

Guelph Hydro Takes Leadership Role

ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN

In April of 2007, the City of Guelph, Ontario became one of a select group of municipalities around the world to complete a Community Energy Plan.

The Plan, which was developed in partnership with a Consortium made up of Guelph Hydro Electric Systems Inc (GHESI) and five other major organizations in the city, contains a simple yet compelling vision for the next 25 years:

“Guelph will create a healthy, reliable and sustainable energy future by continually increasing the effectiveness of how we use and manage our energy and water resources.”

Under the Plan, Guelph is one of the first cities of its size to incorporate global and local urban energy management strategies into its daily operations.

For GHESI, with an already established reputation for conservation and demand management initiatives and with a newly-opened headquarters building that includes state-of-the-art energy management features, active involvement in the plan’s development was a must.

“We are committed to a leadership role in municipal conservation and we placed significant value into the development of the plan,” said Art Stokman, President of GHESI.

Mr. Stokman thus assumed the role of co-chair of the Consortium, together with Janet Laird, Director of Environmental Services for the City of Guelph. Other Consortium members were the University of Guelph, the Upper Grand District School Board, the Wellington Catholic District School Board, the Guelph Chamber of Commerce, and Friends of Guelph, a community leadership group.

The planning process began in 2005 and was completed in April 2007 in Mayor Karen Farbridge’s administration.

“The City’s commitment to develop this plan was truly visionary for a community of our size,” said Mayor Farbridge. “It recognized that over half of all the energy used in Canada is for buildings, homes and transportation within cities and that more than 80% of our population lives in urban areas. So, if conservation is going to happen on a large scale, it needs to be driven by municipalities.”

Five key goals established

After extensive public consultation and with significant strategic leadership and advice from Peter Garforth of Garforth International Inc, the Consortium developed several key goals for the plan.

These are that Guelph will:

- Ensure that energy use per capita and resulting greenhouse gas emissions will be less than the current global average.
- Use less energy and water per capita than comparable Canadian cities.
- Have a variety of reliable energy, water and transport services available to all.
- Be the place to invest, supported by its commitment to a sustainable energy future.

- Plan so that all publicly funded investments will visibly contribute to meeting the other four goals.

These goals are based on the premise that Guelph, located just beyond the Greenbelt area established by the Province of Ontario, can anticipate 35 –40% growth over the next 25 years and will grow from its current population of 115,000 to 180,000 by 2031.

And while the sweep and scope of the Community Energy Plan are broad, it predominantly focuses on energy directly used in the city – e.g. buildings, industries and vehicles- as these are more easily influenced by municipal policy and operations, combined with strong community action.

For example, recent statistics show that Guelph uses 52.5 megawatt hours of equivalent energy (MWh) from fuels of all types for each inhabitant of the city. If the heat wasted in the production of electricity is factored in, this rises to 73.7 MWh per capita.

In addition, Guelph’s average daily water demand is 52,579 cubic meters, or approximately 230-250 litres per day per household. In fact, the City’s single largest electricity cost comes from water pumping.

Ten actions targeted for the future

In support of these goals, the CEP makes several recommendations, of which some critical components are:

- Use stringent new energy efficiency building codes to add 20,000 homes with no net increase in energy needs.



in City's Community Energy Plan

Peter Barrow

ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN ENERGY PLAN EN

- From 2012, create annual improvement in energy efficiency of about 1% per year, aligning with international best practice by the year 2031
- Adopt an energy performance labeling project for buildings, in cooperation with a local bank and Natural Resources Canada, to gain about 5% incremental delivered efficiency and act as a pilot project for Canada.
- Meet growing transport requirements while reducing transportation energy use by 25% through vehicle efficiencies, sensitive urban design and creative transportation options.
- Within 15 years, ensure that 25% of Guelph's total energy requirement is competitively resourced from locally created renewable resources.
- By 2031, strive to have 30% of Guelph's electricity requirements associated with combined heat and power co-generation.
- Reduce demand on the summer peak electricity grid by 40% by 2031
- Systematically create an integrated energy metering, billing and management network to allow cost effective management of all energy forms.

- Create an environment for quality industrial investment by offering world class tailored energy services, achieving annual investment growth rates higher than the underlying population growth, with no increase required in primary energy sources for the first 15 years of growth.
- Initiate large area, high efficiency scale projects that create early success and create a pool of community expertise.

Significant reductions expected

In summary, in spite of significant population growth, it is planned that overall fuel use required by the City of Guelph will decrease from today's total of 8,475 GWh to 6,135 GWh by 2031. This will reduce greenhouse gas emissions per capita from the current 16 tonnes to 7 tonnes per year.

"With this plan, Guelph will take its place as one of the most attractive and competitive cities in Ontario and Canada, with a core energy productivity expertise that will be delivered to other markets," said Art Stokman. "Guelph Hydro Electric Systems Inc. is a very proud partner in the Community Energy Plan."

AUTOMATE DISTRIBUTION SYSTEMS AND SUBSTATIONS VIA WIRELESS CELLULAR

Bring Information to SCADA or Monitor and Control via the Internet

~
No Infrastructure Required, No Contracts to Sign

~
Use Proven, Established Cellular Network

~
Support any DNP3 Compliant Device

There is a way...

Telemetric Corporation is the technology leader in providing affordable solutions for wireless remote monitoring and control. More than 200 utilities attest to the field proven reliability.

For more information please contact KA Factor Group or visit our web site.

www.kafactor.com



KA Factor Group
4444 Eastgate Parkway Unit 21
Mississauga, Ontario L4W 4T6
Tel: 905-282-0044
Fax: 905-282-0451

Need CDM Evaluation?

EnerSpectrum Group can help:

- ⇒ **Third party evaluation of ERIP and other OPA programs**
- ⇒ **Calculate TRC, LRAM and SSM for CDM reports and rate cases**
- ⇒ **Prepare CDM business cases and regulatory reports**
- ⇒ **Conduct system studies to verify losses and loss reduction options**
- ⇒ **Assess asset optimization expenditures**

BART BURMAN 416-219-9976



The preferred source for utility expertise