CARDINAL
ENERGY LTD.

2019
MANAGEMENT DISCUSSION & ANALYSIS

MANAGEMENT'S DISCUSSION AND ANALYSIS

This management's discussion and analysis ("MD&A") is a review of operations, financial position and outlook for Cardinal Energy Ltd. ("Cardinal" or the "Company") for the three months and year ended December 31, 2019 and is dated March 17, 2020. The MD&A should be read in conjunction with Cardinal's audited financial statements for the years ended December 31, 2019 and 2018. Financial data presented has been prepared in accordance with International Financial Reporting Standards ("IFRS" or, alternatively, "GAAP"), unless otherwise indicated. Certain prior period amounts have been reclassified to conform to current period presentation.

All figures in tables are stated in thousands of Canadian dollars (except operational and per share amounts or as noted).

Description of the Business

Cardinal is engaged in the acquisition, development, optimization and production of crude oil and natural gas in the provinces of Alberta and Saskatchewan. We are focused on providing sustainable monthly dividends and growth through a combination of accretive oil-based acquisitions and organic development.

Non-GAAP Measures

The terms "funds flow", "adjusted funds flow", "adjusted funds flow per share", "adjusted funds flow per diluted share", "development capital expenditures", "net operating expenses", "netback", "netback after risk management contracts", "net debt", "net debt to adjusted funds flow", "net bank debt", "simple payout ratio" and "total payout ratio" in this MD&A are not recognized under GAAP. Management believes that in addition to earnings and cash flow from operating activities as defined by GAAP, these terms are useful supplemental measures to evaluate operating performance. Users are cautioned however, that these measures should not be construed as an alternative to earnings or cash flow from operating activities determined in accordance with GAAP as an indication of Cardinal's performance and may not be comparable with the calculation of similar measurements by other entities.

Management utilizes "adjusted funds flow" as a key measure to assess the ability of the Company to generate the funds necessary to finance operating activities, capital expenditures and dividends. Adjusted funds flow excludes the change in non-cash working capital, decommissioning expenditures, and transaction costs since Cardinal believes the timing of collection, payment or incurrence of these items involves a high degree of discretion and variability. Expenditures on decommissioning obligations vary from period to period depending on the maturity of the Company's operating areas and availability of adjusted funds flow and are viewed as part of the Company's capital budgeting process. Funds flow excludes the change in non-cash operating working capital. Funds flow and adjusted funds flow are not intended to represent net cash provided by (used in) operating activities calculated in accordance with IFRS. The following table reconciles cash flow from operating activities to funds flow and adjusted funds flow:

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Cash flow from operating activities	**31,714**	6,968	n/m	**119,979**	88,767	35
Change in non-cash working capital	**(5,784)**	(2,655)	118	**(4,740)**	(10,348)	(54)
Funds flow	**25,930**	4,313	n/m	**115,239**	78,419	47
Decommissioning expenditures	**2,934**	1,200	145	**6,571**	6,443	2
Transaction costs	**-**	-	-	**-**	359	(100)
Adjusted funds flow	**28,864**	5,513	n/m	**121,810**	85,221	43

"Adjusted funds flow per share" is calculated using adjusted funds flow divided by the number of weighted average basic shares outstanding and adjusted for shares held in treasury.

"Adjusted funds flow per diluted share" is calculated using adjusted funds flow divided by the number of weighted average diluted shares outstanding and adjusted for shares held in treasury.

"Development capital expenditures" represents expenditures on property, plant and equipment (excluding capitalized G&A, other assets and acquisitions) as shown in the *Capital Expenditures* section below.

“Net operating expenses” is calculated as operating expense less processing and other revenue primarily generated by processing third party volumes at processing facilities where the Company has an ownership interest, and can be expressed on a per boe basis. As the Company’s principal business is not that of a midstream entity, management believes this is a useful supplemental measure to reflect the true cash outlay at its processing facilities by utilizing spare capacity through processing third party volumes.

"Netback" is calculated on a boe basis and is determined by deducting royalties, net operating expenses, and transportation expenses from petroleum and natural gas revenue in accordance with the Canadian Oil and Gas Evaluation (“COGE”) Handbook. Netback is utilized by Cardinal to better analyze the operating performance of its petroleum and natural gas assets against prior periods.

"Netback after risk management contracts" is calculated as netback adjusted for the effect of realized gains or losses on commodity contracts. It is utilized by Cardinal to analyze operating performance taking into account realized gains and losses on commodity contracts which the Company takes into account in addition to its oil and gas pricing.

The term "net debt" is not recognized under GAAP and is calculated as bank debt plus the principal amount of convertible unsecured subordinated debentures ("convertible debentures") and current liabilities less current assets (adjusted for the fair value of financial instruments, current decommissioning obligation, current lease liabilities, and the current portion of the liability component of convertible debentures). Net debt is used by management to analyze the financial position, liquidity and leverage of Cardinal.

"Net debt to adjusted funds flow" is calculated as net debt divided by adjusted funds flow for the trailing twelve month period. The ratio of net debt to adjusted funds flow is used to measure the Company's overall debt position and to measure the strength of the Company's balance sheet. Cardinal monitors this ratio and uses this as a key measure in making decisions regarding financing, capital expenditures and dividend levels.

"Net bank debt" is calculated as net debt less the principal amount of convertible debentures. Net bank debt is used by management to analyze the financial position, liquidity, leverage and borrowing capacity on Cardinal’s bank line.

"Simple payout ratio" represents the ratio of the amount of dividends declared divided by adjusted funds flow.

"Total payout ratio" represents the ratio of the sum of dividends declared plus development capital expenditures divided by adjusted funds flow. Simple payout ratio and total payout ratio are other key measures to assess Cardinal's ability to finance operating activities, capital expenditures and dividends.

51-101 Advisory

In accordance with S*tandards for Disclosure of Oil and Gas Activities* ("NI 51-101"), natural gas volumes have been converted to barrels of oil equivalent using a conversion rate of six thousand cubic feet of natural gas to one barrel of oil. This ratio is based on an energy equivalency conversion method primarily applicable at the burner tip. It does not represent a value equivalency at the wellhead and is not based on either energy content or current prices. The term "boe" is useful for comparative measures and observing trend, it does not accurately reflect individual product value and may be misleading, particularly if used in isolation. Based on the current price of crude oil to natural gas, using a 6:1 conversion ratio may be misleading as an indication of value.

HIGHLIGHTS

- Fourth quarter 2019 oil production increased 1% over the same period in 2018 as the restrictions from the 2019 government of Alberta's mandatory oil production curtailment program were eased;
- Revenue increased 58% and 3% in the fourth quarter of 2019 and for the full year of 2019, respectively, over the same periods in 2018 due to the narrowing of Canadian oil price differentials;
- Adjusted funds flow and cash flow from operating activities for the year ended December 31, 2019 increased 43% and 35%, respectively, over the same period in 2018;
- The Company's netback increased 8% in 2019 as compared to 2018;
- G&A costs per boe decreased 7% in 2019 as compared to 2018 reflecting the Company's commitment to streamline its operations;
- Reduced net debt by 8% or $22 million in 2019 leading to a 2.0 to 1 net debt to adjusted funds flow ratio at December 31, 2019;
- Reduced Cardinal's 2019 total payout ratio to 67% as compared to 127% in 2018;
- Repurchased and cancelled 1.7 million common shares through the Company's normal course issuer bid ("NCIB") in 2019. In 2020, an additional 0.9 million common shares have been repurchased and cancelled; and
- Acquired 2.3 million common shares through our independent trust for the potential settlement of future vesting restricted awards. In 2020, Cardinal has acquired 0.3 million common shares under this program bringing the total amount of shares purchased through the NCIB and the independent trust to 4% of outstanding common shares at the beginning of 2019.

OPERATIONS

PRODUCTION

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Light oil (bbl/d)	**8,100**	8,394	(4)	**8,069**	8,724	(8)
Medium / heavy oil (bbl/d)	**8,657**	8,256	5	**8,722**	8,601	1
Crude oil (bbl/d)	**16,757**	16,650	1	**16,791**	17,325	(3)
Natural gas (mcf/d)	**15,459**	16,460	(6)	**15,576**	16,579	(6)
NGL (bbl/d)	**893**	972	(8)	**932**	770	21
boe/d	**20,227**	20,365	(1)	**20,319**	20,858	(3)
% Crude oil and NGL production	**87%**	87%	-	**87%**	87%	-

During the fourth quarter of 2019, production was consistent with the same period in 2018 as increased oil production was offset by reduced natural gas and NGL production. In the fourth quarter of 2018, low Canadian oil prices forced the Company to shut-in uneconomic oil production in certain areas. This production was brought back online in the first quarter of 2019 however oil production for 2019 was limited by the Government of Alberta's mandatory oil production curtailment program. Natural declines reduced the Company's natural gas and NGL production in the fourth quarter of 2019 in the Bantry and Grand Prairie areas within Alberta.

For the year ended December 31, 2019, production decreased by 3% over 2018 due to the Government of Alberta’s oil production curtailment program announced in December 2018. Under the program, the Company’s Alberta oil production was restricted to a level that varied by month but was below Cardinal’s 2018 production volume levels. During the third quarter of 2019, the Alberta government announced that beginning in October 2019, the base limit for curtailment will increase from 10,000 bbl/d to 20,000 bbl/d. As Cardinal’s Alberta oil production is below 20,000 bbl/d, the Company’s oil production will not be limited by this program going forward. Partially offsetting the decreased oil production was a 21% increase in NGL production due to higher liquids yields in the Grande Prairie area.

PETROLEUM AND NATURAL GAS REVENUE

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Light oil	**46,547**	33,163	40	**188,116**	207,826	(9)
Medium / heavy oil	**42,281**	21,293	99	**185,826**	154,425	20
Crude oil	**88,828**	54,456	63	**373,942**	362,251	3
NGL	**1,547**	2,087	(26)	**6,012**	9,538	(37)
Natural gas	**2,897**	2,534	14	**9,017**	7,465	21
Petroleum and natural gas revenue	**93,272**	59,077	58	**388,971**	379,254	3
Cardinal average prices						
Light oil ($/bbl)	**62.46**	42.95	45	**63.87**	65.27	(2)
Medium / heavy oil ($/bbl)	**53.08**	28.04	89	**58.37**	49.19	19
Natural gas ($/mcf)	**2.04**	1.67	22	**1.59**	1.23	29
Equivalent ($/boe)	**50.12**	31.53	59	**52.45**	49.82	5
Benchmark prices						
Crude oil - WTI (US $/bbl)	**56.96**	58.81	(3)	**57.03**	64.77	(12)
Crude oil - Edmonton light (Cdn $/bbl)	**67.99**	42.76	59	**69.05**	69.37	(0)
Crude oil - WCS (Cdn $/bbl)	**54.30**	25.37	114	**58.77**	49.69	18
Natural gas - AECO Spot (Cdn $/gj)	**2.35**	1.48	59	**1.67**	1.42	18
Exchange rate - (US/Cdn)	**0.76**	0.76	-	**0.75**	0.77	(2)

Petroleum and natural gas revenue increased 58% in the fourth quarter of 2019 as compared to the same period in 2018 due to a 59% increase in realized commodity prices. In the fourth quarter of 2019, the Company's Edmonton light benchmark price increased 59% as compared to a 45% increase in the Company's light oil price. The Company's light oil production receives pricing based off the Edmonton Light ("MSW") and Cromer pricing benchmarks. In the fourth quarter of 2018, the Cromer to CAD$ West Texas Intermediate ("WTI") benchmark pricing differential was not as wide as the MSW differential, therefore, the Company's light oil price did not increase proportionately with the MSW benchmark. In the fourth quarter of 2019, the Company's Western Canadian Select ("WCS") oil benchmark increased 114% over the same period in 2018 as compared to an 89% increase in Cardinal's realized medium/heavy oil price. In the fourth quarter of 2018, to mitigate record wide WCS differentials and apportionment issues, the Company trucked certain oil production to sales points with higher pricing due to blending options. The result of this was better oil pricing with a higher trucking cost which did not provide the same economics in the fourth quarter of 2019.

For the year ended December 31, 2019, revenue increased 3% due to a 5% increase in pricing partially offset by the 3% decrease in production. Although the WTI price decreased 12% in 2019, a 55% reduction in the MSW differential resulted in a 2% decrease in the Company's light oil price. In 2019, due to lower oil inventory caused by the Alberta curtailment program, WCS differentials narrowed by 52% over 2018 to average US$12.75 for the year. This resulted in a 19% increase in the Company's medium/heavy oil price which was comparable to the 18% increase in the WCS benchmark price. In 2019, Cardinal's natural gas price increased 29% as compared to the AECO benchmark increase of 18% due to the Company's diversified natural gas portfolio where a portion of the natural is sold into the Chicago natural gas market at higher prices. Although NGL production increased in 2019, NGL revenue decreased 37% due to a decrease in pricing combined with additional lower valued ethane and butane production volumes in the Company's North core area.

FINANCIAL INSTRUMENTS - COMMODITY

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Average crude oil volumes hedged (bbl/d)	**12,500**	12,833	(3)	**11,021**	13,292	(17)
Realized loss - commodity contracts	**(1,476)**	649	n/m	**(14,664)**	(42,153)	(65)
Unrealized gain/(loss) - commodity contracts	**(1,543)**	62,184	(102)	**(15,695)**	31,277	(150)

Managing the variability in funds flow and adjusted funds flow is an integral component of Cardinal's business strategy. Changing business conditions are monitored regularly and reviewed with our Board of Directors to establish risk management guidelines used by management in carrying out the Company's risk management program. The risk exposure inherent in movements in the price of crude oil and natural gas are proactively managed by Cardinal through the use of derivatives with investment-grade counterparties. The Company considers these derivative contracts to be an effective means to manage cash flow from operating activities, funds flow and adjusted funds flow.

Cardinal utilizes a variety of derivatives including swaps, collars and puts to protect against downward commodity price movements and avoids entering into more complex derivative structures. Contracts settled in the period result in realized gains or losses based on the market price compared to the contract price. Changes in the fair value of the contracts, as measured at the balance sheet date, are reported as unrealized gains or losses in the period as the forward markets for commodities and currencies fluctuate and as new contracts are executed. For commodities, Cardinal's risk management program allows for hedging a forward profile of three years, of up to 75% of average forecasted 12 months of gross production and up to 50% and 30% of the following 12 and 24 months, respectively. As of the date of this MD&A Cardinal had the following commodity derivatives, referenced to WTI, WCS and AECO outstanding:

Commodity	Financial Instrument	Period	Average Volume		Average Strike Price		
Crude Oil							
	CDN WTI Swap	Jan - Mar 2020	750	bbl/d		$	80.77
	USD WTI Swap	Jan - Mar 2020	1,000	bbl/d		$	60.00
	CDN WTI Collar	Jan - Mar 2020	1,500	bbl/d	Floor	$	72.83
					Ceiling	$	80.87
	USD WTI Collar	Jan - Jun 2020	2,492	bbl/d	Floor	$	52.80
					Ceiling	$	64.60
	CDN WCS Differential Swap	Jan - Feb 2020	500	bbl/d		$	23.00
	USD WCS Differential Swap	Apr - Dec 2020	1,498	bbl/d		$	15.59
	CDN WCS Swap	Jan 2020	1,000	bbl/d		$	51.75
Natural Gas							
	AECO Swap	Jan - Dec 2020	2,740	gj/d		$	1.68

ROYALTIES

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Royalties	**17,419**	8,283	110	**65,759**	64,462	2
Percent of revenue	**18.7%**	14.0%	33	**16.9%**	17.0%	(1)
$/boe	**9.36**	4.42	112	**8.87**	8.47	5

Royalties are either paid or taken in kind and are owed to land and mineral rights owners and to provincial governments. The terms of the land and mineral rights owner agreements and provincial royalty regimes impact Cardinal's overall corporate royalty rate.

Royalties and royalties as a percentage of revenue increased during the fourth quarter of 2019 as compared to the same period in 2018 as significantly higher oil prices led to increased royalties and royalty rates on a sliding scale basis. In addition, an increased light oil revenue weighting which attracts a higher royalty rate elevated the Company's fourth quarter 2019 royalty rate as compared to the fourth quarter of 2018.

For 2019, a combination of reduced light oil revenue which attracts a higher royalty rate and increased lower royalty rate medium/heavy oil revenue resulted in a slight decrease in royalties as a percentage of revenue as compared to the same period in 2018. Cardinal is forecasting royalties as a percentage of revenue to average 17% to 19% in 2020.

NET OPERATING EXPENSES

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Operating expenses	**38,366**	38,856	(1)	**157,949**	159,358	-
Less: Processing and other revenue	**(564)**	(790)	(29)	**(2,630)**	(4,077)	(35)
	37,802	38,066	(1)	**155,319**	155,281	-
$/boe	**20.31**	20.32	-	**20.94**	20.40	3

During the fourth quarter of 2019, net operating expenses per boe were consistent with the same period in 2018. The savings from the Company's electricity generating projects were partially offset by increased well servicing and workover costs during the fourth quarter of 2019. In the fourth quarter of 2018, when Canadian oil price differentials were at extremely wide levels, Cardinal ceased the majority of its well workovers as the economics did not support increasing production in the wide differential market. The result of this was a decrease in operating costs per unit in the fourth quarter of 2018. During the fourth quarter, net operating expenses were lowered by $0.9 million due to the implementation of IFRS 16 in which certain leases are recorded as liabilities.

For the year ended December 31, 2019, the Company's operating costs were consistent with the same period in 2018 however reduced production increased the operating costs per boe by 3%. Cardinal reduced its average Alberta power grid demand usage by 6% during 2019 over 2018 however the cost per megawatt hour ("MWh") increased 10% over the same period keeping the Company's power costs consistent year over year. Third party processing revenue decreased by 35% during 2019 as third party production that was historically processed at the Company's facilities with available capacity declined in 2018. For the year ended December 31, 2019, net operating costs were reduced by $1.9 million due to the implementation of IFRS 16 in which certain leases are recorded as liabilities.

TRANSPORTATION EXPENSES

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Transportation expenses	**499**	957	(48)	**2,432**	2,324	5
$/boe	**0.27**	0.51	(47)	**0.33**	0.31	6

Transportation costs and transportation costs per boe decreased during the fourth quarter of 2019 as compared with the same period in 2018 as the Company reduced clean oil trucking activity. In the fourth quarter of 2018, Cardinal increased its trucking of clean oil in certain areas to mitigate apportionment and take advantage of blending opportunities at sales points with favorable pricing options. As the oil price differential was much more favorable in 2019, this activity was reduced.

For the year ended December 31, 2019, transportation costs were slightly higher than in 2018 as the Company was opportunistic with its clean oil trucking activity depending on apportionment issues or blending opportunities. In the second and third quarters of 2019, Cardinal took advantage of higher pricing options primarily in the Mitsue and Bantry, Alberta areas and trucked its clean oil to alternate sales points.

NETBACK

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Petroleum and natural gas revenue	**50.12**	31.53	59	**52.45**	49.82	5
Royalties	**9.36**	4.42	112	**8.87**	8.47	5
Net operating expenses	**20.31**	20.32	-	**20.94**	20.40	3
Transportation expenses	**0.27**	0.51	(47)	**0.33**	0.31	6
Netback [(1)]	**20.18**	6.28	221	**22.31**	20.64	8

(1) See non-GAAP measures.

Cardinal's fourth quarter 2019 netback increased 221% over the same period in 2018 as a result of significantly higher commodity prices due to narrowed Canadian oil price differentials partially offset by higher royalties.

For the year ended December 31, 2019, higher WCS oil prices were partially offset by lower light oil prices and higher royalties resulting in a 10% increase in the netback.

GENERAL AND ADMINISTRATIVE ("G&A")

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Gross G&A	**5,563**	4,696	18	**20,929**	22,571	(7)
Capitalized G&A and overhead recoveries	**(1,364)**	(959)	42	**(5,068)**	(4,950)	2
G&A	**4,199**	3,737	12	**15,861**	17,621	(10)
$/boe	**2.26**	1.99	14	**2.14**	2.31	(7)

In the fourth quarter of 2019, G&A costs were 12% higher than the same period in 2018. During the fourth quarter of 2018, record wide Canadian oil price differentials forced the Company to reduce its consultant and compensation costs. Early in 2019, the differentials narrowed and compensation costs and staff levels were normalized through 2019.

For the year ended December 31, 2019, G&A and G&A costs per boe decreased by 10% and 8%, respectively, over the same period in 2018 due to reduced compensation and consulting costs. In addition, office rent costs were lowered by $0.2 million and $1.0 million, respectively, for the fourth quarter and the year ended December 31, 2019, due to the implementation of IFRS 16 in which all leases are recorded as liabilities. Details are shown in the Change in Accounting Policies section below.

SHARE-BASED COMPENSATION ("SBC")

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Gross SBC	**2,027**	2,357	(14)	**8,217**	8,759	(6)
Capitalized SBC	**(263)**	(320)	(18)	**(1,057)**	(1,358)	(22)
SBC	**1,764**	2,037	(13)	**7,160**	7,401	(3)
$/boe	**0.95**	1.09	(13)	**0.97**	0.97	-

SBC expense decreased in the fourth quarter of 2019 and for the full year of 2019 as compared to the same periods in 2018 due to a decrease in the grant fair value of restricted bonus awards ("RAs") outstanding.

As at December 31, 2019, Cardinal had 4.6 million RAs outstanding.

FINANCE

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Interest - bank debt	**2,060**	2,246	(8)	**9,280**	8,610	8
Other finance charges, net	**243**	239	2	**999**	832	20
Interest - convertible debentures	**617**	685	(10)	**2,475**	2,750	(10)
Interest - capital leases	**94**	-	-	**372**	-	-
Accretion	**2,407**	2,545	(5)	**9,458**	10,017	(6)
Unrealized foreign exchange loss	**23**	-	-	**23**	-	-
Finance	**5,444**	5,715	(5)	**22,607**	22,209	2
$/boe	**2.92**	3.05	(4)	**3.05**	2.92	4
Average bank debt	**196,529**	206,472	(5)	**209,286**	213,058	(2)
Interest rate - bank debt	**4.2%**	4.3%	(2)	**4.4%**	4.0%	10

Finance expenses for the fourth quarter of 2019 decreased over the same period in 2018 due to reduced average debt levels combined with lower convertible debenture interest and accretion costs as the Company bought back 10% of the outstanding debentures in the first quarter of 2019. Partially offsetting the lower debt interest costs, the Company has incurred implicit financing costs within its lease payments in conjunction with the IFRS 16 implementation.

For 2019, finance expenses increased by 2% over 2018 due to higher interest rates and implicit lease financing costs from the implementation of IFRS 16 being partially offset by reduced convertible debenture interest costs.

DEPLETION AND DEPRECIATION ("D&D")

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Depletion and depreciation	**23,732**	20,199	17	**92,082**	88,076	5
$/boe	**12.75**	10.78	18	**12.42**	11.57	7

Depletion is calculated based on capital expenditures incurred since inception of the Company, future development costs associated with proved plus probable reserves, production rates, and proved plus probable reserves. In addition to depletion, Cardinal records depreciation on other capital equipment and right-of-use assets not directly associated with proved plus probable reserves.

D&D costs per boe increased 18% and 7% in the fourth quarter of 2019 and for the year ended December 31, 2019, respectively, due to a higher property, plant and equipment depletable base from the Company's $76.5 million impairment reversal in the fourth quarter of 2018. In addition, D&D costs increased by $0.7 million in the fourth quarter of 2019 and $2.0 million for the year ended December 31, 2019 compared to the same periods in 2018 due to the implementation of IFRS 16 as depreciation is recognized on the right-of-use assets over the lease term.

IMPAIRMENT AND IMPAIRMENT REVERSAL

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Impairment (reversal)	**23,400**	(74,825)	(131)	**23,400**	(74,825)	(131)

2019:
As at December 31, 2019 Cardinal determined that the carrying value of the Alberta Central CGU exceeded the recoverable amount and recorded an impairment of $23.4 million. The impairment recognized was the result of lower forecasted oil prices combined with higher future costs within the Company's Alberta Central CGU. The recoverable amount of Cardinal's impaired CGU at December 31, 2019 was $299.6 million. The Company did not identify any further indicators of impairment or impairment reversals for its other CGU's.
The recoverable value of the Company's Alberta Central CGU was estimated as the value in use based on the net present value of before tax cash flows from crude oil and natural gas proved plus probable reserves estimated by Cardinal's third party reserve evaluators discounted between 10% to 20% depending on the reserves composition. The recoverable amount is sensitive to commodity price, discount rate, production volumes, royalty rates, operating costs and future capital expenditures. In determining the appropriate discount rate for the calculation, Cardinal considered various characteristics and risks of the assets.

The external reserve evaluators also assess many other financial assumptions regarding royalty rates, operating costs and future development costs along with several other non-financial assumptions that affect reserve volumes. Management considered these assumptions for the impairment test at December 31, 2019, however, it should be noted that all estimates are subject to uncertainty.

2018:
In 2018, the Company focused a significant amount of its capital and resources to the Alberta South cash generating unit ("CGU") which included an analysis of past results, stratigraphic test wells and a full geological review. The result of this review was positive and led to a significant increase in recoverable reserves due to drilling successes and improved performance of existing wells. With these results, the Company concluded there was sufficient indication to test the Alberta South CGU to determine if there was a reversal of previously recognized impairment. The recoverable value of the Alberta South CGU was estimated as the value in use based on the net present value of before tax cash flows from crude oil and natural gas proved plus probable reserves estimated by Cardinal's third party reserve evaluators discounted between 10% and 20%, depending on the reserves composition. In determining the appropriate discount rate for the calculation, Cardinal considered various characteristics and risks of the assets. The external reserve evaluator also assess many other financial assumptions regarding royalty rates, operating costs and future development costs along with several other non-financial assumptions that affect reserve volumes. Management considered these assumptions for the impairment reversal at December 31, 2018, however, it should be noted that all estimates are subject to uncertainty. The recoverable amount is sensitive to commodity price, discount rate, production volumes, royalty rates, operating costs and future capital expenditures.

The resulting calculation indicated there was a $76.5 million impairment reversal which was recorded in the fourth quarter of 2018. The recoverable amount of the Alberta South CGU was $231.2 million. The Company did not identify any further indicators of impairment or impairment reversals for its other CGUs in 2018.

In 2018, management expensed $1.7 million of certain E&E assets associated with undeveloped land pending expiries due to no future planned development activities. The Company did not expense any of its E&E assets in 2019.

DEFERRED TAXES

At December 31, 2019, the Company had a deferred tax asset of $103.6 million (December 31, 2018 – $112.4 million). The deferred tax asset was recognized as management considers it probable that there will be sufficient future taxable income to utilize the benefits. During the second quarter of 2019, the Alberta government announced a graduated corporate tax rate reduction from 12% to 8% over a four year period. As the Company has a deferred tax asset due to its tax pools being in excess of the accounting net assets, the impact of the rate reduction is an additional $16.5 million of deferred tax expense.

The Company has approximately $1.4 billion of tax pools ($1.3 billion are unrestricted) available to be applied against future income for tax purposes. Based on available pools and current commodity prices, Cardinal does not expect to pay current income taxes until 2025 or beyond. Any potential taxes payable beyond 2025 would be affected by commodity prices, capital expenditures and production.

		As at December 31		
Tax Pool Balance	**Maximum Annual Claim**	**2019**	2018	Change %
COGPE	10%	**579,254**	642,413	(10)
CEE and non-capital losses	100%	**537,628**	501,784	7
CDE	30%	**144,166**	139,121	4
Undepreciated capital cost	25%	**148,520**	168,835	(12)
Other	20%	**4,570**	7,733	(41)
Total		**1,414,138**	1,459,886	(3)

EARNINGS (LOSS), CASH FLOW FROM OPERATING ACTIVITIES, ADJUSTED FUNDS FLOW AND PAYOUT RATIOS

	Three months ended			**Year ended**		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Earnings (loss)	**(15,094)**	84,760	(118)	**(34,340)**	60,544	n/m
$/share						
Basic	**(0.13)**	0.73	(118)	**(0.30)**	0.53	n/m
Diluted	**(0.13)**	0.70	(119)	**(0.30)**	0.52	n/m
Cash flow from operating activities	**31,714**	6,968	n/m	**119,979**	88,767	35
Adjusted funds flow	**28,864**	5,513	n/m	**121,810**	85,221	43
$/share						
Basic	**0.25**	0.05	n/m	**1.06**	0.74	43
Diluted	**0.25**	0.05	n/m	**1.06**	0.74	43
Total payout ratio	**86%**	418%	(79)	**67%**	127%	(47)
Simple payout ratio	**18%**	174%	(90)	**15%**	55%	(73)

For the fourth quarter of 2019 and for the year ended December 31, 2019, the Company's earnings decreased over the fourth quarter of 2018 mainly due to an impairment of the Alberta Central CGU in 2019 and an impairment reversal being recorded in the fourth quarter of 2018. In addition in the fourth quarter of 2018, Cardinal had significant unrealized gains on commodity contracts as the forward price of oil significantly decreased in the fourth quarter of 2018. The Company's earnings were also negatively affected by additional deferred tax expense in 2019 of approximately $16.5 million from the Alberta government's corporate tax rate reduction in the second quarter of 2019. This was partially offset by a reduction of realized losses on commodity contracts in 2019.

During the fourth quarter and the year ended December 31, 2019, the increase in adjusted funds flow and cash flow from operating activities was due to significantly increased WCS pricing in 2019 and reduced realized losses on commodity contracts in 2019. Cash flow from operating activities and adjusted funds flow increased by $0.5 million and $1.4 million for the fourth quarter and year ended December 31, 2019, respectively, due to the implementation of IFRS 16 in which certain leases are recorded as liabilities.

The decrease in Cardinal's total and simple payout ratios for the fourth quarter and the year ended December 31, 2019 over the same period in 2018 is the result of the increase in adjusted funds flow and decreased dividend payments.

CAPITAL EXPENDITURES

In the fourth quarter of 2019, the Company drilled six (6.0 net) oil wells in the Bantry area in Southern Alberta. Two (2.0 net) of these wells were completed in the fourth quarter, three (3.0 net) were completed in 2020 and one well was considered not commercially productive and was abandoned in the fourth quarter. The Company also invested in its infrastructure by upgrading pipelines and facilities and continued with enhanced oil recovery projects spending $10.6 million throughout its core areas on these improvements and initiatives. As part of the infrastructure spending, Cardinal continues to invest in power generation projects to reduce its dependence on the power grid predominantly in the Wainwright, Alberta area with two significant projects coming on line in early 2020.

	Three months ended			**Year ended**		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Land	**91**	135	(33)	**744**	1,536	(52)
Geological and geophysical	**-**	124	(100)	**-**	122	(100)
Drilling and completion	**8,961**	5,339	68	**28,152**	26,705	5
Equipment, facilities and pipelines	**10,569**	7,855	35	**34,707**	33,229	4
Total development capital expenditures [1]	**19,621**	13,453	46	**63,603**	61,592	3
Capitalized G&A	**379**	57	n/m	**1,512**	1,386	9
Other assets	**18**	24	(25)	**153**	177	(14)
Acquisitions (dispositions), net	**112**	163	n/m	**396**	(28,007)	n/m
Total cash capital expenditures	**20,130**	13,697	47	**65,664**	35,148	87
Non-cash expenditures [2]	**-**	-	-	**-**	11,250	(100)
Total capital expenditures [3]	**20,130**	13,697	47	**65,664**	46,398	42

(1) Represents the total of exploration and evaluation and property, plant and equipment expenditures from the statements of cash flows less amounts recorded for capitalized G&A and other assets (included in the table of expenditures above).
(2) Represents share consideration associated with the 2018 Midale consolidating working interest acquisition.
(3) Expenditures exclude expenditures for the decommissioning obligation and non-cash capitalized share-based compensation.

The Company's Board of Directors has approved a revised 2020 capital budget of $31 million.

DECOMMISSIONING OBLIGATION

The decommissioning obligation decreased in the fourth quarter of 2019 to $113.8 million from $121.7 million at the end of 2018 mainly due to a $10.0 million change in estimate which was predominantly a result of a change in timing and estimated amounts of future obligations. During the year, the Company settled $6.6 million of liabilities, incurred $0.4 million of future liabilities, increased the liability with $8.6 million of accretion and disposed of $0.2 million of asset retirement obligations during 2019.

LIQUIDITY AND CAPITAL RESOURCES

	As at		
Capitalization table	**Dec 31, 2019**	Dec 31, 2018	Change %
Net bank debt [1]	**202,599**	219,689	(8)
Convertible debentures	**45,000**	50,000	(10)
Common shares, outstanding	**113,657,247**	116,197,095	(2)
Market price at end of period ($ per share)	**$ 2.60**	$ 2.22	17
Market capitalization	**295,509**	257,958	15
Total capitalization	**543,108**	527,647	3

(1) See non-GAAP measures.

CAPITAL FUNDING

The Company has a reserved based credit facility of $325 million which is comprised of a $295 million syndicated term credit facility and a $30 million non-syndicated operating term credit facility (the "Facilities"). The Facilities are available on a revolving basis until May 23, 2020 and may be extended for a further 364 day period, subject to approval by the syndicate. If not extended, the Facilities will cease to revolve, the applicable margins will increase by 0.5% and all outstanding advances will be repayable on May 22, 2021. There are no financial covenants related to the Facilities provided that Cardinal is not in default of the terms of the Facilities. Cardinal was in compliance with the terms of the Facilities at December 31, 2019.

The borrowing base of the Facilities is primarily based on reserves and commodity prices estimated by the syndicate and is subject to review and redetermination on a semi-annual basis. As the available lending limit of the Facilities is based on the syndicate's interpretation of the Company’s reserves and future commodity prices and costs, there can be no assurance that the amount of the Facilities will not decrease at the next scheduled review.

Advances under the Facilities are available by way of either prime rate loans, which bear interest at the banks' prime lending rate plus 0.5 to 2.5%, and bankers' acceptances and/or LIBOR loans, which are subject to fees and margins ranging from 1.5 to 3.5%. Interest and standby fees on the undrawn amounts of the Facilities depend upon certain ratios. The Facilities are secured by a general security agreement over all of the Company's assets.

Cardinal has $45 million (December 31, 2018 - $50 million) of convertible debentures which have a maturity date of December 31, 2020. The convertible debentures have a conversion price of $10.50 per common share and bear interest at 5.5% per annum, payable semi-annually on June 30 and December 31 each year. The convertible debentures are redeemable by the Company subject to certain conditions. In December 2018, the Company announced an NCIB whereby Cardinal could purchase up to $5.0 million aggregate principal amount of its convertible debentures, subject to certain conditions. In the first quarter of 2019, the Company repurchased and cancelled the maximum number of convertible debentures of $5.0 million allowed under this NCIB at an average rate of 96.9314 and for a gain of $0.2 million. In December 2019, the Company renewed the NCIB and has the ability to purchase up to $4.5 million aggregate principal amount of the outstanding debentures.

CAPITAL STRUCTURE

Cardinal manages its capital to provide a flexible structure to support production maintenance, capital programs, stability of dividends and other operational strategies. Maintaining a strong financial position enables Cardinal to enhance business opportunities and supports Cardinal's strategy of providing shareholder return through growth of the business, reducing its cost structure and dividend payments.

The key measures that the Company utilizes in evaluating its capital structure are the credit available from the syndicate in relation to the Company's budgeted capital expenditure program and the ratio of net debt to adjusted funds flow (see non-GAAP measures).

To manage its capital structure, Cardinal considers its net debt to adjusted funds flow ratio, its capital expenditures program, the current level of credit available from the Facilities, the level of credit that may be attainable due to increases in petroleum and natural gas reserves and new equity if available on favourable terms. The Company prepares an annual capital expenditure budget, which is monitored monthly and updated as necessary.

	Year ended	
	Dec 31, 2019	Dec 31, 2018
Bank debt	**$ 173,308**	$ 211,443
Principal amount of Convertible Debentures	**45,000**	50,000
Working capital deficiency[1]	**29,291**	8,246
Net debt [2]	**$ 247,599**	$ 269,689
Cash flow from operating activities	**$ 119,979**	$ 88,767
Change in non-cash working capital	**(4,740)**	(10,348)
Funds flow [2]	**$ 115,239**	$ 78,419
Decommissioning obligation expenditures	**6,571**	6,443
Transaction costs	**-**	359
Adjusted funds flow [2]	**121,810**	85,221
Net debt to adjusted funds flow [2]	**2.0**	3.2

(1) Excludes the fair value of financial instruments, current decommissioning obligation, current lease liabilities, and the current portion of the liability component of convertible debentures
(2) See non-GAAP measures

Cardinal's ratio of net debt to adjusted funds flow as at December 31, 2019 was 2.0 to 1, lower than the ratio at December 31, 2018 of 3.2 to 1 due to higher adjusted funds flow from higher oil prices and significantly narrower WCS oil price differentials in 2019. Cardinal is at its targeted ratio of 2.0 to 1 and has decreased the ratio over the past three years from 3.3 to 1 in 2017. During periods of significant capital expenditures, acquisitions or low pricing the ratio will increase. The Company will continue to monitor this ratio to endeavor to keep it at or below the target ratio.

LIQUIDITY

The Company relies on cash flow from operating activities, the unused portion of the Facilities and equity issuances to fund its capital requirements and provide liquidity. As at December 31, 2019, Cardinal had a working capital deficiency of $29.3 million and unused capacity of $150.1 million on its Facilities, after taking into account outstanding letters of credit.

The Company believes that it is well positioned to take advantage of its internally developed opportunities funded through its available Facilities combined with anticipated cash flow from operating activities. Present sources of capital are anticipated to be sufficient to satisfy the Company's capital program, decommissioning obligations, and dividend payments for the 2020 fiscal year.

The current challenging economic climate may lead to further adverse changes in cash flows, working capital levels and/or debt balances, which may also have a direct impact on the Company’s operating results and financial position. These and other factors may adversely affect the Company’s liquidity and the Company’s ability to generate income and cash flows in the future. At December 31, 2019, the Company remains in compliance with all terms of our Facilities and based on current available information, management expects to comply with all terms during the subsequent 12 month period. However in light of the current volatility in commodity prices and uncertainty regarding the timing for recovery in such prices, pipeline and transportation capacity constraints, and the effect of the Coronavirus (COVID-19), the preparation of financial forecasts is challenging.

DIVIDENDS

	Three months ended			Year ended		
	Dec 31, 2019	Dec 31, 2018	Change %	**Dec 31, 2019**	Dec 31, 2018	Change %
Dividends declared	**5,325**	9,573	(44)	**17,923**	46,680	(62)
Dividends declared per share	**$ 0.045**	$ 0.080	(44)	**$ 0.150**	$ 0.395	(62)

In the fourth quarter of 2019, the Company declared $5.3 million (2018 – $9.6 million) of dividends of which $3.4 million (2018 – $8.2 million) was paid in cash and $1.9 million (2018 - $1.4 million) was recognized as a liability at December 31, 2019. In December 2018, due to record wide Canadian crude oil price differentials, the Company announced a reduction of the dividend to $0.01 per share per month commencing with the December 2018 dividend payable on January 15, 2019. In April 2019, with strengthening WTI oil prices and narrowing Canadian oil price differentials, the Company announced that it would increase its dividend to $0.015 per share effective for the July 2019 dividend.

SHARE CAPITAL

In 2019, Cardinal granted 2.9 million RAs to officers, directors and employees pursuant to the Company's restricted bonus award plan.

RAs may be settled in cash, common shares issued from treasury or common shares acquired by an independent trustee in the open market for such purposes. As of the date of this MD&A, the trustee had purchased 2,395,501 treasury shares at an average price of $2.84 for the potential settlement of vesting RAs. In 2019, 437,275 treasury shares held by the trustee were utilized to settle vesting awards.

In the third quarter of 2019, the Company announced that the Toronto Stock Exchange ("TSX") accepted the Company's intention to commence an NCIB. Pursuant to the NCIB, the Company is permitted to purchase up to 11,128,148 common shares (representing approximately 10% of its public float as of July 23, 2019) between August 2, 2019 and August 2, 2020.

Under the NCIB, common shares may be repurchased in open market transactions on the TSX, and/or alternative Canadian trading systems, or by such other means as may be permitted by the TSX and applicable securities laws and in accordance with the rules of the TSX governing NCIB's. The total number of common shares that Cardinal is permitted to purchase is subject to a daily purchase limit of 131,082 common shares, representing 25% of the average daily trading volume of 524,329 common shares on the TSX calculated for the six-month period ended June 30, 2019, however, Cardinal may make one block purchase per calendar week which exceeds the daily repurchase restrictions. Any common shares that are purchased under the NCIB will be cancelled upon their purchase by the Company. As of December 31, 2019, the Company repurchased and cancelled 1,672,746 common shares at average price of $2.29 per common share, for a total cost of $3.8 million. In 2020, Cardinal has repurchased and cancelled an additional 897,500 common shares at an average price of $2.77 per common share.

On January 12, 2018, the Company issued 2,314,815 common shares valued at $4.86 per share as partial consideration for the consolidating acquisition increasing the Company's working interest in the Midale Unit from 68.8% to 77.2%.

On August 30, 2018, Cardinal issued 640,000 flow-through common shares pursuant to a private placement at $6.25 per common share for gross proceeds of $4.0 million. The Company recorded a deferred liability for the related premium in the amount of $0.5 million. As of December 31, 2019, Cardinal has incurred all qualifying Canadian Exploration Expenditures under this arrangement.

Between August 30, 2018 and September 5, 2018, Cardinal issued an aggregate of 1,024,000 flow-through common shares pursuant to a private placement at $5.65 per common share for gross proceeds of $5.8 million. The Company recorded a deferred liability for the related premium in the amount of $0.4 million. The Company incurred the qualifying Canadian Development Expenditures prior to December 30, 2018.

Equity Instruments as at	Mar 17, 2020	Dec 31, 2019	Dec 31, 2018
Common shares, issued	114,575,829	115,473,329	116,197,095
Treasury shares	(1,882,953)	(1,816,082)	-
Convertible debentures	4,276,715	4,285,715	4,761,905
RAs	4,234,186	4,613,495	3,444,409
Stock options	-	-	12,501

OFF BALANCE SHEET ARRANGEMENTS

Cardinal does not have any special purpose entities nor is it a party to any arrangements that would be excluded from the balance-sheet, other than the operating leases summarized in *Contractual Obligations*.

CONTRACTUAL OBLIGATIONS

At December 31, 2019, the Company had contractual obligations as follows:

	2020	2021	2022	2023	2024	Thereafter
Trade and other payables	69,871	-	-	-	-	-
Dividends payable	1,938	-	-	-	-	-
Lease liabilities	2,137	1,712	1,146	1,011	9	-
Bank debt	-	173,308	-	-	-	-
Capital commitments	750	-	-	-	-	-
Convertible debentures	47,475	-	-	-	-	-
Total contractual obligations	**$ 122,171**	**$ 175,020**	**1,146**	**1,011**	**9**	**-**

ADDITIONAL INFORMATION

CRITICAL ACCOUNTING ESTIMATES

Cardinal's significant accounting policies including the use of judgments and key sources of estimation uncertainty are disclosed in note 3 to the December 31, 2019 financial statements. Certain accounting policies require that management make appropriate decisions with respect to the formulation of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses. Cardinal continuously refines its management and reporting systems to ensure that accurate, timely and useful information is gathered and disseminated. Cardinal's financial and operating results incorporate certain estimates including the following:

- Estimated accruals for revenues, royalties and operating expenses where actual revenues and costs have not been received;
- Estimated capital expenditures where actual costs have not been received or for projects that are in progress;
- Estimated depletion is based on estimates of oil and gas reserves that Cardinal expects to recover in the future. As a key component in the D&D calculation, the reserve estimates have a significant impact on net earnings and the Company's financial results could differ if there is a revision in our estimate of reserve quantities;
- Estimated future recoverable value of property, plant and equipment and any related impairment charges or recoveries are assessed for impairment when circumstances suggest the carrying amount may exceed its recoverable amount. The recoverable amount calculation requires the use of estimates which are subject to change as new information becomes available. Changes in assumptions used in determining the recoverable amount could affect the carrying value of the related assets;
- Estimated fair values of derivative contracts which are used to manage commodity price and foreign exchange risk on borrowings are determined using valuation models which require assumptions regarding the amount and timing of future cash flows and discount rates. As the Company's assumptions rely on external market data, the resulting fair value estimates may not be indicative of the amounts realized or settled and are therefore subject to market uncertainty;
- The decommissioning obligation is based on assumptions which take into consideration current economic factors and experience to date which we believe are reasonable. The actual cost of the Company's decommissioning obligation may change in response to numerous factors; and
- Estimated deferred income tax assets and liabilities are based on current tax interpretations, regulations and legislation which are subject to change. As a result, there are usually a number of tax matters under review and therefore income taxes are subject to measurement uncertainty.

Past estimates are reviewed and analyzed regularly to improve the accuracy of future estimates. New information and changed circumstances may result in actual results or changes to estimate amounts that differ materially from current estimates.

RISKS

Financial Risk

Financial risk is the risk of loss or lost opportunity resulting from financial management and market conditions that could have a positive or negative impact on Cardinal's business. Financial risks the Company is exposed to include: marketing production at an acceptable price given market conditions; finding and producing reserves at a reasonable cost; volatility in market prices for oil and natural gas; fluctuations in foreign exchange and interest rates; stock market volatility; debt service which may limit timing or amount of dividends as well as market price of shares; the continued availability of adequate debt and equity financing and funds flow to fund planned expenditures; sufficient liquidity for future operations; lost revenue or increased expenditures as a result of delayed or denied environmental, safety or regulatory approvals; cost of capital risk to carry out the Company's operations; and uncertainties associated with credit facilities and counterparty credit risk.

Operational Risk
Operational risk is the risk of loss or lost opportunity resulting from operating and capital activities that, by their nature, could have an impact on the Company's ability to achieve objectives. Operational risks that Cardinal is exposed to include: uncertainties associated with estimating oil and natural gas reserves; incorrect assessments of the value of acquisitions and exploration and development programs; failure to realize the anticipated benefits of acquisitions; uncertainties associated with partner plans and approvals; operational matters related to non-operated properties; inability to secure adequate product transportation; delays in business operations, pipeline restrictions, blowouts; unforeseen title defects; increased competition for, among other things, capital, acquisitions of reserves and undeveloped lands; competition for and availability of qualified personnel or management; loss of key personnel; unexpected geological, technical, drilling, construction and processing problems; availability of insurance; competitive action by other companies; the ability of suppliers to meet commitments and risks; and uncertainties related to oil and gas interests and operations on tribal lands.

Safety, Environmental and Regulatory Risks
Safety, environmental and regulatory risks are the risks of loss or lost opportunity resulting from changes to laws governing safety, the environment, royalties and taxation. Safety, environmental and regulatory risks that Cardinal is exposed to include: aboriginal land claims; uncertainties associated with regulatory approvals; uncertainty of government policy changes; the risk of carrying out operations with minimal environmental impact; changes in or adoption of new laws and regulations or changes in how they are interpreted or enforced; obtaining required approvals of regulatory authorities and stakeholder support for activities and growth plans.

The oil and gas industry has a number of environmental risks and hazards and is subject to regulation by all levels of government. Environmental legislation includes, but is not limited to, operational controls, site restoration requirements and restrictions on emissions of various substances produced in association with oil and natural gas operations. Compliance with such legislation could require additional expenditures and a failure to comply may result in fines and penalties which could, in the aggregate and under certain unlikely assumptions, become material. Operations are continuously monitored to minimize the environmental impact and capital is allocated to reclamation and other activities to mitigate the impact on the areas in which we operate.

Information Systems
Our operations rely heavily on information technology, such as computer hardware and software systems, to properly operate our business. These systems could be damaged, corrupted or interrupted by natural disasters, telecommunications failures, power loss, malicious acts or code, computer viruses, physical or electronic security breaches, user misuse or user error. A system disruption or breach could adversely impact our reputation, financial condition, results of operations and cash flows.

Risk Management
Cardinal is committed to identifying and managing its risks in the near term, as well as on a strategic and longer term basis at all levels in the organization. Issues affecting, or with the potential to affect, our assets, operations and/or reputation, are generally of a strategic nature or are emerging issues that can be identified early and then managed, but occasionally include unforeseen issues that arise unexpectedly and must be managed on an urgent basis.

Cardinal takes a proactive approach to the identification and management of issues that can affect the Company's assets, operations and/or reputation. Specific actions to ensure effective risk management include: employing qualified professional and technical staff; concentrating in a limited number of areas with low cost exploitation and development objectives; utilizing the latest technology for finding and developing reserves; constructing quality, environmentally sensitive and safe production facilities; adopting and communicating sound policies governing all areas of our business; maximizing operational control of drilling and production operations; strategic hedging of commodity prices and foreign exchange rates on borrowings; adhering to conservative borrowing guidelines; and monitoring counterparty creditworthiness.

Additional information regarding risk factors is available in our Annual Information Form, which is available on the SEDAR website at www.sedar.com.

DISCLOSURE CONTROLS AND PROCEDURES

Disclosure controls and procedures ("DC&P"), as defined in National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings* ("NI 52-109"), are designed to provide reasonable assurance that material information required to be disclosed in the Company's annual filings, interim filings or other reports filed, or submitted by the Company under securities legislation is recorded, processed, summarized and reported within the time periods specified under securities legislation and include controls and procedures designed to ensure that information required to be so disclosed is accumulated and communicated to management, including the Chief Executive Officer ("CEO") and the Chief Financial Officer ("CFO"), as appropriate, to allow timely decisions regarding required disclosure.

The CEO and the CFO have evaluated the effectiveness of Cardinal's disclosure controls and procedures as at December 31, 2019 and have concluded that such disclosure controls and procedures are effective. The assessment was based on the framework in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO 2013").

INTERNAL CONTROLS OVER FINANCIAL REPORTING

Internal control over financial reporting ("ICOFR"), as defined in NI 52-109, includes those policies and procedures that: a) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of Cardinal; b) are designed to provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRS and that receipts and expenditures of the Company are being made in accordance with authorizations of management and Directors of Cardinal; and c) are designed to provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company's assets that could have a material effect on the financial statements.

The CEO and the CFO have designed, or caused to be designed under their supervision, internal controls over financial reporting as defined in NI 52-109, in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. The CEO and the CFO have evaluated the design and operating effectiveness of Cardinal's ICOFR as at December 31, 2019 and have concluded that such internal controls over financial reporting are designed and operating effectively. The control framework Cardinal's officers used to design the Company's ICOFR is COSO 2013.

There were no changes in Cardinal's ICOFR during the quarter ended December 31, 2019 that materially affected, or are reasonably likely to materially affect, the Company's ICOFR.

Due to their inherent limitations, internal controls over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation relating to the effectiveness in future periods are subject to the risk that controls may become inadequate as a result of changes in conditions, or that the degree of compliance with policies and procedures may deteriorate. It should also be noted that a control system, including the Company's DC&P and ICOFR, no matter how well conceived or operated, can provide only reasonable, not absolute, assurance that the objective of the control system is met and it should not be expected that the DC&P and ICOFR will prevent all errors or fraud.

CHANGE IN ACCOUNTING POLICIES

IFRS 16 – Leases

Effective January 1, 2019, Cardinal adopted IFRS 16, which provides a single recognition and measurement model for lessees to recognize assets and liabilities for contracts that are, or contain, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Company recognizes a right-of-use asset (''ROU") and a lease liability at the lease commencement date. The ROU asset is initially measured at cost based on the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs

to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received. The assets are depreciated to the earlier of the end of the useful life of the ROU asset or the lease term using the straight-line method as this most closely reflects the expected pattern of consumption of the future economic benefits. The lease term includes periods covered by an option to extend if the Company is reasonably certain to exercise that option. In addition, the ROU is periodically reduced by impairment losses, if any, and adjusted for certain re-measurements of the lease liability. The average depreciation term is 4.0 years.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, the Company's incremental borrowing rate. Generally, the Company uses its incremental borrowing rate as the discount rate.

The lease liability is measured at amortized cost using the effective interest method. It is re-measured when there is a change in future lease payments arising from a change in an index or rate, if there is a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or if the Company changes its assessment of whether it will exercise a purchase, extension or termination option. When the lease liability is re-measured in this way, a corresponding adjustment is made to the carrying amount of the ROU asset, or is recorded in earnings or loss if the carrying amount of the ROU asset has been reduced to zero. Lease payments are applied against the lease obligation, with a portion reflected as interest expense using the effective interest rate method. Cardinal presents the lease liability as its own line item on the balance sheets.

Cardinal has elected to use the modified retrospective approach upon adoption and therefore the comparative information has not been restated. The effect of initially applying the standard was a $6.5 million increase to ROU assets, with a corresponding lease liability recorded. The ROU asset was then reduced by $1.0 million for previously recorded lease inducements with the offset recognized to eliminate the lease inducement liability that was previously included in trade and other payables. On January 1, 2019 there was no impact on deficit. The lease liability was measured at the present value of the remaining lease payments, discounted using Cardinal's incremental borrowing rate as at January 1, 2019. The weighted average incremental borrowing rate used to determine the lease obligation on adoption was approximately 6.4%. The ROU assets and lease liabilities recognized largely relate to the Company's head office lease in Calgary.

The Company has elected to apply the practical expedient of not recognizing right-of-use assets and lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low-value assets. The lease payments associated with these leases are recognized as expenses on a straight-line basis over the lease term and are not considered material at December 31, 2019.

The preparation of the financial statements in accordance with IFRS requires management to make judgments, estimates, and assumptions that affect the reported amount of assets, liabilities, income, and expenses. Actual results could differ significantly from these estimates. Key areas where management has made judgments, estimates, and assumptions related to the application of IFRS 16 include:

- Incremental borrowing rate: The incremental borrowing rates are based on judgments including economic environment, term, currency, and the underlying risk inherent to the asset. The carrying balance of the right-of-use assets, lease obligations, and the resulting interest and depletion and depreciation expense, may differ due to changes in the market conditions and lease term.
- Lease term: Lease terms are based on assumptions regarding extension terms that allow for operational flexibility and future market conditions.

The difference in operating lease commitments disclosed as at December 31, 2018 and lease liabilities recognized on the balance sheet at January 1, 2019 is primarily due to non-lease components within the agreements and the impact of discounting using the Company's incremental borrowing rate at January 1, 2019:

	As at January 1, 2019
Less than 1 year	$ 2,277
1 - 3 years	5,308
4 - 5 years	1,475
	9,060
Non-lease components	(1,786)
Amounts representing interest	(796)
Lease liabilities	**6,478**

Cash flow from financing activities for the year ended December 31, 2019 was $2.5 million lower due to the deduction of the lease payments reflected in this section while cash flow from operating activities increased $2.5 million. For the year ended December 31, 2019, general and administrative expense was decreased by $1.0 million and operating expense was decreased by $1.9 million offset by an increase in depletion and depreciation expense of $2.4 million.

OUTLOOK

In light of the rapidly changing world in which both COVID-19 and talk of supply increases from Saudi Arabia and Russia have dramatically decreased the price of crude oil, we felt it was necessary to protect our shareholders and our Company by making some rapid changes to the framework of our business.

As of March 9, 2020 we have significantly decreased our capital budget to a minimal level. Our original budget called for capital spending of $67 million with $27 million to be spent in Q1. As of March 9, we were able to safely suspend drilling and completion operations as well as other capital programs having spent approximately $22 million. This resulted in the drilling and completing of the majority of our Southern area drill program for the year and leaves us currently producing approximately 21,500 boe/d. We still have several wells that are completed but not tied in and one well requiring completion. We anticipate that the production from this drill program will allow us to maintain approximately the same average production levels as 2019 with minimal capital spending for the remainder of the year.

Our revised 2020 capital budget is now $31 million, of which $22 million has been spent and $9 million is planned for the balance of the year. These funds are necessary to complete scheduled facility turnarounds and to maintain safe operations as well as to maintain our base production. Our revised budget contemplates exiting 2020 at a similar net debt level as 2019.

As part of the revised capital program the Board of Directors has elected to suspend the dividend for March, April, May and June after which we will evaluate market conditions and either reinstate a dividend or continue with another temporary suspension.

QUARTERLY DATA

	Dec 31, 2019	Sep 30, 2019	Jun 30, 2019	Mar 31, 2019
Production				
Oil (bbl/d)	**16,757**	**16,624**	16,997	16,788
Natural gas (mcf/d)	**15,459**	**15,022**	15,906	15,930
NGL (bbl/d)	**893**	**932**	939	964
Oil equivalent (boe/d)	**20,227**	**20,059**	20,587	20,407
Financial				
Revenue	**93,272**	95,483	106,166	94,050
Earnings (loss)	**(15,094)**	359	(3,099)	(16,506)
Basic per share ($)	**(0.13)**	-	(0.03)	(0.14)
Diluted per share ($)	**(0.13)**	-	(0.03)	(0.14)
Cash flow from operating activities	**31,714**	24,836	35,923	27,506
Adjusted funds flow[1]	**28,864**	27,571	35,736	29,639
Basic per share ($)	**0.25**	0.24	0.31	0.25
Diluted per share ($)	**0.25**	0.24	0.31	0.25
Working capital deficiency[2]	**(29,291)**	(10,325)	(9,159)	(6,729)
Total assets	**1,149,827**	1,186,151	1,190,950	1,218,439
Bank debt	**173,308**	192,435	195,468	206,151
Principal amount of convertible debentures	**45,000**	45,000	45,000	45,000
Total long-term liabilities[3]	**284,251**	359,809	362,500	372,245
Shareholders' equity	**737,902**	758,263	763,655	771,674
Common shares outstanding, net (000's)[4]	**113,657**	114,333	115,203	116,617
Diluted shares outstanding, net (000's)[4][5]	**118,271**	119,088	120,220	121,669
	Dec 31, 2018	Sep 30, 2018	Jun 30, 2018	Mar 31, 2018
Production				
Oil (bbl/d)	16,650	17,422	17,408	17,832
Natural gas (mcf/d)	16,460	16,718	16,632	16,505
NGL (bbl/d)	972	741	702	660
Oil equivalent (boe/d)	20,365	20,949	20,882	21,243
Financial				
Revenue	59,077	113,551	111,847	94,779
Earnings (loss)	84,760	9,068	(19,970)	(13,314)
Basic per share ($)	0.73	0.08	(0.17)	(0.12)
Diluted per share ($)	0.70	0.08	(0.17)	(0.12)
Cash flow from operating activities	6,968	28,074	21,923	31,802
Adjusted funds flow[1]	5,513	27,072	27,085	25,551
Basic per share ($)	0.05	0.24	0.24	0.23
Diluted per share ($)	0.05	0.23	0.24	0.23
Working capital deficiency[2]	(8,246)	(16,204)	(12,488)	(12,505)
Total assets	1,206,336	1,198,150	1,216,642	1,216,075
Bank debt	211,443	184,524	200,645	200,836
Principal amount of convertible debentures	50,000	50,000	50,000	50,000
Total long-term liabilities[3]	376,651	365,083	380,961	380,859
Shareholders' equity	792,622	715,260	707,163	737,201
Common shares outstanding, net (000's)	116,197	116,039	114,228	113,985
Diluted shares outstanding, net (000's)[5]	119,654	119,647	117,775	117,996

(1) See non-GAAP measures
(2) Excluding the fair value of financial instruments, current decommissioning obligation, current lease liabilities, and the current portion of the liability component of convertible debentures
(3) Includes lease liabilities, bank debt, long-term portion of the liability component of convertible debentures and decommissioning obligation.
(4) Net of treasury shares
(5) Excludes the impact of convertible debentures

Since the first quarter of 2018, production has been relatively consistent but fluctuations in commodity prices has resulted in revenue variances. In the fourth quarter of 2018, concern over high inventory levels and egress options significantly widened the Canadian crude oil price differentials to record levels which negatively impacted revenue as fourth quarter revenue was approximately 45% lower than the average of the previous three quarters in 2018. In the first quarter of 2019, Canadian pricing differentials normalized and revenue, adjusted funds flow and cash flow from operating activities returned to historical levels.

Similarly, adjusted funds flow has been relatively consistent in the first three quarters of 2018 until the significant drop in revenues in the fourth quarter of 2018 which subsequently normalized and strengthened in 2019 when Canadian oil price differentials narrowed. The second quarter of 2019 produced record cash flow from operating activities and adjusted funds flow as Canadian oil differentials narrowed due to the Alberta oil production curtailment program combined with reduced hedging losses. During the second half of 2019, while Canadian oil price differentials remained relatively narrow in comparison to historical averages, WTI pricing decreased impacting adjusted funds flow and cash flow from operating activities.

Cardinal's quarterly earnings and losses have varied significantly due to non-cash unrealized gains and losses on risk management contracts which include an unrealized loss of $18.8 million and $26.3 million in the first and second quarters of 2018, respectively. In the third quarter of 2018 as forward commodity prices decreased, the Company incurred a $14.1 million unrealized gain. With the decline in forward oil prices in the fourth quarter of 2018, the Company’s unrealized gain on risk management contracts increased to $62.2 million which was partially reversed with a $25.5 million unrealized loss in the first quarter of 2019 as commodity prices recovered. The Company’s earnings also fluctuate with non-cash impairment charges and reversals of previous impairments on its assets as shown with an impairment charge of $61.0 million in the fourth quarter of 2017, a reversal of previous impairments of $76.5 million in the fourth quarter of 2018 and a $23.4 million impairment charge in the fourth quarter of 2019. In the second quarter of 2019, the Company’s deferred tax expense increased by $16.5 million as the deferred tax asset was reduced due to the Alberta governments decrease in tax rates from 12% to 8% over the next four years.

ANNUAL DATA

	2019	2018	2017
Production			
Oil (bbl/d)	**16,791**	17,325	15,150
Natural gas (mcf/d)	**15,576**	16,579	17,431
NGL (bbl/d)	**932**	770	652
Oil equivalent (boe/d)	**20,319**	20,858	18,707
Financial			
Revenue	**388,971**	379,254	313,844
Earnings (loss)	**(34,340)**	60,544	(57,597)
Basic per share ($)	**(0.30)**	0.53	(0.61)
Diluted per share ($)	**(0.30)**	0.52	(0.61)
Cash flow from operating activities	**119,979**	88,767	76,530
Adjusted funds flow	**121,810**	85,221	83,672
Basic per share ($)	**1.06**	0.74	0.89
Diluted per share ($)	**1.06**	0.74	0.89
Dividends per share ($)	**0.150**	0.40	0.42
Working capital deficiency[1]	**(29,291)**	(8,246)	(7,062)
Total assets	**1,149,827**	1,206,336	1,228,596
Bank debt	**173,308**	211,443	218,905
Principal amount of convertible debentures	**45,000**	50,000	50,000
Total long-term liabilities	**284,251**	376,651	397,980
Shareholders' equity	**737,902**	792,622	749,962
Weighted average shares - basic (000's)	**115,315**	114,641	94,113
Weighted average shares - diluted (000's)	**115,315**	115,679	94,113

(1) – Excluding the fair value of financial instruments, current decommissioning obligation, current lease liabilities, and the current portion of the liability component of convertible debentures
(2) – Exclude the impact of convertible debentures

Annual production increased from 2017 to 2018 primarily due to the Grande Prairie Acquisition, House Mountain/Midale Acquisition that closed in the first half of 2017 and successful drilling at Bantry and Grande Prairie. In 2019, Cardinal's oil production was restricted by the Alberta government's production curtailment program. Revenue has varied primarily due to volatility in commodity prices.

Adjusted funds flow increased in 2019 due to increased Canadian oil prices. Cardinal's earnings (loss) varied significantly due to changes in realized gains and unrealized losses on commodity contracts, an impairment of $61.0 million in 2017, a reversal of previous impairment in 2018 of $76 million and an impairment of $23.4 million in 2019.

FORWARD LOOKING STATEMENTS

This MD&A contains certain forward-looking statements and forward-looking information (collectively referred to herein as "forward-looking statements") within the meaning of applicable Canadian securities laws. All statements other than statements of present or historical fact are forward-looking statements. Forward-looking information is often, but not always, identified by the use of words such as "anticipate", "believe", "plan", "intend", "objective", "continuous", "ongoing", "estimate", "expect", "may", "will", "project", "should", or similar words suggesting future outcomes. In particular, this MD&A contains forward-looking statements relating, but not limited to**:**

- expectations that the Company's oil production will not be limited by the Government of Alberta's production curtailment program going forward;
- estimated tax pools, future taxability and future taxable income;
- plans to continue to invest in power generation projects in order to reduce the Company's dependence on the power grid and lower operating costs;
- the timing of next review of the Facilities;
- Cardinal's business strategy, goals and management focus;
- Cardinal's dividend plans, the amount, timing and sources of funding of the payment of future dividends;

- plans to maintain a conservative leverage profile through a targeted net debt to adjusted funds flow ratio of less than 2.0;
- Cardinal's risk management strategy including the mitigation of our exposure to commodity price risk, medium crude oil differentials, foreign exchange risk on borrowings and the benefits to be obtained therefrom;
- sources of funds for the Company's operations, capital expenditures, decommissioning obligations and dividend payments;
- plans to minimize the environmental impact of our operations;
- anticipated costs of compliance with environmental legislation;
- future liquidity and the Company's access to sufficient debt and equity capital;
- Cardinal's asset base and decline rates;
- expectations regarding the business environment, industry conditions, future commodity prices and differentials;
- Cardinal's capital management strategies;
- future capital expenditures;
- future drilling plans and the earning of additional land;
- Cardinal’s plans to continue its debt reduction strategy;
- future total payout ratio;
- our ability to be selective with our capital spending to take advantage of our infrastructure;
- Cardinal's plans to continue to be opportunistic in utilizing its NCIB during 2020;
- treatment under governmental and other regulatory regimes and tax, environmental and other laws; and
- production from 2020 drill program;

Forward-looking statements regarding Cardinal are based on certain key expectations and assumptions of Cardinal concerning anticipated financial performance, business prospects, strategies, regulatory developments, current and future commodity prices and exchange rates, applicable royalty rates, tax laws, production curtailment, future well production rates and reserve volumes, future operating costs, the performance of existing and future wells, the success of its exploration and development activities, the sufficiency and timing of budgeted capital expenditures in carrying out planned activities, the timing and success of our cost cutting initiatives and power projects, the availability and cost of labor and services, the impact of increasing competition, conditions in general economic and financial markets, availability of drilling and related equipment, effects of regulation by governmental agencies including production curtailment, the ability to obtain financing on acceptable terms which are subject to change based on commodity prices, market conditions, drilling success and potential timing delays and the ability of Cardinal to achieve the benefits from the new NCIB.

These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond Cardinal's control. Such risks and uncertainties include, without limitation: the impact of general economic conditions; volatility in market prices for crude oil and natural gas; industry conditions; currency fluctuations; imprecision of reserve estimates; liabilities inherent in crude oil and natural gas operations; environmental risks; incorrect assessments of the value of acquisitions and exploration and development programs; competition from other producers; the lack of availability of qualified personnel, drilling rigs or other services; changes in income tax laws or changes in royalty rates and incentive programs relating to the oil and gas industry including government curtailment programs; hazards such as fire, explosion, blowouts, and spills, each of which could result in substantial damage to wells, production facilities, other property and the environment or in personal injury; and ability to access sufficient capital from internal and external sources.

Management has included the forward-looking statements above and a summary of assumptions and risks related to forward-looking statements provided in this MD&A in order to provide readers with a more complete perspective on Cardinal's future operations and such information may not be appropriate for other purposes. Cardinal's actual results, performance or achievement could differ materially from those expressed in, or implied by, these forward-looking statements and, accordingly, no assurance can be given that any of the events anticipated by the forward-looking statements will transpire or occur, or if any of them do so, what benefits that Cardinal will derive there from. Readers are cautioned that the foregoing lists of factors are not exhaustive. These forward-looking statements are

made as of the date of this MD&A and Cardinal disclaims any intent or obligation to update publicly any forward-looking statements, whether as a result of new information, future events or results or otherwise, other than as required by applicable securities laws.

Supplemental Information Regarding Product Types

This press release includes references to 2019 and 2020 production. The Company discloses crude oil production based on the pricing index that the oil is priced off of. The following table is intended to provide the product type composition as defined by NI 51-101.

	LIGHT/MEDIUM CRUDE OIL	HEAVY OIL	NGL	CONVENTIONAL NATURAL GAS	TOTAL (BOE/D)
Q4/19	56%	27%	4%	13%	20,227
2019	55%	28%	5%	13%	20,319
Q4/18	54%	28%	5%	14%	20,365
2018	56%	27%	4%	13%	20,858
2017	49%	32%	4%	16%	18,707
Current - March, 2020	56%	27%	4%	13%	21,500

Frequently Used Terms

Term or abbreviation	
"bbl"	Barrel(s)
"bbl/d"	Barrel(s) per day
"boe"	Barrel(s) of oil equivalent
"boe/d"	Barrel(s) of oil equivalent per day
"COGE Handbook"	Canadian Oil and Gas Evaluation Handbook
"GJ"	Gigajoule
"gj/d"	Gigajoule(s) per day
"m" preceding a volumetric measure	1,000 units of the volumetric measure
"mcf"	Thousand cubic feet
"mcf/d"	Thousand cubic feet per day
"NGL"	Natural gas liquids
"n/m"	Not meaningful ie absolute value greater than 300%
"US"	United States
"USD"	United States dollars
"WCS"	Western Canadian Select
"WTI"	West Texas Intermediate