

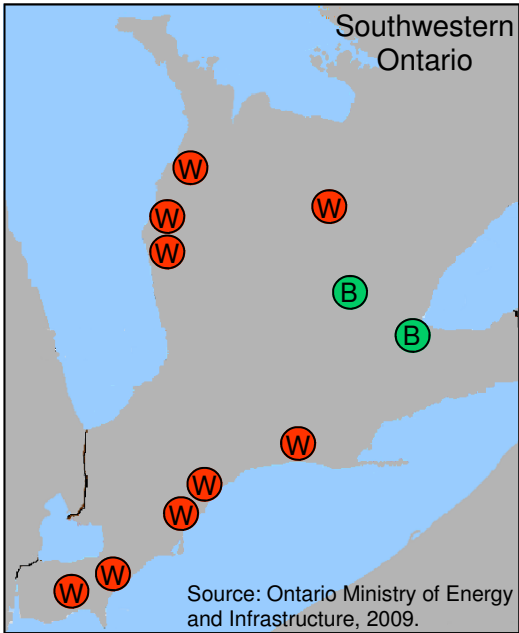
Workforce Focus

From Niagara Workforce Planning Board
 ...a division of Niagara Training & Adjustment Board

In this Issue:

Renewable Energy

- New Developments
- Future Outlook
- Employment Composition



New and Recent Large Renewable Projects

- Wind
- Biomass

The Ontario government is expanding power generation in the Niagara Region through the Niagara Tunnel project. This will increase the amount of water flowing to turbines at the Sir Adam Beck Generating Station to produce an additional 1.6 terawatt-hours of renewable electricity per year. The project will take four and a half years.

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.

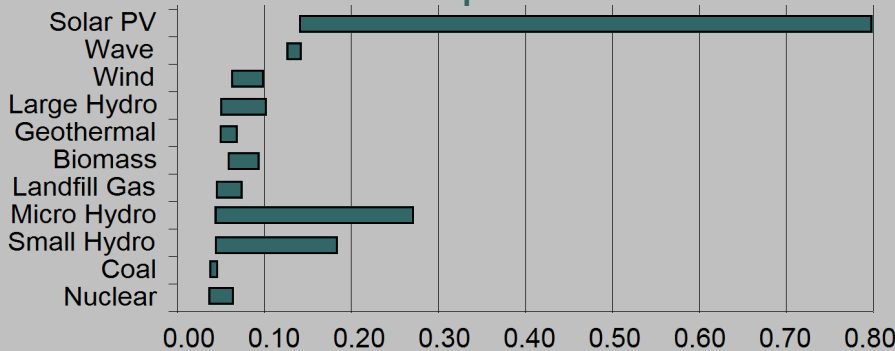
Source: Ontario Ministry of Energy and Infrastructure, 2009.

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.



Niagara Workforce Planning Board

Our Vision is Working

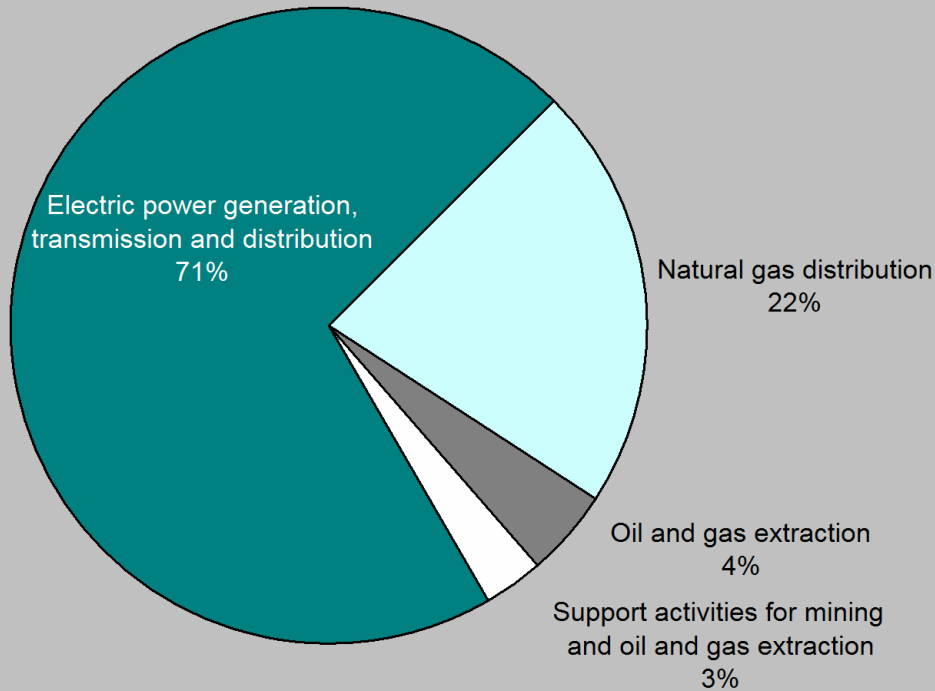
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The Local Energy Sector

Niagara, 2006



Source: Statistics Canada Census Data, 2006.

Industry Profile

Most local energy sector jobs are in electric generation, transmission and distribution. In Niagara, the sector employs just over 950 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.

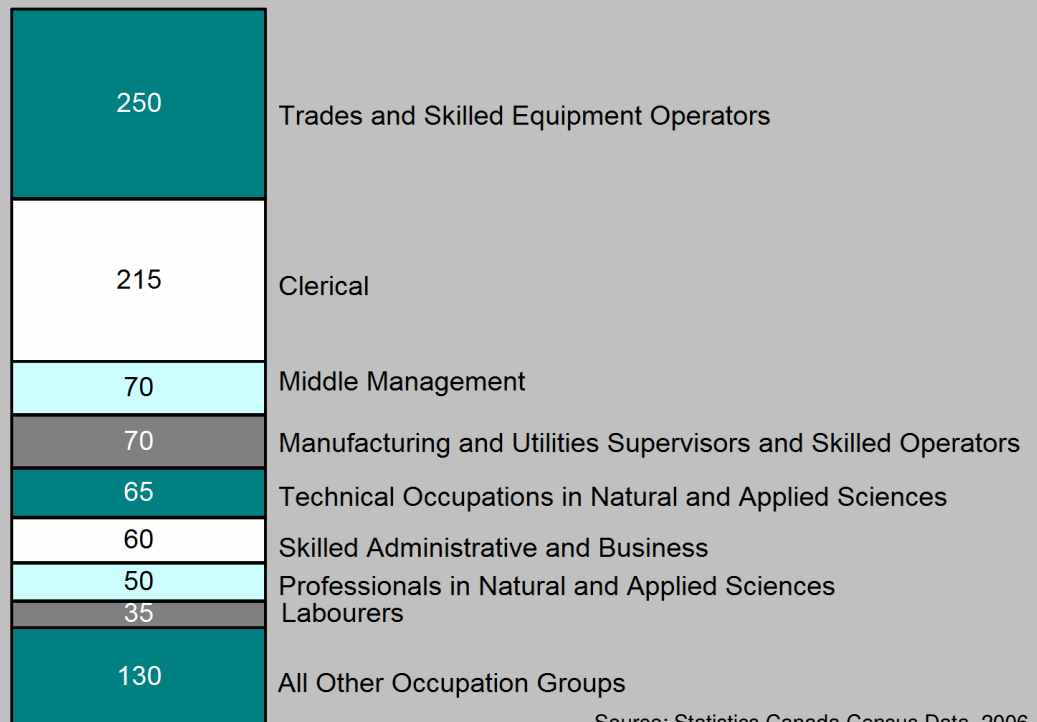
Employment Profile

Trades and skilled equipment operators lead the local energy sector in employment, followed by clerical occupations. The most common trades in this sector are electrical, followed by power station and system operators.

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

Niagara, 2006



Source: Statistics Canada Census Data, 2006.

**EMPLOYMENT
ONTARIO**

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