

FREQUENTLY USED STATISTICS

January 2019

Economics

CAPP references several third party sources to measure industry's economic performance and impact on the Canadian economy, and updates the data annually.

CAPITAL INVESTMENT

Data is updated annually. In 2017 (the last year for which actual data is available), the upstream oil and natural gas sector was the largest private sector investor in Canada.

CAPITAL INVESTMENT (\$ billions)	2014	2015	2016	2017	2018E
Conventional (includes East Coast offshore)	47	31	22	29	28
Oil Sands	34	23	15	14	13
East Coast Offshore	5.3	5.4	5.6	3.2	2.5
Canada	81	54	39	43	41

Source: Stats Can/CAPP

ANNUAL REVENUE

Data is an annual average calculated over a three year period.

ANNUAL REVENUE (\$ billions)

2016 - 2018

Upstream Oil and Natural Gas *billion dollars average over 3 years ending 2018 101

Source: ARC Financial/CAPP

PAYMENTS TO GOVERNMENTS

Data is an annual average calculated over a three year period and includes royalties, corporate income tax, land sales, and municipal taxes.

PAYMENTS TO GOVERNMENTS (\$ billions)

2015 - 2017

Canada 7

Source: CAPP

GDP IMPACT

The value of all goods and services produced in Canada in a given year, which includes all goods and services produced by the oil and natural gas industry in Canada. Prices are held constant. Despite declines in investment, production has generally increased in Canada since 2014, mostly due to in-progress oil sands projects. The decline in investment tends to affect other industries' contributions to real GDP (these industries generally help create the assets that produce the upstream industry's products). However, these sector's contributions to real GDP are not solely due to the upstream sector's activity.

REAL GDP IMPACT	2014	2015	2016	2017	Q1-Q3 2018
Canada's Total GDP (\$ billions)	1,799	1,814	1,834	1,893	1,941
Conv. GDP (\$ billions)	50	47	48	50	54
Conv. GDP Share (%)	2.78	2.60	2.62	2.64	2.80
Oil Sands GDP (\$ billions)	40	46	47	51	55
Oil Sands GDP Share (%)	2.20	2.54	2.54	2.70	2.83
Upstream GDP (\$ billions)	90	93	95	101	109
Upstream GDP Share (%)	4.97	5.14	5.16	5.34	5.62

Source: Stats Can.

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OIL SANDS PROVINCIAL SUPPLY CHAIN

Stated as the number of companies, and percentage share, operating in each province or territory in Canada (outside of Alberta) which provides goods or services to the oil sands industry. The data is updated every two years.

OIL SANDS PROVINCIAL SUPPLY CHAIN	%	2014-2015
British Columbia	22	738
Saskatchewan	14	462
Manitoba	3	96
Ontario	46	1,570
Quebec	11	385
Prince Edward Island	0.1	6
Nova Scotia	2	66
Newfoundland and Labrador	1	45
New Brunswick	0.8	28
North West Territories	0.2	7
Yukon Territories	0.1	5
Total		3,408

Source: CAPP 2016

INDIGENOUS SUPPLY CHAIN IN ALBERTA	2013-14	2015-16
Companies	327	399
Communities	54	65
Growth rate	N/A	4.1%

Source: CAPP, 2018

EMPLOYMENT (Thousands)	2015	2016	2017
Direct & indirect jobs conventional & offshore oil & natural gas	357	267	323
Direct & indirect oil sands jobs	287	228	205
Total upstream	644	495	528

Rounded to the nearest thousand.

Source: CAPP, based on data and analysis from Prism Economics and Statistics Canada

OIL AND GAS VALUE ON TSX	2016	2017
Canadian companies trading on the TSX	10%	7.3%

Source: GMP First Energy/CAPP

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Activity

Oil and natural gas industry activity drives revenue. Activity is comprised of capital investment, resource production and drilling activity, among others.

PRODUCTION

Industry production is recorded in thousand barrels per day for crude oil, and billion cubic feet per day for natural gas, and is broken down by type and region. Numbers are reported annually and updated quarterly, unless otherwise indicated. Please see the Statistical handbook for more information, found here: <https://www.capp.ca/publications-and-statistics/statistics>.

PRODUCTION	2015	2016	2017	Q3 2018	2035F
Crude Oil (Mb/d):					
Alberta Conv. & C5+ ¹	715	666	716	796	824
Saskatchewan Conv. ²	487	461	487	489	489
WCSB Conv. & C5+	1,311	1,241	1,317	1,427	1,335
East Coast ³	172	210	221	233	74
Oil Sands ¹	2,383	2,415	2,675	2,854	4,192
Canada ⁴	3,876	3,867	4,213	4,515	5,601
Natural Gas (Bcf/d):				2035Y* 2035N*	
Alberta ⁵	10.2	10.2	10.4	10.5	12.5 9.6
British Columbia ⁶	4.4	4.6	4.7	5.3	9.3 4.5
East Coast Offshore ⁷	0.2	0.2	0.1	0.1	
Canada ⁸	14.9	15.2	15.7	16.2	

Oil is ranked 6th and natural gas 5th in world production. Canada is ranked 3rd in crude oil reserves.

Source: 1 AER | 2 SK Gov | 3 NF&L
4 Stats Can | 5 AER ST3 | 6 BC Gov
7 CNSOPB/NB | 8 NEB
*Y = with Market Opportunity
Source: CAPP
*N = without Market Opportunity
Source: CAPP

DRILLING

The number of wells drilled in Western Canada annually indicates the health of Canada's oil and natural gas industry. The number of wells drilled is forecast in Q4 of the previous year. The data for the current year is finalized in Q2.

DRILLING	2014	2015	2016	2017	2018F
# of Wells Drilled in W Canada	10,390	5,230	3,751	6,414	6,400

Source: SHB/CAPP Forecast

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Markets

EXPORTS

Canada currently exports to one customer, the U.S. The data is measured in standard units, as stated in the legend on page six. Exports are updated quarterly.

	2014	2015	2016	2017	Q3 2018
EXPORTS TO U.S.					
Crude Oil (Mb/d) ¹	2,855	3,046	3,101	3,325	3,548
Natural gas (Bcf/d) ²	7.6	7.6	7.9	8.3	8.1

Source: 1 NEB | 2 Stats Can - CIMTB

IMPORTS

Data is measured in standard units, as stated in the legend on page six. Imports are updated quarterly.

	2014	2015	2016	2017	Q3 2018
IMPORTS					
Crude Oil (Mb/d):					
Atlantic Canada	299	321	308	333	343
Ontario	3	26	90	95	42
Québec	289	296	214	158	119
Share of refinery capacity of Quebec and Atlantic		79%	67%	63%	57%
Natural Gas (Bcf/d):					
Canada	2.1	1.9	1.8	2.3	1.9

Source: Stats Can - CIMTB

Energy Demand

The International Energy Agency produces an annual forecast, the World Energy Outlook, for growth in energy demand through 2040. CAPP references the New Policies Scenario that models current and announced energy policies.

	2017	2040	Growth	2040 Share
GLOBAL ENERGY DEMAND (Mtoe)				
Coal	3,750	3,809	2%	22%
Oil	4,435	4,894	10%	28%
Natural Gas	3,107	4,436	43%	25%
Nuclear	688	971	41%	5%
Hydro	353	531	50%	3%
Bioenergy	1,385	1,851	34%	10%
Other Renewables	254	1,223	381%	7%
Total Primary Energy Demand	13,972	17,715	27%	

Source: International Energy Agency 2018, World Energy Outlook, New Policies Scenario

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Environment

GHG EMISSIONS

GHG emissions, resulting from operations in oil and natural gas development are measured by million tonnes of CO₂ equivalent. Emissions data is updated annually.

GHG EMISSIONS (Mt CO ₂ e)	2016	% CDN	% GLOBAL
Oil sands	72	10%	0.15%
Other Upstream Oil & Natural Gas	79	11%	0.16%
Total Upstream	151	21%	0.31%
Total Canada (All sectors)	704		<1.5%

Source: Environment & Climate Change Canada, 2018

WATER USE (AB)

The AER tracks and reports industry's water use performance by recovery technology.

WATER USE	2016
Non-saline water use (million m³)	
Oil sands mining	182
Oil sands in situ	16
Enhanced oil recovery (EOR)	14
Hydraulic fracturing	7
Non-saline water use intensity (barrels of non-saline make-up water used to produce one BoE)	
Oil sands mining	2.45
Oil sands in situ	0.21
EOR	0.49
Hydraulic fracturing	0.38
Recycled water use (% of total water used)	
Oil sands mining	78%
Oil sands in situ	86%
EOR	93%
Hydraulic fracturing	6%

Source: AER

LAND

The share of disturbance to the boreal forest due to oil sands mining is cumulative over the past 50 years. The percentage is calculated based on the total size of the boreal forest across Canada. Land use is evaluated annually.

LAND	
Share of boreal forest disturbed by oil sands mining ¹	0.03%
Size of boreal forest (km ²)	2,700,000
Land covering oil sands (km ²) ²	142,000
Active mining footprint (km ²) ¹	901







Source: 1 AB Env | 2 AER

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Prices

Oil and natural gas prices are updated quarterly in this document. Refer to the Statistical Handbook found at <https://www.capp.ca/publications-and-statistics/statistics> for more information.

	PRICES	2014	2015	2016	2017	2018
	North Sea Brent (US\$/b)	99.02	52.36	43.55	54.23	71.00
	WTI Nymex (US\$/b)	92.99	48.80	43.32	50.95	64.73
	Cdn Light - MSW (US\$/b)	84.85	45.34	40.84	48.78	50.83
	Cdn Heavy - WCS (US\$/b)	71.77	35.27	29.65	39.09	38.98
	Henry Hub Gas (US\$/MMBtu)	4.38	2.67	2.44	2.95	3.13
	AECO NIT (C\$/GJ)	4.19	2.62	1.98	2.30	1.48

Source: Statistical Handbook

Legend

Abbreviation	Description
b/d	Barrels per day
bbl	Barrels
m ³	Cubic metre
Mm ³	Thousand cubic metres
MMm ³	Million cubic metres
Mb/d	Thousand barrels per day
MMb	Million barrels
MMb/d	Million barrels per day
Bcf	Billion cubic feet
Bcf/d	Billion cubic feet per day
GJ	Gigajoule
Mcf	Thousand cubic feet
MMBtu	Million British thermal units
MMcf	Million cubic feet
BOE	Barrel of oil equivalent
BOE/d	Barrel of oil equivalent per day
CO ₂ e	Carbon dioxide equivalent
Mtoe	Million tonnes of oil equivalent
Mt CO ₂ e	Million tonnes of CO ₂ equivalent
E	Estimate
F	Forecast
GDP	Gross domestic product

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 Indicates statistics updated for this quarter.