that requires the applicant to deliver an EnerGuide Rating System Audit to the Chief Building Official before it will issue an occupancy permit.[100]

A similar addition to the Building Code could require the retrofit of existing buildings to a specific energy efficiency standard whenever a building permit is obtained for further work. Given the range of building types and climatic conditions in B.C., these additional requirements might be either tailored to specific building types and locations, perhaps based on a cost-benefit analysis, or established as a low baseline for energy efficiency that all buildings could meet. They can also adopt by reference all or part of another building code or standard, such as ASHRAE.[101] Some buildings, such as designated heritage buildings, may be exempted from the requirements. Exemptions could also be provided where retrofits are not technically or economically feasible, and a maximum cost of retrofit could be set (e.g. 2–5%, as in Merton).[102] An existing example of this type of approach is seen in the 1995 Building Code amendments that included different standards for the construction of secondary suites in detached housing to make it easier to construct "legal" secondary suites.[103] The City of Berkeley also take a discriminating

[97] Zirnhelt, Hayes (2009). *Energy Labeling and Performance Requirements for Existing Buildings: Background Report* (1st Draft) (Vancouver: Pembina Institute) at 21.
[98] *Local Government Act*, s.692(1)(d).
[99] *Local Government Act*, s.692(1)(f).
[100] City of Vancouver By-Law No. 9691 at 12.2.2.8.(1) http://vancouver.ca/blStorage/9691.pdf (accessed January 9, 2010).
[101] *Local Government Act*, s.692(1)(c).
[102] Zirnhelt, Hayes (2009). *Onsite Renewable Energy Requirements for Buildings: Background Report* (Vancouver: Pembina Institute) at 9.
[103] These different standards for secondary suites are in the 2006 Building Code at section 9.36.

approach by making energy efficiency standards apply at a cost of 0.75% of the sale price or $0.50 per square foot.[104]

This approach addresses building labelling and energy efficiency for existing buildings, as any work on an existing building for which a building permit is required would be caught by these requirements. However, it may not result in rapid labelling or retrofitting of existing buildings, which depends on the rate of renovation and the percentage of renovations for which landowners obtain building permits in any municipality or regional district. If accelerated uptake of these provisions is desired, local government could be granted the authority to prompt the application of these standards (the requirement for a building permit) not only when a landowner applies for a building permit but also when other activities occur.[105] An example of an "other activity" could be the listing of a home for sale. A local example is that of Berkeley, California, where its energy efficiency ordinance requires that any building sold, exchanged or substantially renovated must meet minimum energy and water efficiency standards.[106] At present local governments have no involvement in real estate transactions.

This approach relies on existing local government jurisdiction and procedure over implementation of the provincial Building Code through building regulation. It could require a significant increase in local government building regulation expenses and administration given the number of additional buildings that would require building permit attention.

3.1.2 Standards of Maintenance

A municipality may regulate, prohibit and impose requirements in relation to the health, safety and protection of persons or property.[107] Specifically, this power may be exercised in relation to rental units to the extent that the standards established by bylaw do not exceed provincial building regulations.[108] Municipalities use this authority to enact standards of maintenance bylaws that establish minimum benchmark that rental premises must meet. The purpose is to ensure the ongoing safety and adequacy of the rental housing supply. Regional districts do not have similar jurisdiction for standards of maintenance.

For example, the City of Richmond requires adequate water to all sinks, bathtubs, showers and toilets, with specifications for the minimum hot water temperature.[109] It also requires adequate lighting, and prohibits the disconnection of services by the owner unless the tenant has failed to pay service or utility rates.

This jurisdiction could be significantly expanded to include maintenance standards for energy efficient and high performance building infrastructure. It could also be expanded to allow

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[104] City of Berkeley, *Residential Energy Conservation Ordinance (RECO): A Compliance Guide for Berkeley's Residential Property Owners, Buyers, and Sellers,* 2.
[105] The provincial government may enact regulations, as it does under the British Columbia Building Code Regulation and the *Local Government Act*, "providing for the administration of the building code and other regulations." See *Local Government Act*, s.692(1)(f).
[106] City of Berkeley. 2009. *Title 19, Buildings and Construction*. http://www.codepublishing.com/CA/Berkeley/html/pdfs/Berkeley19.pdf (accessed January 9, 2010).
[107] *Community Charter* s.8(3)(g).
[108] *Community Charter* s.63(f).
[109] Rental Premises Standards of Maintenance Bylaw No. 8159 http://www.richmond.ca/__shared/assets/bylaw_815915844.pdf.

regional districts to enact bylaws in this area. Local governments could then use this jurisdiction as a local method to enforce building labelling, the maintenance of renewable energy infrastructure on new and retrofitted buildings, and higher energy performance standards. This jurisdiction could be clarified under the *Community Charter* and *Local Government Act* to include the ability to require disclosure of building ratings.

This approach would be relatively simple for local governments to administer because it involves enforcing their own bylaw standards. However, it would be a significant departure from the existing health and safety focus of standards of maintenance bylaws. It would not allow them to establish additional or different standards. Although this approach could require significant resources for a local government's enforcement budget, following the usual approach that local governments take to enforcement, they would not enforce every infraction but choose significant and high profile building violations. This approach could have province-wide application if the Building Code established higher energy efficiency standards that all local governments could enforce. If higher standards are established through concurrent jurisdiction under the *Community Charter*, the standard for enforcement will depend on individual local government action (see discussion below under section 3.3).

3.1.3 Utilities Regulation

As billing for the use of electricity and other energy sources becomes more nuanced in B.C., an opportunity exists for utilities to require energy audits and incentives for improving the energy performance of buildings. Section 44.1 of the *Utilities Commission Act* requires a public utility to file with the Utilities Commission a long term resource plan that includes a plan of how the public utility intends to reduce its estimated demand for energy.[110] BC Hydro's long-term resource plan must include a statement of the demand-side measures it would need to take "so that, in combination with demand-side measures taken by the government of British Columbia or of Canada or a local authority, the demand increase would be reduced by 50 percent by 2020."[111] This requires BC Hydro to either reduce its demand for energy by 50% primarily by obtaining its new energy through conservation over the long term. In practice, pursuing all cost effective demand-side management may result in greater than 50% savings. BC Hydro can partner with local governments, for example by supporting high energy performance building construction, while also undertaking demand management programs of its own.

This emphasis on demand-side management and a utility's broad power in structuring how it provides its service to the public may already allow a utility, in particular BC Hydro, to implement building labelling and energy upgrade programs as part of its service.[112] The Demand-Side Measures Regulation under the *Utilities Commission Act* requires public utilities that have over 10,000 customers and that are not a municipality to include in their plan portfolio energy reduction measures intended to assist low income households and rental accommodations, as well as education programs for students enrolled in schools and post-secondary institutions in the utility's service area.[113] This regulation could be amended to require

[110] R.S.B.C. 1996, c.473.
[111] s. 44.1(4)(c).
[112] For example, section 12(1)(x) of the *Hydro and Power Authority Act*, R.S.B.C. 1996, c.212. allows BC Hydro to do anything necessary or desirable for carrying out any of the powers and purposes in that section, namely to generate, manufacture, distribute and supply power.
[113] B.C. Reg. 326/2008 (November 7 2008).

utilities to develop a building labelling and upgrade program as part of the service it provides. Likewise, utilities could make building labelling a mandatory part of programs such as BC Hydro's Power Smart program.

Electrical utilities could potentially be required to implement energy labelling for buildings given that most buildings in B.C. that consume energy are connected to electricity service. The purpose would be that, in addition to smart meters (see below), building labelling would assist them to craft the eligibility for energy retrofit programs to those buildings/customers labelled with low energy efficiency. This approach would provide near province-wide coverage through a small number of entities (BC Hydro and FortisBC). As the program evolves, utilities could explore the use of differentiating utility rates based on building label ratings. The utility could pay for the cost of energy upgrades and recoup that cost through long-term billing, which allows the debt to stay with the building property.

Precedent for mandating energy efficiency programs or technologies by legislation can be found in section 64.04 of the *Utilities Commission Act,* where BC Hydro is required to install and put into operation "smart meters" in accordance with regulations by the end of 2012.[114] However, it is important to note that while smart meters are a utility infrastructure requirement for providing electricity to a building, labelling and disclosure of energy efficiency information about a customer's building likely attracts privacy protection that would affect how utilities can be mandated to implement labelling. The Act and Demand-Side Measures Regulation also contemplate community engagement programs, energy efficiency training, public awareness programs, regulated items (such as building design or thermal insulation) and specified standards for the B.C. Building Code if the standard promotes energy conservation or the efficient use of energy.[115]

Municipalities that operate their own utilities are exempt from many of these regulations, however as a service provider they may be able to require or incentivize building labelling as part of their service package.

It is unclear whether utilities would be allowed to mandate energy efficiency testing and disclose building energy ratings to third parties given the requirements for confidentiality under privacy legislation. In addition, this approach does not mandate a particular energy standard. It relies on market and utilities rates over time to provide a cost-benefit case for individual owners to undertake energy efficiency upgrades.

Local governments would have a minimal role in using energy utility regulation to achieve energy efficiency and building rating.

3.1.4 *Real Estate Development Marketing* and *Strata Property Acts*

The *Real Estate Development Marketing Act* requires any developer who markets a "development unit" in B.C. to file a disclosure statement with the superintendant of real estate.[116] With some exceptions, a development unit is a subdivision lot, bare land strata lot, strata lot, cooperative interest, time share interest, shared interest in land or residential leasehold unit that is

[114] "Smart meter" will be defined by regulation. To date there is no regulation defining this program.
[115] These terms are all defined in the Demand-Side Measures Regulation in section 1.
[116] S.B.C. 2004, c.41 s.3.

located in a development property. The *Act* and regulations require disclosure of a wide range of features of the development that describe its quality, including a general description of the development, permitted uses, charges registered on the title to the land, the provision of services and state of permitting for those services (including electricity).[117]

The provincial government could amend this list to include the energy efficiency rating of buildings, thus requiring automatic disclosure to purchasers. It could clearly establish energy efficiency as one factor of many that purchasers can consider. The limitations with this law reform option is that is only applies to development property, which usually means the marketing of five or more units. It would not capture the sale of existing individual units, houses or buildings unless they are sold with several other units. While the *Act* could be amended to capture the sale of all units, this changes the *Act*'s purpose somewhat and could be administratively challenging if the only topic area requiring disclosure for all units is for building energy performance. The *Act*'s application to commercial and industrial units would also have to be clarified.

The *Strata Property Act* also requires disclosure of certain features of strata properties when sold.[118] This could be expanded to include information about energy efficiency and renewable infrastructure.

Local governments would have little role in this type of program that relies on changes in provincial disclosure requirements to potential purchasers. Also, it does not address the provision of renewable energy nor establish an energy efficiency standard.

3.1.5 Real Estate Industry Practice

Changing real estate industry practice also provides an avenue for automatic disclosure of building energy rating to potential purchasers. There is potential in this regard in the residential context by amending the standard form Contract of Purchase and Sale or the Property Disclosure Statement, two documents that are used in the vast majority of residential real estate sales. Standardization in the commercial context is more challenging because the structure of each sale is somewhat unique and not necessarily negotiated using precedents.

The Canadian Bar Association, B.C. Branch, and B.C. Real Estate Association developed and maintain the standard form Contract of Purchase and Sale for residential real estate to which a clause could be added that requires disclosure of a building's energy rating when an offer is made to a seller from a prospective buyer. The seller would bear the cost of an energy audit and obtaining a rating for any building before the realtor listed the property. Changes to the standard form Contract of Purchase and Sale tend to be liability driven so it is unclear how the Canadian Bar Association and B.C. Real Estate Association would respond to a call for a contract amendment initiated by the public.

For residential real estate many Multiple Listing Service agreements between the sellers of property and real estate licensees (agents) require the seller to complete a property disclosure

[117] See, for example, Government of B.C., Financial Institutions Commission. Real Estate Development Marketing Act Policy Statement 3 – Disclosure Statement Requirements for Development Property Consisting of Five or More Subdivision Lots (in force January 1 2005) http://www.fic.gov.bc.ca/responsibilities/realestate/bulletins.htm.
[118] *Strata Property Act*, S.B.C. 1998, c.43, s.59.

statement (PDS). The PDS asks questions related to the servicing, construction of buildings, and use of the property that the seller must answer. The purpose is to disclose information the seller has about the condition of the property. The PDS could include a question asking for disclosure of the energy rating for each building on the property. Several law reform avenues could require disclosure of a building's energy rating upon sale to make this type of clause mandatory real estate practice, including amendments to the *Real Estate Services Act*.[119]

Examples of this type of approach, although entirely voluntary, are the Time of Sale Home Energy Labelling Pilot Projects currently underway (winter 2009-2010) in the province. They are partnerships between utilities, realtors, the B.C. government and municipalities to encourage EnerGuide audits and disclosure of home ratings to potential purchasers. For example, LiveSmart BC (Ministry of Energy, Mines and Petroleum Resources), BC Hydro and the Victoria Real Estate Board are sponsoring a program in the municipality of Oak Bay and on Salt Spring Island.[120] Funded through BC Hydro, realtors provide a $75 rebate (approximately half of the cost) to sellers of a home energy audit and an initial EnerGuide for Houses rating. The purpose is to make available the energy efficiency status of the home to either improve its marketability or show prospective homeowners what they can do to make the home more energy efficient.

Although this approach changes real estate industry practice by incorporating home energy ratings into residential real estate contracts and PDSs, absent regulatory change it is voluntary.[121] Parties can choose to contract out of the standard form contract clause for a home energy audit. A seller can respond "as is" to a question in the PDS about the energy efficiency of the home, which puts potential purchasers on notice that they are responsible for conducting due diligence inquiries if this feature of the home is important. Given the fast pace of the real estate market in B.C. over the past ten years, in many high sales volume locales it is unlikely that buyers would risk losing the opportunity to purchase a house by including a condition making the offer to purchase subject to assessment of energy performance. Local governments would have little role in this type of program that relies on changes in professional practice rather than regulation. Also, it does not address the provision of renewable energy, although suggested home upgrades through an EnerGuide audit could suggest the installation of renewable infrastructure.

The opportunity exists for this option to make energy performance considerations a regular part of residential real estate transactions. Coupled with legislative requirements for building labelling and energy efficiency, such as under the *Energy Efficiency Act*, it could be an effective way to rapidly increase the energy performance in new and existing buildings.

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[119] S.B.C. 2004, c.42.

[120] BC Hydro, LiveSmart BC, Victoria Real Estate Board (Winter 2009-2010). Time of Sale Home Energy Labelling Pilot: Frequently Asked Questions for Home Seller and Buyers http://www.citygreen.ca/cgFiles/TimeOfSale_LSBC.pdf.

[121] The City of Prince George, the BC Northern Real Estate Board, the Canadian Home Builders Association and a local energy advisor group began piloting a home energy assessment incentive program in the summer of 2009. The program initially provided a $75.00 rebate (half of the cost) to home sellers for participating in a home energy audit when they posted their energy rating with their MLS listing. This project had very limited interest from sellers. As of January 2010, the City and partners were discussing options to increase appeal - such as higher incentives, targeting new homes for sale and appealing to home buyers to request energy audits. Personal communication to Alison Bailie, Pembina Institute from Jocelyn White, City of Prince George. See also http://www.city.pg.bc.ca/city_services/environment/energyincentive/.

3.1.6 *Energy Efficiency Act*

The B.C. *Energy Efficiency Act* prohibits anyone from manufacturing, offering for sale, leasing or otherwise disposing of an "energy device" unless the device meets prescribed energy standards and a prescribed label is affixed to the device.[122] An energy device means a product that uses energy or controls or affects the use of energy.[123] The Energy Efficiency Standards Regulation defines these products, which include appliances, heating and cooling systems, water heaters, and fenestration products (windows).[124] The *Act* and Regulation also provide for exemptions, such as for designated heritage buildings protected by local governments under Part 26 of the *Local Government Act*.

A similar approach could be taken with buildings, both new and existing. Under this approach, a building would not be able to be sold or leased without meeting a prescribed energy efficiency standard and having an energy efficiency label. This would establish a provincial regime that referenced third party standards for new buildings (such as EnerGuide or ASHRAE),[125] and that could be brought into force in different parts of the province and for different types of buildings with different ratings using a phased approach. It provides a one-policy approach to achieving the three priority energy performance regulation. This approach could be linked with programs that help to finance compliance with the prescribed energy efficiency standard, which is a standard that could become more rigorous over time.

An example of energy labelling that does not include performance standards is Denmark's program. Existing buildings and individually owned flats (apartments/strata units) require labelling prior to their sale and new buildings require labelling prior to their occupation.[126] The Energy labelling process includes the building rating and an energy plan, which is advice for energy-saving measures and how energy consumption can be reduced.[127] Energy labelling is invalid if changes are made to the building that have a significant effect on its energy performance.[128] Historical buildings identified as having cultural and historic significance are exempt from labelling.[129]

The scope of the *Energy Efficiency Act* has been limited to date to what would be considered equipment or fixtures, such as windows, that are not governed by the Building Code. Its extension to the energy performance of buildings as a whole, which are already covered by the Building Code for new construction and major renovations, would be a significant jurisdictional leap and could be criticized as splitting the jurisdiction for buildings between the Building Code and the *Energy Efficiency Act*. However, the standards referenced in the *Act* would have to be defensible and recognized under the Building Code.

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[122] *Energy Efficiency Act*, s.2.
[123] *Energy Efficiency Act*, s.1.
[124] B.C. Reg. 389/93.
[125] ASHRAE is already referenced in the Regulation as a standard.
[126] Act to Promote Energy Savings in Buildings: Danish Act no. 585 of 24th June 2005 (unofficial translation), http://soeg.ekn.dk/Afgorelser/L_585_Act_to_promote_energy_savings.pdf (accessed January 9, 2010).
[127] *Ibid*, at Chapter 3.3, Paragraph 3(2).
[128] *Ibid*, at Chapter 3.4, Paragraph 3.
[129] Zirnhelt, Hayes (2009). Energy Labeling and Performance Requirements for Existing Buildings: Background Report (1st Draft) (Vancouver: Pembina Institute) at p.13 citing Jesper Ditlefsen, Civilingeniør, (Danish Energy Agency Contact for Labelling Scheme), e-mail communication, September 21, 2009.

Local governments' role in this type of regime might be limited to administration of the Building Code, providing permits where necessary as landowners undertake upgrades. The application of the *Energy Efficiency Act* through point of sale for both new and existing buildings would rapidly capture a significant part of the built form.

3.2 Requiring Renewable Energy for New Buildings

Requirements for providing renewable energy in new buildings may take the form of performance-based standards such as the Merton Rule, or prescriptions for the type of technology that must be used. The application of renewable requirements could be limited to permits for buildings over a certain size or type of building. Several land use and other regulatory approaches have the potential to enable local governments to require renewable energy infrastructure. These include land use plans, the Building Code, and concurrent jurisdiction under the *Community Charter*.

3.2.1 Land Use Plans

While RGSs and OCPs do not authorize or require local governments to take action, they can set important regional and local energy efficiency goals that local governments must use when evaluating applications for development and implementing programs and services. In addition to establishing renewable energy standards in RGSs, either stand-alone or through a comprehensive regional energy strategy, OCPs can contain actions and targets for the priority energy performance regulations.

3.2.2 Building Code

The broad authority for the provincial government to include standards and regulations for building through the Building Code may allow it to establish renewable energy standards (how buildings use energy) through the powers of:[130]

- Adopting by reference, with the changes the minister considers necessary, all or part of any building code or standards for the construction, alteration, repair or demolition of buildings;
- Regulating buildings generally for matters not included in the building code;
- Exempting certain persons, buildings, classes of buildings, materials or areas either generally or for certain periods of time from the building code or regulations, and making other regulations for the persons, buildings, classes of buildings, materials or areas exempted; and
- Providing for the administration of the building code and other regulations.

Renewable energy standards can be prescriptive or performance-based, apply to different types of buildings and apply under different climatic conditions. The use of a performance-based measure such as the Merton Rule would allow landowners to choose the most appropriate and cost-effective renewable technology for the location and type of building. Coupled with a building performance standard, the Building Code could prescribe a total energy budget for new buildings.

[130] *Local Government Act*, s.692(1)(c), (d), (e) and (f).

It is important to note that energy efficiency is only one of the objectives of the Building Code, with the focus being on building performance not on the type of energy used in the building. Inserting renewable energy standards into the Building Code would add a significantly new purpose to the Code, which is different from the National Building Code.

An administratively simple yet less comprehensive than the Building Code amendment suggested above requiring renewable sources of energy is to amend the Building Code to require appropriate wiring and plumbing in all new and renovated buildings. This could be a blanket requirement for the entire province or allow local governments to opt into them.

The provincial government is moving in this direction, as evidenced by the recent consultation on and commitment to the implementation of solar hot water-ready construction for single detached homes.[131] The provincial government has put forward proposals for enabling local governments to require roof space for solar collection, roof loading specifications, and an internal conduit (pipe) for plumbing and electrical cables from the roof to the utility room. As proposed, these requirements would be optional for local governments to voluntarily adopt.

If an accelerated uptake of this measure is desired for the existing housing stock, additional Building Code or legislative amendments can make the sale or lease of a building trigger the application of these regulations (see the discussion in section 3.1.1 above).

3.2.3 Concurrent Jurisdiction (Community Charter)

A more limited law reform would be to provide local governments with the jurisdiction to require internal building infrastructure to receive renewable energy. Local governments have the authority to require the external components of renewable energy systems through their development permit area jurisdiction. It is not clear that they possess the ability to require the internal building infrastructure that connects the external and internal systems (see section 2.3.3 above). The provincial government could enable local governments to enact building bylaws that require internal electrical, plumbing and other systems that make the building ready to receive renewable energy from external sources by amending the Buildings and Other Structures Bylaws Regulation. As discussed in section 2.1.1, this regulation establishes the scope of a local government's concurrent jurisdiction with the province for building regulation. By changing this regulation as described in this section, local governments could enact building bylaw provisions without needing to seek approval of the provincial government.

A local example of this approach is the City of Vancouver that, since 2008, has required new single-detached and two-family dwellings to contain a vertical service shaft from the service room containing the hot water heater to the attic space, which consists of two 50 mm PVC pipes with at least a 20 degree angle to make the building solar hot water-ready.[132]

A more comprehensive reform would be for the Buildings and Other Bylaws Regulation to allow local governments to opt into a renewable energy standard in a specific part of the Building

[131] See Solar Hot Water Ready for Single Family Homes: Overview at http://www.housing.gov.bc.ca/building/consultation/shwr/index.htm (accessed January 10, 2010).
[132] City of Vancouver By-Law No. 9691 at 12.2.2.9.(1) http://vancouver.ca/blStorage/9691.PDF (accessed January 9, 2010).

Code. Local government leaders could choose to adopt this optional standard as enabled through concurrent jurisdiction.

This option uses existing local government procedure and jurisdiction, making it administratively simple. However, it will not result in province-wide application as concurrent jurisdiction relies on each local government's willingness to enact additional bylaw provisions pursuant to it.

3.3 High Energy Performance for New Buildings

The provincial government has existing authority to create standards for high energy performance buildings by amending the British Columbia Building Code Regulation.[133]

3.3.1 Building Code

As discussed in section 3.2.3, the broad authority for the provincial government to include standards and regulations for building through the Building Code clearly allows it to establish high energy performance building requirements.[134] In particular, the Building Code may adopt by reference, with the changes the minister considers necessary, all or part of any building code or standards for the construction, alteration, repair or demolition of buildings. This allows the provincial government to enable or require construction to evolving third party standards such as ASHRAE, LEED and EnerGuide. High energy performance standards can be tailored to different climatic conditions and types of housing.

Adopting high energy performance standards into the code would meet the goals of this project by creating comprehensive jurisdiction for high energy performance for new buildings. Its administration would be relatively simple because local governments would implement it through their existing building service function. It would increase construction and regulatory costs consistently across the province, as buildings in the same climate zone and type of building would be treated similarly. Finally, it would change the industry standard for construction.

3.3.2 Concurrent Jurisdiction (Community Charter Section 9)

A limited approach for achieving high energy performance for new buildings would be to amend the Buildings and Other Structures Bylaws Regulation under the *Community Charter* to allow local governments to establish energy performance measures for buildings and/or adopt a third party standard for high energy performance. Another method would be to create a new high energy performance section in the Building Code that local governments can opt into by enacting building bylaws.

The use of these law reform approaches would not result in comprehensive change, as they would be applied only by those local governments who are prepared to take advantage of this additional jurisdiction. They would be simple to administer through the existing local

[133] *Local Government Act*, s.692(1)(b). Utility regulation is not canvassed in this section because it would typically address existing building retrofits. However, it could have the overall effect of shifting building industry practice to more energy efficient forms because of utility requirements. Likewise, real estate industry practice is not specifically addressed in this section because that jurisdiction typically deals with disclosure requirements not performance standards.
[134] *Local Government Act*, s.692(1).

government building permit process, and would influence construction industry norms. Finally, they would require additional training and resources for local government staff, the building industry, and landowners in those jurisdictions that opt into a higher energy performance standard.

3.3.3 *Energy Efficiency Act*

The *Energy Efficiency Act* could also be used to prescribe high energy performance standards for buildings, as discussed under section 3.1.6.

3.4 Conclusion

In conclusion, a variety of law and policy reform options exist to further the adoption of the priority high performance energy regulations. The provincial government has the authority to amend the B.C. Building Code to include high energy performance standards and building labelling for new buildings, and it may have jurisdiction to require the use of renewable energy. The provincial government could also amend the Buildings and Other Bylaws Regulation to enable local governments to adopt a third party standard or new green building section of the Building Code.

In addition to these administratively simple approaches, other options for the labelling of buildings include requirements by utilities for building ratings coupled with energy retrofit programs, changes to real estate marketing legislation and industry practice requiring building labelling, as well as the use of the *Energy Efficiency Act* to impose standards on new and existing buildings.