

Energy Hub Management System

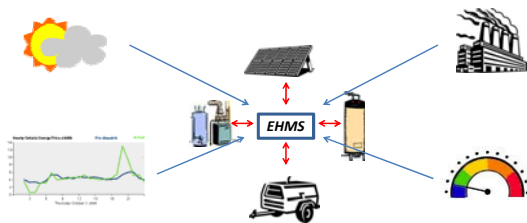


Project Vision

'Energy Hub Management System: Enabling and empowering energy Managers through increased information and control'

- will allow static energy users to effectively manage their energy requirements.

- will empower energy hubs – that is, individual locations that require energy (e.g., manufacturing facilities, farms, retail stores, detached houses) – so that they can contribute to the development of a sustainable society through the real-time management of their energy demand, production, storage and resulting import or export of energy.



Study Sites

Study sites will be located in Milton, Ontario –50km west of Toronto - and Middlesex County - located in southwestern Ontario.

The study will develop 65 pilot energy hubs across the residential (50), industrial (5), commercial/institutional (5) and agricultural (5) sectors. The study began in 2008 and will conclude in 2012.

Milton, Ontario, with a population of 53,939, will be the location of the project's residential energy hubs. It is a provincial pioneer in the deployment of smart meters.



Middlesex County will be the location of the non-residential pilots; it has over 800 potential participants across these sectors.

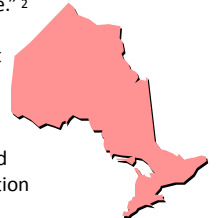
Representative businesses in Middlesex County include grain farming, fabricated metal product manufacturing, warehousing and storage, and retail stores.

Ontario Context

"Provincial initiatives on conservation, renewable generation and smart meters begin the move towards a new electricity system, but their full promise will not be realized without the advanced technologies that make the smart grid possible."²

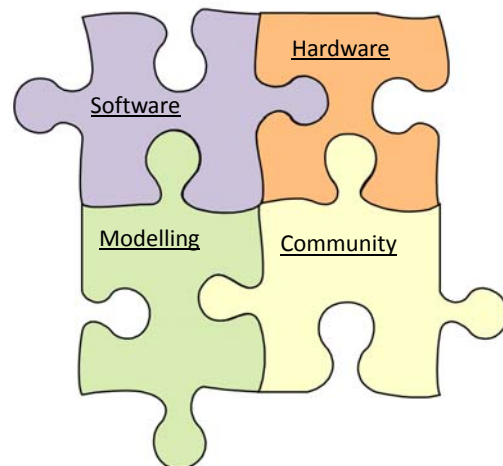
Energy-efficient intelligent buildings will assist Ontario in its transition towards a greener economy.³

"If Ontario is to realize a sustainable future and continue to grow and prosper, the transformation of its electricity infrastructure is essential."²



Work Plan

Energy Hub Management System's Streams



Anticipated Outcomes and Results

- Examine intelligence and optimisation in the energy hub
- Create functioning energy hubs within different customer segments
- Develop 'first ideas' about how optimisation and centralized intelligence across energy hubs would occur
- Evaluate customer response to energy hub technology
- Contribute to the development of some of the 'next generation' of energy professionals in Ontario

References

- 1 Electricity Distributors Association (2007). 'LDC Ontario Map'. Accessed at [http://www.eda-on.ca/eda/edaweb.nsf/0/EAE8F5FF5F329F5585256D47006B907B/\\$FILE/LDC_Ontario_Map.pdf](http://www.eda-on.ca/eda/edaweb.nsf/0/EAE8F5FF5F329F5585256D47006B907B/$FILE/LDC_Ontario_Map.pdf)
- 2 Duncan, D. (2009). '2009 Ontario Budget: Confronting the Challenge, Building our Economic Future'. Government of Ontario. Accessed at http://www.fin.gov.on.ca/english/budget/ontariobudgets/2009/papers_all.pdf.
- 3 'Enabling Tomorrow's Electricity System: Report of the Ontario Smart Grid Forum' (2009). Independent Electricity System Operator. Accessed at http://www.ieso.ca/imoweb/pubs/smart_grid/Smart_Grid_Forum-Report.pdf.

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