

O N A L O C N Y Y M O C O N B O
M N C A L C L M A C A N M A O N A N A A A O N L A N N N
Lessons from Ontario Municipalities

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In the face of a changing climate and an uncertain energy future it is imperative for municipal governments to become more involved in planning for energy and climate change as part of land use and other decisions. Traditional systems for producing and distributing energy are increasingly being called into question, particularly in regards to their efficiency, reliability and resiliency. At the same time as pressures on energy infrastructure systems are mounting, Canadian municipalities are being called upon to make long term plans in order to mitigate and adapt to climate change. A largely untapped opportunity lies at the hands of municipalities to develop local energy solutions that serve business development goals, contribute to greenhouse gas emission reductions, increase energy security, and enhance adaptive capacity in response to climate change. Given this context, it is worthwhile to consider the ways in which district energy systems could contribute to climate change mitigation and adaptation planning in Canadian municipalities.

The concept of district energy is not a generation process or fuel source in itself, but rather a system of distributing energy. In a district heating and cooling system, energy is produced at a central location and then distributed to a number of different buildings in the form of hot water, chilled water or steam in a network of circulation pipes. Some district energy systems also include a component of electrical power production through a process known as combined heat and power (CHP), or cogeneration. District energy systems can be supplied by one or more types of fuel and may consist of a combination of heat sources and technologies.

