



National Energy Board

Office national de l'énergie

AN ENERGY MARKET ASSESSMENT



Canada's Energy Future **2016**

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Canada

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Cat. No. NE2-12/2015E-PDF
ISSN 2369-1479
Key title: Energy Futures Supplement

This report is published separately in both official languages.
This publication is available upon request in multiple formats.

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N° de cat. NE2-12/2015F-PDF
ISSN 2369-1484
Key title : Supplément au rapport sur l'avenir énergétique

Ce rapport est publié séparément dans les deux langues officielles.
On peut obtenir cette publication sur supports multiples, sur demande.

Canada’s Energy Future 2016: Province and Territory Outlooks

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EXECUTIVE SUMMARY

Canada's Energy Future 2016: Province and Territory Outlooks provides an overview of the regional dynamics in *Canada's Energy Future 2016: Energy Supply and Demand Projections to 2040* (EF 2016). It reviews EF 2016 findings and data points for each province and territory, and provides comparisons for energy production and consumption trends between the regions.

Key Findings

1. Canada has a diverse energy system, and this influences its energy future.

Canada is a large and diverse country; energy is produced and consumed differently across its unique regions. The provinces and territories differ in terms of energy resource availability, historical infrastructure, industrial structures, energy and environmental policies and regulations, consumer preferences, and weather conditions. These differences greatly influence current and projected energy trends.

2. Electricity is increasingly generated from renewables and natural gas, to varying degrees across the provinces and territories.

The type of energy used to generate electricity varies substantially between regions because of resource accessibility and historical infrastructure development. This diversity continues over the projection period, as provinces and territories meet their electricity demands, replace aging infrastructure, and target environmental objectives in unique ways. The share of renewable electricity grows in most future capacity mixes, but the type and magnitude of change differs between regions. Natural gas plays a larger role, particularly in western Canada to replace aging coal units, and nuclear power continues to remain a significant part of the Ontario and New Brunswick's capacity mix.

3. The majority of crude oil and natural gas production occurs in western Canada, and will be influenced by energy market and infrastructure developments.

Alberta leads the projected growth in crude oil production. About 60 per cent of current oil production comes from the oil sands and it drives future production growth. In the Reference Case, British Columbia (B.C.) leads natural gas production growth, with the assumed LNG exports encouraging additional production. The EF 2016 alternate projections for higher and lower energy prices, and alternate market access and energy infrastructure assumptions, highlight the importance of these factors for future production trends.

4. Future energy price trends impact provinces and territories differently.

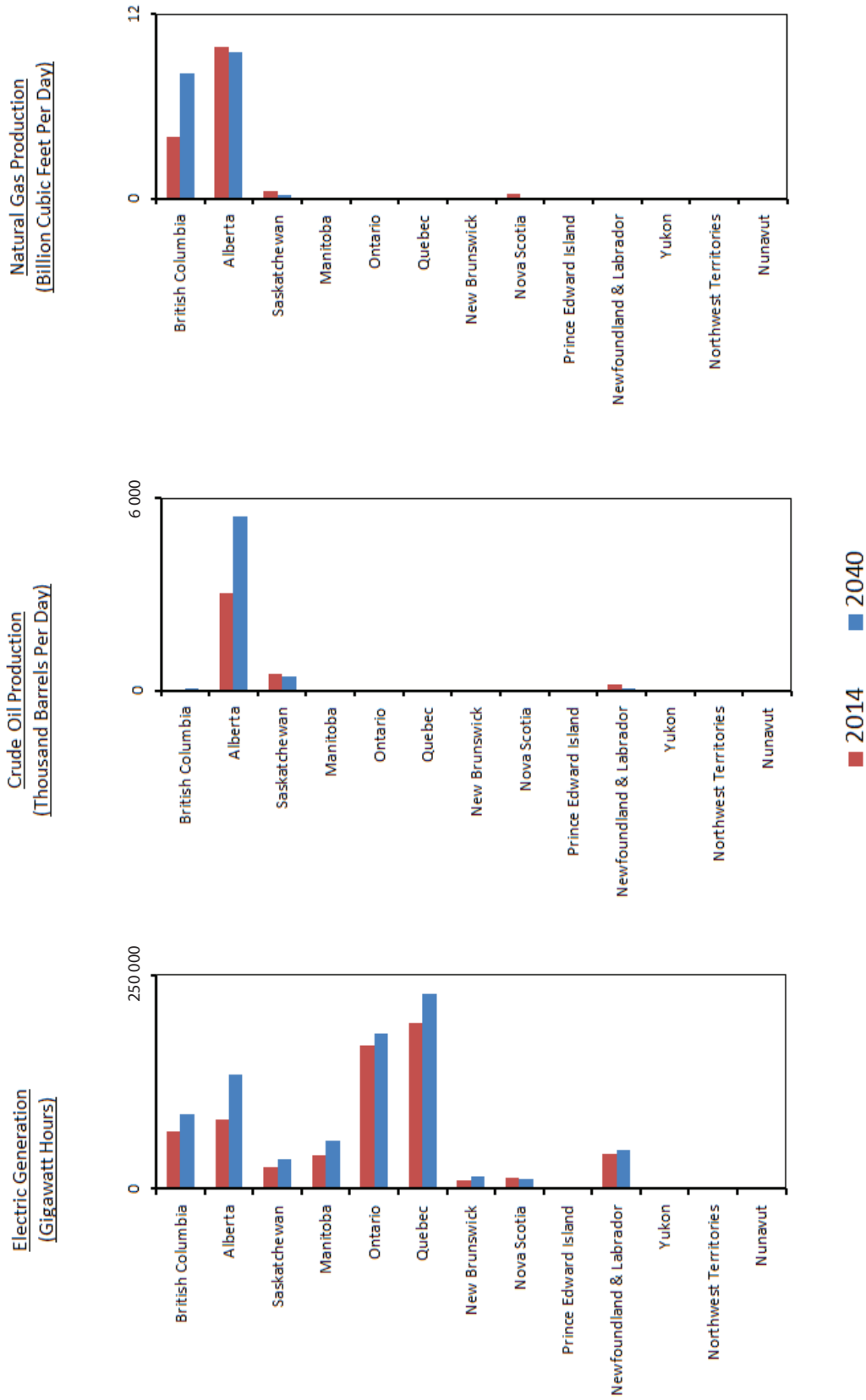
Energy price fluctuations impact energy consumption differently between producing and consuming regions. Overall, Canadian energy use is higher in the High Price Case and lower in the Low Price Case, largely because higher prices lead to more oil and gas development in Alberta, B.C. and Newfoundland and Labrador and therefore, more energy use. In most other regions, higher prices lead to less energy use, and lower prices lead to more energy use.

5. Provincial and territorial energy needs continue to be met by a unique mix of energy sources depending on the region.

The types of energy consumed by end users vary widely across the country as a result of differing regional availability and pricing. For example, provinces with large hydroelectric infrastructure tend to use more electricity, western provinces consume relatively more natural gas, and the territories use more petroleum products such as fuel oil and diesel. These shares vary moderately over the EF 2016 projections, but substantial regional variation continues. In the Reference Case projection for 2040, the share of electricity used in the end-use fuel mix ranges between 8.5 and 43 per cent among the provinces and territories. Petroleum products share of demand ranges between 30 per cent and 85 per cent and the natural gas share varies between 0 and 60 per cent.

FIGURE 1.1

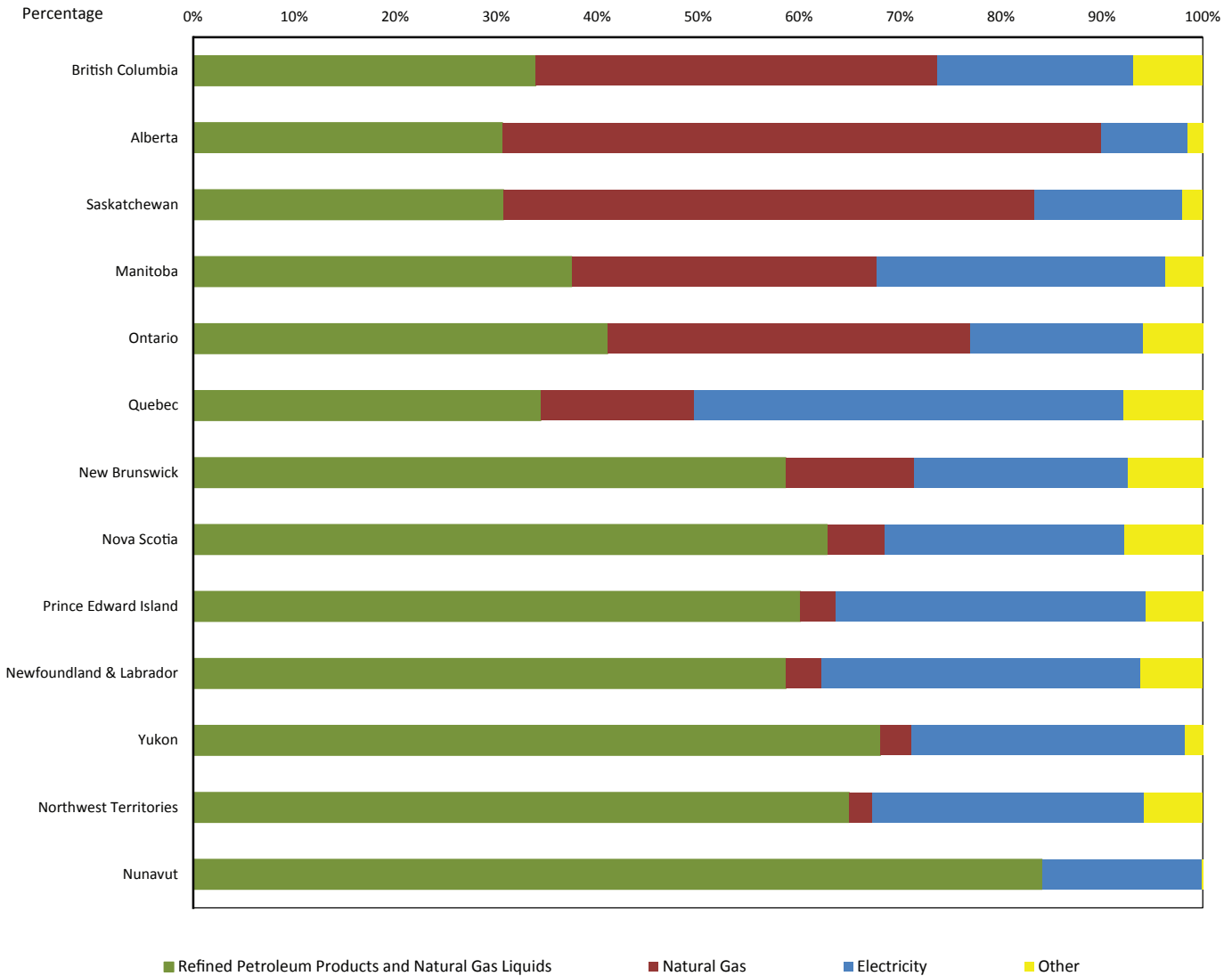
Energy Production by Province and Territory, 2014 and 2040^(a)



(a) These results are from the Reference Case projection, which is a baseline outlook assuming mid-range energy prices, and policies and regulations that were law or near law at the time the analysis was finalized, which was August 2015.

FIGURE ES.2

Projected End-use Fuel Mix by Province and Territory, 2040^(a)



(a) These results are from the Reference Case projection, which is a baseline outlook assuming mid-range energy prices, and policies and regulations that were law or near law at the time the analysis was finalized, which was August 2015.

FOREWORD

The National Energy Board (NEB or Board) periodically publishes assessments of Canadian energy supply, demand, and markets in support of its ongoing market monitoring. These assessments address various aspects of energy markets in Canada, and provide Canadians with an accurate and reliable source of energy information. This report, *Canada's Energy Future 2016: Province and Territory Outlooks* is one such assessment that discusses the regional dynamics in the Board's latest long-term energy supply and demand outlook, *Canada's Energy Future 2016: Energy Supply and Demand Projections to 2040*.

Comments or questions on this report can be directed to: energyfutures@neb-one.gc.ca.

About the NEB

The NEB is an independent federal, quasi-judicial regulator established in 1959 to promote safety and security, environmental protection, and economic efficiency in the Canadian public interest within the mandate set by Parliament for the regulation of pipelines, energy development, and trade.

The Board's main responsibilities include regulating: the construction, operation, and abandonment of pipelines that cross international borders or provincial/territorial boundaries, as well as the associated pipeline tolls and tariffs; the construction and operation of international power lines and designated interprovincial power lines; and imports of natural gas and exports of crude oil, natural gas, oil, natural gas liquids, refined petroleum products, and electricity.

Additionally, in specified areas, the Board has regulatory responsibilities for oil and gas exploration and production activities under the *National Energy Board Act*, *Canada Oil and Gas Operations Act*, the *Canada Petroleum Resources Act*, and the *North West Territories' Oil and Gas Operations Act* and *Petroleum Resources Act*. For oil and natural gas exports, the Board's role is to evaluate whether the oil and natural gas proposed to be exported is surplus to reasonably foreseeable Canadian requirements, having regard to the trends in the discovery of oil or gas in Canada. The Board monitors energy markets, and assesses Canadian energy requirements and trends of oil and natural gas discovery to support its responsibilities under Part VI of the NEB Act.

This report does not provide an indication about whether any application will be approved or not. The Board will decide on specific applications based on the material in evidence before it at that time. If a party wishes to rely on material from this report in any regulatory proceeding before the NEB, it may submit the material, just as it may submit any public document. Under these circumstances, the submitting party in effect adopts the material and that party could be required to answer questions pertaining to the material.

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INTRODUCTION

Canada’s Energy Future 2016: Province and Territory Outlooks provides an overview of the regional dynamics in *Canada’s Energy Future 2016: Energy Supply and Demand Projections to 2040* (EF 2016). It reviews EF 2016 findings and data points for each province and territory, and compares energy production and consumption trends between the regions.

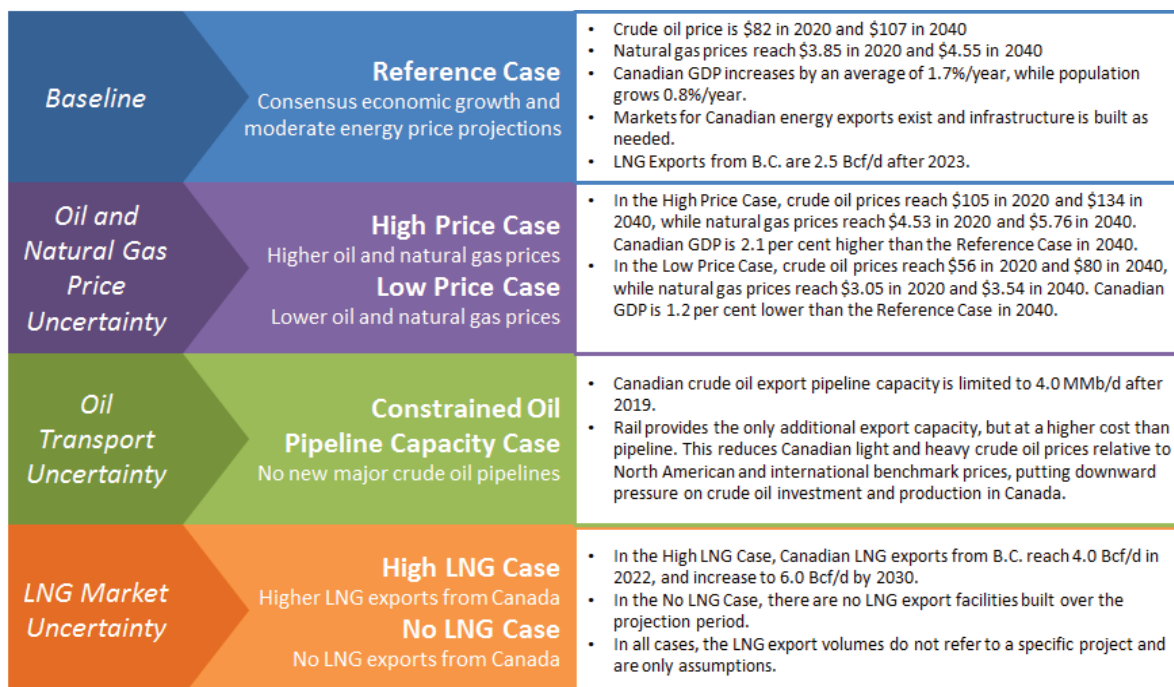
The projections presented in both EF 2016 and this supplemental report are a baseline for discussing Canada’s energy future and **do not** represent the Board’s predictions of what will take place in the future. The projections in EF 2016 are based on assumptions which allow for analysis of possible outcomes. Any assumptions made about current or future energy infrastructure or market developments are strictly theoretical and have no bearing on the regulatory proceedings that are or will be before the Board.

Only policies and programs that are law at the time of analysis are included in the EF 2016 projections. As a result, any policies under consideration, or new policies developed after the projections were completed in the summer of 2015, are not included in this analysis. Several provinces announced new energy plans and policies prior to the Paris climate conference in late 2015. These announcements and policy changes are not included in the EF 2016 projections.

EF 2016: Cases and Key Assumptions

EF 2016 contains six projections or ‘cases’ for energy supply and demand in Canada covering various uncertainties. An overview of the cases, key assumptions, and drivers is shown in Figure 1.1. For further information on EF 2016 see the full report, and detailed data appendices.

FIGURE 1.1
Overview of EF 2016 Projections and Key Assumptions



Crude Oil Prices: Brent, 2015 US\$, **Natural Gas Prices:** Henry Hub, 2015 US\$, **Gross Domestic Product (GDP):** 2007C\$

PROVINCIAL AND TERRITORIAL COMPARISON

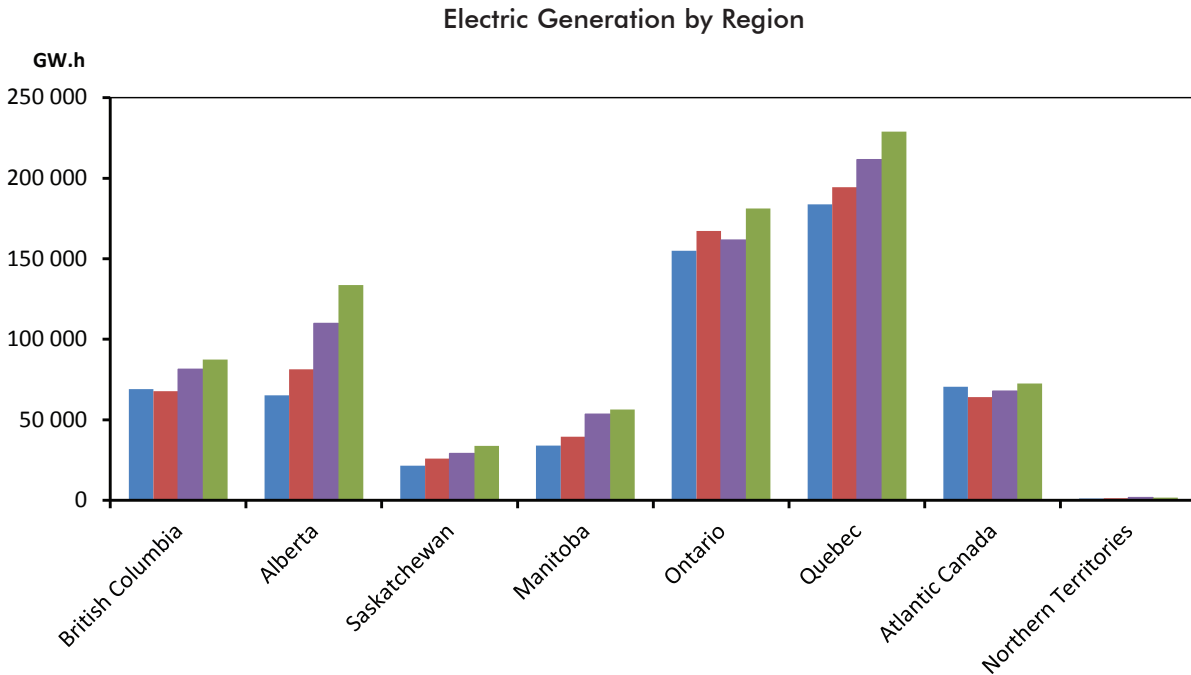
- Canada is a large and diverse country; energy is produced and consumed differently across its unique regions. The provinces and territories differ in terms of energy resource availability, historical infrastructure, industrial structures, energy and environmental policies and regulations, consumer preferences, and weather conditions. These differences greatly influence current and projected energy trends.

Electricity Supply

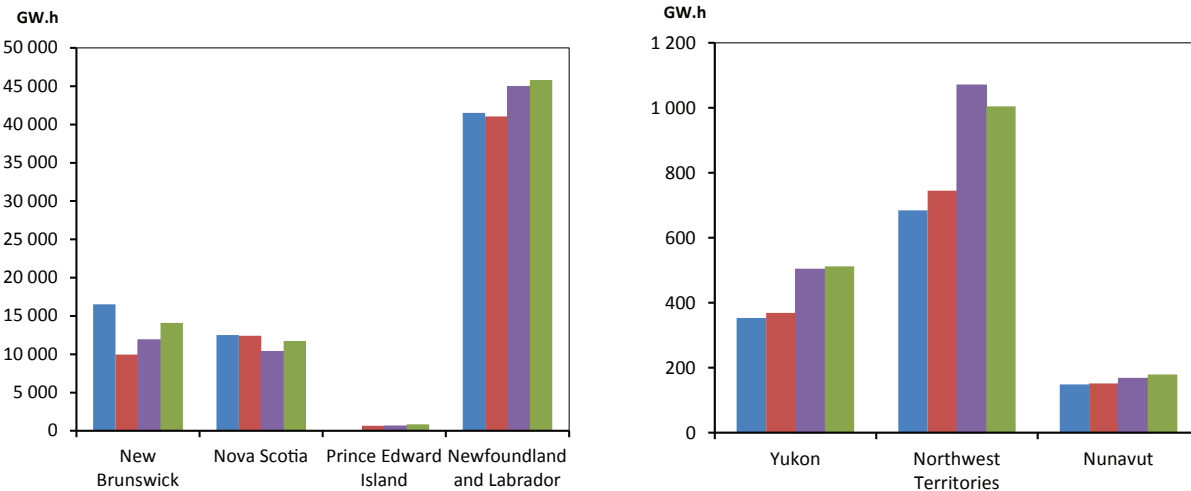
- Future generation trends are largely driven by provincial or territorial demand, although some hydroelectric capacity additions, such as in Quebec, Manitoba, and Newfoundland and Labrador, will be exported to the United States (U.S.) or transferred to neighboring provinces. For example, when completed, the 824 megawatt (MW) Muskrat Falls addition in Labrador will provide 20 per cent of its generation (approximately one terawatt hour (TW.h)), to Nova Scotia on a firm basis, and Nova Scotia will also be able to purchase additional power, if needed.
- Figure 2.1 shows generation by province. Ontario and Quebec are the largest producers of electricity, generating approximately 25 and 30 per cent of total Canadian electricity, respectively. Their share of total Canadian electricity consumption is similar to the generation share.
- Alberta has the highest growth in generation over the projection, driven by industrial demand growth. New hydro developments during the projection period lead to significant increases in generation in Atlantic Canada, Quebec, B.C. and Manitoba. Ontario generation decreases in the mid-term, as nuclear refurbishments take place and a larger part of Ontario's load is met by imports from neighboring provinces and the U.S. Electric generation in the territories is driven by domestic load, and can be quite volatile when large-scale mines are commissioned or shut down during the projection period.

FIGURE 2.1

Electric Generation by Province and Territory



Atlantic Canada and Northern Territory Detail

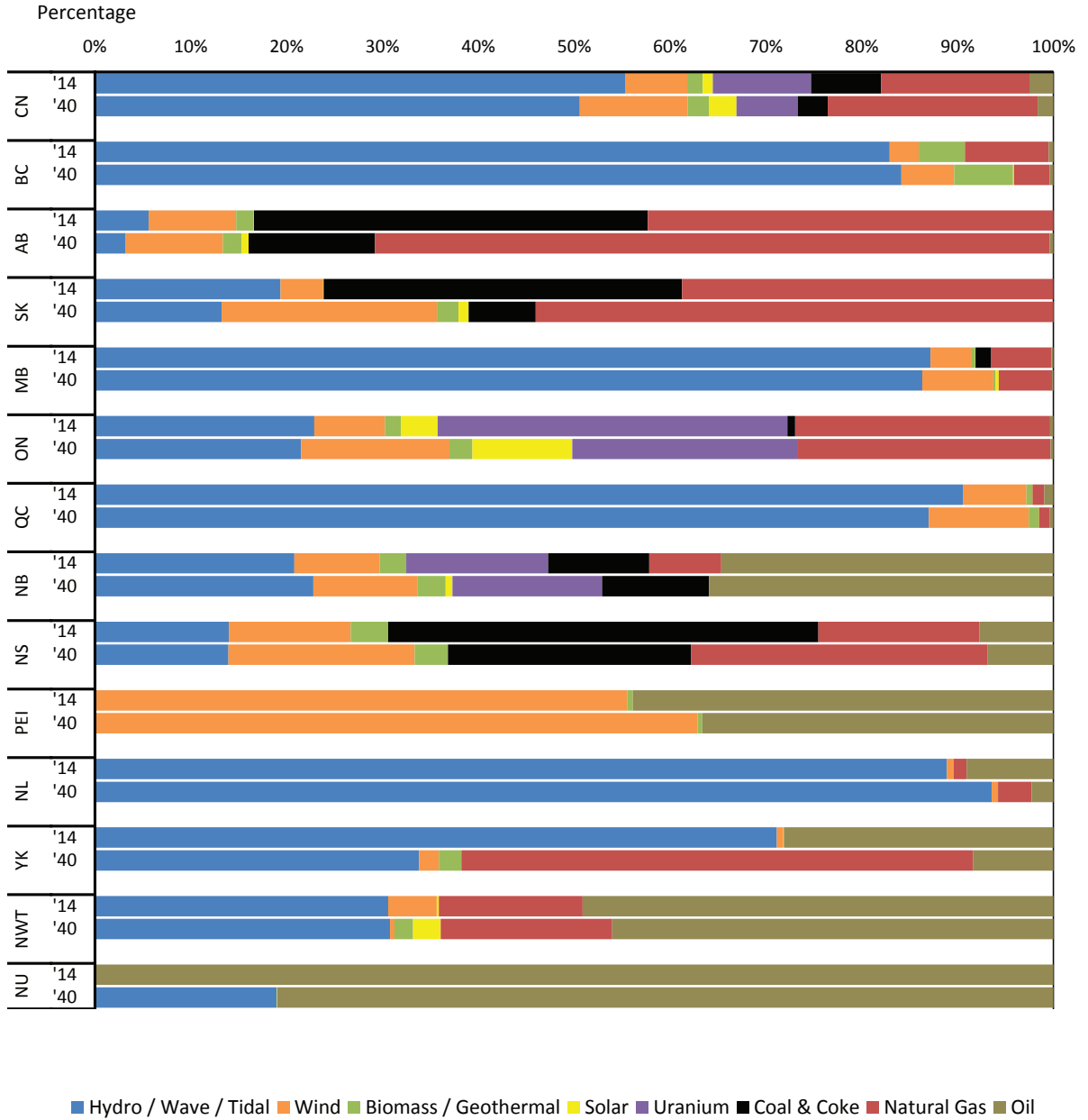


■ 2005 ■ 2014 ■ 2025 ■ 2040

-
- Canada has a diverse electric capacity mix, largely determined by regional resource access, historical infrastructure, and policy initiatives. Figure 2.2 illustrates the capacity mix for all provinces and territories, as well as the Canadian average, in 2014 and 2040. Canada's overall electric grid is dominated by hydroelectricity. Hydroelectricity provides the majority of electric capacity in Quebec, B.C., Manitoba, Newfoundland and Labrador, and Yukon. Alberta, Saskatchewan, and Nova Scotia have primarily thermal-based electricity grids dominated by coal and natural gas, while the capacity in Northwest Territories (NWT) and Nunavut mostly consists of stand-alone thermal units that are fueled with refined products such as diesel and fuel oil. Ontario and New Brunswick have diverse mixes, employing renewable, natural gas, and nuclear power. Prince Edward Island (PEI) generates almost entirely wind electricity, although three quarters of its electricity is imported from New Brunswick.
 - In the months since this analysis was completed (summer 2015), several provinces made announcements that would shift their electricity mix from the trends outlined in EF 2016. For example, in November 2015, the Government of Saskatchewan and SaskPower announced a goal to move towards 50 per cent renewable electricity by 2030. The Alberta climate policy report from November 2015 suggested retirement of greenhouse gas (GHG) emitting coal-fired power facilities by 2030, and increased emphasis on renewable generation.

FIGURE 2.2

Capacity Mix by Province and Territory, 2014 and 2040



Oil Production

- Figure 2.3 shows the EF 2016 Reference Case oil production outlook to 2040 by producing regions. Total Canadian oil production increases at an average annual growth rate of 1.7 per cent per year, from 3.9 million barrels per day (MMb/d) in 2014 to 6.1 MMb/d in 2040. About 60 per cent of current oil production comes from the oil sands and it drives future production growth. There is also significant non-oil sands production in Saskatchewan, Alberta and offshore Newfoundland and Labrador.
- Production varies among the High and Low Price Cases, as well as the Constrained Case, with Alberta continuing to account for the majority of production in all cases as shown in Figure 2.4. Overall production in the Low Price Case and Constrained Case is lower than in the Reference Case and production is higher in the High Price Case.
- East Coast offshore production increases in the medium term, with production from the Hibernia South and White Rose extensions coming online, as well as the Hebron Field, which begins production in 2017. The projections also assume a discovery of a 500 MMb field offshore of Newfoundland and Labrador. This field is assumed to start producing in 2025 in the Reference Case, 2023 in the High Price Case and 2031 in the Low Price Case. After the startup of this field, production declines to the end of the projection period in all cases.

FIGURE 2.3

Reference Case Crude Oil Production by Province

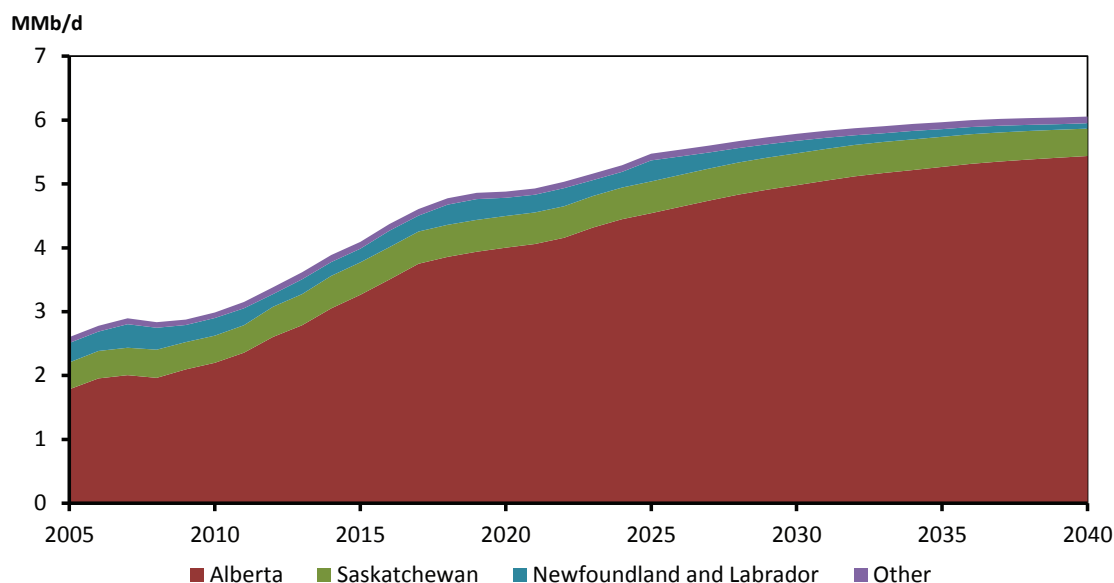
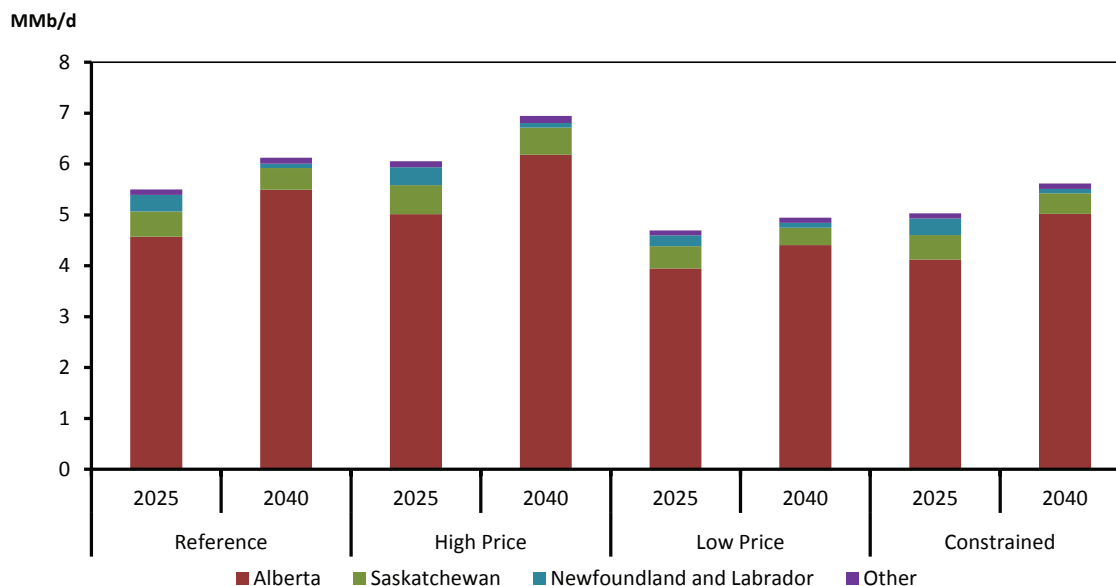


FIGURE 2.4

Crude Oil Production by Province, 2025 and 2040, by Case



Natural Gas Production

- Figure 2.5 shows the EF 2016 Reference Case marketable natural gas production outlook to 2040 by producing region. Most Canadian natural gas production comes from B.C. and Alberta. In the Reference Case, B.C. leads production growth, with the assumed liquefied natural gas (LNG) exports of 2.5 billion cubic feet per day (Bcf/d) encouraging additional production. Alberta's production declines over the projection period, although it still produces the majority of natural gas in Canada.
- The EF 2016 High Price, Low Price, and High LNG and No LNG Cases show that various drivers will impact natural gas production in B.C. and Alberta differently (Figure 2.6). In B.C., natural gas production is impacted by both prices and LNG exports; however, the High LNG and No LNG Cases result in the highest and lowest growth in B.C. natural gas production, respectively. In Alberta, the Low Price Case results in lower production than the No LNG Case.
- Production profiles from areas outside of the Western Canadian Sedimentary Basin continue to decline over the projection period. This includes production in the territories, Ontario, New Brunswick and offshore Nova Scotia. The development of further resources is a possibility but is currently speculative and is not included in this analysis.

FIGURE 2.5

Reference Case Natural Gas Production by Province

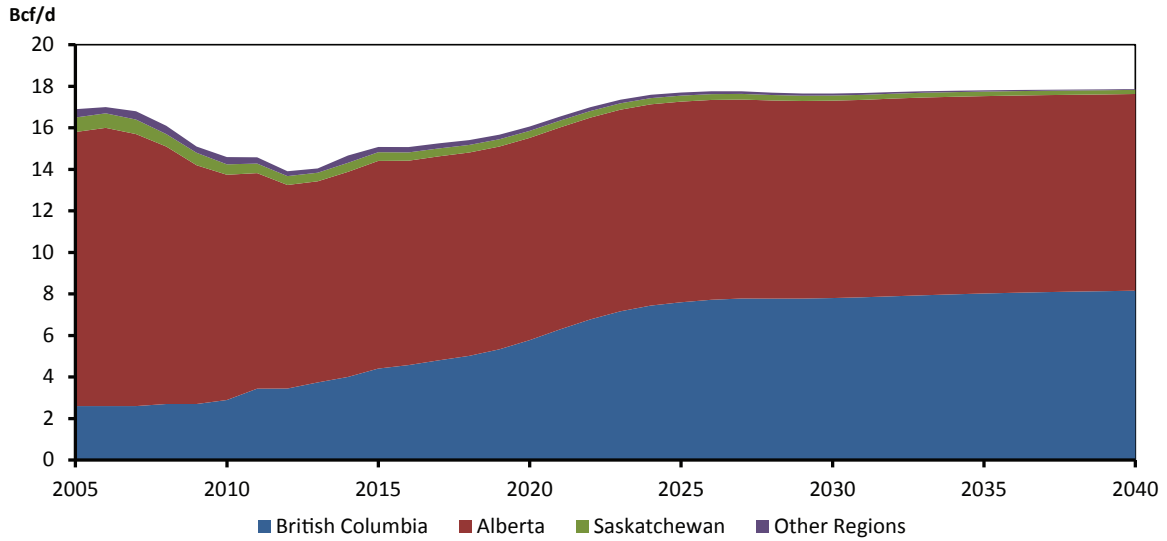
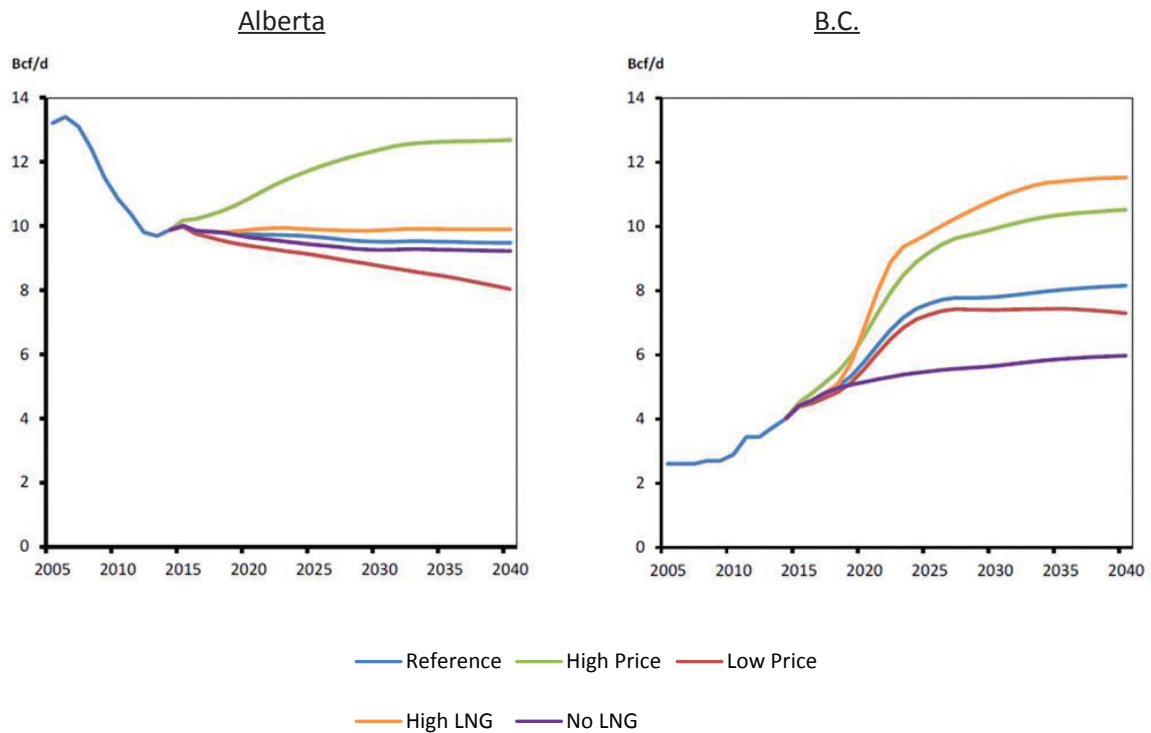


FIGURE 2.6

Alberta and B.C. Natural Gas Production by Case

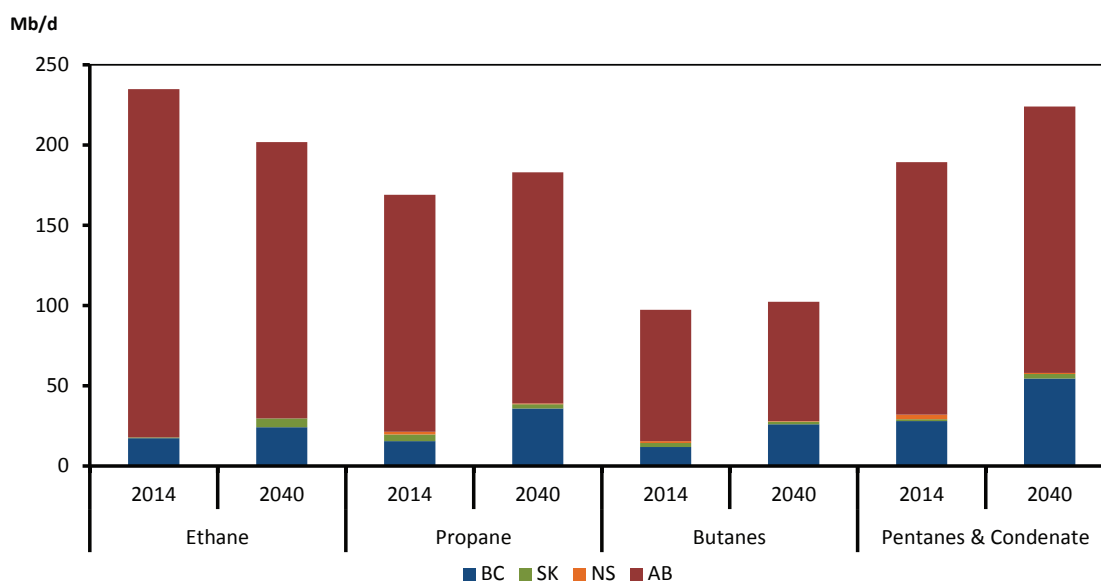


Natural Gas Liquid Production

- Alberta currently produces most of Canada's natural gas liquids (NGLs). Figure 2.7 shows this continuing in the EF 2016 outlook but also shows an increase for all NGLs in B.C. due to increasing natural gas production. Nova Scotia NGL production declines in line with its gas production outlook. Saskatchewan NGL production follows its gas production outlook, peaking in 2025 and decreasing thereafter.

FIGURE 2.7

Reference Case NGL Production by Province



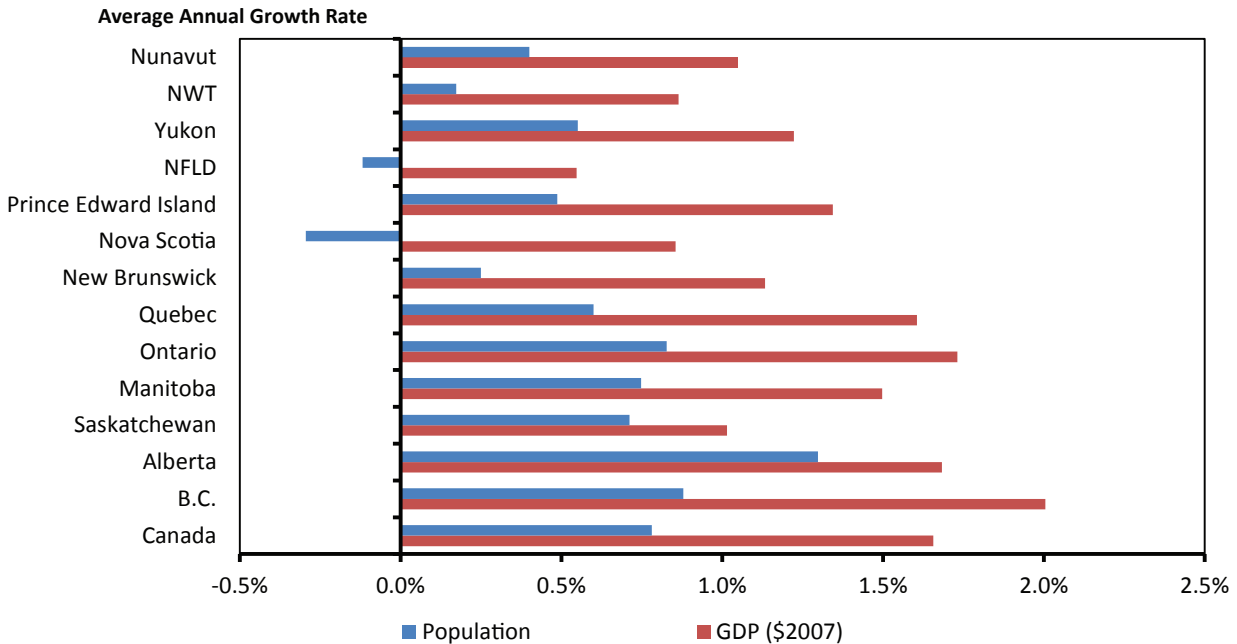
Energy Demand

- Energy use in Canada depends on many factors including: weather, technology trends, consumer tastes and preferences, policies and regulations, and economic variables such as income, employment, industrial activity, and energy prices. The projected trends, including the type of energy used, and how energy is used, vary significantly across Canada's provinces and territories due to the country's diversity.
- Energy use discussed in the figures below is end-use, or secondary energy demand, and includes energy used in four sectors¹: residential, commercial, industrial and transportation. End use excludes the energy used to generate electricity, which is included under primary demand.
- Macroeconomic trends are a key determinant of energy use. Figure 2.8 illustrates the average annual growth rate for population and GDP over the EF 2016 projection period for the Reference Case.

¹ Industrial demand includes energy used in oil and gas production, and commercial demand includes energy used by pipelines. For further details see Chapter 4 of EF 2016.

FIGURE 2.8

Population and GDP Growth Comparison, 2014 to 2040

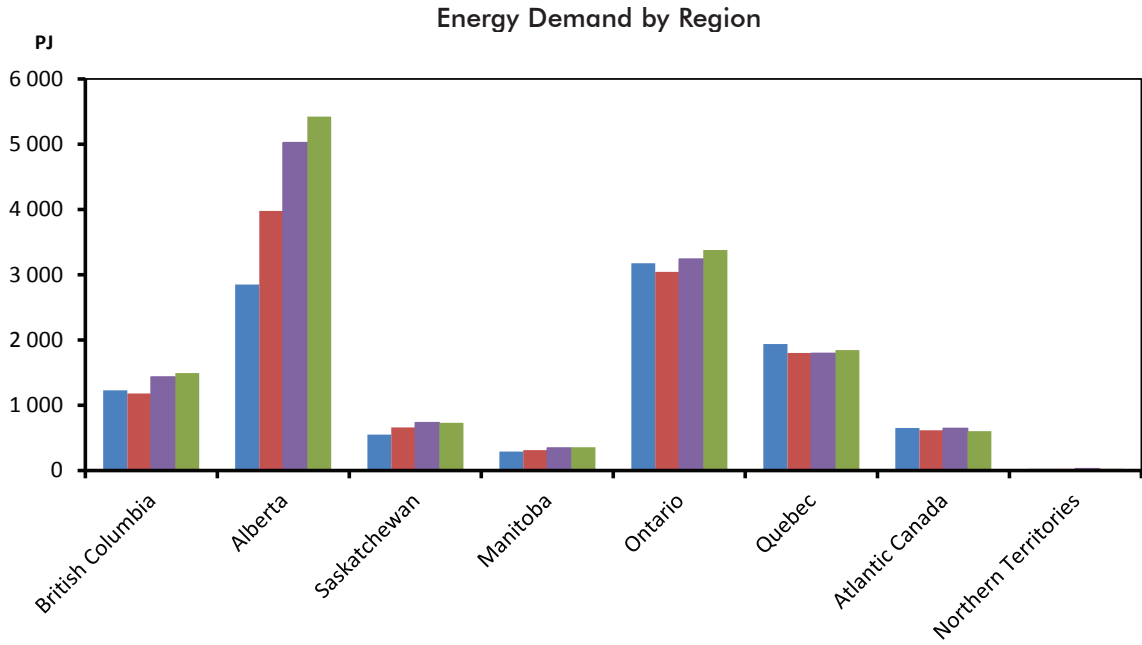


Energy Demand Trends

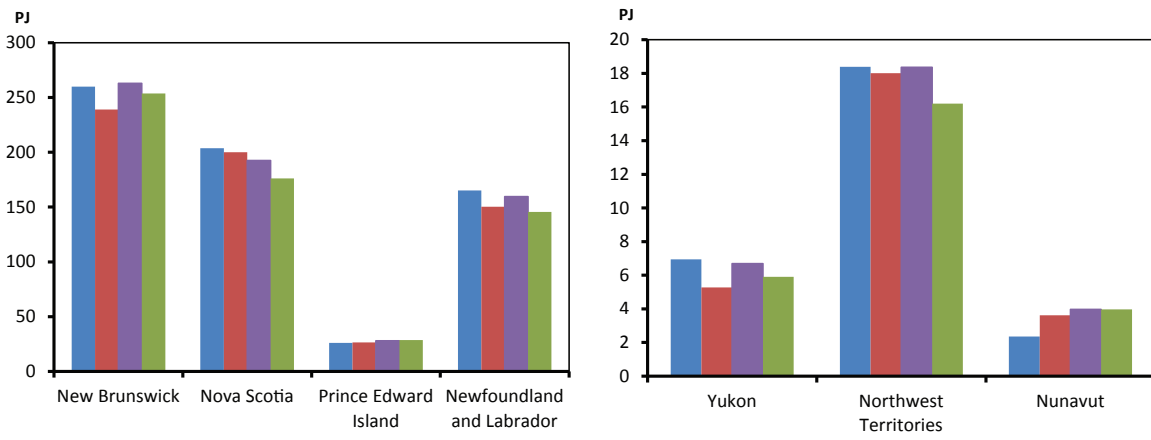
- In the Reference Case, total Canadian energy use grows from 11 626 petajoules (PJ) in 2014 to 13 868 PJ in 2040. As shown in Figure 2.9, end-use levels vary substantially across the country and, with the exception of Atlantic Canada, there is generally a trend of increasing energy use.
- In the EF 2016 Reference Case, Alberta leads demand growth as it has for the last decade. Oil and gas production, particularly in the oil sands, is energy intensive. Alberta’s increasing energy use is related to the production trends and associated economic growth shown in Figures 2.3, 2.4, and 2.5. While lower in absolute terms, B.C. experiences an increase resulting from the large increase in natural gas production required to supply the assumed LNG export facilities.
- Trends in Ontario and Quebec reflect a gradual increase in energy use after considerable declines from 2005 levels. This was related to the impact of the 2008-2009 global economic downturn, when both provinces saw significant declines in energy use, particularly in manufacturing.
- The increase in energy use in Saskatchewan reflects growth in potash mining, manufacturing and tight oil development expected to occur in the province during the projection. Increases in Manitoba relate to growth in manufacturing activity.
- Given their relatively small populations, energy use trends in Atlantic Canada and the territories can be especially volatile. Changes in industrial activity, like the opening or closing of a single mine or plant, can have significant impacts on overall energy use. This is reflected in the outlook for the provinces and territories in these regions.

FIGURE 2.9

Energy Demand, Reference Case



Atlantic and Northern Territory Detail



■ 2005 ■ 2014 ■ 2025 ■ 2040

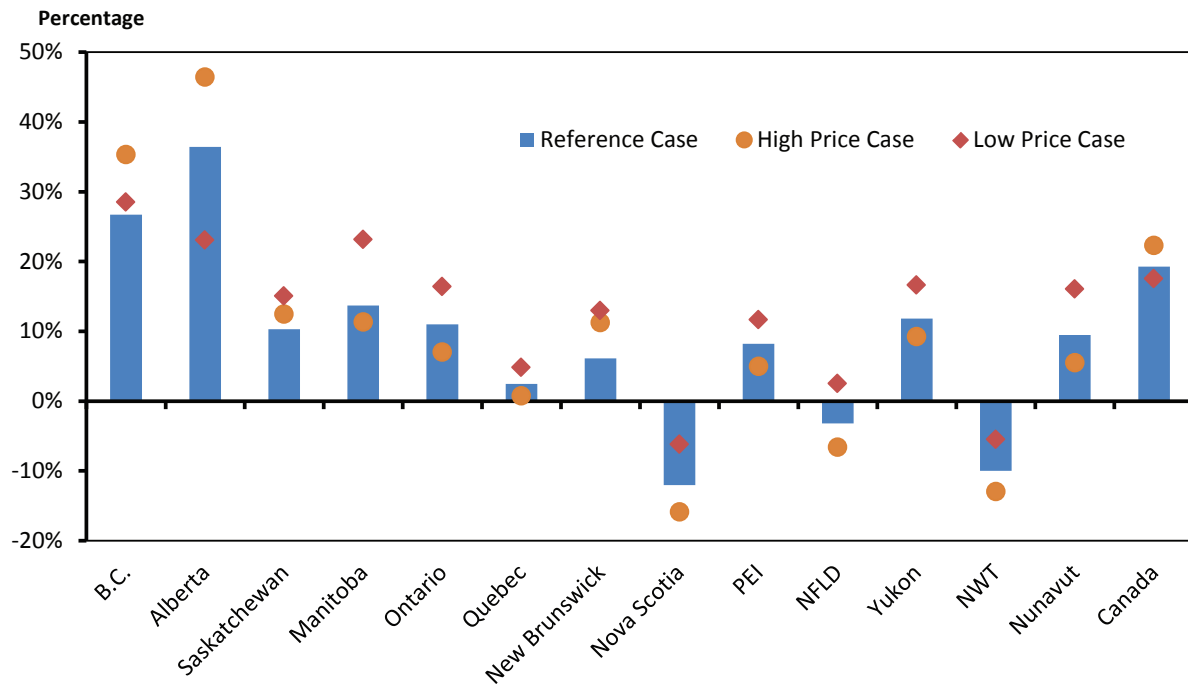
- Figure 2.10 illustrates projected regional growth in energy consumption from 2014 to 2040 for the Reference, High and Low Price Cases. Total Canadian energy use grows by 19 per cent over the projection in the Reference Case, 22 per cent in the High Case, and 17 per cent in the Low Case. The impact of higher and lower prices is not uniform across the country. Alberta and B.C. have the highest demand growth in the High Price Case, as higher oil and gas prices encourage

higher energy production. This outweighs the effect of higher prices in other provinces, which tends to reduce demand. In the Low Price Case, lower growth in Alberta's oil production and the corresponding economic impacts reduces demand, offsetting increasing demand from lower energy prices in other provinces.

- Newfoundland and Labrador, Nova Scotia, and NWT are the only provinces and territory that experience declining end-use demand. In Nova Scotia, this is related to projected population growth, slow economic growth, as well as the energy use associated with declining offshore gas production. In Newfoundland and Labrador, it is related to oil production declines from maturing offshore fields and the assumption that only one future discovery is developed. In NWT, it is related to the decline of natural gas production which reduces its availability. East Coast offshore and Northern exploration continues and future discoveries and developments in these areas represent a key uncertainty to the energy supply and demand projections for the territories and Atlantic Canada.

FIGURE 2.10

Percentage Growth in Energy Demand, Reference Case and Price Cases, 2014 to 2040



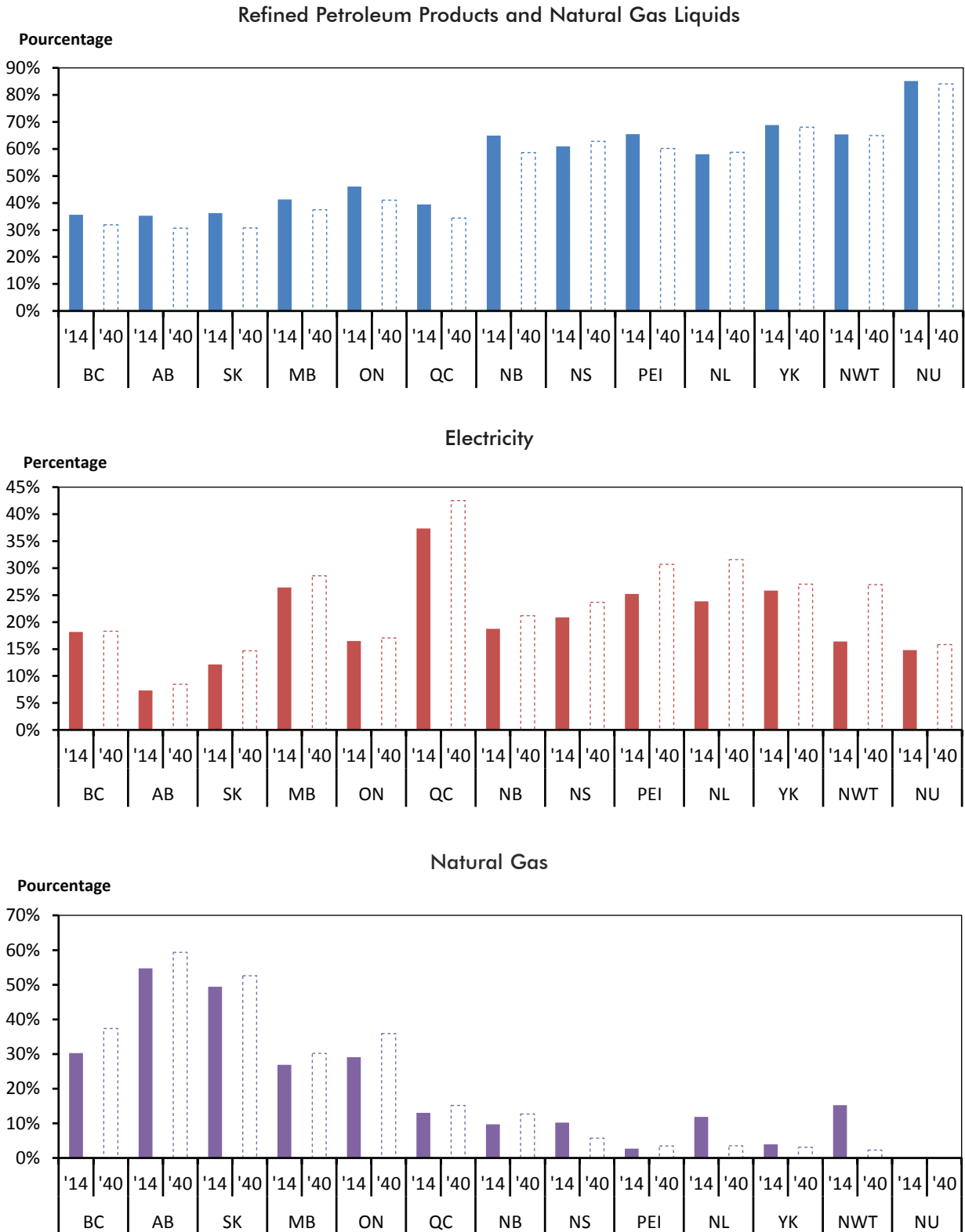
Fuel Mix Trends

- The types of energy used vary between the provinces and territories. The three charts in Figure 2.11 reflect the share of end-use demand for refined petroleum products and liquids, electricity, and natural gas².
- Atlantic Canada and the territories use a much higher share of refined products than the rest of the country, primarily due to the limited availability, infrastructure limitations, and relatively higher cost of other energy sources. Notably, these regions rely on liquid fuels for heat and electricity generation more than other regions because they are more economic and can be transported to remote locations by truck.
- Provinces with large hydroelectric generation capacities tend to have lower electricity prices and electricity comprises a higher share of energy demand. In these provinces, electricity is more likely to be used to heat homes and buildings, as well as power some large industrial activities. For example, Quebec maintains a large aluminum production sector which is an electricity-intensive production process.
- In the western provinces natural gas is used relatively more than other regions because it is readily available and price competitive. It is the primary heating fuel in these provinces, and is used extensively in industrial activity. The cost and availability of natural gas and NGLs in Ontario and the western provinces also makes them prime locations for petrochemical and fertilizer production which use either for feedstock.

² Note that natural gas demand does not include gas that is exported in any form, including cryogenic LNG.

FIGURE 2.11

Share of Energy Use by Fuel, 2014 and 2040



Greenhouse Gas Emissions

- Energy use and GHG emissions are directly related given the prevalence of fossil fuels in the Canadian and global energy mix. The majority of GHGs emitted in Canada result from the combustion of fossil fuels. Fossil fuels include crude oil, natural gas, coal, and refined petroleum products such as gasoline and diesel. Fossil fuels provide the vast majority of energy used to heat homes and businesses, transport goods and people, and power industrial equipment. Emissions from the combustion of fossil fuels, including those used for the production of energy, accounted for 81 per cent of Canadian GHG emissions in 2013³. The remaining emissions are from non-energy sources such as agricultural and industrial processes, and waste handling.
- Figure 2.12 shows energy related GHG emissions by province and territory in 2005 and 2013, the last year for which this data is available from Environment and Climate Change Canada. Between 2005 and 2013, Canada's total GHGs dropped by three per cent, or 23 Megatonnes (MT) carbon dioxide (CO₂) equivalent. Key factors in this reduction include a drop in electric emissions due to declining coal-fired generation and increased renewable generation, as well as a decrease in industrial emissions associated with the 2008-2009 global economic downturn. However, this decrease was offset by increasing emissions from the oil and gas production sector, driven by increased production.
- These national trends are reflected in the regional results. For example, Ontario's decline in emissions is associated with its phase out of coal-fired electricity, while the increase in Alberta GHGs follows the demand trends shown in Figure 2.9, where energy use and economic growth were driven by increasing oil production over this period.

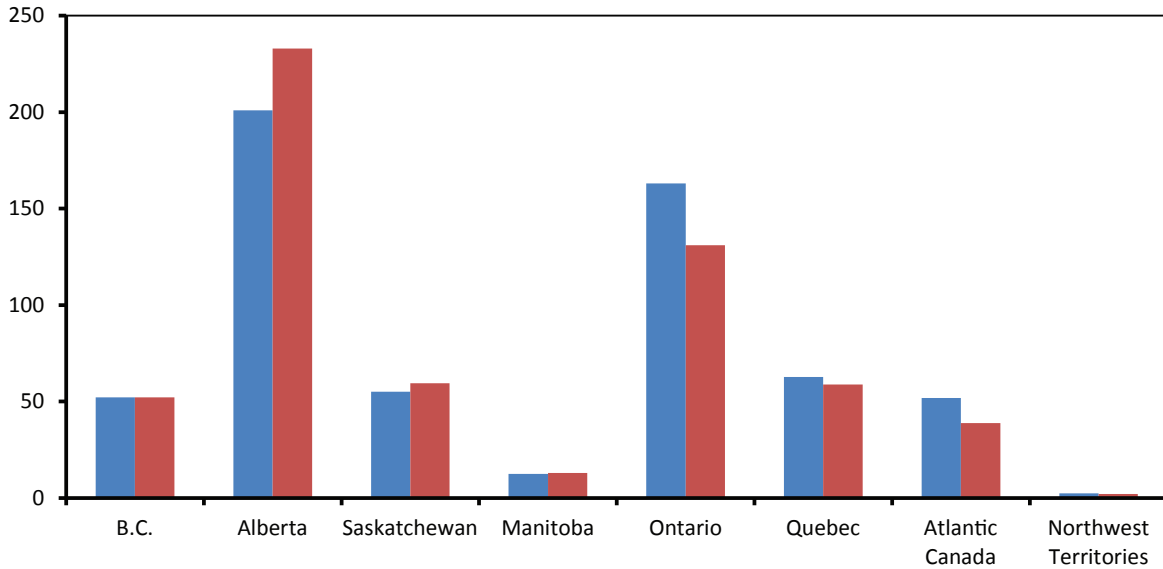
³ [Environment and Climate Change Canada: National Inventory Report 1990-2013](#)

FIGURE 2.12

Energy-related GHG Emissions by Province and Territory, 2005 and 2013

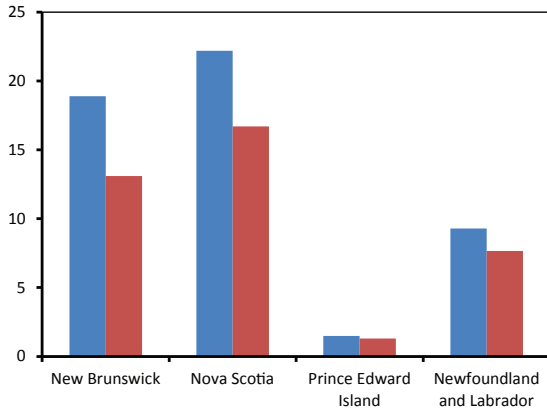
Emissions by Region

MT CO₂ equivalent

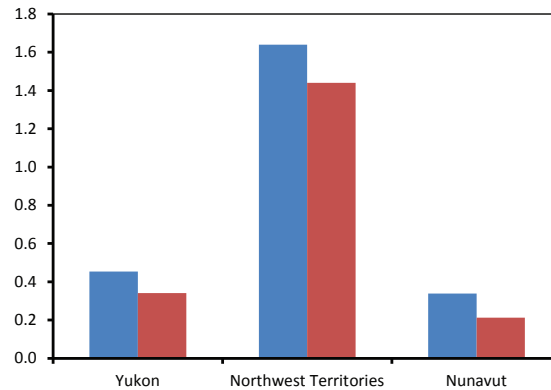


Atlantic Canada and Northern Territory Detail

MT CO₂ equivalent



MT CO₂ equivalent



■ 2005

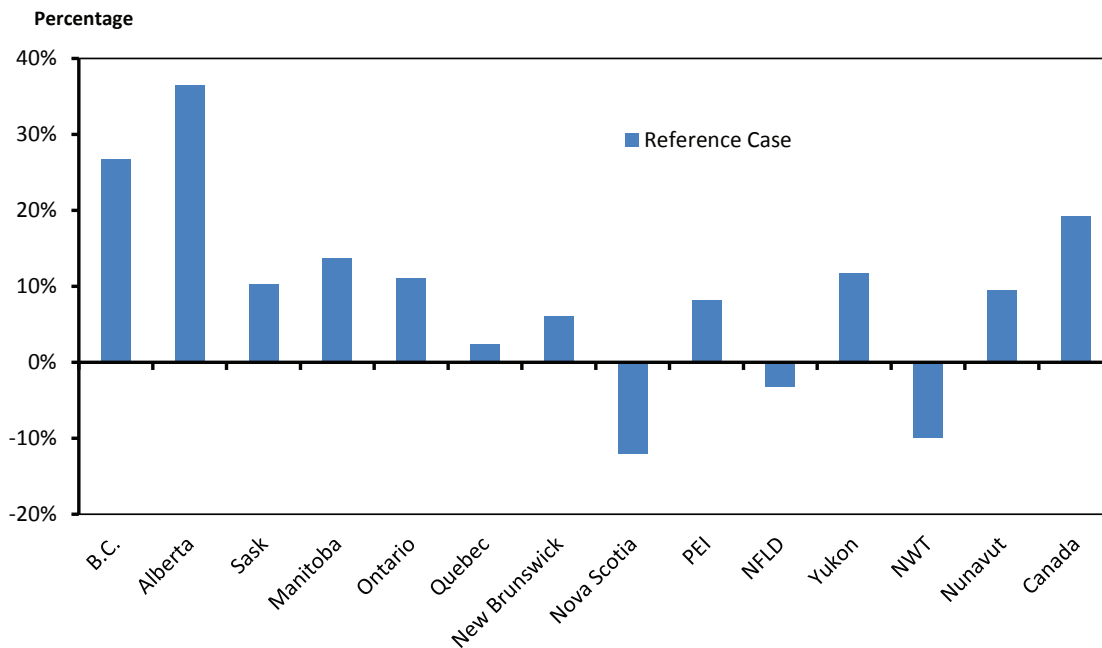
■ 2013

Source: Environment and Climate Change Canada

- In the Reference Case, total fossil fuel energy consumption increases by 22 per cent from 2014 to 2040 at an average of 0.8 per cent per year. This implies a trend of increasing GHG emissions. These increases are somewhat offset by faster growth in less emissions-intensive fuels, such as natural gas, and slower growth in more emissions-intensive fuels such as coal and refined petroleum products. Reference Case fossil fuel consumption growth by province and territory from 2014 to 2040 is shown in figure 2.13.

FIGURE 2.13

Percentage Growth in Total Demand for Fossil Fuels, 2014 to 2040, Reference Case



- The fossil fuel demand projections in EF 2016 only include policies and programs that are law at the time of analysis in summer 2015. In recent months there have been several notable developments at the provincial level that provide considerable uncertainty to these projections, largely relating to the recent climate conference in Paris. These developments include:
 - In the spring of 2015, the Alberta government convened an advisory panel to review the province’s climate policies and provide advice on a new set of policies. In November 2015, the panel released a broad suite of policy recommendations in its report to the Minister. Implementing an economy-wide price for GHG emissions was one of the panel’s recommendations⁴.

⁴ [Alberta Climate Leadership Panel: Climate Leadership – Report to Minister](#)

-
- In early December 2015, the premiers of Ontario, Quebec, and Manitoba signed a memorandum of understanding to facilitate the linking of future GHG cap and trade systems in Manitoba and Ontario with the existing system in Quebec⁵. In late February Ontario released its draft cap and trade proposal for a public and stakeholder comment period⁶.
 - In April 2015, B.C. announced the formation of a Climate Leadership Team to provide recommendations to build upon B.C.'s existing Climate Action Plan. The Climate Leadership Team released their report in late October 2015⁷. The report provides 32 recommendations, including the development of several new strategies, and increasing B.C.'s existing \$30 per tonne carbon tax by \$10 annually, starting in 2018.
 - In late November, the Government of Saskatchewan and SaskPower announced a target to increase the province's share of renewable electricity generation capacity to 50 per cent⁸. This is expected to be led by increases in wind power, along with other renewables such as hydro, solar, biomass and geothermal.

⁵ [Ontario Office of the Premier: News Release - Ontario, Quebec and Manitoba Form a Dynamic Alliance to Fight Climate Change](#)

⁶ [Ontario Environmental Registry: Cap and Trade Regulatory Proposal and Revised Guideline for Greenhouse Gas Emissions Reporting.](#)

⁷ [B.C. Climate Leadership Team - Recommendations to Government](#)

⁸ [SaskPower: News Release - SaskPower to develop wind, solar and geothermal power to meet up to 50% renewable target](#)

KEY FINDINGS BY PROVINCE AND TERRITORY

EF 2016 Highlights at a Glance	
British Columbia	<ul style="list-style-type: none"> • B.C. leads Canadian natural gas production growth. • Both natural gas prices and LNG exports are key uncertainties for B.C. • B.C. is projected to add nearly 5 000 MW of electric capacity over the projection period. • B.C.'s economy and energy use grow faster than the Canadian average over the projection.
Alberta	<ul style="list-style-type: none"> • Oil production growth is determined by future prices and infrastructure development. • Gas production declines in all except the High Price and High LNG Cases. • End-use demand varies substantially by Case. • Recent policy announcements are a key uncertainty to the projections.
Saskatchewan	<ul style="list-style-type: none"> • Oil production declines in all cases except the High Price Case. • New electric capacity will be required to meet demand and replace retiring coal units. • Renewable's share of the electric capacity mix is projected to grow substantially.
Manitoba	<ul style="list-style-type: none"> • Manitoba hydroelectric capacity increases by over 2 000 MW. • Manitoba's energy use grows slower than the national average. • Manitoba oil production declines in all cases.
Ontario	<ul style="list-style-type: none"> • Ontario's recent coal retirements and planned nuclear refurbishments boost renewable and natural gas capacity growth. • Electricity demand grows modestly but fails to reach 2008 peak levels. • End-use demand grows slightly over the projection period.
Quebec	<ul style="list-style-type: none"> • By 2040 Quebec is projected to add over 6 000 MW of new wind and hydro capacity. • Energy use in Quebec is flat in the Reference Case. • Demand remains below the 2007 peak throughout the projection period.
New Brunswick	<ul style="list-style-type: none"> • New Brunswick to maintain diverse electricity supply mix. • End-use demand grows overall, declines after 2025. • Natural gas demand is flat, given decreasing use in electric generation and increasing use in industrial and commercial sectors.
Nova Scotia	<ul style="list-style-type: none"> • Over the projection period, Nova Scotia's renewable share is expected to rise. • Nova Scotia offshore natural gas production decreases over the projection period. • End-use demand declines over the projection period due to industrial declines and GDP and population growth projections.
Prince Edward Island	<ul style="list-style-type: none"> • End-use demand increases over the forecast due to increasing manufacturing activity. • Electricity demand steadily increases, driven by use in buildings and the manufacturing sector. • Wind generation continues to grow over the projection period.
Newfoundland and Labrador	<ul style="list-style-type: none"> • Electricity generation will be even more dominated by hydroelectricity. • Offshore oil production increases in the medium term in all cases, although the timing of increased production varies by case. • End-use demand rises in the medium term, declines thereafter.
Yukon	<ul style="list-style-type: none"> • Demand is volatile because of the mining sector. • Fuel mix to remain the most diverse of the northern territories. • Yukon to add 200 MW of capacity over the projection.
Northwest Territories	<ul style="list-style-type: none"> • Production of oil and natural gas declines throughout the outlook in all cases. • Reduced natural gas production leads to declining natural gas use; other fuels make up the shares in space heating market. • Diesel-fired generators will remain the main source of electricity supply.
Nunavut	<ul style="list-style-type: none"> • Energy demand increases moderately over the projection period. • Industrial demand growth is driven by mining activity. • Refined petroleum products continue to dominate the fuel mix. • Renewables gain a small share of the Nunavut fuel mix.

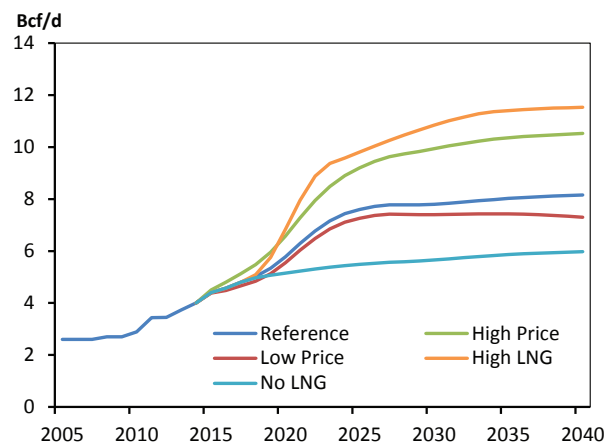
These results are from the Reference Case projection unless otherwise noted, which is a baseline outlook assuming mid-range energy prices, and policies and regulations that were law or near law at the time the analysis was finalized, which was August 2015.

BRITISH COLUMBIA

Key Findings Results refer to the Reference Case unless otherwise noted.

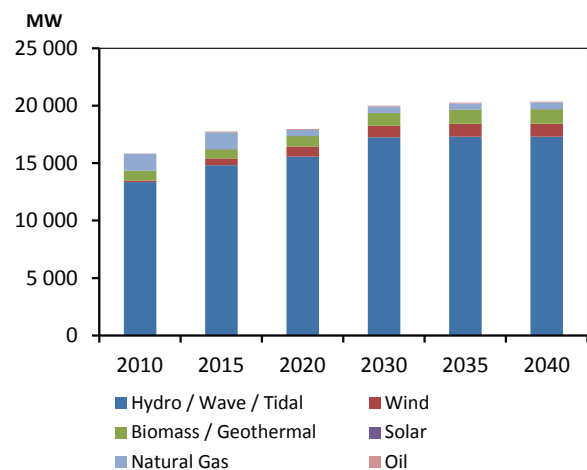
- B.C. leads Canadian natural gas production growth.** B.C. natural gas production is expected to increase in all cases. In the Reference Case, B.C. natural gas production reaches 8.2 Bcf/d, an increase relative to 2014 levels of 4.0 Bcf/d. This is driven by the assumed 2.5 Bcf/d of LNG exports by 2023. B.C.'s share of Canadian production increases substantially, from 27 per cent in 2014 to 46 per cent in 2040.
- Both natural gas prices and LNG exports are key uncertainties for B.C.** Trends in natural gas production, economic growth, and energy demand vary significantly across the price and LNG Cases. In the High Price and High LNG cases, production increases to 10.5 Bcf/d and 11.5 Bcf/d, respectively. In the Low Price and No LNG Cases, increases are limited to 7.3 Bcf/d and 6.0 Bcf/d, respectively.
- B.C. is projected to add nearly 5 000 MW of electric capacity over the projection period.** This includes several large hydro facilities (Mica 5 and 6, Site C, and Revelstoke 6), and natural gas, wind, and biomass additions.
- B.C.'s economy and energy use grows faster than the Canadian average over the projection.** B.C. end-use demand grows at an average annual growth rate of 0.9 per cent over the projection period, rising from 1 180 PJ in 2014 to 1 495 PJ in 2040. This is higher than the Canadian end-use demand growth of 0.7 per cent, which is attributable to B.C.'s higher economic growth and increasing energy use associated with growing natural gas production, transportation, and LNG liquefaction.

FIGURE BC.1:
Natural Gas Production by Case



Notes: Natural gas production in B.C. increase in all cases. In the Reference Case, B.C. natural gas production reaches nearly 8.2 Bcf/d, relative to 4.0 Bcf/d in 2014. An important driver of the production growth is the assumed export of west coast LNG, with High LNG and No LNG Cases resulting in the highest and lowest long-term B.C. production respectively.

FIGURE BC.2:
Electricity Capacity Additions



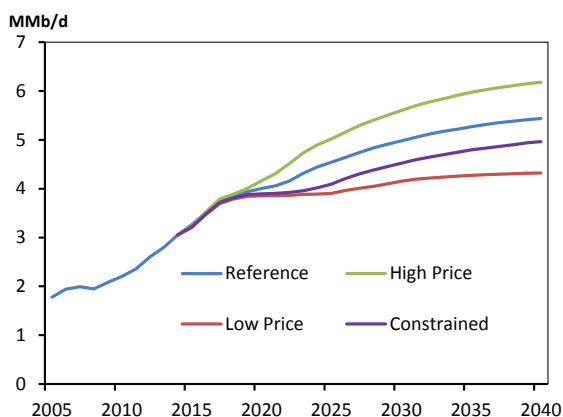
Notes: B.C.'s electric generation capacity increases from 16 860 MW in 2014 to 20 500 MW in 2040. Nearly 3 000 MW of this increase is from hydro power, with major additions including: Site C (2024), Revelstoke unit 6 (2020), and Mica units 5 (2014) and 6 (2015). By 2040, the capacity of wind and biomass generation almost doubles from current levels, reaching 2 400 MW. Also over the projection, BC is expected to retire close to 1 000 MW of natural gas fired capacity.

ALBERTA

Key Findings Results refer to the Reference Case unless otherwise noted.

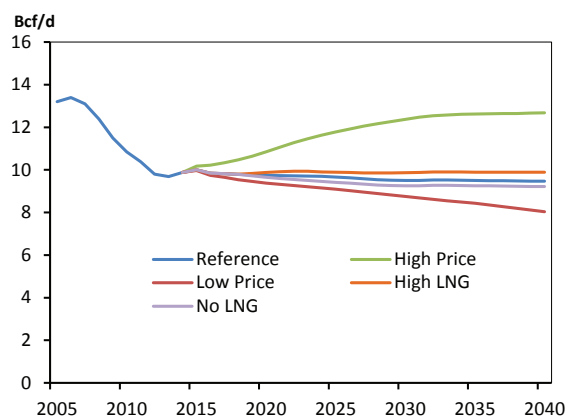
- Oil production growth is determined by future prices and infrastructure development.** Alberta's oil production is expected to increase, led by in-situ oil sands growth. Oil production increases 78 per cent over 2014 levels in the Reference Case, reaching 5.4 MMb/d by 2040. In the High Price Case production rises even faster, to 6.2 MMb/d by 2040. In the Low Price and Constrained Case, production still grows, but at a slower pace, with production in 2040 reaching 4.3 MMb/d in the Low Price Case, and 5.0 MMb/d in the Constrained Case.
- Gas production declines in all except the High Price and High LNG Cases.** Alberta's natural gas production in the Reference Case declines from 9.9 Bcf/d in 2014 to 9.5 Bcf/d in 2040. The Low Price and No LNG Cases also see production declining over the projection to 8.0 Bcf/d and 9.2 Bcf/d. The High Price case has production increasing to 12.7 Bcf/d, while in the High LNG Case, production is flat.
- End-use demand varies substantially by case.** In the Reference Case, demand rises from 3 978 PJ in 2014 to 5 426 PJ in 2040, an increase of 36 per cent. Alberta demand varies substantially in several other cases because of variations in energy production and economic growth. The High, Low and Constrained Cases grow 46, 23 and 30 per cent and demand reaches 5 816 PJ, 4 888 PJ, and 5 188 PJ, respectively.
- Recent policy announcements are a key uncertainty to the projections.** The EF 2016 demand projections do not include the impact of Alberta's new climate policy, announced in late 2015. Key changes may include an economy-wide carbon price, a cap on oil sands emissions, and a phase out of GHG emitting coal-fired generation by 2030.

FIGURE A B . 1 :
Oil Production by Case



Notes: Oil production in Alberta increases in the Reference Case, reaching 5.4 MMb/d in 2040, an increase of 79 per cent relative to 2014 levels. Production in the High Price Case, Low Price Case and Constrained Case reaches 6.2 MMb/d, 4.3 MMb/d and 5.0 MMb/d, respectively, by 2040.

FIGURE A B . 2 :
Natural Gas Production by Case



Notes: Alberta's natural gas production declines slightly in the Reference Case, down to 9.5 Bcf/d in 2040 or four per cent below 2014 levels. Production in the High Price Case, Low Price Case, High LNG Case and No LNG Case reached 13 Bcf/d, eight Bcf/d, 10 Bcf/d and nine Bcf/d, respectively, by 2040.

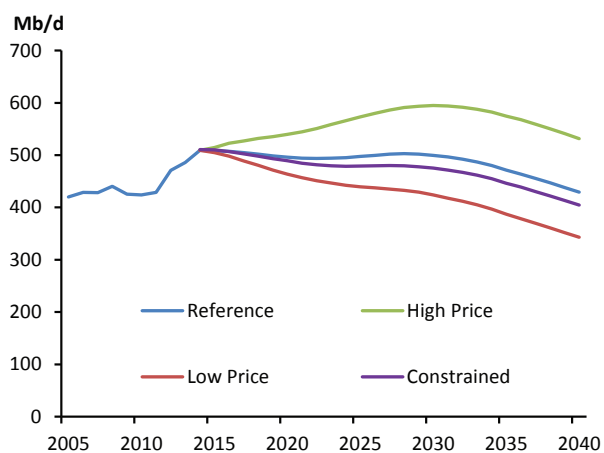
SASKATCHEWAN

Key Findings

Results refer to the Reference Case unless otherwise noted.

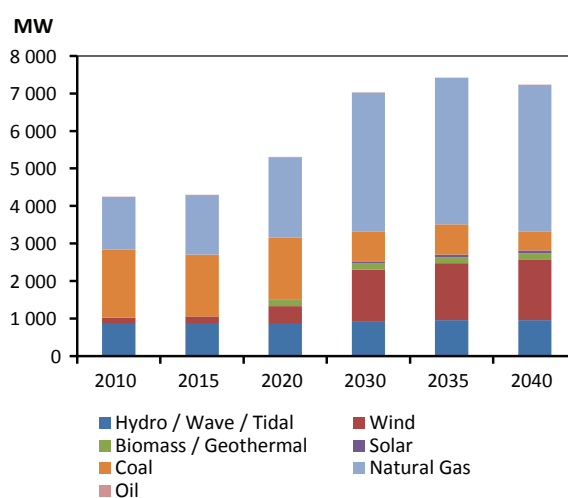
- Oil production declines in all cases except the High Price Case.** While Saskatchewan remains the largest producer of conventional heavy oil in the Reference Case, total oil production declines 16 per cent below 2014 levels, from 509 Mb/d to 429 Mb/d by 2040. The High Price Case is the only case where production increases by 2040, reaching 532 Mb/d. In the Low Price Case oil production declines to 343 Mb/d by 2040.
- New electric capacity will be required to meet demand and replace retiring coal units.** Over the projection period, Saskatchewan electricity demand increases at an average annual rate of 1.1 per cent, or approximately seven TW.h. In EF 2016, demand growth and replacement of coal is met mostly by natural gas generation, which increases from 8 500 gigawatt hours (GW.h) in 2014 to 20 500 GWh in 2040. In 2014 Boundary Dam 3 became the first commercial-scale coal-fired power plant equipped with Carbon Capture and Storage (CCS) capacity. Additional coal with CCS capacity is also added later in the projection period.
- Renewable's share of the electric capacity mix is projected to grow substantially.** In the fall of 2015, Saskatchewan announced a target of 50 per cent renewable power by 2030. In the EF 2016 projections, which were completed before this announcement, the share of renewable capacity increases from 25 to 40 per cent over the projection period.

FIGURE SK.1:
Oil Production by Case



Notes: Oil production in Saskatchewan declines in every case except the High Price Case, where it reaches 0.53 MMb/d, a growth of 3.3 per cent over 2014 levels. The Low Price Case has the largest negative impact on oil production, decreasing it to 0.34 MMb/d, 32 per cent below 2014 levels.

FIGURE SK.2:
Projected Electric Generation Capacity



Notes: Saskatchewan currently relies on coal for baseload generation; over the projection period it becomes a smaller share of the province's electric capacity mix. In 2014 the first commercial-scale coal-fired power plant equipped with CCS technology started up at the Boundary Dam station.

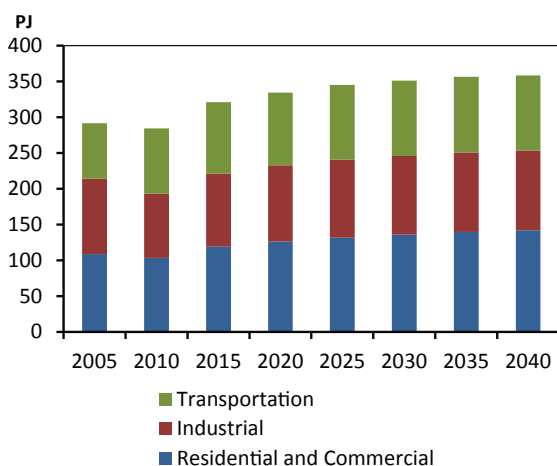
MANITOBA

Key Findings

Results refer to the Reference Case unless otherwise noted.

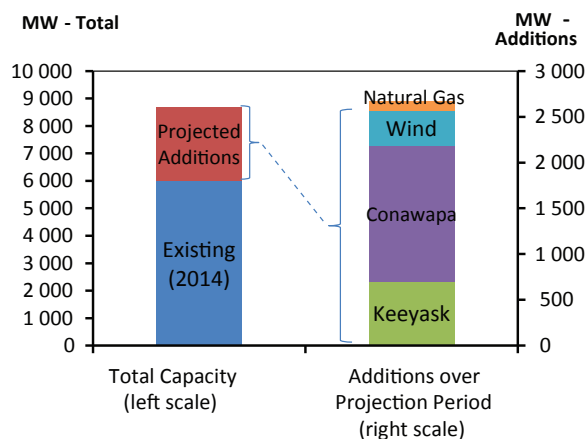
- Manitoba hydroelectric capacity increases by over 2 000 MW.** EF 2016 assumes that both Keeyask and Conawappa hydro facilities are built over the projection period, which leads to significant increases in electricity exports from the province. For the past ten years Manitoba has been exporting surplus power to the U.S. and neighboring provinces. Boosted by long-term fixed contracts and the addition of Keeyask and Conawappa, Manitoba's exports to the U.S. are expected to rise by the end of the projection period.
- Manitoba's energy use grows slower than the national average.** Manitoba end-use demand grows at an average rate of 0.5 per cent per year over the projection period, increasing from 315 PJ in 2014 to 358 PJ in 2040. This is lower than the 0.7 per cent per year rate of Canadian end-use demand. This follows trends in economic growth, where the province's annual average GDP growth rate of 1.5 per cent is also slower than the Canadian rate of 1.7 per cent.
- Manitoba oil production declines in all cases.** Driven by developments in tight oil, Manitoba oil production increased rapidly from 2010 to 2013 reaching 55.5 Mb/d. Production declined in 2014 to 46.0 Mb/d and is expected to continue declining in all EF 2016 cases, reaching 14 Mb/d by 2040. This decline reflects the current limited resource potential of the tight oil resources in Manitoba. The different prices in the various cases affect how quickly production declines.

FIGURE MB.1:
Energy Use By Sector



Notes: Manitoba end-use demand grows to 358 PJ in 2040 or 14 per cent over 2014 levels. Energy use is driven higher by low prices in the Low Price Case, reaching 381 PJ in 2040 and lower by higher prices in the High Price Case, reaching 344 PJ.

FIGURE MB.2:
Electric Capacity Additions



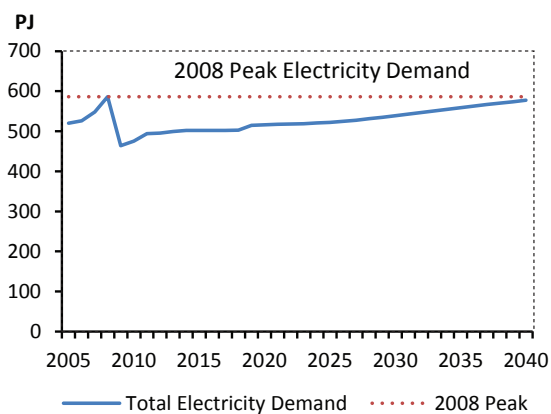
Notes: Manitoba's electric generation capacity increases from 6 000 MW in 2014 to 8 600 MW in 2040. The majority of Manitoba's capacity mix is hydroelectric generation, and this continues in the EF 2016 projection. Manitoba's capacity increases with two major hydro additions, Keeyask (700 MW, online in 2020-21) and Conawappa (1 485 MW, online in 2025), along with nearly 400 MW of additional wind capacity and modest amounts of other renewables.

ONTARIO

Key Findings Results refer to the Reference Case unless otherwise noted.

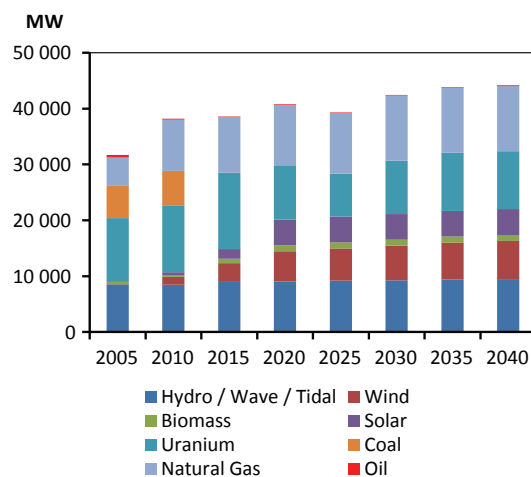
- Ontario's recent coal retirements and planned nuclear refurbishments boost renewable and natural gas capacity growth.** Over the projection period, Ontario is expected to add over 11 gigawatts (GW) of new capacity. Wind, solar, and natural gas will makeup 90 per cent of new additions, increasing 4.8, 3.2 and 2.3 GW, respectively. Ontario has the largest solar and wind deployment in Canada with a combined installed capacity of over 4 000 MW. By 2040, their capacity of wind, solar and biomass is estimated to reach 12 497 MW, accounting for 28 per cent of total supply.
- Electricity demand grows modestly but fails to reach 2008 peak levels.** The 2008 economic downturn led to a large contraction in Ontario's electricity-intensive mining and manufacturing sectors. Demand for electricity in the province is currently still below the 2008 peak level, and is not expected to exceed that peak during the projection period. Future expansion of Ontario's industrial sector is a key uncertainty for electric demand. In particular, accelerated future growth in the mining sector could lead to higher electric demand growth in the province.
- End-use demand grows slightly over the projection period.** Total Ontario end-use demand increases from 3 045 PJ to 3 380 PJ over the projection, as declines in the transportation sector are outweighed by gains in the industrial, commercial and residential sectors. EF 2016 sensitivity cases have modest impacts on Ontario's end-use demand, the High and Low Price Cases resulting in 3 259 PJ and 3 544 PJ of demand by 2040, respectively.

FIGURE ON.1:
Electricity Demand



Notes: Electricity demand in Ontario peaked in 2008 and declined rapidly thereafter due to the 2008-2009 economic downturn. This chart illustrates the effect of the downturn. Despite Ontario's growth in industrial and building demand, electricity consumption remains below its 2008 peak.

FIGURE ON.2:
Electric Capacity



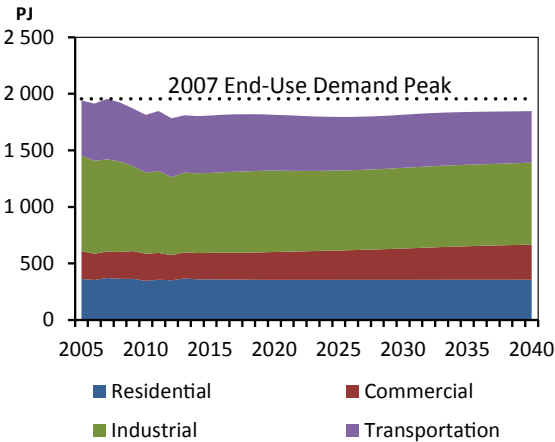
Notes: Refurbishments at Bruce and Darlington nuclear generation stations are scheduled to commence in the coming years, while all six operating units at the Pickering station are scheduled for retirement by 2020. Ontario plans to address electricity needs in this period with natural gas, renewables, imports, and conservation strategies.

QUEBEC

Key Findings *Results refer to the Reference Case unless otherwise noted.*

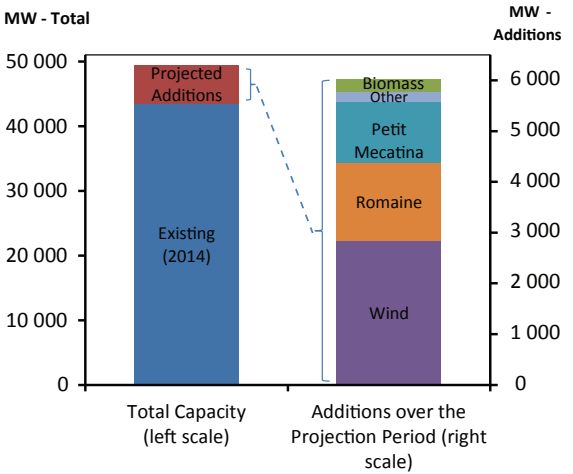
- By 2040 Quebec is projected to add over 6 000 MW of new wind and hydro capacity.** Close to 3 000 MW of new hydro capacity is expected to be added over the projection period. Major additions include: Petit Mécatina 1-4 (2028-2031) and Romaine 1-4 (2016-2021). By 2040, the capacity of wind, solar, and biomass is estimated to reach 5 571 MW. Wind contributes the biggest share of renewable growth, with close to 3 000 MW of new additions. Quebec’s electricity exports are expected to remain strong during the projection period. Recently Ontario and Quebec signed a Memorandum of Understanding to exchange electricity capacity.
- Energy use in Quebec is flat in the Reference Case.** End-use demand grows only slightly, rising from 1 803 PJ in 2014 to 1 847 PJ in 2040. This limited growth is the result of declines in the transportation and residential sectors and offsets most of the small gains in the commercial and industrial sectors. This relatively flat growth is influenced by Quebec’s participation in a GHG cap-and-trade system with California, and associated climate policies. Electricity accounts for the majority of the province’s demand growth over the projection period, growing 112 PJ to 786 PJ by 2040.
- Demand remains below the 2007 peak throughout the projection period.** Quebec’s end-use demand declined rapidly from its 2007 peak of 1 954 PJ as its manufacturing sector faced significant contraction due to the 2008 economic downturn. End-use demand grows 44 PJ to reach 1 847 PJ in 2040, but remains below the 2007 peak for the entire projection period. Lower energy prices drive demand slightly higher to 1 890 PJ in 2040 in the Low Price Case and higher energy prices drive demand lower to 1 816 PJ by 2040 in the High Price Case.

FIGURE QC.1:
End-use Demand by Sector



Notes: Quebec’s end-use demand is fairly flat throughout the projection, reaching 1 847 PJ in 2040, well below the pre-recessionary peak of 1 954 PJ in 2007 and only 2.4 per cent over 2014 levels.

FIGURE QC.2:
Electric Capacity Additions



Notes: The majority of Quebec’s generating capacity is hydroelectricity which accounts for 91 per cent (2014) of the province’s total installed capacity. Quebec comprises over 50 per cent of Canada’s hydro generation (2014). By comparison, Manitoba, Ontario and B.C. together contribute 37 per cent.

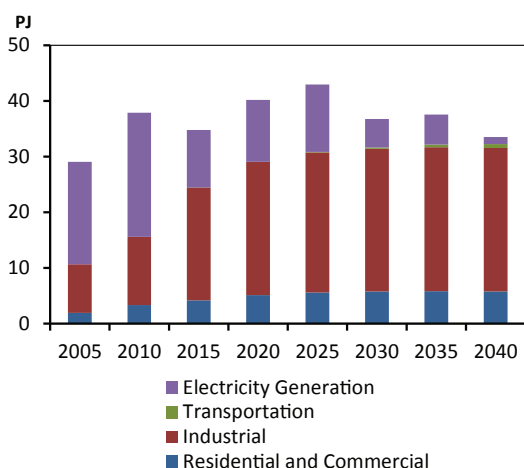
NEW BRUNSWICK

Key Findings

Results refer to the Reference Case unless otherwise noted.

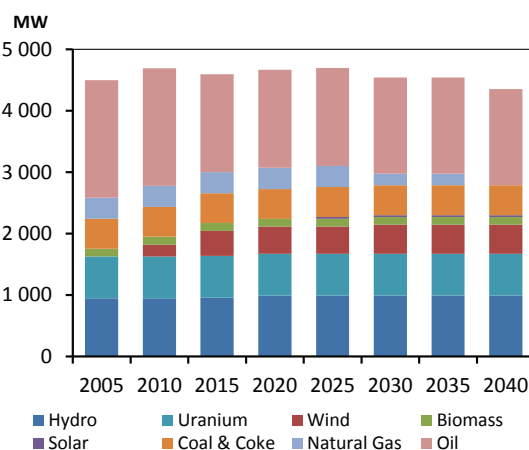
- New Brunswick to maintain diverse electricity supply mix.** New Brunswick’s electricity supply comes from a diverse mix of fuels and this is expected to continue over the projection period. New Brunswick has a renewable portfolio standard (RPS) that targets 40 per cent renewable supply by 2020. This RPS covers electricity generated or imported from renewable sources. Over the projection period, close to 130 MW of new capacity is expected to come online from wind and solar. In accordance with New Brunswick’s integrated resource plan, the Belledune coal-fired generation station is expected to remain operational through the projection period.
- End-use demand grows overall, declines after 2025.** Medium-term increases in construction and manufacturing cause end-use demand to increase above its 2014 level of 239 PJ and peak at 263 PJ in 2025. Demand declines to 254 PJ by 2040 driven largely by flat growth in these industries and declining demand for passenger transportation. The High and Low Price Cases affect the projections as expected, with the lower energy prices in the Low Price Case increasing the end-use demand to 270 PJ in 2040 and the higher prices of the High Price Case reducing 2040 demand to 243 PJ.
- Natural gas demand rises and then falls given decreasing use in electric generation, and increasing use in industrial and commercial sectors.** Demand for natural gas rises in the medium term and then declines as natural gas combined cycle units are retired in the mid-2020s, as suggested in the province’s recent integrated resource plan. Along with declining residential demand, these retirements offset gains in commercial and industrial gas demand so that demand only grows from 32 PJ in 2014 to just over 33 PJ in 2040.

FIGURE NB.1:
Natural Gas Demand by Sector



Notes: Natural gas demand increases in the medium term, increasingly used in industrial applications and for residential and commercial heating. In the long term, natural gas demand decreases as natural gas-fired electricity generation units are decommissioned.

FIGURE NB.2:
Electric Capacity Mix



Notes: Nuclear and hydro supply over 60 per cent of New Brunswick’s current generation and this is expected to remain stable over the projection period.

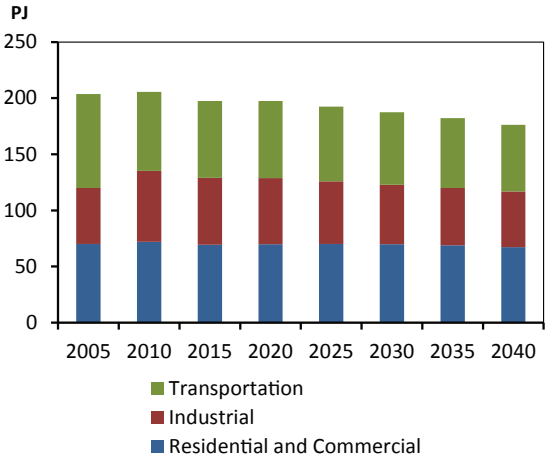
NOVA SCOTIA

Key Findings

Results refer to the Reference Case unless otherwise noted.

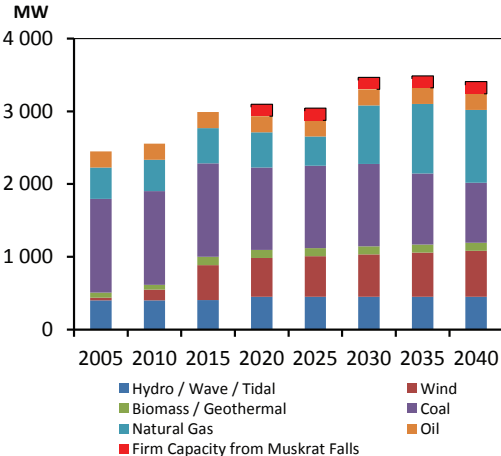
- Over the projection period, Nova Scotia’s renewable share is expected to rise.** Nova Scotia has a legislated Renewable Electricity Standard (RES) that requires 40 per cent of the province’s electricity to come from renewable energy by 2020. EF 2016 projects that this RES will be met by wind, biomass and hydro generation, with additional renewable energy coming from Muskrat Falls in Labrador. Twenty per cent of the energy generated by Muskrat Falls will be reserved for Nova Scotia, and additional amounts will likely be available for transfers to Nova Scotia. In 2014, the federal government and Nova Scotia signed an equivalency agreement where the provincial legislation regarding limits on GHG emissions, determined in tonnes of CO₂, is considered equivalent to the corresponding provisions in the *Canadian Environmental Protection Act* and the *Reduction Regulations*, provided certain emissions limits are met.
- Nova Scotia offshore natural gas production decreases over the projection period.** Deep Panuke production declines steadily from an annual rate of 199 MMcf/d in 2014; production now only occurs in the winter months. Production from the Sable Offshore Energy Project continues to decline as well, falling from an annual rate of 123 MMcf/d in 2014. Both of these projects are likely to be shut in well before 2040 but timing is uncertain. Exploration of the East Coast offshore continues and future discoveries and developments in these areas represent a key uncertainty to the energy supply, and energy demand projections for Nova Scotia.
- End-use demand declines over the projection period due to industrial declines and the GDP and population growth projections.** End-use demand declines from 200 PJ in 2014 to 176 PJ in 2040. This is mainly attributable to the energy decrease associated with declining natural gas production. Slow GDP growth, declining population growth, and improving energy efficiency all contribute to reduced demand in the residential, commercial and transportation sectors. Increasing manufacturing demand, led by growth in ship building, offsets some of these declines.

FIGURE NS.1:
End-Use Demand by Sector



Notes: Nova Scotia’s end-use demand declines at an annual average rate of 0.5 per cent over the forecast. This is driven by declining natural gas production and slow growth in macroeconomic drivers.

FIGURE NS.2:
Electric Capacity Mix



Notes: In 2014 over 60 per cent of Nova Scotia’s generation came from coal-fired plants. In the projection period Nova Scotia is expected to use more electricity from renewable energy, including hydroelectric imports from Newfoundland and Labrador. This chart shows the firm capacity guaranteed to Nova Scotia associated with Muskrat Falls. The province also has the option to purchase additional power at market rates.

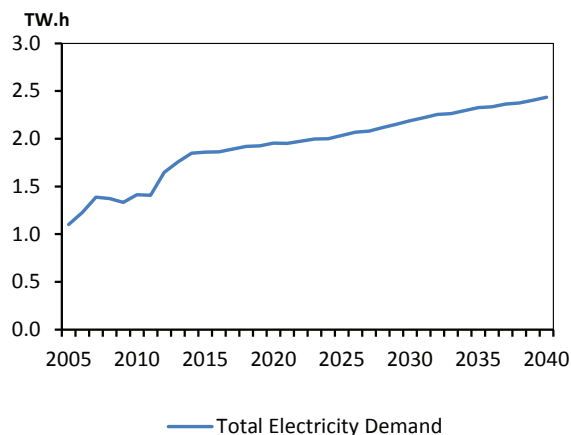
PRINCE EDWARD ISLAND

Key Findings

Results refer to the Reference Case unless otherwise noted.

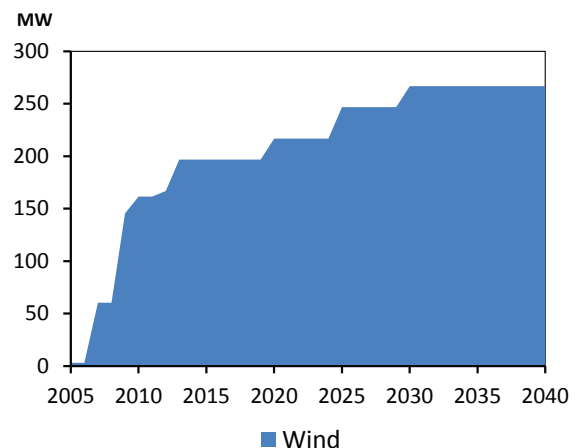
- End-use demand increases over the forecast due to manufacturing increases.** PEI end-use demand increases from 26 PJ in 2014 to just under 29 PJ in 2040. This is the result of increases in the residential, commercial and industrial sectors offsetting a small decline in the transportation sector. Higher energy prices in the High Price Case reduce end-use demand growth to 27 PJ in 2040. Lower energy prices in the Low Price Case lead to higher end-use demand of just over 29 PJ by 2040.
- Electricity demand steadily increases, driven by use in buildings and the manufacturing sector.** Electricity demand increases 0.6 TW.h over the forecast to 2.4 TW.h in 204 and 57 per cent of this increase is driven by the manufacturing sector. New residential and commercial buildings contribute to 40 per cent of the increase.
- Wind generation continues to grow over the projection period.** Since 2005, wind generation capacity in PEI has increased rapidly. In 2014, wind capacity was 197 MW. By 2040 wind capacity is projected to rise to 267 MW, generating 855 GW.h. This is equivalent to 36 per cent of PEI's 2040 electricity demand. PEI relies on imports from New Brunswick for the majority of its electricity demand, and the reliance on these imports continues over the projection period.

FIGURE PEI.1:
Electricity Demand



Notes: Electricity demand in PEI increases steadily over the projection, growing at an average annual rate of 1.1 percent to reach 2.4 TW.h, an increase of 32 per cent over 2014 levels. This is driven by the manufacturing sector demand increasing by an average of 2.2 per cent per year, and the modest growth in usage by residential and commercial buildings, which grow at an annual average of 0.9 per cent.

FIGURE PEI.2:
Wind Capacity



Notes: Over the projection period, PEI wind capacity increases by approximately 50 MW, and wind generation increases to 855 GW.h by 2040.

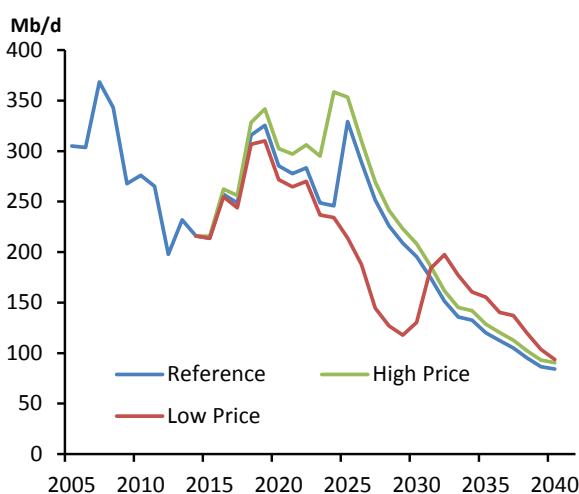
NEWFOUNDLAND AND LABRADOR

Key Findings

Results refer to the Reference Case unless otherwise noted.

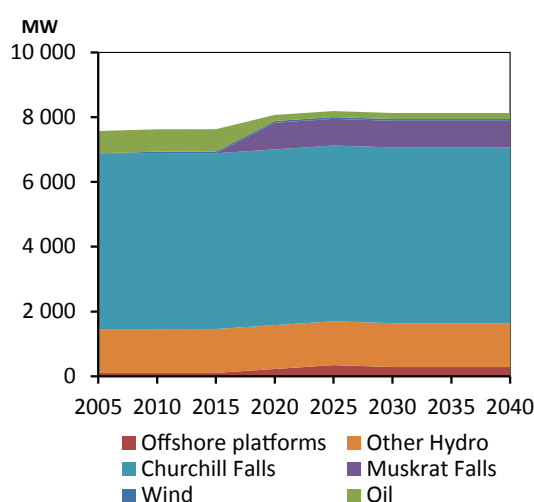
- Newfoundland and Labrador’s electricity generation will be even more dominated by hydroelectricity.** With the completion of Muskrat Falls in 2018, over 98 per cent of the province’s generation will come from hydroelectricity, and exports to neighboring provinces and the U.S. are expected to rise. A long-term export agreement with Nova Scotia will enable the export of at least 20 per cent of the generation from Muskrat Falls.
- Offshore oil production increases in the medium term in all cases, though the timing of increased production varies by case.** Medium-term production in Newfoundland and Labrador will be supported by new fields coming online. This includes production from the Hibernia South and White Rose extensions, and the Hebron Field which begins production in 2017. All cases assume a discovery of a 500 MMb offshore field with varying production timing: 2025 in the Reference Case, 2023 in the High Price Case and 2031 in the Low Price Case. After the startup of this field, production declines to the end of the projection period in all cases. Exploration in the East Coast offshore continues, and future discoveries and developments in these areas represent a key uncertainty to the energy supply, and energy demand projections for Newfoundland and Labrador.
- End-use demand rises in the medium term, declines thereafter.** In the Reference Case, end-use demand reaches a peak of 160 PJ in 2025, driven by increases in demand from freight, mining and oil production. Over the projection period, strong growth in mining energy demand is more than offset by the demand reductions associated with declining oil production. Freight demand is fairly flat between 2025 and 2040 due to reduced GDP growth.

FIGURE NL.1:
Oil production by Case



Notes: The High Price, Low Price, and Reference Cases all include the Hibernia South and White Rose extensions and the start-up of the Hebron project before 2020. These three Cases differ with respect to their timing of an additional offshore field discovery.

FIGURE NL.2:
Electric Capacity Additions



Notes: Churchill Falls, with a capacity of 5 428 MW, is the second largest hydroelectric plant in Canada. The majority of the generation from this plant is sold to Quebec under a long-term contract that is set to expire in 2041. After Muskrat Falls comes online, over 98 per cent of the province’s generation will come from hydroelectricity.

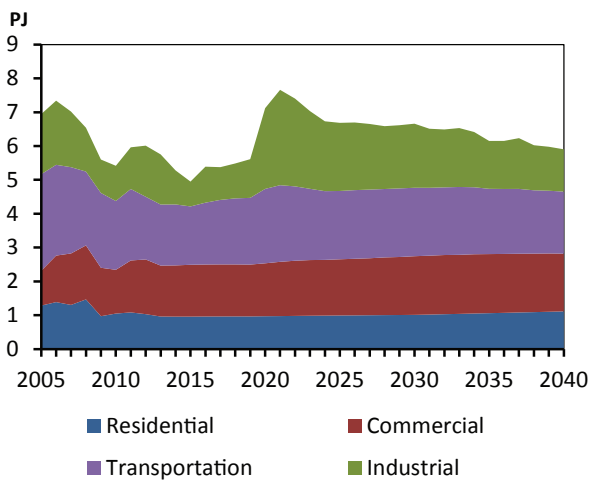
YUKON

Key Findings

Results refer to the Reference Case unless otherwise noted.

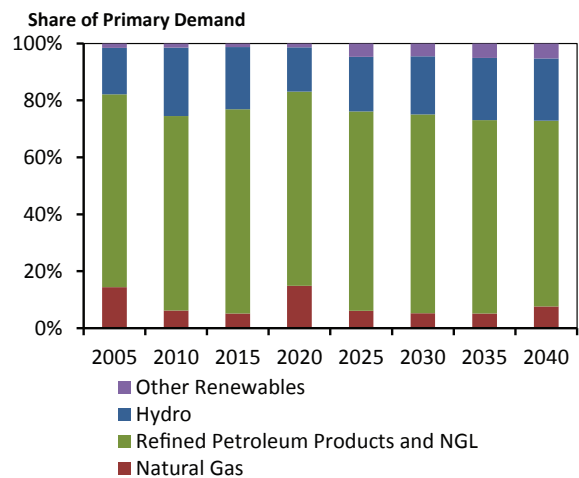
- Demand is volatile because of the mining sector.** Yukon has the most volatile energy use projection out of any province or territory. End-use demand increases 53 percent over 2014 levels in six years, peaking at 7.7 PJ in 2021 and decreasing thereafter to 5.9 PJ by 2040. This volatility is the result of the expected commissioning and decommissioning of several large mining projects. Despite the volatility, mining demand will grow at an average annual rate of 0.8 per cent over the projection period.
- The fuel mix remains the most diverse of the Territories.** While oil products will supply around between 65 and 74 per cent of the territory's fuel mix over the projection period, Yukon will add more renewables, hydroelectricity and natural gas to their mix than either of the other territories or Prince Edward Island.
- Yukon to add 200 MW of electricity capacity over the projection.** In 2014, more than 93 per cent of Yukon's power generation came from hydro while diesel made up the remainder. Over the projection period, Yukon is projected to add over 200 MW of new capacity. These additions reflect a diverse fuel mix including biomass, geothermal, hydro, wind and natural gas. By the end of the projection period, 75 per cent of Yukon's electricity generation will be generated from hydro units and 11 per cent from other renewables.

FIGURE YK.1:
End-Use Demand



Notes: Yukon demand undergoes significant volatility both historically and over the projection period due to the commissioning and decommissioning of several mining projects. In the Reference Case, end-use demand peaks at 7.7 PJ in the early 2020s and falls to 5.9 PJ by 2040.

FIGURE YK.2:
Primary Fuel Shares



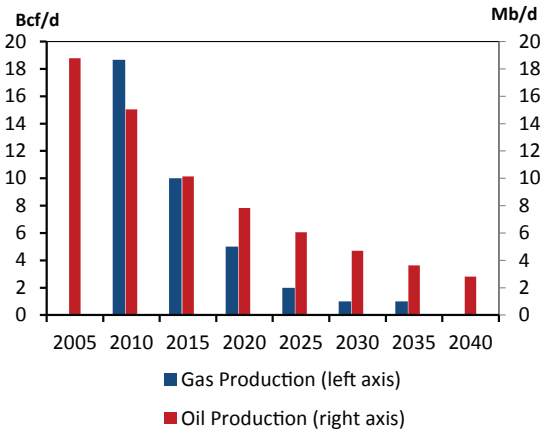
Notes: Gains in primary fuel shares are made by other renewables, which increase from one per cent in 2014 to five per cent in 2040. The natural gas share has dropped significantly since 2005 but due to its association with volatile mining activity, it grows to 16 per cent in 2021 and then declines to eight per cent by 2040. Refined petroleum product use retains a high share of the primary fuel mix in Yukon but falls from nearly 77 per cent in 2014 to 65 per cent in 2040. Hydro shares are stable at 22 per cent in 2040.

NORTHWEST TERRITORIES

Key Findings *Results refer to the Reference Case unless otherwise noted.*

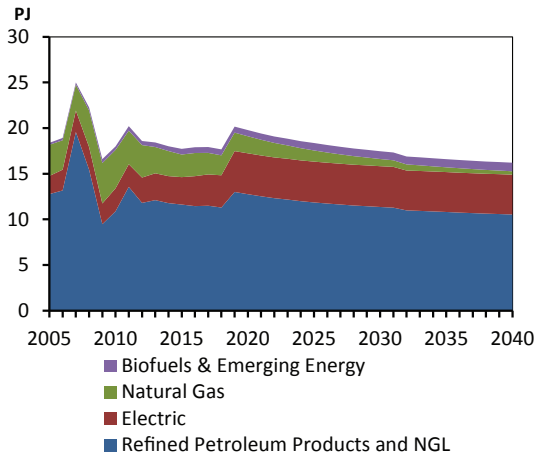
- Production of oil and gas declines throughout the outlook in all cases.** Both oil and natural gas production in NWT declines steadily throughout the projection period, with natural gas production reaching zero in 2037, and oil production declining to 2.8 Mb/d in 2040. NWT exploration continues and future discoveries and developments in these areas represent a key uncertainty to the energy supply and energy demand projections for NWT.
- Reduced natural gas production leads to declining natural gas use; other fuels make up the shares in space heating market.** The decline of domestic natural gas production in the region decreases its availability and thus its demand in NWT. This reduces end-use demand from 2.8 PJ in 2014 to 0.4 PJ in 2040. This declining demand will allow for further penetration of biomass, particularly in the residential and commercial sectors, where it is projected to increase from 11 per cent of the fuel mix in 2014 to 18 per cent by 2040. Heating oil and propane use also increases over the projection period. Propane mixed with air to form synthetic natural gas is being used in established natural gas distribution networks in Inuvik and Norman Wells.
- Diesel-fired generators will remain the main source of electricity supply.** Compared to the rest of Canada, NWT faces a unique challenge with limited transmission connections and widely-dispersed, small communities. Diesel and hydro provide the majority of the region’s electricity demand. Diesel-fired generation is expected to grow with over 60 MW of new capacity expected to startup by the end of the projection period. In addition, a diverse mix of additions is expected to come online including biomass, solar, wind, and natural gas.

FIGURE NWT.1:
Oil and Gas Production



Notes: NWT oil and gas production steadily declines over the projection period. Natural gas production hits zero in 2037 and oil production decreases to 2.8 Mb/d by 2040.

FIGURE NWT.2:
End-Use Demand by fuel



Notes: Despite medium-term increases in end-use demand due to the commissioning of mining facilities, NWT end-use demand declines 10 per cent below 2014 levels. Declining domestic natural gas production causes natural gas demand to decline over the projection, and there is an increased penetration of biomass in the form of wood pellets.

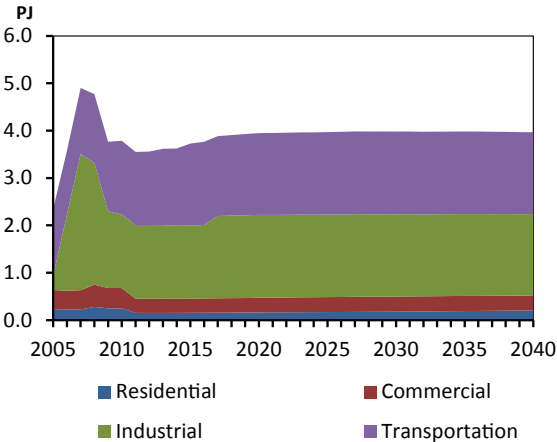
NUNAVUT

Key Findings

Results refer to the Reference Case unless otherwise noted.

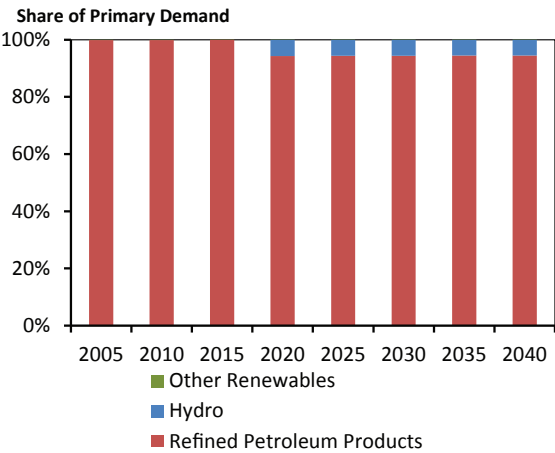
- Energy demand increases moderately over the projection period.** End-use demand in Nunavut increases at an average annual rate of 0.3 per cent over the projection period, peaking at 4.0 PJ in 2027 and maintaining that level until 2040. Higher energy prices in the High Price Case reduces end-use demand to 3.8 PJ and lower energy prices in the Low Price Case increases end-use demand to 4.2 PJ over the projection period.
- Industrial demand growth is driven by mining activity.** Industrial demand is mostly driven by the expansion of the Baffinland’s Mary River Iron Ore project which is assumed to be commissioned in 2017. Metal mining’s share of end-use demand increases from 16 per cent to 20 per cent over the projection period.
- Refined Petroleum Products continue to dominate the fuel mix.** Oil products will continue to constitute over 94 per cent of the primary fuel mix until 2040 but in 2019 Nunavut is assumed to add a new 15 MW hydro plant, the Iqaluit Hydroelectric Project. This new unit will account for 40 per cent (70 GW.h) of annual generation, reducing diesel generation to 105 GW.h.

FIGURE NU.1:
End-Use Demand by Sector



Notes: Demand is fairly flat, peaking around four PJ in 2027 and remaining around there until 2040 for a growth of about nine per cent over 2014 levels.

FIGURE NU.2:
Primary Fuel Mix of Nunavut



Notes: The Refined petroleum product share of the primary fuel mix in Nunavut declines from nearly 100 per cent in 2014 to 94.5 per cent in 2019, where it remains for the rest of the projection period. Hydro gains a 4.5 per cent share when the Iqaluit Hydroelectric Project is assumed to come online in 2019.

DATA TABLES

Canada	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	1748748.0	1947533.0	2104426.0	2302254.0	2504613.0	2679948.0	1.7%
Population (thousands)	35540.4	37606.6	39303.6	40915.2	42344.9	43506.9	0.8%
GDP per person (2007 dollars)	49205	51787	53543	56269	59148	61598	0.9%
Energy Demand							
End-use Energy Demand (PJ)	11626.0	12808.2	13239.2	13548.1	13784.3	13868.0	0.7%
By Sector							
Residential Sector	1512.7	1564.5	1591.7	1611.7	1625.6	1634.9	0.3%
Commercial Sector	1459.1	1589.0	1676.4	1762.8	1854.5	1914.1	1.0%
Industrial Sector	5964.5	6873.0	7201.3	7372.8	7457.6	7461.3	0.9%
Transportation Sector	2689.7	2781.6	2769.9	2800.8	2846.7	2857.7	0.2%
By Energy Source							
Electricity	1979.6	2104.4	2186.0	2280.8	2379.8	2463.7	0.8%
Natural Gas	4135.0	4933.6	5341.9	5576.4	5737.2	5816.0	1.3%
RPP and NGLs	4707.6	4970.4	4942.5	4945.7	4949.8	4901.0	0.2%
Other	803.8	799.8	768.8	745.2	717.5	687.2	-0.6%
Primary Energy Demand (PJ)	13828.8	14835.6	15341.9	15714.8	16085.3	16233.2	0.6%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	3887.4	4882.7	5475.8	5786.4	5968.0	6056.1	1.7%
Conventional - Light	891.3	916.8	984.8	887.0	796.6	720.1	-0.8%
Conventional - Heavy	502.6	450.6	428.4	415.1	384.2	348.1	-1.4%
Pentane Plus and field condensate	189.5	208.4	221.7	225.5	226.7	224.0	0.6%
Mined Bitumen	1038.2	1475.2	1557.0	1583.6	1613.2	1625.9	1.7%
In Situ Bitumen	1266.0	1831.7	2284.0	2675.2	2947.4	3138.0	3.6%
(Upgraded Bitumen)	954.5	1165.5	1184.2	1202.2	1227.4	1238.2	1.0%
NGL Production (MMb/d)	690.6	678.8	703.0	709.8	714.6	711.5	0.1%
Ethane	234.8	201.9	201.9	201.9	201.9	201.9	-0.6%
Propane	169.0	171.2	178.9	180.9	183.4	183.1	0.3%
Butane	97.4	97.2	100.6	101.5	102.6	102.4	0.2%
Pentane Plus and field condensate	189.5	208.4	221.7	225.5	226.7	224.0	0.6%
Natural Gas							
Natural Gas Production (Bcf/d)	14.7	16.1	17.7	17.7	17.8	17.9	0.8%
Solution	1.9	1.7	1.8	1.8	1.7	1.6	-0.7%
Non Associated	4.1	2.8	2.2	1.8	1.5	1.3	-4.2%
Tight	7.0	10.2	12.3	12.8	13.3	13.6	2.6%
Shale	0.6	0.7	1.0	1.0	1.1	1.1	2.6%
Coalbed Methane	0.7	0.4	0.3	0.2	0.1	0.1	-7.1%
Electricity							
Generation (GW.h)	641490	679054	716212	744702	773116	796418	0.8%
Capacity (MW)	139603	155294	160581	166296	171685	172983	0.8%
Hydro/Wave/Tidal	77203	81913	85298	86524	87339	87439	0.5%
Wind	9041	15506	16872	18132	19034	19449	3.0%
Biomass/Geothermal	2251	3155	3360	3551	3761	3811	2.0%
Solar	1453	4692	4797	4872	4947	4970	4.8%
Uranium	14320	10400	8370	10240	11080	11080	-1.0%
Coal & Coke	10219	9091	8893	5605	5849	5389	-2.4%
Natural Gas	21628	27679	30149	34584	36945	38015	2.2%
Oil	3487	2857	2841	2788	2730	2830	-0.8%
Key Indicators							
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices

British Columbia	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	220707.0	253909.0	277030.0	310045.0	342097.0	369694.0	2.0%
Population (thousands)	4631.3	4897.6	5111.1	5373.3	5619.9	5813.5	0.9%
GDP per person (2007 dollars)	47656	51844	54202	57701	60872	63592	1.1%
Energy Demand							
End-use Energy Demand (PJ)	1179.7	1331.6	1433.1	1466.9	1491.2	1494.7	0.9%
By Sector							
Residential Sector	164.3	168.2	170.7	173.1	175.3	177.3	0.3%
Commercial Sector	132.0	144.3	151.4	159.6	169.7	176.3	1.1%
Industrial Sector	523.5	624.9	710.5	716.7	716.2	708.6	1.2%
Transportation Sector	359.9	394.1	400.4	417.4	429.9	432.4	0.7%
By Energy Source							
Electricity	214.2	234.9	247.6	257.3	266.8	273.5	0.9%
Natural Gas	357.1	439.9	528.9	539.7	551.5	558.6	1.7%
RPP and NGLs	420.2	447.1	453.4	469.3	478.6	476.8	0.5%
Other	188.2	209.8	203.1	200.6	194.2	185.7	-0.1%
Primary Energy Demand (PJ)	1309.9	1474.1	1594.6	1633.5	1664.3	1668.8	0.9%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	49.5	63.8	78.7	86.6	88.8	87.4	2.2%
Conventional - Light	21.6	25.3	29.5	33.7	34.3	32.8	1.6%
Conventional - Heavy	0.0	0.0	0.0	0.0	0.0	0.0	-
Pentane Plus and field condensate	28.0	38.5	49.2	52.9	54.5	54.5	2.6%
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	63.5	84.2	111.0	117.0	121.9	124.1	2.6%
Ethane	17.3	24.2	24.2	24.2	24.2	24.2	1.3%
Propane	15.4	18.9	29.9	32.8	35.0	35.8	3.3%
Butane	11.8	15.3	22.4	24.0	25.4	26.0	3.1%
Pentane Plus and field condensate	18.9	25.9	34.5	36.0	37.4	38.1	2.7%
Natural Gas							
Natural Gas Production (Bcf/d)	4.0	5.8	7.6	7.8	8.0	8.2	2.8%
Solution	0.0	0.0	0.0	0.0	0.0	0.0	-0.5%
Non Associated	0.9	0.5	0.4	0.3	0.2	0.2	-5.6%
Tight	2.5	4.8	6.4	6.8	7.0	7.2	4.1%
Shale	0.5	0.5	0.8	0.7	0.7	0.7	1.3%
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	67863	74893	81351	84229	86520	87495	1.0%
Capacity (MW)	16858	18070	19504	20196	20480	20564	0.8%
Hydro/Wave/Tidal	13979	15564	16714	17252	17302	17302	0.8%
Wind	512	894	954	1014	1114	1134	3.1%
Biomass/Geothermal	811	891	1011	1091	1211	1261	1.7%
Solar	2	7	11	15	19	23	9.8%
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	1472	632	732	742	752	762	-2.5%
Oil	82	82	82	82	82	82	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices

Alberta	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	316358.0	343874.0	382813.0	416526.0	455334.0	488191.0	1.7%
Population (thousands)	4121.7	4496.8	4876.4	5184.7	5466.2	5762.1	1.3%
GDP per person (2007 dollars)	76754	76471	78503	80338	83300	84724	0.4%
Energy Demand							
End-use Energy Demand (PJ)	3977.5	4718.3	5022.6	5221.7	5363.4	5426.1	1.2%
By Sector							
Residential Sector	224.3	238.3	245.5	251.3	255.9	259.6	0.6%
Commercial Sector	366.6	403.7	428.8	450.1	467.1	478.8	1.0%
Industrial Sector	2892.4	3542.6	3770.1	3907.3	3982.7	3990.1	1.2%
Transportation Sector	494.1	533.7	578.1	612.9	657.6	697.6	1.3%
By Energy Source							
Electricity	291.7	343.0	375.5	406.3	435.7	460.6	1.8%
Natural Gas	2178.1	2708.1	2939.8	3093.1	3186.1	3220.4	1.5%
RPP and NGLs	1402.7	1566.5	1611.5	1631.4	1654.6	1661.9	0.7%
Other	105.0	100.6	95.7	90.8	86.9	83.2	-0.9%
Primary Energy Demand (PJ)	4483.6	5310.9	5607.2	5810.4	6041.6	6139.1	1.2%
Oil and Natural Gas Liquids							
Oil Production (MMb/d)	3051.7	4002.3	4542.4	4980.4	5267.2	5437.6	2.2%
Conventional - Light	437.2	399.6	410.6	432.6	425.4	404.2	-0.3%
Conventional - Heavy	153.2	131.5	124.0	121.3	113.2	103.5	-1.5%
Pentane Plus and field condensate	157.2	164.3	166.9	167.7	168.0	166.0	0.2%
Mined Bitumen	1038.2	1475.2	1557.0	1583.6	1613.2	1625.9	1.7%
In Situ Bitumen	1266.0	1831.7	2284.0	2675.2	2947.4	3138.0	3.6%
(Upgraded Bitumen)	954.5	1165.5	1184.2	1202.2	1227.4	1238.2	1.0%
NGL Production (MMb/d)	603.8	563.1	559.3	559.3	560.3	557.0	-0.3%
Ethane	217.0	172.3	172.3	172.3	172.3	172.3	-0.9%
Propane	147.7	147.7	144.7	144.3	145.0	144.2	-0.1%
Butane	81.9	79.0	75.5	75.0	75.1	74.5	-0.4%
Pentane Plus and field condensate	157.2	164.3	166.9	167.7	168.0	166.0	0.2%
Natural Gas							
Natural Gas Production (Bcf/d)	9.9	9.7	9.7	9.5	9.5	9.5	-0.2%
Solution	1.7	1.5	1.5	1.5	1.5	1.4	-0.7%
Non Associated	3.1	2.3	1.8	1.5	1.3	1.1	-3.9%
Tight	4.3	5.4	5.8	6.0	6.2	6.4	1.6%
Shale	0.1	0.2	0.3	0.3	0.4	0.4	7.4%
Coalbed Methane	0.7	0.4	0.3	0.2	0.1	0.1	-7.1%
Electricity							
Generation (GW.h)	81342	100354	109747	116959	125841	134489	2.0%
Capacity (MW)	15561	21189	23096	23274	25911	27111	2.2%
Hydro/Wave/Tidal	874	874	874	874	874	874	0.0%
Wind	1420	2276	2441	2606	2743	2743	2.6%
Biomass/Geothermal	286	377	427	477	527	527	2.4%
Solar	4	54	104	154	204	204	16.3%
Uranium	-	-	-	-	-	-	-
Coal & Coke	6391.3	5822	5664	3177	3577	3577	-2.2%
Natural Gas	6579	11779	13579	15979	17979	19079	4.2%
Oil	7	7	7	7	7	107	11.1%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices

Saskatchewan	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	63585.0	68522.0	71851.0	75972.0	79736.0	82667.0	1.0%
Population (thousands)	1125.4	1203.4	1250.1	1286.1	1319.3	1353.0	0.7%
GDP per person (2007 dollars)	56500	56940	57476	59072	60438	61099	0.3%
Energy Demand							
End-use Energy Demand (PJ)	663.7	714.0	732.1	741.8	740.2	732.0	0.4%
By Sector							
Residential Sector	52.0	54.7	55.8	56.6	57.1	57.4	0.4%
Commercial Sector	98.0	111.5	118.6	120.5	123.0	124.3	0.9%
Industrial Sector	362.2	390.6	403.5	412.3	409.3	402.5	0.4%
Transportation Sector	151.5	157.2	154.2	152.3	150.7	147.8	-0.1%
By Energy Source							
Electricity	80.6	89.5	95.4	100.5	104.5	107.4	1.1%
Natural Gas	328.2	367.5	383.8	391.9	390.2	384.9	0.6%
RPP and NGLs	240.8	241.9	238.0	234.5	230.6	225.0	-0.3%
Other	14.0	15.0	14.9	14.9	14.9	14.8	0.2%
Primary Energy Demand (PJ)	808.4	856.7	883.4	876.2	888.2	868.3	0.3%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	509.2	496.2	497.4	499.8	471.4	429.3	-0.7%
Conventional - Light	158.7	173.5	189.0	202.2	197.2	181.8	0.5%
Conventional - Heavy	349.3	319.1	304.4	293.8	270.9	244.6	-1.4%
Pentane Plus and field condensate	1.2	3.6	4.0	3.8	3.3	2.8	3.3%
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	8.5	14.7	15.0	14.3	13.5	12.7	1.6%
Ethane	0.6	5.4	5.4	5.4	5.4	5.4	9.0%
Propane	4.2	3.5	3.4	3.2	2.9	2.7	-1.6%
Butane	2.5	2.2	2.1	2.0	1.8	1.7	-1.4%
Pentane Plus and field condensate	1.2	3.6	4.0	3.8	3.3	2.8	3.3%
Natural Gas							
Natural Gas Production (Bcf/d)	0.4	0.3	0.3	0.2	0.2	0.2	-3.0%
Solution	0.2	0.2	0.2	0.2	0.2	0.2	-0.4%
Non Associated	0.1	0.0	0.0	0.0	0.0	0.0	-4.3%
Tight	0.2	0.1	0.1	0.0	0.0	0.0	-9.6%
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	25880	27120	28993	32119	33914	33908	1.0%
Capacity (MW)	4416	5301	6371	7025	7415	7225	1.9%
Hydro/Wave/Tidal	855	855	930	930	955	955	0.4%
Wind	197	474	974	1374	1524	1624	8.5%
Biomass/Geothermal	0	161	161	161	161	161	-
Solar	2	17	32	47	62	77	15.1%
Uranium	-	-	-	-	-	-	-
Coal & Coke	1651.38	1651	1611	810	810	505	-4.5%
Natural Gas	1710	2142	2662	3702	3902	3902	3.2%
Oil	1	1	1	1	1	1	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices

Manitoba	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	57111.0	62804.0	68769.0	74094.0	79478.0	84035.0	1.5%
Population (thousands)	1282.0	1373.1	1434.7	1489.1	1528.0	1555.9	0.7%
GDP per person (2007 dollars)	44548	45739	47933	49758	52014	54011	0.7%
Energy Demand							
End-use Energy Demand (PJ)	315.0	334.3	344.7	350.9	356.4	358.2	0.5%
By Sector							
Residential Sector	56.6	58.6	59.7	60.7	61.6	62.4	0.4%
Commercial Sector	59.7	67.6	72.0	75.2	78.0	79.5	1.1%
Industrial Sector	101.1	106.4	108.9	110.0	111.0	111.5	0.4%
Transportation Sector	97.5	101.7	104.2	105.1	105.8	104.8	0.3%
By Energy Source							
Electricity	83.2	88.1	92.2	95.9	99.5	102.4	0.8%
Natural Gas	84.6	95.2	100.2	103.3	106.2	108.1	0.9%
RPP and NGLs	130.2	133.9	136.5	137.0	136.7	134.4	0.1%
Other	17.0	17.1	15.8	14.8	14.0	13.3	-0.9%
Primary Energy Demand (PJ)	374.6	396.5	422.9	429.2	434.5	435.6	0.6%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	46.0	24.5	19.8	18.1	16.0	14.1	-4.4%
Conventional - Light	46.0	24.5	19.8	18.1	16.0	14.1	-4.4%
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen (Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	39479	41595	53530	54711	55730	56382	1.4%
Capacity (MW)	6009	6507	8387	8452	8547	8601	1.4%
Hydro/Wave/Tidal	5239	5639	7424	7424	7424	7424	1.3%
Wind	258	348	438	498	588	638	3.5%
Biomass/Geothermal	22	22	22	22	22	22	0.0%
Solar	2	8	13	18	23	27	10.5%
Uranium	-	-	-	-	-	-	-
Coal & Coke	97.64	0	0	0	0	0	-100%
Natural Gas	378	478	478	478	478	478	0.9%
Oil	12	12	12	12	12	12	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Ontario	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	647131.0	724400.0	777799.0	857478.0	937516.0	1011099.0	1.7%
Population (thousands)	13678.7	14542.4	15193.5	15863.9	16473.6	16943.1	0.8%
GDP per person (2007 dollars)	47309	49813	51193	54052	56910	59676	0.9%
Energy Demand							
End-use Energy Demand (PJ)	3044.5	3223.4	3239.4	3297.8	3351.5	3380.1	0.4%
By Sector							
Residential Sector	546.0	580.8	596.3	606.8	613.3	616.5	0.5%
Commercial Sector	507.2	548.7	576.1	608.8	646.5	671.7	1.1%
Industrial Sector	1106.8	1195.3	1208.7	1232.7	1245.0	1255.4	0.5%
Transportation Sector	884.5	898.6	858.3	849.5	846.8	836.5	-0.2%
By Energy Source							
Electricity	502.3	516.2	522.3	538.7	559.1	577.4	0.5%
Natural Gas	886.2	1003.9	1067.4	1126.1	1176.4	1213.7	1.2%
RPP and NGLs	1403.9	1464.2	1420.4	1412.4	1405.2	1387.9	0.0%
Other	252.1	239.0	229.3	220.7	210.9	201.1	-0.9%
Primary Energy Demand (PJ)	4098.2	3986.4	4036.3	4160.5	4240.2	4314.3	0.2%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	1.2	0.8	0.5	0.3	0.2	0.0	-15.5%
Conventional - Light	1.2	0.8	0.5	0.3	0.2	0.0	-15.5%
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	0.01	0.01	0.01	0.00	0.00	0.00	-6.0%
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	167171	160218	161565	170977	175387	181219	0.3%
Capacity (MW)	37449	40867	39357	42507	43887	44207	0.6%
Hydro/Wave/Tidal	8562	9058	9178	9258	9398	9498	0.4%
Wind	2756	5413	5813	6213	6613	6833	3.6%
Biomass/Geothermal	620	1062	1062	1062	1062	1062	2.1%
Solar	1441	4601	4601	4601	4601	4601	4.6%
Uranium	13640	9720	7690	9560	10400	10400	-1.0%
Coal & Coke	306	0	0	0	0	0	-100%
Natural Gas	9993	10882	10882	11682	11682	11682	0.6%
Oil	131	131	131	131	131	131	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Quebec	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	336017.0	375732.0	401657.0	440067.0	478115.0	508309.0	1.6%
Population (thousands)	8214.7	8600.5	8918.9	9191.8	9422.1	9596.8	0.6%
GDP per person (2007 dollars)	40904	43687	45034	47876	50744	52967	1.0%
Energy Demand							
End-use Energy Demand (PJ)	1802.8	1813.7	1795.4	1814.4	1839.0	1847.0	0.1%
By Sector							
Residential Sector	359.3	354.8	354.9	355.1	355.5	355.9	0.0%
Commercial Sector	232.9	246.1	259.4	276.4	296.5	310.0	1.1%
Industrial Sector	704.7	719.3	707.0	713.4	720.5	725.1	0.1%
Transportation Sector	506.0	493.5	474.1	469.4	466.5	456.0	-0.4%
By Energy Source							
Electricity	673.7	691.9	707.5	732.9	761.1	785.6	0.6%
Natural Gas	234.5	250.9	254.8	263.9	273.7	280.4	0.7%
RPP and NGLs	710.3	699.1	670.4	661.0	653.3	635.8	-0.4%
Other	184.3	171.8	162.7	156.6	150.8	145.1	-0.9%
Primary Energy Demand (PJ)	1851.6	1891.3	1876.3	1875.7	1906.8	1915.7	0.1%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	-	-	-	-	-	-	-
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen (Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	194348	206480	211522	212828	222037	228909	0.6%
Capacity (MW)	43496	46748	47123	47883	48456	48456	0.4%
Hydro/Wave/Tidal	39411	40716	40961	41561	42161	42161	0.3%
Wind	2862	4844	4944	5044	5044	5044	2.2%
Biomass/Geothermal	270	397	427	487	527	527	2.6%
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	538	538	538	538	538	538	0.0%
Oil	415	253	253	253	186	186	-3.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%
<i>For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices</i>							

New Brunswick	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	28261.0	31615.0	33437.0	34865.0	36598.0	37876.0	1.1%
Population (thousands)	753.9	766.8	784.3	796.7	804.3	804.4	0.2%
GDP per person (2007 dollars)	37486	41230	42633	43762	45503	47086	0.9%
Energy Demand							
End-use Energy Demand (PJ)	239.1	259.9	262.9	259.2	257.6	253.7	0.2%
By Sector							
Residential Sector	32.4	33.3	34.2	35.0	35.6	36.1	0.4%
Commercial Sector	18.2	21.1	22.4	23.1	23.5	23.4	1.0%
Industrial Sector	133.1	148.7	150.8	147.6	146.2	143.8	0.3%
Transportation Sector	55.4	56.8	55.5	53.6	52.2	50.4	-0.4%
By Energy Source							
Electricity	44.8	48.4	50.2	51.6	52.9	53.7	0.7%
Natural Gas	23.3	29.1	30.9	31.7	32.1	32.3	1.3%
RPP and NGLs	155.3	163.6	162.0	156.0	153.0	148.9	-0.2%
Other	15.7	18.9	19.9	19.9	19.5	18.8	0.7%
Primary Energy Demand (PJ)	294.4	325.2	330.7	350.9	350.3	343.2	0.6%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	-	-	-	-	-	-	-
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	0.01	0.00	0.00	0.00	0.00	0.00	-100%
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	9970	11403	11881	14140	14362	14109	1.3%
Capacity (MW)	4596	4666	4696	4542	4542	4352	-0.2%
Hydro/Wave/Tidal	957	992	992	992	992	992	0.1%
Wind	409	444	444	474	474	474	0.6%
Biomass/Geothermal	127	127	127	127	127	127	0.0%
Solar	0	0	30	30	30	30	-
Uranium	680	680	680	680	680	680	0.0%
Coal & Coke	485	485	485	485	485	485	0.0%
Natural Gas	345	345	345	190	190	0	-100%
Oil	1593	1593	1593	1564	1564	1564	-0.1%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Nova Scotia	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	36610.0	39458.0	41272.0	43146.0	44753.0	45677.0	0.9%
Population (thousands)	942.7	939.2	933.4	921.6	901.7	872.9	-0.3%
GDP per person (2007 dollars)	38835	42012	44217	46816	49632	52328	1.2%
Energy Demand							
End-use Energy Demand (PJ)	200.2	197.4	192.5	187.3	182.2	176.1	-0.5%
By Sector							
Residential Sector	45.1	44.5	43.7	42.6	41.3	39.8	-0.5%
Commercial Sector	23.9	25.3	26.5	27.3	27.7	27.5	0.5%
Industrial Sector	63.7	58.9	55.8	52.9	50.9	49.5	-1.0%
Transportation Sector	67.4	68.7	66.5	64.5	62.4	59.3	-0.5%
By Energy Source							
Electricity	41.8	41.6	41.9	42.0	42.0	41.7	0.0%
Natural Gas	20.4	15.5	13.7	11.9	10.8	10.1	-2.7%
RPP and NGLs	122.0	124.1	120.9	118.0	114.9	110.6	-0.4%
Other	16.0	16.2	16.0	15.4	14.6	13.7	-0.6%
Primary Energy Demand (PJ)	284.1	251.9	248.1	246.6	234.3	226.8	-0.9%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	2.9	2.0	1.5	1.1	0.9	0.6	-5.6%
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	2.9	2.0	1.5	1.1	0.9	0.6	-5.6%
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	5.7	4.0	3.0	2.3	1.7	1.3	-5.6%
Ethane	0.0	0.0	0.0	0.0	0.0	0.0	-
Propane	1.6	1.1	0.9	0.6	0.5	0.4	-5.6%
Butane	1.2	0.8	0.6	0.5	0.4	0.3	-5.6%
Pentane Plus and field condensate	2.9	2.0	1.5	1.1	0.9	0.6	-5.6%
Natural Gas							
Natural Gas Production (Bcf/d)	0.3	0.2	0.1	0.1	0.1	0.0	-8.1%
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	12408	10000	10351	11398	11621	11739	-0.2%
Capacity (MW)	2871	2931	2876	3301	3321	3241	0.5%
Hydro/Wave/Tidal	401	451	451	451	451	451	0.5%
Wind	365	530	555	580	605	630	2.1%
Biomass/Geothermal	113	113	113	113	113	113	0.0%
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	1288	1133	1133	1133	977	822	-1.7%
Natural Gas	482	482	402	802	953	1003	2.9%
Oil	222	222	222	222	222	222	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Prince Edward Island	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	5070.0	5612.0	5971.0	6497.0	6852.0	7173.0	1.3%
Population (thousands)	146.3	153.5	160.0	165.9	167.2	166.0	0.5%
GDP per person (2007 dollars)	34655	36560	37319	39162	40981	43211	0.9%
Energy Demand							
End-use Energy Demand (PJ)	26.4	28.0	28.0	28.4	28.5	28.5	0.3%
By Sector							
Residential Sector	6.4	6.5	6.6	6.5	6.5	6.4	0.0%
Commercial Sector	4.1	4.3	4.5	4.8	5.0	5.1	0.8%
Industrial Sector	5.3	5.7	5.8	6.2	6.5	6.8	1.0%
Transportation Sector	10.5	11.4	11.2	10.9	10.5	10.2	-0.1%
By Energy Source							
Electricity	6.7	7.0	7.3	7.9	8.4	8.8	1.1%
Natural Gas	0.7	0.8	0.9	0.9	1.0	1.0	1.2%
RPP and NGLs	17.3	18.4	18.1	17.9	17.5	17.2	0.0%
Other	1.7	1.7	1.7	1.7	1.7	1.6	-0.2%
Primary Energy Demand (PJ)	22.1	22.8	23.0	23.3	23.1	22.9	0.1%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	-	-	-	-	-	-	-
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen (Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	669	532	624	766	824	862	1.0%
Capacity (MW)	354	374	404	424	424	424	0.7%
Hydro/Wave/Tidal	0	0	0	0	0	0	-
Wind	197	217	247	267	267	267	1.2%
Biomass/Geothermal	2	2	2	2	2	2	0.0%
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-
Oil	155	155	155	155	155	155	0.0%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

For full data sets, including High Price, Low Price, Constrained, High LNG, and No LNG Cases, See the EF 2016 Data Appendices

Newfoundland and Labrador	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	28740.0	30672.0	32684.0	31964.0	32320.0	33117.0	0.5%
Population (thousands)	527.0	510.1	514.4	513.5	513.6	511.0	-0.1%
GDP per person (2007 dollars)	54535	60129	63538	62247	62928	64808	0.7%
Energy Demand							
End-use Energy Demand (PJ)	150.3	156.8	159.6	151.6	147.6	145.5	-0.1%
By Sector							
Residential Sector	23.1	21.8	21.2	20.8	20.4	20.1	-0.5%
Commercial Sector	12.0	11.6	11.6	11.8	12.2	12.5	0.2%
Industrial Sector	59.7	65.8	67.3	61.8	58.8	57.9	-0.1%
Transportation Sector	55.5	57.6	59.4	57.3	56.3	55.1	0.0%
By Energy Source							
Electricity	35.8	37.2	39.4	41.1	43.4	46.0	1.0%
Natural Gas	17.9	19.8	19.3	12.3	7.7	5.1	-4.7%
RPP and NGLs	87.2	91.0	92.0	89.3	87.6	85.4	-0.1%
Other	9.4	8.8	8.9	8.9	8.9	9.0	-0.2%
Primary Energy Demand (PJ)	272.5	284.2	286.1	275.2	270.2	267.3	-0.1%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	216.1	285.3	329.3	195.4	120.0	84.3	-3.6%
Conventional - Light	216.1	285.3	329.3	195.4	120.0	84.3	-3.6%
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	41057	44761	44975	45004	45331	45815	0.4%
Capacity (MW)	7631	8070	8190	8130	8130	8130	0.2%
Hydro/Wave/Tidal	6783	7607	7607	7607	7607	7607	0.4%
Wind	54	54	54	54	54	54	0.0%
Biomass/Geothermal	-	-	-	-	-	-	-
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	103	223	343	283	283	283	4.0%
Oil	691	186	186	186	186	186	-4.9%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Yukon	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	2256.0	3128.0	3037.0	3166.0	3099.0	3094.0	1.2%
Population (thousands)	36.5	39.4	41.3	42.2	42.4	42.1	0.6%
GDP per person (2007 dollars)	61808	79391	73535	75024	73090	73492	0.7%
Energy Demand							
End-use Energy Demand (PJ)	5.3	7.1	6.7	6.7	6.2	5.9	0.4%
By Sector							
Residential Sector	1.0	1.0	1.0	1.0	1.1	1.1	0.6%
Commercial Sector	1.5	1.6	1.7	1.7	1.7	1.7	0.5%
Industrial Sector	1.0	2.4	2.0	1.9	1.4	1.2	0.8%
Transportation Sector	1.8	2.2	2.0	2.0	1.9	1.8	0.1%
By Energy Source							
Electricity	1.4	1.6	1.6	1.6	1.6	1.6	0.6%
Natural Gas	0.2	0.2	0.2	0.2	0.2	0.2	-0.4%
RPP and NGLs	3.6	5.3	4.8	4.8	4.3	4.0	0.4%
Other	0.1	0.1	0.1	0.1	0.1	0.1	1.6%
Primary Energy Demand (PJ)	5.7	8.0	7.2	7.1	6.6	6.4	0.5%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	-	-	-	-	-	-	-
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen (Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	411	508	503	511	504	512	0.9%
Capacity (MW)	120	264	274	277	282	282	3.3%
Hydro/Wave/Tidal	85	85	90	95	95	95	0.4%
Wind	1	1	6	6	6	6	7.1%
Biomass/Geothermal	0	3	6	7	7	7	-
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	0	150	150	150	150	150	-
Oil	34	25	22	19	24	24	-1.3%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Northwest Territories	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	3878.0	4456.0	4561.0	4670.0	4742.0	4850.0	0.9%
Population (thousands)	43.6	45.7	46.3	46.4	46.0	45.6	0.2%
GDP per person (2007 dollars)	88945	97505	98510	100647	103087	106360	0.7%
Energy Demand							
End-use Energy Demand (PJ)	18.0	19.8	18.4	17.5	16.6	16.2	-0.4%
By Sector							
Residential Sector	2.0	1.9	1.9	2.0	2.0	2.1	0.2%
Commercial Sector	2.7	3.0	3.0	3.1	3.1	3.1	0.5%
Industrial Sector	9.5	10.6	9.1	8.2	7.4	7.1	-1.1%
Transportation Sector	3.9	4.3	4.3	4.2	4.1	4.0	0.1%
By Energy Source							
Electricity	3.0	4.5	4.5	4.5	4.4	4.4	1.5%
Natural Gas	2.7	1.9	1.2	0.8	0.5	0.4	-7.4%
RPP and NGLs	11.8	12.8	11.9	11.4	10.8	10.5	-0.4%
Other	0.5	0.7	0.8	0.9	0.9	0.9	2.3%
Primary Energy Demand (PJ)	19.2	22.9	21.4	21.3	20.3	19.9	0.2%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	10.6	7.8	6.1	4.7	3.6	2.8	-5.0%
Conventional - Light	10.6	7.8	6.1	4.7	3.6	2.8	-5.0%
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen	-	-	-	-	-	-	-
(Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	0.01	0.01	0.00	0.00	0.00	0.00	-100.0%
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	745	1095	1070	1026	1007	1005	1.2%
Capacity (MW)	180	232	224	207	208	208	0.6%
Hydro/Wave/Tidal	55	56	61	64	64	64	0.6%
Wind	9	10	1	1	1	1	-8.1%
Biomass/Geothermal	0	2	4	4	4	4	-
Solar	0	3	4	5	6	6	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	27	27	37	37	37	37	1.2%
Oil	89	134	117	96	96	96	0.3%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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Nunavut	2014	2020	2025	2030	2035	2040	AAGR 2014 - 2040
Drivers							
Real GDP (millions of 2007 dollars)	2098.0	2322.0	2434.0	2548.0	2650.0	2751.0	1.0%
Population (thousands)	36.6	38.3	39.2	39.9	40.3	40.6	0.4%
GDP per person (2007 dollars)	57322	60627	62092	63860	65757	67759	0.6%
Energy Demand							
End-use Energy Demand (PJ)	3.6	3.9	4.0	4.0	4.0	4.0	0.3%
By Sector							
Residential Sector	0.2	0.2	0.2	0.2	0.2	0.2	1.1%
Commercial Sector	0.3	0.3	0.3	0.3	0.3	0.3	0.2%
Industrial Sector	1.5	1.8	1.7	1.7	1.7	1.7	0.4%
Transportation Sector	1.6	1.7	1.7	1.7	1.7	1.7	0.2%
By Energy Source							
Electricity	0.5	0.6	0.6	0.6	0.6	0.6	0.6%
Natural Gas	0.0	0.0	0.0	0.0	0.0	0.0	-
RPP and NGLs	3.1	3.4	3.4	3.4	3.4	3.3	0.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	1.0%
Primary Energy Demand (PJ)	4.7	4.6	4.7	4.7	4.8	4.8	0.1%
Oil and Natural Gas Liquids							
Crude Oil Production (MMb/d)	-	-	-	-	-	-	-
Conventional - Light	-	-	-	-	-	-	-
Conventional - Heavy	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Mined Bitumen	-	-	-	-	-	-	-
In Situ Bitumen (Upgraded Bitumen)	-	-	-	-	-	-	-
NGL Production (MMb/d)	-	-	-	-	-	-	-
Ethane	-	-	-	-	-	-	-
Propane	-	-	-	-	-	-	-
Butane	-	-	-	-	-	-	-
Pentane Plus and field condensate	-	-	-	-	-	-	-
Natural Gas							
Natural Gas Production (Bcf/d)	-	-	-	-	-	-	-
Solution	-	-	-	-	-	-	-
Non Associated	-	-	-	-	-	-	-
Tight	-	-	-	-	-	-	-
Shale	-	-	-	-	-	-	-
Coalbed Methane	-	-	-	-	-	-	-
Electricity							
Generation (GW.h)	152	164	167	169	173	179	0.6%
Capacity (MW)	54	69	73	73	77	77	1.4%
Hydro/Wave/Tidal	0	15	15	15	15	15	-
Wind	-	-	-	-	-	-	-
Biomass/Geothermal	-	-	-	-	-	-	-
Solar	-	-	-	-	-	-	-
Uranium	-	-	-	-	-	-	-
Coal & Coke	-	-	-	-	-	-	-
Natural Gas	-	-	-	-	-	-	-
Oil	54	54	58	58	62	62	0.5%
Key Indicators							
Canada GDP (Billions of \$2007)	1748.7	1947.5	2104.4	2302.3	2504.6	2679.9	1.7%
Exchange Rate (US\$ per C\$)	0.90	0.81	0.80	0.80	0.82	0.82	-0.4%
Crude Oil Price (Brent)	99.02	81.62	90.26	97.99	102.40	107.04	0.3%
Natural gas Price (Henry Hub)	4.39	3.85	4.10	4.25	4.40	4.55	0.1%

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LIST OF ACRONYMS AND ABBREVIATIONS

Provinces and Territories

BC	British Columbia
AB	Alberta
SK	Saskatchewan
MB	Manitoba
ON	Ontario
QC	Quebec
NB	New Brunswick
NS	Nova Scotia
PEI	Prince Edward Island
NL	Newfoundland and Labrador
YK	Yukon
NWT	Northwest Territories
NU	Nunavut

Other

AAGR	Average annual growth rate
CCS	Carbon capture and storage
CO₂	carbon dioxide
EF 2016	Canada's Energy Future 2016: Energy Supply and Demand Projections to 2040
GDP	Gross Domestic Product
LNG	Liquefied natural gas
NEB	National Energy Board
NGL	Natural gas liquid
MT	Megatonnes
RES	Renewable energy standard
RPP	Refined Petroleum Products
RPS	Renewable portfolio standard

LIST OF UNITS

MMcf	million cubic feet
Bcf	billion cubic feet
MMb	Million barrels
/d	per day
C\$	Canadian dollars
US\$	U.S. dollars
MT	megatonnes of CO ₂ equivalent
PJ	petajoule
MW	megawatt
GW	gigawatt
GW.h	gigawatt-hour
TW.h	terrawatt-hour

GLOSSARY

Biomass

Organic material such as wood, crop waste, municipal solid waste, hog fuel or pulping liquor, processed for energy production.

Brent

A key global crude oil benchmark price. It is a light sweet grade that is extracted from the North Sea.

Capacity (Electricity)

The maximum amount of power that a device can generate, use or transfer, usually expressed in megawatts.

Carbon capture and storage (CCS) or carbon capture and sequestration

A method of capturing (and storing) CO₂, such that it is not released into the atmosphere, hence reducing GHG emissions. Carbon dioxide is compressed into a transportable form, moved by pipeline or tanker, and stored in some medium, such as a deep geological formation.

Conventional crude oil

Crude oil, which at a particular point in time, can be technically and economically produced through a well using normal production practices and without altering the natural viscous state of the oil.

Crude oil

A mixture of hydrocarbons of different molecular weights that exists in the liquid phase in underground reservoirs and remains liquid at atmospheric pressure and temperature. Crude oil may contain small amounts of sulphur and other non-hydrocarbons, but does not include liquids obtained from the processing of natural gas.

End-use, or secondary, energy demand

The energy used by end-users in residential, commercial, industrial (which includes energy used for oil and gas production), and transportation sectors.

Energy efficiency

Technologies and measures that reduce the amount of energy and/or fuel required for the same work.

Feedstock

Natural gas or other hydrocarbons used as an essential component of a process for the production of a product.

Fossil fuel

Hydrocarbon-based fuel sources such as coal, natural gas, natural gas liquids and crude oil.

Generation (electricity)

The process of producing electric energy by transforming other forms of energy. Also, the amount of energy produced.

Geothermal energy

The use of geothermal heat to generate electricity. Also used to describe ground-source heating and cooling (also known as geoexchange or ground-source heat pump).

Greenhouse gas (GHG)

A gas such as carbon dioxide, methane or nitrogen oxide, which actively contribute to the atmospheric greenhouse effect. Greenhouse gases also include gases generated through industrial processes such as hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

Gross Domestic Product (GDP)

GDP is a measure of economic activity within a country. It is the market value of all goods and services in a year within Canada's borders.

Heavy crude oil

Generally, a crude oil that has a density greater than 900 kg/m³, or an API gravity below 25.

Henry Hub (price)

Henry Hub is the pricing point for natural gas futures traded on the New York Mercantile Exchange. The hub is a point on the natural gas pipeline owned by Sabine Pipe Line and located in Louisiana.

Hydroelectric generation

A form of renewable energy wherein electricity is produced from hydropower.

Liquefied natural gas (LNG)

Liquefied natural gas is natural gas in its liquid form. Natural gas is liquefied by cooling to minus 162 degrees Celsius (minus 260 degrees Fahrenheit), and the process reduces the volume of gas by more than 600 times, allowing for efficient transport via LNG tanker or trucks.

Marketable natural gas

The volume of gas that can be sold to the market after allowing for removal of impurities and after accounting for any volumes used to fuel surface facilities. As used in this report for undiscovered volumes, it is determined by applying the average surface loss from existing pools in that formation to the recoverable volumes of undiscovered pools of the same formation.

Natural gas liquids (NGLs)

Those hydrocarbon components recovered from natural gas as liquids. These liquids include, but are not limited to, ethane, propane, butanes and pentanes plus.

Oil sands

Sand and other rock material that contains bitumen. Each particle of oil sand is coated with a layer of water and a thin film of bitumen.

Primary energy demand

The total requirement for all uses of energy, including energy used by the final consumer, intermediate uses of energy in transforming one energy form to another, and energy used by suppliers in providing energy to the market.

Real or constant dollar

When price levels that are held constant at a base year, eliminating the effect of inflation.

Refined petroleum product

A wide range of products derived from crude oil through the refining process such as gasoline, diesel, heating oil, and jet fuel, among others.

Solar energy

Includes active and passive solar heat collection systems and photovoltaics.

Wave / Tidal power

Also known as tidal energy, tidal or wave power makes use of the rise and fall in sea levels, or tidal flow, to create hydropower.

Western Canada Sedimentary Basin

The Western Canada Sedimentary Basin is an ancient sedimentary basin 1.4 million square kilometres in size that formed over southwest Manitoba, southern Saskatchewan, almost all of Alberta, eastern and northeastern British Columbia, and the southern Yukon and Northwest Territories.



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