

ECONOMICS

Capital Investment (\$ billions)	2018	2019	2020	2021	2022E	2023F
Conventional (included East Coast offshore)	27	26	14	17	27	29
Oil Sands	12	9	7	9	10	12
Canada	39	35	21	26	37	40
East Coast	2.7	2.8	1.5	1.5	1.4	1.3

Source: Statistics Canada/CAPP

Annual Revenue (\$ billions)* **2019-2021**

Upstream oil and natural gas	133
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* average over 3 years ending 2021

Source: Statistics Canada

Payments to Governments (\$ billions) * **2019-2021**

Canada	12
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* average of 3 years includes royalties, income tax, land sales, carbon, municipal and corporate taxes.

Source: CAPP

Real GDP Impact	2016	2017	2018	2019	2020	2021
Canada's Total GDP (\$ billions)	1,839	1,896	1,950	1,986	1,884	1,977
Conventional GDP (\$ billions)	46	49	52	54	52	51
Conventional GDP Share (%)	2.5	2.6	3	3	3	3
Oil Sands GDP (\$ billions)	48	53	56	56	54	58
Oil Sands GDP Share (%)	2.6	2.8	3	3	3	3
Upstream GDP (\$ billions)	94	102	108	110	105	109
Upstream GDP Share (%)	5.1	5.4	5.6	5.5	5.6	5.5

Source: Statistics Canada

Oil Sands Provincial Supply Chain Outside of Alberta

# suppliers and \$ spent	2017		2018		2019	
	#	\$MM	#	\$MM	#	\$MM
British Columbia	572	430	541	469	513	535
Saskatchewan	214	86	189	118	167	131
Manitoba	58	44	50	58	55	69
Ontario	1,665	1,936	1,339	2,087	1,302	2,428
Québec	680	465	592	578	585	760
Prince Edward Island	5	1	2	0	2	0
Nova Scotia	40	51	38	47	38	49
Newfoundland and Labrador	34	52	22	33	23	39
New Brunswick	29	11	25	22	19	19
Northwest Territories	1	2	1	1	4	0
Yukon Territories	3	3	3	1	3	0
Suppliers Outside of Alberta*	2,872	3,083	2,420	3,413	2,711	4,029

* Suppliers do not add due to suppliers in multiple provinces

Source: CAPP 2021

Indigenous Supply Chain in Alberta	2017	2018	2019
Spend on Suppliers (\$MM)	1,545	2,025	2,358
Number of Suppliers	263	260	275

Source: CAPP 2021

ACTIVITY

Drilling	2016	2017	2018	2019	2020	2021	2022
# of Wells Drilled in W Canada	4,613	7,374	7,020	5,392	3,116	4,760	5,626

Source: CAPP, Geologic

Production	2016	2017	2018	2019	2020	2021	2022E
Crude Oil (Mb/d):							
Alberta conv. & C5+	666	716	808	824	754	780	832
Saskatchewan conv.	461	487	491	490	438	449	448
WCSB Conv. & C5+	1,241	1,317	1,449	1,477	1,348	1,381	1,440
East Coast	210	221	230	262	284	258	244
Oil sands	2,415	2,675	2,914	2,950	2,836	3,103	3,117
Canada	3,867	4,213	4,594	4,688	4,467	4,741	4,801
Natural Gas (Bcf/d):							
Alberta	10.2	10.4	10.5	10.1	9.6	11.5	11.9
British Columbia	4.6	4.7	5.4	5.5	5.7	5.9	5.7
East Coast	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Canada	15.2	15.7	16.2	15.7	15.4	16.9	17.9

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

Source: Provinces

ENVIRONMENT

GHG Emissions (Mt CO ₂ e) *	2016	2017	2018	2019	2020	% Cdn	% Global
Oil Sands	70	77	82	83	81	12%	0.17%
Conventional Oil & Gas	94	91	93	90	69	10%	0.19%
Total Upstream	173	177	186	183	160	24%	0.36%
Total Canada	715	725	740	738	672		1.50%

*National Inventory Report megatonnes of CO₂ equivalent

Source: Environment & Climate Change Canada

Water Use	2017	2018	2019	2020	2021
Non-saline water use intensity (bbl of non-saline make-up water used to produce 1 boe)					
Oil sands mining	2.50	2.59	2.24	2.95	1.92
Oil sands in situ	0.20	0.2	0.2	0.18	0.15
EOR	0.74	0.54	0.6	0.67	0.58
Hydraulic fracturing	0.55	0.71	0.79	0.67	0.55
Recycled water use (% of total water used)					
Oil sands mining					80%
Oil sands in situ					90%
EOR					94%
Hydraulic fracturing					1%

Source: AER

Land	
Share of boreal forest disturbed by oil sands mining	0.04%
Size of boreal forest (km ²)	2,700,000
Land covering oil sands (km ²)	142,000
Active mining footprint (km ²)	1,030

Source: AER/AB Environment

MARKETS

Exports to U.S.	2019	2020	2021	2022
Crude Oil (MMb/d)	3,812	3,597	3,759	3,818
Natural gas (Bcf/d)	7.2	6.7	7.5	8.5

Source: Statistics Canada, US DOE

Foreign Imports	2019	2020	2021	2022
Crude Oil (Mb/d):				
Atlantic Canada	385	294	264	277
Ontario	98	32	52	52
Québec	203	170	144	121
Natural Gas (Bcf/d):				
Canada	2.2	2.0	1.9	2.3

Source: Statistics Canada

Canadian Energy Usage by Source	2017	2018	2019	2020
Oil (%)	38.8	38.3	38.4	0.4
Gas (%)	34.7	35.9	35.7	0.4
Electricity (%)	22.8	22.1	22.3	0.2
Coal (%)	0.5	0.4	0.5	0.0

Source: Statistics Canada

Oil and Gas Value on TSX (at year end)	2019	2020	2021	2022
Canadian producer companies trading on the TSX	6.5%	4.3%	5.8%	10.2%

Source: CAPP, Bloomberg

Prices	2018	2019	2020	2021	2022
North Sea Brent (US\$/bbl)	71.69	64.16	43.07	70.92	99.03
WTI Nymex (US\$/bbl)	64.90	57.04	39.32	68.08	94.40
Cdn Heavy - WCS (US\$/bbl)	38.57	43.39	27.57	54.55	75.05
Henry Hub Gas (US\$/mcf)	3.07	2.53	2.13	3.72	6.54
AECO (US\$/mcf)	1.18	1.34	1.67	2.90	4.16
Exchange Rate (CAD/USD)	0.77	0.75	0.75	0.80	0.77

Source: Bloomberg

Note: Numbers may not add due to rounding

Legend

Abbreviation	Description
b/d	barrels per day
bbl	barrel
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	barrels of oil equivalent
BOE/d	barrels of oil equivalent per day
CO ₂ e	carbon dioxide equivalent
Mtoe	million tonnes of oil equivalent
E	estimate
F	forecast
GDP	gross domestic product