



CANADA

UPDATE JULY 2010

GENERAL INFORMATION

 	Population	33,759,742
	Government Type	Parliamentary Democracy, Federation, Constitutional Monarchy
	Currency	Canada Dollar (CAD)
	Area	9,984,670 sq. km
	Density	3.38/sq. km (29/sq. km in populated areas)
	GDP (PPP)	\$ 1,285 trillion
	GDP per capita (PPP)	\$ 38,400

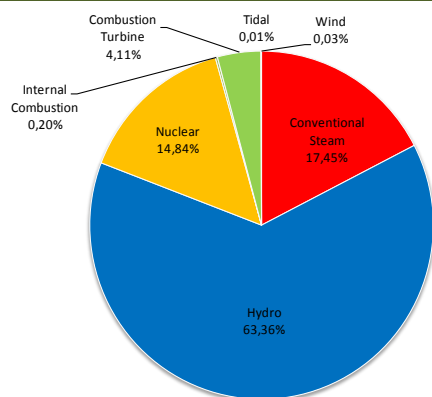
ENERGY FUNDAMENTALS

Agencies Relevant to Renewable Energies

In Canada electricity generation and transport fall under provincial jurisdiction

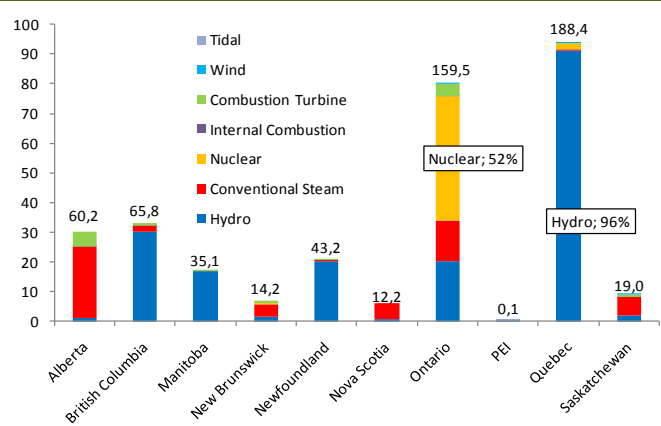
Name	Natural Resources Canada (NRCan)
Description	<p>The Department operates under the Minister of Natural Resources and seeks to enhance the responsible development and use of Canada's natural resources and the competitiveness of Canada's natural resources products. Under the jurisdiction of this department exist:</p> <ul style="list-style-type: none"> • The CanmetENERGY program that is actively involved in the research and development of renewable energy technologies, working not only to meet energy demands but also to reduce the technical and financial risks associated with each technology. • The National Energy Board was born to promote in the public interest safety and security, environmental protection and efficient energy infrastructure and markets in the regulation of pipelines, transmission lines, energy development and trade.
Name	Industry Canada
Description	<p>The Department's mission is to foster a growing, competitive, knowledge-based Canadian economy. It works with Canadians to improve conditions for investment, improve Canada's innovation performance, increase Canada's share of global trade and build a fair, efficient and competitive marketplace. With regard to renewables, it is particularly active in the wind energy sector.</p>
Name	Ontario Energy Board
Description	<p>The board regulates the province of Ontario's electricity and natural gas sectors. Its mandate is determined by the provincial government, and is embodied in its legislation and regulations.</p> <ul style="list-style-type: none"> • The Ontario Power Authority (OPA) reports to the Ontario Legislative Assembly through the Minister of Energy and Infrastructure. It seeks to ensure that electricity needs are met for the benefit of Ontario both now and in the future while planning and procuring electricity supply from diverse resources and facilitating the measures needed to achieve ambitious conservation targets. The OPA governs Ontario feed-in tariff programs.

Total Electricity Generation in Canada, 2009



N.B. Conventional steam is primarily powered by coal and/or other fossil fuels.

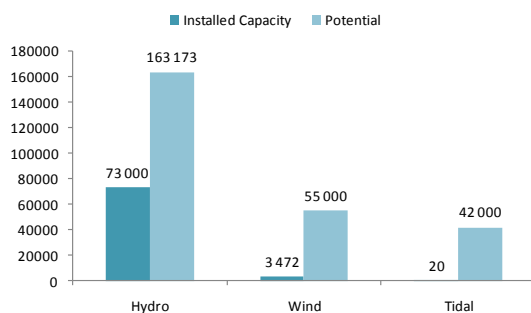
Total Electricity Generation by Province, 2009 (TWh)



Renewable Energy Potential

Renewable energy potential in Canada is immense and largely untapped. This reality is in large part due to the fact that today, Canada is a net exporter of power and has one of the lowest costs for electric power in the world. The second most important category for electricity generation in Canada is Conventional Steam with 17.45% (most predominantly powered by coal). The largest opportunity to develop new renewable energies and to reduce emissions in Canada is the substitution of electricity produced by coal with that produced by renewable sources such as biomass and wind. These resources have a large economically exploitable potential due to Canada's large agricultural sector and its vast amount of uninhabited space. Eliminating coal fired generation is a cornerstone of the province of Ontario's energy policy. The total combined potential of renewable energy in Canada is extensive. As can be seen in the adjacent graph, only a small fraction is currently installed.

Hydro, Wind & Tidal Capacity Potential (MW)



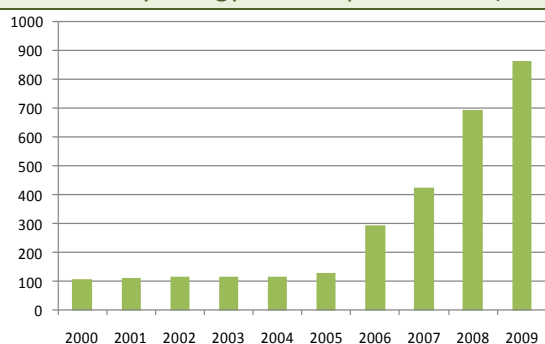
N.B. Wind potential is until 2025.

Non-Renewable Natural Resources

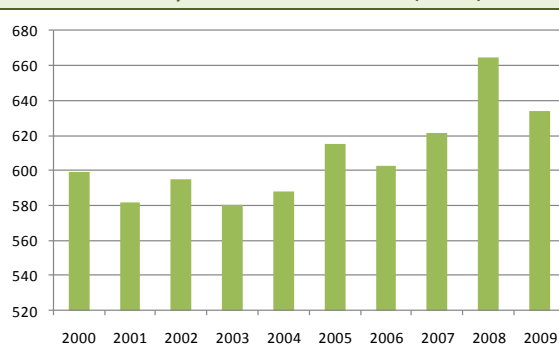
Oil	2009	% of world total	R/P ratio
Proved Reserves (Mbbbl)	33,200	2.5	28.3
Production (kbbbl/day)	3,212	4.1	-
Consumption (kbbbl/day)	2,195	2.5	-
Natural Gas	2009	% of world total	R/P ratio
Proved Reserves (bcm)	1,750	0.9	109
Production (bcm)	161.4	5.4	-
Consumption (bcm)	94.7	3.2	-
Coal	2009	% of world total	R/P ratio
Proved Reserves (Mt)	6,578	0.8	105
Production (Mt)	62.9	1.0	-
Consumption (Mt)	42.4	0.8	-
Uranium	2008	% of world total	R/P ratio
Proved Reserves (kt)	270	15.0	30
Production (kt)	9.0	20.0	-
Consumption (kt)	-	-	-

Consumption and Production Data

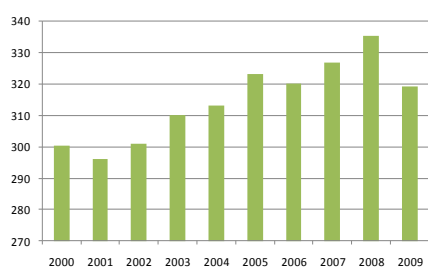
Primary Energy Consumption Trend (Mtoe)



Electricity Generation Trend (TWh)



Production of Ethanol Trend (ktoe)



Additional Information

Bio-energy production is the third most important renewable energy source in Canada accounting (5% of total primary energy). The province of British Columbia is the largest producer of Bio-energy with 673 MW of installed generating capacity. This sector is of growing interest; in 2006, the domestic production capacity was of 600 million litres (ethanol) and 100 million litres (biodiesel). In Canada, ethanol is principally produced from corn, wheat and barley; while biodiesel is produced from vegetable oils and animal fat.

REGULATORY FRAMEWORK

Incentives and Renewables Development Framework

FEDERAL Overview

The main principles of Canada's **energy policy** are:

1. A **market** orientation
2. Respect for jurisdictional authority and the role of the **provinces**
3. Where necessary, **targeted market intervention** to achieve specific objectives through regulation or other means.

At the **federal level**, the country's energy policy is implemented through Natural Resources Canada (NRCan). Canada has international commitments related to energy through the Kyoto Protocol, NAFTA and the NAEWG. NRCan has implemented various programs to promote the development of renewable energy with the aim of: developing promising environmental technologies, encouraging customers to buy low-impact renewable energy, developing decentralized energy production systems, helping aboriginal communities increase their energy efficiency and their use of renewables.

Additional initiatives:

-**ecoENERGY for Renewable Power** program will invest 1.48 bl CAD for clean power projects built by March 31, 2011. The program will encourage the production of 14.3 TWh of new electricity from renewables by providing 0.01 CAD / kWh for 10 years to businesses, municipalities, institutions and other eligible organizations.

-**2 tax incentives**, most notably: Class 43.1 that provides an accelerated rate of write-off (30 % per year) for investments that produce heat by using renewable energy sources.

-Green power purchases for **20% of the Government of Canada's electricity needs** (in Canada's Climate Change Plan).

PROVINCIAL Overview

Most notable at the provincial level are:

-the **Ontario** provincial government's **Green Energy and Green Economy Act of 2009** with the objective of eliminating Ontario's coal-fired generation by 2014.

-the **British Columbia (BC)** provincial government ratified the **Green Energy Act on June 3rd, 2010**. BC's Act will include a Feed-In Tariff for Tidal energy, the details of which will be outlined in 18 months.

Ontario Provincial Incentives

SOLAR

Ontario Feed-In Tariff

Description

Installation Type	Size tranches	€/kWh	Term
Rooftop PV	≤10 kW	0.53	20 years
Ground-mounted PV (proposed)	≤10 kW	0.39	20 years
Rooftop PV	> 10 ≤ 250 kW	0.47	20 years
Rooftop PV	> 250 ≤ 500 kW	0.42	20 years
Rooftop PV	> 500 kW	0.36	20 years
Ground-mounted PV	> 10 kW	0.29	20 years

WIND

Ontario Feed-In Tariff

Description

Installation Type	Size tranches	€/kWh	Term	Escalation
On-shore	Any Size	0.09	20 years	20%
Off-shore	Any Size	0.13	20 years	20%

BIOMASS

Ontario Feed-In Tariff

Description

Installation Type	Size tranches	€/kWh	Term	Escalation
Biomass	≤ 10 kW	0.09	20 years	20%
Biomass	> 10 kW	0.086	20 years	20%

BIOGAS

Ontario Feed-In Tariff

Description

Installation Type	Size tranches	€/kWh	Term	Escalation
On-farm Biogas	≤ 100 kW	0.129	20 years	20%
On-farm Biogas	> 100 kW ≤ 250 kW	0.122	20 years	20%
Biogas	≤ 500 kW	0.106	20 years	20%
Biogas	> 500 kW ≤ 10 MW	0.097	20 years	20%
Biogas	> 10 MW	0.069	20 years	20%
Landfill gas	≤ 10 MW	0.073	20 years	20%
Landfill gas	> 10 MW	0.068	20 years	20%

WATERPOWER

Ontario Feed-In Tariff

Description

Installation Type	Size tranches	€/kWh	Term	Escalation
Waterpower	≤ 10 MW	0.087	20 years	20%
Waterpower	> 10 MW ≤ 50 MW	0.081	20 years	20%

MAIN CONTACTS

Natural Resources Canada (NRCan)	Mail: 580 Booth, Ottawa, Ontario, K1A 0E4, Canada Telephone: 613-995-0947 http://www.nrcan-rncan.gc.ca/com/index-eng.php
Industry Canada	Address: Industry Canada, C.D. Howe Building, 235 Queen Street, Ottawa, Ontario, K1A 0H5, Canada Telephone: 613-954-5031 Fax: 613-954-2340 Email: info@ic.gc.ca http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home
Ontario Energy Board	Mail: P.O. Box 2319, 2300 Yonge Street, Toronto, Ontario, Canada, M4P 1E4 Telephone: 416-481-1967 Fax: 416-440-7656 BoardSec@oeb.gov.on.ca
Invest in Ontario	Mail: Ontario Investment and Trade Centre 250 Yonge Street, 35th Floor, P.O. Box #1, Toronto, Ontario, M5B 2L7, Canada Telephone (Local): +1-416-313-3469 Email: info@investinontario.com http://www.investinontario.com/default.asp By Country Toll Free: Austria: 00-800-466-8274 Belgium/Denmark: 00-800-466-8274 France: 00-800-466-8274 Germany: 00-800-466-8274 United Kingdom: 00-800-466-8274
Canadian Chamber of Commerce	Headquarters 360 Albert Street Suite 420 Ottawa, ON K1R 7X7 Tel.: (613) 238-4000 Fax: (613) 238-7643 Email: info@chamber.ca
Canadian Embassy: Trade Commissioner Service in Italy	Canada Embassy Via Salaria 243 00199 Roma, Italia Tel. +39 06 85444 3354/3363 Fax: +39 06 85444 3915 ital-td@international.gc.ca