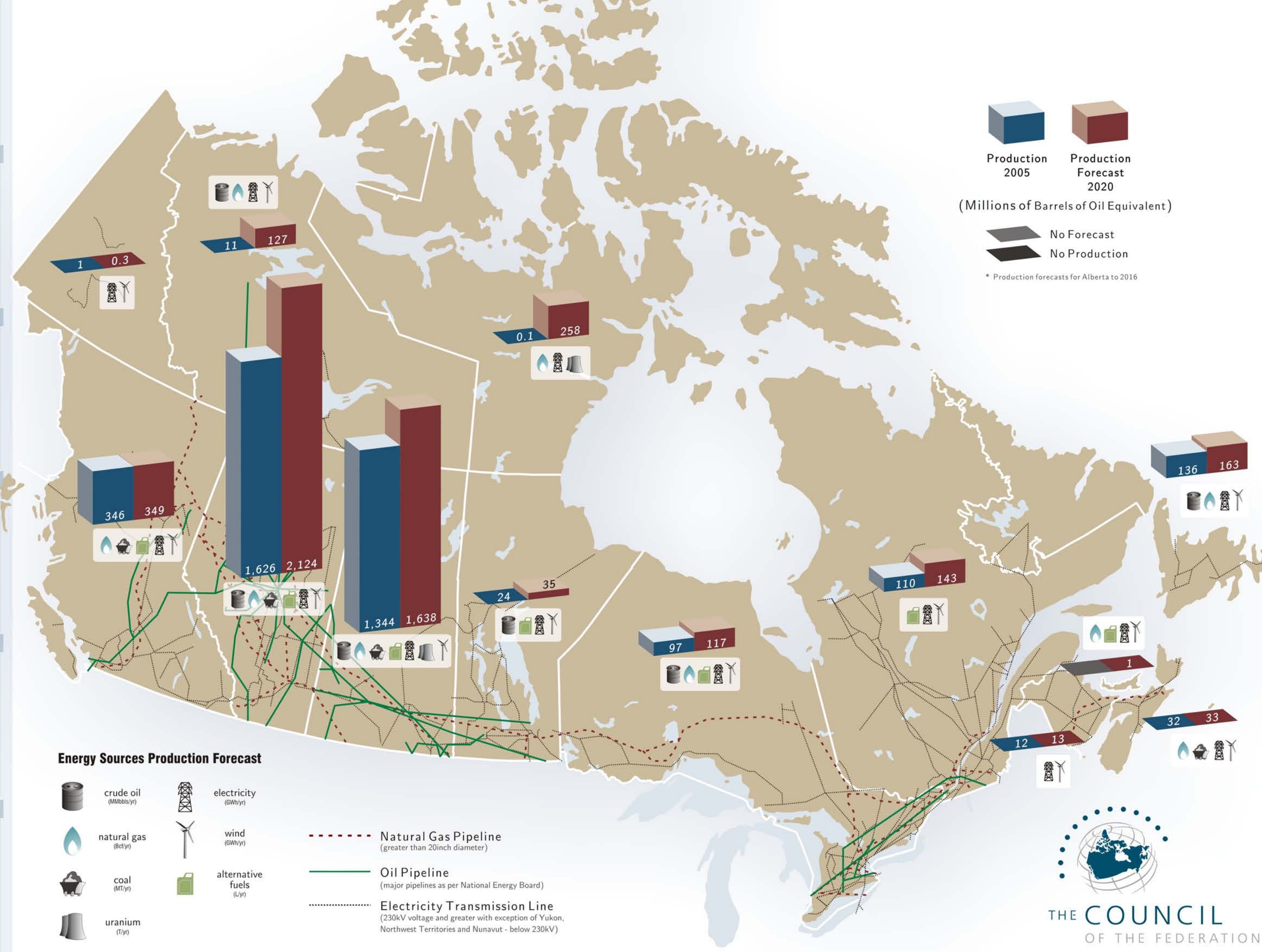


# Canada's Energy Sources

## Production and Production Forecast





# Energy Transmission and Transportation

## How are oil and natural gas transported?

Approximately 95 percent of Canada's crude oil and natural gas is transported by pipeline. Canada's pipeline network totals approximately 540,000 kilometres and comprises everything from thin plastic gathering lines to steel conduits more than one metre in diameter.

This network extends from the Northwest Territories through Alberta, west to Vancouver and the northwestern United States, east to Sarnia, Toronto, Montreal and the northeastern United States, and south to California, Montana and the United States Midwest.

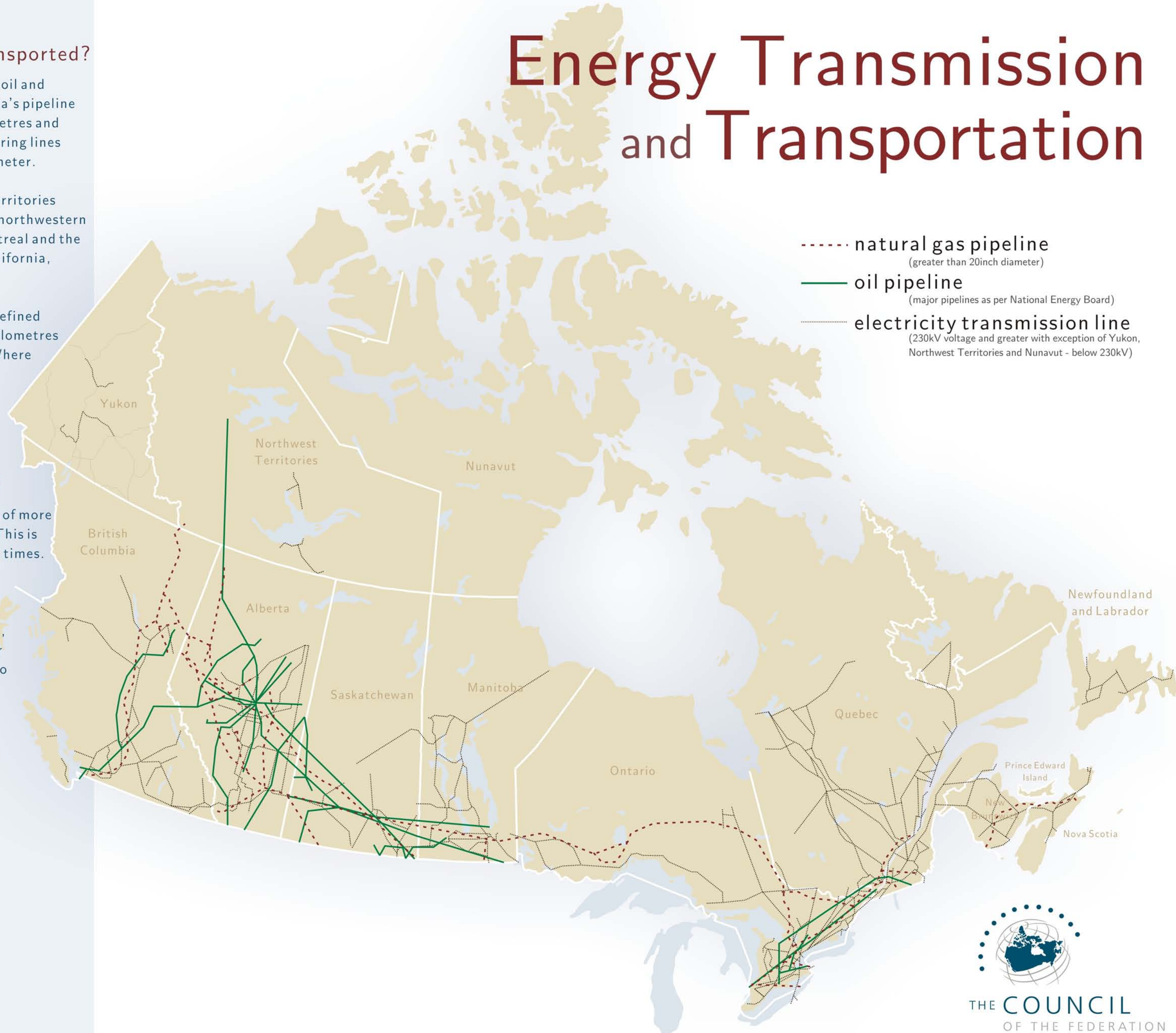
Pumps move the oil, natural gas liquids and refined products through pipelines at four to eight kilometres per hour and natural gas at up to 40km/hr. Where gathering systems are not available, oil is transported by tankers and railway.

## How is electricity transmitted?

Canada's bulk transmission network consists of more than 160,000 kilometres high voltage lines. This is enough to cross the entire country roughly 27 times.

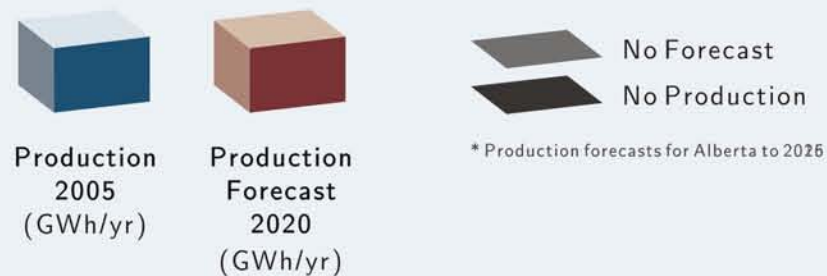
Because of Canada's vast geographic size, its electricity systems require different types of high voltage lines (typically at 115 kilovolt, 230 kilovolt and 500 kilovolt levels) to deliver electricity safely, reliably and economically to customers.

- natural gas pipeline  
(greater than 20inch diameter)
- oil pipeline  
(major pipelines as per National Energy Board)
- electricity transmission line  
(230kV voltage and greater with exception of Yukon, Northwest Territories and Nunavut - below 230kV)



THE COUNCIL  
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# Electricity Generation Production and Production Forecast

Canada's electricity production was over 600,000 GWh in 2005, of which more than 60% was from renewable sources. Production will grow to nearly 788,000 GWh annually by 2020.

In 2005, Canada's nuclear plants generated about 15% of Canada's electricity.

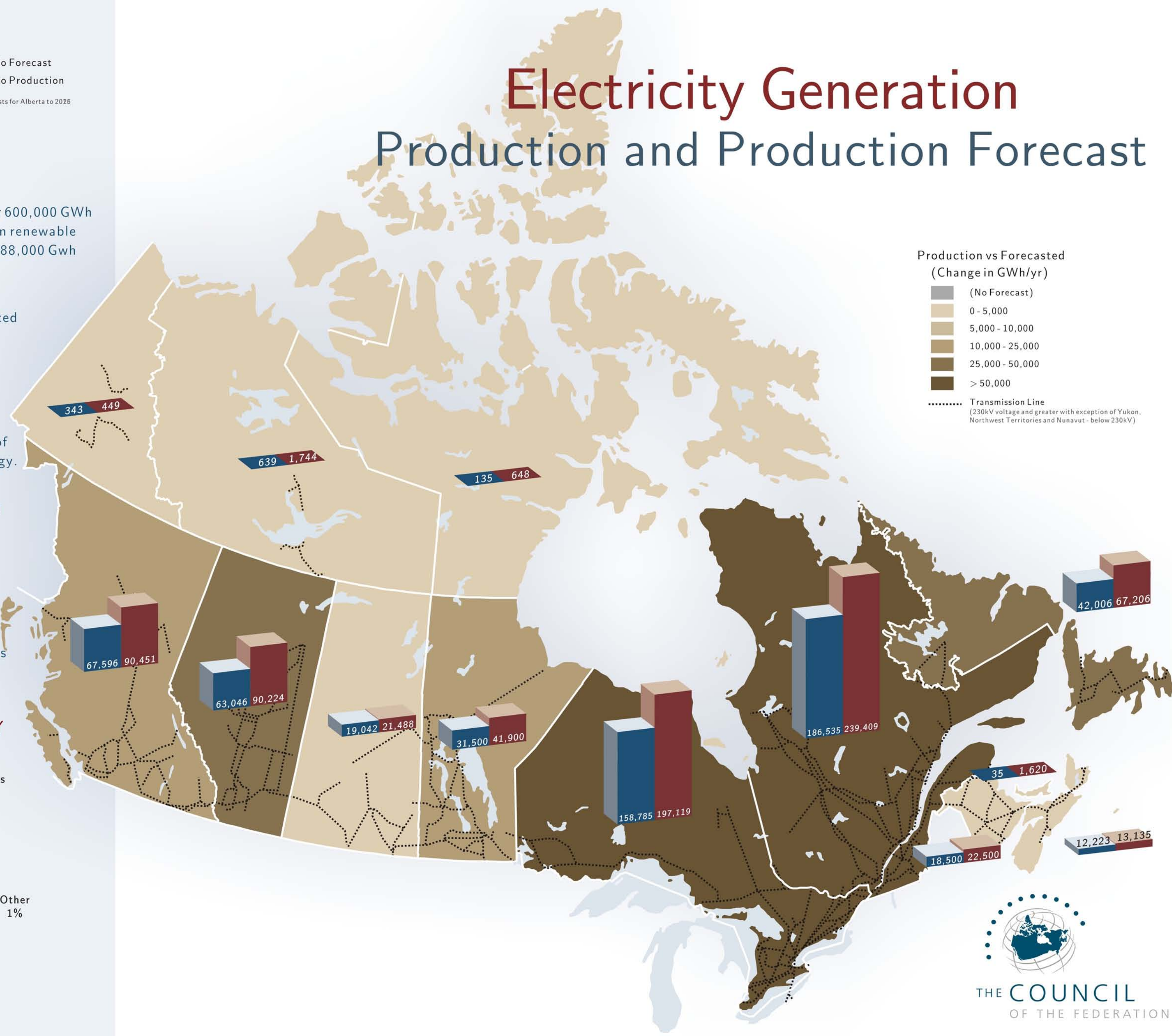
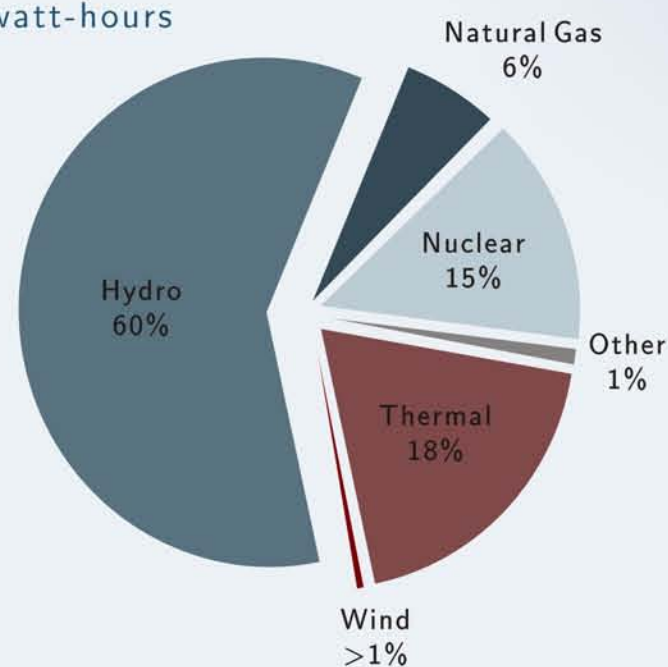
Canada is estimated to have technical potential for more than 40GW of wind power, 10GW of small hydro, 135GW of large hydro, 70GW of solar power, 3GW of tidal power and 10 to 16GW of wave energy.

As of July 2007, Canada's installed wind energy capacity was 1588 MW. Canada has the potential to source more than 20% of its electricity from wind power.

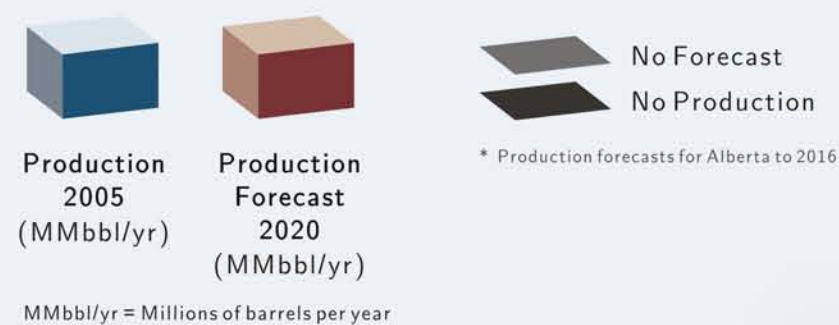
Commercial wind turbines exist in six provinces and the Yukon. Plans are underway for the development of turbines throughout the rest of Canada.

## 2005 CANADIAN ELECTRICITY GENERATION BY SOURCE

Gigawatt-hours







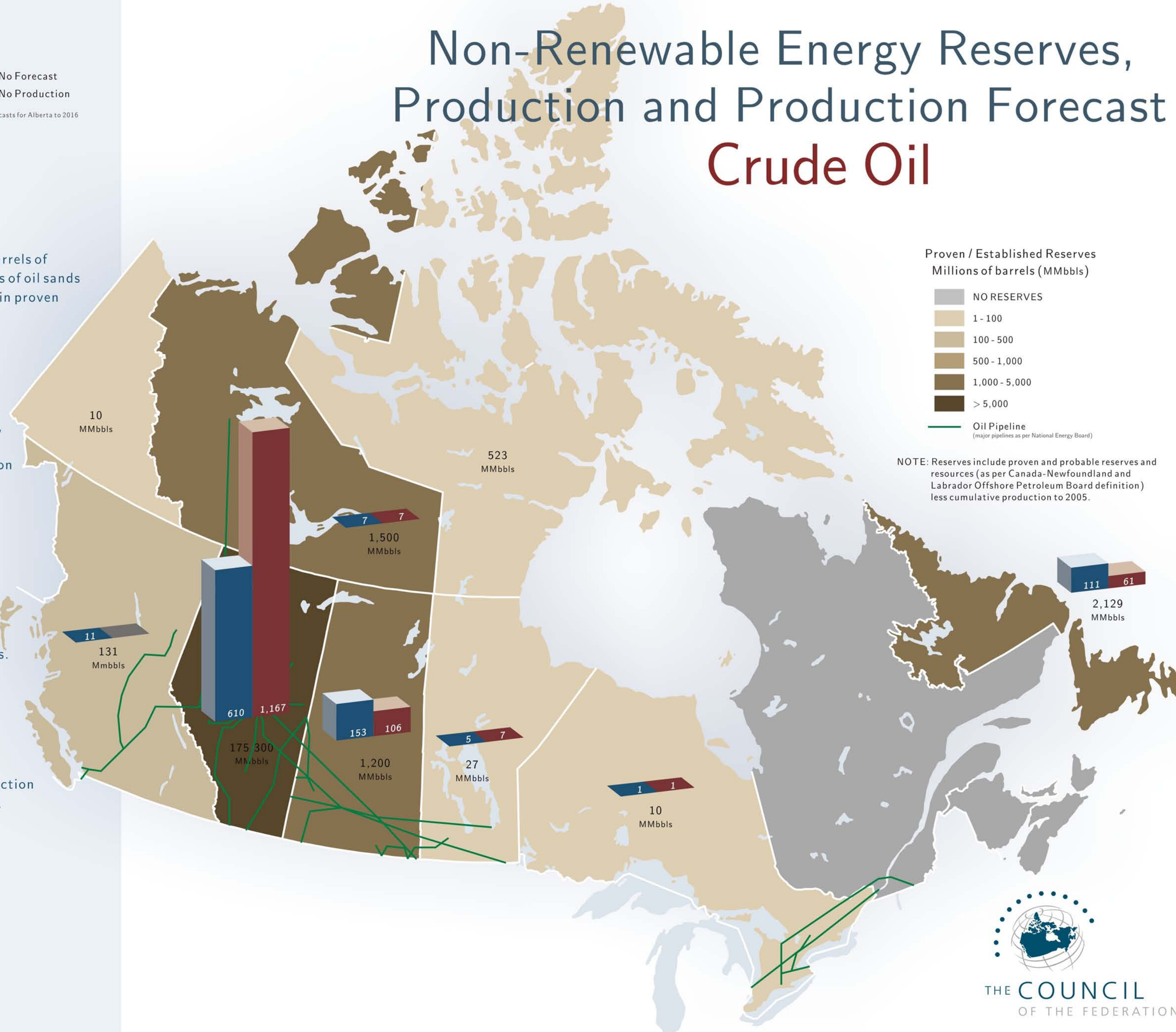
# Non-Renewable Energy Reserves, Production and Production Forecast Crude Oil

Canada, with reserves over 5.2 billion barrels of conventional oil and 173.7 billion barrels of oil sands bitumen, is second only to Saudi Arabia in proven reserves of crude oil.

In 2006, oil sands production was 1.25 million barrels per day of crude bitumen, roughly 55% of Canada's daily total production. By 2015, oil sands production is forecasted to surpass 3.0 million bbls of oil per day.

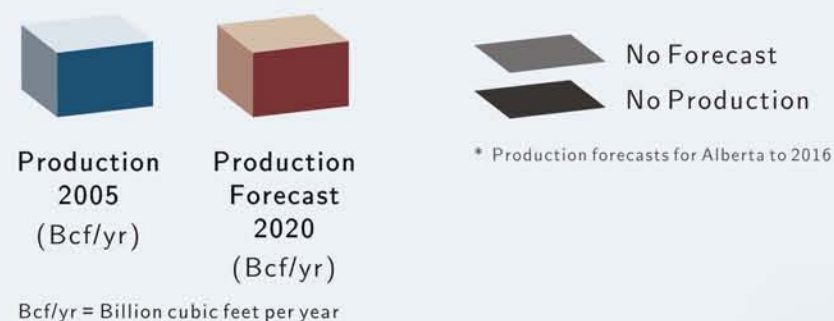
In 2005, 23,200 wells pumped approximately 152.9 million barrels of oil in Saskatchewan, with estimated established reserves of 1.2 billion barrels.

In 2005, approximately 37%, or 111.3 million barrels, of Canada's total conventional light sweet crude oil production came from Newfoundland and Labrador.





# Non-Renewable Energy Reserves, Production and Production Forecast Natural Gas



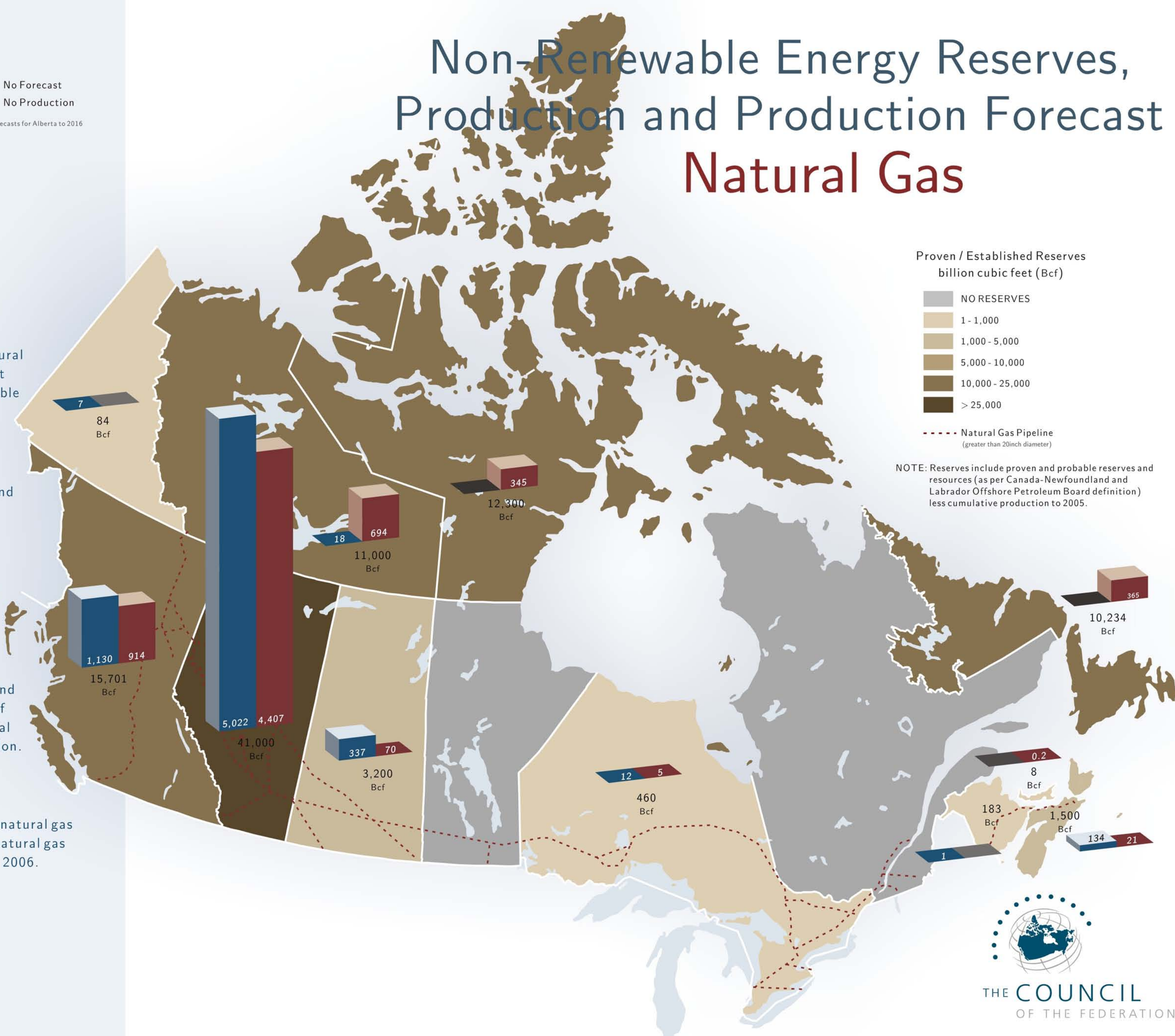
Canada is the world's third-largest natural gas producer with 6.7 trillion cubic feet (tcf) of production in 2005; almost double the amount consumed.

Natural gas production in Canada is expected to rise to levels between 8.0 and 9.0 tcf by 2010.

Canada's coal bed methane resource is estimated to be as large as 500 tcf.

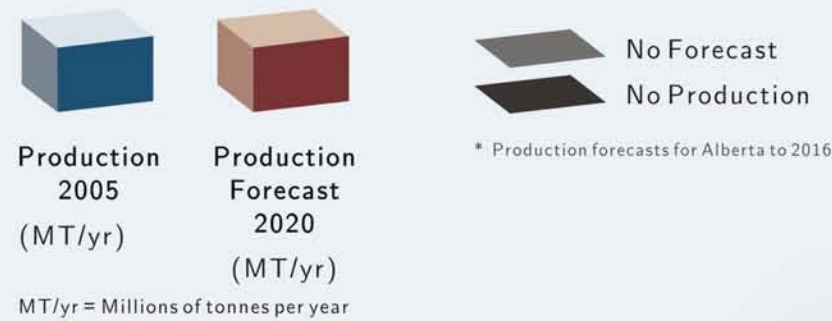
Canada ranks second in the world, behind only the Russian Federation, in terms of natural gas exports. The value of natural gas exports in 2006 was almost \$28 billion.

Well over half (56%) of total Canadian natural gas production goes for export. Canadian natural gas supplied 16.5% of total U.S. demand in 2006.





# Non-Renewable Energy Reserves, Production and Production Forecast Coal



Canada's coal reserves rank 13th in the world, with approximately 70 billion tonnes of bituminous coal. Alberta's 34 billion tonnes of coal reserves represent almost 50% of Canada's total.

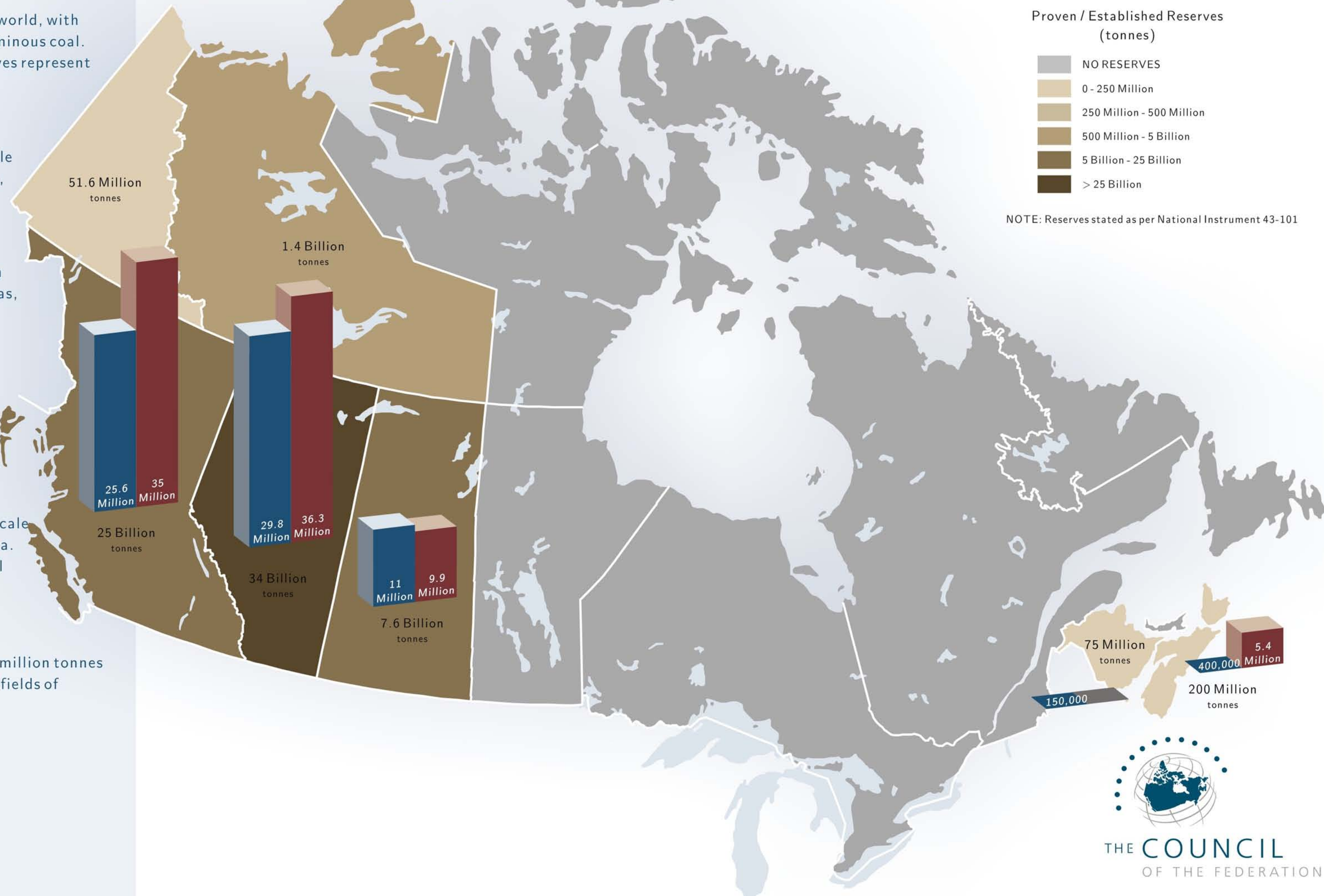
The mountainous regions, which straddle the Alberta-British Columbia boundary, contain extensive coal reserves.

There is more stored energy in Canadian coal than all the country's oil, natural gas, and oil sands combined.

Saskatchewan has three surface mines producing 16 per cent of the country's coal.

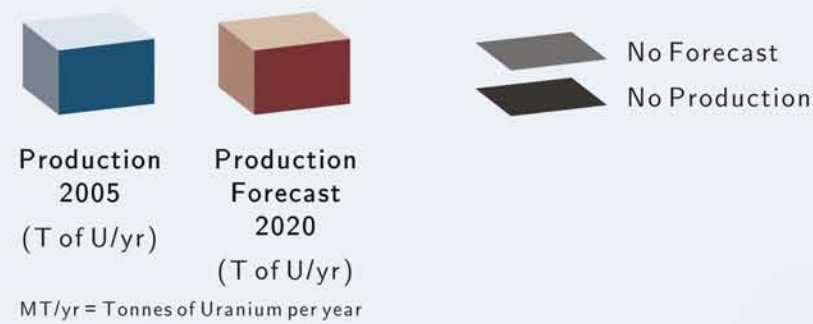
There were 24 coal mines operating in Canada at the end of 2005. Most large-scale coal mines are located in western Canada. British Columbia currently has nine coal mines in operation.

Between 1863 and 2000, more than 400 million tonnes have been produced from the major coalfields of Nova Scotia.





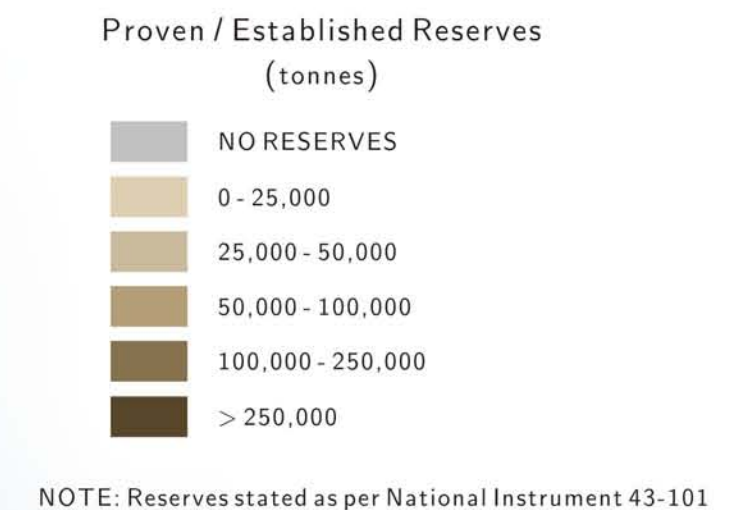
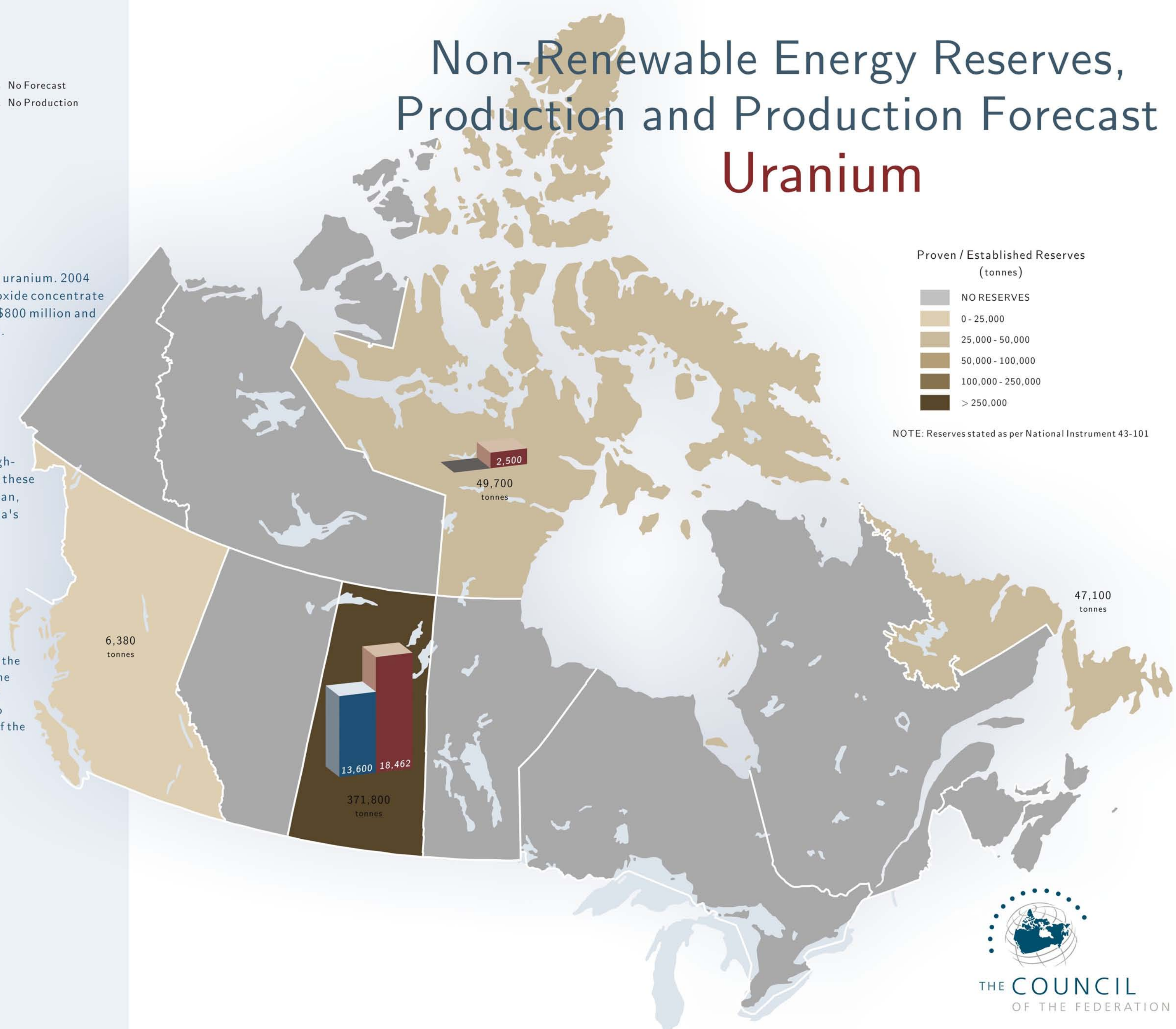
# Non-Renewable Energy Reserves, Production and Production Forecast Uranium



Canada is the world's largest producer of uranium. 2004 production of 13,676 tonnes of uranium oxide concentrate (11,597 tonnes Uranium) was valued at \$800 million and comprised 30% of total world production.

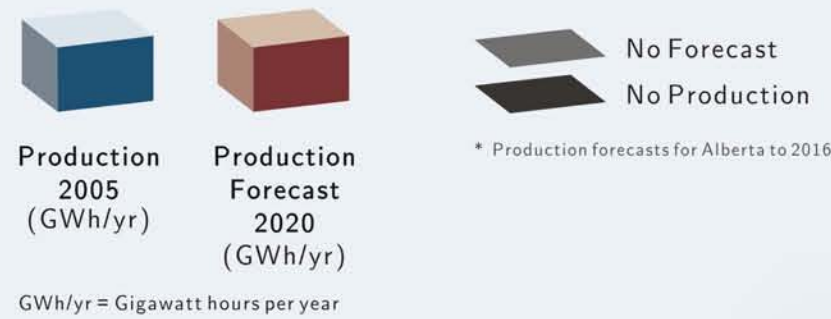
Canada has the world's largest known high-grade natural uranium deposits. Most of these deposits are concentrated in Saskatchewan, which currently accounts for all of Canada's uranium production.

Exploration activity markedly increased in 2004. As in the past, a significant portion of the exploration continues to be undertaken in the Athabasca Basin of northern Saskatchewan and Alberta. This most recent surge has also led to exploration activity in other regions of the country, notably Nunavut, the Northwest Territories, Yukon, Southern Alberta, and Newfoundland and Labrador.





# Production and Production Forecast Wind



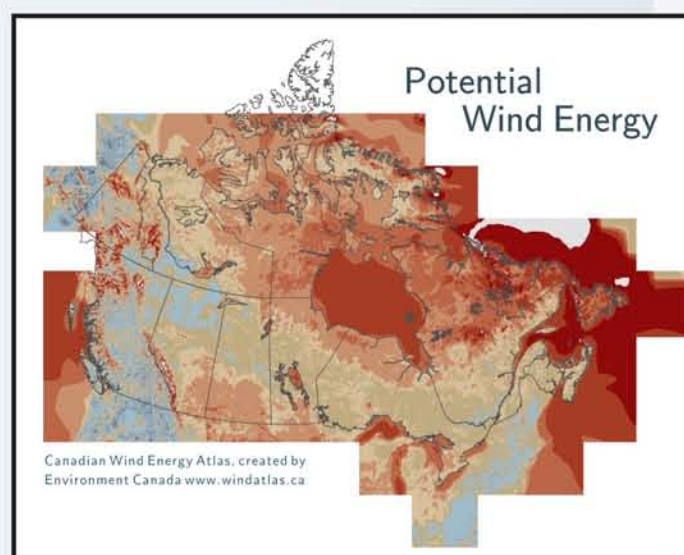
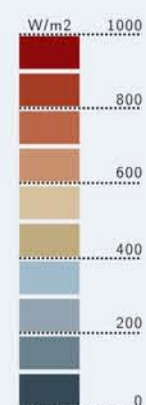
In 2006, Canada's total installed wind generation capacity had reached 1,460 MW, becoming the world's 12th largest nation in terms of installed wind energy capacity.

It is estimated that every 1,000 MW of installed wind energy capacity will reduce annual emissions of carbon dioxide by a minimum of 1.2 million tonnes.

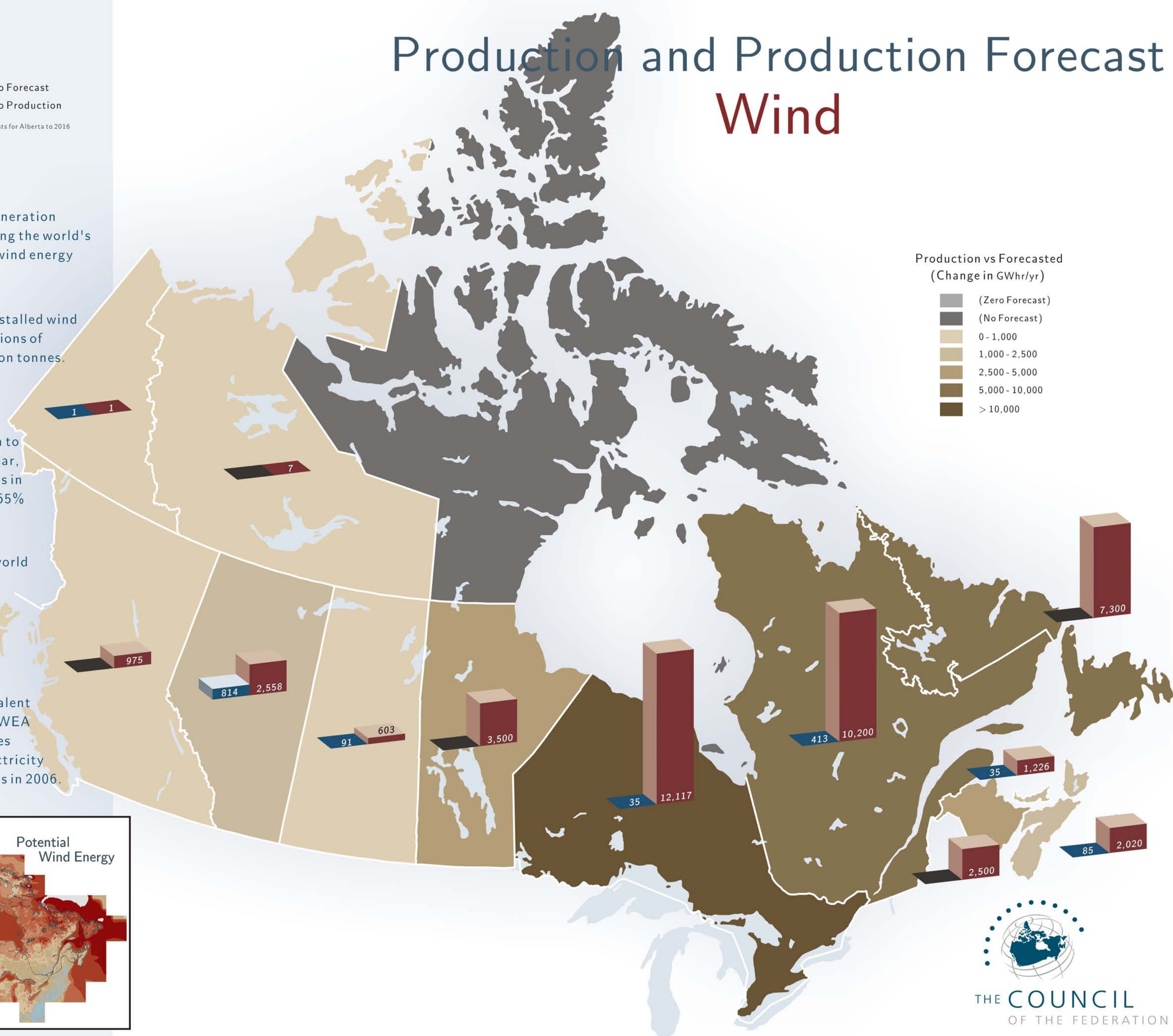
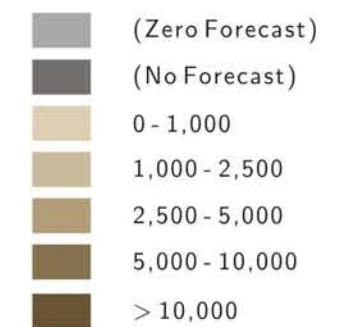
According to CanWEA (Canada Wind Energy Association), Canada's wind energy industry contributed \$736 million to the country's GDP in 2005. That same year, there were 1,200 full-time equivalent jobs in the wind energy industry, an increase of 65% over 2004.

Canada has the longest coastline in the world (243,792 km or 151,485 miles) and some of the world's largest open prairies, making it one of the best wind resources on the planet.

Wind energy is an affordable and viable source of electricity, powering the equivalent of 315,000 Canadian homes in 2006. CanWEA predicts that our untapped wind resources might one day provide for 20% of our electricity needs – enough to power 17 million homes in 2006.

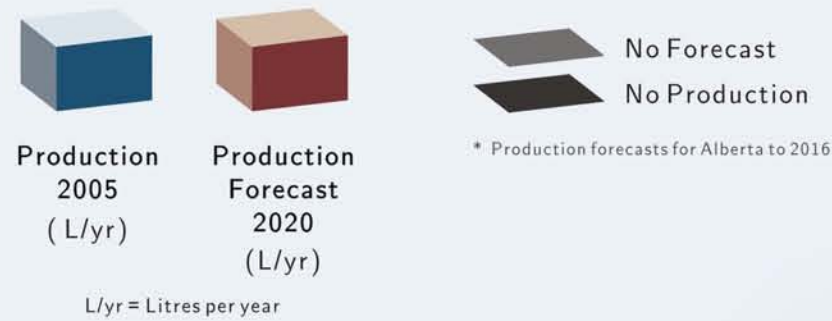


Production vs Forecasted (Change in GWhr/yr)





# Alternative Fuels Production and Production Forecast Ethanol



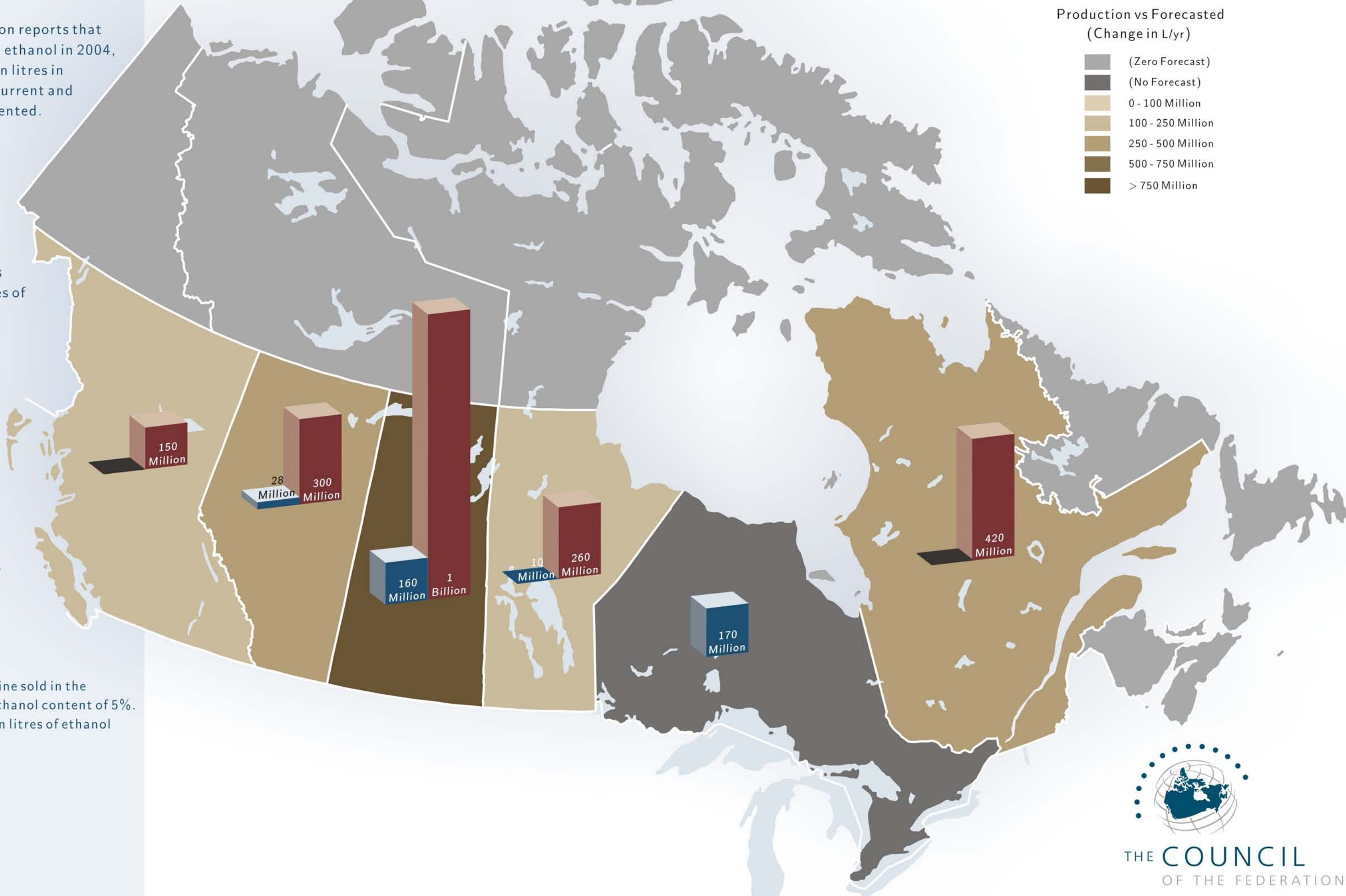
The Canadian Renewable Fuels Association reports that Canada produced 250 million litres of fuel ethanol in 2004, and that production could reach 1.4 billion litres in 2007 rising to 3.1 billion litres by 2010 if current and announced biofuels programs are implemented.

Saskatchewan's ethanol production is expected to increase to 1 billion litres annually by 2020. The province currently has three fully-operational ethanol plants producing approximately 160 million litres of ethanol per year.

Canada is also at the forefront of research and development of new fuel sources, including biodiesel, cellulosic ethanol, and hydrogen.

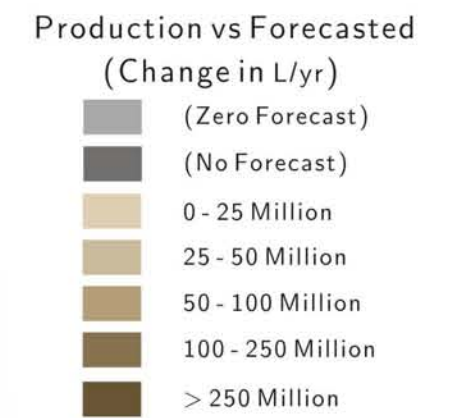
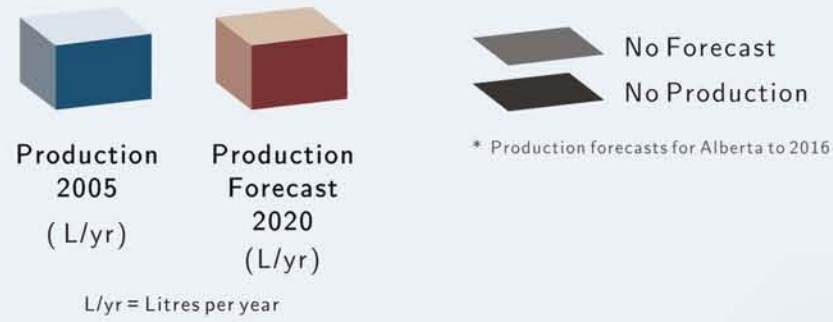
Within Manitoba alone, there is a potential market for 260 million litres of ethanol or 1.4 billion litres of gasohol per year.

The Québec government would like all gasoline sold in the province between now and 2012 to have an ethanol content of 5%. This means that Québec will need 400 million litres of ethanol a year.





# Alternative Fuels Production and Production Forecast Biodiesel



Biodiesel is a clean burning alternative fuel, produced from domestic renewable sources. Materials used to produce this fuel include animal fats, tallow, oil from wood pulp waste, and virgin and recycled vegetable oils from crops such as canola, corn, sunflowers, and soybeans.

In 2005, Canada produced 32.5 million litres of biodiesel. This is expected to increase to over 1.7 billion litres annually by 2020.

