

Community Energy Planning - Overview

The Community Energy Plan - Phase I, prepared by the Pembina Institute, examines the current and future energy consumption patterns for the City's municipal operations.

This report is the first phase in the City's multi-step approach to developing and implementing a community energy plan. The focus on internal operations allows Dawson Creek to identify and address opportunities before engaging the broader community.

The next phases of this project will deal with analysing and implementing beneficial infrastructure and policy changes. This includes the adoption of energy performance and environmental targets, engage the residents, businesses and industry to understand their needs as they relate to energy planning in the entire community and prepare baseline studies for these sectors, leading to the implementation of a community wide energy plan.

Within the municipal operations, the report looks at the amount of energy consumed, the cost of that energy and the resulting green house gas (GHG) emissions.

In 2004, Dawson Creek's municipal operations consumed 18,301 MWh of energy composed of 8,468 MWh of electricity, 7,813 MWh of natural gas and 2,020 MWh of gasoline and diesel.

For the same period, the energy consumption costs were \$920,000 dominated by electricity at \$514,000 and natural gas at \$258,000. As these calculations were done in December 2004, the amounts for natural gas and fuel are now substantially higher and are expected to continue to climb. In terms of GHG emissions, the City's use of energy produced a total of 2,346 tonnes.

The report also outlines a series of steps/recommendations stemming from the baseline study.

Vehicles: The city has implemented a green vehicle purchasing policy that ensures the full life cycle costs of vehicles are accounted for at purchase. The policy also provides direction on "right sizing", anti idling, and high maintenance standards. Through a life cycle cost assessment tool, Dawson Creek bought its first hybrid in June of this year and has ordered 4 compact SUV's to be used by department supervisors. Previously, in the absence of the vehicle purchasing policy, these positions were outfitted with half ton, V8 pickups. As the life cycle tool demonstrates, by purchasing more efficient units the City stands to save over \$15,000 per vehicle, every 5 years. The policy will help the city achieve its goal of reducing vehicle emission by 20% within 10 years.

Energy Efficiency in Buildings: A series of building retrofits will give us a plan to ensure

our existing structures use as little energy as possible. The City's 6 largest structures were studied in late August of this year. The energy opportunities outlined in the audits will be reviewed and budgeted according for implementation in 2007. This year we completed the last phase of replacing gas furnaces with high efficiency, condensing units. For the larger building such as City Hall and the Fire Hall, existing boilers will be replaced with a combination of high efficiency boilers and solar hot water systems.

We have also completed a street light retrofit. All city owned street lights are fitted with "dark sky friendly", low voltage, high pressure sodium lights which reduce our consumption by about 100,000 KW/h per year, a savings of about \$1,200 per month. LED traffic lights have also been installed throughout the city and that has translated into substantial savings as well. Our city has also signed up for the new Water Conservation and Plumbing Regulations which will require low flush fixtures for all new construction.

Renewable Energy in Buildings: City Hall and the Fire Hall are now equipped with Solar Hot Water Systems, which provide hot water for the building's needs, while also serving as demonstration and test sites for the use of these systems in a northern environment. These units have relatively long paybacks (15 years), but will help offset approximately 60 GJ of natural gas per year and isolate the city for the risk of price fluctuations. A third installation for the RCMP building is expected this winter.

By partnering with the Solar Society of Canada, the City helped Northern Lights College become the first College in Canada to offer a solar curriculum. Starting this fall, students at NLC involved in the plumbing trade will be able to get a certification in Solar Hot Water Systems installations. Other alternative energy training opportunities will follow such as wind turbine maintenance and geothermal installations. These types of courses add tremendous value to the College's existing programs.

Because of work to increase the uptake of solar technologies in our province, Dawson Creek has been asked by the Minister of Energy and Mines to co-chair a task force to develop a roadmap to install 100,000 in British Columbia.

Dawson Creek is pursuing on-site renewables by investigating the use of wind turbines for the water and sewer operations, as the department is heavily dependent on electricity.

Wind data is currently being collected at these locations. A cost benefit analysis is expected in early 2007. The city is working with the province on utility governance towards the goal of creating a framework that allows municipal governments to play a larger role in electricity production.

Community Wide Initiatives: As part of the Community Action on Energy Efficiency (CAEE), the city is developing a model bylaw, which will regulate energy efficiency

standards for new housing. New single family dwellings could be required to be "solar ready", have energy star windows, increased insulation and be equipped with a Heat Recovery Ventilation (HRV) system. These improvements will help provide affordable living (not just affordable buildings).

With the support of the Federation of Canadian Municipalities, the city is also beginning a city wide community energy planning process that will start in January of 2007. As a result of this project, the city anticipates completing milestones 1, 2, and 3 of the Partners for Climate Protection process.