Town of Smithers

Community Energy Plan

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ONE SKY

the PEMBINA institute

Sustainable Energy Solutions

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About the Pembina Institute

The Pembina Institute creates sustainable energy solutions through research, education and advocacy. It promotes environmental, social and economic sustainability in the public interest by developing practical solutions for communities, individuals, governments and businesses. The Pembina Institute provides policy research leadership and education on climate change, energy issues, green economics, energy efficiency and conservation, renewable energy, and environmental governance.

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About One Sky

One Sky's mission is to 'promote sustainable living globally'. We partner with organizations in Sierra Leone, Nigeria, Peru and here in Canada to implement "on the ground" practical solutions to sustainable living such as organic agriculture, renewable energy, and community-based natural resource management. One Sky works on energy-related issues at all levels and is promoting a global transition to energy conservation, efficiency and low-impact renewable energy. We are a small but growing organization that uses resources and networks strategically to affect positive change.

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Josha MacNab is a member of the Sustainable Communities Group of the Pembina Institute where she is engaged in community energy and sustainability planning with communities in western Canada. Josha has been extensively involved in the design of an Integrated Community Planning Process with the municipality of Dawson Creek in BC. Josha holds a Master of Resource Management degree from Simon Fraser University in BC.

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Nikki Skuce is the Program Director for One Sky where she is in charge of local programming which is focused on energy efficiency and renewables. She has coordinated related workshops, assisted with solar installations, written local policy and case studies on local residential homes with renewable energy installations, coordinates the community bike program and works out of an office that is net-metered and has a solar hot water heater. As the President of the Canadian Renewable Energy Alliance (CanREA), Nikki has coordinated, edited and contributed to *Renewable Solutions: Options for moving the global transition to renewable energy forward* and to CanREA's model national renewable energy strategy.

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Abbreviations

$	Canadian dollars
CO_2e	Emissions with greenhouse properties equivalent to Carbon Dioxide
GJ	GigaJoules = 278 kiloWatt-hours
GHG	Greenhouse gases
km	kilometre
kWh	kiloWatt-hour
MWh	MegaWatt-hour = 1,000 kWh
t	tonne = 1,000 kilograms

Executive Summary

There is no dispute that the Earth's average temperatures have risen sharply over the past 100 years as shown by Figure 1, and this trend is predicted to continue. The consequences of our changing climate could be enormous for people, economies and the environment.

Greenhouse gas (GHG) emissions contribute to climate change by trapping heat in the Earth's atmosphere. GHG emissions result from a variety of sources including energy consumption, the decay of solid waste, agricultural processes and industrial processes. This report addresses the first two types of emissions.

The Federation of Canadian Municipalities estimates that close to 50% of the country's GHG emissions can be influenced by decisions made by municipal governments. Municipalities can reduce GHG emissions through land use decisions, energy and transportation planning, infrastructure design, green procurement, building retrofits, water conservation, solid waste diversion and the use of distributed energy systems.

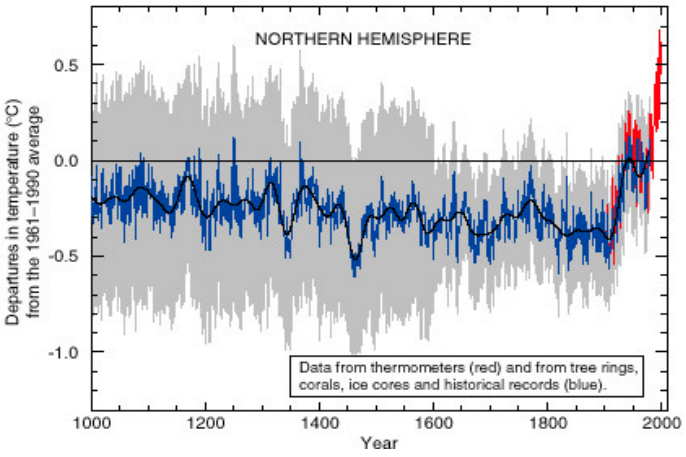
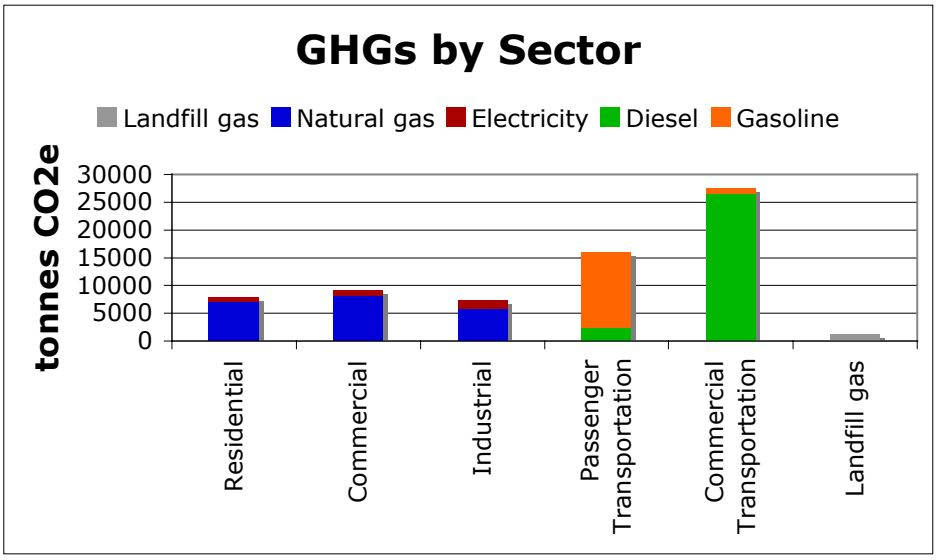


Figure 1: Variations in Earth's surface temperature[1]

This Community Energy Plan (CEP) aims to address the following questions: How much energy does Smithers use? How many greenhouse gases (GHGs) are produced in Smithers? What are the air quality issues in Smithers? What actions can Smithers take to address climate change?

The Smithers CEP shows that over 40% of energy used in Smithers is for transportation, while just under 60% is for stationary purposes, including building heating and operations, municipal infrastructure and industrial processes. However, over 60% of GHGs from Smithers come from the transportation sector, over 30% come from stationary sources and 2% come from landfill gases. These emissions are shown below.



During a community workshop held on February 8, 2007, Smithers residents generated a number of suggestions for how to reduce GHGs in the community. These suggestions formed the basis of the recommended actions presented in this CEP.

The following three actions are recommended for immediate adoption:

1. Adopt a greenhouse gas (GHG) reduction target and incorporate in the Official Community Plan (OCP)
2. Include a commitment to energy efficiency in the OCP
3. Join the Partners for Climate Protection program through the Federation of Canadian Municipalities

The following 10 actions are recommended for consideration over the next year. They are divided into two sections.

Actions to reduce energy from **municipal operations**:

1. Adopt municipal energy efficiency standards
2. Adopt a Green Vehicle Policy
3. Adopt an Anti-idling Policy (for municipal operations and community)
4. Adopt a Green Purchasing Policy

Actions to reduce energy from the **entire community**:

1. Adopt energy efficiency standards for new and existing residential buildings
2. Reduce transportation emissions
3. Support local low-impact renewable energy generation
4. Increase public education
5. Reduce waste
6. Consider land-use planning and development

Town of Smithers

2007 Community Energy Plan

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1. Introduction

This Community Energy Plan (CEP) is part of the streamlined community energy planning program launched by the Ministry of Mines and Petroleum Resources, Ministry of the Environment and Ministry of Community Services. This program is intended to help municipalities efficiently estimate their main sources of energy-related greenhouse gas (GHG) emissions and identify short and long term actions to reduce these emissions. This report is intended to provide a profile or "baseline" of Smithers' energy use for 2005 and actions that can help to reduce Smithers' energy consumption. The baseline can be used in future years to help measure Smithers' progress on saving energy and mitigating GHG emissions.

This Community Energy Plan for Smithers has the following components:

- Section 2 presents a 2005 baseline of energy consumption, associated GHGs and a brief description of particulate matter emissions in Smithers;
- Section 3 outlines the community engagement process used to identify actions to reduce energy consumption;
- Section 4 presents some short and long term recommended actions; and
- Section 5 outlines next steps and funding opportunities.

1.1 Community Overview

Smithers prides itself on being a "Town for All Seasons" offering a variety of recreational activities at its doorstep. Surrounded by four mountain ranges and with a river running through it, Smithers is a small town amidst beautiful natural surroundings. The town has a vibrant Main Street and a high level of volunteerism and community services.

The land area of Smithers encompasses over 1,600 hectares. According to the 2001 Census, the population of Smithers was 5,414 people with a catchment area expanding to encompass approximately 20,000 people. The real estate market has become active over the last couple of years with housing prices increasing and a jump from 3 to 13 new homes built from 2004 to 2005. Single-detached homes constitute approximately 67% of the housing stock, multiple and single attached units are 27% and the remaining 6% are mobile home units. In terms of utilities, Smithers is serviced by BC Hydro and Pacific Northern Gas. The Trans-Canada Yellowhead Highway crosses through town, the CN Railway ships to the Port of Prince Rupert and the Town operates the Smithers airport, which is looking to expand the runway.

1.2 Climate Change and Smithers

There is no dispute that the Earth's average temperatures have risen sharply over the past 100 years as shown by Figure 1, and this trend is predicted to continue. The consequences of our changing climate could be enormous for people, economies and the environment.

Impacts of climate change could include increases in river flooding, boreal forest losses, decreases in arctic ice thickness and increases in pests, parasites and diseases in Northern regions. These changes will have direct impacts on snow levels, skiing, hunting, fishing and other such activities.

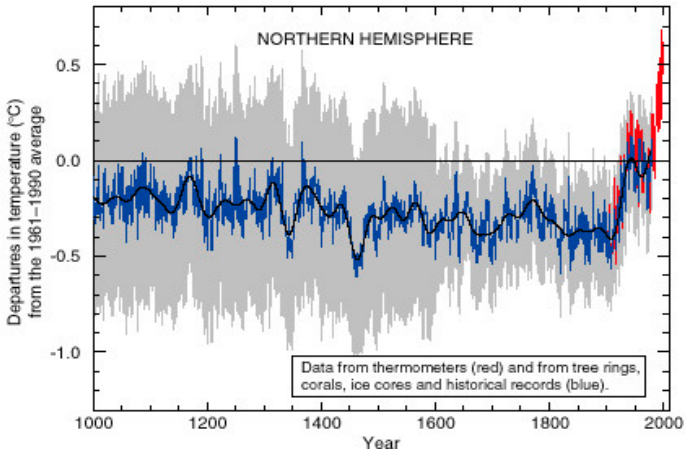


Figure 1: Variations in Earth's surface temperature[1]

In fact, impacts from climate change can already be witnessed in Smithers as shown in the photo below of Hudson Bay Glacier from 1915 to 2000[1]. A photo taken today, since some of the highest recorded temperatures in Smithers, would likely show even greater melting. The pine beetle epidemic is another regional impact of warmer winter temperatures[2].

Hudson Bay Glacier in 1915

Hudson Bay Glacier in 2000

[1] Top image by G. Killam (from the BV Museum collection, Smithers) and bottom image by W. David. Compiled by J. Knight, Smithers.

[2] Woods, A; Coates, KD; Hamann, A. 2005. Is an unprecedented Dothistroma needle blight epidemic related to climate change? Bioscience 55:761-769.
Carroll, A.L.; Régnière, J.; Logan, J.A.; Taylor, S.W.; Bentz, B.J.; and Powell, J.A. 2006. Impacts of Climate Change on Range Expansion by the Mountain Pine Beetle. Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre, Mountain Pine Beetle Initiative Working Paper 2006-14. Victoria, BC. 20 p.

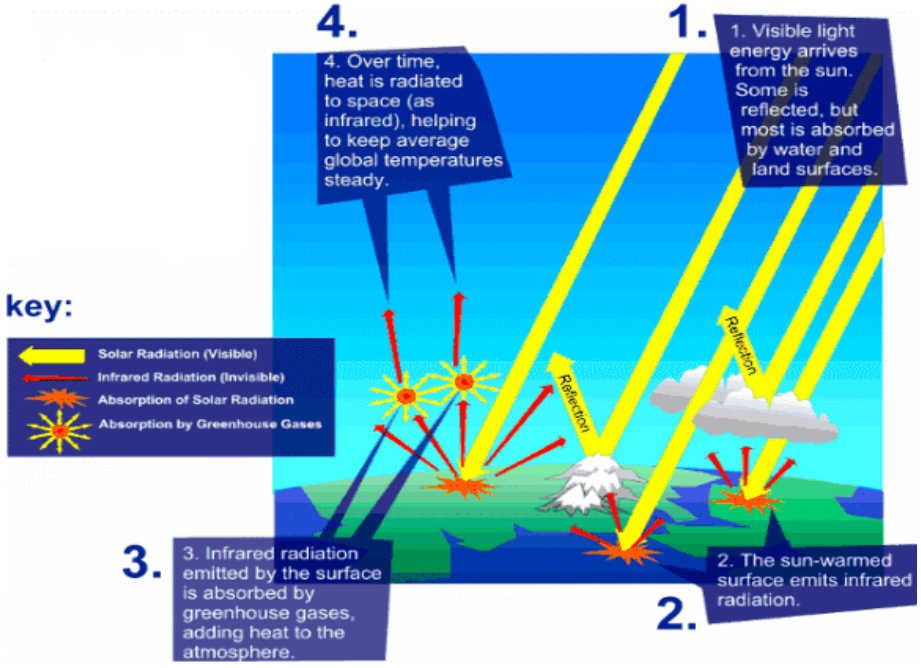
The Federation of Canadian Municipalities estimates that close to 50% of the country's GHG emissions can be influenced by decisions made by municipal governments. Municipalities can reduce GHG emissions through land use decisions, energy and transportation planning, infrastructure design, green procurement, building retrofits, water conservation, solid waste diversion and the use of distributed energy systems. While it may be difficult to actually witness local impacts of reducing GHG emissions (other than through potential reduced costs), this CEP provides a baseline assessment to measure progress over the coming years. Efforts at all levels (international, national, regional, local, individual) are needed to fight climate change, but many communities are taking leadership and implementing innovative solutions that are rewarding their towns while having positive impacts on the global environment.

1.3 Greenhouse gas emissions and Smithers

Greenhouse gas (GHG) emissions contribute to climate change by trapping heat in the Earth's atmosphere as shown in Figure 2 below. GHG emissions result from a variety of sources including energy consumption, the decay of solid waste, agricultural processes and industrial processes. This report addresses the first two types of emissions.

GHG emissions resulting from energy consumption account for nearly 80% of GHG emissions in BC. Energy related GHG emissions depend on the source of energy used in a particular community. This report covers electricity, natural gas, diesel and gasoline use in Smithers. Natural gas, diesel and gasoline contribute GHGs to the atmosphere when they are burned. Electricity generation can produce GHGs if the generation process involves burning fuels such as diesel or coal. Most of BC's electricity is generated by large-scale hydro power, which produces few GHGs. However, BC Hydro imports electricity Alberta that is produced from coal or natural gas.[3]

Figure 2: How greenhouse gases lead to global warming



[3] There is a significant debate about whether BC's decision to import is based on need or financial considerations.

The second source of GHGs addressed in this report is solid waste, which releases GHGs as it decays in landfills.

Reducing energy use and solid waste in Smithers will therefore reduce GHGs and save money. This report identifies priority areas where such savings can be made.

2 Energy Baseline Results

The energy baseline results presented in this section are intended to provide a profile of energy use in Smithers for 2005. In subsequent years, progress can be measured against the baseline. The baseline assesses natural gas, electricity, diesel and gasoline use in the residential, commercial, industrial, passenger transportation and commercial transportation sectors. Only energy use within the town boundaries is considered in this baseline.

It should be noted that uncertainties exist in the data. For a discussion of methodology and data discrepancies, see Appendix A.

2.1 Energy Sources

The four energy sources covered in this baseline include natural gas, electricity, diesel and gasoline. Figure 3 below indicates how much of each of these energy sources are used in Smithers in total. Figure 4 below shows the greenhouse gases (GHGs) that are emitted by this energy use.

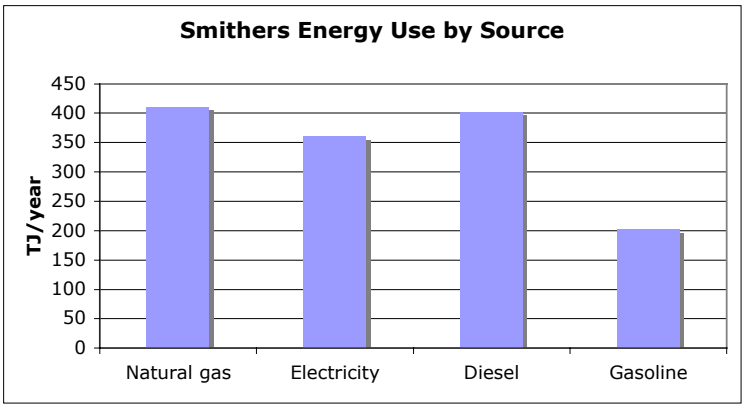


Figure 3: Energy use by source

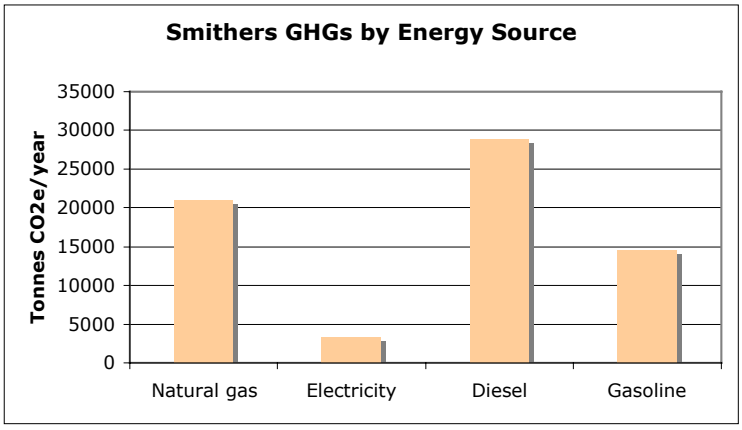


Figure 4: GHGs emitted per source

By comparing these two figures, the GHG intensities (or how many GHGs are emitted per unit of energy) can be compared between the energy sources. For example, Figure 3 indicates that there is slightly more natural gas use than electricity use in Smithers, but Figure 4 indicates that the GHGs emitted from natural gas use far exceed those emitted from electricity use. Therefore, natural gas has a higher GHG intensity than electricity. However, this is only true when the source of the electricity produces few GHGs. In BC, most electricity comes from large-scale hydro facilities that generate few GHGs. If electricity were to come from coal-fired generation, for example, the GHG intensity of electricity would be higher than that of natural gas. BC Hydro imports 12-15% of BC's electricity from Alberta, where electricity is generated through coal-fired and natural gas generation.[4]

As can be seen from the figures, diesel and gasoline have similar GHG intensities, but what is not shown is that diesel currently has a greater impact on local air quality. Diesel and gasoline also have higher GHG intensities than natural gas.

Wood use is not considered in this report, but makes up a significant portion of energy used for heating in Smithers. Wood is considered to be GHG neutral.[5]

2.2 Energy Use By Sector

The five sectors considered in this report are residential, commercial, industrial, passenger transportation and commercial transportation. Figure 5 below shows the breakdown of energy use by sector in Smithers. As can be seen from this figure, just over 40% of energy use in Smithers is for transportation, while just under 60% is for stationary purposes, including building heating and operations, municipal infrastructure and industrial processes.

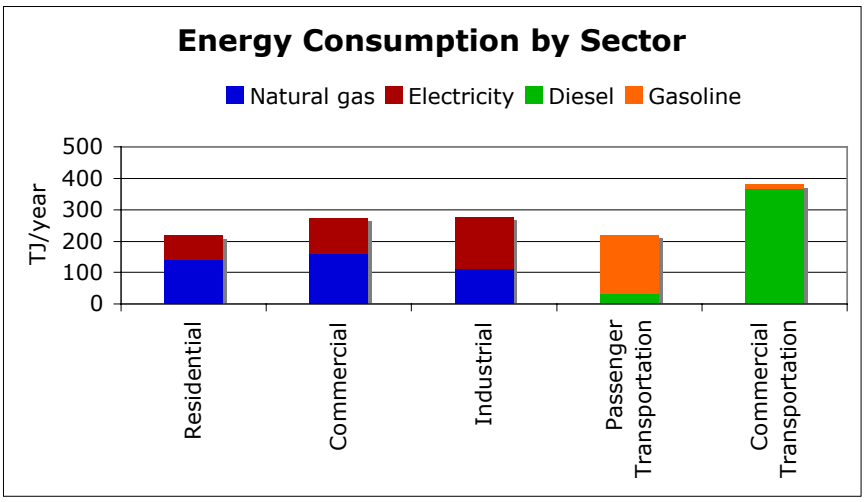


Figure 5: Energy use by sector in Smithers

Figure 5 also shows that the residential sector currently uses natural gas to meet approximately 2/3rds of its energy needs (recognizing that wood is not included), the commercial sector uses slightly more natural gas than electricity, and the industrial sector uses natural gas to meet

[4] There is a significant debate about whether BC's decision to import is based on need or financial considerations.

[5] Wood is considered to be GHG neutral because it is assumed that all wood would eventually decay, releasing its carbon into the atmosphere. It is theorized that burning wood simply speeds up this process. It is also assumed that trees that are harvested for burning are replanted.

approximately 1/3rd of its energy needs. Figure 5 also shows that the majority of energy for passenger transportation comes from gasoline, while the majority is diesel for commercial transportation.

2.3 GHGs By Sector

Figure 6 below illustrates the GHGs associated with the energy use described in above, as well as GHGs that are emitted from the Smithers landfill. As can be seen from Figure 6, over 60% of emissions are generated from transportation even though transportation accounts for just over 40% of energy use. This is because diesel and gasoline have higher GHG intensities than natural gas and electricity. Stationary uses account for about 35% of emissions and landfill gas accounts for about 2% of emissions.

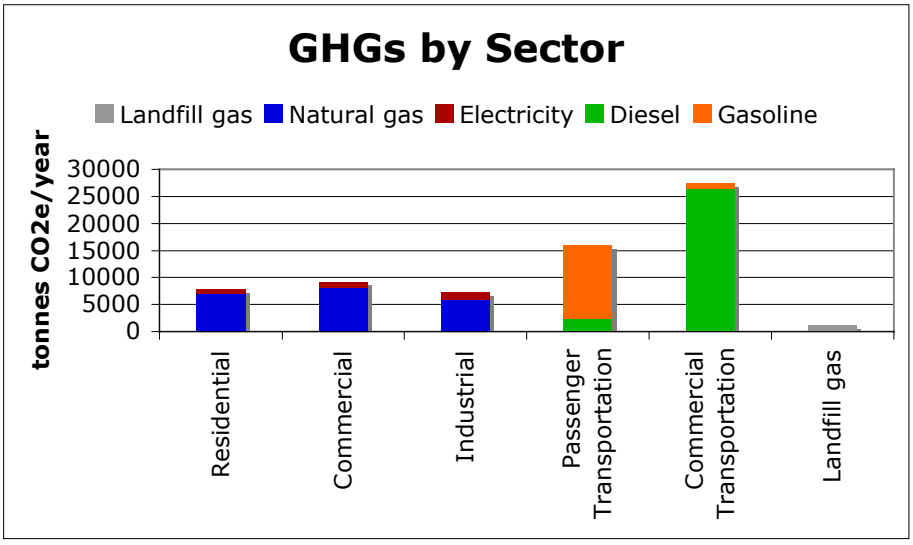
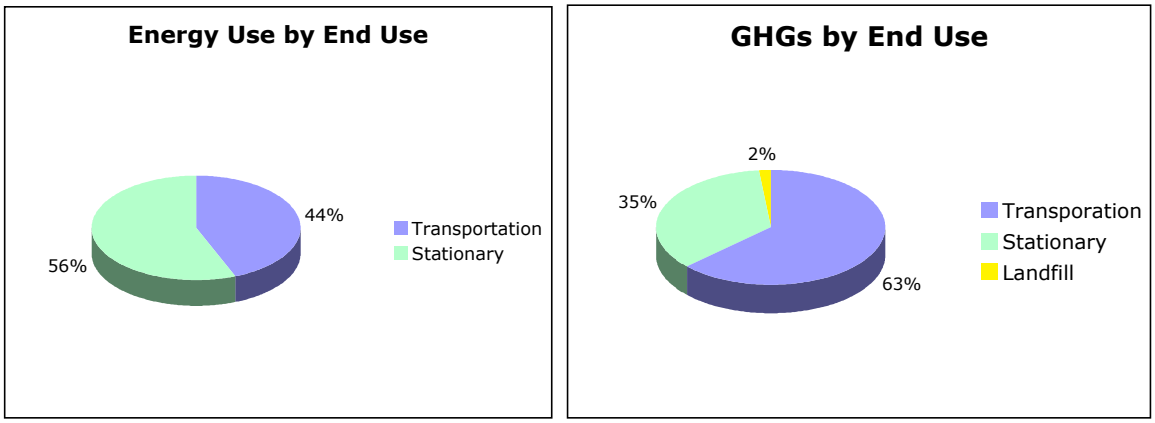


Figure 6: GHGs emitted per sector

This comparison between energy consumption and GHG emissions can be seen in another way in Figures 7 and 8 below. These figures show the comparison between energy used for stationary purposes and transportation (Figure 7) and the GHGs associated with this energy use (Figure 8).



Figures 7 and 8: Energy use and GHGs by end use

2.4 Comparison To Other Jurisdictions

Figure 9 compares energy use in Smithers to Vanderhoof and Canada to help provide some context for the data presented in this section. As can be seen from this comparison, Smithers' residential use is below the national average. This difference is at least in part accounted for by the large amount of wood used by Smithers residents that is not included in this analysis. Smithers' commercial, passenger transportation and commercial transportation are all above the national average, but Smithers' industrial use is well below the national average. It is important to note that per capita, Canada is one of the largest consumers of energy and second largest emitter of greenhouse gases in the world[6]. Being below the national average in any sector should not exempt swift action.

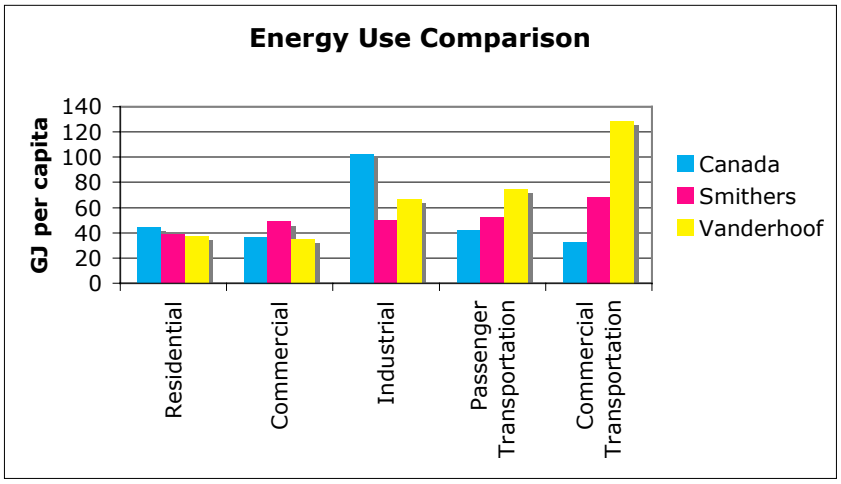


Figure 9: Energy use comparison between Smithers, Canada and Vanderhoof

2.5 Air quality

Air quality is a significant concern in Smithers. Emissions of particulate matter (PM) from various sources result in poor air quality on many days of the year. Particulate matter refers to small solid or liquid particles suspended in the air. PM2.5 refers to particles less than 2.5µm in diameter and PM10 refers to particles less than 10µm in diameter. Measurements of PM10 include PM2.5. These small particles can have serious health and environmental impacts.[7]

Actions that address GHG emissions may not improve local air quality and actions that improve local air quality may not reduce GHG emissions. For example, increasing woodstove use would increase particulate matter emissions, but would decrease GHG emissions. Therefore different actions will need to be taken to address these two issues. Actions that have the potential to reduce both GHGs and improve air quality should be prioritized.

Figure 10 below shows an analysis of three contributors to PM2.5, PM10 and TPM (total particulate matter) emissions in Smithers for 2002: industrial processes, home wood heating and road dust.[8,9] Figure 10 shows TPM includes the sum of all particulate matter emissions for

[6] OECD Environmental Data.

[7] For more information on air quality in the Bulkley Valley, see the Bulkley Valley Lakes District Airshed Management Society www.cleanairplan.ca or the Ministry of the Environment, Skeena Region.

[8] Backyard burning is not permitted in Smithers.

each source, so the PM10 and PM2.5 are components of the total. As can be seen from Figure 10, there is significant variation between the TPM emitted from each source (almost all emissions from residential home heating are PM2.5). However, the PM2.5 emissions, those particles that are considered to have the largest impact, are actually fairly similar between the three sources.

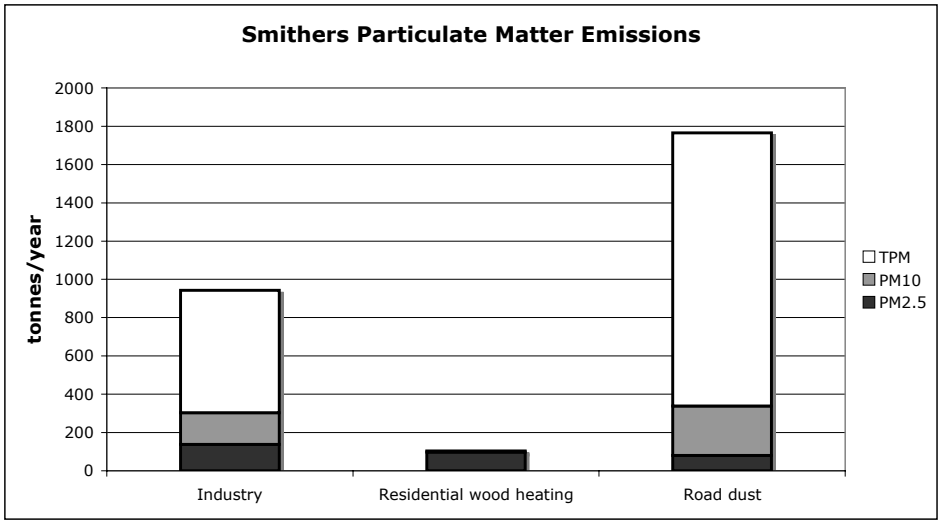


Figure 10: Smithers particulate matter emissions

Actions that reduce both GHGs and process emissions from industry or road dust would be effective at addressing both climate change and air quality issues (remembering that burning wood is considered to be GHG neutral). Examples of these types of actions include:

- Use of industrial technologies that increase energy efficiency and use less materials in production would result in fewer GHGs and fewer emissions in general
- Decreasing vehicle use because consuming less gasoline and diesel would reduce GHGs, and less travel on the roads would turn up less dust

The Bulkley Valley Lakes District Airshed Management Society has developed a comprehensive strategy with indicators to improve air quality in the region (www.cleanairplan.ca). Specific strategies to address transportation are missing from the Bulkley Valley report. Actions presented in this CEP could help to fill this acknowledged gap.

[9] Industrial data for Smithers includes PIR without its beehive burner, New Pro and LB Paving. Estimates for residential heating and road dust are based on a linear apportionment of total BVLD residential home heating emissions to Smithers' fraction of total BVLD population, which in 2002 was approximately 18.15%. Data provided by the Ministry of the Environment, Skeena Region.

3 Community Engagement

A community workshop was held from 4-7pm on February 8, 2007 at the Old Church in Smithers. Over 45 residents were in attendance. Residents were presented with the energy baseline data presented in this report, an update on airshed management activities, an update on the energy efficiency checklist and federal EnerGuide for Houses program, and an introduction to the concept of a renewable energy co-op in Smithers. Residents were then invited to share their vision and ideas for reducing Smithers' energy use. In general, residents wanted to see Smithers become a leader in energy efficiency and renewable energy and sustainability issues in general. Residents want Smithers to be a community that understands the environmental implications of its actions and implements bylaws, economic instruments and innovation, and education and promotion to reflect this understanding. Smithers can become a leader for small northern communities in sustainability.

Other long-term goals included:

- to eliminate air quality episodes;
- to have a high percentage of renewable energy generation;
- to meet or beat the Kyoto targets;
- to maintain or enhance greenspace in the community; and
- to have the majority of our food coming from the region.

Residents came up with potential actions to meet these goals. They were enthusiastic about finding ways to reduce Smithers' energy use and increase its overall sustainability. Recommendations and ideas from this workshop have been incorporated into the recommendations of this report. For a full list of participant suggestions, please see appendix B.

4 Recommended Actions

The recommended actions presented in this report are divided into two sections. Section 4.1 outlines actions that are recommended to be taken immediately and section 4.2 outlines actions to be considered for the next 1-3 years. Section 4.2 presents actions specific to the Town of Smithers municipality and others that apply to the community as a whole. In some cases, leadership from the Town is required to help set the policy framework to facilitate changes and programs on the ground. For each action, the following information is presented:

- A description of the action
- The current situation with regard to the action
- The rationale for completing the action
- The department(s) responsible for completing the action
- A suggested timeframe for completion
- The GHG impact of the action
- The financial impact of the action
- The air quality impact of the action
- Relevant background information, references to other communities who have already completed the action and funding ideas.

4.1 Recommended For Immediate Adoption

The following three actions are recommended for immediate adoption:

1. Adopt a greenhouse gas (GHG) reduction target and incorporate the target in the Official Community Plan (OCP).

2. Include a commitment to energy efficiency in the OCP.

3. Join the Partners for Climate Protection program through the Federation of Canadian Municipalities.

1. Adopt GHG Target	Adopt greenhouse gas reduction targets for the town. Suggested targets from the Federation of Canadian Municipalities are: a) Municipal Operations – reduce emissions by 20% below 2005 levels by 2015 b) Community Wide – reduce emissions by 6% below 2005 levels by 2015 c) Long term targets for 2025 and 2050 (BC has recently adopted a target of 33% below 2006 levels by 2020)

	See Appendix C for suggested resolution wording.
Current Situation	Smithers does not have a greenhouse gas reduction target or climate change plan.
Rationale	• Targets will provide the town with a clear goal and provide a standard by which to measure progress. • The provincial government has recently committed to reducing greenhouse gases by 33% below 2006 levels by 2020. • Many municipalities have also committed to reduction targets. • Canada committed through the Kyoto Protocol to reduce its GHG emissions to an average of six percent below 1990 levels between 2008 and 2012.
Responsible Department	Town Council. All departments.
Suggested Timeframe	• Determine and adopt targets by September 2007. Incorporate GHG targets into the Official Community Plan. • 2007/2008 – Decide on the actions that are going to begin moving Smithers towards the adopted target. • 2009 – monitor progress every two years and implement necessary actions. • Annual data collection to measure against 2005 baseline.
Greenhouse Gas Impact	Potential to motivate large reductions from municipal operations and the town as a whole over the long term. The Federation of Canadian Municipalities estimates that close to 50 per cent of the country's greenhouse gas emissions can be influenced by decisions made by municipal governments. Municipalities can reduce greenhouse gas emissions through land use, energy and transportation planning; infrastructure design; green procurement; building retrofits; water conservation; solid waste diversion; and the use of distributed energy systems.
Financial Impact	Many actions that reduce energy consumption will help the town to realize cost savings. Other actions can be financed through these savings. Job opportunities will likely be created. Grant opportunities also exist through the FCM administered Green Municipal Fund (http://www.fcm.ca/english/gmf/gmf.html) and other provincial initiatives. See the funding section (5.1) for more details.
AQ Impact	Many actions that reduce GHGs will also improve air quality, for example reducing car use and idling. However, it should be noted that some actions that will reduce GHGs may not improve air quality. An example of this type of action is switching from natural gas to woodstove heating. Care should be taken to ensure that actions taken to meet the GHG target do not compromise air quality.
Background and	• 82 percent of British Columbians want mandatory targets

references	for reducing greenhouse gas emissions.[10] • Other BC Municipalities are passing resolutions to combat climate change including Vancouver and Squamish. • Over 41 communities in BC and 135 across Canada have committed to GHG reduction targets through the Partners in Climate Protection program.

2. Include Energy Efficiency Commitment in OCP	The Town should incorporate a specific commitment in the OCP to increase energy efficiency in new and existing buildings. By incorporating energy efficiency into the policy framework of the Town, it will be easier to implement and develop complimentary policies and programs.
Current Situation	• The current OCP does not include consideration of energy efficiency. • Smithers is due to update their OCP this year. • Smithers is currently developing an energy efficiency checklist to help residents understand and increase the energy efficiency of their homes. • Smithers has already committed to promoting two of the Ministry of Energy, Mines and Petroleum Resources' six efficiency targets: Achieve an EnerGuide for Houses rating of 80 for new homes in Smithers and reduce energy consumption in 12% of existing homes by an average of 17% by 2010.
Rationale	• Without supportive language in the OCP, it is difficult to develop mechanisms to achieve and monitor the energy efficiency targets. • Energy efficiency is an often cost-effective climate change solution. • Energy efficiency should be considered in all new building developments and in retrofitting existing buildings. Incorporating a commitment to energy efficiency into the OCP will provide a framework in which specific decisions about energy efficiency policies can be considered. • The provincial government will be introducing new energy efficiency standards for buildings in 2010. Moving on this issue now will mean Smithers will be well positioned to comply in three years' time.

[10] Strategic Communications poll of 601 BC voters conducted Nov 23 -30, 2006; accurate to +/- 4% 19 times out of 20. Poll results available at: http://www.sierralegal.org/m_archive/pr07_01_02pollresults.pdf.

Responsible Department	Development Services and Planning
Suggested Timeframe	Immediate
Greenhouse Gas Impact	The baseline has shown that approximately 40% of Smithers' GHG emissions come from energy use in buildings. Increasing energy efficiency will reduce these emissions.
Financial Impact	Financial impacts of energy efficiency measures will vary, but significant cost savings can be achieved through reduced energy consumption.
AQ Impact	As energy costs climb, people will continue to turn to heating their homes with 'local, low cost' fuel: wood. Higher efficiency wood heating systems with lower emissions are available. The Town of Smithers has implemented Wood Burning Appliance Smoke Control Bylaw no. 1520 which sets a 2010 target date to upgrade or remove old woodstoves. The Woodstove Exchange Program is educating and assisting residents to meet this target.
Background and references	When designing energy-related OCP objectives and policies it is important to be aware that the language chosen will guide staff and the community for the next 5-10 years. As such, language in the plan should be general enough to accommodate an evolving energy technology sector, yet specific enough to give staff the confidence to pursue robust energy-related measures and planning from day one. See Appendix D for examples from other communities. BC Building Efficiency Targets http://www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm BC Energy Plan www.energyplan.gov.bc.ca

3. Join Partners for Climate Protection	The Partners for Climate Protection (PCP) program is run by the Federation of Canadian Municipalities (FCM). The program is intended to encourage and recognize municipal achievement in climate change actions. The program consists of 5 milestones: 1. Creating a greenhouse gas emissions inventory and forecast 2. Setting an emissions reductions target 3. Developing a local action plan 4. Implementing the local action plan or a set of activities 5. Monitoring progress and reporting results After joining PCP, the town should set timelines for meeting the milestones.
Current Situation	The baseline portion of this community energy plan puts Smithers well on its way to completing milestone 1. If a GHG target is adopted, milestone 2 will also be complete. The actions outlined in

	this report form the basis for an action plan that could easily be developed for milestone 3.
Rationale	Joining the PCP program will provide Smithers with a network of other municipalities working on climate change issues (41 communities in BC and 135 across Canada), as well as recognition for its efforts.
Responsible Department	Administration
Suggested Timeframe	By September 2007
Greenhouse Gas Impact	Joining the PCP program will help to provide Smithers with a framework in which to continue moving forward with energy and GHG reduction.
Financial Impact	Funding is available to help municipalities achieve the 8 milestones, including the Green Municipal Fund from FCM. See section 5.1 for more information on funding.
AQ Impact	As noted above, many actions that reduce GHGs can also reduce particulate matter emissions.
Background	PCP program http://www.sustainablecommunities.fcm.ca/Capamcity_Building/Energy/PCP/

4.2 Recommended Actions

The following 10 actions are recommended for consideration over the next year. They are divided into two sections: municipal operations and community-wide actions. These recommendations provide examples of the types of actions that will be required to help Smithers achieve its GHG reduction target. Without support from accompanying longer term actions, the "immediate actions" identified in the previous section will not lead to significant change.

Section 4.2.1 outlines four actions to reduce energy from **municipal operations**:

1. Adopt municipal energy efficiency standards
2. Adopt a green vehicle policy
3. Adopt an anti-idling policy (for municipal operations and community)
4. Adopt a green purchasing policy

Section 4.2.2 outlines six actions to reduce energy from the **entire community**:

1. Adopt energy efficiency standards for new and existing residential buildings
2. Reduce transportation emissions
3. Support local low-impact renewable energy generation
4. Increase public education on energy and climate change issues
5. Reduce waste
6. Consider land-use planning and development to meet targets

In general, those actions that reduce energy consumption for transportation and heating of homes and buildings should be high priorities as evident from the baseline data. General progress can be monitored by continuing to collect data annually and comparing with the 2005 Smithers' baseline data.

4.2.1 Municipal operations – leading by example

1. Adopt Municipal Energy Efficiency Building Standards	**For new buildings:** A green building standard could require all new facilities to be at least 25% more efficient than the Model National Energy Code for Buildings (MNECB) – this would mean a 20% decrease in energy use for each new building.[11] **For existing buildings:** A green building standard could require that there be a 14% reduction in energy use in 20% of municipal facilities by 2010.[12]
Current Situation	Smithers does not have an energy efficiency standard for its new or existing municipal buildings. However, Smithers is achieving some success with energy efficiency: the new municipal office building is twice the size of the previous building and energy consumption is half of what it was. Plans are also already underway to incorporate heat-recovery systems into the arena and to upgrade Ranger Park to improve its energy efficiency.
Rationale	The town can lead by example and demonstrate the potential financial and GHG reduction benefits of increasing energy efficiency through these targets.
Responsible Department	Development Services, Planning and Operational Services
Suggested Timeframe	Adopt targets by November 2008
Greenhouse Gas Impact	The baseline has shown that approximately 60% of Smithers' GHG emissions come from energy use in buildings. Increasing energy efficiency will reduce these emissions.
Financial Impact	Financial impacts of energy efficiency projects may vary. Significant funding is available to municipalities to undertake energy efficiency projects. See funding section (5.1) for more details.
AQ Impact	In the north, much of the energy used to heat homes and buildings, comes from wood burning appliances. Increasing energy efficiency overall in buildings will reduce particulate emissions coming from certified or non-certified wood burning appliances.
Background	BC Building Efficiency Targets taken from "Energy Efficient Buildings: a Plan for BC", MEMPR http://www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm

[11] Target taken from "Energy Efficient Buildings: a Plan for BC", MEMPR www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm

[12] Target taken from "Energy Efficient Buildings: a Plan for BC", MEMPR www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm

2. Municipal Green Vehicle Policy	The goal of a green vehicle policy for the municipal fleet is to reduce the energy consumption and improve air quality from fleet vehicles. Components of a green vehicle policy can include: - anti-idling (outlined in more detail in action 3) - right-sizing - driver education - retrofit existing municipal diesel vehicles with diesel oxidation catalysts - green purchasing policy
Current Situation	Currently, the town does not have a green vehicle policy for its fleet.
Rationale	While a specific municipal baseline has not been completed for Smithers, the municipal fleet is likely a significant contributor to the town's emissions.
Responsible Department	Operational Services Department
Suggested Timeframe	Create and implement policy by December 2007.
Greenhouse Gas Impact	The full greenhouse gas impact will depend on the scope of the policy adopted. Significant savings can be achieved through each of the policy components listed above.
Financial Impact	All of the components listed above are designed to reduce fuel consumption, which will in turn reduce costs to the town. The new BC Energy Plan includes partnerships with municipalities to retrofit their diesel fleets, which should be pursued once details are released.
AQ Impact	Diesel exhaust can cause serious health effects in adults and greater harm to children, the elderly and other vulnerable populations. Short-term effects of exposure to diesel exhaust include irritation of the eyes, nose and throat, wheezing, chest tightness, coughing and shortness of breath. Long-term diesel exhaust exposure may worsen many health problems, including heart and lung disease, and may increase cancer risk and premature mortality. The US Environmental Protection Agency has classified diesel particulate matter as a probable cancer-causing substance. (Taken from BC Lung Association - http://www.bc.lung.ca/pdf/bcstate_of_the_air_report2006.pdf)
Background	For examples of green vehicle policies and tools, see: Dawson Creek http://www.planningforpeople.ca/what_we_are_doing/energy_plan/phase_1/index.asp Vancouver, BC http://www.cnv.org/c/DATA/3/236/CITY OF NORTH VANCOUVER GREENHOUSE GAS LOCAL ACTION PLAN.PDF Hamilton, ON http://www.myhamilton.ca/NR/rdonlyres/45DA2BA5-3877-4048-9535-4E3615E0F38E/0/GreenFleetImplementationPlan.pdf

	Edmonton, AB http://www.edmonton.ca/portal/server.pt/gateway/PTARGS_0_2_272_214_0_43/http:/CMSServer/COEWeb/environment+waste+and+recycling/environment/Anti-Idling+Information.htm E3 Fleet http://www.e3fleet.com/mc/page.do

3. Anti-idling policies (municipal and community-wide)	• A municipal policy would apply to all vehicles in the municipal fleet. Exceptions can be made for vehicles that must remain running in order to safely perform duties. An example of a municipal limit on idling is 30 seconds (City of Dawson Creek). • A community wide bylaw could have similar exceptions. An example of a community-wide limit on idling is 3 minutes (City of Vancouver).
Current Situation	Smithers does not have a municipal policy or community-wide bylaw to reduce idling. Some policies in Smithers actually require or encourage idling. For example, the Pedestrian Crosswalk at Alberta St. is set at 37 seconds.
Rationale	• Idling wastes fuel and produces excessive emissions. • Transportation accounts for almost half of the greenhouse gases emitted in Smithers. • Idling for over 10 seconds uses more fuel than restarting your engine.
Responsible Department	Operational Services
Suggested Timeframe	Community wide policy – implemented by March 2008; municipal operations policy – implemented by December 2007.
Greenhouse Gas Impact	Reducing idling can reduce emissions by up to 10%.
Financial Impact	The municipality will reduce fleet fuel costs.
AQ Impact	Reducing car exhaust will improve air quality. Vehicle emissions deposit 200 million tons of pollutants into our air each year, accounting for 60% of British Columbia's air pollution. These emissions, particularly Particulate Matter and Ground-level Ozone, pose serious health risks.
Background	BC Lung Association (www.bc.lung.ca/pdf/transportation_and_yourhealth_eng.pdf) Natural Resources Canada on idling - http://oee.nrcan.gc.ca/transportation/idling/material/tool-kit-introduction.cfm?attr=0 and http://oee.nrcan.gc.ca/transportation/business/idling.cfm?attr=16

4. Municipal Green Purchasing Policy	A green purchasing policy for municipal purchasing provides a set of guidelines by which municipal purchases will be made. The goal of such a policy is to ensure that purchasing decisions made by the town take into account environmental impact and energy use as

	well as cost. A green procurement policy can cover such areas as: - office supplies / furniture / equipment - construction materials and components A green purchasing policy could be set up similarly to the current "Local Supplier Preference" policy that favours locally supplied goods as long as there is no more than a 5% price difference.
Current Situation	Smithers does not currently have a green purchasing policy.
Rationale	By incorporating environmental impact in purchasing decisions, the Town will begin to reduce its overall footprint. The Town is also a significant purchaser within the community and leading by example can be a first step in encouraging others to make similar decisions and in encouraging suppliers to make "greener" options available.
Responsible Department	Financial Services and all departments
Suggested Timeframe	Adopt policy by December 2007.
Greenhouse Gas Impact	A green purchasing policy has the potential to facilitate moderate energy reductions over the long-term. For example, energy and therefore GHG reductions could be realized from: • More energy efficient lighting, appliances or equipment • Using supplies that require less energy in their production or transportation (i.e. locally produced goods)
Financial Impact	Administration will require extra time and resources to properly assess life-cycle costs and environmental product choices.
AQ Impact	Purchases that reduce transportation of products or landfill waste will provide slight improvements in air quality.
References	EcoLogo standards www.environmentalchoice.com/ EnergyStar for appliances http://oee.nrcan.gc.ca/Publications/infosource/Pub/appliances/es-canada.cfm?attr=0

4.2.2 Community wide actions

1. Energy Efficiency for New and Existing Residential Buildings	Achieve an EnerGuide for Houses rating of 80 for new homes in Smithers and reduce energy consumption in 12% of existing homes by an average of 17% by 2010 by: • creating awareness through an energy efficiency checklist distributed by front-line workers (such as realtors, mortgage brokers, retailers, contractors, etc.) • offering incentives to homeowners to increase efficiency • promoting the EcoEnergy retrofit program offered through the Federal government (this program replaced EnerGuide for houses) http://oee.nrcan.gc.ca/residential/energuide-for-houses.cfm • creating a monitoring mechanism to ensure the town is meeting its target (have new home owners agree to EGH assessment after construction). developing a memorandum of understanding (MOU) with developers with regard to energy efficiency • offering density bonuses or other incentives to developers who meet these targets • training high school students on how to make simple energy efficiency improvements in their home.
Current Situation	The Town of Smithers has agreed to promote this target as part of the Community Action on Energy Efficiency program. This recommendation is to adopt the target. Funding for this initiative is available from the CAEE Gold program (see section 5.1). Smithers currently has 2,700 homes and an average of 12 new homes built in the last two years.
Rationale	Reducing energy consumption in the residential sector will reduce greenhouse gas emissions associated with natural gas and electricity use, offers cost savings and will improve the health and comfort of homes in Smithers.
Responsible Department	Development Services and Administration
Suggested Timeframe	December 2008
Greenhouse Gas Impact	According to MEMPR, achieving an EGH 80 rating for new homes could reduce average energy consumption by 32%, depending on the fuels that are displaced (in Smithers, the benefit will be less than 32% because of the specific fuel mix).
Financial Impact	Energy efficiency measures offer cost savings from reduced energy consumption.
AQ Impact	Increasing energy efficiency of buildings will lower energy consumption and reduce emissions accordingly. For example,

	upgrading from an old woodstove to an advanced combustion stove can improve efficiency by 30 to 40% and reduce emissions from ~ 50 grams/hr down to 2 or 3 grams/hr.
Background	BC Building Efficiency Targets taken from "Energy Efficient Buildings: a Plan for BC", MEMPR http://www.em.gov.bc.ca/AlternativeEnergy/Alt_Energy_Home.htm

2. Reduce Transportation Emissions	Implement measures to encourage active transportation options and transportation efficiency: • Change the current bylaw requirement for 6 parking spaces per business to allow for greenspace and/or bike rack options. • Improve bike trails by supporting Ebenezer footbridge across the Bulkley River, the Telkwa to Smithers bike path, and clear bike trails or lanes in winter. • Support community bike program and set up more bike racks around town. • Promote and participate in awareness raising days such as the Commuter Challenge and Car-free day, or create an "Energyville" competition with other communities. • Implement a Smithers anti-idling by-law and education program. • Integrate public transit to have stops at facilities with large employment areas (e.g. College, Ministry buildings, etc). • Facilitate partnerships or create a facility for video teleconferencing. • Encourage carpooling and provide incentives for town employees. The Town could provide a local carpooling page on their website that is divided into areas where residents can post opportunities and needs for rides. • Implement surcharges on vehicles registered within town limits that are identified as high energy users and put funds toward transit improvements. • Restrict truck transport in residential areas and encourage rail for mining and forestry transport. • Increased promotion of schedule changes to the Telkwa-Smithers bus and continued improvement of scheduling.
Current Situation	- Section 2.9 in the Zoning bylaw no.1403 requires businesses to have 6 parking spaces available for customers. - Several commuters do not cycle in winter due to uncleared bike paths and shoulder space on side of

	roads. - One Sky runs a community bike program and needs 'hubs' (set locations) for blue bikes. - Several residents commute to Vancouver/Victoria for meetings that they could attend through video-teleconferencing if the facilities were readily available for rental and save GHG emissions. These facilities exist at Make Children First. - The Town of Smithers runs the bus to Telkwa and Hazelton. Schedule changes have improved service. - Mining developments, such as Blue Pearl's Davidson Molybdenum mine, are proposing to run ore trucks through town (one every 15 minutes) instead of using the rail option. Commercial transportation is currently the largest sector contributing to GHG emissions in Smithers. - There is a community initiative recommending a gondola from Town to the ski hill which would likely reduce the high levels of traffic up and down Hudson Bay Mountain Rd in the winter.
Rationale	Transportation is the single largest contributor to GHG pollution in Smithers, representing 60 per cent of emissions. All of the above actions would help to reduce vehicular transportation in Smithers. Many of the actions suggested here are aimed at reducing single occupancy vehicle trips, increasing vehicle efficiency, and encouraging cycling and other commuting options.
Responsible Department	Operational Services, Development Services and Planning
Suggested Timeframe	Ongoing
Greenhouse Gas Impact	All actions that reduce fossil fuel consumption in vehicles, either through reducing vehicle use, using smaller vehicles, or changing fuel sources, will reduce greenhouse gas emissions.
Financial Impact	Funding exists to assist in changing transportation options and providing different transportation related services. See the funding section (5.1). Opportunities also exist for community partnerships.
AQ Impact	Car exhaust and road dust both impact local air quality, especially during seasonal episodes. Efforts to manage and reduce emissions by improving transportation efficiencies will improve air quality accordingly.
Background	Better Environmentally Sound Transportation - http://www.best.bc.ca/ Natural Resources Canada on idling - http://oee.nrcan.gc.ca/transportation/idling/material/tool-kit-introduction.cfm?attr=0 and

	http://oee.nrcan.gc.ca/transportation/business/idling.cfm?attr=16 Commuter Challenge – www.commuterchallenge.ca Walking School Bus – www.walkingschoolbus.org Car-free Day – www.carfreeday.ca

3. Support local low-impact renewable energy projects	The town can support low-impact renewable energy generation in many ways, including: • consider a district heating system for Willowvale subdivision and other new development areas • explore use of geo-exchange technology for heating and cooling buildings • develop pilot or demonstration renewable energy projects • explore the use of local improvement charges to finance building renewable energy upgrades • review the option of using revolving low-interest loan funds to support the development of local low-impact renewable energy • develop local expertise, business incentives and education on energy diversification • support low-impact renewable energy community power projects or invest in local corporations that are planning green power projects.
Current Situation	Currently Chinook Power Corp has set up wind monitoring stations in the Telkwa Microwave and Dome Mountains. Norwest Green Power Corp also have plans underway for potential micro-hydro development in East Boulder Creek. Potential geo-exchange applications continue to increase in residential homes in the Bulkley Valley. The Renewable Energy Corporation is a current proposal that is looking at the development of locally owned renewable energy within the region. The Town of Smithers has supported the concept of the Smithers Renewable Energy Corporation with a letter of support.
Rationale	• Local energy production from low-impact renewable sources can help to insulate the town from fluctuating energy prices. • Local production can increase revenues to the town and increase employment opportunities. • Renewable energy projects have the potential to reduce GHGs and have less impact on the surrounding environment than conventional energy projects • The Province of BC has just announced Standard Offer

	Contracts that will provide a long-term price incentive for investing in renewable energy systems and tying them into the grid (see the BC Energy Plan www.energyplan.gov.bc.ca)
Responsible Department	Operational Services, Development Services and Planning, Administration, partnerships with other community stakeholders.
Suggested Timeframe	Ongoing.
Greenhouse Gas Impact	By increasing the use of low-impact renewables, current natural gas and electricity use can be displaced, lowering greenhouse gas emissions.
Financial Impact	Different low-impact renewable options will have different financial implications. As noted above, there are different models for financing low-impact renewable projects.
AQ Impact	Air quality is affected by industry power generation when it comes from fossil fuels (gas/coal fired power plants), but would benefit if a diversification in energy generation sources were attained.
Background and references	Peace Energy Co-op: http://www.peaceenergy.ca/index.html BC Energy Plan - www.energyplan.gov.bc.ca Canadian Renewable Energy Alliance has a policy paper on the importance and policy measures needed for community power – www.canrea.ca Ontario Sustainable Energy Association has a Community Power Guidebook - http://www.ontario-sea.org/

4. Public education for energy conservation and greenhouse gas reductions	Several options exist for town involvement in public education: • work in conjunction with the College to offer courses training residents in energy efficiency and renewable energy options, including: - winterizing homes - improving insulation - replacing windows/doors - solar hot water - biofuel research and production • offer driver education courses to increase fuel efficiency through driver behaviour • work in conjunction with the school board to offer education programs in schools to make students aware of the impacts of their actions on the environment and how to improve energy efficiency in their own homes • sponsor inserts in the paper to raise awareness of different energy and environmental issues

	• include education and awareness materials as inserts in municipal tax and/or Town Gazette mail outs. • participate or initiate theme days such as the Commuter Challenge and Walk-to-Work day. • initiate an air quality advisory public bulletin board and/or other methods to enhance message delivery regarding air quality • develop education and awareness programs for the building industry that promote the value of reducing waste in construction • support local groups and business that offer green building products and technologies through information and awareness packages
Current Situation	Smithers was registered as a participating community in the Commuter Challenge in 2006 with promotional activities by One Sky and the BVLD Airshed Management Society. Air quality advisories are currently emitted through email and local radio stations. One Sky has offered renewable energy and efficiency workshops in Smithers over the last few years including through NWCC.
Rationale	Education will increase public knowledge and awareness of opportunities to reduce energy use.
Responsible Department	All departments
Suggested Timeframe	Ongoing
Greenhouse Gas Impact	The impact on greenhouse gases will depend on the actions taken as a result of the training offered.
Financial Impact	Educational programming will require a financial investment from the town. There is potential for partnerships and organizations or schools to take leads. Funding is also available for education in some situations (see funding section 5.1).
AQ Impact	Education about improving efficiencies and awareness of household choices can lead to the adoption of habits that will also benefit air quality and the environment.
Background	Commuter Challenge – www.commuterchallenge.ca Walking School Bus – www.walkingschoolbus.org Car-free Day – www.carfreeday.ca Sierra Club of BC Environmental Education - http://www.sierraclub.ca/bc/programs/education/index.html Pembina Institute renewable energy education site - http://www.re-energy.ca/

5. Reduce Waste	The town could employ a number of options to reduce waste to the transfer station (and eventually the landfill), including to: - increase awareness about the municipal compost facility - increase number of drop-offs - encourage food businesses to compost - promote backyard composting - make town compost available to residents for gardening - implement recycling pick-up - improve recycling facilities to ensure recycling of cardboard, paper and printed materials, glass, metal cans and aluminium, plastic milk jugs and beverage containers - evaluate the current location of the re-use shed in consideration of energy, landfill diversion, and maintenance goals
Current Situation	• Currently, there is a community compost in Smithers but it is not well-known. • Supermarkets in Smithers are estimated to each put 1,000 pounds of organic waste in the landfill a week. Along with several restaurants who are interested in composting, this waste could be diverted through a collection system or incentive program. • A backyard composting incentive program occurred in Smithers over a decade ago where residents received discounted bins and later an educational reminder on how to compost and build your own. • The Town of Smithers has a recycling committee. • Residents must drive individually to the recycling area and the “re-use” shed is located outside of town. • In the Garbage Collection bylaw, the Town specifies that all cardboard must be recycled and that compostable materials are not picked up - per (n), (o), and (p) in the excerpt below: **<u>Section 2.3 Restricted Materials</u>** 2.3.1 No person shall place or mix with any material for removal as garbage, the following materials: … (n) compostable yard and garden waste; (o) clean cardboard; (p) products that are accepted at return or recycling centres;
Rationale	By implementing these actions, the town will divert a significant amount of organic waste from the transfer station, will encourage local gardening, will reduce single occupant trips and will facilitate the re-use of used items.

Responsible Department	Development Services and Operational Services Department, and the Regional District of Bulkley Nechako.
Suggested Timeframe	Ongoing
Greenhouse Gas Impact	The Community Baseline showed that emissions from the transfer station accounted for approximately 2% of Smithers' total emissions. By removing organic matter from the transfer station (and eventual landfill), these emissions will be reduced. By reducing single occupant vehicle trips to the recycling, emissions will also be reduced.
Financial Impact	Implementing these programs will require a financial investment from the town. If a larger composting program was established, especially to pick-up commercial organic waste, a cost-recovery system of either fee for service or selling compost could be established.
AQ Impact	A large portion of material dropped off at the transfer station is wood and construction 'waste,' that is burnt in open piles and reduces regional air quality. Identifying alternative uses or a more efficient means of combustion would reduce emissions and improve air quality.
Background	Zero Waste North - http://www.footprintbc.com/zerowastenorth/html/about.htm Composting Council of Canada – http://www.compost.org/englishoverview.html Town of Smithers Recycling Committee – 3-year objectives http://www.town.smithers.bc.ca/pdfs/min/recycle/2006/20060125.pdf

6. Land Use Planning and Development	Land use planning and development of the built environment should consider the following to reduce energy use: • Encourage builders and developers to site buildings and plan land to maximize passive solar heat • Support mixed-use neighbourhoods to reduce the need to use vehicles • Provide incentives to commercial builders that promote LEED or other standards, and offer local 'awards' to "green" buildings • Offer density bonuses or other incentives (e.g. reduced permit fees) to builders who agree to meet green standards • Make taxes flexible for commercially zoned places turned into green space (eg. clock tower lot, Rainbow Alley) • Establish policy for the recovery of materials generated from building demolitions.

Rationale	• Land use planning can have a large impact on the way that energy is used in a town. Better planning practices that incorporate the above suggestions can lead to less vehicle travel, more opportunities for distributed heating and renewable energy. • Encouraging industry to meet green building standards will be a first step towards ensuring that Smithers can meet the energy efficiency building standards that the provincial government will present for 2010.
Current Situation	The Town of Smithers is moving into its second phase of development for the Willowvale area and recently sold the old Town Hall lot. These provide opportunities for introducing energy efficiency or district heating incentives.
Responsible Department	Development Services and Planning
Suggested Timeframe	Ongoing
Greenhouse Gas Impact	Reducing the need for vehicle use will reduce greenhouse gas emissions from vehicles. Reducing energy use in new buildings will similarly reduce emissions associated with natural gas and electricity use. Employing distributed heat systems will increase heating efficiency and reduce reliance on natural gas and electricity for heating, thereby also reducing emissions.
Financial Impact	The financial impact of land use planning changes will have to be studied in more detail. Encouraging developers to meet green standards may require financial incentives from the town in the form of tax breaks, reduced permitting fees, etc.
AQ Impact	Reduced vehicle use, improved building efficiencies, recycled construction wastes and other suggested Land Use Planning improvements would all have positive effects on air quality.
Background and references	Smart Growth BC - www.smartgrowth.bc.ca Canada Green Building Council - http://www.cagbc.org/green_building_projects/leed_certified_buildings.php Office of Energy Efficiency - http://oee.nrcan.gc.ca/english/index.cfm

5 Next Steps

As outlined in Section 4, it is recommended that the town immediately:

- Adopt a greenhouse gas reduction target
- Include a commitment to energy efficiency in the OCP
- Join the FCM Partners for Climate Protection program

Following these actions, it is recommended that the town either hire a community energy coordinator or create an energy advisory committee to prioritize the 1-3 year actions listed in section 4. The coordinator or committee should be charged with determining at least 4 actions that the town will commit to moving forward on in the next year and developing work plans for these items. This committee could be comprised of city staff, community members and business and industry representatives.

5.1 Funding opportunities

Outlined below are several funding opportunities that Smithers could take advantage of in order to move forward on the priority actions identified by the energy action committee.

Green Municipal Fund (GMF)

The GMF is administered through the Federation of Canadian Municipalities. It is a matching fund offering funding for sustainability planning, feasibility studies, field tests and capital projects. Applications are accepted on an on-going basis.
http://sustainablecommunities.fcm.ca/GMF/

Local Motion

The Local Motion is a matching grant administered through the Ministry of Community Services. It can be used for capital projects to improve cycling or walking infrastructure, greenways, or increasing accessibility for people with disabilities. http://www.localmotion.gov.bc.ca/

Local Government Infrastructure Planning Grant Program

This program is administered through the Ministry of Community Services. It provides up to $10,000 (with $5,000 from the municipality) for planning and feasibility studies of projects designed to improve sustainability of community infrastructure.
http://www.cserv.gov.bc.ca/lgd/infra/infrastructure_grants.htm

Canada-British Columbia Municipal Rural Infrastructure Fund (MRIF)

The MRIF is administered through the BC Ministry of Economic Development and Community Services, the UBCM and the Federal Government. It is designed to assist communities of 250,000 people or less to develop sustainable infrastructure projects. The fund requires a 1/3 contribution from the municipality. http://www.canadabcmrif.ca/

Gas Tax Funding – Strategic Priorities Fund (SPG) / Innovators Fund (IF)

Both the SPF and the IF are intended to assist municipalities on community assessments for integrated sustainability planning, integrated community sustainability planning and capacity building for this purpose. The SPF is intended for projects that are regional in scope, while the IF is intended for projects taking an innovative approach to planning. http://www.civicnet.bc.ca/siteengine/ActivePage.asp?PageID=294&bhcp=1

Green City Awards

The BC Government has initiated a $2.5 million fund for the Green City Awards Program which will provide up to $500,000 annually to municipalities and regional districts that encourage physical activity, energy conservation and environmental benefits. Judges will evaluate how initiatives support climate change mitigation and adaptation, raise awareness, and demonstrate innovation that is transferable to other communities. The inaugural awards will be announced at the Union of BC Municipalities annual conference this September. Deadlines for nominations are June 1, 2007. http://www.greencityawards.gov.bc.ca/

Appendix A: Energy Baseline Methodology

Scope

A baseline of energy consumption is intended to be a profile of energy use in Smithers for a given year, in this case, 2005. The energy baseline includes use of electricity, natural gas, gasoline and diesel in the residential, commercial, industrial and transportation sectors. It should also be noted that wood use was not included in this baseline, but makes up a significant amount of the energy consumed in Smithers, especially in the residential sector.

Table 1 below illustrates which energy sources and which sectors are analyzed in this report. A dot indicates that the sector and fuel are considered.

Table 1: Community Energy Baseline Scope

Sector	Energy Source				
	Electricity	***Natural Gas***	***Wood***	***Gasoline***	***Diesel***
Residential	•	•			
Commercial	•	•			
Industrial	•	•			
Passenger Transportation				•	•
Commercial Transportation				•	•

The data collected on energy use is used to estimate greenhouse gas emissions. Though not a specific use of energy, solid waste contributes greenhouse gases and is therefore considered in the greenhouse gas section of the results, though not in the energy consumption section.

GHG emission sources not addressed in this report include:

- Air or rail transportation
- Industrial processes
- Energy use in close proximity to Smithers, but outside of town boundaries

Data Collection

The data used in the energy baseline was obtained through the data warehouse project, coordinated by the Ministry of the Environment. Data for this project was obtained, where possible as follows:

- BC Hydro - electricity
- Pacific Northern Gas – natural gas
- Insurance Corporation of BC in partnership with the BC Ministry of Transportation – Transportation
- BC Ministry of the Environment and the Recycling Council of BC – Solid waste
- Various industries in Smithers – natural gas

Air quality data was obtained from the Ministry of the Environment and Bulkley Valley Lakes District Airshed Management Society.

Uncertainties in energy baseline data

BC Hydro and Pacific Northern Gas (PNG) sector classification differences

BC Hydro (electricity) and PNG (natural gas) each use different classification systems to distinguish commercial from industrial users. As a result, the same user may be classified as commercial by BC Hydro and as industrial by PNG. In the results of the baseline study, a certain amount of natural gas use is attributed to each sector and a certain amount of electricity use is attributed to each sector. Referring to Figure 5, we can see this comparison of fuel use between the commercial and industrial sectors. Because of the difference in classification between these sectors, it is technically inaccurate to make the simple comparison shown in this figure. For example, assume that there are a total of 100 users in both the commercial and industrial sectors. Assume BC Hydro classified 80 of them as “industrial” and 20 of them as “commercial” and PNG classified 60 of them as “industrial” and 40 of them as “commercial.” A straight comparison like the one in Figure 5 would show a disproportionately high amount of electricity use for the industrial sector and a disproportionately low amount of electricity use for the commercial sector as compared to natural gas use in each sector.

At the current time, a comparison of the classification systems is not possible. The results should therefore be interpreted with this potential discrepancy in mind. The total natural gas and electricity shown for the combination of industrial and commercial sectors (i.e. if they were combined in one bar on the graph) is, however, accurate.

Transportation

Unlike the electricity and natural gas data that is based on records of actual energy use, the transportation data is based on the number of vehicles registered in Smithers. This number includes non-residents living near Smithers who register their vehicles in Smithers. An average assumption about the fuel consumption of different types of vehicles is then applied to the number of vehicles to determine the total fuel use. This average does not take into account the specific driving habits of people in Smithers, for example how much people actually drive, how well they maintain their cars, or what kind of fuel they chose. Because this calculation is based on an average and may include vehicles within the regional district, the transportation results should be taken as an approximation of the vehicle fuel use and associated emissions in Smithers.

Appendix B: Summary of Workshop Input

Goals

- A community that understands the environmental implications of our actions
- A community that leads on sustainability issues through implementation of bylaws, economic instruments and innovation, and education and promotion
- A community that sets an example
- Market Smithers as a "green" community and ensure new residents are aware of vision and initiatives
- Be a leader for small northern communities in sustainability
- Form partnerships with other leaders (i.e. Scandinavia)

Action ideas

General

- Municipality should commit to GHG reductions
- Meet or beat Kyoto by 2012
    - Long term goal of 90% reduction - number less important than attitude
- Provide green report cards (from the province?)
- Integrate energy plan with economic planning
- Implement green municipal purchasing policies
- Partnerships with industries
- "Energyville" – community incentive, goal, competition with other communities
- Maintain greenspace in community
- Don't expand airport
- Encourage high density, mixed use downtown
- Set up education booth at trade show
- Do educational mail-outs to follow-up on incentive programs

Energy efficiency and conservation

- Double incentives for conservation and efficiency
- Provide municipal tax incentives for energy efficiency
- Educate BC assessment officers to understand paybacks
- PNG should participate in incentives
- Turn off streetlights
- Do an EA on all new projects (consider energy payback)
- Municipality should lead by example – get all buildings audited and retrofited
- Provide a subsidy for low-income people to retrofit homes
- Offer training people at the college to retrofit and winterize homes
- Educate about energy conservation and efficiency in schools

Renewable energy

- Install a district heating system for Willowvale
- Capture heat from industry for district heating systems or greenhouses
- Create show homes and case studies
- Wood waste
    - Convert waste to biodiesel
    - Use slash being burned for electricity /heat generation

- The town should invest in power projects and use profits to pay for home retrofits
- Support the Bulkley Valley Renewable Energy Corporation
- Focus on distributed generation
- Aim for a high percentage of renewable energy

Transportation

- Regulate to ensure more efficient logging trucks and semis
- Municipal fleet leadership (anti idling) – create a mini fleet on biodiesel
- Community wide anti idling policy
- Increase and maintain bike trails
    - Telkwa to Smithers
    - Ebineizer Footbridge across Bulkley
    - Winter maintenance
- Implement a bicycle exchange program
- Support the One Sky community bike program (blue bikes)
- More bike racks
- Showers at work
- Change requirement for 6 parking stalls to bike racks or shrubbery
- Carpooling
    - Call your neighbour if you're going into town etc.
- Can school buses be used for public shuttles?
- Awareness raising days
    - Commuter challenge
    - Walk to school or work day
    - Car free day every week
- Car co-op or car share using hybrid or electric vehicles
- Tax shift to reward lower emission options or choices
- Video teleconferencing options
- Improve schedules of trains and buses
- More transport of goods by train (Blue Pearl – make them use the train)
- Turn Main Street into a pedestrian mall btw highway 16 and Alfred
- Employee education program (car busters)

Food

- Encourage local production of food and labeling
- Promote local food/goods
    - Centralized root cellar
    - Link consumer to grower
    - College training programs
    - Apprenticeship programs
    - Land sharing

Waste

- Build a community composting plant and make compost available for community members
- Relocate the re-use shed in town
- Provide service for collecting recycling and compost
- Provide discounts on composts

Air quality

- Air quality actions in all areas (implementation of BV AQ plan)
- Education and enforcement of bylaw on damp wood burning
- Eliminate AQ episodes

Appendix C:
Draft GHG Resolution

Whereas the international scientific community has proven that climate disruption is a reality and it is well documented that human activities are largely responsible for increasing concentrations of global warming pollution [CO2] and will cause extremely costly disruption of human and natural systems throughout the world; and

Whereas on February 16, 2005, the Kyoto Protocol, an international agreement to address climate disruption, went into effect in the 141 countries that have ratified it to date and that Canada ratified the Kyoto Protocol Dec.17, 2002 thus committing to cutting emissions by 6 percent from 1990 levels by 2012, which equates to approximately 560 megatonnes; and

Whereas emissions in 2006 are 35 % above that target and are set to rise more rapidly as oil-rich tar sands are opened up in western Canada; and

Whereas municipalities should play a leadership role and take responsibility in reducing greenhouse gas emissions, and Smithers already has programs and initiatives working toward GHG reductions;

Therefore, be it resolved, that the Town of Smithers will adopt the following greenhouse gas reduction targets:

1. Reduce GHG emissions in municipal operations by 20% by 2015.
2. Reduce community wide GHG emissions by 6% by 2015

The Town of Smithers will strive to meet or exceed Kyoto targets and timelines by taking actions in municipal operations and in the community such as those outlined in the 2007 Smithers Community Energy Plan.

Appendix D: OCP Examples

City of Surrey, OCP, http://www.surrey.ca/NR/rdonlyres/9E7C4998-BD8C-4414-AD42-E5A943E4BA7B/0/OCP.pdf. Contact: Mark Allison, Senior Planner, mballison@surrey.ca

- Energy efficiency is established as a high-level principle in s. C "Build Complete Communities"
- Encourages energy efficiency at the neighborhood, site, and building scale
- see Future Direction C6 – "Build Energy Efficient Communities" pg. 64 ff.

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

- The policy that flows from this Future Direction references guidelines for achieving energy efficient communities. Guidelines cover:
    - Land use considerations
    - Street planning
    - Buildings and landscaping
    - Energy supply, distribution and storage

- Including specific guidelines can give staff clear direction in the future, without being over prescriptive

District of Squamish, OCP – s. 23 "Utilities" includes specific objectives and policies regarding energy efficiency. OCP available on line at: http://www.district.squamish.bc.ca/files/PDF/FINAL_Draft_OCP.pdf. Contact: Heather Evans, Planner, hevans@squamish.ca.

- Includes a high-level objective to "Provide leadership in the conservation of energy, water, and material resources" (pg. 58)
- Followed by specific energy policies (pg. 59):

23.10 Energy-efficient forms of development shall be actively encouraged through:

- subdivision design;
- site planning including building orientation;
- high performance building design;
- the use of building materials;
- promotion of geothermal heating and cooling;
- landscaping;
- transit friendly access;
- provision of non-vehicular access options;
- closer meshing of housing and employment;
- appropriate mixed-use development; and,
- sub-area plans.

Appendix E: Municipalities' Actions under the CAEE Program

The following table shows the actions undertaken by all Community Action on Energy Efficiency communities in BC.[13] For each action, the barriers and challenges as well as successes are reported. Please be advised that this table is in draft form and specific initiatives should be confirmed with individual municipalities.

Municipality	Initiative	Description	Barriers/Challenges	Successes
Abbotsford	Green building guidelines and policy for corporate stock	Provides the policy foundation and guidelines to influence decision-making process during municipal development projects. Will be used as a foundation for extending policy to private sector.	Need to research the additional benefits of Green Buildings beyond energy/GHG reductions (e.g., stormwater management, criteria air contaminants)	Most guidelines have similarities, strong support for LEED in other cities
Bowen Island	Built Green Gold and EGNH 80 for residential rezoning applicants	All single family dwellings seeking rezoning will be expected to meet Built Green Gold and EnerGuide for New Houses rating of 80.	○ Like many rural communities, limited staff resources ○ Incremental costs ~ $3,000 to 4,000 for BG Gold. Cost to builder around $500 due to incentive packages plus two days training.	○ Enthusiastic council and engaged local advisory committees ○ Use of third party building rating system – Built Green Gold coupled with EGNH 80 ○ Cost to municipality is negligible. Little administrative time plus consultancies. ○ Bowen's intent is to incrementally implement stronger policy measures over time

[13] DRAFT CAEE – Local Government Policy Instruments Summary Report – Phases 2 and March 3, 2007. Fraser Basin Council.

Municipality	Initiative	Description	Barriers/Challenges	Successes
Bowen Island (phase three)	Civic Green Building Policy	A policy to ensure minimum standards and life cycle cost analysis for civic capital projects.		
	Green Development Guidelines	Sustainability guidelines for Surplus Lands development (municipal lands sold to private developers).	Surplus Lands Implementation already underway, need to find appropriate entry point.	Secured services of ReCollective and Holland Barrs Planning Group to assist with guidelines development.
	Community Energy Planning	Review existing CEP and develop up to date implementation plan.		Secured Pembina Institute to assist with work, and to help seek PCP Milestone 3 status.
Burnaby	Green Building Guidelines for Comprehensive Development zones (multi-family wood frame)	The specifics of the comprehensive development zone are determined by a development plan negotiated between the municipality and the developer. What the municipality requests should be supported in the OCP.	○ Staff resistance and inexperience in energy efficiency ○ Key staff person went on maternity leave, so implementation of guidelines may be delayed	
	Education program for public and staff			13 educational events, over 1,000 attendees
City of Campbell River	Audit corporate stock		No energy audit has ever been completed by the City of Campbell River. Eight different buildings needed research on energy systems.	CCR worked with BC Hydro Power Smart to complete a lighting systems energy audit on eight City-Owned buildings
	Review city policy	Explore areas to include energy efficiency	Coordination between contractor and City Bylaws Officers and Building Inspectors for consultation on energy efficiency checklist and permitting.	

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Energy efficiency development checklist	Developer is required to complete a checklist for a development permit or rezoning.	Staff changes, Environmental Coordinator has left City; looking to fill this position.	
Capital Regional District	CAEE participating communities to help to inform and support implementation of CRD community energy plan	Establishing linkages between the CRD CEP and the policy initiatives of four CAEE participants within the Capital Region. (Salt Spring, Saanich, Central Saanich, Victoria)	Short timeline - all of the four CAEE participants are currently working on their initiatives and their completion date is March 31. Difficult to collect all the information from them, analyze the results and complete CRD report by March.	Project idea well received by the four CAEE participants.
District of Central Saanich	Energy efficiency in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.		Energy considerations on consideration list for OCP review
	Building labeling	Explore ways to incent building labeling in private development		Identified a potential developer for a building labeling pilot project – new subdivision. Awaiting confirmation.
	Energy efficiency checklist for residential development	Developer is required to complete a checklist for a development permit or rezoning.		Draft underway, to be presented to council
District of Saanich	Extend Green Building Policy to private sector		○ Focusing the Green Building Policy proves difficult. Trying to determine if the District should zero in on one or two building types or all buildings ○ Shortage of resources	○ Collaborating with other municipalities ○ Saanich's actions are dovetailing with/informing the regional community energy plan currently underway

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Provide incentives for building labeling (EGNH) for new single family dwellings	Reduce building permit fees for reaching benchmark performance measures (e.g. EGNH80).	CAEE is short timeline for changes (one year)	Collaborating with CHBA-BC (esp. Built Green BC)
	Revise development permit area guidelines for energy efficiency measures	Introducing energy efficiency provisions in design guidelines. Development proponents must meet the guidelines to acquire a permit in order to proceed.	○ Limitations in the Local Government Act ○ Lack of technical knowledge on energy efficiency design guidelines (need resources to engage technical specialists)	Hired Holland Barrs to revise DP guidelines. Should be done March 31.
District of Saanich (phase three)	Conduct series of 6 green building workshops	Series of workshops on a wide range of sustainability topics. Community-wide audience.		161 people tried to register for workshop. Speakers were very well received. Suggestions for other workshop topics were taken.
	Developer consultation re: incentives for green buildings		Few green builders registered on island. Financial incentives for green building would need to be substantial (more than 10% rebate on BP fee) to encourage change. Challenge in MURB and ICI sectors to evaluating green building and for 'valet' service.	
	Develop Green Saanich website and promotional material	www.saanich.ca		

Municipality	Initiative	Description	Barriers/Challenges	Successes
Dawson Creek	Design and implement an energy efficiency and solar ready bylaw for single family homes	Would require minimum standards for windows, heat recovery ventilation, increased ventilation, Energy Star windows, doors and solar-hot water readiness. Note: requires Ministerial approval to adopt this bylaw, which Dawson is pursuing.	○ Significant barrier is BC Building Code. A municipal bylaw cannot regulate measures that supersede the BCBC ○ Dawson Creek is seeking Ministerial approval for the bylaw	○ Developing an effective bylaw. This could be useful for a Model Bylaw that could apply province-wide ○ Provide guidance to other municipalities interested in advancing energy efficiency
Fort St. John	Energy efficiency language in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.		○ supportive council ○ Adopting energy language in OCP review in October 2006
	Bylaw review for openings for energy efficiency	Explore opp'ts to promote energy efficiency via bylaws and policy (e.g. density bonusing, development permit guidelines, development permit/rezoning checklist)	○ Move from voluntary to mandatory bylaws will be difficult in the FSJ political environment ○ Tight timelines, looking to end of March	
	Design guidelines for geo-exchange for single family, multi family, commercial		○ Too tight timeline ○ Lack of contractors to undertake geo-exchange work ○ Lack of feedback from people with systems in place	

Municipality	Initiative	Description	Barriers/Challenges	Successes
Houston	Bylaw review and revisions	Explore opp'ts to promote energy efficiency via bylaws and policy (e.g. density bonusing, development permit guidelines, development permit/rezoning checklist)	○ Lack of staff time and resources ○ Strong political will but being a small community Houston cannot do all they want to achieve ○ Concern over financial implications of revising bylaws for energy efficiency – cost impacts on developers	○ 1st municipality in Canada to mandate fuel efficiency for solid fuel burning appliances & removal of non-efficient appliances by 2010 ○ Supportive council
	Energy efficiency language in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.		Regional co-operation (e.g. Smithers, Terrace) to support energy efficiency OCP objectives on a region-wide
Kamloops	Community Energy Plan	Energy planning has become a key component of a new overall framework for sustainability planning – "Sustainable Kamloops"		○ Developed 3-phase process – Issues Scoping Exercise, Development of Future Plans and Strategies, and Preparation of Potential Management Tools ○ Reviewed framework and 3-phase process with key City Directors, and received their approval ○ Formed internal committee of key City staff ○ Met with MoE re: airshed management ○ Developed a preliminary list of key energy, air quality and greenhouse gas issues

Municipality	Initiative	Description	Barriers/Challenges	Successes
Kaslo	Energy efficiency language in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.	Limited staff time and resources. Kaslo is small, so staff do not have a lot of latitude to focus on initiatives not mandated by statute	Engaged Council, very supportive
	Energy efficiency trade show (w/ Fortis BC)			Trade show very successful Outreach to residents
	Education to residents			Combined Fortis literature and joint letter format. Sent to residents Jan3.
Kelowna	Develop comprehensive Green Building Checklist	No reporting provided.		
Merritt	OCP review for ways to strengthen energy efficiency	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.		Drafted a number of potential OCP amendments that will reside in a memo for now so that the City can reference them when it comes time to update the OCP
	Develop council policy for future work on energy efficiency	Council adopted policy to support staff efforts to advance energy efficiency		With policy in place, staff has latitude to pursue broad range of initiatives without having to check in every time
	Incentive for EGNH building labeling	Research ways to encourage building labeling in private development		

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Development guidelines (for energy efficiency)	Guidelines only. Not mandatory. However, provide a useful resource for the development community.	Need to ensure find language that is developer friendly.	Initial discussion on what can include in DPG. These will be incorporated in the OCP once the OCP is updated
	Review zoning bylaw			
New Westminster	Corporate stock inventory and retrofit/upgrade project selection			Canada Games Pool selected as focus.
City of North Vancouver	Roadmap for Legislative Change: Municipal Regulations for Energy Efficient New Buildings	A legal scoping exercise to determine how a municipality can develop and legally adopt its own building energy efficiency standards. This exercise is a companion piece to Dawson Creek's work.	Shortage of staff time	Companion piece to Dawson Creek's work on developing a local energy efficiency building bylaw
Oliver	Include energy efficiency objectives in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.		Review of 30 OCPs looking specifically for policies related to energy efficiency. Modified some existing policies from other communities and created new policies for inclusion in Oliver's OCP.
	Explore revising DPA guidelines			Identified guidelines that could be included in the Commercial, Industrial and Multi-family Development Permit Area Guidelines in Oliver's OCP that would encourage energy efficient development

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Prepare costing and other basic information for SFD geoexchange	Summary report that would compare capital and operating costs and payback between conventional and geothermal heating / cooling methods for single family dwellings.	Work load of Geothermal expert may cause some delays in obtaining information.	Identified a local geothermal expert to review the efficiency of geothermal heating for buildings in Oliver, considering Oliver's soil structure and groundwater table.
	Evaluate cost efficiency of geo-exchange system for new wine village	Taylor working with Cooperators Development Corp to identify potential funding sources	Because private developer, not as easy to secure funds.	
Port Moody	SmartGrowth checklist			Checklist development underway.
	Community Energy Planning	No reporting provided		
Quesnel	Include energy efficiency objectives in OCP	Taylor provided research on sample energy-related language for OCP.		
Regional District of Central Kootenay	Corporate stock inventory and retrofits		Data shortages, costs	○ Decision to focus inventory on recreational complexes in Nelson, Castlegar and Creston, including new construction in Creston ○ New process can be shaped to fit local government needs and financing capabilities
Regional District of Nanaimo	Review CAEE policies from other jurisdictions, estimate energy reductions, develop implementation plan with full cost accounting			Workplan received from consultant – to be completed during February

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Community Energy Planning	To incorporate local air quality issues and complete the first three PCP Milestones		
Salt Spring Island	Include energy efficiency objectives in OCP		Policies are relatively easy to develop but regulatory tools to implement them are not.	First draft review and recommendations completed.
	Explore DPA guideline revision	Revise development permit area guidelines for energy efficiency measures	Trust has resistance to using DPAs because of perceived lack of flexibility.	Initial research completed.
	"complete community" guidelines	Guidelines to direct future development on Salt Spring	Preliminary research completed. Input needed from the outcomes of Phase 3 analysis, assistance from Taylor requested	
	Complete development permit guideline research.	Introducing energy efficiency provisions in design guidelines. Development proponents must meet the guidelines to acquire a permit in order to proceed.		
	Provide Energy Strategy baseline updates for housing and institutions on Salt Spring Island		Delays in receiving data, discrepancies between new data and old data. Some data, as before, not available.	Draft baseline update completed. Hard data provides evidence of progress, or lack of, and is an essential tool to guide political decisions and planning.
	Outline options for energy efficiency for proposed MURB affordable housing units		Funding for affordable housing in general is very limited. Ability to implement energy efficiency measures is also limited by lack of provincial and federal funding programs.	

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Encourage EG Building Labeling	Research use of EGNH and EGH for labeling of new and existing residential buildings.		
Salt Spring (phase three)	Increasing density/mixed use in Ganges Village and other areas			Hired team of consultants to do analysis. Report to be completed by March 31.
Smithers	Include energy efficiency objectives in OCP	OCP guides decision making over 5-10 years. Anytime staff wants to introduce a new idea, their proposal to Council is generally rooted in enabling language in the OCP. Enabling language on energy efficiency is valuable.	○ Insufficient energy efficiency language in OCP does not give staff direction it needs to develop/implement an energy efficiency checklist	○ Great traction on the outreach ○ OCP is under review, so good time to include energy efficiency provisions
	Energy efficiency checklist for single family dwellings		○ Lack of OCP supportive context, requirement vs. voluntary ○ ensuring effectiveness of EE checklist without OCP language secured and pick-up by 'frontline' workers	Draft checklist was presented to the Town's Planning Committee and well received. A workshop is being organized for the next quarter. A resolution was also passed to have the Town Planner look further into EE checklists or requirements for DPAs. Research was forwarded onto Planner.
	Outreach to community/media			Two ESP ads in paper in September. Radio ads via Town of Smithers on The Peak (locally aired radio station). Ads included in the Town's quarterly newsletter; Fall and Winter editions.

Municipality	Initiative	Description	Barriers/Challenges	Successes
Smithers (Phase three)	Community Energy Planning		Securing data for industrial use of natural gas and GHG emissions for large trucks. Difficulties corresponding with consultant to secure calculations formula and sources for averages. Comparative analysis for communities of similar size.	○ Workshop to be on Feb.8 ○ great having provincial consultant collect info and liaise directly with PNG, BC Hydro and ICBC
	EE Workshop	A workshop for developers, contractors, realtors and other front line workers.	Difficult trying to secure participation, in particular from builder/contractor community	
Squamish	Community Energy Plan		Informative technical document however with recommended targets. DOS Staff reviewed the draft and identified that the information needs to be simplified in order for the community and District Council to understand it.	Consultants offered to produce an 8 page document that translates the technical information in the Energy & GHG Draft Management Plan into something that is really easy to understand community wide. Completed Target-setting workshop with Council, with 'Smart Growth Block' catalyst project identified
Surrey	City Centre CEP		Few qualified consultants	○ Determined relatively simple method for establishing energy consumption baseline. ○ Held meetings with BC Hydro and Terasen to seek additional funding for community energy planning and energy efficiency workshops
	EE workshop – staff and developers			Staff workshop held late January.

Municipality	Initiative	Description	Barriers/Challenges	Successes
Victoria	Developing Green Building Policy to apply to public and private sector	Provides the policy foundation and guidelines to influence private development. Not regulatory in nature, but an important 'baby step' for more conservative municipalities.	○ Staff restructuring delayed policy development ○ Public consultation process and bylaw amendments will require large time commitment. Possible urban design input in creating new development permit guidelines. Conflicting demands for staff resources may be an issue. ○ In the process of developing request for proposal for municipal owned facilities and review of municipal development regulations, bylaws and policies. Consultant availability and turn around time a concern.	○ Council support for review of municipal development regulations, bylaws and policies to improve compliance with Green Building objectives, in conjunction with a public and stakeholders consultation process ○ Council support for creating two streams of Green Building policies: one for city owned facilities and one for private developments. Note: new Burnside Gorge Community Centre built to a LEED Silver standard.
	City website	Creating a web presence and consolidating 'green' building requirements and information		
Vanderhoof	Community Energy Plan		○ Getting buy in and support ○ Choosing realistic targets ○ make sure to keep plan higher level with broad goals - or to focus on one or two specific targets - Not enough time to complete comprehensive energy plan	○ Research other communities' CEP
Vancouver	Local Improvement Charges	Using Local Improvement Charges to finance energy efficiency upgrades in existing MF buildings	○ Would require an amendment to the Vancouver Charter. Legal department and engineering are resistant	

Municipality	Initiative	Description	Barriers/Challenges	Successes
	Adopt ASHRAE 90.1 - 2004 building standard		○ The introduction of the new 2007 Vancouver Building By-law (VBBL) has required that we not instigate changes to the VBBL until the first round of 'housekeeping amendments', scheduled for November 2007. ○ As the review and adoption of ASHRAE 90.1-2004 is a component of the COV's Green Building Strategy (GBS), any delays to the GBS subsequently affect the date at which adoption of 90.1-2004 is possible. Currently, the GBS is awaiting presentation to City Council, the earliest opportunity of which is March 15, 2007.	The review of ASHRAE 90.1-2004 was carried out, and generally considered appropriate for adoption by City of Vancouver Code Development professionals.
	Performance based regulation for inclusion in the Vancouver Building Bylaw to mandate CBIP		○ Timeline difficult to meet, as the prior objective is currently behind schedule. ○ Investigating using ASHRAE 90.1-2004 to require projects to meet CBIP equivalent energy performance levels in the interim, while performance-based energy regulations are developed. This will be difficult to develop, as there appears to be more support in industry for performance-based regulation. However, performance-based energy targets present significant challenges to regulatory bodies	Consultations with industry professionals has begun