Cardinal Energy Ltd. | Canadian Equities

# Fueling Up for Success: Cardinal Energy is Positioned for Growth

| Stock Rating | Industry View | Price Target |
|---|---|---|
| Buy | In-Line | $9.00 |

Cardinal Energy Ltd. is a Canadian upstream Oil and Gas producer with operations in Alberta and Saskatchewan. They are focused on the low decline light and medium quality of oil production.

- **Summary.** Cardinal Energy has been awarded the buy rating based on (1) a positive outlook for the oil and gas industry in 2023 and forwards, and (2) the company's projected increase in dividend payments. The anticipated rise in demand for oil and gas is expected to drive an increase in FCF, which will enable the company to continue to effectively reduce outstanding debt. As a result of their previous efforts of increasing FCF yields and decreasing debt, Cardinal Energy was able to introduce a dividend to all common shareholders.
- **Sector Analysis.** With the International Energy Agency (IEA) predicting oil demand to peak by 2030, this provides ample time for Cardinal Energy to establish itself as an upstream oil and gas producer in Canada. The continued growth in oil demand is driven by a decline in the rate of global oil reserve growth by large cap oil and gas producers, which has decreased by 15% between 2000-2020. This trend presents a competitive advantage for companies with growing reserves, such as Cardinal Energy, as some supply power will shift towards them.
- **Financial Analysis.** With Cardinal Energy continuing to reduce its $62MM of Net Debt in 2023, the company will become better positioned in the face of increasingly uncertain global economic conditions. Cardinal Energy plans to increase its dividend payout ratio once its Net Debt has been further reduced. Currently, they are using a 50/50 FCF plan, where 50% of FCF is allocated to future debt repayments, and the other 50% to regular monthly dividends. This approach demonstrates the company's commitment to financial stability and long-term growth.
- **Valuation.** We have set a $9.00 price target based on our PV10 NAV valuation approach. With the upward trend in oil prices, this will result in their FCF yields to rise with them, allowing for greater future cash flows. Additionally, with WTI crude averaging a price of $95 USD per barrel in 2022, we anticipate prices to maintain momentum as China is preparing to re-open.

David MacNeill
CHIEF INVESTMENT OFFICER
dmacn088@uottawa.ca

Adam Levesque
PORTFOLIO MANAGER
aleve083@uottawa.ca

Arman Bazarjani
EQUITY ANALYST
abaza094@uottawa.ca

Omar Abokasem
EQUITY ANALYST
oabok059@uottawa.ca

| Cardinal Energy Ltd. (TSX:CJ) | |
|---|---|
| **Stock Rating** | **Buy** |
| **Industry View** | **In-Line** |
| **Price Target** | **$ 9.00** |
| Last close price | $ 7.30 |
| Curr. Mkt Cap (mm) | $ 1,032 |
| 52-Week Range | $5.34-7.30 |

In our NAV calculations, we have incorporated conservative price targets for WTI Crude, with it assuming a flatline at $50/bbl by 2032, allowing us to have confidence in our price target behind our thesis.

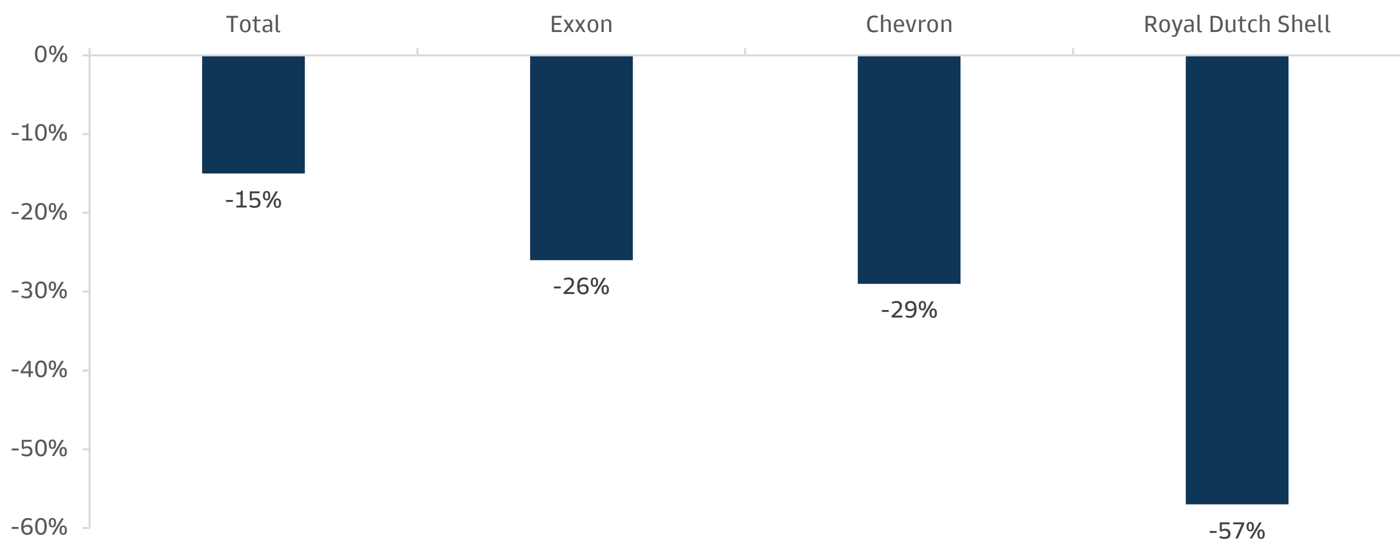
- **Risks & Catalysts.** Catalysts: (1) Increasing demand for oil and gas across the world, with Russia continuing to be sanctioned by NATO. (2) A China re-opening would significantly increase demand for oil and gas as they are a top 3 oil and gas importer in the world. (3) Optimization of Cardinal's wells will be a great benefit for future cash flows, as it will reduce future operating costs and allow them to maintain profit margins even if oil prices decrease Risks: (1) European countries may look to accelerate the switch to renewable energy, such as expansions of viable substitutes for oil. (2) Increase in oil prices is a double-edged sword for Alberta and Cardinal Energy, as it will lead to increases in electricity prices, operations and cost/bbl becomes more expensive.

# Sector Analysis

## Decrease in Oil Reserve Growth

Oil reserves have been decreasing exponentially over the past 20 years. From 2000-2020, total oil reserves shrank by 15%, with companies like Chevron losing 29% and Shell losing 57%. With some of the largest energy companies in the world experiencing a decrease in reserves, this presents a significant opportunity for smaller energy companies, such as Cardinal Energy, to gain a share in the oil market. Cardinal Energy has 83,300 MBOE (Millions of Barrels of Energy) of proven reserves at the start of 2022, which allows for a significant amount of time to extract and sell their oil and gas.

*Figure 1: Oil Reserve growth from 2000-2020*




Source: Goehring & Rozencwajg Q2 2021 Report

## Oil Demand to Peak by 2030

According to the International Energy Agency (IEA), oil demand is expected to peak by 2030. This gives Cardinal ample time to utilize their large reserves. The transition into clean energy is a long and slow process, which will likely take longer than expected, allowing it to be a major contributing factor to the later-than-expected peak in oil demand. However, if governments take sharp and strict actions, the peak in oil demand could occur earlier. Despite this, most governments have set timelines in the 2030s for their clean energy initiatives, which provides little risk for this timeframe's gap to shorten.

# Financial Analysis

## Debt Removal

Cardinal Energy's significant growth can be attributed to management's strong emphasis on debt reduction. In the past two fiscal years, the company has made great strides towards eliminating all outstanding debt. By the end of the 2021 fiscal year, Cardinal Energy had decreased its debt to $178.2 million, and further reduced it to $62 million by the end of the third quarter of 2022. During this period, they were able to move forward with their plan to institute a monthly dividend for shareholders, starting at $0.06/share.

With net debt expected to be fully eliminated in the next few years, management plans to increase dividends further, where they have stated that maximizing direct shareholder returns is among their main priorities.

## Dividend Growth

Based on their 2023 budget ($80 WTI crude oil and $3.50/mcf AECO prices as their assumption), there would be a $115 million budget allocated strictly for dividends to shareholders. Figure 2 shows a dividend payoff projection based on the $80 WTI crude price (highlighted in grey), with different increases in the price of WTI crude displayed to the right, along with their respective dividend budgets and dividend payoff per share.

*Figure 2: Dividend Payoff Projection based on $80 WTI crude estimate from management, altered to $90, $100, $110, and $120 WTI*

| | | $MM Towards Dividends | Dividend Payoff/Share | Dividend Percentage ($7.30/share) |
|---|---|---|---|---|
| $ CAD/BOE 2023' | **$80** | $115.0 | $0.73 | 9.97% |
| | **$90** | $129.4 | $0.82 | 11.22% |
| | **$100** | $143.8 | $0.91 | 12.46% |
| | **$110** | $158.1 | $1.00 | 13.71% |
| | **$120** | $172.5 | $1.09 | 14.96% |

Source: Cardinal Energy Winter 2022 Presentation, TFS Investment Group Estimates

## Efficiency of Operations

In addition to their mission to reduce debt and maximize shareholder returns, the company plans to significantly reduce their operating costs. Figure 3 displays low and high estimates of Cardinal Energy's all-in cash costs, which have been derived from previous filings and used for valuation purposes.

*Figure 3: All-in cash costs based on previous records of the company, with a low and high estimate, then an average all-in cash cost*

| All-in cash costs | Low estimate | High estimate | |
|---|---|---|---|
| Operating costs ($/boe) | $ 22.00 | $ 22.75 | |
| Transportation costs ($/boe) | $ 0.55 | $ 0.65 | |
| Royalty Costs - Subsidy compensation | $ 8.60 | $ 12.00 | |
| G&A ($/boe) | $ 2.00 | $ 2.25 | **Average All-in cash costs** |
| All-in cash costs | $ 33.2 | $ 37.7 | **$ 35.4** |

Source: Cardinal Energy Filings, TFS Investment Group Estimates

# Valuation

## Valuation Summary: Strong Margin of Safety

Our valuation of a $9.00 price target is based on our net asset value model that depletes the reserves of Cardinal Energy up to 2033. The model uses a WACC of 10%, which is derived from the industry average. Figure 5 in our analysis shows that the model uses fairly conservative sale prices of BOE, where starting in 2030, the price flatlines at $55.0 CAD/BOE, allowing us to maintain a strong margin of safety. We anticipate a strong bullish energy market in the earlier years, with the continued war in Ukraine and opening of the economy in China leading to consistent strong demand and therefore keeping prices relatively high. As the world transitions into cleaner energy, we expect to see a progressive decline in the price of BOE. The tax rate of 27.0% is derived from a KPMG report estimating the effective tax rate on oil and gas companies operating in Alberta and Saskatchewan.

*Figure 4: Sensitivity Analysis displaying the different implied share prices resulting from different discount rates and $CAD/BOE*

| | | Discount Rate | | | | |
|---|---|---|---|---|---|---|
| | | 8.0% | 9.0% | 10.0% | 11.0% | 12.0% |
| $ CAD/BOE 2024' - 2030' | $ 50 | $ 5.1 | $ 5.0 | $ 4.9 | $ 4.9 | $ 4.8 |
| | $ 60 | $ 8.1 | $ 7.9 | $ 7.7 | $ 7.5 | $ 7.3 |
| | $ 70 | $ 11.1 | $ 10.7 | $ 10.4 | $ 10.1 | $ 9.8 |
| | $ 80 | $ 14.0 | $ 13.6 | $ 13.1 | $ 12.7 | $ 12.3 |
| | $ 90 | $ 17.0 | $ 16.4 | $ 15.9 | $ 15.3 | $ 14.8 |

Source: TFS Investment Group Estimate

*Figure 5: NAV (Net Asset Value) model displaying the depleting reserves, associated with the sale price of CAD$/BOE and Net CF*

**Valuation Model for Cardinal Energy (TSX:CJ)**

*Figures are in CAD thousands unless otherwise stated*

| Accounting Period | Period End | Period Start | Days in Period | Production (MBOE/Day) | Total Production (MBOE) | Proved Reserves (MBOE), beginning of period | CAD $ / BOE | Sales (MBOE) | Sales ($ CAD) | All-in Cash Costs/BOE | Net Cash Flow (After Tax) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FY 2021 A | 2021-12-31 | 2020-12-31 | 365 | 19 | 6,968 | | | | | | |
| FY 2022 E | 2022-12-31 | 2021-12-31 | 365 | 22 | 7,859 | 83,300 | $ 128.4 | 7,073 | 908,137 | $ 35.4 | 480,167 |
| FY 2023 E | 2023-12-31 | 2022-12-31 | 365 | 19 | 6,968 | 75,441 | $ 115.0 | 6,271 | 721,172 | $ 35.4 | 364,399 |
| FY 2024 E | 2024-12-31 | 2023-12-31 | 366 | 19 | 6,987 | 68,474 | $ 90.0 | 6,288 | 565,942 | $ 35.4 | 250,637 |
| FY 2025 E | 2025-12-31 | 2024-12-31 | 365 | 19 | 6,968 | 61,487 | $ 90.0 | 6,271 | 564,396 | $ 35.4 | 249,952 |
| FY 2026 E | 2026-12-31 | 2025-12-31 | 365 | 19 | 6,968 | 54,519 | $ 85.0 | 6,271 | 533,041 | $ 35.4 | 227,063 |
| FY 2027 E | 2027-12-31 | 2026-12-31 | 365 | 19 | 6,968 | 47,551 | $ 85.0 | 6,271 | 533,041 | $ 35.4 | 227,063 |
| FY 2028 E | 2028-12-31 | 2027-12-31 | 366 | 19 | 6,987 | 40,583 | $ 80.0 | 6,288 | 503,060 | $ 35.4 | 204,733 |
| FY 2029 E | 2029-12-31 | 2028-12-31 | 365 | 19 | 6,968 | 33,596 | $ 70.0 | 6,271 | 438,975 | $ 35.4 | 158,395 |
| FY 2030 E | 2030-12-31 | 2029-12-31 | 365 | 19 | 6,968 | 26,628 | $ 55.0 | 6,271 | 344,909 | $ 35.4 | 89,726 |
| FY 2031 E | 2031-12-31 | 2030-12-31 | 365 | 19 | 6,968 | 19,660 | $ 55.0 | 6,271 | 344,909 | $ 35.4 | 89,726 |
| FY 2032 E | 2032-12-31 | 2031-12-31 | 366 | 19 | 6,987 | 12,693 | $ 55.0 | 6,288 | 345,854 | $ 35.4 | 89,972 |
| FY 2033 E | 2033-12-31 | 2032-12-31 | 365 | 19 | 6,968 | 5,706 | $ 55.0 | 6,271 | 344,909 | $ 35.4 | 89,726 |
| FY 2034 E | 2034-12-31 | 2033-12-31 | 365 | 19 | - | - | $ 55.0 | - | - | $ 35.4 | - |
| FY 2035 E | 2035-12-31 | 2034-12-31 | 365 | 19 | - | - | $ 55.0 | - | - | $ 35.4 | - |

Source: Cardinal Energy Filings, FactSet, Bloomberg, KPMG, TFS Investment Group Estimates

*Figure 6: Commodity Price Estimates from WTI Crude (USD) to WTI Crude (CAD) conversion, with a Canadian discount applied*

| Commodity Price Estimates | | | |
|---|---|---|---|
| WTI Crude (USD) | USD 74.20 | USD 80.00 | USD 50.00 |
| CAD/USD | 1.3500 | 1.3500 | 1.3500 |
| WTI Crude (CAD) | $ 100 | $ 108 | $ 68 |
| Canadian discount (%) | 20.0% | 20.0% | 20.0% |
| **Average sales price est.** | **$ 80** | **$ 86** | **$ 54** |

Source: FactSet, TFS Investment Group Estimates

*Figure 7: Implied Share Price Calculation*

| Implied Valuation Calculation | |
|---|---|
| Discount Rate | 10.0% |
| NAV | 1,501,276 |
| (-) PV Decommission obligation | (66,890) |
| (-) Net Debt | (170,339) |
| Equity Value | 1,264,047 |
| / shares out. | 141,322 |
| **Implied Share Price** | **$ 8.94** |
| Current Share Price | $ 7.30 |
| **Implied Upside** | **22.5%** |
| IRR | 22.6% |

Source: Cardinal Energy Filings, TFS Investment Group Estimates

*Figure 8: Assumptions used in NAV Model, Discount Rate of 10% is the industry average*

| NAV Assumptions | |
|---|---|
| MBOE/Day Production | 19.1 |
| Proved & Producing Reserves (MBOE) | 83,300 |
| Average CAD / BOE | $ 73.8 |
| WTI Crude (USD) Equivalent / BOE | $ 68.3 |
| Average All-in cash costs | $ 35.4 |
| Tax Rate | 27.0% |
| Discount Rate | 10.0% |

Source: Cardinal Energy Filings, KPMG, TFS Investment Group Estimates