

Canada's Oil and Gas Decommissioning Liability Problem

Unregulated Liabilities and Opaque Financial Reporting Last Seen in Mortgage-backed Securities During the 2008 Financial Crisis

Executive Summary

Canadian oil and gas companies are failing to make plans to pay for \$72 billion¹ in future decommissioning liabilities for oil and gas wells, pipelines, and facilities.^{2,3} The cleanup liabilities, collectively referred to as asset retirement obligations (AROs), are likely to result in future corporate defaults, leaving the Canadian taxpayer to pay to resolve the mess.

Decommissioning liabilities are a major concern for the province of Alberta, which is burdened with more than 80 percent of AROs in Canada. More than 70 percent of the 459,000 wells in the province require closure work.⁴

The full extent of the decommissioning liabilities problem may not be fully known, given the lack of transparency and reporting of AROs by oil and gas companies.

IEEFA conducted in-depth analysis of five of the 10 most vulnerable publicly listed small-cap oil and gas producers in Canada. The analysis found:

- The vulnerable companies are at high risk of defaulting on future ARO obligations—even if they operate in a long-term \$80- to \$90-per-barrel West Texas Intermediate (WTI) oil price environment while they continue to make promises of investor returns through dividends and share buybacks.
- Future revolving credit facilities may face major impairments.
- The situation may be worse than it appears. Companies may be understating AROs through mismanaged accounting and by delaying classification to the Alberta Energy Regulator (AER), which obscures the actual size of AROs.
- Landowners may pressure governments to fund delinquent lease payments, forcing immediate abandonment and reclamation of wells.

¹ All dollar figures reported in CAD unless otherwise stated.

² University of Calgary. [Alberta's Underfunded Environmental Liabilities Problem: Inactive Wells and Oil Sands Tailings](#). January 2020.

³ Xi Technologies, Inc. [Word to the Wise: Estimate shows oil and gas liabilities in the WCSB have improved by over \\$8 billion since January 2019](#). August 2020.

⁴ Alberta Energy Regulator. [Oil and gas liabilities management](#). January 2022.

- The global energy transition will likely slow the growth of oil and gas demand growth, which will make it more difficult for oil and gas companies to sell their assets and increase financial stress on oil and gas companies as clean-up liabilities grow.
- The Canadian taxpayer may be left on the hook to pay for mismanagement of assets from chief executives who are paid an average of \$950,000 annually.

As the global energy system diversifies and transitions towards lower-carbon fuel sources, oil and gas decommissioning liabilities will become a more near-term issue than previously envisioned. The industry, with vigorous government oversight, must take effective and rapid action to avoid defaults and debt impairments that would force the Canadian taxpayer to bail out a broken system.

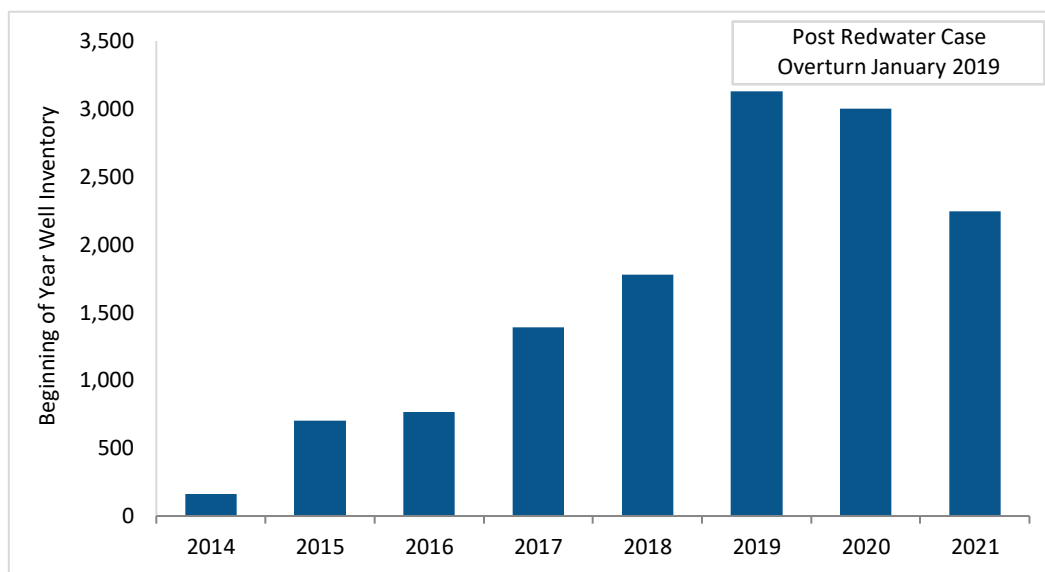
Table of Contents

Executive Summary	1
Background: Asset Retirement Obligations and Vulnerable Companies	4
I. ARO Liabilities Put Credit at Risk and Leave Taxpayers Vulnerable	6
II. Companies Feeling the Burden of AROs.....	8
A. Pine Cliff Energy (PNE.TO): "Dirt Cheap" Acquisitions Build Up Expensive AROs	9
B. Obsidian Energy (OBE.TO) and Bonterra Energy (BNE.TO): A Hostile Bid to Reduce AROs.....	11
C. Surge Energy (SGY.TO) and Cardinal Energy (CJ.TO): Saving the Worst Wells for Last Abandonment	13
III. The Situation May Be Even Worse Than It Appears: The Mystifying Reporting Methods of AROs Obscure the Risk	17
Conclusion	20
About the Author	21

Background: Asset Retirement Obligations and Vulnerable Companies

Several years ago, oil and gas cleanup became a major financial story in Canada due to a legal controversy that reached the Supreme Court of Canada. In the case of *Grant Thornton Limited vs. Alberta Energy Regulator*, an Alberta court held that the receiver of bankrupt Redwater Energy Corporation, Grant Thornton Limited, could simply renounce its ownership of unprofitable oil and gas wells, handing well plugging responsibilities and Asset Retirement Obligations (AROs) to the primarily taxpayer-funded Orphan Well Association. The case threatened to open the floodgates for companies to abandon unwanted wells, pushing more cleanup obligations to Alberta taxpayers. But in January 2019, the Supreme Court of Canada overturned the lower court's ruling, holding that AROs are the most senior creditor when an oil and gas company becomes insolvent.

Figure 1: Orphaned Well Beginning Inventory Passed to the AER⁵



Description: Yearly Beginning Inventory of wells required to be abandoned and performed on for other well closure as deemed by the AER.

The decision immediately reversed the buildup of orphan wells in Alberta (Figure 1). It also helped relieve pressure that the oil and gas industry faced from landowners, particularly farmers, who are obligated to lease land to oil and gas producers because the government owns and controls sub-surface mineral rights.⁶ Farmers objected to companies that were delinquent on lease payments and that left unattended wells that reduced the value of their land.⁷ This was highlighted

⁵ Alberta Energy Regulator. [Orphan Well Association Annual Reports](#). March 2021.

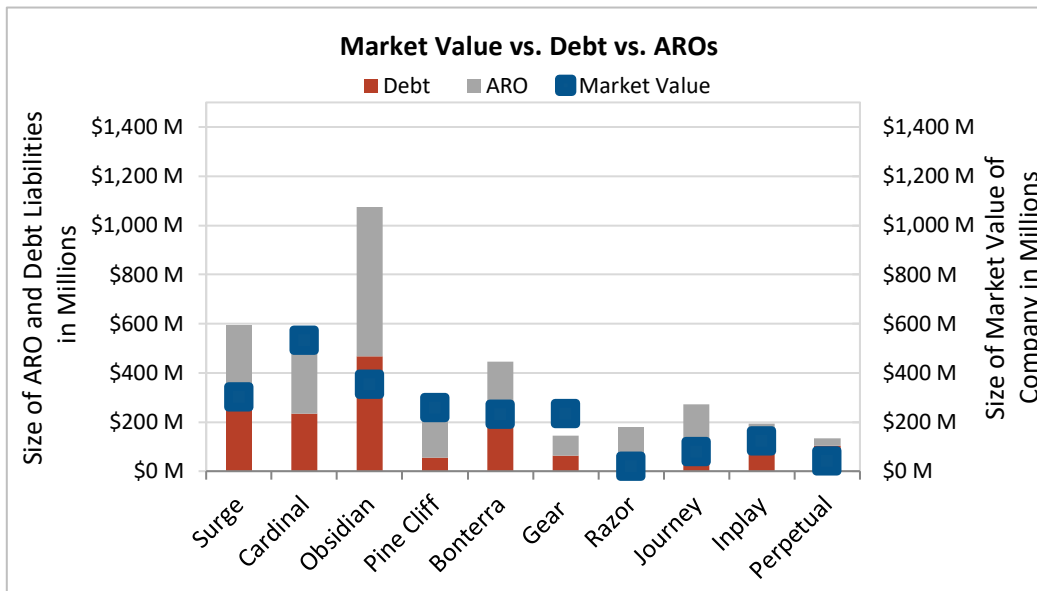
⁶ Sasha Russell. [The Conflict Between Mortgages and Surface Lease in Alberta](#). August 2014, pp. 4-5.

⁷ Russell, *op. cit.*, p. 10.

during the 2018 Sequoia Resources bankruptcy, which left 4,000 oil and gas wells on farm and ranch land requiring abandonment and reclamation.⁸ Concerned with the lack of ARO funding, the Canadian government made a \$1.7 billion commitment to western provinces in 2020 to deal with the issue.⁹

Concerns over well abandonment are most acute with small, financially vulnerable companies that often fail to set aside financial resources to pay for cleanup. To assess these risks, IEEFA analyzed 10 of the most financially vulnerable publicly listed small-cap oil and gas producers in Canada, as measured by the market value of the companies compared with their total debt and ARO liabilities (Figure 2).¹⁰ Further detailing their ARO risk, IEEFA focused on the five companies with the largest AROs: Surge Energy, Cardinal Energy, Obsidian Energy, Pine Cliff Energy, and Bonterra Energy.

Figure 2: Ten Significantly Vulnerable Canadian Oil and Gas Producers: AROs¹¹



Description: Company financials for Q3 2021 including financial statements and 2020 annual information forms.

IEEFA used the companies' own well counts and drilling inventory data to project a scenario in which companies would produce most of their proved reserves and a portion of probable reserves over 20 years. As of December 2021, the 10 companies

⁸ The Western Producer. [Orphan wells: Alberta's \\$47 billion problem](#). March 2018.

⁹ Xi Technologies, Inc., *op. cit.*

¹⁰ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy. Financial Statement, Decommissioning Liabilities Q3 2021. September 2021. (<30,000 boe/d)

¹¹ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy. *op. cit.*

had a combined market value of \$4.8 billion, carried \$2.5 billion in financial debt, and another \$3.5 billion in AROs (Figure 2).

IEEFA's analysis identifies a significant risk that vulnerable oil and gas producers may default on future ARO obligations, even if they operate in an \$80-\$90-per-barrel WTI oil price environment.

Meanwhile, AROs may be understated through mismanaged accounting and delaying classification to the AER, further frustrating the public on the actual size of AROs. Future revolving credit facilities may face major impairments. Landowners may also pressure governments to fund delinquent lease payments and force immediate abandonment and reclamation of wells as the economic forces of the energy transition move markets away from oil and gas. Considering these converging factors, the Canadian taxpayer may want to ensure they are not paying for the mismanagement of assets from CEOs who are paid an average of \$950,000 annually.¹²

I. ARO Liabilities Put Credit at Risk and Leave Taxpayers Vulnerable

The top six Canadian banks have about \$125 billion in credit and credit-like exposure to the oil and gas industry, including \$40.5 billion in outstanding credit and \$53.8 billion in undrawn credit.¹³ This is the credit that is most at risk for banks in the event AROs are underreported. With the overturning of the *Redwater* ruling in 2019, the credit facilities provided by the big Canadian banks no longer have the first right to assets in the event of liquidation. Instead, the AER has first claim to such assets. As a result, the AER has started to warn creditors of the immense risk they are taking when purchasing distressed assets.

For example, in May 2020, the AER blocked Royal Dutch Shell's (Shell) attempt to sell sour gas wells to Pieridae Energy for \$190 million.¹⁴ The transaction was a clear attempt by Shell to offload its cleanup liabilities to a smaller Canadian natural gas producer. In fact, larger producers in Canada, Cenovus and Canadian Natural Resources, expressed concerns about the ability for Pieridae Energy to meet future AROs through the Shell transaction.¹⁵ Pieridae Energy was provided with \$60 million in debt from the Alberta Investment Management Corporation (AIMCo) to acquire Shell's wells, which would have resulted in Pieridae taking on \$500 million

¹² Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy. 2020 Management Proxy Circular: Executive Compensation. March 2021.

¹³ TD, RBC, BMO, National Bank, Scotia Bank, CIBC. Supplemental Regulatory Disclosure Q3 2021 or Annual Report 2020. September 2021, March 2021.

¹⁴ Progress Report. [AER denies sale of Shell Canada's sour gas assets to Pieridae Energy over environmental liability concerns](#). May 2020.

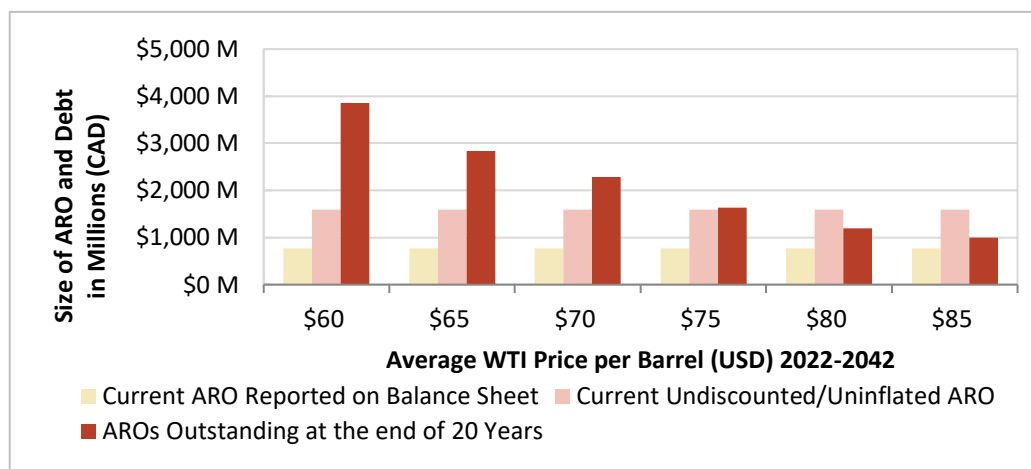
¹⁵ *Ibid.*

in environmental liabilities.¹⁶ This would have completely wiped out the debt from AIMCo, resulting in a potential \$60 million permanent loss.

IEEFA looked at the largest five small-cap producers with the largest ARO liabilities and conducted sensitivity analysis on these companies, using broad objectives of debt repayment, dividends, share buybacks, and ARO payments. The objective of the analysis is to determine, under various oil prices, the liabilities that the five companies will still owe after 20 years of production.

IEEFA's analysis assumes companies will pay down debt and AROs from free cash flow, and pay a 6% dividend from its remaining free cash flow. It further assumes that smaller oil and gas companies will produce all proved and some probable reserves as production naturally declines over 20 years, leading into 2041. After 20 years, we assume companies either close their doors or sell their assets to larger producers with diversified energy streams. The assumptions imply that smaller producers will be the first companies to shut down, since they rely solely on oil and gas production even as energy sources transition and the cost of carbon increases, leaving these assets with less value than in 2022.

Figure 3: Remaining ARO Liabilities After 20 Years (Top Five Companies)
17,18,19



Source: *Liabilities from Cardinal Energy, Surge Energy, Obsidian Energy, Pine Cliff Energy, and Bonterra Energy*. Assumptions include an average Henry Hub natural gas price of \$3.78 per MMBtu, a \$5 differential between WTI-Edmonton Light, a \$13.50 differential between WTI-Western Canadian Select, a \$0.38 per MMBtu differential between Henry Hub-AECO, and an FX rate of 0.80 CAD to USD. Pay-out assumptions include debt is paid out from free cash flow along with expected ARO expenses, remaining free cash flow is used to pay a 6% dividend yield based on company market value as of December 2021.

¹⁶ *Ibid.*

¹⁷ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy, *op. cit.*

¹⁸ CME Group. [Henry Hub Natural Gas Futures and Options](#). February 2022

¹⁹ CME Group. [Crude Oil Futures and Options](#). February 2022.

Using the WTI futures curve, the average price of oil sits at \$76.34 per barrel during the next six years. When analyzing future ARO obligations in 20 years, IEEFA assumed an average oil price of \$85 per barrel for WTI. After 20 years, the five companies analyzed by IEEFA would carry \$1 billion in liabilities compared to the \$772 million reported on their balance sheet as of the third quarter of 2021. Estimates by IEEFA conclude that in 20 years, the five companies will report AROs 30% higher than currently on their balance sheet (Figure 3).

IEEFA's analysis suggests that for the five companies, AROs and debt will increase during the next 20 years. At the same time, the value of oil reserves may be substantially impaired from current valuations. With liabilities growing and assets shrinking, creditors would face substantial losses.

The five companies analysed have cumulative credit facilities of more than \$1.4 billion, with 89% drawn on their credit facilities.²⁰ After 20 years, the companies may decide to use credit facilities to partially fund AROs, leaving most credit facilities fully drawn with no clear path to pay back their debt as production dwindles and valuations of these companies fall. Creditors may be able to force partial repayment of their credit facilities; however, creditors will have to impair their debt as the little remaining cash from liquidation is used to pay down outstanding AROs shifted to the OWA through the AER.

While oil and gas companies are starting to consider reducing their decommissioning liabilities (ARO) through action, some smaller producers are stuck with a sizable liability that may never be paid off in an \$85-per-barrel WTI oil price environment. Adding to frustration for the industry is the measurability of AROs; management teams are using flawed estimates that often underreport the size of AROs. All this leads to creditors and taxpayers being left with the liabilities as the last capital contributors to a broken abandonment and reclamation system.

The taxpayer is already feeling the burden born by the mismanagement of AROs by oil and gas companies. In 2020, taxpayers paid more than \$500 million for decommissioning and remediation of oil and gas assets.^{21, 22, 23}

II. Companies Feeling the Burden of AROs

The overturning of the *Redwater* ruling in 2019 has affected companies that have gone on acquisition sprees to build up production since 2014. Investors were initially enticed by these relatively cheap acquisitions, expecting that oil and gas prices would rebound. However, many of the corporate and asset acquisitions carried heavy ARO burdens, as illustrated in the following three examples.

²⁰ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy, *op cit*.

²¹ Orphan Well Association. [Annual Reports](#). July 2021.

²² Surface Rights Board and FOIP, [Data on land rent paid by Alberta government on behalf of oil & gas companies](#). March 2021.

²³ Alberta Government. [Site Rehabilitation Program](#). January 2022.

A. Pine Cliff Energy (PNE.TO): “Dirt Cheap” Acquisitions Build Up Expensive AROs

Pine Cliff Energy (Pine Cliff) was created as an unhedged pure play to Canadian natural gas exploration and production. The company is referred to as “the garbageman of Canadian natural gas assets.”²⁴ The company was the brainchild of George Fink, the company’s current chairman and largest individual shareholder. Fink also serves as chief executive of Bonterra Energy, which has a similar corporate strategy.²⁵ Both companies have strategies built around purchasing unwanted assets. Fink’s protégé, Phil Hodge, built up Pine Cliff’s assets using the strategy. A major issue, however, involves the amount of decommissioning liabilities accumulated by Pine Cliff.

When oil prices collapsed in 2014, Pine Cliff acquired \$133 million worth of assets from Nexen and Velvet Energy.²⁶ The acquisitions allowed the Pine Cliff to boost output by 140% from 2013 to 2015.²⁷ Yet Pine Cliff’s decommissioning liabilities increased by 285% over the period— more than twice the growth in production from the acquisitions.

In the shifting environment where companies are going to have to address environmental obligations, Pine Cliff faces an uphill battle with the amount of current and future AROs accumulated over years of acquisitions. Pine Cliff has about 7,000 producing and non-producing wells, almost four times as many as Bonterra Energy, even though the companies have similar market capitalizations.²⁸ In IEEFA’s analysis looking out 20 years, Pine Cliff will be unable to pay down all future AROs without increasing its dependence on credit for funding (Figure 4).

Pine Cliff’s reliance on credit to fund AROs should be of immediate concern for AIMCo, the company’s main creditor and institutional shareholder.^{29,30} AIMCo needs to look at the current upswing in natural gas prices to either force Pine Cliff to pay down AROs in the near term or pay down outstanding AIMCo credit provided to Pine Cliff.³¹ If AIMCo continues to provide credit to Pine Cliff, it could end up bearing the brunt of funding ARO liabilities that would require a credit increase of \$108 million to \$150 million. If natural gas demand slows or falls and Pine Cliff has trouble selling its remaining assets, AIMCo may be required to write off most of its outstanding credit to Pine Cliff in a forced liquidation event.

²⁴ BNN. *Market Call Pine Cliff Energy*. May 2019.

²⁵ Alberta Oil. *C-Suite Energy Executive – Chairperson of the Year – George Fink – Bonterra Energy*. February 2016.

²⁶ BOE Report. *Nexen Sold Assets to Pine Cliff*. July 2014.

²⁷ Sedar. *Pine Cliff Energy Annual Financial Statements 2014*. March 2015.

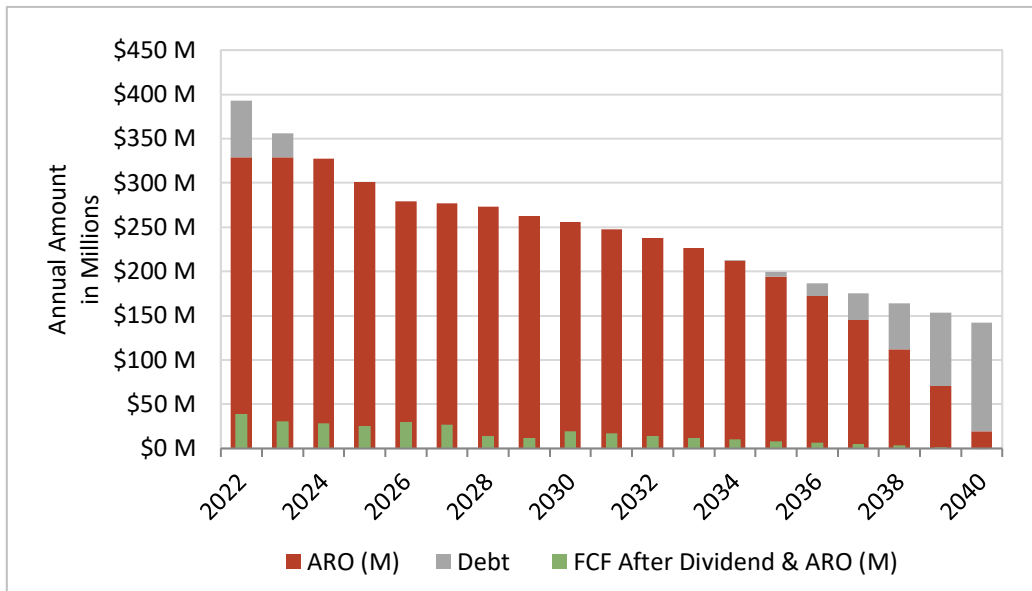
²⁸ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy, *op. cit.*

²⁹ *Ibid.*

³⁰ S&P Capital IQ, *op. cit.*

³¹ CME Group, *op. cit.*

Figure 4: Pine Cliff Energy Ability to Pay Down AROs³²



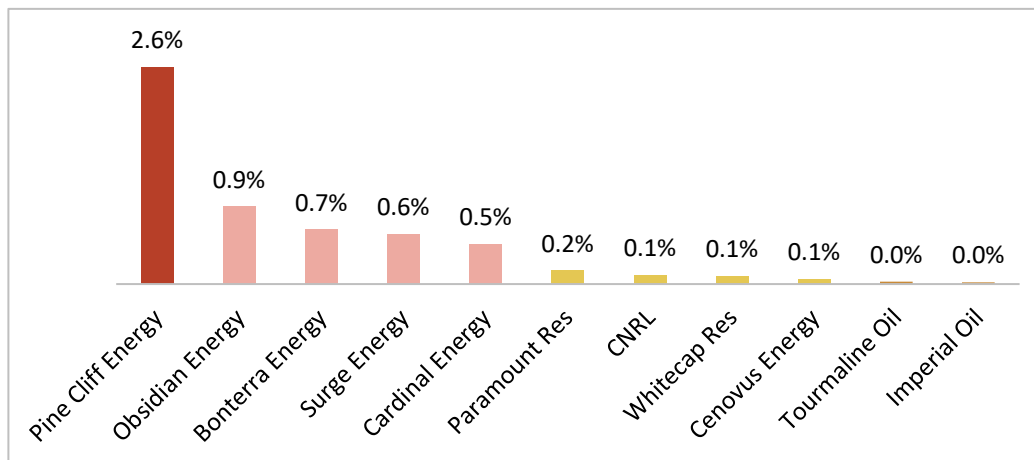
Source: Estimates the amount of oil and gas production from company reported proved and probable reserves with a majority of proved and partial probable reserves developed for 20 years.³³

Pine Cliff's asset-buying spree requires the support of the taxpayer if things go badly. It should not be a surprise that Pine Cliff has asked for one of the largest taxpayer bailouts to help the company abandon and reclaim their non-producing wells (Figure 5). Similar distressed companies analysed by IEEFA received taxpayer-funded payouts by the government to address AROs in 2021-22. For many companies, the payouts were less than 1% of their market value; Pine Cliff, however, will receive a payout of 2.6% of its market value (Figure 5). Essentially, the taxpayer will provide Pine Cliff with a 2.6% dividend to pay down its AROs.

³² Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy, *op. cit.*

³³ Analysis assumes 20% corporate decline on existing production and a 20-well development program. Analysis assumes a \$77.44 average oil price per barrel over 20 years. Dividend assumption is 6% if the company can afford to pay such a dividend from free cash flow. Priority of pay-out from free cash flow is debt, AROs, dividend in that order.

Figure 5: Alberta Site Rehabilitation Funding From Government in 2021/2022 as a Share of Market Value of Company^{34,35}



Source: Estimates derive market value from March 4, 2022, using public market data.

Alberta taxpayers are now bailing out Hodge and Fink, CEOs with annual salaries of more than \$400,000. While Hodge looks to the taxpayer to help manage Pine Cliff's AROs, Fink's Bonterra Energy was faced with fighting a hostile bid from a company looking to reduce its own relative ARO burden by leveraging Bonterra Energy's free cash flow: Obsidian Energy.

B. Obsidian Energy (OBE.TO) and Bonterra Energy (BNE.TO): A Hostile Bid to Reduce AROs

Obsidian Energy is associated one of the largest accounting frauds in the history of Canada's oil and gas industry. In 2017, Obsidian Energy (then called Penn West Petroleum) reached an \$8.5 million settlement with the U.S. Securities and Exchange Commission after misclassifying operating expenses as capital expenses to make the company look more profitable than it seemed.³⁶ While Obsidian Energy has moved on from its dark past with a name change, the company now faces new issues around ARO liabilities with much older wells requiring abandonment and reclamation.³⁷

Obsidian may not outwardly point to an ARO problem, but a recent hostile bid for Bonterra shed light on the ARO issue Obsidian will inevitably encounter. Obsidian recommended a bid for Bonterra to better align itself on its decommissioning liability strategy.³⁸ On the other hand, Bonterra warned against Obsidian's hostile

³⁴ Alberta Government. [Alberta Site Rehabilitation Program Period 5 Eligible Licensee and Allocation Eligibility Amounts](#). March 2021.

³⁵ Alberta Government. [Site rehabilitation program](#). January 2022.

³⁶ Reuters. [Two ex-Penn West executives must face U.S. SEC fraud charges](#). June 2018.

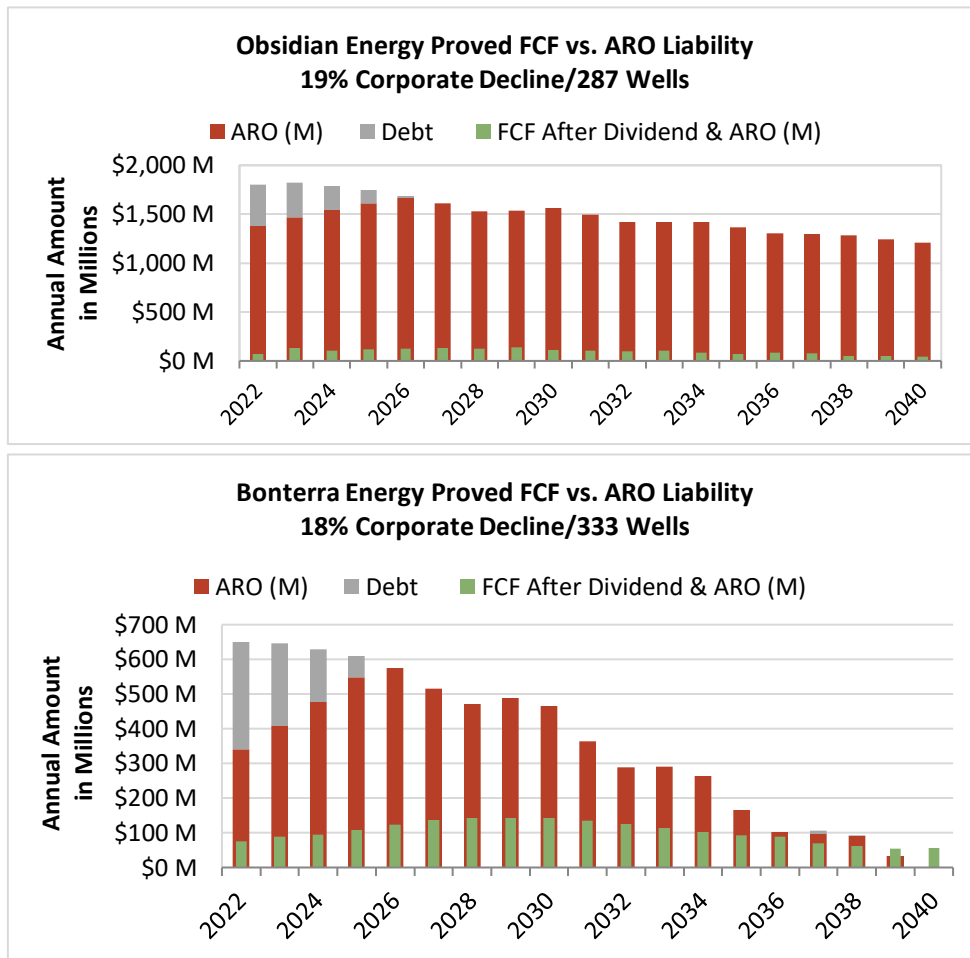
³⁷ Petro Ninja. [Filter Obsidian Energy](#). February 2022.

³⁸ Obsidian Energy. [Obsidian Energy Announces Intention to Launch Exchange Offer for Bonterra Energy](#). September 2020.

bid because of Obsidian's relatively large decommissioning liabilities that put Bonterra at a disadvantage in reducing AROs.³⁹

IEEFA's analysis of both companies make it clear that a strategic reasoning for Obsidian acquiring Bonterra would be to greatly increase free cash flow for Obsidian to reduce the relative size of its AROs (Figure 6). Based on its own estimates, Obsidian has quite the mountain to climb to reduce its ARO liability.

Figure 6: Obsidian Hostile Bid for Bonterra Focused on AROs⁴⁰



Source: Estimates the amount of oil and gas production from company reported proved and probable reserves with a majority of proved and partial probable reserves developed for 20 years.⁴¹

³⁹ Bonterra Energy. [Bonterra Energy Shareholders: Reject the Hostile Bid](#). October 2020.

⁴⁰ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy. *op. cit.*

⁴¹ Analysis assumes 20% corporate decline on existing production and a 20-well development program. Analysis assumes a \$77.44 average oil price per barrel over 20 years. Dividend assumption is 6% if the company can afford to pay such a dividend from free cash flow. Priority of pay-out from free cash flow is debt, AROs, dividend in that order.

It is clear that Obsidian would need to substantially increase borrowing from banks to fully reduce its AROs over the next 20 years. For Obsidian, a syndicate of banks including RBC, Scotia Bank, BMO, CIBC, and National Bank remain the large banking institutions providing the company with \$367 million in credit.⁴² As oil and gas companies focus more on reducing AROs in the future, the syndicated credit facility may be tapped, and the banks may never fully recover money loaned to Obsidian.

RBC, Scotia Bank, BMO, CIBC, and National Bank would be advised to substantially reduce credit provided to Obsidian, either through encouraging immediate payback of its credit facility or requiring the company to pay down AROs instead of paying dividends or providing share buybacks for shareholders. The strategies would result in the syndicate of banks reducing its exposure risk to Obsidian AROs; however, the banks might still suffer losses on credit provided to Obsidian Energy.

Although IEEFA's analysis uses estimates and actual numbers reported by companies, there is a glaring issue when digging into the types of wells that are abandoned and wells that are active or suspended. So far, the wells that Obsidian has plugged and abandoned have been relatively shallow, with only 10% of wells reaching deeper than 2,000 meters. But about 50% of Obsidian's active wells are drilled over 2,000 meters, even though other well characteristics are similar.⁴³ This raises the troubling possibility that Obsidian has understated the cost of plugging and abandoning its remaining wells.

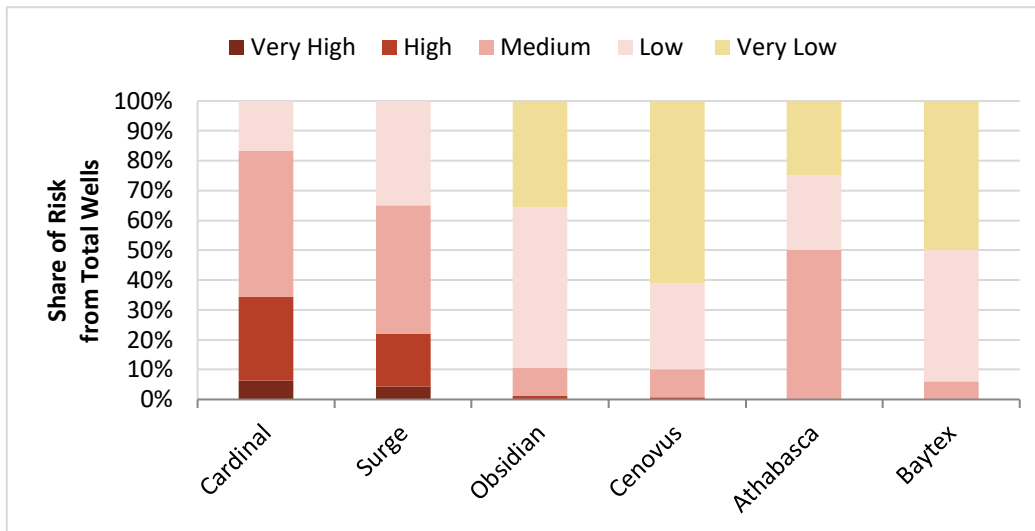
C. Surge Energy (SGY.TO) and Cardinal Energy (CJ.TO): Saving the Worst Wells for Last Abandonment

Factors such as drilled depth can increase the operational and financial difficulty of well abandonment across a portfolio of AROs. Two companies analyzed by IEEFA, Cardinal Energy and Surge Energy, pose greater ARO risks by deferring the abandonment of challenging wells (Figure 7). A larger share of wells classified in the AROs of Cardinal and Surge are considered operationally and financially high- to very high-risk to abandon. These are older and deep wells with overdue surface work that may accompany gas leaking or migration from the well.

⁴² SEC Filings. [Form 6-K Obsidian Energy](#). February 2022.

⁴³ Petro Ninja. [Obsidian Energy Total Wells Table](#). February 2022.

Figure 7: Well Abandonment Risk Level of Cost Overruns⁴⁴



Source: Updated well information from the AER processed through enSift data software.

A larger share of Cardinal Energy's wells is observed to have some type of leakage issue, defined as an observed surface casing vent flow (SCVF).⁴⁵ About 15% of Cardinal's active and suspended wells have observations of SCVF—almost three times the prevalence of SCVF observed from Obsidian Energy's wells.⁴⁶ An area of high-risk wells for Surge Energy falls in the Hotchkiss field north of Grand Prairie, Alberta. Some of Surge's very high-risk wells with SCVF observed have been inactive for roughly 20 years but have not yet been plugged.⁴⁷ While Surge Energy reports about 4% of active and suspended wells observed with SCVF, 19% of wells in the Hotchkiss field have SCVF present.

These are just a few examples of how the risk of older deep wells with leaking issues can gradually develop into much larger problems if left unaddressed. For companies to avoid those costly high-risk wells, they can defer abandonment and focus on younger and shallow lower-risk wells that would likely already comply with updated drilling and completion regulations. The problem is the deferral of high-risk well abandonment can create even higher-risk wells that cost multiples of their previous estimates.

It is clear that the strategy of abandoning lower-cost wells first gives companies like Cardinal Energy and Surge Energy the impression of environmental responsibility. Cardinal and Surge abandoned a combined 471 wells in 2021, which is 7% of the producing and non-producing well inventory of both companies at the end of 2020 (Figure 8). However, digging deeper, the average cost per abandoned well (including facilities and pipelines) is 50% lower than the stated ARO cost per well reported in their financial statements at the end of 2020 (Figure 8). This suggests

⁴⁴ EnSift SGI. March 2022.

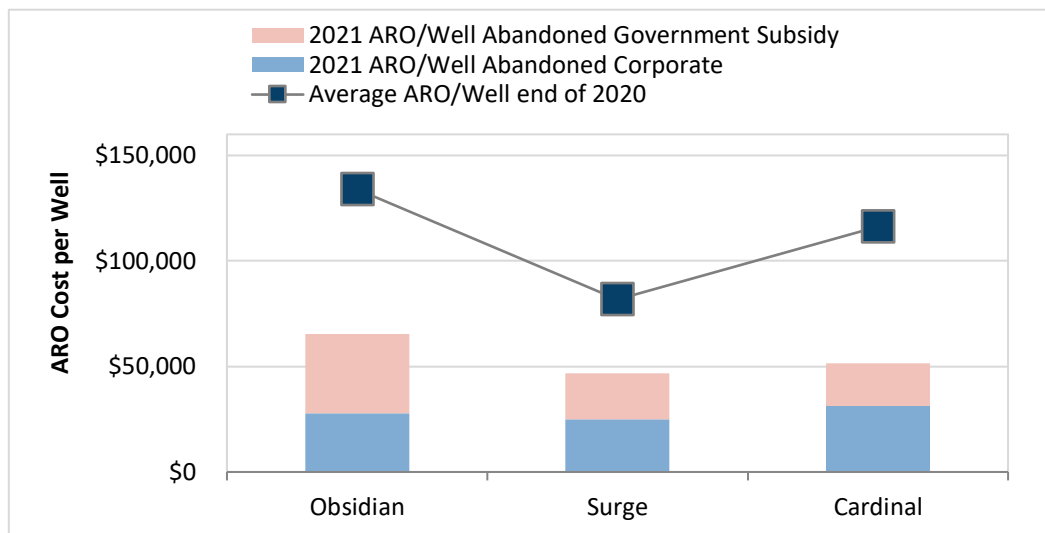
⁴⁵ Petro Ninja. [Cardinal Energy Total Wells Table](#). February 2022.

⁴⁶ Petro Ninja, *op. cit.*

⁴⁷ Petro Ninja, *op. cit.*

that both Surge and Cardinal are first abandoning cheaper wells to show progress in well abandonment, while leaving the higher-cost wells for future abandonment.

Figure 8: 2021 ARO Abandonment Costs vs. Average Abandonment Cost per Well ^{48,49,50,51,52,53}



Source: Using ARO undiscounted and uninflated in end of 2020 from Year-End Financials and the current decommissioning spending for 2021 including government subsidies for Year-End 2021.

Accompanying this strategy of showing progress in abandonment of wells, Cardinal, Surge, and Obsidian are not doing this work by themselves. Like many oil and gas producers in Alberta, the companies are aided by taxpayers through a government subsidy that pays for the abandonment of the wells (Figure 8). Using Obsidian, Cardinal, and Surge as an example, almost \$42 million was spent to abandon oil and gas wells in 2021; half, or \$21 million, came from taxpayers (Figure 8).

This means creditors or taxpayers will likely be burdened by oil and gas companies' strategy of deferring abandonment of high-risk wells. In an increasingly uncertain future for oil and gas in Canada, leaving the abandonment of highly complex and expensive wells to a future date should scare creditors and taxpayers alike. Creditors need to use risk profiles of wells in AROs to identify how much risk they are taking on by allowing companies like Cardinal and Surge to leave higher-risk non-producing wells plugged but unabandoned. Creditors can accomplish this by

⁴⁸ Cardinal Energy. [CARDINAL ENERGY LTD. ANNOUNCES FOURTH QUARTER 2021 AND YEAR-END FINANCIAL RESULTS](#). March 2022, p. 44.

⁴⁹ Cardinal Energy. [2021 Financial Statements Decommissioning Obligations](#). March 2022, p. 22.

⁵⁰ Surge Energy. [SURGE ENERGY INC. ANNOUNCES 2021 FOURTH QUARTER AND YEAR-END FINANCIAL AND OPERATING RESULTS, AND 2021 YEAR-END RESERVES](#). March 2022.

⁵¹ Surge Energy. [2021 Financial Statements Decommissioning Obligations](#). March 2022, p. 28.

⁵² Obsidian Energy. [Obsidian Energy Announces Fourth Quarter and Full Year 2021 Results](#). February 2022.

⁵³ Obsidian Energy. [2021 Financial Statements Decommissioning Obligations](#). February 2022, p. 29.

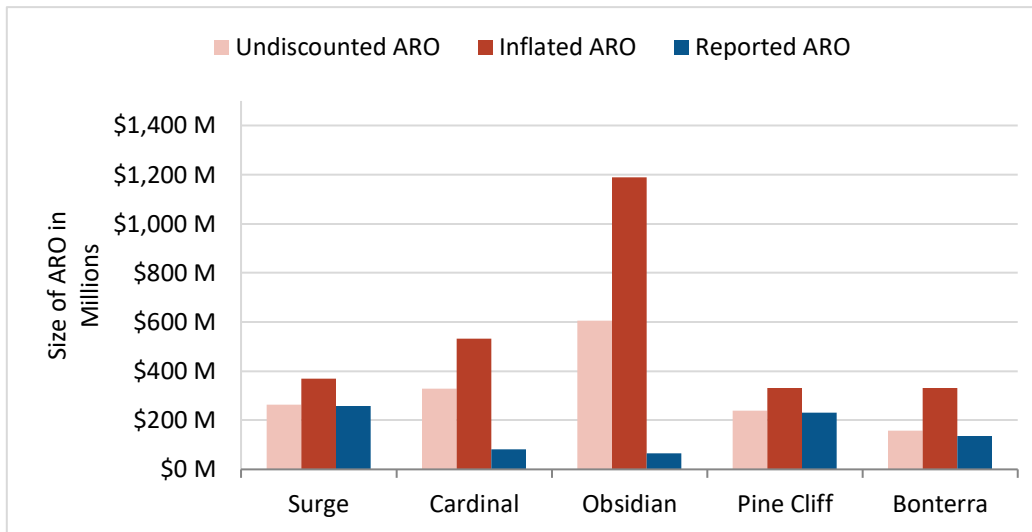
requiring companies abandon higher-risk wells through covenants. These covenants can be tied to a risk rating for each well in the portfolio of AROs that a company owns and is required to abandon. Alternatively, a simpler solution for creditors is to reduce and/or refrain from lending money to companies that fail to reduce their inventory of higher-risk wells through abandonment. This would also encourage companies to better manage the risk level of the wells in their AROs by either abandoning these wells or selling them off and removing them from their balance sheet if the AER allows for a transfer.

From a market perspective, it is easier for creditors to reduce their risk with companies that defer high-risk well abandonment. For the taxpayer who is already funding the abandonment of wells on behalf of oil and gas companies, time is the enemy and will likely result in the taxpayer funding deferred higher-risk well abandonment. It is an unfortunate reality that government will move slower than the private sector to reduce its risk to AROs. However, creditors can act as a savior for the taxpayer, provided that oil and gas companies do not tap the taxpayer for increased ARO payments through subsidies. If creditors can encourage a strategy of increasing the abandonment and reclamation of higher-risk wells by oil and gas companies, they may be able to save taxpayers the burden of abandoning costly wells in the future. Creditors would be wise to pressure oil and gas companies such as Cardinal and Surge to defer any planned dividends or share buybacks to focus on managing debt and reducing the long-term credit risk posed by AROs.

III. The Situation May Be Even Worse Than It Appears: The Mystifying Reporting Methods of AROs Obscure the Risk

The reporting of oil and gas AROs has been varied due to the limited regulation and transparency of the liabilities. Estimates reported by companies on their balance sheet compared to actual liabilities vary from \$100 million to more than \$1 billion. Companies primarily manipulate these reported values using varied discount and inflation rates. For example, accounting practices have allowed Obsidian Energy to discount its liabilities at 9% and inflate the same liabilities by 2%. Aggressive discounting allowed Obsidian to turn almost \$1.2 billion in future costs into just \$65 million in ARO liabilities on their balance sheet (Figure 9).

Figure 9: Reported vs. Actual AROs - \$1.5 Billion Unaccounted⁵⁴



Source: Q3 2021 Decommissioning liabilities undiscounted/uninflated, inflated, and reported on the balance sheet numbers.

Unlike reported reserve numbers and values found in annual information forms (AIF), ARO data is not as transparent. Additionally, oil and gas companies are quick to display drilling, completion, tie-in, and operating costs, but fail to report the input costs of closing wells and the estimated life of wells. As a result, investors lack the information they need to corroborate the company's reported ARO liabilities.

Estimating the cost of AROs has remained unregulated and opaque for years, leading to company management finding shortcuts to estimate AROs. Shortcuts include using the Licensee Liability Rating (LLR) program estimates of liabilities to

⁵⁴ Cardinal Energy, Surge Energy, Obsidian Energy, Bonterra Energy, Pine Cliff Energy, Gear Energy, Razor Energy, Journey Energy, InPlay Oil and Gas, Perpetual Energy, *op. cit.*

determine AROs.⁵⁵ The AER uses the LLR program to fairly allocate levy payments; the program was never intended to estimate full decommissioning costs, including pipeline and remediation costs.⁵⁶ To solve this issue, companies use historical costs to estimate AROs. The costs, however, tend to reflect lower-cost wells for closure that are then extrapolated to all wells in the companies' portfolio.⁵⁷

The variations in determining AROs provide an opaque setting for which creditors, investors, and even acquirers should be concerned with when assessing true ARO costs. Overturning the *Redwater* case ruling in 2019 led to further challenges for creditors, especially when considering underreported AROs.

In the wake of the 2019 *Redwater* decision, prior to the ruling, the AER would have had the right to all proceeds from the sale of assets of Redwater Energy.⁵⁸ Redwater's creditor, ATB Financial, would have been left with nothing from its \$5.1 million loan to the company. An additional \$553,000 would have been needed to subsidize costs for Alberta's orphan well program (OWA).⁵⁹ In the instance of *Redwater*, the company underreported AROs by \$1.6 million, leading to a 52% increase in decommissioning liabilities, which would have resulted in a complete wipeout for creditors.^{60,61}

Similarly, before the overturning of the *Redwater* case, Forent Energy had reported \$5.1 million in AROs in September 2016 with \$8 million in debt owed.⁶² When the company entered receivership, it was deemed that its AROs were 35% higher than reported and that it would not be covered by the company's total asset value of \$6.4 million.^{63, 64} If Forent's insolvency had taken place today, after *Redwater* decision, creditors would have been completely wiped out, even as Canadian taxpayers would need to cover \$530,000 in underfunded plugging and abandoning costs.

These cases are potential warnings of the effects that underreporting AROs can have on creditors, investors, and taxpayers. The examples are relatively small. Larger companies analysed by IEEFA hold billions of dollars of AROs, and their effects on creditors and taxpayers are much larger. When these AROs are passed on to the orphan well program, the OWA must tap taxpayers to cover new loans if the AROs are underfunded by future settlements. Current taxpayer-funded loans to the OWA

⁵⁵ BOE Report. [Highly Accurate 3rd Party ARO Estimates for Inclusion in Reserves Reporting](#). February 2020.

⁵⁶ BOE Report, *op. cit.*

⁵⁷ 360 Energy Liability Management. [Beyond the Fog Lies Clarity – The History, Perils, and Future of ARO Evaluation](#). October 2020.

⁵⁸ *Orphan Well Association v. Grant Thornton Ltd.*, 2019 SCC 5 (February 2018).

⁵⁹ *Ibid.*

⁶⁰ Sedar. Interim Financial Statements Q3 2014. [Interim financial statements/report – English](#). September 2014.

⁶¹ *Orphan Well Association v. Grant Thornton Ltd.*, *ibid.*

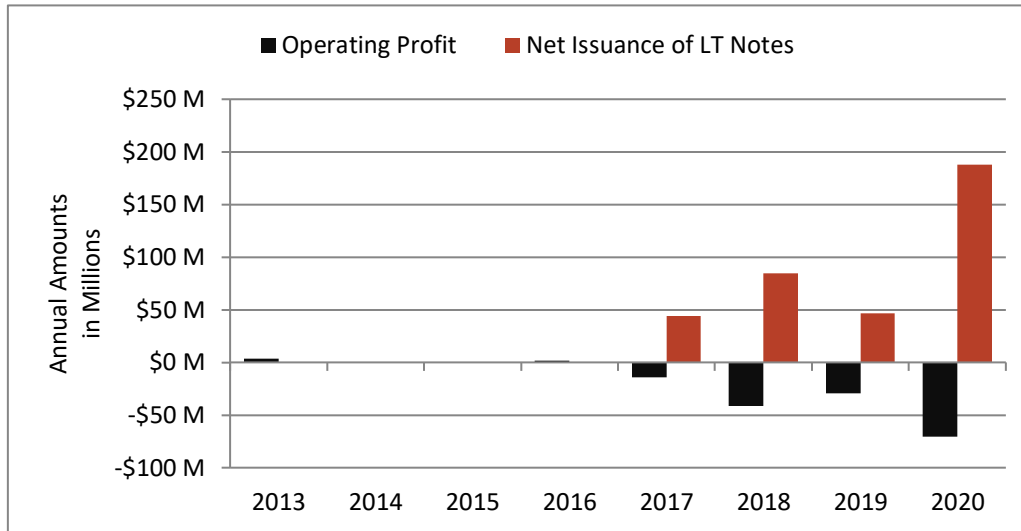
⁶² Sedar. Interim Financial Statements Q3 2016. [Interim financial statements/report – English](#). November 2016.

⁶³ BOE Report. [Receivership Sale: Grant Thornton Limited – Forent Energy Ltd](#). March 2018.

⁶⁴ Press Progress. [Money Man in UCP 'Kamikaze' Scheme Left Alberta With Over a Dozen Orphan Oil Wells and Millions in Clean-Up Costs](#). February 2020.

total \$363 million from 2017-20.⁶⁵ The loans, combined with continued operating losses by the OWA to keep pace with abandoning and reclaiming orphan wells, have put the future sustainability of the orphan well program in jeopardy (Figure 10). The increase in wells abandoned and reclaimed by the OWA are now predominantly funded through the taxpayer-provided loans to the OWA.⁶⁶

Figure 10: Unsustainability of the Orphan Well Program – Key Financials⁶⁷



Source: Operating Profit includes all costs before interest, bad debts, and other costs – Net Issuance of LT Notes includes the amount of notes issued in the stated year reported.

The financial unsustainability of the orphan well program suggests that more taxpayer-funded bailouts from the government of Canada and Alberta will be necessary.⁶⁸ If the OWA remains unsustainable and taxpayers pressure governments to withhold funding from the OWA, there is a possibility landowners will be stuck with dangerous liabilities, including unplugged and unremediated oil and gas wells on their property.⁶⁹

⁶⁵ Orphan Well Association. [Annual Reports](#). July 2021.

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

⁶⁸ 360 Energy Liability Management, *op. cit.*

⁶⁹ *Ibid.*

Conclusion

The \$72 billion decommissioning liability of oil and gas wells, pipelines, and facilities in Canada can be done immediately with current technology.^{70, 71} This is almost equivalent to the \$75 billion needed for oil sands producers to reach net-zero by 2050.⁷² The difference between the two numbers is that abandonment and reclamation of AROs remains measurable, directly affects taxpayers and financiers, and relies on current industry technologies.

While taxpayers are experiencing the brunt of ARO mismanagement, creditors to these oil and gas companies may be next in line to suffer. The overturning of the *Redwater* case ruling by the Supreme Court of Canada in 2019 ensured the AER was first in line to claim proceeds from a company's liquidation to fund outstanding abandonment and reclamation passed to the orphan well program. The reduced protection for creditors means they can no longer offload bad assets on the taxpayer without writing down their own debts first.

This is a dire warning for creditors to reign in credit provided to risky oil and gas companies, and to encourage better risk management of AROs. If creditors are unable or unwilling to deal with AROs now, credit facilities may suffer the inevitable cash drain that the Canadian taxpayer has experienced. Creditors need to take a leadership role in encouraging oil and gas companies to better manage AROs for their benefit and the benefit the Canadian taxpayer in the long run. If AROs continue to be pushed further down the road for abandonment and reclamation, creditors could suffer major write-downs on debt provided to oil and gas companies. Ultimately, the taxpayer will remain the bailout system for mismanaged decommissioning obligations that were in the hand of highly paid management teams that were unable to do their job: Managing assets, including AROs.

⁷⁰ University of Calgary, *op. cit.*

⁷¹ Xi Technologies, Inc, *op. cit.*

⁷² S&P Global, [Canada considers expanding support for CCUS](#). February 2022.

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