

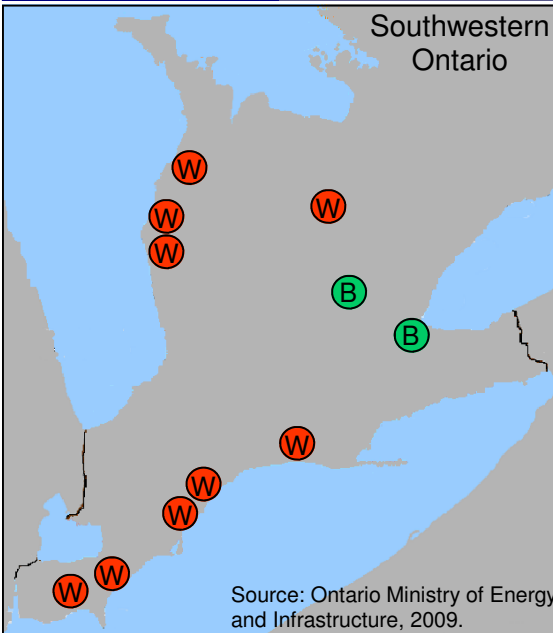
Workforce Focus

From the Hamilton Training Advisory Board

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Renewable Energy

- New Developments
- Future Outlook
- Employment Composition



New and Recent Large Renewable Projects

- W Wind
- B Biomass

Large Local Projects:

- Hamilton Digester Gas (1.6 MW)

Source: Ontario Ministry of Energy and Infrastructure, 2009.

Renewable Developments

Canada's renewable energy industry is expected to expand significantly over the coming years. This represents an opportunity for Canadian businesses to develop and commercialize new and competitive technologies, to manufacture products and offer services in support of a growing industry. As part of the long-range plan to meet this challenge, the amount of electricity generated from renewable energy sources: wind power, waterpower, solar photovoltaic (PV) installations and biomass energy from agricultural and waste material, will double from approximately 7,500 megawatts (MW) today to 15,000 MW by 2025.

Procurement programs have brought approximately 1,000 MW of new renewable energy online since October 2003 and created more than 1,000 jobs.

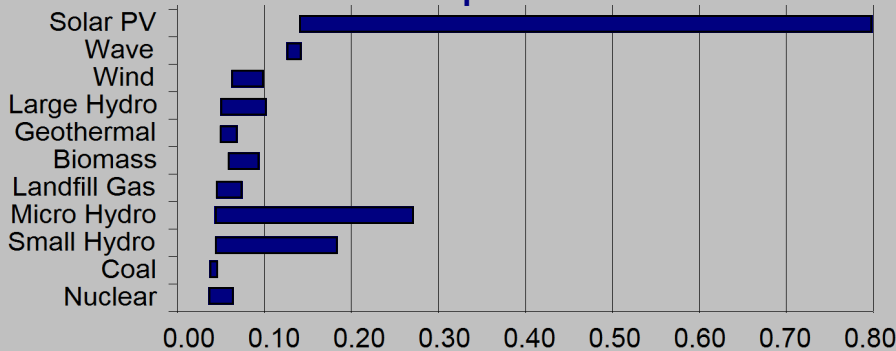
Source: Ontario Ministry of Energy and Infrastructure, 2009.

Prevalent Occupations in the Renewable Energy Sector

Wind	Solar	Hydro	Geothermal	Bio-energy
<ul style="list-style-type: none"> • Developer • Designer or installer • Research engineer • Wind assessment consultant • Regulation consultant • Turbine maintenance worker • Electrical maintenance worker • Manufacturing plant worker • Technical sales 	<ul style="list-style-type: none"> • Designer or installer • Research engineer • Assembler • Technical sales • Process engineer • Technician or technologist 	<ul style="list-style-type: none"> • Small plant developer • Research engineer or design consultant • Small hydroelectric plant operator • Maintenance engineering technician • Manufacturing plant worker 	<ul style="list-style-type: none"> • Designer or installer (supplier) • Manufacturing plant worker • Technical sales • Engineering consultant 	<ul style="list-style-type: none"> • Retailer or supplier of wood stoves or pellet stoves • Plant maintenance technician (steam and fuel) • Technical sales

Source: Industry Canada, 2009.

Cost Comparison



Canadian Energy Research Institute, 2006 Dollar per kilowatt hour

This chart compares the relative cost ranges for electricity generation technologies. Input and location costs vary widely amongst solar and hydro.

Wind Energy Expansion

The Ontario Power Authority has recently awarded long-term contracts for six wind energy projects. Local benefits include:

- Southern Ontario (Chatham-Kent and Essex): 716 jobs.
- North-Western Ontario: 308 jobs
- South Eastern Ontario: 108 jobs
- About 1,090 indirect jobs in the manufacturing of building materials and services such as engineering design, legal, accounting and real estate.

The projects are expected to be in service by 2013.

Ontario Power Authority, 2009.



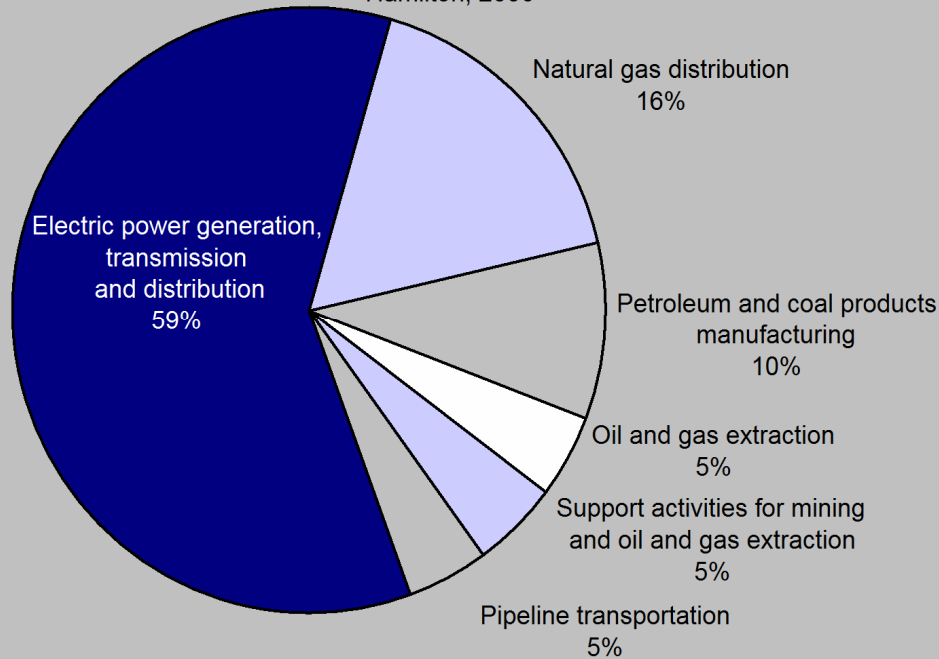
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The Local Energy Sector

Hamilton, 2006



Source: Statistics Canada Census Data, 2006.

Industry Profile

Most local energy sector jobs are in transmission and distribution. In the Hamilton area, the sector employs 890 people. The sector will likely expand as new energy sources are utilized.

Renewable energy resources provided 16.2% of Canada's primary energy supply in 2005. Hydroelectricity is by far the most important product of renewable energy resources produced in Canada. Several emerging resources, such as wind and solar power, are making much smaller contributions but are experiencing high growth rates. Since 1990, Canada's share of emerging renewable energy sources in total electricity generation has grown at an average annual rate of 12%, with wind energy accounting for the greatest expansion, at about 30% a year, followed by biomass at 26%.

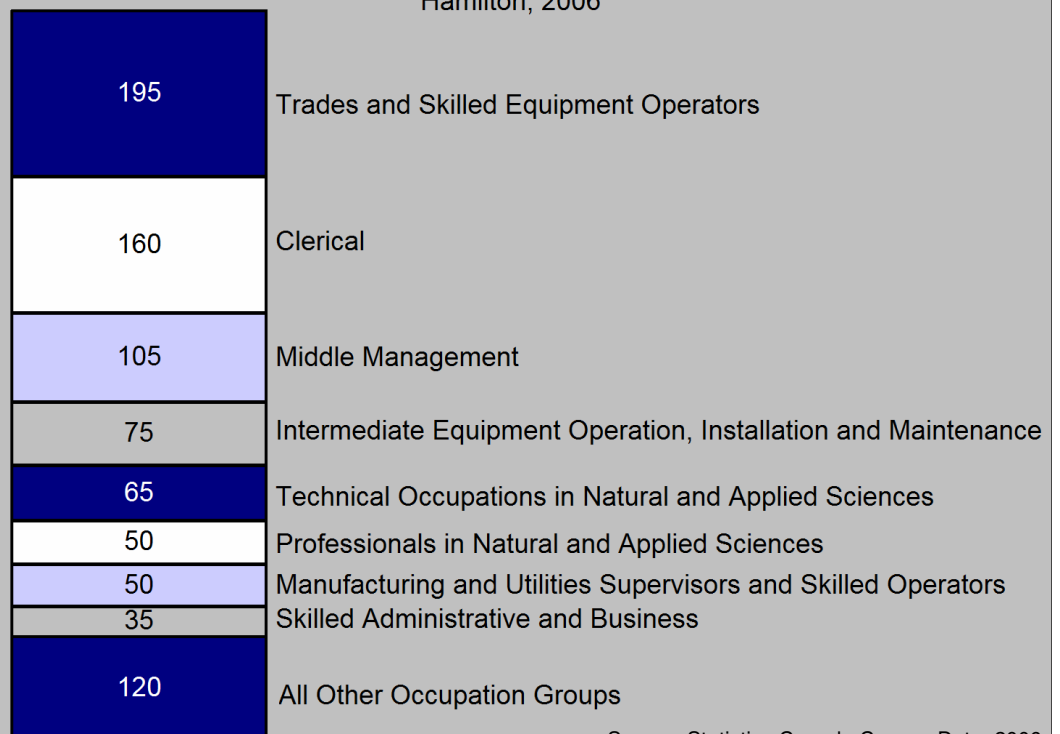
Source: Government of Canada, Sector Sustainability Tables, 2009.

Employment Profile

Trades and skilled equipment operators lead the local energy sector in employment, followed closely by clerical occupations. The most common trade in this sector is electrical. As the energy sector continues to transition, similar occupations will experience growth in the renewable energy sector. This will be led by engineers, and science professionals but also create a demand for trades, clerical and business personal. Industry Canada forecasts that 13,000 jobs will be created in this sector by 2012.

Energy Sector Occupational Composition

Hamilton, 2006



Source: Statistics Canada Census Data, 2006.

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ONTARIO**

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