

SUDBURY DISTRICT ENERGY COGENERATION

Sudbury, Ontario

In 1998, the City of Sudbury, Ontario, and Toromont Energy Ltd. created Canada's first district energy public-private partnership, the Sudbury District Energy Corporation (SDEC). Assisted by Natural Resources Canada, which provided a loan to cover the costs of technical and business case consultation, Sudbury Hydro began by conducting feasibility studies. These studies indicated that a district energy cogeneration system in the downtown core would be an efficient, cost-effective approach that promised a long-term revenue stream. Sudbury's request for proposals attracted many applicants. Eventually, municipal and utility officials and a private consultant entered into a letter of understanding with Toromont Energy Ltd., a subsidiary of Toromont Industries Ltd.

SDEC was built at a cost of \$15 million, with the City of Greater Sudbury and Toromont Energy each holding 10% equity. Toromont provided most of the remaining funding in the form of a loan. As well as providing the initial loan, the Government of Canada provided \$500,000 in seed funding from the Climate Change Action Fund.

Information at a glance

Building type served: Commercial, institutional

Location: Sudbury, Ontario

Completed: March, 2000

Owner and operator: Toromont Energy Ltd.

Technology: 2 Caterpillar generator packages; 2 waste heat recovery systems rated at 2.2 MW (thermal) each; 2 back-up stage boilers

Fuel type: Natural gas

Distribution system: Hot and chilled water piping, with an approximate capacity of 15,200 gallons



Today, SDEC's 5 MW co-generation plant provides hot water for heating, and the option of chilled water for cooling, through a network of underground pipes, to seven buildings in the downtown core, including the municipal government headquarters and the Sudbury Arena. Electricity produced by the plant is contracted to the municipally owned Greater Sudbury Utilities Corp. The electricity produced is enough to power 2,000 homes.

In December 2001, the SDEC added a new 6.8 MW cogeneration plant beside the expanding Sudbury Regional Hospital. The system provides the hospital with heating, cooling, electricity, and steam. A 20-year agreement secures the SDEC as the hospital's exclusive energy provider.

The rising cost of natural gas and changes in the electricity market led to lower profits than anticipated, so in 2003, the City and Toromont restructured their agreement to better position the plant to sustain market fluctuations and avoid a negative economic impact on the City.

For more information visit:

<http://www.toromontenergy.com>