BC Local Government Survey:

District Energy, Renewable Energy and Energy Planning

Report on Results

Prepared for: **Ministry of Energy, Mines and Petroleum Resources**

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Community Energy Association

Connecting communities, energy and sustainability

Acknowledgements

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Disclaimer

The views expressed herein do not necessarily represent the views of the Ministry of Energy, Mines and Petroleum Resources, Ministry of Community Development, Ministry of Environment, BC Hydro, Pembina Institute, communities of Revelstoke or Quesnel, or FVB Inc.

About the Community Energy Association

The Community Energy Association is a charitable organization, assisting British Columbia local governments to promote energy efficiency and alternative energy through community energy planning and project implementation. We connect communities, energy and sustainability. The organization is an inter-agency collaboration; partners include the Province of British Columbia, Union of BC Municipalities, Planning Institute of BC, BC Hydro, BC Transmission Corporation, Terasen, Pacific Northern Gas, BC Transit, Translink, City of North Vancouver and District of North Vancouver. For information and many local government resources, please visit: www.communityenergy.bc.ca .

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Executive Summary

Introduction

The Ministry of Energy, Mines and Petroleum Resources, Ministry of Community Development, Ministry of Environment, BC Hydro, Community Energy Association (CEA) and Pembina Institute, the communities of Revelstoke and Quesnel, as well as FVB Inc, initiated a survey of energy planning, efficiency, and renewable energy in BC local governments in November 2008.

Goals of the survey were to identify:

- **status** of various energy efficiency and renewable energy initiatives,
- **interest** in undertaking various actions,
- **barriers** to implementation of energy-related initiatives, and
- **support** that would be of most use.

The survey was distributed by email from Civicinfo to Chief Administrative Officers of all BC municipalities and regional districts, and from CEA to the CEA listserve (local government elected officials and staff) and to all CAEE (Community Action on Energy and Emissions) local governments. Results were collected November 6 - 20, 2008. The survey took about 45 minutes to complete; questions were lengthy, detailed and covering a broad array of energy/GHG topics. A previous survey, similar in content but much shorter, was conducted by CEA with UBCM and the Province in June 2006.

Survey Response Demographics

This results report is based on 49 completed surveys, representing 47 local governments (two municipalities submitted two responses). This is 25% of all BC local governments -- an excellent response rate for a survey of this length and complexity.

Survey responses are reasonably representative by government type, geographic location, and population. 19% of respondents were Regional Districts, and of the rest 43% had a population less than 10,000 and 39% a population greater than 10,000. However, responding local governments demonstrated somewhat more leadership than average, indicated by their higher than average CAEE participation and Charter signatories.

	Survey Responses	All BC Local Governments
CAEE participation	42%	28%
BC Climate Action Charter signatories	82%	~70%

Interpretation of Results

Local governments more favourable to climate action were more likely to respond to the survey (see the above chart), which indicates a slight skew to the results. Notwithstanding, the results can be extrapolated to show a reasonably good representation for all BC local governments. Survey results will help the Province and all survey partners better serve local governments through the most appropriate support.

Key Findings

The current status of local government activity is that generally, local governments are **doing the planning but not doing the doing yet**. Approximately half of respondents have energy / GHG plans underway and just under a third have completed them. Implementation and monitoring are still largely uncharted waters.

Top drivers for action on both energy and GHG indicated that the **BC Climate Action Charter is having a major effect** – the Charter is a top driver at both community-wide and operations levels. Playing a leadership role is another top driver across energy and GHG, at both community and operations levels. The strength of leadership as a driver could indicate that **the leadership shown by the Province of BC is contagious**, particularly as this is a new driver that has emerged since the 2006 survey. Leadership in operations is seen as important for supporting or stimulating community-wide action.

	Community -Wide Action	Local Government Operations
Top drivers for reducing GHG's	• **BC Climate Action Charter** (84%) • To play a **leadership** role (57%)	• **BC Climate Action Charter** (87%) • Playing a **leadership** role for community-wide efforts (74%) • Grant programs (38%)
Top drivers for reducing energy	• **Energy costs** (51%) • **BC Climate Action Charter** (49%) • To play a **leadership** role (49%)	• Playing a **leadership** role for community-wide efforts (66%) • **BC Climate Action Charter** (60%) • **Financial savings** (57%)

When analyzing barriers, the phrase "**the more things change, the more they stay the same**" seems appropriate. Top barriers are staff time and funding, identical to the top barriers identified in the 2006 survey. When asked about barriers to getting funding grants, staff time to write applications and lack of matching funding were top barriers. Unsurprisingly, a priority for support that local governments identified is direct assistance in obtaining funding.

Results indicate that a great deal more work in education and awareness is warranted. Local governments would benefit from greater knowledge of district energy; only 27% were very familiar with district energy and only 18% indicated they had developed sufficient understanding of the benefits and implications of district energy. In addition there appears to be a **thirst for more training** and education opportunities. Responses indicate that they want to learn more about all renewable energy technologies, particularly heat recovery, district energy, and heat pumps, with over 2/3 of respondents indicating interest in each. 90% would like education on energy utility ownership options, and 63% particularly wanted more information about local government ownership with private sector operation.

NGO's and consultants were identified as **the most useful sources** of district energy information. One reason for this response is that government contracts NGOs and consultants to deliver various outreach programs (e.g. CAEE). The finding is also reinforced by responses showing that CEA publications and services were useful.

The **next frontier** in local government climate and energy activity may be the shift from planning to implementation and the integration of climate and energy into economic development strategies. There is great opportunity over the next two years with establishing GHG targets in Official Community Plans by 2010, locking in planning and policies, and moving toward implementation.

Comparison of 2006 and 2008 Survey Results

Comparing the 2006 and 2008 survey results, we find differences, similarities and significant momentum as summarized in the table below.

Topic Area	Trend	2006	2008
Status of taking some steps toward developing a community energy/ GHG plan	↑	35%	55%.
Status of hiring an energy / GHG planner (either hired or planned)	↑	< 47%	66%
Primary drivers for energy / climate action	↑	Energy costs	Climate Action Charter, leadership, energy costs
Interest in district energy	↑	53%	86%
Barriers	→	Funding, staff time	Funding, staff time
Support priorities	↑	Funding assistance	Funding assistance and learning opportunities

Community Energy Association tools and support that local governments indicated in 2006 they would find useful, were confirmed in 2008 to have been useful.

Survey Highlights

Status of renewable and district energy

- Progress towards implementing district energy systems is slow but steady. 18% of respondents consider themselves to have completed the first phase of understanding district energy, but only 4% of respondents have operational district energy systems.
- About 50% of local governments have investigated the potential for small-scale renewable electricity generation to a degree and 87% indicated that they need support with feasibility assessment.

Status of bylaws and policies

Of 28 bylaws and policies listed in the survey, top ones **completed** are:

- Compact, mixed use development (completed by 34% of respondents)
- Policy on green building standards for new civic buildings (26%)
- Water conservation (24%)
- Green procurement policy for appliances and supplies in local government buildings (22%).

Top bylaws and polices **underway** are:

- Water conservation (underway by 59% of respondents)
- Land use & transportation coordination (54%)
- Energy/GHG in OCP or Regional Growth Strategy (53%)
- Transportation planning to encourage transit, cycling etc (51%).

Status of projects

Of 41 project types listed in the survey, top projects **completed** are:

- New civic buildings constructed to green building standards (completed by 11% of respondents)
- Waste reduction program (11%)
- Green appliances/products being procured (11%).

Top projects **underway** are:

- Energy retrofits of civic buildings, e.g. recreation centres, libraries (underway by 57% of respondents)
- Waste reduction program (56%)
- Promoting energy conservation through community outreach (39%)
- Actively promoting government- or utility-sponsored conservation and efficiency programs (38%).

Support Priorities

Local governments indicated they would be interested in the following support:

- 84% are very interested in education and training for staff and elected officials:
    - 65%-71% want to learn more about certain renewable energy technologies. In order of interest: heat recovery (e.g. wastewater treatment plant), district energy, ground/air/water source heat pumps, solar water/space heating;
    - 90% are interested in learning more about different options for ownership and operation of local energy utilities, with 63% interested in local government ownership with private sector operation.
- Expertise
    - Planning
        - 73% selected carbon neutral operations planning as a top choice for potential energy/GHG planning assistance;
        - 57% selected integrated water, waste and energy infrastructure planning as a top choice for potential energy/GHG planning assistance.
    - Funding
        - 55% selected direct assistance obtaining funding as a top preferred support for district energy advancement;
        - 51% selected a guide to funding, grants & support as a top preferred support for district energy advancement.
    - Technical
        - 51% selected technical expertise for planning/implementation processes as a top preferred support for district energy advancement;
        - 47% selected accessing/hiring/sharing energy planner/manager as a top preferred support for district energy advancement.
- Funding
    - 56% indicated that financing targeted at implementing district energy systems would be of value, while 38% said it might be.

Role of the Community Energy Association

Local governments are finding current CEA training opportunities and resource materials valuable. Respondents that used CEA services or publications (about half respondents), found the following particularly valuable:

- Training opportunities
    - CEA presentations (100% of respondents who received presentations found them very or somewhat helpful)
    - CEA workshops/conferences (92%)

- Resource materials
    - CEA website (100%)
    - CEA Funding Guide (96%)
    - CEA Renewable Energy Guide “Policy & Governance” (96%)
    - All other CEA Renewable Energy Guides (92%).

This information on high degree of local government satisfaction with these training opportunities may be useful in program design for further local government support and training.

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Goals of the survey were to identify:

- **status** of various energy efficiency and renewable energy initiatives,
- **interest** in undertaking various actions,
- **barriers** to implementation of energy-related initiatives, and
- **support** that would be of most use.

The survey was web-based and distributed by email from Civicinfo to Chief Administrative Officers of all BC municipalities and regional districts, and from CEA to the CEA listserve (local government elected officials and staff) and to all CAEE (Community Action on Energy and Emissions) local governments. Respondents were given two weeks to complete the survey, with a reminder e-mail sent to CAEE communities and the CEA listserve after one week. Results were collected November 6 - 20, 2008. A paper version was available and used by several respondents. The survey took about 45 minutes to complete; questions were lengthy, detailed and covering a broad array of energy/GHG topics. A previous survey, similar in content but much shorter, was conducted by CEA with UBCM and the Province in June 2006. Trends between the two surveys are identified in this report.

Due to the small sample size, response rate, and lack of randomness (as demonstrated for example by the proportion of respondents who are members of CAEE) the results will be partially skewed. However it is expected that the results can be extrapolated to represent all local governments reasonably well.

The results of this survey will help the Province and its partners better serve local governments through the most appropriate support.

Survey Response Demographics

Complete survey responses were obtained from 47 local governments -- 25% of all BC local governments -- an excellent response rate for a survey of this length and complexity. Fifty-five responses were received, almost entirely by email, some by fax. Six surveys were extremely incomplete, and were therefore not included. This left 49 surveys, representing 47 local governments; two municipalities submitted two complete surveys each – and both were accepted allowing a more thorough representation of opinion within local government. The high response rate is an indication of the present level of interest and commitment of BC local governments to energy and climate action.

Survey responses are reasonably representative by government type, geographic location, and population. 19% of respondents were Regional Districts, and of the rest 43% had a population less than 10,000 and 39% a population greater than 10,000. However, responding local governments demonstrated somewhat more leadership than average, indicated by their higher than average CAEE participation and BC Climate Action Charter signatories. In terms of NRCan's nation-wide climate zones, where A is the mildest and D the coldest, 28 respondents were in climate zone A, 17 in B, 4 in C, and 0 in D.

	Survey Responses	All BC Local Governments
CAEE participation	42%	28%
BC Climate Action Charter signatories	82%	~70%

This survey report is based on completed surveys from the following communities. A few additional responses were received too late to be reflected in these results, though all responses were appreciated.

Northern BC
Peace River Regional District
Regional District of Fraser-Fort George
Dawson Creek
Fort St John
Hazelton
Queen Charlotte
Taylor
Williams Lake

Lower Mainland and Sunshine Coast
Fraser Valley Regional District
Metro Vancouver
Sunshine Coast Regional District
Abbotsford
Bowen Island
Coquitlam
Gibsons
Lions Bay
Mission
North Vancouver City
North Vancouver District
Squamish
Surrey
Vancouver
Whistler

Interior
Cariboo Regional District
Regional District of North Okanagan
Castlegar
Elkford
Kaslo
Peachland
Nelson
New Denver
Radium Hot Springs
Revelstoke
Sicamous
Vernon
Westside

Vancouver Island
Comox Valley Regional District
Regional District of Nanaimo
Campbell River
Colwood
Duncan
Islands Trust
Ladysmith
Langford
Saanich
Sayward
Tofino

Comparison of 2006 and 2008 Survey Results

	2006 Survey	**2008 Survey**
Number of responses	47 (including one local government that submitted two surveys)	49 (including two local governments that submitted two surveys)
Number of local governments that responded	46	47
Distribution of responses	Good in terms of: • Geographic location • Population • Type (municipality vs regional district) of local government	Good, as with the 2006 survey.
Primary driver(s) for energy planning	• Energy costs	Top 3 (all about same level): • BC Climate Action Charter • To play a leadership role • Energy costs
Percentage indicating they have taken some steps toward developing a community energy/GHG plan	35%	55%
Number of communities indicating they have complete energy / GHG plans	2%	6% in the last 2 years, 6% prior to that, and 53% have energy / GHG plans underway.

	2006 Survey	2008 Survey
Where activity at the time of the survey is being concentrated	• Water conservation • Wastewater reduction • Waste reduction • Cycling/pedestrian infrastructure	• Energy/GHG objectives in OCP or Regional Growth Strategy • Bylaws/policies for compact mixed-use development, land-use & transportation planning, development applications, water conservation, wastewater reduction & treatment, and waste reduction • Transportation planning to encourage public transit, cycling, etc. • Energy retrofits of civic buildings • Water conservation and wastewater reduction • Waste reduction • Efficient street lighting
Highest levels of interest	• Including energy objectives in OCP or bylaws/policies • Policies and education to encourage efficiency in buildings • Green procurement policies • Green fleets and alternative fuels • Solar heating and photovoltaics • Ground source heat pumps	• Land use & transportation planning • Building design • Infrastructure design • Local renewable energy production • Social marketing and community outreach • District energy system implementation
Interest in hiring an energy / GHG manager	LGs indicating this was an area of low interest, with 53% saying they had no interest in hiring an energy or GHG manager	• For Community Energy Planning, 33% of respondents already have at least one staff member tasked with energy / GHG reduction / air quality planning, and 38% are trying to get one • For Government Operations, 38% communities already have at least one staff member tasked with energy / GHG's, and 29% more are trying to get one

	2006 Survey	2008 Survey
Interest in district energy	LGs indicating this was an area of low interest, with 47% saying they had no interest in it.	• 35% indicated they were *very interested* in district energy • 51% indicated they were *somewhat interested* in district energy
Major barriers to energy planning and implementation	• Lack of funds • Lack of staff time	• Lack of funds • Lack of staff time
Highest priority indicated for tools and support (In the 2008 survey this question was asked with respect to district energy advancement only.)	• Funding guides • Funding related assistance	• Funding guides • Funding related assistance • Accessing, hiring or sharing an energy planner / manager • Access to technical expertise for planning and implementation processes

CEA tools and support	People said they ***would find*** the following useful:
	• A guide to energy-related funding
	• Assistance in securing funding
	• A guide on alternative energy technologies
	• A case study guide
	• On-the-ground assistance
	• Presentations to council
	• Staff training
	• Community workshops
	• Support in developing an energy/GHG baseline had the lowest level of support but was still indicated to be useful
		People ***have found*** the following CEA tools and support *very useful*:
		• Staff support
		• Presentations
		• Funding Guide
		• Renewable Energy Guide modules:
		  ○ policy and governance
		  ○ heating
		  ○ electricity
		  ○ utilities and financing
		• Workshops / conferences

Differences and similarities between 2006 and 2008 results:
The most significant differences between 2006 and 2008 results were:

- An increased number of primary drivers for energy planning. In 2006 energy costs was a clear driver, but by 2008 the BC Climate Action Charter and playing a leadership role, were as important, and GHG reduction had become a driver in itself.
- An increased percentage indicating they have taken steps toward developing a community energy/ GHG plan, from 35% to 55%.
- An apparently significantly increased level of activity, although this is hard to quantify.
- A very large increase in interest in hiring an energy / GHG planner. In 2006 53% specifically indicated they were not interested; in 2008 for both the whole community and local

government operations, about one third of local governments already have an energy/GHG planner, and another third are in the process of getting or trying to get one.
- With respect to district energy, in 2006 47% specifically said they had no interest in it, while in 2008, 35% said they were *very interested* and 51% *somewhat interested*.

The most significant similarities between 2006 and 2008 results were:
- The response rate and distribution.
- Major barriers to energy planning and implementation are the same – lack of funds, and lack of staff time.
- Highest priority tools and support indicated are still funding guides and funding related assistance. But accessing, hiring or sharing an energy planner / manager, and access to technical expertise for planning and implementation processes have both become priority.
- CEA tools & support that local governments indicated in 2006 they would find useful, were confirmed in 2008 to have been useful.

Background changes between 2006 and 2008:
The two surveys were set up differently, since the 2008 survey had more specific objectives (e.g. in regard to district energy and distributed electricity generation). The 2008 survey was considerably longer, and usually had more possible answers for selection. Some questions were worded considerably differently.

A number of major developments between 2006 and 2008 likely affected the survey results:
- The Province released its *Climate Action Plan*, *Energy Plan*, and *Energy Efficient Buildings Strategy*.
- To support these plans, the Province:
  - Mandated GHG targets in OCPs by 2010 and in RGSs by 2011.
  - Collaborated with the Union of BC Municipalities to develop the BC Climate Action Charter which commits signatory local governments to having carbon-neutral operations by 2012 and to building compact, mixed-use communities. At the time of the survey, over 130 local governments had signed the Charter.
- BC Hydro had begun its Sustainable Communities work.
- The CAEE program had expanded to involve 62 communities, and the program breadth had expanded from buildings to the full range of energy sustainability.
- CEA had launched its Funding Guide (*Funding your Community Energy and Climate Change Initiatives)* –distributed annually since 2006 through UBCM, and updated quarterly for current online downloads from the CEA website. CEA had also produced and distributed *Heating Our Communities,* and *Utilities and Financing* – two modules of a Renewable Energy Guide.
- CEA outreach to local governments over the past 2 years had increased substantially to the point where CEA is presenting at most major gatherings of local government elected officials or staff professionals in BC (20-30 presentations per year).

2008 Survey Results Analysis

Progress in Local Government Activity

Survey results indicate that steady progress is being made by local governments in tackling energy/GHG reductions at both the community and operations levels. Comparison of 2006 and 2008 local government energy survey results indicates that while 35% of respondents had some elements of an energy/GHG plan in place in 2006, this number has risen to 55% in 2008. A much higher level of interest was also demonstrated in 2008.

Energy / GHG Planning & Management – Community and Operations Levels

Top drivers for action on both energy and GHG (table below) indicate that the **BC Climate Action Charter is having a major effect** – the Charter is a top driver at both community-wide and operations levels. Playing a leadership role is another top driver across energy and GHG, at both community and operations levels. The strength of leadership as a driver could indicate that **the leadership shown by the Province of BC is contagious**, particularly as this is a new driver that has emerged since the 2006 survey. Leadership in operations is seen as important for supporting or stimulating community-wide action.

	Community-Wide Action	Local Government Operations
Top drivers for reducing GHG's	• **BC Climate Action Charter** (84%) • To play a **leadership** role (57%)	• **BC Climate Action Charter** (87%) • Playing a **leadership** role for community-wide efforts (74%) • Grant programs (38%)
Top drivers for reducing energy	• **Energy costs** (51%) • **BC Climate Action Charter** (49%) • To play a **leadership** role (49%)	• Playing a **leadership** role for community-wide efforts (66%) • **BC Climate Action Charter** (60%) • **Financial savings** (57%)

However as demonstrated below, motivation by itself is not sufficient.

Progress

Respondents show they are making steady progress at both the community and government operations levels, in developing energy/GHG inventories, engaging the community, and developing and implementing a plan. There are, however, many local governments that have not yet started many of the tasks – 31% to 83% depending on the task. There is no major difference between the status of progress in tackling either community-level or government operations.

Economic Development

When asked if their community economic development strategy gave consideration to energy supply and demand:

- 9% of respondents indicated *yes*
- 38% indicated *somewhat*
- 29% indicated that they were *not sure*
- 24% indicated *no*.

The majority of respondents (49%-55%) indicated that they were interested in incorporating either local renewable heating/cooling, small-scale power generation, district energy systems, or a community

energy utility, into their community's economic development strategy. 11-13% for each option indicated that they were not interested in this incorporation into the economic development strategy; these results may indicate a small but significant resistance to incorporating energy sustainability into community economic development strategies, or there may be other reasons for this lack of interest, which were not made apparent through the survey.

District Energy

Familiarity, interest and knowledge of opportunities

A high proportion of respondents are somewhat or very familiar with district energy:

- 27% of respondents considered themselves to be *very familiar*
- 59% *somewhat familiar*
- 14% *not familiar*.

Similarly, a high proportion are somewhat or very interested in district energy:

- 35% considered their local government to be *very interested*
- 51% *somewhat interested*
- 14% *not interested*.

In terms of conducting inventories of significant waste energy streams for district energy, the greatest headway has been made on landfill energy inventory where 27% have done this. The greatest areas of future progress are likely to be wastewater treatment plants and arenas where 19% intend to conduct waste energy inventories in future.

Results indicate that a great deal more work in education and awareness is warranted. Local governments would benefit from greater knowledge of district energy; only 18% indicated they had developed sufficient understanding of the benefits and implications of district energy. In addition there appears to be a **thirst for more training** and education opportunities. Responses indicate that they want to learn more about all renewable energy technologies, particularly heat recovery, district energy, and heat pumps, with over 2/3 of respondents indicating interest in each. 90% would like education on energy utility ownership options, and 63% particularly wanted more information about local government ownership with private sector operation.

NGO's and consultants were identified as **the most useful sources** of district energy information. One reason for this response is that government contracts NGOs and consultants to deliver various outreach programs (e.g. CAEE). (The finding is also reinforced by responses showing that CEA publications and services were useful.)

System implementation

Progress toward implementing district energy systems in communities is slow but steady. 18% of respondents consider themselves to have completed the phase of understanding district energy, with 41% of respondents having started that, and 41% still to start. Ultimately only 2 district energy systems are operational amongst respondents, representing 4% of respondents.

Bylaws

Only one local government respondent has implemented bylaws to encourage district energy implementation. 37% of respondents are interested in implementing such bylaws, and 61% said they might, while no respondents said they would not consider it.

Infrastructure work
35% of respondents said that there is infrastructure work scheduled in the near future that would facilitate district energy installation, 25% said they did not know, and 40% said that there is none.

Small-Scale Renewable Electricity Generation

Feasibility
Respondents estimated the level to which they had investigated opportunities for small-scale renewable electricity generation in their communities:

- 4% indicated that they had investigated *extensively*
- 48% indicated that they had investigated *some*
- 13% indicated that they *intend to*
- 35% indicated *none*.

87% indicated that they need support with feasibility assessments of small-scale renewable electricity generation systems.

These results indicate that although local governments are interested and making progress, some support with feasibility assessment would be beneficial (see below).

Consulting with more experienced communities
Asked if respondents had consulted with or toured communities that had implemented small-scale renewable electricity generation systems:

- 19% indicated *yes*
- 15% *intend to*
- 67% indicated *no.*

Selling power or local consumption
Respondents were asked if they would intend that power should be for local consumption, or if they would want to sell it to BC Hydro.

- 15% indicated *local consumption*
- 4% indicated *for sale to BC Hydro*
- 50% indicated *both*
- 31% did not know.

Existing small-scale renewable electricity generating systems in the community
19% of respondents indicated public electricity generation systems exist in their community, and 28% indicated private systems exist in their community.

Those who had indicated that they were aware of systems in their communities were asked about the public response and level of public consultation conducted beforehand. In 13% of installations there had been a negative public response, and in 21% of cases, it was considered that an insufficient level of public consultation had been conducted beforehand.

Status of Bylaws, Policies, Projects and Operations

Survey results generally indicate that local governments are making progress in the following areas:

- Land use and transportation bylaws and policies
  - 40-54% of respondents' local governments are underway with developing bylaws and policies in this area.
  - 6-34% have completed bylaws and policies.
- Water and wastewater
  - 59% of respondents indicated they were underway with water conservation in infrastructure bylaws and policies, and 24% indicated they had completed this.
  - 43% indicated they were underway with wastewater reduction and treatment in infrastructure bylaws and policies, and 11% indicated they had completed this.
  - 56% indicated they were underway with water conservation & wastewater reduction in infrastructure projects and operations, and 9% indicated they had completed this.
- Waste
  - 49% were underway with waste management bylaws and policies, while 17% had completed this.
  - 56% were underway with waste management projects and operations, while 11% had completed this.
- Community engagement on energy
  - 30-40% of respondents' local governments are underway with bylaws and policies on community engagement on energy, and 4-14% have completed them.
  - 38-39% are underway with projects on community engagement on energy.

Generally, communities are not making as good progress on:

- Infrastructure (except with water / wastewater and energy efficient streetlighting)
  - 7-36% are underway with bylaws and policies, while 0-9% have completed them.
  - 0-34% are underway with projects and operations, while 0-7% have completed them.
- Renewable energy
  - 13-20% are underway with bylaws and policies, while 0-2% have completed them.
  - 7-31% are underway with projects and operations, while 0-2% have completed them.

Renewable energy (electricity, heat, or cogeneration) stands out as being the area of least progress in both bylaws and policies, and projects and operations.

Interest and Knowledge

Respondents showed a high level of interest (generally 65-100%) in everything they were asked about relating to energy/GHGs. (This is likely reflective of the biased local government respondent sample; most respondents were signatories to the BC Climate Action Charter, and a high proportion are participants in the CAEE program.) Notable were:

- 85% of respondents were interested in, and somewhat familiar with, district energy. At the same time, from a list of methods of reducing energy demand (Question 8.1), interest in district energy systems scored lower than interest in land use and transportation, buildings and infrastructure.

- When respondents were asked to identify renewable energy technologies which they would like to learn more about, biomass and biogas scored lowest with just 49% and 45% of respondents selecting them respectively.

There may be some room for education on the benefits of district energy, biomass and biogas.

Local government knowledge appears to be lagging behind interest. For example:

- The majority of communities (63%) had not yet explored technologies to integrate existing excess energy streams into community district energy opportunities.
- The majority of communities (64%) had no staff expertise on green building rating schemes or energy performance standards for developments.
- Most respondents (81%) said their communities had not toured or consulted with communities that had implemented small-scale renewable electricity generation systems.
- Most respondents (87%) said they needed support with feasibility assessment for small-scale renewable electricity generation systems.

This gap between interest and knowledge indicates that local governments have some knowledge-building to do. This survey highlights specific knowledge areas sought by local governments, and preferred ways of receiving this support (see below).

Barriers

Internal and external barriers

Respondents were asked to rate internal and external local government barriers to advancing district or renewable energy systems in their communities. Internal and external barriers are those inside and outside the local government's operations; e.g. an internal barrier might be lack of staff time, and an external barrier might be insufficient influence over developers or an inability to find funding partners.

Internal barriers were overwhelmingly viewed as greater than external ones. The four greatest internal barriers were:

- Lack of funds
- Lack of time by staff
- Lack of comprehensive financial analysis
- Lack of knowledge/information on technology, by staff or council/board.

By a significant margin, and both selected by over 90% of respondents, the two biggest barriers were lack of funds and lack of staff time.

Barriers to obtaining funding

The two greatest barriers in obtaining funding, by a significant margin, were lack of staff time at over 75%, and lack of required share of matching funds at over 50%.

With lack of staff time as a major barrier, it will be a challenge for knowledge to quickly catch up with interest.

Future Support for Local Governments

Funding

Increased funding to local governments can mean both greater access to capital funds to implement projects, and more funds to enable staff to work in this area. Survey results on funding barriers (listed above), indicate that lack of staff time is the greatest barrier, and lack of the required share of matching funds is also significant. Greater project funding, e.g. an increased provision of grant funding, would undoubtedly help; but the greatest need indicated is for funds for staff time.

Preferred supports for district energy advancement

Respondents were asked to select their top supports for district energy advancement. The top four selected, by a considerable margin, were:

- Direct assistance obtaining funding
- Guide to funding, grants & support (which CEA has already produced – see below)
- Technical expertise for planning and implementation processes
- Accessing/hiring/sharing an energy planner/manager.

All of these could be met through provision of direct support to local governments (see below).

When asked whether financing specific for district energy implementation would be helpful, 56% of respondents indicated *yes*, 38% indicated *maybe*, and 7% said *no*; district energy financing could therefore be considered as part of future government support.

Direct support for local governments

Many gaps and barriers highlighted by this survey could be resolved by direct support for local governments. This could take the form of free, subsidized, or fee-for-service support (relative merits of these three approaches were not explored in this survey). It would be important for local governments to designate staff responsible for energy/GHG, for both community and operations levels.

There are several indications from the survey that direct support would be of benefit to local governments:

- Lack of funds and lack of staff time were indicated as the two greatest barriers -- the same top two barriers indicated in CEA's 2006 Local Government Energy Survey. Several respondents also indicated that they would like to know/implement more but did not have the time.
- Several respondents directly indicated they would like more one-on-one support, or access to experts.
- More respondents had used CEA's direct support activities (i.e. staff support (55%) and presentations (51%)), than any other CEA activities.
- There has been significant success in generating interest and motivation among local governments on energy and GHG emission reductions, but knowledge and understanding of opportunities lags behind. The majority of respondents (55%) indicated that no representatives of their local government had attended any training on the topics of district energy / small-scale renewable electricity generation.
- Several respondents indicated that their local government has very limited resources to conduct energy/GHG work. Several indicated they would like people to come in and do it for them at no cost, and/or that they need access to the technical expertise.
- Supports and assistance were indicated as required for district energy advancement (see above).

When respondents were asked for their top choices for potential energy/GHG planning assistance in the following categories, top selections were as follows:

Education
- workshops/conferences and training for elected officials and staff (requested by 84% of respondents)
- presentations to Council/Board (59%)
- site tours of completed projects in other communities (59%)

Community
- community energy / GHG planning (61%)
- district energy development (49%)
- renewable energy for heating (49%)
- small-scale renewable electricity generation projects (37%)

Operations
- carbon neutral operations planning (73%)
- integrated water, waste, and energy infrastructure (57%)
- acquiring carbon offsets (45%)
- building retrofits (43%)
- fleet energy efficiency (41%).

Regarding support in obtaining **funding**:
- 77% identified lack of staff time as a key barrier to obtaining funding
- 67% indicated lack of knowledge on funding as a barrier
- 55% indicated that direct help in obtaining funding, and
- over 50% indicated that a guide to funding and support would help them with district energy projects.

It is notable that CEA has produced a funding guide for local governments *Funding Your Community Energy and Climate Change Initiatives.* The guide was printed and distributed to all BC local governments in 2006 and 2007, and has been updated quarterly; current issues downloadable from the CEA website. Survey results would seem to indicate that additional support is required to promote this guide, to point to applicable funding programs, and potentially to assist with application-writing. This last point is indicated by 55% of respondents selecting *assistance in securing funding* as a key means to help them with district energy projects.

Community Energy Association (CEA)

CEA's support activities were accessed by about half the respondents. This could reflect a combination of CEA's limited resources, a need to better target and promote support activities, and a lack of time from local government staff (e.g. to read the guides). The following list ranks types of supports according to percentages of respondents that used them:

1. CEA staff support (55%)
2. CEA presentations, e.g. council meetings (51%)
3. CEA Funding Guide (47%)
4. CEA website (47%)

5. CEA workshops/conferences (45%)
6. CEA webinars (39%)
7. CEA Governments-and-Energy Listserve (31%)
8. CEA Renewable Energy Guide modules (27%)

Least familiarity was with CEA's Renewable Energy Guide modules, though of those familiar, 70% found them very useful. (nb: Two of the four modules were released just prior to the survey, and were not yet officially distributed, which would explain some unfamiliarity).

Local governments are finding current CEA training opportunities and resource materials valuable. Respondents that used CEA services or publications (about half respondents), found the following particularly valuable:

- Training opportunities
  - CEA presentations (100% of respondents who received presentations found them *very* or *somewhat helpful*)
  - CEA workshops/conferences (92%)
- Resource materials
  - CEA website (100%)
  - CEA Funding Guide (96%)
  - CEA Renewable Energy Guide "Policy & Governance" (96%)
  - All other CEA Renewable Energy Guides (92%).

This information on high degree of local government satisfaction with these training opportunities may be useful in program design for further local government support and training.

It is interesting that CEA's Renewable Energy Guides were the least utilized of CEA's activities but were among the most helpful, indicating that local governments are very interested in the level of detail that can be found in the Renewable Energy Guides but may not have been exposed to them or have made time to read them, lack of time being a top barrier for local governments. It takes considerably more time to read something and understand it for oneself compared to taking a training workshop, so funding to provide workshops & presentations on the guides (heating, power, utilities, policy and governance tools) may be an appropriate next step to build familiarity.

CEA presentations and workshops have a record (in this survey and otherwise) of being considered highly-valuable among local governments, and are among the most used means of support. Regional workshops building familiarity with CEA's Renewable Energy Guide (which deals extensively with district energy), would likely be an effective way to build local government knowledge. A webinar series would also likely be effective, and particularly cost-effective. It is noted that it would be helpful if the guides were updated, e.g. in 2-3 years. It is also noted that hard copies of the first two modules are no longer available; print funds would help create broader exposure.

The CEA website has proven to be an extremely cost-effective tool, with both high number of users and a high ranking of usefulness. It should be taken under consideration though, that although 100% of users considered it to be either *somewhat* or *very* useful, the majority of these (74%) considered it to be *somewhat* useful. This is unusually high out of the results for the CEA resources. This may either indicate that local governments do not find websites very useful, or that the CEA website in particular could be enhanced to make it more useful. Funding to improve the CEA website may be a cost effective use of resources.

Of CEA's publications, the Funding Guide is the most used, and it also has a high ranking of usefulness at 96% (52% very useful, 44% somewhat useful). To remain effective, this resource requires quarterly updates; with minimal funding this could be achieved, providing a highly cost-effective resource.

From CEA's experience local governments come to work on energy sustainability from different backgrounds, with different needs, and with different resources. Providing a range of options and services is the best way to ensure that they are able to fulfill their potential. For example smaller local governments have fewer resources and need greater hand-holding and education, while larger local governments can take the time to read detailed reports, understand, and act on them. A breadth of tools and resources needs to be maintained for their benefit.

CEA has traditionally provided free awareness-building support to local governments, and is increasingly challenged to fund this work. NGO's are increasingly funding their non-profit work through fee-for-service activities, which is a current option for CEA. Neither CEA nor this survey have explored willingness-to-pay for energy support. It is recommended, however, that a basic level of education support for local governments be funded; this will be much more cost-effective than a long series of one-offs with those local governments that are able to pay for service, and many will not choose to pay for basic information.

Finally, many survey comments focussed on the need for basic one-on-one or hand-holding service to local governments. For such support, it would be advantageous to have support staff situated in regions throughout the province, to better serve regional clusters of local governments. CEA is in the process of addressing this issue by engaging regionally-based representatives – currently situated in Victoria, Vancouver, Coquitlam, Kelowna, Trail, and Nelson. Expansion of this support network across the province would be advantageous to local governments.

Appendices

BC Local Government Survey – District Energy, Renewable Energy and Energy Planning

Results and Charts