



Management Discussion & Analysis

For the three and twelve months ended December 31, 2018

December 31, 2018

Management's Discussion and Analysis
For the year ended December 31, 2018

The following management discussion and analysis ("MD&A") of the financial condition and results of operations of Kaisen Energy Corp. ("Kaisen" or the "Company") is dated March 20, 2019, and should be read in conjunction with the accompanying audited condensed financial statements and related notes for the year ended December 31, 2018 with comparisons to the year ended December 31, 2017. The audited condensed financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. The reporting and the measurement currency is the Canadian dollar.

Unless otherwise stated, tabular amounts herein are in Canadian dollars ("C\$ or "CDN\$") and amounts in text are in Canadian dollars. The Company may also reference the United States dollars ("US\$"). In this MD&A, production and reserves information may be presented on a "barrel of oil equivalent" or "boe" basis with six thousand cubic feet ("mcf") of natural gas being equivalent to one barrel ("bbl") of crude oil or natural gas liquids. Boe's may be misleading, particularly if used in isolation. A boe conversion ratio of 6 mcf:1 bbl is based on an energy equivalency conversion method primarily applicable at the burner tip and does not represent a value equivalency at the wellhead. Given that the value ratio based on the current price of crude oil compared to natural gas is significantly different from the energy equivalency of 6:1, utilizing a conversion on a 6:1 basis may be misleading as an indication of value.

In accordance with Canadian industry practice, production volumes, reserve volumes and revenues are reported on a Company interest basis (working interest plus royalty interest), before deduction of Crown and other royalties, unless otherwise indicated. The Company's results of operations are dependent on production volumes of heavy crude oil, natural gas and natural gas liquids and the prices received for this production. Prices for these commodities have shown significant volatility during recent years and are determined by supply and demand factors, including weather, general economic conditions and changes in the Canadian/United States ("US") currency exchange rate.

About Kaisen Energy Corp.

Kaisen is a Calgary based energy company primarily focused on heavy oil development and production in Saskatchewan and was incorporated in Alberta Canada on November 6, 2012. The Company's principal place of business is located at 400, 522 - 11th Avenue S.W. Calgary, Alberta, Canada, T2R 0C8.

FOURTH QUARTER HIGHLIGHTS

- Recorded a negative operating netback of \$14.52 per boe, compared to a positive operating netback of \$18.56 recorded in the prior year comparative quarter.
- Oil prices and WCS differentials were highly volatile during the quarter as settlements on wellhead pricing dropped from \$43.90 per barrel in October to \$5.21 per barrel in November and \$2.14 per barrel in December.
- Average production was 672 boe/d for the quarter was impacted by production curtailment that commenced in November. Exit production in December was 473 boe/d.
- The Company shut-in of 23 oil wells affecting 450 boe/d of production in an effort to reduce variable operating costs.
- Issued 1,301 convertible debentures for total gross and net proceeds of \$1,301,000 as part of the \$7,503,000 committed financing secured in the second quarter of 2018, of which \$2,126,000 was undrawn at year end.
- Realized \$1,475,951 in petroleum and natural gas sales, a 74% decrease from the prior year comparative quarter.
- Recorded a funds flow from operations deficit of \$1,469,294 compared to positive funds flow of \$1,460,335 in the fourth quarter of 2017, of which \$485,392 comprised of realized losses on current quarter risk management contracts.
- The Company exited the quarter with net debt of \$3,794,098.

FINANCIAL AND OPERATING RESULTS SUMMARY

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Operating				
Average daily production (boe/d)	672	1,288	908	1,357
WCS heavy oil benchmark price (CDN\$/bbl)	36.01	54.84	52.34	50.54
Operating netback ⁽¹⁾ (\$/boe)				
Realized sales price	23.88	47.09	43.68	43.28
Royalties	(4.30)	(8.24)	(8.08)	(7.50)
Saskatchewan surcharge tax	(2.01)	(0.08)	(0.59)	(0.61)
Operating expenses	(29.04)	(18.15)	(26.14)	(21.74)
Transportation expenses	(3.05)	(2.06)	(2.52)	(2.13)
Operating netbacks prior to hedging	(14.52)	18.56	6.35	11.30
Realized gain (loss) on risk management contracts	(7.85)	(2.16)	(8.84)	0.25
Operating netbacks after hedging	(22.37)	16.40	(2.49)	11.55
Financial (\$'s except for per share amounts)				
Petroleum and natural gas sales	1,475,951	5,578,173	14,468,581	21,432,511
Funds flow from operations (deficit) ⁽¹⁾	(1,469,294)	1,460,335	(3,301,795)	2,907,352
Per share – basic and diluted	(0.03)	0.03	(0.07)	0.06
Net loss	(23,768,928)	(1,823,965)	(32,699,279)	(2,362,422)
Per share – basic and diluted	(0.52)	(0.04)	(0.72)	(0.05)
Expenditures on oil and gas properties	503,078	310,770	3,441,108	8,157,521
Net debt ⁽¹⁾ – end of period				
Adjusted working capital deficit (surplus) ⁽²⁾	1,698,511	(626,536)	1,698,511	(626,536)
Bank loan	2,095,587	3,051,501	2,095,587	3,051,501
	3,794,098	2,424,965	3,794,098	2,424,965
Weighted average shares outstanding				
Basic and diluted	45,420,029	45,420,029	45,420,029	44,368,974
Outstanding shares – end of period				
Basic	45,420,029	45,420,029	45,420,029	45,420,029
Diluted ⁽³⁾	201,872,028	57,649,028	201,872,028	57,649,028

⁽¹⁾ Refer to "Non-GAAP Measures"

⁽²⁾ Adjusted working capital is defined as current assets net of current liabilities excluding risk management contracts

⁽³⁾ Includes 107,540,000 common shares from the conversion of 5,377 convertible debentures at 0.05 cents per share

Operating Results

Operating results for the fourth quarter were negatively impacted by widening WCS differentials along with decreasing WTI prices in November and December. Settlements on fourth quarter realized wellhead pricing dropped from \$43.90/bbl in October to \$5.21/bbl in November, and to \$2.14/bbl in December. As a result of the deteriorating market, actions to minimize operating losses were quickly implemented early November, including the shut-in of 23 oil wells and 450 boe/d. Additionally, meetings were held early November with pipeline purchasers to immediately eliminate exposure to pipeline sales, as it was clear that in an unprecedented occurrence, the base price for heavy oil would no longer cover pipeline tariffs and condensate blending. Fields impacted by the shut-ins included Coleville, Lone Rock, Edam, Lloydminster, Yonker, Soda Lake, Baldwin, Rush Lake, and Neilburg. Most wells at Edam and Forest Bank were kept running with production sales to rail, along with Dolcy where production was trucked to Hardisty. The production curtailment that commenced in November is estimated to have saved \$600,000 in operating cash losses on the quarter.

Financial Results

The impact of the widening of WTI-WCS differentials towards the end of the 2018 fourth quarter have resulted in a significant decrease to the Company's projected cashflows over the next twelve months. For more information, please refer to the "Liquidity, Capital Resources and Going Concern" section of this MD&A.

The Company's fourth quarter operating netback prior to hedging was negative \$896,942 (\$14.52 per boe), as compared to positive \$2,198,056 (\$18.56 per boe) recorded in the fourth quarter of 2017. Realized pricing on commodity sales averaged \$23.88 per boe in the fourth quarter of 2018 versus \$47.09 per boe received in 2017. Combined with the 48% decrease in production volumes, petroleum and natural gas sales decreased \$4,102,222 relative to the fourth quarter of 2017. This was offset by lower royalties of \$710,470 from the decreased production and the sliding scale effect of decreased commodity prices to royalty rates. Fourth quarter 2018 operating costs and transportation costs decreased by \$355,682 and \$55,856 from the corresponding quarter of 2017 based on decreased production, respectively.

Operating netback was \$6.35 per boe in 2018, a 44% decrease from the \$11.30 per boe recognized in 2017. Realized pricing for commodity sales averaged \$43.68 per boe in 2018 versus \$43.28 per boe received in 2017. Relative to 2017, petroleum and natural gas sales decreased 32% to \$14,468,581 based on a 33% decrease in production volumes and a 1% increase in realized pricing. Royalty expenses represented 18.5% of petroleum and natural gas sales during the year ended December 31, 2018 versus 17.3% in the prior year. Annual operating expenses on a per boe basis increased 20%, the decrease of which is primarily attributed to decreased production over a fixed operating base.

During the three months ended December 31, 2018 the Company recorded a fourth quarter 2018 funds flow from operations deficit of \$1,469,294, compared to positive funds flow income of \$1,460,335 in the prior year comparative quarter. Fourth quarter funds flow was negatively impacted by uneconomic pricing in the fourth quarter which forced the Company to shut in approximately half of its production in November and December. On an annual basis the Company recorded a funds flow from operations deficit of \$3,301,795 versus positive funds flow from operations of \$2,907,352. In addition to impact of reduced realized pricing and production volumes in the fourth quarter, the year over year decrease in funds flow was largely attributed to realized losses of \$2,929,008 on hedging contracts versus realized gains of \$124,018 recorded in 2017. Impairment indicators identified at December 31, 2018 led to the Company recording a \$24,803,000 impairment to property, plant and equipment. As a result, the Company recorded a net loss of \$32,699,279 in 2018 versus a net loss of \$2,362,422 in 2017.

Pursuant to the fully subscribed convertible debenture offering that took place in the second quarter of 2018, the Company issued 1,301 convertible debentures for total gross and net proceeds of \$1,301,000 in the current quarter. The Company exited the quarter with a cash balance of \$328, an adjusted working capital deficit (working capital excluding hedging contracts) of \$1,698,511 and net debt of \$3,794,098 (December 31, 2017 - \$2,424,965).

At year end, the Company had a bank loan balance of \$2,095,587. The Company was compliant with its revised borrowing base of \$2.5 million, however continued to be in breach of its lender's working capital ratio covenant of 1.00:1.00, which allows the lender to demand repayment of the bank loan in full. An additional 200 convertible debentures for total proceeds of \$200,000 were issued in February 2019 and management plans to address any future working capital deficiencies by accessing the remaining \$1,926,000 in funding available subsequent to the February 2019 convertible debentures issuance.

ECONOMIC ENVIRONMENT

Global crude oil prices weakened in the in the fourth quarter of 2018 as West Texas Intermediate ("WTI") prices decreased 15% from the third quarter of 2018. In addition, Canadian producers experienced significant heavy oil differentials due to oversupply out of western Canada, local export pipeline capacity constraints, and US refinery turnarounds. Western Canadian Select ("WCS") differentials averaged US\$31.55 per barrel over fourth quarter, a US\$9.30 per barrel widening from the third quarter of 2018. Subsequent to year-end, WCS differentials have strengthen in part due to the Alberta Governments mandatory production curtailment, however it's expected that pricing volatility will continue to persist until pricing a long-term solution to pipeline capacity constraints are addressed. Kaisen is committed to conservatively planning around future oil prices and continues to explore ways to mitigate and manage market risk.

2018 FOURTH QUARTER AND YEAR TO DATE FINANCIAL AND OPERATING RESULTS

Oil and Gas Production Volumes

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Sales volumes				
Crude oil (bbls/d)	656	1,271	891	1,339
Natural gas liquids ("NGL") (bbls/d)	2	1	3	2
Natural gas (Mcf/d)	87	98	82	98
Total average daily production (boe/d)	672	1,288	908	1,357
Production by area (boe/d)				
Lone Rock, Saskatchewan	53	387	129	325
Edam, Saskatchewan	273	207	241	320
Lloydminster, Saskatchewan	241	487	358	505
Coleville, Saskatchewan	13	89	76	88
Other	92	118	104	119
Total average daily production (boe/d)	672	1,288	908	1,357

Kaisen's production for the fourth quarter 2018 averaged 672 boe per day representing a 48% decrease the same quarter of 2017, and a 31% decrease from 972 boe per day produced in the third quarter of 2018. The significant drop in production was a result of the Company shutting-in approximately half of its production in November and December in response falling commodity prices. Kaisen's production for the year ended 2018 averaged 908 boe/d, a 33% decrease from the prior year.

Oil and Gas Realized Pricing Revenues and Pricing

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Petroleum and natural gas revenues (\$)				
Crude oil	1,460,287	5,553,988	14,363,049	21,338,783
Natural gas	8,448	11,196	31,955	62,172
NGL's	7,216	12,989	73,577	31,556
	1,475,951	5,578,173	14,468,581	21,432,511
Realized prices				
Crude Oil (\$/bbl)	24.21	47.10	44.18	43.67
Natural gas (\$/mcf)	1.06	1.24	1.07	1.73
NGL's (\$/bbl)	51.54	53.46	62.25	65.89
Corporate average realized price (\$/boe)	23.88	47.09	43.68	43.28
Average benchmark prices				
WTI oil (US\$/bbl) ⁽¹⁾	58.81	55.40	64.76	50.95
WCS differential (US\$/bbl) ⁽²⁾	(31.55)	(12.72)	(24.36)	(11.97)
WCS heavy oil (US\$/bbl)	27.26	42.68	40.40	38.75
WCS differential %	54	23	38	23
AECO natural gas (CDN\$/mcf) ⁽³⁾	1.62	1.72	1.54	2.20
US\$:CDN\$	0.76	0.79	0.77	0.77
WCS heavy oil (CDN\$/bbl)	36.01	54.26	52.34	50.24

⁽¹⁾ WTI represents posting price of West Texas Intermediate oil.

⁽²⁾ WCS refers to the average posting price for benchmark WCS heavy oil.

⁽³⁾ AECO refers to the AECO arithmetic average month-ahead index price published by the Canadian Gas Price Reporter.

Realized Pricing

The Company's realized heavy oil prices of \$24.21 per barrel and \$44.18 per barrel during the three and twelve months ended December 31, 2018, representing a decrease of 49% and an increase 1% from the prior year comparative periods, respectively. The sharp decrease in realized pricing during the three months ended December 31, 2018 was impacted by both decreases in WTI pricing and widening WCS differentials. On a year to date basis, higher average WTI pricing was offset by the wider WCS differentials.

Risk Management Contracts

The Company routinely enters into crude oil financial contracts to manage the volatility of commodity prices and may from time to time also enter into foreign exchange financial contracts. Kaisen's current policy is to hedge no more than 60% of forecasted net production volumes using a combination of financial instruments including puts, costless collars, swaps or fixed price contracts to limit exposure to fluctuations in commodity prices. Gains and losses on risk management contracts are composed of both realized gains or losses, representing the portion of risk management contracts that have settled in cash during the period, and unrealized gains or losses that represent the change in the mark-to-market position of those contracts throughout the period.

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Realized gain (loss)	\$ (485,392)	\$ (256,044)	\$ (2,929,008)	\$ 124,018
Unrealized gain (loss)	3,600,095	(1,312,370)	1,304,824	2,460,437
Gain (loss) on risk management contracts	\$ 3,114,703	\$ (1,568,414)	\$ (1,624,184)	\$ 2,584,455

The Company recorded realized losses on risk management contracts for the three and twelve months ended December 31, 2018 of \$485,392 and \$2,929,008, respectively (2017 – loss of \$256,044 and gain \$124,018). Realized derivative losses for the three and twelve-month periods were a result of higher oil prices in 2018 relative to lower fixed oil priced contract positions. For the three and twelve months ended December 31, 2018, the Company recorded unrealized gains of \$3,600,095 and \$1,304,824 on risk management contracts, respectively (2017 – loss of \$1,312,370 and gain of \$2,460,437). For further information, refer to the “Risk Management” section of this MD&A.

Crown and Freehold Royalties

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Crown	\$ 86,445	\$ 301,312	\$ 875,296	\$ 1,177,786
Freehold	179,063	674,666	1,800,620	2,533,590
Royalties	\$ 265,508	\$ 975,978	\$ 2,675,916	\$ 3,711,376
% of revenue	18.0	17.5	18.5	17.3

Approximately 80% of Kaisen lands are held under Crown leases with the remaining held under freehold leases. Crown royalty rates range from ~2% to 30% depending upon the type/vintage of wells, commodity type, volume of daily production and market prices. Kaisen is currently forecasting a royalty rate of approximately 17%-20% blended for both Crown and freehold rates in the current price environment. As a percentage of revenue, royalties were 18.0% and 18.5% for the three and twelve months ended December 31, 2018, respectively (2017 – 17.5% and 17.3%). The increase in rate is reflective of a lesser weighting of production incentivized with a 2.5% crown royalty for horizontal wells.

Operating Expenses

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Operating expenses	\$ 1,794,796	\$ 2,150,478	\$ 8,660,105	\$ 10,767,470

Operating Costs, excluding crude oil transportation costs, are driven by both fixed and variable costs. Kaisen’s primary fixed cost drivers include contract operator wages, property taxes, freehold mineral rentals, and surface rentals, while primary variable cost drivers include emulsion treating, produced waste water and sand trucking and disposal, utilities, heating fuel and routine maintenance. Primary non-routine expenses include minor and major workovers. Kaisen continually works closely with suppliers and service providers to seek out cost reductions, increased operating efficiencies and decreased labor costs.

During the fourth quarter of 2018, operating costs averaged \$29.04 per boe, 60% higher than the fourth quarter of 2017. Current quarter operating costs were significantly impacted by production curtailment. With realized wellhead pricing that was negative for heavy oil sales to pipe, production shut-ins were enacted in early November to reduce variable cash loss exposure. On a year to date basis operating costs averaged \$26.14 per boe versus \$21.74 per boe recorded over the same period in 2017. The per boe increases from 2017 are from decreased production over a fixed operating cost base which was further exacerbated by the production shut-ins during the fourth quarter. The decline of high rate oil wells, increased workover costs related to several non-routine events, and the dewatering of the reactivated Edam field also contributed to higher operating costs from the prior year.

Transportation Expenses

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Transportation expenses	\$ 188,183	\$ 244,039	\$ 835,766	\$ 1,054,299

Transportation expenses relates specifically to the cost of trucking produced emulsion to the sales point where it is then cleaned and blended for market. Costs related to water and sand transportation are included within operating costs. The majority of the Company’s crude oil production is trucked to sales facilities near Lloydminster, Edam and Coleville Saskatchewan. Bottlenecking of trucks at sales facilities and seasonal delays may impact the cost of transportation in any given period however the Company’s transportation expense has typically trended in the range of \$1.85 to \$2.50 per boe since inception. During the three and twelve months ended December 31, 2018, the Company recorded transportation expenses of \$3.05 per boe and \$2.52 per boe, respectively, representing increases of 48% and 18% from the same periods in the prior year which are a result of trucking crude longer distances to rail, to receive better prices.

Operating Netback⁽¹⁾

(\$ per boe)	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Realized sales price	23.88	47.09	43.68	43.28
Royalties	(4.30)	(8.24)	(8.08)	(7.50)
Saskatchewan surcharge tax	(2.01)	(0.08)	(0.59)	(0.61)
Operating expenses	(29.04)	(18.15)	(26.14)	(21.74)
Transportation expenses	(3.05)	(2.06)	(2.52)	(2.13)
Operating netback (before hedging)	(14.52)	18.56	6.35	11.30
Realized loss on risk management contracts	(7.85)	(2.16)	(8.84)	0.25
Operating netback (after hedging)	(22.37)	16.40	(2.49)	11.55

⁽¹⁾ Refer to "Non-GAAP Measures"

The Company realized an average field netback loss (before hedging) for the fourth quarter of 2018 of \$14.52 per boe, compared to a profit of \$18.56 per boe in the prior year. Lower netbacks for the current quarter are reflective of rapid widening of the WCS differential that occurred midway through the fourth quarter, leading to lower realized oil prices. Production shut-ins during the fourth quarter were primarily responsible for increased costs which was offset by lower royalties. Realized hedging losses of \$7.85 per boe (2017 – loss of \$2.16 per boe) further reduced the current quarter operating netback to negative \$22.37 per boe (2017 – positive \$16.40 per boe).

For the twelve months ended December 31, 2018, operating netbacks (before hedging) were \$6.35 per boe compared to \$11.30 per boe for the same period in 2017. Operating netbacks for the year, including realized losses on hedging of \$8.84 per boe (2017 - gain of \$0.25 per boe), were negative \$2.49 per boe compared to positive \$11.55 per boe in 2017.

General and Administrative ("G&A")

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Gross G&A expenses	\$ 157,221	\$ 549,834	\$ 1,805,315	\$ 3,076,188
Capitalized G&A expenses	(92,499)	(100,918)	(376,664)	(426,957)
Net G&A expenses	\$ 64,722	\$ 448,916	\$ 1,428,651	\$ 2,649,231

G&A expenses are primarily fixed costs by nature and therefore fluctuate on a per barrel basis with the rate of production. Kaisen capitalizes to property, plant and equipment, a percentage of technical staff salaries and share based compensation expense for engineering and geological work at a rate that is commensurate with the extent of work required to execute on the Company's capital program. For the three and twelve months ended December 31, 2018, G&A expenses were \$64,722 and \$1,428,651, respectively (2017 - \$448,916 and \$2,649,231). In fourth quarter of 2018 the Company renegotiated its 2018 engineering reserve reporting fee which resulted in a \$95,000 recovery of costs that had been recorded over the first nine months of 2018. In addition, a revision to prior year accruals resulted in a one-time \$110,000 recovery being recorded in G&A. On a year to date basis, G&A expenses were predominantly lower as a result of reductions in headcount and the implementation of corporate overhead cost reductions that commenced in May of 2018.

Net Finance Expenses

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Interest expense on bank loan	\$ 16,927	\$ 24,801	\$ 112,221	\$ 97,942
Accretion on decommissioning obligations	65,279	57,428	258,882	224,786
Net finance expenses	\$ 82,206	\$ 82,229	\$ 371,103	\$ 322,728

Interest expense relates to interest charges and related service fees on the Company's banking facility. Accretion expense relates to the Company's decommissioning obligation for the future abandonment and reclamation of our lands and well sites. The estimated future decommissioning obligation is discounted at a risk-free rate in accordance with the Company's accounting policies and recorded as a liability on the Statement of Financial Position. The liability is increased monthly to account for the passage of time with the monthly increase recorded as accretion expense. Material changes in the accretion expense is typically driven by new well additions in each period, being a combination the Company's drilling program and acquisitions and/or divestitures.

Share-based Compensation

The Company has a share option plan pursuant to which options to purchase common shares of the Company may be granted by the Board of Directors to directors, officers, employees and consultants of the Company. Pursuant to the plan, the exercise price of each option may shall be fixed by the Board of Directors when such option is granted, provided that from and after the date that the common shares are listed on a stock exchange (the "Exchange"), such price shall not be less than the price permitted by such Exchange. Compensation expense is recognized as options vest. Unless otherwise determined by the Board of Directors, vesting typically occurs one third on each of the next three anniversaries of the date of the grant as recipients render continuous serve to the Company, and the share options typically expire five years from the date of the grant. The maximum number of common shares issuable on the exercise of outstanding share option sat any time is limited to 10% of the issued and outstanding common shares. The Company's current share-based compensation plans consist of share options, executive incentive options, and performance warrants.

During the three and twelve months ended December 31, 2018, the Company recorded share-based compensation expenses of \$276,959 and \$1,346,909, respectively (2017 - \$481,263 and \$1,937,229). Share-based compensation expenses decreased from the prior year comparative periods as the majority of the prior year equity compensation units had fully vested by the fourth quarter of 2018 and the weighted average fair value of the July 2018 grant was significantly lower than prior year grants.

Restructuring Expenses

Kaisen underwent a restructuring in the second quarter of 2018 resulting in a reduction to the Company's employee base and office space requirements. During the twelve months ended December 31, 2018, the Company recorded \$1,167,028 in restructuring expenses (2017 - \$nil). Cash based restructuring expenses for the twelve months ended December 31, 2018 comprised of severance payments of \$720,000, legal fees of \$55,888 and other costs of \$133,978. Non-cash expenses contain onerous lease charges of \$102,470, and \$154,692 relating to the impairment of the due from shareholder loan. The Company still intends on actively pursuing re-payment in full for this amount. Restructuring expenses for the three months ended December 31, 2018 and the prior year comparative quarter were \$nil.

Depletion and Depreciation

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Depletion	\$ 762,460	\$ 1,432,794	\$ 4,050,416	\$ 5,595,061
Depreciation	5,491	8,405	26,498	37,008
Depletion and depreciation	\$ 767,951	\$ 1,441,199	\$ 4,076,914	\$ 5,632,069

Depletion expense is a product of depletable assets multiplied by total production divided by estimated proved and probable oil and natural gas reserves at the beginning of each period. Included within depletable assets is an estimate of future development costs of \$93.3 million (2017 - \$98.9 million) less total salvage value of the assets of \$2.6 million (2017 - \$2.6 million).

Impairment of Property, Plant and Equipment

At December 31, 2018, the Company assessed whether there were indicators of impairment present. The assessment factored in reserves, change in commodity prices year over year, the health of the sector and the general economy, and near-term development plans. It was determined that all CGUs exceeded their recoverable amount. The recoverable amount was calculated as the fair value of assets less cost of disposal. The fair value was determined using an after-tax discount rate of 19.6% and forecasted cash flows. The forecasted cash flows are based on the year-end total proved reserves and pricing used by Sproule Associates Limited, the Company's independent reserve engineers. An impairment loss of \$24,830,000 was recorded for the year. Recoverable amounts of the Company's CGUs at December 31, 2018 were \$32.6 million (2017 - \$148.4 million).

In 2017, the Company performed an impairment test using forecasted cash flows based on proved plus probable reserves and a discount rate of 10%. Management changed its approach from the prior year due to uncertainties surrounding the Company's access to sufficient capital required to fund the development of proved plus probable reserves.

PROPERTY AND EQUIPMENT (DEVELOPMENT) EXPENDITURES

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Land	\$ 24,521	\$ -	\$ 53,959	\$ 132,234
Geological and geophysical	(38,575)	11,311	(33,215)	750,747
Drilling, completions and optimizations	107,970	-	1,841,784	5,098,542
Equipment and facilities	316,663	201,959	1,199,990	1,771,147
Capitalized G&A	92,499	97,500	376,664	390,000
Corporate	-	-	1,926	14,851
Property and equipment expenditures	\$ 503,078	\$ 310,770	\$ 3,441,108	\$ 8,157,521

During the three and twelve months ended December 31, 2018, the Company made \$503,078 and \$3,441,108 in capital investments, respectively (2017 - \$310,770 and \$8,157,521). The majority of capital spent in the fourth quarter related to the conversion and tie-in of the second horizontal injection well at the Lone Rock Polymer EOR project. Injection into the second pattern commenced in November. On a year to date basis, the Company's capital investments relate primarily to one well drilled in Coleville in the first quarter of 2018, and the capital costs associated with the development of the Lone Rock Polymer EOR project.

LIQUIDITY, CAPITAL RESOURCES AND GOING CONCERN

	December 31, 2018	December 31, 2017
Net debt	\$ 3,794,098	\$ 2,424,965
Shareholders' equity	\$ 16,765,669	\$ 42,535,034

Kaisen exited the quarter in a net debt position \$3,794,098, which included an adjusted working capital deficit of \$1,698,511 and a bank loan balance of \$2,095,587. The Company's policy is to maintain a strong capital base in order to provide flexibility in the future development of the business and to maintain the confidence of investors and lenders.

The Company periodically reviews certain quantitative measures of its capital structure to understand its position relative to industry peers but does not set certain limits or ranges with respect to these quantitative measures. The Company is not subject to any external restrictions on its capital structure, with the exception of the single working capital covenant in place with the Company's lender. As discussed below, the Company was in breach of its covenant at December 31, 2018. Management closely monitors debt leverage to ensure the Company maintains financial flexibility and balance sheet strength sufficient to manage unforeseen events and/or opportunities as they arise.

These financial statements have been prepared in accordance with generally accepted accounting principles applicable to a going concern, which assumes that the Company will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future. The Company incurred a loss of \$32,699,279 during the year ended December 31, 2018, and as of that date, the Company's current liabilities exceeded its current assets by \$3,309,681. Sustained low commodity prices in recent months have put pressure on the Company's cash flows. As at December 31, 2018 the Company still had access to \$2,126,000 in available financing from unissued convertible debentures of which \$200,000 was drawn on in February of 2019. The management of the Company believes that the current level of financing may not be sufficient to pay for expected cash expenditures over the next 12 months. Although the Company has been successful in the past in obtaining financing, there is no assurance that it will be able to secure adequate financing in the future or that such financing will be on terms acceptable to the Company. The recoverability of the underlying value of the Company's assets is entirely dependent on the Company's ability to obtain the necessary financing to complete the development of its assets and achieve future profitable production. As a result, there is a material uncertainty that may cast substantial doubt on the Company's ability to continue as a going concern. These financial statements do not reflect adjustments that would be necessary if the going concern assumption were not appropriate. If the going concern basis were not appropriate for these financial statements, then adjustments would be necessary in the carrying value of the assets and liabilities, the reported revenues and expenses, and the balance sheet classifications used. These adjustments could be material.

Bank Loan

Kaisen has a secured operating credit facility with a Canadian bank and in the third quarter of 2018 the Company's borrowing base was reduced from \$4.0 million to \$2.5 million. As at December 31, 2018, the Company was in breach of its lenders covenant as its working capital ratio was 0.39:1.00 which is below the 1.00:1.00 threshold. As a result, the lender can demand repayment of the bank loan in full which had a balance of \$2,095,587 owing at December 31, 2018, and the bank loan continues to be classified as a current liability on the statement of financial position. Management plans to address any future working capital deficiencies by accessing the remaining \$2,126,000 in funding that is available as at year end and by using future cash flows in excess of capital spending to improve its working capital position.

Convertible Debentures

On May 28, 2018, the Company provided all shareholders and its Managing Director the opportunity to subscribe for an aggregate of \$7,503,000 in convertible debentures and the execution of an agreement for 5,426 committed obligation debentures. During the fourth quarter of 2018, Kaisen issued an additional 1,301 convertible debentures for total gross and net proceeds of \$1,301,000. On a year to date basis, the Company has issued a total of 5,377 convertible debentures for total gross proceeds of \$5,377,000 (\$5,317,100 net of issue costs). On February 28, 2018 the Company issued an additional 200 convertible debentures for total proceeds of \$200,000 to pay off a promissory note for \$200,000 that was entered into on January 15th, 2019 with Azimuth Capital Management. Subsequent to this convertible debenture issuance the Company has 1,926 in committed obligation debentures remaining which represent an additional \$1,926,000 in available funding.

Liquidity Risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they become due. Liquidity risk also includes the risk of not being able to liquidate assets in a timely manner at a reasonable price. The Company's approach to managing liquidity is to ensure that it will have sufficient liquidity to meet liabilities when due, under both normal and unusual conditions without incurring unacceptable losses or jeopardizing the Company's business objective. The Company manages this risk by preparing cash flow forecasts to assess whether additional funds are required. The Company's liquidity is dependent on the Company's expected business growth and changes in its business environment. Undiscounted cashflows relating to financial liabilities as at December 31, 2018 were as follows:

	Undiscounted amount	Less than 1 year	1 – 3 years	4 - 5 years
Accounts payable and accrued liabilities	\$ 2,126,023	\$ 2,126,023	\$ -	\$ -
Risk management contracts	702,439	-	702,439	-
Bank loan	2,095,587	2,095,587	-	-
Financial liabilities	\$ 4,924,049	\$ 4,221,610	\$ 702,439	\$ -

RISK MANAGEMENT

Management of cash flow variability is an integral component of the Company's business strategy. Changing business conditions are monitored regularly and, where material, reviewed with the Board of Directors to establish risk management guidelines used by Management to carry out the Company's strategic risk management program. The risk exposure inherent in the movements of the price of crude oil and fluctuations in CDN\$:US\$ exchange rates are all proactively reviewed by Kaisen and may be managed through the use of derivative contracts as considered appropriate.

The Company has elected not to apply IFRS prescribed "hedge accounting" rules. Accordingly, the fair value of financial derivative contracts is recorded at each period-end. The fair value may change substantially from period to period depending on market conditions. As a result, net earnings may fluctuate considerably based on the period ending commodity forward strip prices compared to the prices in any derivative contracts.

Commodity Price Risk

The Company is exposed to commodity price movements as part of its operations, particularly in relation to prices received for its oil production. Commodity prices for oil are impacted by the world and continental/regional economy and other events that dictate the levels of supply and demand. Consequently, these changes could also affect the value of the Company's properties, the level of spending for exploration and development and the ability to meet obligations as they come due.

The following is a summary of all risk management contracts in place at December 31, 2018:

Type	Period	Volume	Price/unit ⁽¹⁾	Index
Basis Swap	January 1, 2019 – December 31, 2019	300 bbl/d	US\$20.80	WTI-NYMEX
Fixed Swap	January 1, 2019 – December 31, 2019	300 bbl/d	CDN\$71.00	WTI-NYMEX
Call option ⁽²⁾	January 1, 2020 – December 31, 2020	500 bbl/d	US\$60.00	WTI-NYMEX

(1) Based on the weighted average price/bbl for the duration of the contract

(2) The Call Option contract provides ATB with an option (at only their election) to exercise the contract terms (on a month to month basis) throughout the term of the contract.

As at December 31, 2018, the fair value associated with these risk management contracts was a net liability of \$218,022 (2017 - \$1,522,846), of which \$484,417 is reported as a current asset reflecting contracts which will settle by December 31, 2019, and \$702,439 reported as a long-term liability for contracts that will settle after December 31, 2019. To further manage commodity price risk, the Company may reduce its fixed operating and administrative cost structure, reduce capital investments, issue new equity or seek additional sources of debt should forward commodity pricing materially decrease. The Company will continue to monitor forward commodity prices and may enter future commodity-based risk management contracts to reduce the volatility of petroleum sales and protect future development capital programs.

Subsequent to year end, the Company entered into a 200 barrel per day WCS basis swap from which fixes the WCS price received relative to the NYMEX WTI price at a differential of US\$17.55 per barrel. The contract period runs from February 1, 2019 to December 31, 2019

SUMMARY OF QUARTERLY RESULTS

(\$000's expect share, per share, boe amounts)	Q4 2018	Q3 2018	Q2 2018	Q1 2018	Q4 2017	Q3 2017	Q2 2017	Q1 2017
Petroleum and natural gas sales	1,476	4,715	4,513	3,765	5,578	5,060	5,798	4,997
Realized gain (loss) on risk mgmt. contracts	(485)	(1,217)	(1,180)	(47)	(256)	468	124	(212)
Funds flow from operations (deficit) ⁽¹⁾	(1,469)	(421)	(1,275)	(137)	1,460	1,318	907	(779)
Net earnings (loss)	(23,768)	(1,341)	(4,074)	(3,515)	(1,743)	(1,634)	842	253
Expenditures on oil & gas properties	503	915	631	1,393	311	2,967	408	4,472
Net debt ⁽¹⁾	(3,794)	(3,122)	(3,786)	(3,956)	(2,425)	(3,572)	(4,422)	(4,918)
Sales Volumes (boe per day)	672	972	926	1,064	1,288	1,295	1,480	1,366
Operating Netbacks (\$/boe) ⁽¹⁾								
Realized sales price	23.88	52.74	53.55	39.31	47.09	42.48	43.06	40.64
Royalties	(4.30)	(9.36)	(10.04)	(7.59)	(8.24)	(7.26)	(7.08)	(7.47)
Saskatchewan surcharge tax	(2.01)	(0.28)	0.11	(0.59)	(0.08)	(0.88)	(0.78)	(0.66)
Operating expenses	(29.04)	(27.40)	(26.19)	(23.06)	(18.15)	(17.68)	(21.52)	(29.39)
Transportation expenses	(3.05)	(2.72)	(2.19)	(2.29)	(2.06)	(2.05)	(2.37)	(2.01)
Operating netback prior to hedging	(14.52)	12.98	15.24	5.78	18.56	14.61	11.31	1.11
Realized gain/(loss) on risk mgmt. contracts	(7.85)	(13.61)	(14.00)	(0.50)	(2.16)	3.93	0.92	(1.72)
Operating netback after hedging	(22.37)	(0.63)	1.24	5.28	16.40	18.54	12.23	(0.61)

⁽¹⁾ See "Non-GAAP Measures".

NON-GAAP MEASURES

This MD&A contains terms commonly used in the oil and natural gas industry, including funds flow from operations per share, operating netback and net debt. These terms do not have a standardized meaning under IFRS and may not be comparable to similar measures presented by other companies. Shareholders and investors are cautioned that these measures should not be construed as alternatives to cash provided by operating activities, net income, total liabilities, or other measures of financial performance as determined in accordance with GAAP. Management uses these non-GAAP measures for its own performance measurement and to provide stakeholders with measures to compare the Company's operations over time.

Funds Flow from Operations

The Company calculates funds flow from operations (deficit) per share by dividing funds flow from operations by the weighted average number of common shares outstanding during the applicable period.

A reconciliation of funds flow from operations (deficit) to cash provided by (used in) operating activities is presented as follows:

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Cash flow from (used in) operating activities	\$ (1,719,465)	\$ (110,493)	\$ (1,645,044)	\$ 994,926
Less change in non-cash working capital	250,171	1,570,828	(1,656,751)	1,912,426
Funds flow from operations (deficit)	\$ (1,469,294)	\$ 1,460,335	\$ (3,301,795)	\$ 2,907,352

Operating Netback

The Company uses operating netback as a key performance indicator of field results. Operating netback is presented on a per barrel of oil equivalent basis and is calculated by deducting royalties, Saskatchewan resource tax, transportation expenses and operating expenses from petroleum and natural gas sales. If applicable the Company also discloses operating netback both prior to realized gains or losses on derivatives and after the impacts of derivatives are included. Realized gains or losses represent the portion of risk management contracts that have settled in cash during the period, disclosing this provides Management and investors with transparent measures that reflect how the Company's risk management program can impact netback metrics. The Company considers operating netback to be a key measure as it demonstrates Kaisen's profitability relative to current commodity prices. This measurement assists Management and investors in evaluating operating results on a per barrel of oil equivalent basis to analyze performance on a historical basis. The following table calculates operating netback for the periods indicated:

	Three months ended December 31,		Year ended December 31,	
	2018	2017	2018	2017
Petroleum sales	\$ 1,475,951	\$ 5,578,173	\$ 14,468,581	\$ 21,432,511
Royalties	(265,508)	(975,978)	(2,675,916)	(3,711,376)
Saskatchewan resource tax	(124,406)	(9,622)	(196,496)	(300,472)
Operating expenses	(1,794,796)	(2,150,478)	(8,660,105)	(10,767,470)
Transportation expenses	(188,183)	(244,039)	(835,766)	(1,054,299)
Operating netback	\$ (896,942)	\$ 2,198,056	\$ 2,100,298	\$ 5,598,894
Production (boe's)	61,797	118,464	331,255	495,176
Operating netback (\$/boe)	\$ (14.52)	\$ 18.56	\$ 6.35	\$ 11.30

Net Debt and Adjusted Working Capital

The Company uses net debt, which includes an adjusted measure of working capital, to assess its true debt and liquidity position and to manage capital and liquidity risk. Adjusted working capital subtracts current liabilities from current assets, excluding any current balances related to debt and risk management contracts. Net debt is calculated as the Company's bank loan plus (less) the adjusted working capital deficit (surplus). The following table summarizes net debt for the periods indicated:

	December 31, 2018	December 31, 2017
Bank loan	\$ 2,095,587	\$ 3,051,501
Current assets	(911,929)	(2,946,265)
Add back risk management contracts (if in an asset position)	484,417	-
Accounts payable and accrued liabilities	2,126,023	2,319,729
Adjusted working capital deficit (surplus)	1,698,511	(626,536)
Net debt	\$ 3,794,098	\$ 2,424,965

BOE CONVERSION

Within this document, petroleum and natural gas volumes are converted to a common unit of measure, referred to as a barrel of oil equivalent ("boe"), using a ratio of 6,000 cubic feet of natural gas to one barrel of oil. Use of the term boe may be misleading, particularly if used in isolation. The conversion ratio is based on an energy equivalent method and does not necessarily represent a value of equivalency at the wellhead.

ADVISORY ON FORWARD LOOKING STATEMENTS

In the interest of providing Kaisen shareholders and potential investors with information regarding the Company, including management's assessment of Kaisen's future plans and operations, certain statements contained in this MD&A constitute forward-looking statements or information (collectively referred to herein as "forward-looking statements") within the meaning of the "safe harbor" provisions of applicable securities legislation. Forward-looking statements are typically identified by words such as "anticipate", "believe", "expect", "plan", "intend", "forecast", "target", "project" or similar words suggesting future outcomes or statements regarding an outlook. Forward-looking information in this MD&A includes, but is not limited to:

- *Future development plans;*
- *Future financing plans and goals;*
- *The ability of the Company to fund capital programs with existing working capital and cash flow from operating activities*
- *The Company continuing as a going concern*
- *The impact of adjustments to drilling and completion techniques; and*
- *General business strategies and objectives*

Such forward-looking information is based on a number of assumptions, including: future commodity prices; royalty rates, taxes and capital, operating, general and administrative and other costs; foreign currency exchange rates and interest rates; general business, economic and market conditions; the ability of the Company to obtain the require capital to finance its exploration, development and other operations and meet its commitments and financial obligations; the ability of Kaisen to obtain equipment, services, supplies and personnel in a timely manner and at an acceptable cost to carry out its activities; the ability of Kaisen to market its oil and natural gas successfully to current and new customers; the ability of Kaisen to obtain drilling success (including in respect of anticipated production volumes, reserve additions and resource recoveries) and operational improvements, efficiencies and results consistent with expectations; the timely receipt of governmental and regulatory approvals; and anticipated timelines and budgets being met in respect of drilling programs and other operations (including well completions and tie-ins and the construction, commissioning and start-up of new and expanded facilities).

Although Kaisen believes that the expectations reflected in such forward-looking information is reasonable, undue reliance should not be placed on them as the Company can give no assurance that such assumptions will prove to be correct. Forward-looking information is based on expectations, estimates and projections that involve a number of risks and uncertainties which could cause actual results to differ materially from those anticipated by Kaisen and described in the forward-looking information. The material risks and uncertainties include, but are not limited to: fluctuations in commodity prices, foreign currency exchange rates and interest rates; estimates and projections relating to future revenue, future production, reserve additions, resource recoveries, royalty rates, taxes and costs and expenses; operational risks in exploring for, developing and producing, oil and natural gas; the ability to obtain equipment, services, supplies and personnel in a timely manner and at an acceptable cost; potential disruptions, delays or unexpected technical or other difficulties in designing, developing, expanding or operating new, expanded or existing facilities; processing and pipeline infrastructure outages, disruptions and constraints; risks and uncertainties involving the geology of oil and gas deposits; uncertainty of reserves and resources estimates; general business, economic and market conditions; changes in, or in the interpretation of, laws, regulations or policies (including environmental laws); the ability to obtain required governmental or regulatory approvals in a timely manner, and to enter into and maintain leases and licenses; the effects of weather and other factors including wildlife and environmental restrictions which affect field operations and access; the timing and cost of future abandonment and reclamation obligations and potential liabilities for environmental damage and contamination; uncertainties regarding

aboriginal claims and in maintaining relationships with local populations and other stakeholders; the outcome of existing and potential lawsuits, regulatory actions, audits and assessments. and other risks and uncertainties described elsewhere in Kaisen's other filings.

Statements relating to "reserves" are deemed to be forward-looking statements, as they involve the implied assessment, based on certain estimates and assumptions that the resources and reserves described exist in the quantities predicted or estimated, and can be profitably produced in the future. Although Kaisen believes that the expectations represented by such forward-looking statements are reasonable, there can be no assurance that such expectations will prove to be correct. Readers are cautioned that the foregoing list of important factors is not exhaustive. Furthermore, the forward-looking statements contained in this MD&A are made as of the date of this MD&A, and Kaisen does not undertake any obligation to update publicly or to revise any of the included forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. The forward-looking statements contained in this MD&A are expressly qualified by this cautionary statement.

ADDITIONAL INFORMATION

For additional information regarding the Company and its business and operations, please contact the Company at Kaisen Energy Ltd. 400, 522 – 11th Avenue S.W., Calgary, Alberta, Canada T2R 0C8 or by e-mailing [Rachelle Bien-Barnard \(info@kaisenenergy.com\)](mailto:info@kaisenenergy.com)

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Managing Director

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