



Policy and Governance Tools

A module of the

Renewable Energy Guide for Local Governments in British Columbia

September 2008

The 'first stop' for local government leaders addressing energy sustainability and climate change

Community Energy Association | Infrastructure Canada | British Columbia | Vancity | The Real Estate Foundation of British Columbia | Terasen Energy Services

About the Community Energy Association

The Community Energy Association is a charitable organization that assists local governments throughout British Columbia to promote energy efficiency and alternative energy through community energy planning and project implementation. For information and many more local government resources, please visit: **www.communityenergy.bc.ca**

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Acronyms used in this guide

BC ..... British Columbia
CAEE ..... Community Action on Energy and Emissions
CDZ ..... comprehensive development zone
CEA ..... Community Energy Association
CEP ..... community energy plan
CO_2 ..... carbon dioxide
CSA ..... Canadian Standards Association
DCC ..... development cost charges
DPA ..... development permit area
FCM ..... Federation of Canadian Municipalities
GHG ..... greenhouse gas
IPP ..... independent power producer
IPPBC ..... Independent Power Producers Association of BC
kW ..... kilowatt
LEED™ ... Leadership in Energy and Environmental Design, a trademark of the US Green Building Council
LIC ..... local improvement charge
MW ..... megawatt
NRCan .... Natural Resources Canada
OCP ..... Official Community Plan
RGS ..... Regional Growth Strategy
SFU ..... Simon Fraser University
UBCM ..... Union of BC Municipalities

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Renewable Energy Guide For Local Governments in British Columbia

Executive Summary

Local governments around the world have been leaders in tackling climate change by promoting renewable energy at the community level, with innovative policies and programs that have made an impact on national energy policy.

Local governments can bring substantial benefits to their communities by encouraging and supporting the development of renewable energy. Renewable energy includes sources of energy that are neither derived from fossil fuels (such as coal, oil, natural gas and propane) nor from nuclear power. Renewable energy should be considered alongside other energy initiatives, including energy efficiency, sustainable transportation and sustainable community planning.

Local governments are well placed to champion renewable energy. Opportunities outlined in this guide include:

- Local government policy frameworks that encourage or require developers to incorporate neighbourhood-scale renewable energy technologies (or 'microgeneration') into new developments
- Removing barriers to renewable energy in the planning and permitting systems
- Encouraging independent power producers to develop local renewable energy projects
- Encouraging renewable energy utility companies to develop local renewable energy projects, such as ground-source heating and renewable district energy.

Make renewable energy part of the vision for your community

Renewable energy can be a valuable part of your vision for the community. Support for renewable energy should be embedded within the Official Community Plan, Regional Growth Strategy and Local Area Plans. Community energy planning is a good way to identify specific opportunities, and it can be a useful way to engage the wider community with renewable energy issues. Outreach, education and engagement about renewable energy with local businesses and residents are an important part of giving your community a renewable future.

Policies to promote renewable energy in buildings and developments

There are many ways in which local governments can encourage or require renewable energy. Suitability of different policy options will be different for each community.

The City of Revelstoke implemented the first renewably-based district heating system in British Columbia.
Source: Revelstoke Chamber of Commerce

Policy tools to promote renewable energy

Development permit area guidelines
- Can be used to require renewable energy systems external to buildings, such as a renewable district energy system
- Enables maximization of passive solar resource

Example City of Richmond, for promotion of passive solar design

Tax exemptions
- Provides significant financial incentive

Example District of Maple Ridge

Development cost charge exemptions
- Provides financial incentive for developer, cost directly borne by local government

Example None; varying DCCs to encourage renewable energy has only recently been made possible (mid-2008)

Development permit checklists
- Provides clear signal of what Council wants
- Educates developers about green features

Example City of Port Coquitlam, City of New Westminster

Expedited approvals
- Provides strong incentive for developers

Example District of Saanich

Comprehensive development zones
- Creates flexibility to negotiate with developers
- Most applicable where land is owned by few owners

Example City of Langford (Westhills development), City of Victoria (Dockside Green).

Phased development agreements
- Creates flexibility to negotiate with developers
- Only applicable for large, multi-year developments

Example None specific to renewable energy

Rezoning policy
- Must be designed carefully to be legal and effective

Example Bowen Island Municipality

Density bonuses
- Very high value incentive for developers

Example Hailey, Idaho; UniverCity, SFU Burnaby Campus

Reduced permit fees
- Provides direct cash incentive for the inclusion of renewable energy

Example District of Saanich

Service area bylaw
- Enables local government to provide, and charge for, renewable energy services
- May allow local government to require use of renewable energy

Example City of North Vancouver

Local improvement charges
- Promotes renewable energy in existing buildings

Example Currently used by City of Whitehorse, and proposed by City of Dawson Creek.

Removing barriers to renewable energy in the community

Some types of renewable energy are hindered by planning and permitting systems that have not been designed with renewable energy in mind. For example, height restrictions may unnecessarily inhibit small wind turbines. Removing such barriers is an important step in enabling development of renewable energy in the community. Policies include:

- Ensuring building inspectors are informed about renewable energy opportunities, and Council support for renewable energy
- Reviewing zoning bylaws to ensure they do not unnecessarily inhibit development of small wind turbines, solar energy systems or other forms of renewable energy.

Local government energy utility and/or engaging private sector renewable energy developers

Local renewable energy developments can bring benefits to the community through jobs and economic development, infrastructure for long-term energy security, and reduced greenhouse gas emissions. Local governments can facilitate the development of such projects by establishing local government energy utilities and/or engaging with renewable energy companies, identifying opportunities, and ensuring that local government staff are supportive of renewable energy initiatives.

1. Introduction

Policy and Governance Tools is a module of the Community Energy Association's *Renewable Energy Guide for Local Governments in British Columbia.* The guide has been written for local governments – elected officials and staff – interested in encouraging the use of renewable sources of energy in their communities. The information applies to local government influence on both the wider community and local government operations.

Did you know? This *Renewable Energy Guide* is comprised of several modules

The *Renewable Energy Guide for Local Governments in British Columbia* is comprised of a set of modules. Together, the modules describe the renewable energy technologies of interest to local governments (including both heat and power generation technologies); options for establishing community-owned energy projects and utilities; and policy issues and mechanisms that local governments can use to encourage renewable energy in the community.

All modules are available from the Community Energy Association website: www.communityenergy.bc.ca ; under Resources, click on CEA Publications. The website may also include future modules not listed here.

Heating Our Communities	This module describes renewable heating technologies, and opportunities these present to local governments, including: - Heat recovery - Ground-, water- and air-source heat pumps (also known as geo-exchange) - Biomass and biogas - Solar air and water heating - District heating.
Powering Our Communities	This module introduces renewable electricity technologies, and opportunities these present to local governments, including: - Wind - Solar PV - Small and micro hydro - Biomass and biogas - Geothermal - Tidal, wave and fuel cell. The module also explores how local governments can support the development of renewable electricity in the community.
Utilities and Financing	This module describes options for the ownership and operation of local government utilities and energy projects, including - District energy utilities - Decentralized utilities - Municipal electric utilities - Independent power production. The module also describes mechanisms that local governments can use to finance renewable energy projects.
Policy and Governance Tools	This module presents policy options for local governments interested in encouraging the uptake of renewable energy in their communities, and describes broader provincial government policy goals around renewable energy and sustainable community planning.

Extent of the Neighbourhood Energy Utility in Vancouver's South East False Creek. The district energy service is owned and operated by the City of Vancouver.

Source: City of Vancouver

Laying of insulated district energy pipes for the South East False Creek Neighbourhood Energy Utility. The pipes will transmit water, warmed by heat recovered from wastewater, to heat the neighbourhood.

Source: Community Energy Association

The renewable energy guide has been developed for local governments within the British Columbia legislative context. The guide is also of use to communities across Canada, particularly modules *Heating Our Communities* and *Powering Our Communities.*

This guide deals with renewable energy. Renewable energy includes sources of energy that are neither derived from fossil fuels (such as coal, oil, natural gas and propane) nor from nuclear power. Renewable energy also includes the recovery of waste heat that would otherwise be lost, even if that heat is produced by non-renewable energy sources. This guide does not address energy efficiency, which can often provide cost-effective emissions reductions and savings. Renewable energy should be considered alongside other energy initiatives, including energy efficiency, sustainable transportation and sustainable community planning.

Local governments can bring substantial benefits to their communities by encouraging and supporting the development of renewable energy. Primary benefits include:

- Significant greenhouse gas (GHG) reductions, particularly for heat technologies where these reduce the use of conventional fuels
- Improved air quality
- Local economic development through renewable energy job creation, infrastructure development and keeping energy dollars circulating locally
- Increased local energy security.

Local governments have traditionally played a central role in providing many essential services for residents, such as water and sewage. Energy has historically been provided by large, centralized energy utilities. This model is now starting to change, as opportunities provided by new technologies, and the pressures of climate change, prompt local governments and others to explore new ways to provide energy. In particular, the emergence of small-scale renewable energy technologies (such as solar photovoltaics, small wind systems and small-scale biomass cogeneration) challenges traditional models of energy provision.

In British Columbia, local government statutory authority is derived from the *Local Government Act* and *Community Charter.* Within this framework, local governments are empowered to use a range of policies and regulatory tools to promote renewable energy. *Policy and Governance Tools* introduces those policy and regulatory tools.

The focus of *Policy and Governance Tools* is to:

- Outline why local governments are considering becoming involved in the provision of renewable energy services, both heat and electricity
- Briefly introduce the policy and legislative contexts that enable and limit local government action to foster renewable energy
- Present policy tools that local governments can use to:
  - Encourage building owners and developers to install on-site renewable energy systems
  - Encourage green power projects
  - Work with renewable energy utilities.

2. Renewable energy in British Columbia

Renewable energy is a rapidly growing global industry,[1] and one in which British Columbia is well placed to take a leading role. This section introduces the role of local governments in promoting renewable energy in BC, and outlines policy programs established by the Province.

2.1. Renewable energy: The role for local governments

Local governments are well placed to champion renewable energy. Opportunities include:

- Designing renewable energy into community infrastructure and local government operations
- Establishing policy frameworks that encourage developers to incorporate renewable energy technologies (sometimes referred to as 'microgeneration' – generation of building- or neighbourhood-scale energy) into new developments
- Establishing local government renewable heat utilities, and/or encouraging private sector renewable heat utilities, to develop local renewable energy projects
- Engaging in power development and/or encouraging independent power producers (IPPs) to develop local renewable electricity projects.

2.2. Provincial policy context: Local governments and renewable energy

Fighting climate change is a priority for the Government of British Columbia. The Province is committed to cutting GHG emissions by 33% by 2020, from 2007 levels. This target, along with an 80% reduction in GHG emissions by 2050, has been passed into law. The 2008 provincial Climate Action Plan sets out the strategy for meeting these targets; the plan can be found at www.gov.bc.ca/climateaction. Renewable energy can make an important contribution to the provincial climate change goals, by reducing GHG emissions from energy use.

The Climate Action Plan encompasses a number of policy initiatives relevant to local governments and renewable energy, including those concerning sustainable community planning and energy policy, described below. The provincial government has committed to becoming 'carbon neutral' by 2010, and is encouraging local governments to follow this example by becoming carbon neutral by 2012 through signing and implementing the Climate Action Charter (see next page).

Did you know? Local government leaders in renewable energy policy

Local governments around the world have been leaders in tackling climate change by promoting renewable energy at the community level, with innovative policies and programs that have made national-level impacts on energy policy.

In the London Boroughs of Merton and Croydon, planning bylaws introduced in 2003 required residential developments with 10 or more units and all other developments with floor space above 1000m^2 to reduce CO_2 emissions by 10% through the use of onsite renewable energy sources. The policy has led to a revolution in building design, as developers introduce efficiency measures to bring down overall energy use, and include renewable energy systems in new buildings. The policy, known as the 'Merton Rule,' has now been adopted by dozens of municipalities in the UK, catalyzing market take-off for small-scale renewable energy.[2] The Community Energy Association hosted a presentation from the London Borough of Merton at a CEA microgeneration workshop in 2007. Papers and presentations from the workshop are available at: www.communityenergy.bc.ca/resources-introduction/empowering-community-workshop-april-2007

In Barcelona, a policy introduced in 2000 required all new buildings (above a size threshold) to use solar water heating for at least 60% of their hot water demand. The policy spread rapidly to other Spanish cities, and in 2006 it became part of Spain's national building code.[3]

Photo source: Adrian Hewitt

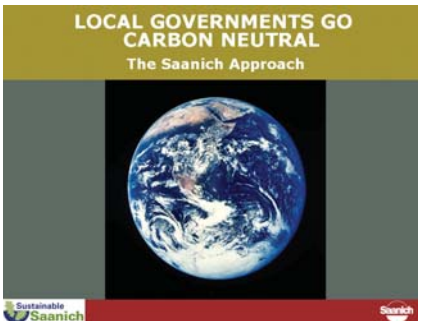
2.2.1. Sustainable community planning

There are a number of provincial initiatives that focus on sustainable community planning.

Smart Planning for Communities[4] is a collaborative province-wide initiative that will provide resources and tools to local and First Nation governments for planning socially, culturally, economically and environmentally sustainable communities.[5] The **Community Action on Energy and Emissions (CAEE)** program supports the objectives of Smart Planning for Communities. CAEE provides financial and research support to BC local governments to advance energy efficiency, encourage emissions reductions and promote renewable energy through local government policy instruments and incentives for building upgrades. CAEE website: www.bcclimateexchange.ca/index.php?p=caee

The **Climate Action Charter**, signed by the Province, Union of BC Municipalities (UBCM) and signatory local governments, is an expression of intent to work toward shared climate change goals. Specifically, the Charter includes a commitment from signatory local governments to becoming carbon neutral in their own operations by 2012. Implementation of the Charter is being assisted by a 'Green Communities Committee,' established between the provincial government, UBCM and signatory local governments. Climate Action Charter website: www.cserv.gov.bc.ca/ministry/whatsnew/climate_action_charter.htm

The ***Local Government (Green Communities) Statutes Amendment Act***, also known as Bill 27, was passed by the provincial legislature in 2008.[6] This legislation requires local governments to include GHG emission reduction targets in their Official Community Plans (OCPs) and Regional Growth Strategies (RGSs), along with policies and actions proposed for achieving those targets. The legislation enables local governments to encourage development that will reduce GHG emissions; policy tools enabled by Bill 27 are discussed further in Section 6 of this guide.



A carbon neutral leader in Canada, the District of Saanich established by bylaw in 2007, its own Carbon Neutral Reserve Fund.

Source: District of Saanich

The **Green City Awards**[7] recognize and celebrate success, and provide leading communities with funds to invest in initiatives that make the environment greener and healthier; the awards are granted to communities in eight categories, reflecting the differing sizes of municipalities and regional districts in the province. The Green City Awards complement other award programs, such as the Community Energy Association *Energy Action Awards*[8] presented in Community Planning and Development, and Corporate Operations categories, as well as the SmartGrowthBC *Smarty Awards.*[9]

Bill 27 Highlights

Bill 27 gives local governments tools to help them reduce GHG emissions, conserve energy and work toward creating more compact and sustainable communities. It features a multi-pronged approach:

- Targets, policies and actions required in OCPs and RGSs
- New development permit area designations
- Expanded development cost charge authority / flexibility
- Other measures
    - Greater authority to vary off-street parking
    - New cash in-lieu reserve fund
    - Greater access to Minister-appointed facilitator
    - New RGS minor amendment process
    - Streamline RGS adoption process
    - Greater Vancouver Water District's new authority to generate power.

Did you know? SolarBC: A collaborative project to advance solar hot water

SolarBC is working toward a comprehensive market transformation program for solar hot water in British Columbia, toward a target of 100,000 Solar Roof installations by 2020. The Solar Communities project, part of the overall SolarBC Program, aims to establish five 'Solar Communities' that will:

- Act as flagship communities and provide leadership to community members
- Help to develop means to remove barriers to solar hot water installations
- Help to promote and raise awareness of SolarBC to community members
- Provide visible demonstration projects.

SolarBC is funded by the BC Ministry of Energy, Mines and Petroleum Resources and Natural Resources Canada, and administered by the BC Sustainable Energy Association (BCSEA). For more information, visit www.solarbc.ca

Solar panels heating domestic hot water, on the Dawson Creek City Hall. ***Photo source: City of Dawson Creek***

2.2.2. Energy policy

The 2007 BC Energy Plan,[10] laid out a range of energy policy objectives and measures, many relevant to renewable energy:

- Greening the BC Building Code, by incorporating energy and water conservation requirements into the existing code.[11] The new building code provisions, in force from September 2008, require that small residential buildings meet a standard of Energuide 77 or equivalent, while large commercial, institutional and high-rise residential and buildings must meet the ASHRAE 90.1 (2004) standard.
- Expansion of the Community Action on Energy and Emissions Program and the Remote Community Clean Energy Program. (The Remote Community Clean Energy Program is described in detail in *Powering Our Communities,* another module of the Community Energy Association's *Renewable Energy Guide.*)
- Development of alternative energy economic opportunities, through establishment of an Innovative Clean Energy Fund to support development of clean power and energy efficiency technologies. Local governments are eligible to receive funding from this program.
- Energy efficiency and conservation. Fifty percent of growth in electricity demand is targeted to be met not with increased electricity supply, but through more efficient use of existing supply.
- Electricity self-sufficiency by 2016. (The province imports and exports electricity, and in recent years has become a net importer).
- Promotion of small-scale and distributed electricity generation through the Standing Offer and Net Metering programs, which provide opportunity to small generators to sell power to the grid. (These programs are described in detail in *Powering Our Communities,* another module of the Community Energy Association *Renewable Energy Guide.*)

The full energy plan is available at www.energyplan.gov.bc.ca

In support of the Energy Plan, two strategies for specific sectors have been developed:

- The Bioenergy Strategy aims to advance the use of bioenergy.[13] It includes a target of ten new biomass-powered community energy systems in the province by 2020. www.energyplan.gov.bc.ca/bioenergy
- The Energy Efficient Buildings Strategy sets out a range of measures and targets to help the province cut GHG emissions 33% by 2020.[14] The strategy includes a commitment to set targets for meeting energy needs of new buildings through community-based, clean energy sources. www.energyplan.gov.bc.ca/efficiency

There are many funding and resource programs from both provincial and federal governments that can assist local governments in developing renewable energy projects, policies and programs. The Community Energy Association has produced a guide to these programs, available at: http://www.communityenergy.bc.ca/news/funding-your-community-energy-and-climate-change-initiatives

3. Setting the stage: Planning for renewable energy

Planning decisions can influence the suitability of renewable energy for a neighbourhood or community, and create opportunities for innovative energy projects. There are several ways in which communities can incorporate renewable energy considerations into their planning processes, and this section outlines two of those:

- Community energy planning
- Renewable energy in the Official Community Plan and Regional Growth Strategy.

3.1. Community energy planning

Community energy plans (CEPs) are an important way in which local governments (regional or municipal) can assess the energy requirements and opportunities of their community, and identify opportunities for energy efficiency, renewable energy, economic development, GHG reduction and environmental benefit. Increasingly, communities are combining energy and GHG emissions planning, exploring opportunities around both energy and GHG emission reductions.

Community energy planning aims to identify an optimal energy supply and demand scenario, potentially under a GHG target, for a community or neighbourhood, and explore ways in which that scenario might be achieved. Since energy consumption permeates every aspect of a community, energy planning can provide a basis for economic development, environmental sustainability and other community objectives (e.g. smart growth, downtown revitalization, livability).

Community energy strategies might start with compact land use to reduce travel needs, such as focusing development at transit hubs and corridors to encourage transit and district energy. Streets might be designed to encourage cycling and walking. Landscaping and building orientation might take advantage of solar heating. Infrastructure might be energy efficient and utilize renewable energy. Opportunities for introduction of renewable energy throughout the community might be explored.

Community energy plans provide an important input into an OCP, and where possible, a community energy planning process can be integrated into an OCP review.

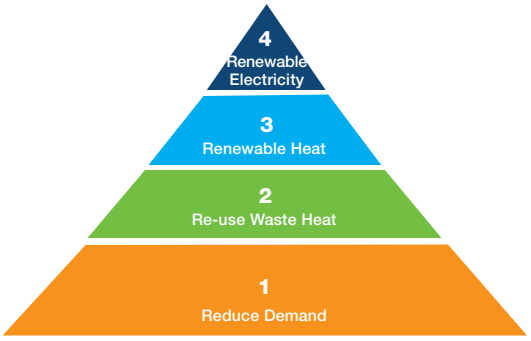
Many community energy plans identify opportunities to promote renewable energy. For example, district heating systems can be enabled by:

- high density to minimize piping distances
- mixed uses to provide load diversity (e.g. workplaces use heat during the day, residences need heat in the evening)
- locating buildings with large heat rejection loads (such as ice rinks) near buildings with heating requirements (such as swimming pools)
- making allowance for district heat piping within utility corridors.

Solar energy can be promoted by ensuring that rooftops have solar access. Once opportunities for renewable energy have been identified, they can be pursued by the local government, or highlighted as opportunities for private sector development.

The Community Energy Association has a community energy planning toolkit for BC local governments, available from the CEA website,[15] and CEA provides local government support. The Sustainable Buildings and Communities group at NRCan also has documents to help local governments develop community energy plans.[16]

4 R's of Sustainable Community Energy Planning



1. **Reduce Energy Demand** – through community design, green buildings, and efficient technologies.
2. **Re-use Waste Heat to heat buildings and hot water** – e.g. industrial or commercial waste heat, sewer and wastewater heat recovery.
3. **Renewable Heat Sources to heat buildings and hot water** – e.g. solar thermal and geo-exchange.
4. **Renewable Energy for Electricity** – e.g. biomass/biogas combined heat and power, micro-hydro, wind, solar, tidal and geothermal.

Suggested steps in energy planning.

Concept source: Robyn Wark and Jorge Marques, BC Hydro

Case Study: Community energy planning in Revelstoke, BC

In 1997, the City of Revelstoke undertook a community energy planning process. The plan identified baseline energy use in the community, and examined various ways in which emissions and energy costs could be reduced. The plan proposed three major energy-saving initiatives: a district heating system making use of locally available wood fuel; a residential building energy efficiency retrofit program; and an 'energy services company' program for energy efficiency in institutional and commercial buildings. Ten years later, in part as a result of the community energy plan, the City of Revelstoke is the proud owner of an award-winning biomass district energy system, reducing emissions of both GHGs and local air pollutants, and saving money. The Community Energy Association was proud to award the City of Revelstoke the 2004 Energy Aware Award.

Photo source: Revelstoke Community Energy Corporation

3.2. Renewable energy in the Official Community Plan and Regional Growth Strategy

The OCP and RGS provide direction for subsequent planning operations and bylaws. Local Area Plans or Neighbourhood Plans are sub-area plans of the OCP, providing a greater level of detail for neighbourhood-scale planning. These planning documents are important foundational elements in encouraging renewables in the community, as well as tools for raising awareness about the role for local government staff and developers in promoting renewable energy. Putting renewable energy objectives into the RGS and OCP puts them on the agenda, and provides staff with an explicit mandate to explore renewable energy opportunities in the community.

Planning processes can help identify opportunities for renewable energy and encourage implementation.

Source: Design Centre for Sustainability, School of Architecture and Landscape Architecture, University of British Columbia.

The *Local Government Act* specifies that Regional Growth Strategies should work toward *planning for energy supply and promoting efficient use, conservation and alternative forms of energy.*[17] Recent amendments to provincial legislation require local governments to have GHG emission reduction targets in their OCP by 2010 and RGS by 2011,[18] along with policies and actions proposed for achieving these targets. Renewable energy can be included among the policies and actions.

A few of the buildings connected to the district energy service provided by the Lonsdale Energy Corporation in the City of North Vancouver.

Source: City of North Vancouver

Wherever possible, Regional Growth Strategies, OCPs and Local Area Plans (or their equivalent) should state the local government support for energy efficiency and renewable energy. Wording will be most effective where it:

- Directs staff to explore renewable energy options (or directs staff to take action on options identified in any report already prepared)
- Notes alignment with other RGS/OCP goals and objectives, and highlights the importance of sustainable and secure energy to the community's economic, social and environmental wellbeing, as well as to the community's global citizenship
- Recognizes the value of demonstrating leadership in sustainable energy
- Encourages collaboration with other levels of government, industry partners and community supporters
- Explicitly references objective standards or measurable milestones, where possible, so that goals are clear and progress can be transparently measured and evaluated.

Official Community Plan Support for Renewable Energy – Sample Wording

The following chart provides samples of wording from various OCPs, and outlines benefits of each particular wording approach.

Village of Burns Lake

Encourage the development of renewable energy resources such as biomass as a means of utilizing waste from forest products and as a source of energy and 'clean' heat

Source: Village of Burns Lake OCP[19]

Benefit Provides clear support for renewable energy, and highlights potential economic co-benefits.

City of Coquitlam

As well as using broad language in its community-wide OCP that is supportive of energy efficiency and renewable energy, the city explicitly encourages opportunities for district energy in its Northeast Coquitlam Local Area Plan:

Encourage and examine the feasibility of district energy supply options in Northeast Coquitlam, particularly the village centre

Source: City of Coquitlam OCP[20]

Benefit Provides a strong mandate for staff to examine district energy opportunities.

City of North Vancouver

Energy Planning Objectives encourage staff to:

- implement Community Energy Systems as a means of providing heat energy …

- minimize the use of non-renewable energy by increasing the use of clean and efficient renewable energy

Source: City of North Vancouver OCP, Section 8.5[21]

Benefit Provides clear support, and encourages staff to explore options for 'Community Energy Systems' (that is, district heating) and other renewable energy.

City of Richmond

In regard to City infrastructure and operations:

Continue to pursue alternative energy source systems to heat and cool buildings, e.g. Ground-Source Heat Pump at the Thompson Community Centre

Source: City of Richmond OCP, Section 7.4[22]

Benefit Clear direction to staff to pursue renewable energy systems for corporate operations.

District of Salmon Arm

The District encourages the voluntary use of alternative, renewable and sustainable energy producing and recovery technologies for all developments and infrastructure.

Source: District of Salmon Arm OCP[23]

Benefit Provides clear support for renewable energy.

District of Squamish

Energy and Air Emissions:

- The district will form a committee with an energy management function to coordinate corporate and community-wide energy conservation, energy efficiency, renewable energy, and GHG reduction activities.

- The District will seek partnerships … to foster achieving the energy objectives of the community.

Source: District of Squamish OCP, Section 17[24]

Benefit Establishes institutional framework for pursuing energy objectives through an energy management committee; highlights the importance of partnerships.

City of Surrey

The City supports energy conscious community planning and building design that makes communities more energy efficient, and supports all efforts to promote energy conservation and alternative energy sources which are environmentally friendly and sustainable.

Source: City of Surrey OCP[25]

Benefit Provides clear support for renewable energy.

4. Engaging the community

The development of renewable energy at the community level cannot be achieved without engaging local people and businesses. Local governments have an essential role to play in facilitating the development of the knowledge, skills and partnerships that are essential for change.

4.1. Education and awareness

A lack of knowledge about renewable energy technologies among developers, local government staff and the public can be a significant barrier to their adoption.[26] Local governments are well placed to act as educators through a variety of approaches:

- Community energy planning and OCP review processes can offer significant opportunities for public engagement and education
- Pamphlets for inclusion with other local government mailings
- Brochures for handout at public events
- Developer workshops
- Websites (see City of Prince George community energy website: http://www.city.pg.bc.ca/city_services/utilities/communityenergy/)
- Sustainability-focused development permit checklists (described in section 6.3).

To be effective, an education campaign should include a range of different approaches, and target both developers and the public. It can be worthwhile to partner with a local non-profit organization (such as your local chapter of the *BC Sustainable Energy Association*[27] and others) to increase the visibility of the campaign.

There may also be opportunities to work with local educational institutions to encourage the establishment of training courses to support the renewable energy industry. Lack of industry capacity can be a serious barrier to the development of local renewable energy, particularly in smaller communities. The City of Dawson Creek recognized that the absence of qualified solar water heater installers was hindering the development of solar hot water in the community; the City worked with Northern Lights College to establish a training course for installers of solar water heaters.[30]

Demonstration projects are a tangible form of education, in that they provide a real local example of renewable energy that people can see. Demonstration projects can also demonstrate local government leadership. Where demonstration projects are highly visible and use cutting edge technologies, they can become a focus for civic pride.

4.2. Engaging local industry: Eco-industrial networking

Eco-industrial networking is a relationship-building process that aims to minimize waste and create efficiencies among industrial and other buildings. For example, an eco-industrial network might involve locating a building with a high waste heat output, such as an ice-rink, next to a major heat consumer, such as a swimming pool, thus capturing the value of what was previously wasted. Local governments are well placed to identify and promote opportunities for eco-industrial networking. Local government can also specifically zone for eco-industrial uses and location of uses: for example, the District of Ucluelet has established the Ucluelet Eco-Industrial Park zone, a comprehensive development zone. Comprehensive development zones are discussed further in section 6.6.

Case Study: City of Vancouver 'One Day...' Program

The City of Vancouver 'One Day' Program[28] is a community engagement program developed to support the City's Climate Change Action Plan. One Day, delivered through a website, email campaigns, leaflets and booths at public fairs, aims to inform and encourage the community to take small steps toward a more sustainable lifestyle, one day at a time. The One Day program educates people about a range of sustainability issues and opportunities, including ground-source heat pumps and solar hot water, as well as highlighting partner organizations (such as the Light House Sustainable Building Centre) that also provide education and community outreach. The City of Vancouver welcomes other communities to adapt and use the One Day concept, logo, materials and website; for example, the Capital Regional District has established a similar program[29] as the public engagement part of its Community Energy Plan.

www.onedayvancouver.ca

Case Study: Tilbury Eco-Industrial Partnership, Delta

In 2002, Metro Vancouver commissioned a study to examine opportunities for eco-industrial networking in the Greater Vancouver region. A case study of the Tilbury industrial zone estimated the potential for savings at nearly $2m annually in electricity and gas costs alone, and this prompted the formation of the Tilbury Eco-Industrial Partnership.

The partnership is chaired by the Delta Chamber of Commerce. Key members include Corporation of Delta, DRS Earthwise (a local environmental group) and local businesses. The partnership works to identify synergies between various occupants of the Tilbury zone, and to create opportunities for efficiencies, financial savings and emission reductions.

Photo source: Tilbury Eco-Industrial Partnership

MetroVancouver (formerly the Greater Vancouver Regional District) commissioned a 2002 study describing how local governments can develop an eco-industrial networking plan.[31] Options for eco-industrial networking are likely to include:

- Retrofitting an existing industrial cluster (this model is being developed at the Tilbury Eco-Industrial Park in Delta, BC)
- Working with developers to identify opportunities in new industrial developments and other developments
- Identifying opportunities within corporate operations, such as recreations centres and waste facilities.

4.3. Community energy co-ops

A further form of community engagement is the active encouragement of community energy cooperatives. Energy cooperatives are companies owned by their members, rather than by shareholders, with each member having an equal vote. Community energy cooperatives have provided an important vehicle for the development of local renewable energy in Denmark, the Netherlands and Germany.[32] In Germany, 200,000 people own shares in local wind turbines. In Denmark, the City of Copenhagen initiated the Middlegrunden Wind Farm, and helped to found an energy cooperative whose 8,500 members own 10 of the wind farm's 20 turbines.[33]

There are two broad types of community energy co-op:

- Producer co-ops develop energy-generation projects. Examples in Canada include *Windshare*[34] in Toronto and the *Peace Energy Cooperative*[35] in Dawson Creek.
- Consumer co-ops collaborate to buy renewable energy at cheaper rates than would be possible as individuals, for example putting in bulk purchase orders for photovoltaic systems. *Cooperative Community Energy*[36] in California is a good example.

Energy cooperatives have the benefit of helping to overcome community 'not-in-my-backyard' concerns, because projects are seen as a benefit to the community, not an imposition from outside. Local governments can encourage the development of community energy cooperatives. The City of Dawson Creek played an important role in the establishment of the Peace Energy Cooperative, providing advice and other forms of non-financial support.

The Bear Mountain Wind Park, located in north-east BC near Dawson Creek, is a 34 turbine, 102 MW project, accepted by BC Hydro through its 2006 call for power. Construction began December 2007, with expected completion late 2009. The project is owned by Alta Gas Income Trust and was developed by Bear Mountain Wind Limited Partnership, comprised of AltaGas Income Trust, Aeolis Wind Power Corporation and the Peace Energy Cooperative. The City of Dawson Creek is supportive of the project.

Source: AltaGas Income Trust and Aeolis Wind Power Corporation

5. Removing local barriers to renewable energy

Planning and permitting rules have typically been developed without consideration of renewable energy, and as a result, they can present barriers to implementation of renewable energy in the community. Where possible, removal of local government barriers is a vital, and relatively simple, first step in encouraging renewable energy.

Many of the barriers are specific to a particular technology. For example, permitting restrictions related to maximum height may inhibit the development of small-scale wind turbines. This section provides an overview of the broad types of barrier that are faced by renewable energy technologies, and provides specific examples where possible.

5.1. Permitting, codes and standards

Plumbing and electrical permits can be problematic for some renewable energy technologies, because inspectors may struggle to fit unfamiliar technologies into existing rules and codes. This can translate into delays or refusal of permits.

5.1.1. Plumbing permits for solar hot water

The National Plumbing Code standard precludes "custom-designed" domestic solar hot water systems and only allows pre-certified packaged systems. Therefore many local government inspectors refuse permits for the installation of custom-designed solar hot water systems, rather than take on liability associated with issuing a permit. In response to this problem, the Canadian Solar Industries Association has developed training workshops for municipal plumbing inspectors. SolarBC will run these workshops in communities across BC – see www.solarbc.ca. A list of contractors with certified installers of solar hot water systems is also available from the SolarBC website, providing a greater degree of confidence in the quality of installations.[37]

The City of Ottawa has asked for certification by a professional engineer for custom-designed systems.[38] However this requirement forms a major cost barrier to the installation of solar hot water systems.

5.1.2. Renewable heating and the building code

The BC Building Code requires adequate heating, and local inspectors must therefore be satisfied that renewable heating systems are adequate before a building permit is issued. In larger buildings this is not a problem: a professional engineer will typically have provided assurance that the heating, ventilation and cooling systems are sufficient. However, in single-family homes, the responsibility to ensure that a home will be adequately heated rests with the local inspector.

This has caused difficulties for ground-source heating installations in single-family homes. Until recently, there has been no clear certification for the quality of ground-source heat pump systems, and in some cases local governments have been reluctant to grant permits for installations in single-family homes. In Kelowna, ground-source heating systems must be either 100% backed-up by conventional heating (greatly increasing the cost of the system), or be assured by a professional engineer. The Canadian Geo-Exchange Coalition has now developed an installer and designer training and certification scheme, allowing greater confidence in certified systems.[39] Some ground-source heating companies (for example, Geotility) now provide an in-house engineer to certify systems, and thus accept liability themselves.

5.1.3. Overcoming permitting barriers

Local governments can facilitate the installation of high quality renewable energy systems by:

- Ensuring that building inspectors are familiar with Council support for renewable energy, and know where to go for information about renewable energy technologies. Passing a resolution seeking Council support for renewable energy and directing inspectors to seek information about renewable energy technologies, is one way to promote informed inspections of these technologies. The chart (next page) helps connect inspectors with experts on technologies profiled in this guide.
- Creating guidelines, and passing a resolution endorsing them, to provide clear interpretation of building code issues with respect to specific technologies. The City of Ottawa guidelines on solar hot water (referred to in 5.1.1 above) provide a useful example.

Renewable energy resources

These organizations can help identify experts in specific technologies or regulatory issues.

Biomass
Canadian Bioenergy Association
www.canbio.ca 1-866-742-4256

Ground-source heat pumps (geoexchange)
GeoExchange BC
http://www.geoexchangebc.ca/
Canadian Geoexchange Coalition
www.geo-exchange.ca 1-514-807-7559

Renewable energy in BC
BC Sustainable Energy Association
www.bcsea.org 1- 250-744-2720

Solar hot water
Solar BC
www.solarbc.ca 1-866-650-6527

Solar
Canadian Solar Industries Association
www.cansia.ca 1- 866-522-6742

Wind
Canadian Wind Energy Association
www.canwea.ca 1-800-922-6932

5.2. Barriers in planning rules

Planning policies have rarely been written with renewable energy in mind, and sometimes renewable energy technologies clash with planning bylaws. For example:

- Height restrictions may preclude wind towers
- Character and form restrictions may preclude solar
- Noise restrictions may preclude air-source heat pumps or other technologies.

Local governments can facilitate the adoption of renewable energy technologies by identifying barriers within permitting and zoning rules, and ensuring that they are addressed or removed where appropriate.

- In regions in which small wind power is likely to be an option, consider passing a bylaw similar to the 'model zoning bylaw for small wind' developed by the Canadian Wind Energy Association.[40] The County of Kings, NS, has adopted a wind-friendly zoning bylaw, including 'small-scale wind turbines' as a permitted use in rural residential areas.[41]

Homeowners wishing to install solar hot water systems, such as these EnCom Group evacuated tubes, may be deterred if inspectors are unfamiliar with the technology, or if planning rules restrict visible rooftop equipment.

Source: EnCom Group

- Ensure that bylaws designed to prevent unsightly rooftop equipment do not prevent the installation of solar energy equipment. The District of West Vancouver promotes solar energy by specifically excluding solar from a bylaw that requires enclosure or screening of rooftop equipment.[42] Similarly, height and setback requirements should be reviewed to ensure they are not inadvertently restricting the installation of solar collectors.[43]
- Ensure that noise restrictions are reasonable, and do not apply a blanket ban impeding installation of renewable energy equipment.

Finally, neighbours may feel threatened by new technologies, especially those which in the past may have been associated with ugliness (like wind turbines) or potential risks to health (like biomass combustion). Consultation, education and community engagement (see section 4) can go a long way toward providing facts that reduce these concerns.

6. Promoting renewable energy in buildings and developments

Provincial legislation defines the powers of local government with respect to renewable energy. These powers are in part restricted by Section 9 of the *Community Charter,* which defines a number of spheres of 'concurrent authority,' including 'buildings and other structures.'[44] In areas of concurrent authority, local governments cannot make requirements that differ from provincial regulations covering the same topic, without specific provincial approval to do so. That means local governments cannot directly require buildings to differ from the BC Building Code, and therefore cannot set building regulations that require renewable energy.

This section describes policy mechanisms through which it is possible to encourage, and in some cases mandate, the use of renewable energy in buildings and developments.

6.1. Development permit areas

Since adoption of the 2008 *Local Government Statutes (Green Communities) Amendment Act* known as Bill 27, local governments can designate development permit areas (DPAs) in the OCP for the purpose of promoting reduction of GHG emissions.[45] In a DPA, the local government can set requirements for development, and can issue a permit for authorized developments.

The DPA must be designated in the Official Community Plan, along with a description of the objectives that justify the designation, and guidelines that set out the manner by which the objectives will be addressed.[46] Guidelines must be drafted so that they are sufficiently flexible to allow Council to exercise fairly its discretion in granting or refusing a permit on a case-by-case basis, but they must provide objective, directing principles to guide Council in determining the conditions on which it would approve or disapprove an application.[47]

DPA powers are restricted to requirements respecting:

(a) landscaping,
(b) siting of buildings and other structures,
(c) form and exterior design of buildings and other structures,
(d) specific features in the development, and
(e) machinery, equipment and systems external to buildings and other structures in order to provide for energy and water conservation and the reduction of GHG emissions.[48]

The ability to establish requirements relating to landscaping, siting and form can be used to promote passive solar heating.[49] For example, the City of Richmond used DPA guidelines to enhance passive solar gain.[50] In addition, it is possible to restrict the placement and type of trees and other vegetation in proximity to buildings and other structures within a development permit area, thus allowing local governments to guarantee access to sunlight for buildings that do include solar energy features.[51]

The new legislation means that local governments can establish development permit areas for the purpose of promoting energy conservation and the reduction of GHG emissions, and within these areas as a permit condition require 'specific features in the development,' or 'machinery, equipment and systems external to buildings and other structures.' This is likely to mean that local governments can, within a DPA, require:

- Installation of ground-field loops for ground-source heat pump systems
- A district energy system (using renewable energy)[52]
- Systems or features that implement eco-industrial networking concepts, such as the use of 'waste' heat from one business as an input to a neighbouring business or residential complex.

'Slinky loop' system of the Tekmar building in Kamloops

Source: Stantec Consulting Ltd., Kelowna

Development permit areas have the potential to be a powerful tool for local governments to mandate particular types of renewable energy such as those listed above, or to establish broad requirements for the use of renewable energy. It might be possible, for example, to establish requirements for a proportion of a development's energy needs to be met with renewable energy, similar to the

'Merton Rule' profiled in section 2.1. Since the exact powers with this tool will remain ambiguous until they have been tested by local governments and/or established by the courts, formal legal advice must be sought before developing a DPA requirement that mandates renewable energy.

6.2. Revitalization tax exemptions

Municipalities may grant exemptions from property taxes to development projects that include environmental features such as renewable energy.[53] The powers of tax exemption were strengthened in 2007, allowing local governments greater flexibility to use tax exemptions to encourage particular forms of revitalization, including environmental revitalization. In particular, the restriction of tax exemptions to areas designated as 'revitalization areas' has been removed.[54]

Tax exemptions can represent a significant amount of money, and may be an attractive proposition to the owner. In addition, long-term lowered energy costs contribute to revitalization objectives. The Ministry of Community Development has a *guide on the use of revitalization tax exemptions*[55] providing further details on the use of this tool.

The District of Maple Ridge has used revitalization tax exemptions to encourage LEED™ certified green buildings.[56]

Maple Ridge Revitalization Tax Exemptions

The following table shows the Normal Tax Exemption granted for high-rise residential construction, and the LEED™ Silver Exemption granted for high-rise residential construction that is also certified LEED™ Silver.

Tax Exemption Comparison

Year	Normal Tax Exemption	LEED™ Silver Exemption
1	100%	100%
2	50%	75%
3	0%	50%
4	0%	25%

Local governments could also use the tax exemption power to promote renewable energy retrofits on buildings (e.g. properties that install solar panels or solar hot water heaters), or other multi-building or neighbourhood-scale initiatives (e.g. heat pump or heat recovery system).

6.3. Development cost charge exemptions

Development cost charges (DCCs) are levied by local governments on subdivision and development to enable local governments to recover capital costs associated with certain types of infrastructure (parks, roads, sewerage, water and storm drainage) provided by the local government to service a development. Provincial 2008 legislation[57] authorizes local governments to waive or reduce DCCs for 'eligible developments;' local governments can now encourage developments that include renewable energy by waiving or reducing DCCs. Note that the power to grant these exemptions is an exception to the general prohibition of assistance to business set out in both the *Community Charter* (Section 25) and the *Local Government Act* (Section 182).

To create a DCC exemption or reduction program, a local government must first pass a bylaw or regulation, establishing:

1) what is an 'eligible development' or class of eligible development
2) what requirements have to be met to receive the reduction specified (such as requirements respecting the inclusion of renewable energy)
3) the conditions on which the waiver or reduction will be granted.

Whatever the precise definition of 'eligible development' established by such a bylaw, it must fall within one of a number of categories set out in the legislation. Two of these categories are relevant for local governments interested in using this tool to promote renewable energy:

1) *subdivision of small lots designed to result in low GHG emissions, or*
2) *development that is designed to result in low environmental impact.*[58]

It is not possible for a municipality to fund the exemptions by charging higher DCCs on buildings that do not meet environmental objectives, since DCCs must reflect the costs to the municipality of providing infrastructure to service the development. Unless the inclusion of renewable energy decreases the costs of servicing a development, local governments establishing a DCC exemption program must therefore consider that the cost of DCC exemptions must be met through other revenue streams.

Development cost charges can also encourage the design of compact communities, which tend to have lower GHG emissions and can enable the use of renewable district energy systems. Infrastructure costs are typically higher for less dense developments, since distances between units are longer, and sewer, road and other infrastructure costs rise accordingly. DCCs should reflect the true costs incurred by the local government in servicing development, and thus properly calculated DCCs will tend to be lower for more compact developments. When this is the case, DCCs will encourage more compact growth. DCCs can be varied for different zones or different defined areas.[59]

A report analyzing the use of DCCs as a smart growth tool is available from West Coast Environmental Law.[60] It is also relevant to note that the 2008 amendments to DCC legislation exempt small unit housing (defined as no larger than 29 square metres in area) from all DCCs. This may also encourage the design of compact developments, which may be suitable for district energy systems.

6.4. Development permit or rezoning checklists

Developers can be required to complete a sustainability or smart growth checklist as part of the development permit or rezoning application processes. The checklist might include, for example, questions about the sustainable energy features incorporated into the new development. None of the measures on the checklist is compulsory; the aim of the checklist is to highlight local government sustainability and clean energy objectives, and to educate developers about the potential for including renewable energy technologies in new buildings.

In addition to using checklists as a purely educational tool, Councils can use such checklists in combination with other policies, as a tool when considering approvals of rezoning or the issuance of development permits, for example, to help judge the performance of development proposals. A checklist should ideally be established through a Council resolution, and need not involve changes to any bylaws. A checklist should align with OCP goals and objectives, effectively translating those OCP goals and objectives into development practices on the ground.

The table below shows examples of development checklists in use in BC. All explore multiple aspects of sustainability, including social, economic and environmental components, and all are linked to relevant goals and visions expressed in the OCP. Checklist approaches can differ: some use a points-based approach; others use a pass/fail approach; and others use a narrative yes/no or Q&A approach to draw out qualitative information on sustainability features. Points-based approaches are helpful in that they are measurable and therefore easier to evaluate. In Kamloops, the North Shore Neighbourhood Plan includes a development checklist linked on a points system to a series of development incentives, such as density bonuses and expedited approvals. See the case study in section 6.9.

6.5. Expedited approvals

Local governments can prioritize building permit applications that include renewable energy, or that connect to a utility such as a district heating system.[61] If the expedited process leads to significantly faster approvals, this approach can create a major incentive for developers, for whom time spent in the application process is a significant cost.

This policy has been used in conjunction with a 'triple bottom line' sustainability checklist by the City of Port Coquitlam,[62] and is being used by District of Saanich and City of Kamloops.[63] In Santa Monica, CA, the City offered

Examples of development checklists in use in BC

Town of Gibsons	http://www.gibsons.ca/pdfgibsonsbc/GibsonsSmartDevCheck.pdf
City of Kamloops	www.kamloops.ca/communityplanning
City of Kelowna	http://www.kelowna.ca/CityPage/Docs/PDFs//Development%20Services/Sustainability%20Checklist%202007.pdf
City of New Westminster	http://icma.org/upload/library/2005-03/%7B78ED8983-0A6F-4517-82C9-B5A3F6CC0C1E%7D.pdf
City of Port Coquitlam	www.city.port-coquitlam.bc.ca/__shared/assets/Sustainability_Checklist2040.pdf
District of Saanich	www.gov.saanich.bc.ca/climate/pdfs/sustainability_checklist.pdf
City of Vernon	http://www.vernon.ca/services/pde/documents/smart_growth_development_checklist.pdf

Case Study: Comprehensive development zoning at Dockside Green

Photo source: Dockside Green

For decades, Victoria's Dockside district languished as a 21-acre sprawl of vacant and environmentally damaged lands on the city's harbour front. In 2001, the city took an unusual approach in deciding to redevelop the site, using comprehensive development zoning to enable flexibility in site design. The municipality first formed key partnerships that could assemble the knowledge and experience required for a project of significant scale and scope, and then evaluated the bids through a 'triple bottom line' (economic, environmental, social) lens. The city awarded the project to VanCity and Windmill Developments—a partnership of two companies with a longstanding commitment to sustainability. Dockside Green will incorporate a cutting-edge biomass-fuelled district heating system, providing heat and hot water to the anticipated 2,500 residents, as well as utilize sewer heat recovery, solar and wind technologies.

cash incentives (of up to $35,000) to promote LEED™ certified buildings, but found that this was little incentive compared to fast-tracked approvals.[64,65] Other North American cities using or considering this approach include Chicago ILL, Santa Barbara CA, Issaquah WA[66] and Palo Alto CA.

6.6. Comprehensive development zoning

Comprehensive development zones (CDZs) are a common approach for the redevelopment of sites with few owners, enabling the site development to be tailored in a more detailed way than through other zoning bylaws. There are usually no zoning restrictions in a CDZ. Instead, the landowner's development plan becomes the *de facto* zoning bylaw. Comprehensive development zoning creates flexibility in planning, and provides space for the local government to negotiate with the developer to encourage renewable energy and energy efficiency features. CDZs are often used for large redevelopment sites.

Good examples of the way in which comprehensive development zoning can be used are the Dockside Green development in the City of Victoria,[67] and the Westhills development in the City of Langford.[68] In both these cases, the local government worked with developers to identify opportunities to meet local sustainability objectives, while also meeting the business needs of the developer. This flexibility was made possible through designation of the areas as CDZs.

6.7. Phased development agreements

Phased development agreements, a power brought into the *Local Government Act*[69] in 2007, enable local governments to enter into agreements with developers, placing terms and conditions on a development. These terms and conditions may concern inclusion in the development of particular features or amenities, the phasing or timing of the development, or inclusion of covenants. In exchange, the local government offers guarantees that the provisions of a zoning bylaw will remain unchanged for the area for the duration of the agreement.[70]

For the developer, the benefit is clear: the developer receives a guarantee that a particular parcel of land will not be rezoned such that the planned development becomes impossible.[71] For the local government, being able to 'lock in' zoning and bind a future council to that zoning (previously not possible) provides local governments with a flexible tool that enables legitimate negotiation for the provision of desired amenities and features, such as renewable energy, especially in larger development proposals. Because phased development agreements are new, this power has not yet been used to promote renewable energy.

A phased development agreement must be approved in a bylaw, and a public hearing is required. Further details about phased development agreements are available at: http://www.sms.bc.ca/logo/2007/spring/spring2007-2.html

Case Study: Kamloops North Shore Development Incentive Matrix

Photo source: David Wise

In its North Shore Neighbourhood Plan, the City of Kamloops combined a development checklist with a range of incentives, in a 'development incentive matrix.' The better a development performs on the checklist, the greater the incentives provided. The result is a strong and flexible package of incentives, helping developers to create a more socially, environmentally and economically sustainable neighbourhood.

Incentives offered include: density bonus, tax exemptions, DCC reductions and expedited approval process.

For a copy of the Kamloops North Shore Neighbourhood Plan including the development incentive matrix, visit www.kamloops.ca/communityplanning

6.8. Rezoning policy

Council can adopt a rezoning policy that encourages developments that incorporate renewable energy. Any development that requires a rezoning must be approved by Council, which can consider benefits to the community as part of its decision. While the OCP lays out general expectations of the community, Council can also adopt a rezoning policy, which provides a clear statement of attributes that Council will seek in making rezoning decisions. It is important to note that a rezoning policy cannot set *requirements* for rezoning, because Councillors are required to approach rezoning hearings with an 'open mind.' However, if a development does not meet stated expectations of Council, it is unlikely to be recommended by staff or approved by Council.

A variation of a rezoning policy is to use a checklist (similar to the development permit checklist) to score rezoning applications. This would be less rigid than a rezoning policy, but would help staff and Council to judge the benefits of the project.

Snug Cove on Bowen Island, where a rezoning policy is encouraging green buildings.
Source: Jason Smith

Bowen Island Municipality has enacted a rezoning policy[72] that sets expectations of efficiency standards for new residential development. This provides a useful model for a rezoning policy, and could be adapted to encourage the incorporation of renewable energy. The policy is available at: http://www.bimbc.ca/files/policies/Green%20Building%20Standards2.pdf

6.9. Density bonus

Density bonusing[73] means that a developer may be allowed to build to a higher density than is normally permitted in the zone (in terms of floor space ratio, site coverage or buildings per parcel) in exchange for the provision of amenities.

It is possible that this could be used to promote renewable energy, if GHG reduction, energy security, improved air quality and economic benefits from the use of renewable energy are considered community amenities. Providing a density bonus in exchange for a renewable energy amenity has not been tested in the courts, so a legal opinion should be sought before establishing a bonus on this basis. It is more likely that density bonuses could be used to promote green buildings in general, with renewable energy technologies seen as part of a broader package of green measures. The BC Office of Housing and Construction Standards has produced some guidance on the use of density bonuses, and drafted a model bylaw, available at: http://www.housing.gov.bc.ca/housing/BONUSDN/

The City of Hailey, Idaho, offers a density bonus in exchange for inclusion of renewable energy systems in new buildings,[74] and the City of Burnaby (in respect of rezoning the UniverCity development at Simon Fraser University)

is also offering a density bonus for on-site renewable energy.[75] Both Hailey and UniverCity offer a 10% increase in density where 50% or more of energy required for the buildings, is produced on-site.

6.10. Reduced permit fees

Municipalities may wish to consider reducing permit fees for developments that incorporate renewable energy, using their power to set and vary fees authorized by the *Community Charter.*[76] Before so doing, a legal opinion should be sought to ensure that the fee bylaw complies with the law surrounding the charging of fees. Permit fees must not exceed the cost of processing permit applications. Regular permit fees therefore cannot be increased to offset the fee reduction offered, and the money must be found from other sources. In other words, the 'fee reduction' is an indirect cash incentive, and may be prohibited under the *Community Charter* general prohibition against assistance to business. [77]

Although a permit fee reduction is in effect no different from a direct incentive, it can be more visible to developers, who might not seek out a grant program but who are obliged to apply for a permit. It can also be linked to an expedited approval process, as described in section 6.5 above.

The District of Saanich is using this approach to encourage energy efficiency in single family homes.[78] Homes built to a BuiltGreen Bronze standard will receive a 10% rebate on the building permit, while BuiltGreen Silver buildings get 20% and BuiltGreen Gold buildings get a 30% rebate.

6.11. Local service area bylaw

The *Community Charter* allows a local government to establish and charge for local area services,[79,80] and in general empowers local governments to *provide any service that the council considers necessary or desirable.*[81] This means that a local government can provide energy services, such as heating via a district energy system or through solar hot water systems for individual buildings, and charge for their use.[82]

The City of North Vancouver has used these powers to establish the City-owned Lonsdale Energy Corporation as a district heating service. The City's Hydronic Heating Bylaw goes beyond establishing and charging for the service, and requires certain building types within the zone to connect to, and make use of, the district heating system.[83]

Solar hot water panels under construction on the roof of the City of North Vancouver public library.

Source: City of North Vancouver

Building on the precedent set by the City of North Vancouver, a local government that develops a district energy system to provide energy services (such as heating, cooling and/or electricity) could likely require buildings to connect to that system.

6.12. Local improvement charges

A local improvement charge (LIC) is a form of tax, used to finance improvements to a particular neighbourhood, development or building. LICs are added as an item in the property tax bill, and are usually used to fund improvements that are highly specific to a local area, such as road paving or sidewalk construction.

Local improvement charges may be a mechanism through which local governments can finance installation of renewable energy systems in buildings and developments throughout the community. In particular, LICs could be used to finance a program in which the local government installed renewable energy (such as solar hot water systems) in the community. The local government would maintain ownership of the renewable energy systems, and maintain and service the systems, acting as an energy utility. This possibility is explored in *Utilities and Financing.*[84]

LICs are authorized under section 210 of the *Community Charter,* and may be used to provide services that are of 'particular benefit to part of the municipality.' LICs would be particularly appropriate where the use of renewable energy would provide immediate local environmental benefits. This might include areas that suffer poor air quality from the use of inefficient wood-burning fireplaces and stoves. An LIC-funded program to provide alternative sources of renewable heat (such as an efficient stove change-out program, or solar hot water heating program) could provide direct local air quality benefits, as well as reducing the community's energy use and GHG emissions. Expected benefits of the service should be set out in a staff report to Council, and in the bylaw that establishes the service.[85]

A successful LIC program would:

- Establish which technologies are eligible for the program
- Set performance standards, and identify eligible installers (for example, those accredited by relevant industry associations)
- Advertise the program widely in the community, and ensure it is not seen as a tax on green energy, but as an opportunity for homeowners to access low-cost financing for renewable energy in their own home.

The District of Central Saanich, in partnership with the Pembina Institute, has explored options for using LICs to fund energy efficiency and renewable energy projects.[86] Although no local government in British Columbia has yet used LICs to fund renewable energy projects, a legal opinion obtained by the District of Central Saanich suggests that it would be feasible.[87] Specific legal advice should be sought before developing such a program.

6.13. Summary: Encouraging renewable energy in buildings and developments

Policy tools to promote renewable energy

Development permit area guidelines
- Can be used to require renewable energy systems external to buildings, such as a renewable district energy system
- Enables maximization of passive solar resource

Example City of Richmond, for promotion of passive solar design

Tax exemptions
- Provides significant financial incentive

Example District of Maple Ridge

Development cost charge exemptions
- Provides financial incentive for developer, cost directly borne by local government

Example None; varying DCCs to encourage renewable energy has only recently been made possible (mid-2008)

Development permit checklists
- Provides clear signal of what Council wants
- Educates developers about green features

Example City of Port Coquitlam, City of New Westminster

Expedited approvals
- Provides strong incentive for developers

Example District of Saanich

Comprehensive development zones
- Creates flexibility to negotiate with developers
- Most applicable where land is owned by few owners

Example City of Langford (Westhills development), City of Victoria (Dockside Green).

Phased development agreements
- Creates flexibility to negotiate with developers
- Only applicable for large, multi-year developments

Example None specific to renewable energy

Rezoning policy
- Must be designed carefully to be legal and effective

Example Bowen Island Municipality

Density bonuses
- Very high value incentive for developers

Example Hailey, Idaho; UniverCity, SFU Burnaby Campus

Reduced permit fees
- Provides direct cash incentive for the inclusion of renewable energy

Example District of Saanich

Service area bylaw
- Enables local government to provide, and charge for, renewable energy services
- May allow local government to require use of renewable energy

Example City of North Vancouver

Local improvement charges
- Promotes renewable energy in existing buildings

Example Currently used by City of Whitehorse, and proposed by City of Dawson Creek.

7. Working with independent power producers

Independent power producers (IPPs) develop power projects, such as micro hydro or wind projects, and sell electricity to BC Hydro or FortisBC. Power projects can be controversial. Many power projects bring environmental, social and economic benefits to a community, while others can cause local environmental disruption or even long-term damage. This section explores the role of local governments with respect to both regulation of independent power projects, and opportunities to promote projects of benefit to the community.

Note that it is also possible for local governments to themselves develop power projects, and sell power to BC Hydro or FortisBC. This can be particularly beneficial for communities, as the power project can become a source of non-taxation revenue for the local government. The process for establishing a local government-owned power project is described in two other modules of this *Renewable Energy Guide for Local Governments in British Columbia;* see *Utilities and Financing* and *Powering Our Communities.*

7.1. Local government involvement in the IPP process

Power projects on private land are subject to local zoning bylaws, and there is thus a direct local government role in their regulation. For projects on crown land, however, the role of local governments in regulating IPP projects is limited by the BC *Utilities Commission Act,* amended in 2006 to the effect that local government zoning bylaws cannot be used to regulate IPP projects on crown land. The amendment, commonly referred to as 'Bill 30,' was controversial, as many local governments had previously been closely involved in regulating IPP development on crown lands.

Despite the amended *Utilities Commission Act*, there are still opportunities for local government participation in the review process for independent power projects. An IPP project must pass through a variety of application and review procedures, which differ for each type of technology (e.g. water and fish impact assessments for hydro projects, air quality permits for biomass combustion projects). Many of these provide some role for local government involvement, and the provincial government has provided a 'mini-guide' to these opportunities.[88]

The intake and weir at the Furry Creek run-of-river power project.
Source: Independent Power Producers Association of BC

7.2. Encouraging green power projects

IPP projects can be beneficial to the local community, reducing GHG emissions, providing local jobs and contributing the provincial target to become self-sufficient in electricity by 2016.

Local governments can encourage development of renewable power projects by:

- Ensuring that zoning bylaws and rezoning procedures do not create unnecessary hurdles to appropriate renewable energy development on private land.
- Providing support by communicating the benefits of renewable energy to the community, for example through assisting with community engagement processes.
- Providing a welcoming environment for project developers. Some local governments in BC have issued letters of welcome through the Independent Power Producers Association of BC (IPPBC), reassuring project developers that the community is supportive of projects that are socially and environmentally beneficial.
- Engaging in power development as a local government, either as a power producer or in partnership with an IPP.

Opportunities for local governments to become involved in the development and delivery of power projects are explored in the following modules *Utilities and Financing* and *Powering Our Communities* – both are modules of the *Renewable Energy Guide for Local Governments in British Columbia*, available from the Community Energy Association website: http://www.communityenergy.bc.ca/resources/cea-publications-0

8. Working with renewable energy utilities

A utility company provides energy services, such as heat and electricity, to customers. There are different types of renewable energy utility, including:

- Renewable district heating utilities, which generate heat and distribute it to buildings in a neighbourhood or development
- District electricity, or 'micro-grid' utilities
- Renewable decentralized utilities, which own and operate a portfolio of renewable energy systems serving multiple customers.

It is possible for local governments themselves to own and operate renewable energy utilities. Several local governments in British Columbia have already established energy utilities, including Cities of North Vancouver, Revelstoke and Vancouver. *Utilities and Financing,* another module of this *Renewable Energy Guide,* illustrates how local governments themselves could establish utilities to deliver renewable energy.

Utilities and Financing describes different business models for local government involvement in energy utilities, including:

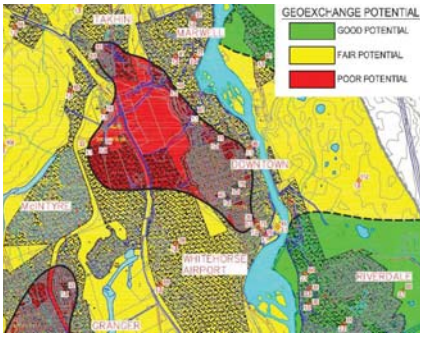
- Local government whole ownership and operation of the utility
- Local government ownership through a wholly-owned subsidiary
- Partial ownership, in partnership with a private company or other entity.

In this *Policy and Governance Tools* module, this section explores an additional option: the local government working with a local energy utility owned by a private company, if it has been decided that the local government does not want a role in ownership or management of the utility.

Companies that provide renewable energy utility services can finance development of a project, and own and operate the system, selling heat or electricity to their customers. There are many ways in which local governments can encourage the private development of renewable energy utility projects. An important step is to contact a utility company that offers such services, and begin a dialogue about opportunities that may exist in your community.

Early engagement with utility companies is important (once a decision has been made to engage the private sector), as it can assist synergistic planning that can reduce costs. For example, installation of heat distribution pipes is one of the most significant costs in establishing a district heating system, and this can be reduced by laying pipes at the same time as other infrastructure (such as water distribution).

Community energy plans can help identify opportunities for establishment of renewable energy systems in parts of the community. This can facilitate a dialogue with a utility company. In addition to community energy plans, some communities have undertaken more detailed energy resource mapping, to identify opportunities for sustainable energy in different parts of the community. For example, both the City of Whitehorse[89] and the City of Surrey have mapped the potential for ground-source heat pumps in parts of their jurisdictions. This provides a utility company with greater confidence that a project can be developed.



Ground source heat potentials in Whitehorse, Yukon.

Source: EBA Engineering Consultants[90]

Local government facilities, particularly ice arenas and swimming pools, can be significant energy consumers. A local government can act as an 'anchor' customer of a sustainable energy utility, providing the utility with enough guaranteed revenue to make a project worthwhile. In other cases, the local government may own an energy resource, such as waste heat from swimming pools or sewers. In this case a guarantee of access to the energy source may also help a sustainable utility company to develop a project.

Examples of energy utility companies that have worked with renewable energy, are profiled in the following chart. Of these, Corix and Terasen Energy Services have developed projects in BC.

Companies providing renewable energy utility services in Canada

Corix Utilities

- Works throughout BC to develop sustainable energy systems.
- Owns and operates the Sun Rivers ground-source heat utility in Kamloops, as well as other ground-source heat utilities in Vernon and Invermere, BC.

www.corix.com

Mawera

– Develops biomass heating and cogeneration systems
- Has a track record of projects in Europe, and is now starting to offer a utility model in BC.
- Will pay capital costs of project, and sell heat to customer

www.mawera.ca

Mondial Energy

- Based in Toronto
- Pays capital costs associated with installation of solar water heating
- Retains ownership of the system
- Bills customers according to heat used

www.mondial-energy.com

Terasen Energy Services

- Works in partnership with customers to develop sustainable energy systems throughout BC
- Invests in energy assets ranging in size from large-scale ground-source heating systems for stand-alone developments to complete district energy systems.
- Enters into long-term contracts with energy users to supply their heating and cooling requirements, and to provide complete maintenance and 24/7 support.

www.terasenenergyservices.com

Overlooking Thunder Meadows, near Fernie, BC

9. Conclusion: A vision for a renewable BC

Renewable energy is a booming global industry, now accounting for 2.4 million jobs.[91] As conventional energy prices rise, and as the world confronts the challenges of climate change, the growth of renewable energy will certainly continue. Cities around the world are seizing opportunities presented by the global shift towards renewable energy supplies, and this guide outlines the ways in which local governments in British Columbia and Canada can realize the economic and environmental benefits of renewable energy.

Looking forward ten years, we can imagine communities in which residents profit from their investments in a local energy system; communities whose energy bills pay for local jobs, not for imports; communities that take pride in their role as clean, green entrepreneurs.

Realizing this vision will take dedication and hard work. The Community Energy Association is committed to helping local governments become leaders in Canada's transition to a low-carbon economy. Contact us for support. We look forward to hearing how your community is developing renewable energy policies and projects, and we'll share your successes with other local governments, as we'll share theirs with you.

Endnotes

[1] Renewables Global Status Report 2006, published by the Renewable Energy Policy Network for the 21st Century: **www.ren21.org**

[2] Further information about the Merton Rule is available at http://themertonrule.org/, and a presentation about the Merton Rule is available at **http://www.communityenergy.bc.ca/sites/default/files/Merton%20at%20Empowering%20Community%20April%202007.pdf**

[3] **http://www.c40cities.org/bestpractices/renewables/barcelona_solar.jsp**

[4] Smart Planning for Communities: **http://www.cserv.gov.bc.ca/lgd/intergov_relations/smart_planning.htm**

[5] CAEE website: **http://www.bcclimateexchange.ca/index.php?p=caee**

[6] *Local Government (Green Communities) Statutes Amendment Act* 2008. **http://www.leg.bc.ca/38th4th/3rd_read/gov27-3.htm**

[7] Green City Awards: **http://www.greencityawards.gov.bc.ca/**

[8] Community Energy Association Energy Action Awards: **http://www.communityenergy.bc.ca/showcase-and-awards/energy-action-awards**

[9] SmartGrowth BC Smarty Awards: **http://smartgrowth.bc.ca/Events/tabid/61/Default.aspx**

[10] 2007 BC Energy Plan **http://www.energyplan.gov.bc.ca/**

[11] Greening the BC Building Code: **http://www.housing.gov.bc.ca/building/green/index.htm**

[12] Innovative Clean Energy Fund: **http://www.gov.bc.ca/empr/popt/innovative_clean_energy_fund.html**

[13] BC Bioenergy Strategy: **http://www.energyplan.gov.bc.ca/bioenergy/**

[14] BC Energy Efficient Buildings Strategy: **http://www.energyplan.gov.bc.ca/efficiency/**

[15] Community Energy Association's Community Energy Planning toolkit **http://www.communityenergy.bc.ca/community-energy-planning-toolkit-rev-2006**

[16] **http://www.sbc.nrcan.gc.ca/software_and_tools/software_and_tools_e.asp#Communities**

[17] *Local Government Act* Section 849

[18] Such targets and plans must be included in OCPs by May 31, 2010 and in RGSs by May 31, 2011

[19] Village of Burns Lake Official Community Plan. **http://burnslake.ihostez.com/contentengine/launch.asp?ID=7&Action=bypass**

[20] City of Coquitlam OCP **http://www.coquitlam.ca/Business/Developing+Coquitlam/Strategic+Plans/_Citywide+Official+Community+Plan.htm**

[21] City of North Vancouver OCP **http://www.cnv.org//server.aspx?c=2&i=107**

[22] City of Richmond OCP **http://www.richmond.ca/services/planning/ocp/sched1.htm**

[23] District of Salmon Arm OCP **http://salmonarm.fileprosite.com/contentengine/launch.asp?ID=361**

[24] District of Squamish OCP **http://www.district.squamish.bc.ca/OCP/**

[25] City of Surrey Official Community Plan **http://www.surrey.ca/Doing+Business/Land+Development+and+Building/Plans+and+Policies/Official+Community+Plan/default.htm**

[26] Empowering the Community – Workshop Report. Sustainability Solutions Group and Community Energy Association, Vancouver. **http://www.communityenergy.bc.ca/resources-introduction/empowering-community-workshop-april-2007**

[27] BC Sustainable Energy Association: **www.bcsea.org**

[28] One Day Vancouver **http://www.onedayvancouver.ca**

[29] One Day Capital Region **http://www.onedaycapitalregion.bc.ca/**

[30] City of Dawson Creek partnership with Northern Lights College **http://www.planningforpeople.ca/what_we_are_doing/solar/index.asp**

[31] Guide to Eco-Industrial Networking for Metro Vancouver Municipalities. Report by Eco-Industrial Solutions and Mark Jeffrey Consultants, 2004: **http://www.metrovancouver.org/about/publications/Publications/EINMunicipalGuide.pdf**

[32] The Ontario Sustainable Energy Association has profiled examples of European community wind cooperatives on its website: **http://www.ontario-sea.org/CommunityWind/CommunityWind.html**

[33] Cited in the UK Town and Country Planning Association report *Community Energy: Urban Planning for a Low Carbon Future:* **www.chpa.co.uk/news/reports_pubs/Community%20Energy-%20Urban%20Planning%20For%20A%20Low%20Carbon%20Future.pdf**

[34] Windshare cooperative in Toronto: **http://www.windshare.ca/**

[35] Peace Energy Cooperative: **http://www.peaceenergy.ca/ourpartners.html**

[36] Cooperative Community Energy, in California: **http://www.cooperativecommunityenergy.com/**

[37] List of certified installers of solar hot water systems: **http://www.solarbc.ca/learn/registered-installation-contractors.html**

[38] City of Ottawa guidelines on requirements for solar hot water: **http://www.ottawa.ca/residents/building_code/green/guide_en.html**

[39] Canadian GeoExchange Coalition: **http://www.geo-exchange.ca/**

[40] See Rhoads-Weaver, Asmus, Savitt Schwartz, MacIntyre, Gluckman, Healey, 2006. *Small wind siting and zoning study: development of guidelines and a model zoning by-law for small wind turbines (under 300kW).* Report developed for the Canadian Wind Energy Association: **http://www.smallwindenergy.ca/downloads/Small_Wind_Siting_Guidelines.pdf**

[41] County of Kings, Nova Scotia. Bylaw #75, part 14, section 14.1: **http://www.county.kings.ns.ca/comdev/lub/sections/section14-141.pdf**

[42] District of West Vancouver Zoning Bylaw, Part 3 Residential Zones, Division 1 General Regulations for Residential Zones **http://www.westvancouver.ca/upload/documents/Zoning%20Bylaw%20for%20Web/05_Part_3_Div1_General_Regs_for_Res.pdf**

[43] West Coast Environmental Law, *Cutting Green Tape: An Action Plan for Removing Regulatory Barriers to Green Innovations* (April 2002) p. 14. **http://www.wcel.org/wcelpub/2002/13724.pdf**

[44] See Ministry of Community Development website on concurrent authority: **http://www.cserv.gov.bc.ca/lgd/gov_structure/community_charter/services_regulatory/concurrent_regulation.htm**

[45] Section 919.1(1) of the *Local Government Act* enables local governments to designate development permit areas for the following purposes: "establishment of objectives to promote the reduction of greenhouse gas emissions" and "establishment of objectives to promote energy conservation".

[46] Alternatively, the guidelines can be set out in a zoning bylaw, in which case they are not effective until the zoning bylaw has been passed.

[47] According to *Local Government Act* sections 920(2) and (3) and case law to date, a local government may only exercise its authority to issue a development permit that imposes requirements, conditions or standards "in accordance with the applicable guidelines" specified under section 919.1. See also *Westfair Foods Ltd. v. Saanich (District)* (1997), 46 M.P.L.R. (2d) 104 (B.C.C.A.). Guidelines should be sufficiently broad and flexible to allow for the exercise of discretion but should also provide directing principles: *511784 B.C. Ltd. and Canadian Framing and Development Company Ltd. v. Salmon Arm (District)* (2001) BCSC 245 (S.C.) See also *Washi Beam Holdings Corp. v. West Vancouver (District)* (1999), 2 M.P.L.R. (3d) 118 (B.C.S.C.) Note that to make the Bill 27 amendments consistent, subsection 920(2)(b) should also have been amended to read "…subsections (7) to (10.2)" not "subsections (7) to (10)." The Ministry has advised it plans to rectify this consistency error.

[48] *Local Government Act,* section 920 (10.1)

[49] Passive solar heating refers to building design that collects heat from the sun, without requiring a specialized mechanical system to collect solar energy.

[50] City of Richmond, Development Permit Guidelines in the Official Community Plan (1999): **www.richmond.ca** . This and more on DPA in *Energy Efficiency & Buildings – A Resource for BC's Local Governments,* Fraser Basin Council and Community Energy Association: **http://www.communityenergy.bc.ca/resources/cea-publications-0**

[51] *Local Government Act,* section 920 (10.2)

[52] For more information about district heating, see *Heating Our Communities,* which is available at **http://www.communityenergy.bc.ca/resources-introduction/heating-our-communities-renewable-energy-guide-for-local-governments-in-bc**, or the report from the Community Energy Association's Renewable District Energy in Cities conference: **http://www.communityenergy.bc.ca/sites/default/files/Renewable%20District%20Energy%20in%20Cities%20Session%20Notes.pdf**

[53] *Community Charter,* Section 226. Note that only property value taxes may be exempted, not school or parcel taxes, and that the exemption is for a maximum term of 10 years.

[54] See Amendments to Municipal Financial Plans and Revitalization Tax Exemptions, Ministry of Community Services Financial Circular #07:14. **http://www.cserv.gov.bc.ca/lgd/infra/financial_circulars/cir0714.htm**

[55] Ministry of Community Services 2007. Revitalization Tax Exemptions: A Primer on the Provisions in the Community Charter. **http://www.cserv.gov.bc.ca/LGD/gov_structure/library/community_charter_revital_tax_exemptions.pdf**

[56] Maple Ridge tax exemption bylaw: **http://www.mapleridge.ca/assets/Default/Finance/pdfs/revitalization_tax_bylaw.pdf?zoom_highlight=tax+exemption#search=%22tax%20exemption%22**

[57] *Local Government (Green Communities) Statutes Amendment Act* 2008. **http://www.leg.bc.ca/38th4th/3rd_read/gov27-3.htm**

[58] See *Local Government Act* Section 933.1(1). Note that the Minister may make regulations establishing or restricting the definition of "eligible development".

[59] Section 934 of the *Local Government Act*: **http://www.qp.gov.bc.ca/statreg/stat/l/96323_28.htm#section934**

[60] West Coast Environmental Law report on the use of Development Cost Charges to promote smart growth: **http://wcel.org/wcelpub/2003/wrapper.cfm?docURL=http://www.wcel.org/wcelpub/2003/14083.htm&docKey=14083**

[61] The authority to use this approach has not, to our knowledge, been tested in the courts, but it is worth noting that Section 12 of the Community Charter provides municipalities with the power to pass a bylaw establishing variations.

[62] City of Port Coquitlam sustainability initiative: **http://www.city.port-coquitlam.bc.ca/City_Hall/City_Departments/Development_Services/Sustainability_Initiative.htm**

[63] Kamloops North Shore Neighbourhood Plan: **www.kamloops.ca/communityplanning**

[64] GHK Report, City of Toronto Green Development Standard phase 1, 2006: **http://www.toronto.ca/planning/consultantsreport.htm**

[65] Santa Monica expedited approvals for LEED™ buildings process: **http://www.smgov.net/epd/news/pdf/PressRelease_GBuild_2005.pdf**

[66] Sheltair Report: Opportunities for local government action on energy efficiency in new buildings: **http://www.sheltair.com/content/Opportunities_for_Local_Government_Action_on_Energy_Efficiency_in_New_Buildings_/56**

[67] Dockside Green development: **http://docksidegreen.com**

[68] Westhills community in Langford: **http://www.westhillsgreencommunity.com/**

[69] *Local Government Act* Section 905.1 – 905.5: **http://www.qp.gov.bc.ca/statreg/stat/l/96323_28.htm#section905.1**

[70] Note that phased development agreements have a maximum term of 10 years, unless the Inspector approves a 20 year term.

[71] Note that local governments can make changes to land subject to a phased development agreement through the establishment of a development permit area for the reduction of greenhouse gases, energy conservation or water conservation. However, such a change must first be approved by the Inspector of Municipalities. *Local Government Act* S. 905.1(8).

[72] Bowen Island green building rezoning policy **http://www.bimbc.ca/files/policies/Green%20Building%20Standards2.pdf**

[73] Density bonuses are permitted by s. 904 of the *Local Government Act*.

[74] Density bonus policy of the City of Hailey, Idaho **http://www.haileycityhall.org/planning/ordinance/zoning_ord/Nov2006ZoningOrd/Article%2010%20Planned%20Unit%20Developments.pdf**

[75] Dale Mikkelsen Presentation on the UniverCity development: **www.smartgrowth.bc.ca/Portals/0/Downloads/Dale%20Mikkelsen.pdf**

[76] Note that the authority for Municipalities to impose fees is from Community Charter Section 194. The authority for Regional Districts to do this (Local Government Act Section 363) places more limitations on reductions, waivers or refunds. Regional Districts should therefore approach this tool with even greater caution than municipalities.

[77] The prohibition on assistance to business is found in Section 25 of the Community Charter. However, the countervailing Section 194 states that a municipality can impose a fee for a service or exercise of authority, can establish different rates and levels, terms and conditions, including discounts, interest, penalties and refunds. Formal legal advice must be sought before using this tool.

[78] **http://www.gov.saanich.bc.ca/business/development/greenbuilding/GreenBuilding.html**

[79] *Community Charter,* Section 211

[80] Ministry of Community Development information about local area service rules: **http://www.cserv.gov.bc.ca/LGD/gov_structure/community_charter/services_regulatory/local_area_services.htm**

[81] *Community Charter,* Section 8(2).

[82] Buholzer, B. 2007. Letter to Rosalyn Tanner of the District of Central Saanich containing legal advice on the use of Local Improvement Charges to finance solar panels. Lidstone, Young, Anderson: Barristors and Solicitors. January 3rd 2007. Vancouver, BC. **http://www.centralsaanichec.ca/Documents/LIC%20Legal%20Opinion,%20%20Solar%20Etc.%20Financing.pdf**

[83] City of North Vancouver Hydronic Heating Bylaw (consolidated): **http://www.cnv.org/data/1/84/cnv%20hydronic%20heat%20energy%20service%20bylaw%207575,%202004.pdf**

[84] Community Energy Association, *Utilities and Financing, Renewable Energy Guide for Local Governments in British Columbia:* **http://www.communityenergy.bc.ca/resources/cea-publications-0**

[85] [i] Buholzer, B. 2007. Letter to Rosalyn Tanner of the District of Central Saanich containing legal advice on the use of Local Improvement Charges to finance solar panels. Lidstone, Young, Anderson: Barristors and Solicitors. January 3rd 2007. Vancouver, BC. Available online at: **http://www.centralsaanichec.ca/Documents/LIC%20Legal%20Opinion,%20%20Solar%20Etc.%20Financing.pdf**

[86] [ii] Peters et al 2004. Using local improvement charges to finance building energy efficiency improvements. Report for Climate Change Central and BC Hydro. Pembina Institute, Calgary **http://pubs.pembina.org/reports/LICProgramFinal%20ReportMay27042.pdf**

[87] [iii] Buholzer, B. 2007. Letter to Rosalyn Tanner of the District of Central Saanich containing legal advice on the use of Local Improvement Charges to finance solar panels. Lidstone, Young, Anderson: Barristors and Solicitors. January 3rd 2007. Vancouver, BC. Available online at: **http://www.centralsaanichec.ca/Documents/LIC%20Legal%20Opinion,%20%20Solar%20Etc.%20Financing.pdf**

[88] See the Provincial Government's "mini-guide" for local government involvement in IPP projects: **http://142.32.76.167/Electricity%20and%20Alternative%20Energy/AEPB/AEPS/Documents/Local%20Government%20and%20Public%20Participation%20Mini-Guide.pdf**

[89] Whitehorse ground-source heat pump resource mapping: **http://www.communityenergy.bc.ca/sites/default/files/Scott%20Schillereff%20Whitehorse%20Mapping.pdf**

[90] EBA, 2007. Areal Assessment of Geoexchange Potential, Whitehorse, Yukon. Report No.W23101058.001 by EBA Engineering Consultants Ltd. to the City of Whitehorse, October 5, 2007.

[91] Renewable Energy Policy Network for the 21st Century. Global Renewables Status Report 2006. **www.ren21.org**

Resources

Community Energy Association

CEA provides assistance with energy planning, energy efficiency and renewable energy, for local governments in BC. See other *Renewable Energy Guide* modules (*Heating Our Communities, Powering Our Communities,* and *Utilities and Financing*), as well as a funding guide, and energy planning toolkit.
www.communityenergy.bc.ca 1-604-628-7076

Other Helpful Resources

BC Sustainable Energy Association
www.bcsea.org 1- 250-744-2720

Canadian Bioenergy Association
www.canbio.ca 1-866-742-4256

Canadian District Energy Association
www.cdea.ca

Canadian Geoexchange Coalition
www.geo-exchange.ca 1-514-807-7559

Canadian Solar Industries Association
www.cansia.ca 1- 866-522-6742

Canadian Wind Energy Association
www.canwea.ca 1-800-922-6932

Centre for Sustainable Community Development
www.sustainablecommunities.fcm.ca/home

GeoExchange BC
http://www.geoexchangebc.ca/

Light House Sustainable Building Centre
www.sustainablebuildingcentre.com

Natural Resources Canada
www.nrcan.gc.ca www.retscreen.net
www.canren.bc.ca www.sbc.nrcan.bc.ca

Pembina Institute
www.pembina.org

SmartGrowth BC
www.smartgrowth.bc.ca

Solar BC
www.solarbc.ca 1-866-650-6527

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