Community Energy and Greenhouse Gas Emissions Inventory

User Needs Research

December 31st 2007

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1 | Executive Summary

The provincial government is dedicated to achieving targeted goals toward climate change through a reduction in greenhouse gas emissions and energy use. To this end, a Community Energy and Emissions Inventory Initiative has been put in place under the leadership of a cross-government working group.

The purpose of this report is to provide an understanding of British Columbia's local government practice in support of energy and greenhouse gas emissions inventories along with their information needs for successful action in this area. To achieve this understanding, a web-based survey was sent to Chief Administration Officers for all local governments in the province. As well, select local government representatives were interviewed, with their level of experience being a key factor in their selection, in addition to staff from relevant provincial ministries. These interviews afforded a more in-depth appreciation of the issues as well as interpretation of the findings from the survey.

It was evident that greenhouse gas inventories and energy plans are new tools at the local government level. There is little experience in their use and knowledge of their development process is limited. Subsequently, there are substantial opportunities to facilitate successful, forward action to reduce energy consumption and greenhouse gas emissions at the community level.

Local governments also appear eager for education and the acquisition of knowledge on the development, maintenance and potential uses of this type of inventorying. In addition, due to their limited available resources, local governments expressed a willingness to learn from one another of successes along with failures in an effort to avoid the pitfalls of past experience while realizing the benefits.

Limitations around these types of inventories were considered to be the current availability of reliable data which is easily understood, and easy to obtain; and access to inventory expertise. While obtaining a sufficient level of detailed data and accuracy is important over the longer-term, neither of these considerations were seen to be a reason to hold back on taking action toward reducing energy consumption and greenhouse gas emissions.

Although it was recognized that inventories are not an essential step to advancing the reduction of energy use and greenhouse gas emissions, the establishment of a baseline inventory was considered a necessary tool for planning, target setting and measurement of performance. Public accountability was also highlighted in importance to local government.

Overall, a standardised approach to inventorying in the province would be beneficial to ensure that all levels of government are working within the same parameters and to provide an accurate, overall picture of greenhouse gas emissions and energy usage in the effort to achieve climate change related goals.

2 | Introduction

The provincial government is dedicated to achieving targeted goals toward climate change through a reduction in greenhouse gas (GHG) emissions and energy reduction. To this end the Community Energy and Emissions Inventory Initiative was launched to establish a provincial data repository for community energy and emissions and a working group was established to carry out a workplan. The Community Energy and Emissions Inventory – Working Group (CEEI-WG) is comprised of representatives from various Ministries including: Environment; Transportation; Community Services; and Agriculture and Lands, as well as representatives from other organizations including, utilities, local governments, and non-profits.

The initiative was divided into projects to be undertaken in the following order:

1. **CEEI Pilot Inventories** - to determine the feasibility of, and work required, to secure data from data providers, analyze, and provide inventory reports to more than one, traditional, local government.
2. **Inventory Practices in BC** – to determine the current status of corporate and community energy and emissions inventory practices of local government in British Columbia.
3. **National and International Inventory Practices** – a high level scan of corporate and community energy and emissions inventorying at the national and international level.
4. **Local and Provincial Government Users Information Needs** – to determine the data needs and understanding of uses for community wide energy and emissions inventories.
5. **Provincial Data Repository** – completion of a provincial data repository.

This report explains the findings for the third project of the initiative – Local and Provincial Government Users Information Needs – and provides input to future phases of the initiative – Provincial Data Repository.

A] Why was this project initiated?

Climate change and the inherent actions required to counter it have moved the Province to enlist BC's local government's to incorporate energy and emission reduction strategies into their planning and operations at the community level. Indeed some local governments are already considering energy and emission reduction strategies within their communities.

The Provincial Government understands the importance of establishing baseline inventories of community energy and emissions in order to properly enable planning for action, the management of actions taken, and reporting of results. They also recognize that the data required for effective inventorying is not easily attainable in an accurately reliable format at present and in some cases simply not available.

In order to assist the local governments in establishing meaningful and effective inventories at the community level, the Province is seeking to establish and sponsor a data management system informed by the needs of local government in BC.

Elevate Consulting in partnership with the Community Energy Association (CEA) was contracted to determine the data needs of local government in British Columbia as well as the level of understanding and anticipated use of community wide inventories at the provincial level.

3 | How did We Approach this Project?

Working with the Community Energy and Emissions Inventory Working Group (CEEI-WG) and the Community Energy Association, Elevate Consulting developed a web-based survey which was distributed through CivicInfo BC to all 186 local government Chief Administrative Officers in British Columbia.

In order to gain more in-depth insight to the survey responses, telephone interviews were conducted with five ministries (seven provincial staff members), ten local government staff – six considered to be knowledge leaders in the area of inventorying and four who had recently signed on to Community Action on Energy and Emissions Initiative (CAEE) program and were just getting started with their community energy plans. Additionally one staff member of the Union of British Columbia Municipalities was interviewed as was a staff member of the Climate Action Secretariat.

Initial discussions with the CEEI-WG determined that there was a need to educate the local government on this initiative as well as provide some explanation of corporate versus community-wide inventories, and primary and secondary indicators. A project communiqué was created to provide both survey participants and interviewees with background knowledge of the project and specific terminology used in the process. Copies of the web-based survey, the communiqué and the emailed invitation message sent to the local governments by CivicInfo BC are attached as Appendix A.

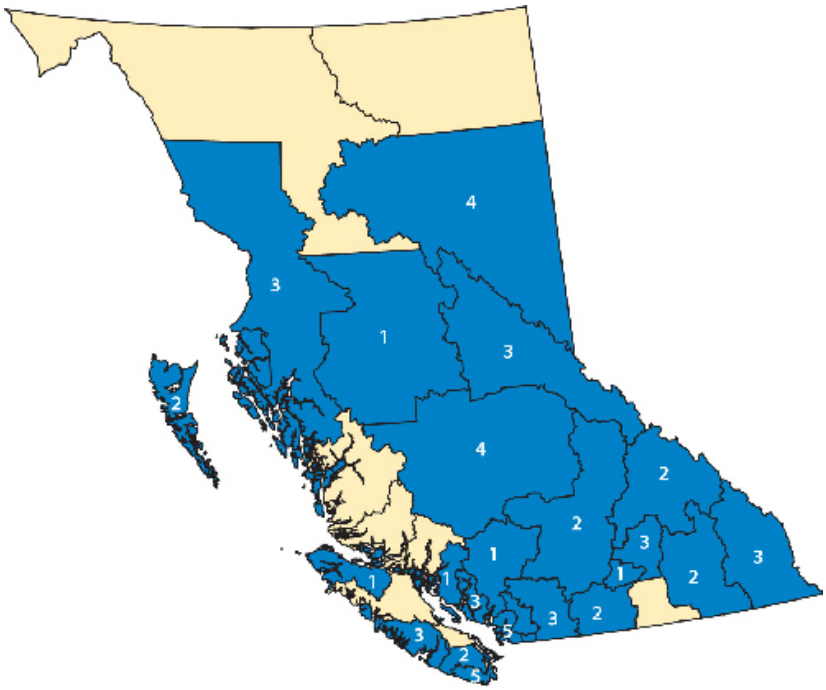
Some challenges were faced in the collection of information for this project, in particular:

- Difficulty in getting all relevant provincial government Ministries to participate in the interviews.
- Constraints faced by 'smaller' local governments in taking part in this research effort due to limited staffing resources.

At the same time, there were successes with the data collection stage that included:

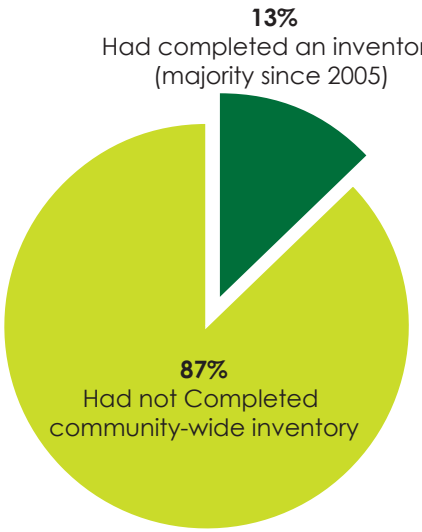
- Relatively high survey response rate with broad geographic representation (see map below).
- Good level of participation among local governments in the interviews.

Number of survey responses by Region.
Total survey response rate was 32% of all local government in BC



4 | What did We Discover about:

A] Experience and Knowledge of Greenhouse Gas and Energy Reduction Plans, and Community-wide Inventories in BC?



Experience with Energy and Greenhouse Gas inventories:

- Eighty seven percent (87%) or 46 of the 53 respondents stated that their local government **had not** completed a community-wide energy and GHG **inventory.**

and plans:

- Only five of the fifty-three respondents **had** completed a community-wide energy and GHG **plan.** All but one of those who had completed a plan did so since 2005. One local government had completed a plan between 2001 and 2004.

The survey was distributed to all local government Chief Administrative Officers (CAO's) in BC and therefore an assumption was made that responses would primarily be from CAO's. The actual response rate from CAO's was 67% of all respondents. Other respondents were Directors of Planning (7%), Directors of Engineering/Environment (24%) and Councilors (2%).

Knowledge of Energy and Greenhouse Gas inventories:

- Sixty-two percent (62%) or thrity-three (33) of the fifty-three(53) survey respondents indicated they had no knowledge of this type of inventory, while only 6% stated they had in-depth knowledge. The remaining 32% or twenty (20) respondents indicated they had some knowledge of community-wide inventories.

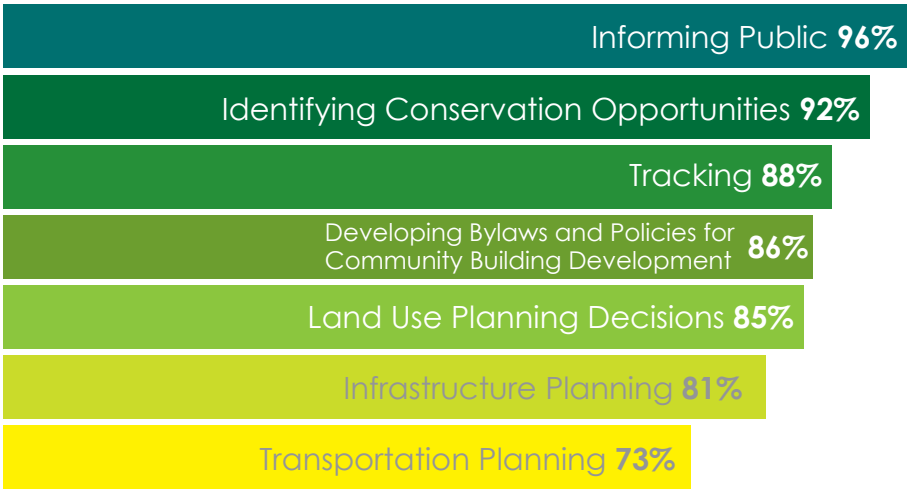
Discovery

Survey results indicate that knowledge in the area of community wide inventorying is limited. The *interviews* however, showed that where there was this knowledge, it covered both the intent and basic composition of this type of inventory. A common theme during the *interview* stage was a desire for education and on-going knowledge support on the development, maintenance and potential uses of an inventory. There was a strongly expressed desire to avoid re-inventing the wheel and to learn from other local governments of their success and failures with this type of inventory. Greenhouse gas Inventories and energy plans are relatively new tools at the local government level. There is little experience in their use and knowledge of the development process is limited.

B] The Status of Inventories in BC - Their Value; Strengths, and Limitations

Value of community-wide inventories:

- Survey respondents were asked to value the following specific uses of an inventory as very useful or not useful. Their ratings of these uses are shown in the graphic below.



Local government survey respondents communicated their understanding of accountability to community interests by indicating the most valuable use of an inventory is to inform public. Tracking and identifying conservation opportunities both play a role in accountability and were considered highly valued uses for an inventory. Local governments valued inventories as tools for policy and bylaw formation, and planning in various sectors, but to a slightly lesser degree than that of accountability.

Between one and four respondents chose 'not applicable' on each of the uses. The remaining responses considered the specific uses to be not important.

Adding to this understanding are the following responses as provided by those who were interviewed:

Local government knowledge leaders, those with inventory experience, relayed the **value** of inventories to be in:	• Establishing a baseline of community energy consumption and greenhouse gas emissions for further planning, target setting and measuring progress • Program development and action plans • Shaping a community's social and environmental marketing strategies • Decision making • Identifying community values relative to conservation and action
Local governments just getting started, those with no inventory experience, understood the potential **value** of inventories would be in the following uses:	• Establishing a baseline of community energy and greenhouse gas emissions for further planning and target setting • Establishing partnerships with industry, commercial and residential users on greening initiatives to reduce energy consumption and greenhouse gas emissions • As an education and awareness tool
Provincial Government staff considered the **value** of community-wide inventories to be in:	• Establishing a baseline of community energy consumption and greenhouse gas emissions for measuring progress at the community level • Political leverage • Measuring trends and effectiveness of regulations • Policy formation • Prioritizing areas for action and measurement of results • Providing for an environment of competition

The strengths of an inventory were noted to be in:

- Providing confidence to planning, target setting and performance measures
- Creating a knowledge base that fosters public awareness and support
- Gaining an understanding of the level of action being achieved by each local government in the province.

The limitations of an inventory were considered to be in:

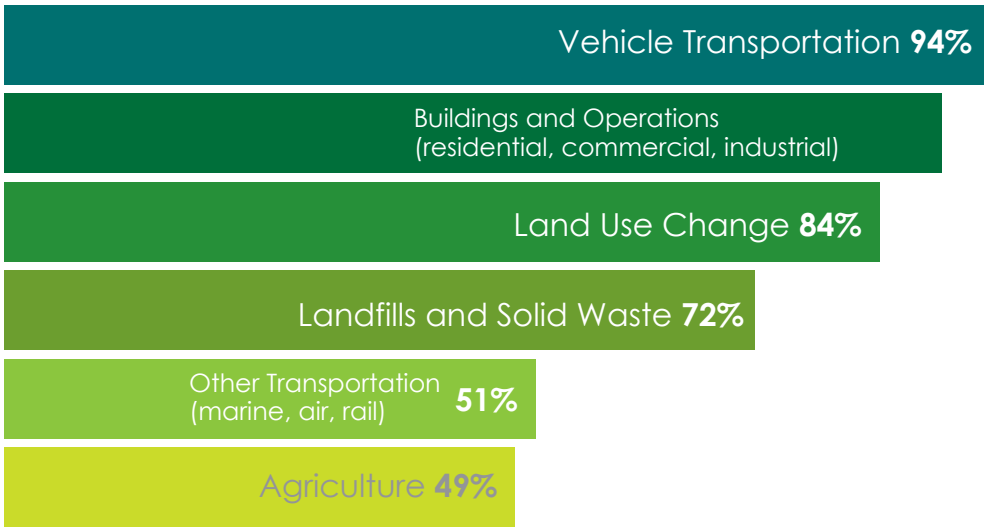
- The currently available data is not reliable, difficult to understand and difficult to obtain
- The availability of inventory expertise.

Discovery

Establishing a community level baseline inventory of energy and greenhouse gas emissions is a useful step in advancing and measuring actions to reduce them. These inventories are not however, critical to the process. In fact, some local government interviewees noted communities who have taken action to reduce energy and greenhouse gas emissions without an inventory. Local government council, staff and public would require the use of a baseline inventory to create defensible awareness to the public, develop plans, set targets and measure their performance. Survey and interview respondents considered that a standardised approach to inventorying in the province would be useful in the long-term to ensure that all levels of government were working within the same parameters and to provide an accurate, overall picture for the province in achieving its goals.

C] The Importance of Data for Primary Energy Uses and Greenhouse Gas Emissions Sources

Local governments were asked to indicate whether data for specific primary sources (direct energy or greenhouse gas emitters as listed in the chart below) would be important to their inventory needs. The majority of respondents indicated that data for vehicle transportation, and buildings and operations was important for their needs, while data for landfills, solid waste and land use change was considered only slightly less important. Data for agriculture and other transportation (marine, air and rail) was regarded as important by the least number of respondents due to their lack of relevance in that community or that the local government did not believe it has control or responsibility over those sectors.

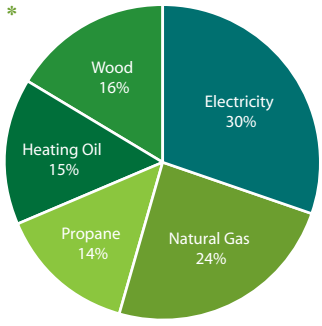


Transportation (vehicle)

Vehicle transportation data was considered somewhat important to very important by the majority of respondents (94%). Those who did not consider data for this sector to be important were small communities on the edge of a highway which they consider outside of their jurisdiction i.e. they have no control of it.

Buildings and Operations (residential, commercial, industrial) *

Ninety percent (90%) of the respondents considered data availability for this sector to be somewhat important to very important. Interviewees representing small communities with an insignificant number of buildings did not consider data availability for this sector to be important.



Respondents to this question were also asked to consider what specific building data they would need from a listing of five building energy sources. Electricity and natural gas data were the most requested with propane, heating oil and wood data requested by fewer respondents.

Land-use change (afforestation, deforestation, creation of wetlands)

Eighty-four percent (84%) or 43 of 51 respondents considered data for this activity to be relevant to their community wide inventory. Reasons of importance included use for land-use decision making, other environmental impacts, obtaining a greater understanding of the environmental affects of land-use change, development and OCP values. Those who did not consider the data important stated that they were already fully developed and were not expecting any land-use changes to occur.

Landfills and solid waste

The majority of the respondents considered data for landfills and solid waste to be relevant parts of a community wide inventory. Of the 28% of respondents who did not consider this data to be important, 14 of them stated that their waste was transported out of their land boundaries to another jurisdiction where the emissions were monitored and therefore did not consider this data to be important for their community-wide inventory.

Of those who provided statements to the importance of this data, the majority understood the linkage to greenhouse gas emissions and also recognized that solid waste, regardless of where it is landfilled, comes from all residents and is controllable at the local government level.

Other transportation (marine, air, rail)

The importance of data for other transportation (marine, air, rail) was regarded equally between not important and important.

Those who considered this data to be not important indicated that they had no marine, air or rail transport within their jurisdiction, or had no control over it. During the interview process it was clear that those with experience considered 'other transportation' within a community to be important regardless of the ownership or regulatory body whose jurisdiction it was to take responsibility. For example – the Port of Vancouver is considered to be under the jurisdiction of the Federal Government and therefore local government is limited in their control of energy and emissions – they do however consider the port to be a significant part of their community and would therefore consider it important to include within a community wide inventory.

Agriculture

Data for agriculture was considered as not-important to just over half of the survey respondents. Fifty one percent (51%) or 26 of the 51 respondents did not consider this sector to be important for reasons ranging from not having any agricultural activities

within their jurisdiction to not having any control over it where it was active within their land boundaries. The other half of the respondents (49%) or 25 respondents considered agriculture to be important either because it was a significant activity within their jurisdiction or they considered the bigger picture of inventorying this activity because it impacts further afield than within certain land boundaries. For example, transportation to and from agricultural activities occurs regardless of whether or not agriculture itself is within a jurisdiction.

Other

Survey and interview respondents were asked to note any other data from primary energy uses or emission sources that may be applicable to their needs. The following are common themes from respondents:

- alternative heating fuels such as solar, wood burning, etc and their impact on the environment
- controlled forest and slash burning
- industrial machines specific to the forestry industry
- heavy machinery used in large development
- oil and gas development industry and flaring
- industrial emission levels - even those regulated by the Federal Government
- outdoor wood burners used for agriculture, industrial, residential use
- agricultural emissions differentiated by type of operation (dairy, poultry, nursery, etc.)

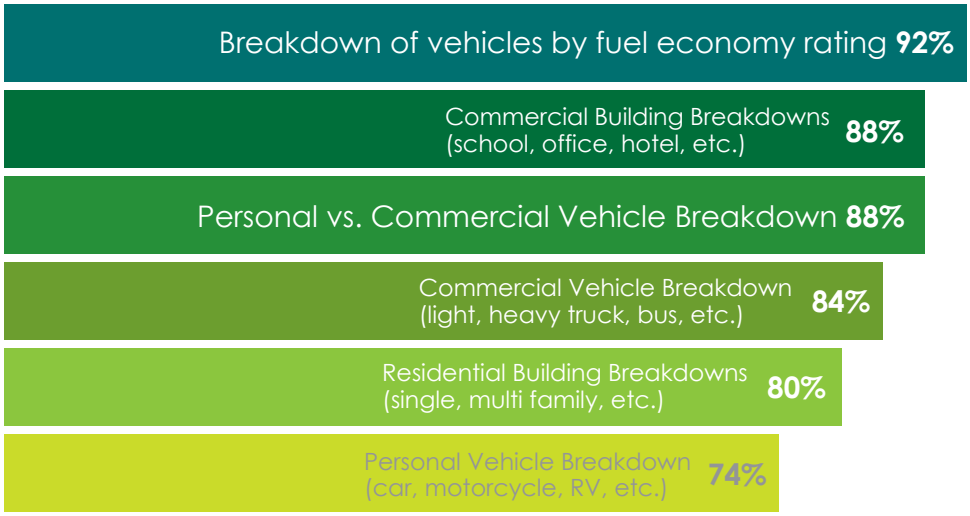
Each community is unique in its design and function and therefore importance of data for specific sources will vary. Survey and interview respondents considered all primary sources to be important to some extent regardless whether within their community or not.

Discovery

All primary energy uses and greenhouse gas emission sources were considered important to local governments. The priority for data of a particular source is based to a large extent, on the perceived amount of influence that a local government may have with the source and relevance to a community. For example, those communities who had no agricultural land did not consider data for this to be as important as, say, transportation or buildings. Survey respondents stated that activities within their jurisdiction which they had no control over such as international airports, marine ports and to some extent agriculture, were not considered important in terms of receiving data. Some respondents clearly understood the benefit however to including these contributors in their inventories, based on broader considerations than their community land boundaries.

D] The Level of Desired Data Detail and Accuracy

Survey respondents were asked to indicate whether a greater level of detail would be desired in specific buildings and transportation areas, as shown in the chart below, to meet their inventory needs. Vehicle data was noted as being difficult to obtain and difficult to use in the format currently provided. A request for more detailed breakdowns of commercial office buildings and other high-end utility users was stated.



Breakdown of vehicles by their fuel economy rating

Ninety-two percent (92%) of the survey respondents considered detailed data on vehicles by fuel economy rating to be important to their inventory needs.

Personal versus commercial vehicle breakdown

Data showing a breakdown of personal versus commercial vehicles was rated as important to very important by 88% percent of the respondents.

Commercial building breakdowns (e.g. school, office, hotel, etc.)

Eighty eight percent (88%) of the respondents considered a breakdown of commercial buildings (schools, offices, hotels, etc.) to be important for their inventory needs.

Breakdown of commercial vehicles (e.g. light truck, heavy truck, bus, etc.)

A breakdown of commercial vehicles was also considered by the majority of respondents (84%) to be important for inventory purposes within their community.

Residential building breakdowns (e.g. single family, multi-family, etc)

Eighty percent (80%) of the respondents considered this breakdown to be important for their inventory needs.

Breakdown of personal vehicles (e.g. car, motorcycle, RV, etc.)

Data for personal vehicles was considered to be important for inventorying by 74% of the respondents.

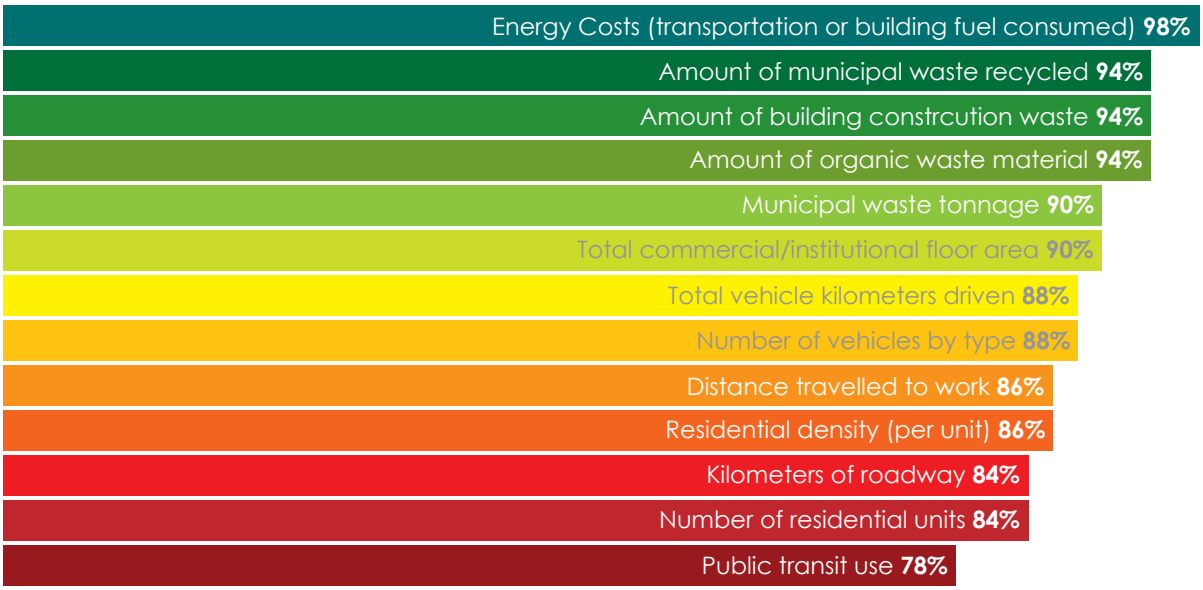
Discovery

Local government knowledge leaders indicated that detailed data for inventorying was important for long term action on reducing energy and greenhouse gas emissions. While it was considered important it was noted that obtaining a sufficient level of detail at this time may impede the process and it is important to 'get on with it' and take action. Continue to improve the level of detail for data in the various sectors while moving forward, with action at this time.

Accuracy was regarded as very important by respondents. Provincial government interviewees stated that accuracy of data is imperative in order to be defensible for their needs which would include accountability for funding purposes. While respondents referenced a preferred accuracy level of +/-1% they understood the difficulty in obtaining this. The majority of the respondents stated the more accurate the better. Furthermore a clear message from the respondents was for the province to standardize the inventory system and process requirements which in turn will provide a level of accuracy across the board and confidence in the actions taken.

E] The Usefulness of Secondary Indicators

All respondents, survey and interview, regarded secondary indicators (indirect energy or greenhouse gas emitters) to be important to their community inventory process. Survey respondents were asked to indicate the degree to which specific data for secondary indicators (as listed in the car chart below) would be useful to their local government's planning and inventorying needs.



All 13 indicators listed within the survey were considered useful to a high degree and likely influenced to some level by the diversity of participating local ogvernments in terms of both geography and communities (e.g. population, economies, etc). Public transit use data was selected by the fewest number of respondents (78%) while energy cost data was selected by the greatest number (98%).

Survey respondents were also asked to note any additional secondary indicators that they considered useful to their needs. The following was reported:

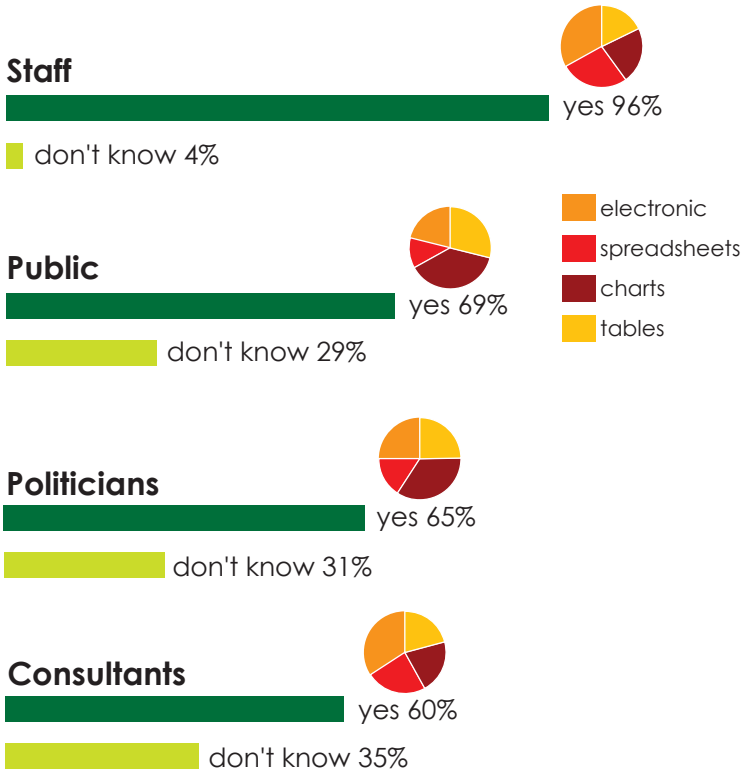
- Separate industry from commercial/institutional, include total industrial floor area and type of production
- Average vehicle trip equivalents for the industrial sector (light, medium and heavy industry)
- Vehicle idle time
- Separate residential and transient vehicle traffic especially in border communities

Discovery

Secondary indicators are considered to be an integral component in community-wide inventories by all respondents. Without secondary indicators, planning and performance measurements will be compromised, however a caution was made that secondary indicators should not be used in place of primary indicators, for example – where transportation emissions are difficult to measure don't use the number of cars instead.

F] Inventory Target Audiences and their Desired Formatting

Survey respondents were asked to indicate who in their local government would utilise inventory information. They were also asked to indicate the preferred formatting for the user.



Discovery

At this time staff are considered to be the most significant users of inventories. While the public was selected as the next highest user group, this is primarily for accountability purposes. Politicians and consultants were considered only slightly less likely to utilise inventories. Once the inventories are in-place their usefulness to all groups will evolve as necessary tools for actions toward reducing energy consumption and greenhouse gas emissions.

G] Provincial Government Directions and Understandings

The Provincial Government staff who were interviewed displayed a general appreciation for the importance and value of community-wide inventories. When asked to describe what needs to be achieved by local government in the context of greenhouse gas and energy reduction, from the perspective of their ministry, each indicated that local government needed to take control and action where possible, to achieve targeted goals set by the federal and provincial governments.

Discovery

Provincial staff considered it important for local government to include: achieving carbon neutral goals for operations and realizing results at the community level with a first step of establishing baselines. Provincial staff anticipate using the inventories to confirm the effectiveness of regulations and action for planning purposes and priority setting.

5 | Discoveries at a Glance

Discovery

Survey results indicate that knowledge in the area of community wide inventorying is limited. The interviews however, showed that where there was this knowledge, it covered both the intent and basic composition of this type of inventory. A common theme during the interview stage was a desire for education and on-going knowledge support on the development, maintenance and potential uses of an inventory. There was a strongly expressed desire to avoid re-inventing the wheel and to learn from other local governments of their success and failures with this type of inventory. Greenhouse gas Inventories and energy plans are relatively new tools at the local government level. There is little experience in their use and knowledge of the development process is limited.

Discovery

Establishing a community level baseline inventory of energy and greenhouse gas emissions is a useful step in advancing and measuring actions to reduce them. These inventories are not however, critical to the process. In fact, some local government interviewees noted communities who have taken action to reduce energy and greenhouse gas emissions without an inventory. Local government council, staff and public would require the use of a baseline inventory to create defensible awareness to the public, develop plans, set targets and measure their performance. Survey and interview respondents considered that a standardised approach to inventorying in the province would be useful in the long-term to ensure that all levels of government were working within the same parameters and to provide an accurate, overall picture for the province in achieving its goals.

Discovery

All primary energy uses and greenhouse gas emission sources were considered important to local governments. The priority for data of a particular source is based to a large extent, on the perceived amount of influence that a local government may have with the source and relevance to a community. For example, those communities who had no agricultural land did not consider data for this to be as important as, say, transportation or buildings. Survey respondents stated that activities within their jurisdiction which they had no control over such as international airports, marine ports and to some extent agriculture, were not considered important in terms of receiving data. Some respondents clearly understood the benefit however to including these contributors in their inventories, based on broader considerations than their community land boundaries.

Discovery

Local government knowledge leaders indicated that detailed data for inventorying was important for long term action on reducing energy and greenhouse gas emissions. While it was considered important it was noted that obtaining a sufficient level of detail at this time may impede the process and it is important to 'get on with it' and take action. Continue to improve the level of detail for data in the various sectors while moving forward, with action at this time.

Accuracy was regarded as very important by respondents. Provincial government interviewees stated that accuracy of data is imperative in order to be defensible for their needs which would include accountability for funding purposes. While respondents referenced a preferred accuracy level of +/-1% they understood the difficulty in obtaining this. The majority of the respondents stated the more accurate the better. Furthermore a clear message from the respondents was for the province to standardize the inventory system and process requirements which in turn will provide a level of accuracy across the board and confidence in the actions taken.

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Secondary indicators are considered to be an integral component in community-wide inventories by all respondents. Without secondary indicators, planning and performance measurements will be compromised, however a caution was made that secondary indicators should not be used in place of primary indicators, for example – where transportation emissions are difficult to measure don't use the number of cars instead.

Discovery

At this time staff are considered to be the most significant users of inventories. While the public was selected as the next highest user group, this is primarily for accountability purposes. Politicians and consultants were considered only slightly less likely to utilise inventories. Once the inventories are in-place their usefulness to all groups will evolve as necessary tools for actions toward reducing energy consumption and greenhouse gas emissions

Discovery

Provincial staff considered it important for local government to include: achieving carbon neutral goals for operations and realizing results at the community level with a first step of establishing baselines. Provincial staff anticipate using the inventories to confirm the effectiveness of regulations and action for planning purposes and priority setting.

6 | What Else?:

Respondents were asked to inform other areas not mentioned within the survey or during the interviews, that are perhaps unique to their community, and for which they would like to receive specific data, to assist with future community energy and emissions reduction target setting, planning or implementation.

Following are the common themes that were relayed by the respondents:

- Standardisation of inventories
- Energy use data by sector – industrial, commercial, residential, municipal, institutional
- Emissions data on wood burning appliances
- Information on environmental impacts and the linkage to increasing or decreasing energy use and greenhouse gas emissions
- Knowledge of alternate, accessible, affordable energy sources
- Analysis of diesel powered communities
- Data for wood waste from secondary manufacturing industries

7 | Moving forward, May We Suggest:

We suggest that the following recommendations be considered by the CEEI-WG as it continues forward with this initiative.

1. **In order to foster commitment towards taking action in reducing greenhouse gas emissions and energy usage along with the role of community inventories - consider more proactive outreach and communications with local governments, at both the political and the management (staff) levels. These communications should be targeted in their messaging and medium to the audience, and focused on building a broader awareness and appreciation for the importance of reducing greenhouse gas emissions and energy usage along with the role of community inventories.**

2. **Consider educational and current knowledge channels for local government in their efforts to reduce energy and greenhouse gas emissions at the community level. Include education pieces on alternative energy sources and information on environmental impacts of current and potential actions to reduce energy consumption and greenhouse gas emissions in order for the local governments to substantiate their efforts to their stakeholders as well as directly and indirectly influencing action in this regard.**

3. **Data needs to be as accurate as possible, easy to understand and formatted for ease of use. While accuracy for baseline inventories is important, moving forward is more critical at this time. A consistent level of accuracy should be maintained for data as well as for measurements of performance on a regular basis. Consistency, at this stage, is most important. Consider accuracy levels to evolve over time.**

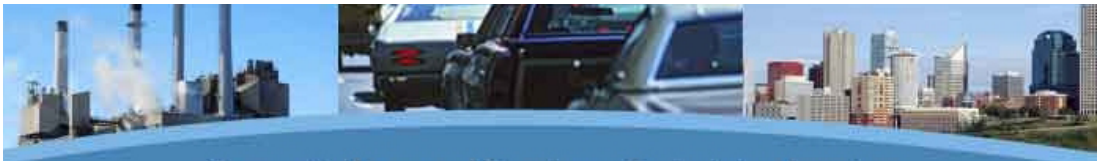
4. Detail of data is imperative in establishing baseline inventories and for inventories to be an effective tool. Again, the critical action at this time is to move forward to action and establish detailed data over the medium and long term.

5. Complete data/inventory updates annually at least for the first three to five years and then possibly every second year thereafter.

6. Create a standardised methodology for the community inventories process and measurement criteria.

Appendix A

Emailed Survey Invitation as sent by CivicInfo BC with Communique | Web-based Survey



Community Energy and Greenhouse Gas Emissions Inventory
USER NEEDS RESEARCH SURVEY

Thank you for taking the time to complete this survey. As you are undoubtedly aware, addressing climate change and reducing greenhouse gas (GHG) emissions are priorities for the Province of BC. In the future, it is anticipated that all BC local governments will need to incorporate GHG reduction targets and planning within their official community plans. This being said many local governments have already committed to reducing GHG emissions in their communities.

In GHG planning, one of the first steps that is usually performed is to undertake an energy and emissions inventory. An inventory is considered a comprehensive listing of the quantities and sources of GHG emissions within a community, and includes such things as buildings, vehicles and landfills. Because most GHG emissions are directly related to energy use, the inventory usually lists both energy (kWh of electricity, litres of gasoline, etc.) as well as tonnes of CO2.

A provincial data base is being considered to aid local governments in developing community-wide energy and emissions inventories. This database would be updated annually and the results sent to each community for their use.

The purpose of this survey is to determine what community wide inventory information local governments need or want and how the information might be used. The results from this survey will help to inform the structure and content of the database.

Your participation in this process is very important and your time is greatly appreciated.

If you have any questions of a technical nature, please contact Elevate Consulting in Victoria at 250-483-6660, or by email to techsupport@elevateconsulting.ca. To learn more about the overall process in developing this database, you may wish to speak with Ted Sheldon at Ministry of Environment on 250-387-4773, or email him at ted.sheldon@gov.bc.ca.

When you are ready, please enter the information requested below and click the [Next] button. (If you need to finish the survey at a later time, you may enter your email address only and click Next.)

The survey should take about fifteen minutes to fill out and there will be a draw prize awarded by random selection for completed surveys.

We ask that you complete the survey by Friday, 2nd November 2007.

Email

If you've filled in this form before, enter your Email address and click Next. You may leave any fields below empty.

First Name

Last Name

NEXT ▶ END

Page 1 of 6

Experience with Inventories and Planning

1 *Has your local government completed a community-wide energy or GHG inventory?*

- (●) 1 Yes
- ( ) 2 No
- ( ) 3 Do Not Know

2 *Has your local government completed a community-wide energy or GHG plan?*

- (●) 1 Yes
- ( ) 2 No
- ( ) 3 Do Not Know

When was it completed?

- ( ) Prior to 1990
- ( ) 1991 to 1994
- ( ) 1995 to 2000
- ( ) 2001 to 2004
- ( ) Since 2005

3 *What is your level of knowledge of this type of inventory?*

- (●) 1 No knowledge
- ( ) 2
- ( ) 3
- ( ) 4
- ( ) 5 In-depth knowledge

Use of Inventories

4 Based on what you know about inventories and their use, how valuable would an energy and GHG inventory be for the following:

	1 Inventory is not useful	2	3	4	5 Inventory is very useful	6 Not applicable
Identifying energy and GHG conservation opportunities	◉	○	○	○	○	○
Tracking progress in reducing energy and GHG emissions and in achieving targets	◉	○	○	○	○	○
Informing the public of energy consumption and GHG sources	◉	○	○	○	○	○
Informing land use planning decisions	○	○	○	○	◉	○
Informing transportation planning decisions	○	○	○	○	◉	○
Informing infrastructure planning decisions	○	○	○	○	◉	○
Developing bylaws and policies for community building development	○	○	○	○	◉	○

Primary Energy Uses / Emission Sources

An important part of an energy and GHG emissions inventory is identifying the consumption of energy and sources of GHG emissions. Because energy consumption and emission sources vary with each community it is important to consider their relevant importance to the community you are representing.

5 With this understanding, how important is it that you receive data for the following?

	1 Not very important	2	3	4	5 Very important
Buildings and Operations (residential, commercial, industrial)	◉	○	○	○	○
Please briefly explain why this is not important.					
Transportation (vehicle)	◉	○	○	○	○
Please briefly explain why this is not important.					
Other Transportation (marine, air, rail)	◉	○	○	○	○
Please briefly explain why this is not important.					
Agriculture	◉	○	○	○	○
Please briefly explain why this is not important.					

	1 Not very important	2	3	4	5 Very important
Landfills and Solid Waste	◉	○	○	○	○

Please briefly explain why this is not important.

	1 Not very important	2	3	4	5 Very important
Land-use Change (afforestation, deforestation, creation of wetlands)	◉	○	○	○	○

Please briefly explain why this is not important.

Are there any other potential primary energy uses or emission sources that may be applicable to your needs?

Level of Desired Detail

6 *How important is it that the following level of detail be provided for building energy use?*

	1 Not very important	2	3	4	5 Very important
Residential Building breakdowns (e.g. single family, multi family, etc.)	◉	○	○	○	○
Commercial Building breakdowns (e.g. school, office, hotel, etc.)	◉	○	○	○	○

7 *How important is it that the following level of detail be provided for vehicle transportation energy use?*

	1 Not very important	2	3	4	5 Very important
Personal versus commercial vehicle breakdown	○	○	○	○	◉
Breakdown of personal vehicles (e.g. car, motorcycle, RV, etc.)	○	○	○	○	◉
Breakdown of commercial vehicles (e.g. light truck, heavy truck, bus, etc.)	○	○	○	○	◉
Breakdown of vehicles by their fuel economy rating	○	○	○	○	◉

Secondary Indicators

Secondary indicators are statistics that can be useful for making comparisons or for gaining a better understanding of an inventory.

8 How helpful would data on the following secondary indicators be for your local government's planning and inventorying needs?

	1 Not at all helpful	2	3	4	5 Very helpful	6 Do Not Know
Number of residential units (single family, multi family, etc.)	◉	○	○	○	○	○
Residential density (per unit)	◉	○	○	○	○	○
Total commercial/institutional floor area	◉	○	○	○	○	○
Number of vehicles, by type	◉	○	○	○	○	○
Total vehicle kilometres driven	◉	○	○	○	○	○
Distance traveled to work	◉	○	○	○	○	○
Energy costs (e.g. total cost of transportation or building fuel consumed)	◉	○	○	○	○	○

	1 Not at all helpful	2	3	4	5 Very helpful	6 Do Not Know
Kilometres of roadway	○	○	○	○	◉	○
Public transit use	○	○	○	○	◉	○
Municipal waste tonnage	◉	○	○	○	○	○
Amount of building construction waste	◉	○	○	○	○	○
Amount of organic waste material	○	○	◉	○	○	○
Amount of municipal waste recycled	○	○	◉	○	○	○

Are there any other secondary indicators not listed for which data may be needed?

Audiences and Formats

9 *Who in your local government will use this inventory information?*

Politicians

1 Yes	2 No	3 Do Not Know	4 Not Applicable
◉	○	○	○

What format would best suit their needs? Check the appropriate boxes.

- ☐ Tables
- ☐ Charts
- ☐ Spreadsheets (e.g. Excel)
- ☐ Electronic

Staff

1 Yes	2 No	3 Do Not Know	4 Not Applicable
◉	○	○	○

What format would best suit their needs? Check the appropriate boxes.

- ☐ Tables
- ☐ Charts
- ☐ Spreadsheets (e.g. Excel)
- ☐ Electronic

Consultants

1 Yes	2 No	3 Do Not Know	4 Not Applicable
◉	○	○	○

What format would best suit their needs? Check the appropriate boxes.

- ☐ Tables
- ☐ Charts
- ☐ Spreadsheets (e.g. Excel)
- ☐ Electronic

Public

1 Yes	2 No	3 Do Not Know	4 Not Applicable
◉	○	○	○

What format would best suit their needs? Check the appropriate boxes.

- ☐ Tables
- ☐ Charts
- ☐ Spreadsheets (e.g. Excel)
- ☐ Electronic

10 *Are there any areas not included in this survey that are perhaps unique to your community and for which you would like to receive specific data to assist you with future community energy and emissions reduction target setting, planning or implementation?*

Emailed Survey Invitation

This message is being sent by CivicInfo BC to all local governments in BC on behalf of the Province of British Columbia and the Community Energy Emissions Initiative Working Group.

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Subject:	Local Government 'User Needs' Energy and Emissions Survey
Intended Recipient(s):	Chief Administrative Officers
Attachments:	One (1)

If you have received this message in error, we ask that you forward it along to the appropriate person in your office.

If you have any questions in regards to this message or its attachments, please contact Gillian Carrigan, Sr. Consultant – Elevate Consulting (gillian@elevateconsulting.ca) or at 250-483-6660.

The Province of British Columbia and the Community Energy Emissions Initiative Working Group are requesting that all BC local governments complete the web-based Community Energy and Greenhouse Gas Emissions Inventory – User Needs Research Survey. The objective of this survey is to determine user data needs information from local government in BC to assist with the establishment of an energy and GHG data repository, analysis and inventory reporting system.

This survey may be completed by the Chief Administration Officer, Director of Engineering, Director of Planning or an appropriate designate. Please see the attached Communiqué for a more detailed overview.

To complete this web-based survey, please click on the link shown here by 2nd November 2007:

http://www.elevateconsulting.ca/bc-env-cc/index.php

We thank you in advance for your time and input to this important initiative.

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Province of BC and the Community Energy Emissions Inventory Working Group

User Needs Research Interviews - Project Communique - October 2007

The Province of British Columbia considers climate change a priority and is taking progressive action to reduce the human induced changes. Reducing green house gas (GHG) emissions at the community level is an important part of this effort that may soon require reduction targets and planning to be an integral part of official community plans as well as regional growth strategies. Indeed many local governments have already committed to reducing GHG emissions in their communities in a variety of ways. One of the ways that the province can support further progress along these lines is through the establishment of an energy and GHG data repository, analysis and inventory reporting system for BC local governments.

What are the benefits to participating in this project?

Your involvement is critical to understanding the need for, and value of, future information on community-wide energy use and GHG emissions. You will also help ensure that a foundation is in place for user-friendly, transparent energy and emissions inventories that will serve, engage and empower BC's local governments and provincial support agencies in pursuing energy and greenhouse gas reduction measures.

What is the approach being taken for this initiative?

In their efforts, the Ministry of Environment and partners have established the Community Energy and Emissions Inventory Working Group (CEEI WG). The working group is focused on putting in place important measures of community-wide energy emissions that will assist BC local governments and the province with their steps to reduce greenhouse gas emissions and further the provincial goals set for climate change. To this end, Elevate Consulting and the Community Energy Association have been engaged to determine the information needs of local government as well as their applicable experience with inventories for energy and greenhouse gas emissions at the community level.

We recently distributed a web-based survey to all BC local governments. As a follow-up, we are asking you to participate in a 30-40 minute telephone interview to enable us to explore relevant issues in greater detail while drawing on the successes and challenges you may have professionally experienced with regards to community energy emissions inventories.

Who should I contact if there are any questions?

To discuss any matters relating to these interviews, please contact Gillian Carrigan of Elevate Consulting on 250-483-6660 or 250-483-6661 (Victoria), (gillian@elevateconsulting.ca). To learn more about the intentions of the CEEI WG and their efforts you may wish to speak with Ted Sheldon at the Ministry of Environment on 250-387-4773 (ted.sheldon@gov.bc.ca).

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