



Backgrounder



Who is Markham District Energy?

Markham District Energy Inc. (MDE), an energy company owned by the Town of Markham, was established in 1999. Its Mission is *to develop a world class community based district energy system that responsibly invests capital to encourage local economic development and demonstrate environmental leadership.*

MDE's History December 2000 to Present:

- 2000 Commenced energy supply on December 1, 2000 from the Warden Energy Centre to IBM Canada.
- 2003 MDE commences service to Tridel Circa (the first of many residential condominiums in Markham Centre)
- 2005 MDE becomes EcoLogo Certified (Environment Canada's green energy branding)
- 2008 MDE commissions a 5 MW Combined Heat & Power facility resulting from winning a Request for Proposal from the Province's Ontario Power Authority
- 2009 MDE's second energy plant is commissioned – The Clegg Energy Centre
- 2009 Town of Markham is awarded the Association of Municipalities of Ontario (AMO) Federal Gas Tax Award for its district energy system investment
- 2009 MDE is awarded the Donald Cousens Conservation and Environmental Leadership Award at the Markham Board of Trade Business Excellence Awards
- 2010 MDE's third energy plant is commissioned – the Birchmount Energy Centre
- 2010 MDE breaks ground on its fourth energy plant and the first in East Markham – the Bur Oak Energy Centre

More information?

For more information on Markham District Energy, go to www.markhamdistrictenergy.com. For additional information on district energy in Canada, go to the Canadian District Energy Association at www.cdea.ca.



Fact Sheet



What is district energy?

District Energy is the production and supply of thermal energy (hot water or chilled water) from a common energy plant to heat and cool buildings connected to the system. Heated and chilled water are distributed throughout the community via an underground distribution system. The energy that is delivered to the buildings is used to provide space heating or cooling, heating processes such as laundries, or cooling processes such as data centers. Once a community builds its thermal energy network, the next common step is to connect locally sited, small power generation plants that recover waste heat to be used in the community system and deliver electricity to the local power grid. This is known as cogeneration, or combined heat & power.

Where is district energy in Markham?

MDE commenced operations serving Markham Centre, the Town's emerging downtown, on December 1, 2000. MDE's first connected customer was IBM Canada. Over the past 10 years nearly 6 million square feet of building space was connected to this community energy system including the Markham YMCA, Honeywell, Motorola, Bill Crothers and Unionville High Schools, and all of the new condominium buildings in Markham Centre. When fully built-out, Markham Centre is intended to be home to over 25 million square feet of "live-work-play" developments.

MDE has commenced construction of the Town's second community energy system in the developing area around Markham Stouffville Hospital.

Where else do you see district energy used?

District Energy is an internationally accepted method of heating, cooling and powering communities. In many European countries such as Denmark, Sweden and Finland, district energy is mandated by law. In Canada, a number of cities and towns have operated district energy systems for many decades. The oldest system is in London, Ontario dating back to 1880. In Ontario, district energy systems are located in many communities including Toronto, Ottawa, London, Hamilton, Sudbury, Cornwall, and Windsor.

What are the environmental benefits of district energy?

Community energy systems can operate at far greater efficiencies than individual buildings. More importantly, when buildings in a community connect to a common heating and cooling system, technologies can be utilized that are difficult or impractical for individual buildings. This includes cogeneration (or combined heat & power), thermal storage, or the integration of renewable energy fuels. It is common for community systems to reduce greenhouse gas and other polluting emissions by more than 50%.



Fact Sheet continued



What are the benefits of district energy for building owners & operators?

District energy is competitive with “business-as-usual” building systems. District energy buildings are better buildings to operate. Without the conventional boilers, chillers and cooling towers, district energy buildings claim space for other and better uses such as green roofs, are quieter, and have access to heating and cooling energy year round, thus avoiding those tricky seasonal switchovers.

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