



# Job Creation or Job Loss?

Big Companies Use Tax Cut to  
Automate Away Jobs in the Oil Sands



| Ian Hussey

# Job Creation or Job Loss? Big Companies Use Tax Cut to Automate Away Jobs in the Oil Sands

**Ian Hussey**

This report was published by Parkland Institute.  
September 2022 © All rights reserved.

<b>Acknowledgements</b>	<b>iii</b>
<b>About the Author</b>	<b>iii</b>
<b>About Parkland Institute</b>	<b>iii</b>
<b>Executive Summary</b>	<b>1</b>
The Government's Own Analysis Shows the Tax Cut Would Not Work as Advertised	2
The UCP's Tax Giveaway for Fewer Jobs	3
CEO and Shareholder Pay	3
Boom-Time Capital Spending Levels Are Not Expected to Return	4
Automation Will Result in Further Job Losses	4
Recommendations	5
<b>1. Introduction</b>	<b>7</b>
<b>2. Alberta's Corporate Tax Giveaway</b>	<b>9</b>
Bold Predictions From the UCP's 2019 Election Platform	9
Timeline of the UCP's Bill 3, the So-Called Job Creation Tax Cut	10
The Government's Own Analysis Shows the Tax Cut Would Not Work as Advertised	10
How Much the Oil Sands Majors Are Saving Thanks to the Tax Giveaway	12
<b>3. The Oil Sands Majors' Finances, 2019-2021</b>	<b>14</b>
The Big Five's Key Economic Variables, 2019	14
The Big Five's Key Economic Variables, 2020	16
The Big Four's Key Economic Variables, 2021	18
<b>4. The Oil Sands Majors' Capital Spending, Dividends, and Employees, 2014-2021</b>	<b>23</b>
The Oil Sands Majors' Capital Spending and Shareholder Dividends, 2014-2021	23
Number of Employees at the Oil Sands Majors and Syncrude, 2014-2021	26
<b>5. Executive Compensation at the Oil Sands Majors, 2018-2021</b>	<b>29</b>
<b>6. Industry Trends in Spending and Employment</b>	<b>33</b>
Canadian Oil Industry Spending Trends, 2014-2021	33
Oil and Gas Employment Trends in Alberta and Canada, 2014-2021	34
Alberta Oil and Gas Industry Spending Forecast, 2022-2030	36
<b>7. Automation and Digitalization in the Oil and Gas Industry</b>	<b>38</b>
Automation and Digitalization in the Global Oil and Gas Industry	38
Automation and Digitalization in the Canadian Oil and Gas Industry	39
Automation, Digitalization, and Modularization in the Oil Sands Majors	42
<b>8. Conclusion: Albertans Own Our Resources; Let's Start Acting Like It</b>	<b>46</b>
<b>References</b>	<b>48</b>

All Parkland Institute reports  
are available free of charge at  
[parklandinstitute.ca](http://parklandinstitute.ca)  
Printed copies can be ordered for \$10.

Your financial support helps us continue to  
offer our publications free online.

To find out how you can support Parkland  
Institute, to order printed copies, or to obtain  
rights to copy this report, please contact us:

Parkland Institute  
University of Alberta  
1-12 Humanities Centre  
Edmonton, AB T6G 2E5

Phone: 780.492.8558  
Fax: 780.492.8738  
Email: [parkland@ualberta.ca](mailto:parkland@ualberta.ca)  
[parklandinstitute.ca](http://parklandinstitute.ca)

ISBN: 978-1-894949-88-0

---

## List of Tables and Figures

Table 1. Alberta's Tax Giveaway to the Oil Sands Majors, 2019-2022 (in C\$)	13
Table 2. The Big Five's Key Economic Variables, 2019 (dollar amounts in C\$ millions)	14
Table 3. The Big Five's Key Economic Variables, 2020 (dollar amounts in C\$ millions)	16
Table 4. The Big Four's Key Economic Variables, 2021 (dollar amounts in C\$ millions)	19
Table 5. The Oil Sands Majors' Capital Expenditures, 2014-2021 (in C\$ millions)	23
Figure 1. Total Capital Spending of the Oil Sands Majors, 2014-2021 (in C\$ millions)	24
Table 6. The Oil Sands Majors' Dividends Paid to Shareholders, 2014-2021 (in C\$ millions)	25
Figure 2. Total Dividends Paid to Shareholders by the Oil Sands Majors, 2014-2021 (in C\$ millions)	26
Table 7. Number of Employees at the Oil Sands Majors and Syncrude, 2014-2021	27
Figure 3. Total Number of Employees at the Oil Sands Majors and Syncrude, 2014-2021	27
Table 8. Total Compensation of the Big Five's Top-Paid Executives, 2018 (in C\$)	29
Table 9. Total Compensation of the Big Five's Top-Paid Executives, 2019 (in C\$)	29
Table 10. Total Compensation of the Big Four's Top-Paid Executives, 2020 (in C\$)	30
Table 11. Total Compensation of the Big Four's Top-Paid Executives, 2021 (in C\$)	31
Table 12. The Canadian Oil Industry's Capital and Operational Expenditures, 2014-2020 (in C\$ millions)	33
Table 13. Total Oil and Gas Employment in Alberta and Canada, 2014-2021	35
Figure 4. Total Oil and Gas Employment in Alberta and Canada, 2014-2021	35
Table 14. Alberta Oil Sands and Crude Oil and Natural Gas Capital Expenditures, 2021-2030 (in C\$ billions)	37
Table 15. Use of Various Digital Technologies by Surveyed Companies	38
Table 16. Forecast of Canadian Exploration, Production, and Oil Sands Jobs to be Automated Away by 2040	41

---

## Acknowledgements

Parkland Institute is grateful for Unifor National's financial support of this report. The Alberta Federation of Labour obtained the 2019 and 2021 freedom of information files analyzed in this report pertaining to the reduction of the corporate income tax rate by the United Conservative government.

## About the Author

Ian Hussey began his work as a research manager at the University of Alberta's Parkland Institute in 2014, and he earned a career appointment in 2019. He is a steering committee member of the Corporate Mapping Project, a seven-year initiative supported by the Social Science and Humanities Research Council of Canada (SSHRC) and focused on the oil, gas, and coal industries in Western Canada (2015-2022). Ian is the author of "The Future of Alberta's Oil Sands Industry: More Production, Less Capital, Fewer Jobs" (Parkland Institute, 2020), and the co-author with Emma Jackson of "Alberta's Coal Phase-Out: A Just Transition?" (Parkland Institute, 2019). Twitter: @IanHussey12.



## About Parkland Institute

Parkland Institute is an Alberta research network that examines public policy issues. Based in the Faculty of Arts at the University of Alberta, it includes members from most of Alberta's academic institutions as well as other organizations involved in public policy research. Parkland Institute was founded in 1996 and its mandate is to:

- conduct research on economic, social, cultural and political issues facing Albertans and Canadians
- publish research and provide informed comment on current policy issues to the media and the public
- sponsor conferences and public forums on issues facing Albertans
- bring together academic and non-academic communities

All Parkland Institute reports are academically peer reviewed to ensure the integrity and accuracy of the research.

For more information, visit [www.parklandinstitute.ca](http://www.parklandinstitute.ca)

## Executive Summary

*The tax cut was sold as a way to create jobs and boost the economy, but that is not what happened.*

---

Significant restructuring and consolidation of the Alberta oil sands industry have occurred since the 2014 global oil price crash. Four companies now dominate oil sands production in the province: Suncor Energy, Canadian Natural Resources Limited (CNRL), Cenovus Energy, and Imperial Oil. Until 2020, the group of oil sands majors — then known as the “Big Five” — also included Husky Energy. After the January 2021 merger of Cenovus and Husky, this oligarchical bloc became the Big Four. The Big Four operate 86% of bitumen production (almost 3.5 million barrels a day). As vertically integrated corporations, the Big Four also own substantial refining and upgrading facilities, and three of the four companies own gas stations.

This report explains how the Big Four are leading the push to automate away even more jobs in the coming years. Yet, these large companies are also among the biggest beneficiaries of the United Conservative Party (UCP) government’s corporate tax cut from 12% in mid-2019 to 8% in mid-2020. The tax cut was sold as a way to create jobs and boost the economy, but that is not what happened. The research shows the Big Four used the tax giveaway to increase executives’ pay and boost cash transfers to shareholders while accelerating automation and cutting jobs.

The Alberta oil and gas industry employed 25,788 fewer workers in 2021 than in 2014 (a 15.5% reduction), with the oil sands majors responsible for 4,039 of these job cuts. In addition to this total, many contractors of the oil sands majors were also terminated. A total of 3,452 jobs — more than 85% of the oil sands majors’ employee terminations — were cut after 2019, the year the UCP gave these companies a tax cut that would amount to a \$4.3 billion between 2019 and 2022.

There are two interconnected reasons for these job cuts. First, many of them were the result of decreasing capital spending. Spending is down because of a prolonged period of low oil prices (2015-2020) and because of recent price unpredictability linked to the pandemic and to the Russian invasion of Ukraine. In addition, in 2018 the oil sands industry entered the mature phase of its business life cycle (launch, growth, maturity, and renewal or decline).

Second, and related to decreased capital spending, is the reality that as the oil sands industry has matured, it has increased automation, digitalization, and the use of modular facility designs. These technology and design trends mean fewer engineering, construction, operational, and back-office jobs are now needed to produce increasing volumes of oil.

A decade-long trend of increasing automation was accelerated after the 2014 oil price crash, and this report shows the spread of COVID-19 in 2020 has further accelerated these troubling trends, particularly the digitalization of the Big Four's oilfield and back-office operations.

Accelerating oil sands automation is happening in the global context of the climate emergency largely caused by the burning of fossil fuels. Leading oil sands companies are speeding up automation to lower production costs by cutting jobs because they will soon be competing in a shrinking market, as the peak of global oil demand is likely to occur in the next five years.

The negative trends of accelerating automation and job cuts mean the Alberta government should reverse its corporate tax giveaway and instead use public funds to support workers and communities traditionally reliant on the oil sands for employment and investment. There is an immediate need for Alberta and Canada to develop and implement long-term sustainable economy programs for workers and communities to secure future prosperity.

### ***The Government's Own Analysis Shows the Tax Cut Would Not Work as Advertised***

The top commitment in the United Conservative Party's 2019 election platform was a tax giveaway for large profitable corporations, which the UCP advertised as a "job creation plan." The UCP won a majority government and implemented the tax cut more than twice as fast as promised in the election and subsequently legislated.

The UCP government received expert advice from Alberta Treasury Branch and Finance economists before implementing the tax cut that said the plan would not work as advertised in the party's election platform — but they ignored the advice.

The expert advice, in short, was that predicting the effects of decreasing the corporate income tax rate is difficult to do with accuracy. Further, predictions are less likely to be reliable when the tax decrease is large (such as a 33% tax cut) and the tax rate drops well below historical ranges (such as 20% below the Alberta rate for 2006-2015 of 10%).

A key consideration provided to the future United Conservative Minister of Finance Travis Toews was: "Corporations have the ability to carry forward their losses, which reduces corporate income tax collections in future years, or carry them backwards, which allows corporations to recover taxes paid up to three years prior" (FOIP #: TBF-2019-G-0090, 31).

Like other large companies, the oil sands majors use this element of tax law to reduce their tax expenses. In fact, all five oil companies received a

net recovery of tax funds in 2019 (\$2.6 billion as a group) and 2020 (\$6.6 billion). This means that, for two years in a row, the five big oil sands producers received more money through the tax system than they paid in.

In 2021, the Big Four paid net income tax expenses of \$5.2 billion. In sum, for 2019 through 2021, the big oil sands producers received \$4 billion more from the tax system than they paid in.

### ***The UCP's Tax Giveaway for Fewer Jobs***

The oil sands majors have all terminated employees since getting a tax handout from the UCP in 2019. Suncor (including Syncrude) cut 1,182 employees after 2019, CNRL cut 445, Imperial cut 600, and Cenovus (including Husky) cut 1,225. In total, the oil sand majors cut 3,452 employees after 2019.

Most of the job cuts after 2019 are because of automation and the Cenovus/Husky business combination. The group had fewer employees in 2020 during the height of the pandemic, but what should concern the United Conservative government and all Albertans is that the bloc of large producers cut 2,298 employees in 2021 when oil prices were climbing.

Oil and gas employment in Alberta was 142,012 jobs in June 2019, the month before the UCP's corporate tax cuts began. The Alberta industry cut 10,968 jobs by February 2020, the month before COVID-19 was declared a global pandemic. At the end of 2021, the Alberta industry employed 139,004 workers; that is 3,008 fewer jobs than before the UCP's tax cut began.

### ***CEO and Shareholder Pay***

While the oil sands majors have been cutting jobs on the frontlines, CEOs and shareholders have remained very well compensated. The 2021 average CEO pay for the four firms was about \$12.8 million. The average pay increase in 2021 was \$3.3 million.

The CEO pay at three of the four companies went up in 2020 despite all four businesses recording large net losses due to the pandemic. The compensation of CNRL's Murray Edwards went up by \$750,000, Cenovus' Alexander Pourbaix's pay increased by \$465,000, and Imperial Oil's Bradley Corson received a raise of almost \$1 million. Suncor's board decided to reduce salaries for themselves and executives, including a \$285,000 cut to CEO Mark Little's base salary.

For two years in a row, the Big Five's shareholders were paid more than double what the companies paid to governments in royalties and income tax.

*While the oil sands majors have been cutting jobs on the frontlines, CEOs and shareholders have remained very well compensated.*

---

In 2019, the group paid its shareholders \$10.4 billion, paid royalties of \$4.2 billion, and had net income tax recoveries of \$2.6 billion. In 2020, the group paid its shareholders \$5.5 billion, paid royalties of \$1.9 billion, and had net income tax recoveries of \$6.6 billion.

In 2021, the Big Four paid their shareholders \$10.9 billion, while paying royalties of \$7.9 billion and net income tax expenses of \$5.2 billion.

### ***Boom-Time Capital Spending Levels Are Not Expected to Return***

The combined capital spending (CapEx) of the Alberta oil sands, crude oil, and natural gas industries peaked in 2014 at \$60.6 billion (\$33.9 oil sands; \$26.7 crude oil and natural gas). A 2022 forecast from the Alberta Energy Regulator (AER) indicates oil sands CapEx will be about 40% of the 2014 peak throughout the 2020s. For the crude oil and natural gas industries, the AER expects CapEx to be 65-70% of the 2014 peak throughout the 2020s.

The oil sands majors' CapEx peaked in 2014 at \$31.7 billion. The group's CapEx was down \$12.7 billion (40%) in 2019, \$21.4 billion (67%) in 2020, and \$18.7 billion (59%) in 2021. No new oil sands mining megaprojects are being developed or proposed. The UCP's tax giveaway has not changed that fact.

Going forward, oil sands producers as members of a mature industry are expected to deepen efficiency gains through automation and digitalization. Automation is a broad term that includes advanced machinery, such as driverless haul trucks in oil sands mines. Automation can also be understood to include digitalization. I listed "digitalization" alongside "automation" because it is also a broad term that includes many advanced computing technologies, such as cloud computing, artificial intelligence, machine learning, and sensors to generate huge amounts of data across a company's operations.

### ***Automation Will Result in Further Job Losses***

The Alberta oil and gas industry employed 25,788 fewer workers in 2021 than in 2014 (a 15.5% reduction). Nationally, industry employment dropped by 41,336 (18.3%) in this period. These jobs are probably not coming back, and more job losses are expected because of accelerating automation.

Automation and digitalization are widespread in the oil and gas industry in Canada and around the world. An August 2020 forecast from Ernst & Young and Petroleum Labour Market Information indicates automation and digitalization may result in 46,108 job losses in the Canadian upstream oil and gas sector by 2040, or 54.4% of the upstream jobs that existed in 2019.



Exploration, production, and oil sands jobs are included in the upstream sector.

More than 40% of the jobs in ten of the 14 job-family categories could be eliminated by 2040. Equipment operators, drilling operations, and trades are the three job families that are expected to have the highest percentage of job cuts. Heavy equipment operators, drilling and service labourers, and machinists are among the specific types of workers that are anticipated to be most impacted by automation and digitalization by 2040.

### **Recommendations**

Corporate tax giveaways do not work; the United Conservative's term in office has proved it. Our government needs to be held to account so they stop lining the pockets of their corporate buddies while working families struggle to make ends meet and public services go under-resourced. Instead of handing more than a billion dollars a year in public funds to four profitable oil companies, the Government of Alberta could have hired more than 10,000 nurses, emergency medical responders, teachers, and educational assistants.

*We give oil and gas companies access to our bitumen, conventional oil, and natural gas with the expectation that they will create jobs and invest in our economy, not cut jobs and capital spending by investing in automation.*

---

The Government of Alberta needs to start acting on behalf of Albertans as the owners of our natural resources. We give oil and gas companies access to our bitumen, conventional oil, and natural gas with the expectation that they will create jobs and invest in our economy, not cut jobs and capital spending by investing in automation. Since this has been the industry's approach to business for several years, the provincial government needs to consider other ways for Albertans to fairly benefit from our natural resources, including higher corporate taxes and royalty rates.

Besides Alberta, the other three western Canadian provinces have corporate tax rates of 12%. Alberta should align with its western peers and return to a 12% tax on the profits of large corporations.

Alberta's oil sands royalty rates are generous in several respects. Changes are required so Albertans can start receiving a fair share of our resource wealth. For example, in the post-payout period of an oil sands project, the royalty rate only rises to 40% of the project's net revenues when West Texas Intermediate is at \$120 a barrel. Albertans, as the resource owners, should earn at least 50% of net revenues when oil prices are high. The Government of Alberta should also consider lowering to \$90 the price threshold for when the maximum royalty rate applies.

It is also recommended that the Government of Canada ensure a fairer deal for all Canadians by joining its peers in the United Kingdom, Spain, and Italy in imposing a temporary windfall tax on the excess profits of large

corporations in certain sectors, such as oil and gas, utilities, and banking, during periods of high commodity prices. The proceeds from the tax on excess profits could go toward supporting households struggling with the surging cost of living.

## 1. Introduction

“Who knows? This may be our last energy boom. We should act accordingly.”

Premier Jason Kenney (March 11, 2022, The Canadian Press)

Jason Kenney’s United Conservative Party (UCP) rode a wave of populist anger to victory in the 2019 Alberta election. There was a lot of bluster during the election about the consumer carbon tax, but the top priority listed in the UCP’s election platform was a job creation plan and the backbone of the plan was a so-called “Job Creation Tax Cut.” This report is about that tax handout to big businesses and the reasons why it will not bring back the more than 25,000 oil and gas jobs that the Alberta industry has cut since 2014.

Premier Kenney’s assertion in the epigraph goes to the heart of the matter, though his word choice is imprecise. We may be living in Alberta’s last *oil price* boom, but we are also on the cusp of *energy* booms in wind, solar, hydrogen, and critical minerals. It is unfortunate for all Albertans, particularly energy and construction workers, that the United Conservative government has given away billions of public dollars to big oil companies and their wealthy shareholders at the expense of securing our future energy economy and jobs.

The current oil price boom has nothing to do with the UCP, of course. Global oil prices are high because Russia invaded Ukraine, and because some OPEC members are having difficulties ramping up output after the pandemic-induced curtailment of production. Global oil demand has only partially recovered from the lows of 2020, though US demand for Alberta oil is hovering around record levels (OSM 2022c).

The high global prices and strong US demand are great news for the Alberta oil industry and its shareholders, who are raking in record amounts of cash. On the other hand, ordinary Albertans are struggling to pay inflated gasoline, grocery, natural gas, and insurance prices caused in part by excess corporate profits (Cochrane 2022; MacDonald 2022).

A recent forecast indicates that “Canadian oil patch revenue could hit C\$225.4 billion [in 2022] — up 46 per cent from last year and up 56 per cent from 2014, the year of the last oil boom” (Bloomberg 2022a). Much of my report focuses on the oligarchical bloc of four oil companies that operate 86% of oil sands production and are making the majority of total oil patch revenue. The “Big Four” are Suncor, CNRL, Cenovus, and Imperial Oil (this list shrunk from what was previously known as the “Big Five” in January 2021, when Cenovus and Husky merged).

*The provincial government needs to consider other ways for Albertans to fairly benefit from our natural resources, including higher corporate taxes and royalty rates.*

---

My report has six analytic sections and a concluding section based on the research results. Section 2 is on the UCP's corporate tax giveaway and includes details of an Alberta Treasury Branch and Finance briefing note obtained through a Freedom of Information and Protection of Privacy (FOIP) request that shows the tax handout would not work as advertised in the UCP election platform. In fact, the UCP government received expert advice from Treasury Branch and Finance economists before implementing the tax cut that said it would not work – but they ignored the advice.

Section 3 is a deep dive into the Big Five's finances in 2019 and 2020, and the Big Four's finances in 2021. Section 4 scrutinizes the oil sands majors' capital spending, shareholder dividends, and number of employees from 2014 through 2021. Section 5 examines executive compensation at the oil sands majors from 2018 through 2021. Section 6 analyzes spending and employment trends in the broader Albertan and Canadian oil and gas industry from 2014 through 2021, and a 2022-2030 forecast for Alberta oil and gas industry spending by the Alberta Energy Regulator. Section 7 explores automation and digitalization in the oil and gas industry, including specific examples of technology investments and uses by the oil sands majors.

Section 8 concludes the report with a plea for the Government of Alberta to start acting on behalf of Albertans as the owners of our natural resources. We give oil and gas companies access to our bitumen, conventional oil, and natural gas with the expectation they will create jobs and invest in our economy, not cut jobs and capital spending by investing in automation. Since this has been the industry's approach to business for several years, the provincial government needs to consider other ways for Albertans to fairly benefit from our natural resources, including higher corporate taxes and royalty rates.

It is also recommended that the Government of Canada ensure a fairer deal for all Canadians by joining its peers in the United Kingdom, Spain, and Italy in imposing a temporary windfall tax on the excess profits of large corporations in certain sectors, such as oil and gas, utilities, and banking, during periods of high commodity prices. The proceeds from the tax on excess profits could go toward supporting households struggling with the surging cost of living.

## 2. Alberta's Corporate Tax Giveaway

This section examines the UCP's corporate tax giveaway, beginning with claims made in the party's 2019 election platform regarding the high levels of job creation and economic growth that the tax cut would supposedly spur on.

Second, I outline the timeline of the United Conservative government's Bill 3, the *Job Creation Tax Cut*, and the government's subsequent acceleration of the tax cut.

Third, I discuss two analyses by Alberta Treasury Board and Finance from April 2019 and July 2019 regarding corporate tax cuts. These government analyses were accessed through two FOIP requests.

Fourth, I present my research on how much money the oil sands majors are saving from the tax cut during the UCP government's 2019-2022 term in office.

### ***Bold Predictions From the UCP's 2019 Election Platform***

The UCP's 2019 election platform included a "job creation plan" (UCP 2019, 12). The backbone of the plan was enacting "a Job Creation Tax Cut that reduces the tax on job creators by 1/3 from 12% to 8% over four years" (ibid).

The UCP's job creation plan was their top commitment in the election. The plan to cut corporate taxes was supported by analysis by two economists, Dr. Jack Mintz and Dr. Bev Dahlby. The two economists are employed by the University of Calgary and affiliated with the U of C School of Public Policy. Mintz is a member of Imperial Oil's board of directors.

The UCP's platform states: "According to an analysis by leading economist Dr. Jack Mintz, the Job Creation Tax Cut will lead to the creation of at least 55,000 full-time private sector jobs" (ibid, 20).

The platform further declares that Dahlby predicts the tax cut will result in a "\$12.7 billion increase in nominal GDP" and a "6.5% increase in per capita real GDP" (ibid).

These bold predictions will be assessed later in this section using analysis from Alberta Treasury Board and Finance and some of my own research findings.

## ***Timeline of the UCP's Bill 3, the So-Called Job Creation Tax Cut***

The UCP won a majority government in the May 2019 Alberta election and quickly began to implement its platform. Bill 3 of the new government, the *Job Creation Tax Cut (Alberta Corporate Tax Amendment) Act*, became law on June 28, 2019 (GoA 2019b). The new law meant the provincial tax rate for large corporations would be cut from 12% to 8% in four stages over two and a half years.

As planned, the tax rate was reduced to 11% on July 1, 2019, and to 10% on January 1, 2020. However, in reaction to the onset of the COVID-19 pandemic, Premier Kenney's United Conservative government sped up the tax cut.

Alberta's corporate tax rate was lowered to 8% on July 1, 2020, more than twice as fast as originally legislated in Bill 3 (GoA 2020). The other three western Canadian provinces have 12% tax rates for large corporations. At 11.5%, Ontario has the next lowest provincial tax rate for large corporations in Canada (GoC 2022).

## ***The Government's Own Analysis Shows the Tax Cut Would not Work as Advertised***

During an election period, public servants can do research as part of their job and that research will not be shared with the minister(s) of the outgoing government. This process played out at Alberta Treasury Board and Finance in April 2019, during the election period that culminated in the UCP winning a majority government.

Anticipating that the UCP may form the next Government of Alberta, public servants at Alberta Treasury Board and Finance researched a briefing note dated April 2, 2019, and titled "Corporate Income Tax Responsiveness Literature Review: For Information" (FOIP #: TBF-2019-G-0090, 1-3). The purpose of the research is described in this passage: "There are several pathways identified in the literature through which changes in the corporate tax rate may affect the economy, and some key elements of the academic literature that are particularly relevant for Alberta are summarized below" (ibid, 1).

Some key findings from the briefing note are:

- "Studies of economic impacts of tax changes based on a non-Canadian, or even non-Albertan, data set are likely to be less representative of the experience Alberta will have in response to tax changes" (ibid, 2).

- “Studies that include Alberta as well as other provinces (notably Ferede and Dahlby 2012) show high levels of variation between provinces in their responsiveness to different tax changes” (ibid).
- “Calculated point semi-elasticities from historical data are reasonable estimates for the economic effects of tax changes near the historical range of observed tax rates” (ibid).
- “These semi-elasticities become increasingly unreliable for estimating the economic effects of tax changes the further tax rates are from their historical ranges” (ibid).
- “There may be unobserved discontinuities or non-linearities further from observed tax ranges that could make an economic projection of tax rate changes inaccurate” (ibid).

In short, predicting the effects of decreasing the corporate income tax rate is difficult to do with accuracy. Further, predictions are less likely to be reliable when the tax decrease is large (such as a 33% tax cut) and when dropping the tax rate well below historical ranges (such as 20% below the Alberta rate for 2006-2015 of 10%).

It is important to highlight that Alberta Treasury Board and Finance’s literature review emphasizes that predictions based on past examples from other Canadian provinces or other countries “are likely to be less representative of the experience Alberta will have” (ibid, 2). This research finding is relevant to Alberta’s current situation because the academic journal article mentioned (Ferede and Dahlby 2012) is based on British Columbia’s corporate tax cut in 2001.

The 2019 FOIP file also includes Alberta Treasury Board and Finance’s research dated April 12, 2019 and titled “Advice to the President of Treasury Board, Minister of Finance: Impact of a Corporate Income Tax Decrease, For Information” (FOIP #: TBF-2019-G-0090, 31-36). A key piece of advice for the future United Conservative Minister of Finance Travis Toews was: “Corporations have the ability to carry forward their losses, which reduces corporate income tax collections in future years, or carry them backwards, which allows corporations to recover taxes paid up to three years prior” (ibid, 31). In Section 3 below, we will see that the oil sands majors used this element of tax law to reduce their tax expenses in recent years and to receive a net recovery of tax funds in some years.

Now let’s examine a second analysis by Alberta Treasury Board and Finance from July 2019. The following “key facts” were provided to the then-new United Conservative Minister of Finance Travis Toews:

- “Government estimates that real GDP growth will be 0.3 to 0.4 percentage points higher each year between 2020 and 2023 due to the corporate tax cuts” (FOIP #: TF000-2021-G-31, 14).

- “In dollar figures, this means Alberta’s real GDP will be about \$5.7 billion higher by 2023 as a result of the Job Creation Tax Cut” (ibid).
- “This is a more conservative estimate than the University of Calgary’s School of Public Policy [provided by Jack Mintz and Bev Dahlby], which suggests the Job Creation Tax Cut could boost per capita GDP growth by 0.6 to 0.9 percentage points per year, and help create more than 55,000 jobs by 2022” (ibid).

In short, the Government of Alberta’s own analysis shows that the tax cut would not work as it was advertised in the UCP election platform, as Alberta Treasury Board and Finance economists estimated a real GDP growth that was less than half the size of Dahlby’s (\$5.7 billion compared to \$12.7 billion).

Alberta Treasury Board and Finance economists did not specify how different their analysis of the employment effects of the tax cut is compared to Mintz’s prediction. I can, however, quickly foreshadow some results of my own research that are discussed in depth later in this report:

- Jack Mintz is a member of the board of directors of Imperial Oil and owns shares in the company. Imperial cut 200 employees in 2020, and 400 more in 2021. Imperial paid shareholders almost \$3 billion in 2021 (a company record).
- The Alberta oil and gas industry employed 25,788 fewer workers in 2021 (140,240) compared to the 2014 peak (166,028).
- The UCP tax cut did not encourage the major oil sands producers to create more jobs. In fact, the Big Four are accelerating automation across their operations, cutting jobs, and paying shareholders record amounts of cash through dividends and share buybacks.

*The Government of Alberta’s own analysis shows that the tax cut would not work as it was advertised in the UCP election platform.*

---

Next, I present my research on how much money the major oil sands producers are saving from the tax cut during the UCP government’s 2019-2022 term in office.

### ***How Much the Oil Sands Majors Are Saving Thanks to the Tax Giveaway***

The oil sands majors are among the largest businesses in Alberta. Table 1 shows how much money they are saving in 2019-2022 thanks to the UCP’s corporate tax giveaway.



**Table 1.** Alberta's Tax Giveaway to the Oil Sands Majors, 2019-2022 (in C\$)

Company	Tax giveaway, 2019-2022
Suncor	\$1.116 billion
CNRL	\$1.618 billion
Imperial	\$662 million
Cenovus	\$671 million
Husky	\$233 million
Big Five total	\$4.3 billion

Note: The tax giveaway totals are not my calculations; the numbers are stated in the companies' annual reports.

Sources: The Big Five's 2020 annual reports; Suncor's 2021 annual report; CNRL's 2021 annual report; Imperial Oil's 2021 Form 10-K; Cenovus' 2021 annual report.

In total, the oil sands majors estimate they will save \$4.3 billion in 2019-2022 from the UCP's corporate tax cut.

Now that we know how much they are saving from the UCP's Bill 3, let's turn to an in-depth analysis of the companies' finances in 2019 through 2021.

### 3. The Oil Sands Majors' Finances, 2019-2021

This section examines the Big Five's key economic variables for 2019 and 2020, and the Big Four's key economic variables for 2021, including net profits, payments to shareholders, payments to government, capital spending, and number of employees.

We can see from the Big Five's 2019 finances that the four largest companies (excluding Husky) recorded healthy rates of profit, yet all five firms received net income tax recoveries — about \$2.6 billion as a group. All five companies had net income tax recoveries again in 2020 (\$6.6 billion in total). The Big Four paid net income tax expenses of \$5.2 billion in 2021.

While the Big Four recorded net losses of \$9 billion in 2020, all had healthy balance sheets in 2021 (net earnings of \$14.85 billion). Shareholders were rewarded with monumental cash transfers of \$10.9 billion in 2021.

#### *The Big Five's Key Economic Variables, 2019*

Table 2 summarizes some key economic variables of the Big Five for 2019.

**Table 2.** The Big Five's Key Economic Variables, 2019 (dollar amounts in C\$ millions)

Company	Assets	Gross revenue	Net earnings (loss)	Net profit rate (loss)	Income tax (recovery)	Royalties	Dividends & share buybacks	CapEx	Employees
Suncor	\$89,435M	\$39,866M	\$2,899M	7.3%	(\$366M)	\$860M	\$4,888M	\$5,436M	13,101
CNRL	\$78,121M	\$24,394M	\$5,416M	22.2%	(\$460M)	\$1,421M	\$2,684M	\$7,121M	10,180
Imperial	\$42,187M	\$34,002M	\$2,200M	6.5%	(\$154M)	\$596M	\$2,004M	\$1,814M	6,000
Cenovus	\$35,713M	\$21,353M	\$2,194M	10.3%	(\$797M)	\$1,080M	\$260M	\$1,189M	2,361
Husky	\$33,122M	\$20,306M	(\$1,370M)	(6.7%)	(\$799M)	\$272M	\$538M	\$3,432M	4,802
Big Five total	\$278,578M	\$139,921M	\$11,339M	7.9% average	(\$2,576M)	\$4,229M	\$10,374M	\$18,992M	36,444

Sources: The Big Five's 2019 annual reports; the Big Five's 2019 Extractive Sector Transparency Measures Act disclosures; Suncor's 2021 report on sustainability; CNRL's 2020 stewardship report; Imperial Oil's 2021 Form 10-K; Cenovus' 2019 environmental, social & governance report; Husky's 2020 management's discussion and analysis; Husky's 2020 annual information form.

West Texas Intermediate (WTI) crude oil had an average closing price of \$65.23 in 2018 and \$56.99 in 2019. Despite the decrease in the average price of WTI, the value of the Big Five's assets increased by \$5.6 billion (2.1%) in 2019 to \$278.6 billion.

While the Big Five's gross revenues were about \$140 billion in 2019, the Government of Alberta had revenue of \$53.3 billion in 2019 — only 38% of the Big Five's total.

The Big Five's net earnings were \$11.34 billion in 2019, up \$4.35 billion or 62.3% from 2018. CNRL's and Cenovus' net earnings increased significantly in 2019 compared to 2018.

Husky's net loss was the result of non-cash asset impairment charges that were mostly due to a decrease in future capital spending and lower long-term commodity price assumptions. Before the impairment charges, Husky made \$1 billion in profit in 2019. Husky sold its Prince George Refinery in late 2019 so the firm could focus on its integrated corridor of heavy oil production and downstream assets.

The Big Five's average net profit rate was 7.9% in 2019, almost double the 2018 average rate of 4.1%. If you exclude Husky's net loss, the 2019 average net profit rate for the other four firms was an impressive 11.6%. CNRL achieved a remarkable net profit of 22.2% in 2019.

Despite the four largest companies earning healthy profit rates, none of the Big Five paid net income tax expenses in 2019. All five corporations had net income tax recoveries, meaning they recuperated almost \$2.6 billion more in tax assets than they paid in tax expenses.

In 2019, the Big Five paid shareholders almost \$10.4 billion, which is more than double the \$4.2 billion the companies paid in royalties. More than 60% of the royalties could be paid with the almost \$2.6 billion the Big Five gained from their income tax recoveries.

Cenovus had net income tax recoveries in 2019 (\$797 million), 2018 (\$1,010 million), and 2017 (\$52 million). This string of tax recoveries followed the large deal in March 2017 where Cenovus paid \$17.7 billion to ConocoPhillips for oil sands and natural gas assets. Cenovus had net earnings of \$2.2 billion in 2019, for a high net profit rate of 10.3%.

Suncor transferred almost \$5 billion to its shareholders in 2019, while gaining revenue of \$366 million from an income tax recovery. It is astonishing that the United Conservative government gave a \$1.1 billion tax break to Suncor (see Table 1 above), a profitable company that transfers billions to its shareholders annually.

The Big Five's capital spending was \$19 billion in 2019, up \$2.3 billion or 13.8% from 2018. CNRL had the highest CapEx at \$7.1 billion, or 37.5% of the group's total.

CNRL bought in situ and heavy crude oil assets from US-based Devon Energy for \$3.412 billion in June 2019. Devon Energy's divestment from Canada followed several other cases of an internationally domiciled company divesting from the oil sands, including divestments by France's TotalEnergies in 2015, Norway's Equinor in 2016, and the Netherlands's Royal Dutch Shell and the US's ConocoPhillips in 2017.

CNRL led the Big Five again in 2019 in the category of average cost per barrel. CNRL's operating costs per barrel for synthetic crude oil in 2019 were \$22.56. Due to asset integration, CNRL was able to reduce operating costs at its Jackfish oil production facility by about \$3.50 per barrel or 30%. Also of note, CNRL acquired Suncor's stake in the Joslyn oil sands project in 2018 for \$222 million and then integrated Joslyn into the Horizon mine plan in 2019.

## ***The Big Five's Key Economic Variables, 2020***

Table 3 summarizes some key economic variables of the Big Five for 2020.

**Table 3.** The Big Five's Key Economic Variables, 2020 (dollar amounts in C\$ millions)

Company	Assets	Gross revenue	Net earnings (loss)	Net profit rate (loss)	Income tax (recovery)	Royalties	Dividends & share buybacks	CapEx	Employees
Suncor	\$84,616M	\$24,900M	(\$4,319M)	(17.3%)	(\$1,778M)	\$238M	\$1,977M	\$3,806M	12,591
CNRL	\$75,276M	\$17,491M	(\$435M)	(2.5%)	(\$438M)	\$598M	\$2,221M	\$3,206M	9,993
Imperial	\$38,031M	\$22,284M	(\$1,857M)	(8.3%)	(\$551M)	\$540M	\$923M	\$874M	5,800
Cenovus	\$32,770M	\$13,591M	(\$2,379M)	(17.5%)	(\$851M)	\$371M	\$77M	\$859M	2,413
Husky	\$19,687M	\$13,492M	(\$10,016M)	(74.2%)	(\$2,988M)	\$179M	\$311M	\$1,587M	4,595
Big Five total	\$250,380M	\$91,758M	(\$19,006M)	(24%) average	(\$6,606M)	\$1,926M	\$5,509M	\$10,332M	35,392

Sources: The Big Five's 2020 annual reports; Suncor's 2021 fourth quarter report; Suncor's 2021 report on sustainability; CNRL's 2020 stewardship report; CNRL's 2021 year-end management's discussion and analysis; CNRL's 2021 year-end interim consolidated financial statements; "Canadian Natural Resources Limited Announces 2022 Budget" press release; "Imperial announces 2021 financial and operating results" press release; Imperial Oil's 2021 Form 10-K; Cenovus' 2020 environmental, social & governance data report; Cenovus' 2021 year-end interim consolidated financial statements; Husky's 2020 management's discussion and analysis; Husky's 2020 annual information form; Husky's 2020 Extractive Sector Transparency Measures Act disclosures.

In 2020, WTI had an average closing price of \$39.68. The year low for WTI was \$11.26 and the year high was \$63.37. The 2020 year close was \$48.52.

The Big Five's assets were worth \$250.4 billion in 2020, down 10.1% from 2019. The Big Five cut their capital spending almost in half from \$19 billion in 2019 to \$10.3 billion in 2020.

The group's total revenues were \$91.8 billion in 2020, down 34.4% from 2019, while their total net losses were \$19 billion. Husky alone recorded a net loss of \$10 billion because of pre-tax impairment and exploration asset write-down charges of \$11.22 billion that were largely the result of lower future commodity price assumptions and reduced future capital spending plans.

Suncor had the second biggest net loss of the group at \$4.3 billion, though the firm also transferred \$2 billion to shareholders via dividends and share buybacks.

CNRL had the smallest net loss of the Big Five, with a negative net profit rate of 2.5% (\$435 million). The company paid shareholders more than \$2.2 billion in 2020 via dividends and share buybacks. CNRL lowered their production costs by 9.3% in 2020 to \$20.46 per barrel.

*Despite the net losses, the Big Five paid \$5.5 billion to their shareholders in 2020.*

---

Despite the net losses, the Big Five paid \$5.5 billion to their shareholders in 2020. For the second year in a row, shareholders were paid more than double the amount of money the companies paid to governments in royalties and income taxes.

The Big Five only paid \$1.9 billion in royalties in 2020, while gaining \$6.6 billion through net income tax recoveries. None of the Big Five had net income tax expenses in 2019 or 2020.

In April 2020, in response to the onset of the COVID-19 pandemic, the Government of Canada introduced the Canada Emergency Wage Subsidy (CEWS) to help eligible businesses across the country continue to employ and pay workers. Like companies in other sectors of the economy, many Canadian oil and gas firms applied and received CEWS funds (see Ferreira and Carmichael 2020).

The Big Five oil sands producers all received CEWS funds in 2020, though Suncor and CNRL did not disclose the amounts they received in their annual reports. Of the other three firms, Imperial had the highest pre-tax total of \$155 million. Husky received \$82 million, and Cenovus received \$40 million.

Giving wage subsidies to the oil sands majors was not enough to stop them from cutting jobs: the Big Five cut 1,052 employees in 2020.

Besides workers classified as employees, Imperial Oil cut 450 contract positions in that year (TCP 2020). CNRL also cut contract positions and instituted a hiring freeze (Healing 2020b).

In October 2020, Suncor announced that, because the firm is accelerating automation and digitalization across its operations, it would terminate up to 1,930 jobs by mid-2022 (a 10-15% staff reduction) (Healing 2020a). The first 600 of these job cuts occurred in 2020 (TCP 2021). Section 7 of this report focuses on the topic of automation in the Canadian oil industry in depth.

In August 2020, CNRL announced it was buying natural gas producer Painted Pony for \$461 million. But the big news in 2020 mergers and acquisitions among the Big Five was the October announcement that Cenovus and Husky agreed to an all-stock transaction valued at \$23.6 billion. The deal made Husky a wholly owned subsidiary of Cenovus as of January 1, 2021.

The rationale for the business combination provided by Cenovus is as follows:

The Arrangement combines high quality oil sands and heavy oil assets with extensive trading, supply and logistics infrastructure, and downstream infrastructure, creating opportunities to optimize the margin captured across the heavy oil value chain. With the combination of processing capacity and market access outside Alberta for the majority of the Company's oil sands and heavy oil production, exposure to Alberta heavy oil price differentials is reduced while maintaining exposure to global commodity prices. The combined company has a cost-and-market advantaged asset portfolio, which prioritizes free funds flow generation, balance sheet strength and returns to shareholders (Cenovus 2021, 1).

After the business combination, Cenovus became the third-largest integrated oil and gas producer in Canada and the second-largest Canadian-based refiner and upgrader. As the company stated, it is now much less exposed to the oil price differential between West Texas Intermediate (WTI) and Western Canadian Select (WCS) and to commodity price volatility. In fact, none of the Big Four have much exposure to the price differential because of their vertically integrated business structures that operate in Canada and the US.

After the merger, Cenovus announced plans to cut up to 2,150 jobs, about a quarter of its employees (Lewis and Nickel 2020). Most of these layoffs occurred in the first quarter of 2021 (Fedor and Villani 2021; CTV News Calgary 2021).

### ***The Big Four's Key Economic Variables, 2021***

Oil sands production is now dominated by a Big Four oligarchical bloc. The Big Four operate mining and in situ facilities with a total bitumen productive capacity of almost 3.5 million barrels per day, or 86.3% of Alberta's bitumen production capacity (OSM 2022b). Table 4 summarizes some key economic variables of the Big Four for 2021.

**Table 4.** The Big Four's Key Economic Variables, 2021 (dollar amounts in C\$ millions)

Company	Assets	Gross revenue	Net earnings	Net profit rate	Income tax	Royalties	Dividends & share buybacks	CapEx	Employees
Suncor	\$83,739M	\$41,133M	\$4,119M	10%	\$1,451M	\$2,001M	\$3,854M	\$4,411M	12,155
CNRL	\$76,665M	\$32,854M	\$7,664M	23.3%	\$2,247M	\$2,797M	\$3,652M	\$4,908M	9,735
Imperial	\$40,592M	\$37,590M	\$2,479M	6.6%	\$804M	\$680M	\$2,951M	\$1,140M	5,400
Cenovus	\$54,104M	\$48,811M	\$587M	1.2%	\$728M	\$2,454M	\$475M	\$2,563M	5,938
Big Four total	\$255,100M	\$160,388M	\$14,849M	10.3% average	\$5,230M	\$7,932M	\$10,932M	\$13,022M	33,228

Sources: Suncor's 2021 fourth quarter report; Suncor's 40-F annual information form; CNRL's 40-F annual information form; CNRL's 2021 year-end management's discussion and analysis; CNRL's 2021 year-end interim consolidated financial statements; CNRL's "Announces 2022 Budget" press release; Imperial Oil's "announces 2021 financial and operating results" press release; Imperial Oil's 2021 Form 10-K; Cenovus' 40-F annual information form; Cenovus' 2021 year-end interim consolidated financial statements.

In 2021, WTI had an average closing price of \$68.17, up more than 70% from 2020. The 2021 year low for WTI was \$47.62 and the year high was \$84.65. The 2021 year close was \$68.17. With these higher oil prices, the Big Four achieved a significant financial turnaround in 2021, with all four companies strengthening their balance sheets and rewarding their shareholders handsomely.

In 2021, the Big Four's assets were worth \$255.1 billion, higher than the 2020 total of \$230.7 billion and the 2019 total of \$245.5 billion.

The Big Four's gross revenue for 2021 was \$160.4 billion, higher than the 2020 total of \$78.3 billion and the 2019 total of \$119.6 billion. The Government of Alberta had revenue of \$61.7 billion in 2021; that is more than any one of the companies individually, but almost \$100 billion less than the Big Four as a group.

The Big Four's net profits for 2021 were \$14.8 billion, higher than the 2020 net loss of \$9 billion and the 2019 net profits of \$12.7 billion.

The 2021 average profit rate of the Big Four was an impressive 10.3%, higher than the 2020 average net loss of 11.4% in 2020 and down slightly from the 2019 average profit rate of 11.6%.

The Big Four paid \$13.2 billion in income taxes and royalties in 2021, while shareholders were paid \$10.9 billion in dividends and share buybacks.

In 2021, the Big Four's capital expenditures total was \$13 billion, higher than the 2020 total of \$8.7 billion but lower than the 2019 total of \$15.6 billion.

Let's turn now to some key points about each of the Big Four, starting with Suncor.

Suncor achieved several notable financial outcomes in 2021, pulling in gross revenue of more than \$41.1 billion and net profits of more than \$4.1 billion, for a net profit of 10%.

Suncor's high rate of profit led to big rewards for its shareholders. In fact, the company boasted in their fourth quarter report that it "exceeded its return to shareholder targets for the year, repurchasing the company's common shares at the highest annual rate in the company's history and increasing the dividend by 100% during the fourth quarter" (Suncor 2022b, 5).

Suncor paid shareholders \$3.854 billion in 2021, including \$1.55 billion in dividends and \$2.304 billion in share repurchases. Suncor's board decided to continue the share repurchase program in 2022, and the company spent \$120 million on share buybacks by February.

Suncor also "executed on its net debt reduction targets, reducing debt at the highest ever annual pace, resulting in a reduction of net debt by \$3.7 billion" (ibid, 1). In 2021, Suncor wiped out debt taken on during COVID-19 and returned to 2019 net debt levels.

Suncor's 2020 income tax recovery of \$1.778 billion was larger than its 2021 income tax expense of \$1.451 billion. Suncor's total income tax recovery in 2020 includes \$659 million recovered from a 2020 loss and a \$1.119 billion recovery of deferred income tax.

Suncor paid \$2 billion in royalties on its 2021 oil production. Royalties are not charged on the refining and marketing segment of vertically integrated companies. This part of Suncor's business made the most revenue for the company in 2021, \$22.9 billion in operating revenues or 55.7% of the firm's gross revenue.

Suncor is getting out of the wind and solar power business. The company is shifting toward hydrogen and expanding its renewable liquid fuels business. For example, Suncor is opening a commercial biorefinery plant in Georgia (USA) in 2022, where low-emissions aviation fuel will be produced.

CNRL had an even more impressive year in 2021 than Suncor. CNRL, Canada's largest fossil-fuel producer, amassed a net profit of over \$7.6 billion and an astonishing net profit rate of 23.3%.

In 2021, CNRL recognized a well-site rehabilitation subsidy of \$75 million pre-tax (\$58 million after-tax). The federal government funds were paid to CNRL by the Government of Alberta's hastily designed Site Rehabilitation Program (see Egler 2021).

CNRL paid shareholders \$3.652 billion in 2021, including \$2.355 billion in dividends and \$1.297 billion in share buybacks. CNRL also repaid \$6.42 billion in long-term debt. This pace of debt repayment enables the firm to direct 50% of its 2022 free cash flow to share buybacks, so shareholders can expect a huge haul of cash this year.



CNRL paid \$5.044 billion to various governments in 2021, including \$2.797 billion in royalties and \$2.247 billion in income taxes. The company had an income tax recovery of \$438 million in 2020, and paid royalties of \$598 million.

At \$4.9 billion, CNRL spent the most of the Big Four on capital in 2021. In July 2021, CNRL bought natural gas properties in the Montney region of British Columbia, and in December the company bought Storm for \$771 million (Storm is a natural gas and natural gas liquids producer in the Montney region). CNRL plans to spend \$4.3 billion on capital in 2022; that is \$600 million less than 2021, which will help to offset their planned increase in share buybacks.

CNRL has had the lowest production cost structure among the Big Four for several years. Their costs for oil sands mining and upgrading remained below \$21 a barrel in 2021.

Like its peers, Imperial Oil had a very productive 2021. The company achieved a 30-year high in upstream production and a 30-year high in earnings from its chemical business. Imperial earned gross revenue of \$37.6 billion, and its net profits were \$2.5 billion (6.6%).

Imperial transferred a record amount of cash to shareholders in 2021: almost \$3 billion in total, including \$706 million in dividends and \$2.245 billion in share buybacks. The company increased their quarterly dividend by 26% in the fourth quarter.

After receiving income tax recoveries in 2019 (\$154 million) and 2020 (\$551 million), Imperial paid an income tax expense of \$804 million in 2021. Imperial paid \$680 million in royalties in 2021 and \$540 million in 2020.

Imperial's capital spending totalled \$1.14 billion in 2021, the lowest level by far among the Big Four. Imperial's capital discipline and integrated business structure have resulted in the firm carrying relatively low levels of debt of about \$5.2 billion. The company's healthy balance sheet enabled record shareholder payments of almost \$3 billion while reducing the firm's total debt by \$8 million.

Cenovus rounds out the Big Four. Thanks to major asset acquisitions from ConocoPhillips in 2017 and the merger with Husky in 2020, Cenovus is now the third-largest firm in the group by asset value and ahead of fourth-place Imperial by a wide margin. Cenovus' assets were worth \$54.1 billion at the end of 2021; that's 33% higher than Imperial's total of \$40.6 billion.

*Despite the increase in oil production, leading companies are cutting jobs.*

---

With a much larger stock of fixed capital assets in both Canada and the US, Cenovus has almost tripled its annual gross revenue in the last five years, growing from \$17.3 billion in 2017 to \$48.8 billion in 2021. Cenovus earned more gross revenue in 2021 than second-place Suncor by \$7.7 billion or 18.7%.

Like Suncor, Cenovus had a larger income tax recovery in 2020 (\$851 million) than its 2021 income tax expense (\$728 million). Cenovus paid \$2.454 billion in royalties in 2021 and \$371 million in 2020.

As I mentioned earlier, Cenovus' multi-year strategy of becoming a much larger corporation with improved horizontal and vertical integration among its business segments has reduced the company's exposure to the WTI/WCS oil price differential. Cenovus can now more easily earn maximum value from its heavy oil and bitumen production because the firm owns two refineries in the US, co-owns three more US refineries, and owns oil upgrading and asphalt refining facilities in Lloydminster, Saskatchewan.

In 2021, Cenovus exhibited an impressive balance between its upstream and downstream business segments. The company earned 46.7% of its total revenue from oil sands production and 41% from its US refineries.

After growing so much in recent years, Cenovus' short-term focus appears to be more on strengthening its balance sheet and paying shareholders than on its net profit rate. Cenovus repaid \$3.22 billion in long-term debt and revolving long-term debt in 2021, and recorded proceeds of \$435 million from selling non-core assets. Cenovus paid shareholders \$475 million in 2021, including \$265 million in share buybacks and \$210 million in dividends. In the first five weeks of 2022, Cenovus repurchased an additional \$160 million of its common shares. Cenovus had net earnings of \$587 million in 2021 and a net profit rate of 1.2%.

Enbridge's new Line 3 replacement pipeline from Alberta to Wisconsin began operating in October 2021. Western Canada produced a new record of about 5 million barrels a day of marketable crude in the same month (OSM 2022a).

Despite the increase in oil production, leading companies are cutting jobs. The Big Four had 33,228 employees in 2021, down from the Big Five's 2020 total of 35,292 and 2019 total of 36,444. I analyze the employee numbers of the major producers in more detail in Section 4.

## 4. The Oil Sands Majors' Capital Spending, Dividends, and Employees, 2014-2021

In this section, I analyze the oil sands majors' capital spending, dividends, and number of employees for 2014 through 2021. Examining eight years of data enables us to assess the impacts of the 2014 global oil price crash, the UCP's 2019 corporate tax giveaway, and the 2020-2021 beginning of the ongoing COVID-19 pandemic in more depth.

Capital expenditures decreased across the group, from a peak of \$31.7 billion in 2014 to \$13 billion in 2021. Shareholder dividends have been steady or increasing — especially for CNRL. Employment had rebounded by 2017 but dropped sharply in 2021 because of automation and the Cenovus/Husky merger.

### *The Oil Sands Majors' Capital Spending and Shareholder Dividends, 2014-2021*

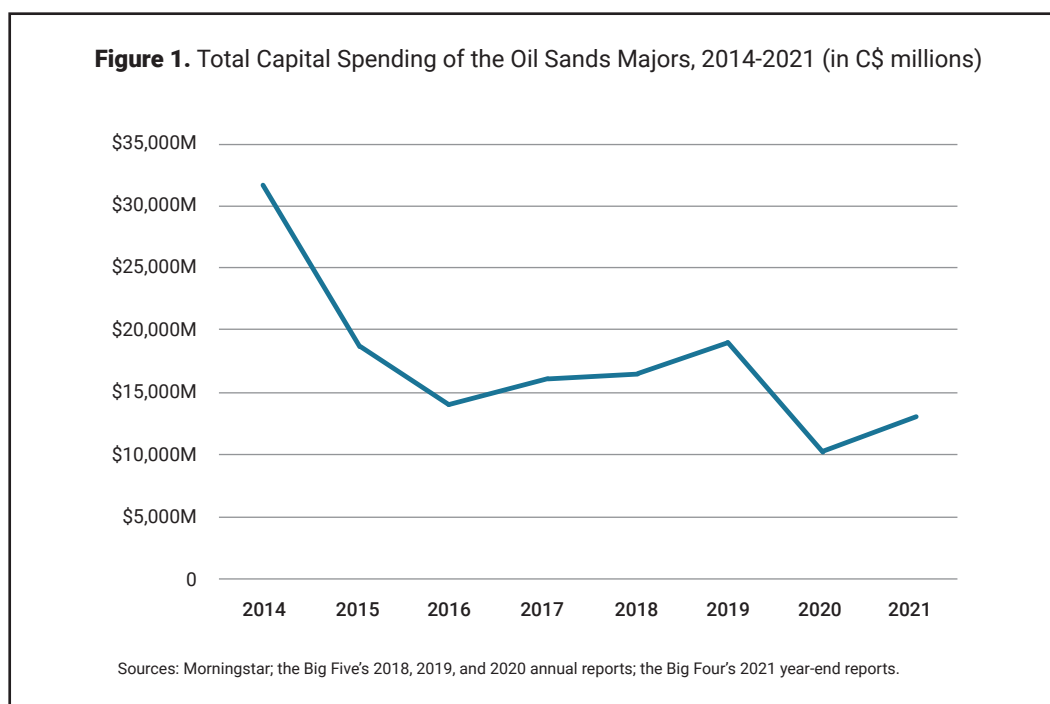
Table 5 lists the oil sands majors' capital expenditures from 2014 through 2021.

**Table 5.** The Oil Sands Majors' Capital Expenditures, 2014-2021 (in C\$ millions)

Company	2014	2015	2016	2017	2018	2019	2020	2021
Suncor	\$6,961M	\$6,667M	\$6,582M	\$6,551M	\$5,250M	\$5,436M	\$3,806M	\$4,411M
CNRL	\$11,398M	\$4,468M	\$3,797M	\$4,698M	\$4,731M	\$7,121M	\$3,206M	\$4,908M
Imperial	\$5,290M	\$2,994M	\$1,073M	\$993M	\$1,427M	\$1,814M	\$874M	\$1,140M
Cenovus	\$3,058M	\$1,714M	\$1,034M	\$1,670M	\$1,363M	\$1,189M	\$859M	\$2,563M
Husky	\$5,023M	\$3,005M	\$1,705M	\$2,220M	\$3,578M	\$3,432M	\$1,587M	N/A
Total	\$31,730M	\$18,848M	\$14,191M	\$16,132M	\$16,690M	\$18,992M	\$10,332M	\$13,022M

Sources: Morningstar; the Big Five's 2018, 2019, and 2020 annual reports; the Big Four's 2021 year-end reports.

Figure 1 portrays the total capital spending of the oil sands majors as a group from 2014 through 2021.



The Big Five's peak of \$31.7 billion in capital spending occurred in 2014, at the end of a decade of high global oil prices. WTI traded at high prices from mid-2004 to mid-2014, including an average closing price of \$93.17 in 2014.

There was a global oil price crash in the second half of 2014: WTI peaked at \$127.81 in June and then dropped almost 50% to \$65.58 by December 2014. WTI traded below \$60 per barrel for most of 2015 and 2016. The price crash had a moderating effect on the Big Five's capital spending in 2015 and 2016.

WTI traded above \$60 per barrel for most of 2017 through 2019. The Big Five's CapEx increased from \$14.2 billion in 2016 to \$19 billion in 2019.

WTI was trading at \$50.04 per barrel in February 2020, the month before the pandemic-induced economic shock began in North America. WTI remained below \$60 per barrel until February 2021, when it was trading at \$67.59.

The Big Five's capital spending plunged to \$10.3 billion in 2020, a bit more than half of the 2019 total.

Despite WTI averaging \$68.17 in 2021, the group's CapEx only rose to \$13 billion. Excluding the outsized peak in CapEx in 2014, the firms' average annual CapEx since 2015 has been \$15.5 billion, or \$2.5 billion per year higher than the 2021 total.

Relative to the 2014 peak, the group's CapEx was down \$12.7 billion (40%) in 2019, \$21.4 billion (67%) in 2020, and \$18.7 billion (59%) in 2021.

The oil sands majors' capital spending should also be viewed in the historical context of the oil sands industry's business life cycle (launch, growth, maturity, and renewal or decline). The growth phase of the oil sands industry's business life cycle culminated in the completion of Phase 3 of CNRL's Horizon mine in 2017 and the completion of Suncor's majority-owned Fort Hills mine in 2018 (see Hussey 2020).

No new oil sands mining megaprojects are being developed or proposed at present. The UCP's 33% tax giveaway to large, profitable companies has not changed this reality.

In the 2020s, the dominant producers in the now-mature oil sands industry are expected:

- to continue to focus their CapEx on maintaining their existing fixed capital assets,
- to continue to increase the interconnectivity of their existing assets,
- to continue to improve the efficiency and productivity of their existing assets.

Improving efficiency and productivity will be driven by the ongoing acceleration of automation, digitalization, and modularization of the oil sands industry (see Section 7 for more details). Some in situ expansion projects and brownfield mine expansions will likely be undertaken, but with fewer engineering and construction jobs than in the 2000-2018 growth phase of the industry because of technological advancements and the increasing use of modular project designs.

The revenues earned from the oil production of past capital spending on oil sands mines and in situ facilities contribute to dividends paid to shareholders. Table 6 shows the substantial dividends that the oil sands majors paid to their shareholders in this era of lower capital spending.

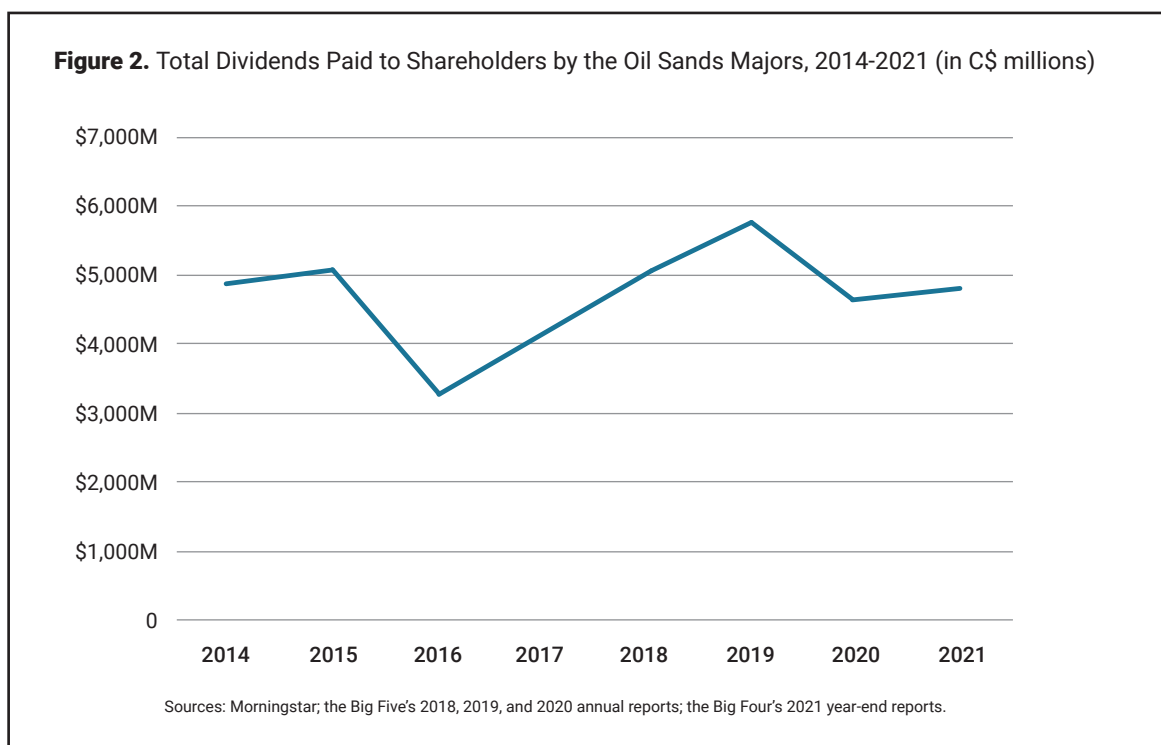
*No new oil sands mining megaprojects are being developed or proposed at present. The UCP's 33% tax giveaway to large, profitable companies has not changed this reality.*

**Table 6.** The Oil Sands Majors' Dividends Paid to Shareholders, 2014-2021 (in C\$ millions)

Company	2014	2015	2016	2017	2018	2019	2020	2021
Suncor	\$1,490M	\$1,648M	\$1,877M	\$2,124M	\$2,333M	\$2,614M	\$1,670M	\$1,550M
CNRL	\$955M	\$1,251M	\$758M	\$1,252M	\$1,562M	\$1,743M	\$1,950M	\$2,355M
Imperial	\$441M	\$449M	\$492M	\$524M	\$572M	\$631M	\$649M	\$706M
Cenovus	\$805M	\$528M	\$166M	\$225M	\$245M	\$260M	\$77M	\$210M
Husky	\$1,182M	\$1,203M	\$27M	\$34M	\$319M	\$538M	\$311M	N/A
Total	\$4,873M	\$5,079M	\$3,320M	\$4,159M	\$5,031M	\$5,786M	\$4,657M	\$4,821M

Sources: Morningstar; the Big Five's 2018, 2019, and 2020 annual reports; the Big Four's 2021 year-end reports.

Figure 2 shows the total dividends paid to shareholders by the oil sands majors as a group from 2014 through 2021.



The group paid an annual average of \$4.72 billion in dividends for 2014-2021. Shareholders were paid above that average in three of the last four years. The dividend total reached a record of \$5.8 billion in 2019.

In 2020 dividend payments fell to \$4.66 billion (-19.5%); that is less than a third of the 67% drop in CapEx in the same year.

The dividend total bounced back to \$4.82 billion in 2021 — that is \$105 million above the average payout since 2014, in a year when CapEx was down 59% relative to 2014.

In sum, the dominant oil sands companies have decreased capital spending and increased shareholder dividends since Premier Kenney's government gave these corporations a 33% tax cut. Let's turn now to data on jobs at the major oil sands producers to see if the UCP's tax cut resulted in increased employment.

### ***Number of Employees at the Oil Sands Majors and Syncrude, 2014-2021***

Table 7 lists the number of employees at the oil sands majors and Syncrude from 2014 through 2021.

**Table 7.** Number of Employees at the Oil Sands Majors and Syncrude, 2014-2021

Company	2014	2015	2016	2017	2018	2019	2020	2021
Suncor	14,425	13,235	13,009	12,500	12,415	13,101	12,591	12,155
CNRL	7,657	7,568	7,270	9,973	9,709	10,180	9,993	9,735
Imperial	5,500	5,700	5,600	5,400	5,700	6,000	5,800	5,400
Cenovus	3,557	3,013	2,781	2,882	2,264	2,361	2,413	5,938
Husky	5,774	5,552	5,150	5,152	5,157	4,802	4,595	N/A
Oil sands majors total	36,913	35,068	33,810	35,907	35,245	36,444	35,392	33,228
Syncrude	5,121	4,992	4,805	4,750	4,822	5,003	4,901	4,767
Total	42,034	40,060	38,615	40,657	40,067	41,447	40,293	37,995

Notes: Table 7 includes the number of workers categorized as employees by each company in their annual disclosures. Some companies include a small number of part-time employees in their total, but the number of part-time staff is negligible (less than 1%). Workers that are classified as contractors or as temporary/casual employees by the firms are not included in the data set because the contract length and specifications are not included in the firms' annual disclosures. Syncrude's employee data is included in this table for clarity because otherwise it would appear that Suncor added over 4,000 employees in 2021 (Suncor took over as operator of Syncrude in late 2021 and included Syncrude employees in its 2021 annual employee data).

Sources: Suncor's 2016 report on sustainability; Suncor's 2021 report on sustainability; Suncor's 2021 annual information form; Syncrude's 2014 sustainability report; Syncrude's 2019 sustainability fact sheet; Syncrude's 2020 sustainability fact sheet; CNRL's 2017 stewardship report; CNRL's 2020 stewardship report; CNRL's 2021 annual information form; Imperial Oil's 2016 Form 10-K; Imperial Oil's 2018 Form 10-K; Imperial Oil's 2021 Form 10-K; Cenovus's 2018 environmental, social & governance report; Cenovus's 2019 environmental, social & governance report; Cenovus's 2020 environmental, social & governance report; Cenovus's 2021 annual information form; Husky's 2016 community report; Husky's 2018 environmental, social & governance report; Husky's 2020 annual information form.

Figure 3 shows the total number of employees at the oil sands majors and Syncrude as a group from 2014 through 2021.

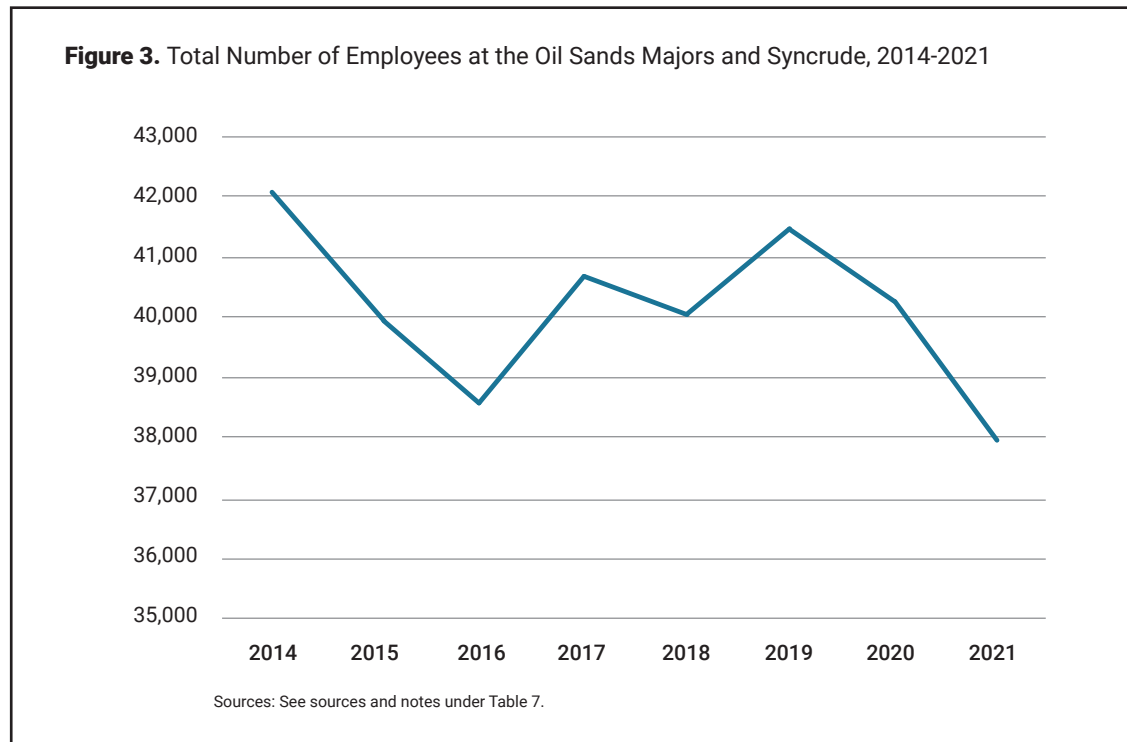


Table 7 and Figure 3 show that the UCP gave a tax break in 2019 to four large oil producers that are cutting jobs. Suncor (including Syncrude) cut 1,182 jobs after 2019, CNRL cut 445, Imperial cut 600, and Cenovus (including Husky) cut 1,225. In total, the oil sands majors cut 3,452 jobs after 2019.

The eight-year period began with a drop in the number of employees in 2015 and 2016, mirroring the drop in CapEx caused by the decline in global oil prices. The number of employees had an upward swing from 2016 to 2019, again mirroring the upward trend in CapEx.

The group had fewer employees in 2020, during the height of the pandemic, but what should concern the United Conservative government and all Albertans is that the bloc of large producers cut 2,298 jobs in 2021, when oil prices were climbing. In fact, most of their job cuts after 2019 were caused by automation and the Cenovus/Husky business combination. Recall that in Section 3 we saw that Suncor planned to automate away 1,930 jobs from 2020 to mid-2022, and the Cenovus/Husky merger resulted in 2,150 job cuts in 2021-2022. Suncor integrating its operations with those of Syncrude in 2022-2023 will eliminate even more jobs. Greater detail on oil sands automation is provided in Section 7.

Next, we turn our attention to executive pay at the oil sands majors. Capital spending and employment have declined in recent years — has executive compensation followed suit, or have executives been rewarded for cutting jobs and reducing investment?



## 5. Executive Compensation at the Oil Sands Majors, 2018-2021

Corporate filings provide us with information on the level of compensation for top executives. While the oil sands majors have been cutting jobs on the frontlines, executives have remained very well compensated. Table 8 shows the total compensation of the Big Five's top-paid executives in 2018.

**Table 8.** Total Compensation of the Big Five's Top-Paid Executives, 2018 (in C\$)

Name	Company	Position	Total compensation 2018
Steven Williams	Suncor Energy	CEO	\$14,789,407
Murray Edwards	CNRL	Executive chair	\$10,764,001
Robert Peabody	Husky Energy	President & CEO	\$7,884,275
Richard Kruger	Imperial Oil	Chairman, president & CEO	\$7,870,053
Alexander Pourbaix	Cenovus Energy	President & CEO	\$6,558,485
			Average: \$9,573,244

Sources: David MacDonald. January 2, 2020. "Fail Safe: CEO Compensation in Canada." Canadian Centre for Policy Alternatives. Pages 17-21. Murray Edwards' 2018 total compensation was retrieved from CNRL's 2020 proxy statement and management information circular.

At \$14.8 million, Steven Williams in his final year as chief executive officer (CEO) of Suncor was paid significantly more than his peers. Murray Edwards, the executive chairman of CNRL, made the second-most at \$10.8 million. In his first full year as president and CEO of Cenovus, Alexander Pourbaix made the least of the group at \$6.6 million. The average compensation per executive was about \$9.6 million.

Table 9 lists the total compensation of the Big Five's top-paid executives in 2019.

**Table 9.** Total Compensation of the Big Five's Top-Paid Executives, 2019 (in C\$)

Name	Company	Position	Total compensation 2019
Murray Edwards	CNRL	Executive chair	\$12,819,901
Mark Little	Suncor Energy	President & CEO	\$11,718,684
Alexander Pourbaix	Cenovus Energy	President & CEO	\$9,046,317
Richard Kruger	Imperial Oil	Chairman & CEO	\$8,087,928
Robert Peabody	Husky Energy	President & CEO	\$7,436,069
			Average: \$9,821,780

Sources: David MacDonald. January 4, 2021. "The Golden Cushion: CEO Compensation in Canada." Canadian Centre for Policy Alternatives. Pages 18-21.

After Steven Williams' retirement, Murray Edwards became the top-paid executive in the group at \$12.8 million (Suncor paid Williams \$9.6 million in 2019 as the firm's former CEO). Edwards' total compensation increased by more than \$2 million in 2019.

Suncor's new president and CEO Mark Little was paid \$11.7 million in 2019, an increase of \$1.2 million from his previous role as president and chief operating officer.

Husky had a net loss of \$1.37 billion in 2019. President and CEO Robert Peabody's compensation decreased by about \$448,000 to \$7.4 million. Peabody was paid the least of the group.

Richard Kruger, Imperial Oil's chairman and CEO, received a pay increase of \$217,875. Pourbaix of Cenovus received a raise of almost \$2.5 million, the largest pay increase of the group.

The average compensation per executive in 2019 was about \$9.8 million.

The announcement of the Cenovus/Husky merger was made in late 2020. Table 10 shows the 2020 total compensation of the top-paid executives of the four remaining oil sands majors.

**Table 10.** Total Compensation of the Big Four's Top-Paid Executives, 2020 (in C\$)

Name	Company	Position	Total compensation 2020
Murray Edwards	CNRL	Executive chair	\$13,566,251
Mark Little	Suncor Energy	President & CEO	\$10,140,505
Alexander Pourbaix	Cenovus Energy	President & CEO	\$9,511,999
Bradley Corson	Imperial Oil	Chairman, president & CEO	\$4,499,800
			Average: \$9,429,639

Sources: The Big Four's 2020 management proxy circular reports.

*The compensation of the top-paid executive of three of the four companies went up in 2020 despite all four companies recording large net losses due to the pandemic.*

The compensation of the top-paid executive of three of the four companies went up in 2020 despite all four companies recording large net losses due to the pandemic.

Murray Edwards maintained his spot atop the group. His compensation increased by almost \$750,000 in 2020 to \$13.6 million because his stock options had an increased value at the time they were granted.

Alexander Pourbaix and three other Cenovus executives received a performance bonus for the merger with Husky. Pourbaix's compensation increased by about \$465,000 in 2020. The Husky merger will result in up to 2,150 job terminations.

Husky's now-former CEO Robert Peabody, who initiated the conversation with Cenovus about a possible business combination, received a severance payment of \$3.25 million (Husky and Cenovus 2020, 95).

Imperial Oil's chairman, president and CEO Bradley Corson received a pay increase of almost \$1 million in 2020. Corson's compensation was hiked to better align with his peers at ExxonMobil, Imperial's parent company.

Suncor's board decided to reduce salaries for themselves and executives, including a 50% reduction (\$285,000) of CEO Mark Little's base salary for six months. Little's annual incentive payout was also reduced. Little's 2020 total compensation of \$10.1 million was almost \$1.6 million lower than a year prior.

The average compensation per executive in 2020 was \$9.4 million.

Table 11 shows the total compensation of the Big Four's top-paid executives in 2021.

**Table 11.** Total Compensation of the Big Four's Top-Paid Executives, 2021 (in C\$)

Name	Company	Position	Total compensation 2021
Murray Edwards	CNRL	Executive chair	\$16,112,751
Mark Little	Suncor Energy	President & CEO	\$12,203,398
Alexander Pourbaix	Cenovus Energy	President & CEO	\$13,993,895
Bradley Corson	Imperial Oil	Chairman, president & CEO	\$8,750,549
			Average: \$12,765,148

Sources: The Big Four's 2021 management proxy circular reports.

Edwards' total compensation increased by more than \$2.5 million in 2021. His 2021 compensation of \$16.1 million was the highest among the Big Four's top-paid executives.

Most of Edwards' compensation comes in the form of CNRL shares. Edwards owns \$1.6 billion of CNRL shares (valuation as of the final day of trading 2021).

Little's total compensation increased by more than \$2 million in 2021 to \$12.2 million. Little owns \$7.6 million of Suncor shares (valuation as of the final day of trading 2021).

Pourbaix's total compensation increased by \$4.5 million in 2021 to about \$14 million. Pourbaix owns \$20.5 million of Cenovus shares (valuation as of the final day of trading 2021).

Bradley Corson's total compensation in 2021 was \$8.75 million, almost double his pay from a year prior. Corson owns \$13.1 million of Imperial Oil shares (valuation as of the final day of trading 2021).

The average compensation per executive in 2021 was about \$12.8 million.  
The average pay increase in 2021 was \$3.3 million.

Next, we turn from research on the dominant oil sands companies' financial health, number of employees, and CEO pay to research on spending and employment trends in the broader oil and gas industry in Alberta and Canada.

## 6. Industry Trends in Spending and Employment

This section has three parts. First, I scrutinize the Canadian oil industry spending trends for 2014 through 2021. Second, I analyze oil and gas employment trends in Alberta and Canada for the same period. Third, I examine the Alberta Energy Regulator's forecast of Alberta oil and gas industry spending for 2022-2030.

We can see that operational spending was steady in the Canadian conventional oil and oil sands industries from 2014 through 2019, with a dip in 2020 because of the pandemic. On the other hand, capital spending across the Canadian oil sector has plummeted and is expected to remain relatively low in the 2020s compared to the early 2010s.

Oil and gas employment in Alberta and Canada has gone down in six of the last eight years, with upturns in 2018 and 2021. The combination of lower capital spending, industry consolidation through mergers and acquisitions, and accelerating automation will continue to put downward pressure on employment levels.

### *Canadian Oil Industry Spending Trends, 2014-2021*

Table 12 lists the 2014-2018 capital expenditures (CapEx) and operational expenditures (OpEx) of the Canadian conventional oil and oil sands industries. The 2019 and 2020 numbers are estimates from the Alberta Energy Regulator (AER) and Petroleum Labour Market Information (PetroLMI).

**Table 12.** The Canadian Oil Industry's Capital and Operational Expenditures, 2014-2020 (in C\$ millions)

Year	Conventional CapEx	Conventional OpEx	Oil sands CapEx	Oil sands OpEx	Total
2014	\$46,872M	\$21,229M	\$33,868M	\$24,305M	\$126,274M
2015	\$31,609M	\$22,016M	\$22,929M	\$21,853M	\$98,407M
2016	\$23,036M	\$21,088M	\$15,426M	\$20,108M	\$79,658M
2017	\$28,714M	\$21,962M	\$13,803M	\$18,551M	\$83,030M
2018	\$27,442M	\$23,874M	\$11,661M	\$21,812M	\$84,789M
2019 estimates	\$25,484M	\$23,023M	\$9,900M	\$23,696M	\$82,103M
2020 estimates	\$15,800M	\$19,800M	\$7,170M	\$21,800M	\$64,570M

Sources: Data for 2014-2018 are from the Canadian Association of Petroleum Producer's Statistical Handbook. The 2019 oil sands CapEx estimate is from AER 2021b. The rest of the 2019 and 2020 estimates are from PetroLMI 2021, 1.

Table 12 shows the large drop in CapEx in the conventional oil and oil sands industries since the 2014 peak. CapEx in the Canadian conventional oil industry decreased an estimated 45.6% from 2014 through 2019, and oil sands CapEx decreased an estimated 70.8% over the same period. OpEx in the conventional oil industry increased an estimated 8.5% from 2014 through 2019, while OpEx in the oil sands industry declined an estimated 2.5% in the same timeframe.

CapEx in the conventional oil industry plunged an estimated 38% in 2020 (PetroLMI 2021, 1), and CapEx in the oil sands sub-sector dropped an estimated 27.6% (AER 2021b). OpEx in the conventional oil industry declined by an estimated 14% in 2020, and OpEx in the oil sands industry decreased by an estimated 8% (PetroLMI 2021, 1).

The large drop in capital spending in the six years after 2014 reflects the lower global oil prices in this period. For the oil sands industry, the cratering CapEx total is also a consequence of accelerating automation after the 2014 oil price crash and the industry's 2018 shift into the mature phase of its business life cycle with the completion of the final two mines (Phase 3 of CNRL's Horizon mine in 2017 and Suncor's majority-owned Fort Hills mine in 2018).

The Canadian Association of Petroleum Producers (CAPP) estimates that national capital spending in the natural gas, conventional oil, and oil sands industries in 2020 was \$24 billion (CAPP 2021). CAPP estimates that industry CapEx was \$26.9 billion in 2021, only one-third of the 2014 peak of \$81 billion (Stephenson 2022). CAPP forecasts that industry CapEx could increase by about \$6 billion in 2022 to \$32.8 billion, or 40.5% of the 2014 peak (ibid).

OpEx and CapEx are broad spending categories that encompass various expenses, including technology, machinery, and labour. To gain more insight into the labour component, I turn now to an analysis of oil and gas employment trends in Alberta and Canada since the 2014 peak.

### ***Oil and Gas Employment Trends in Alberta and Canada, 2014-2021***

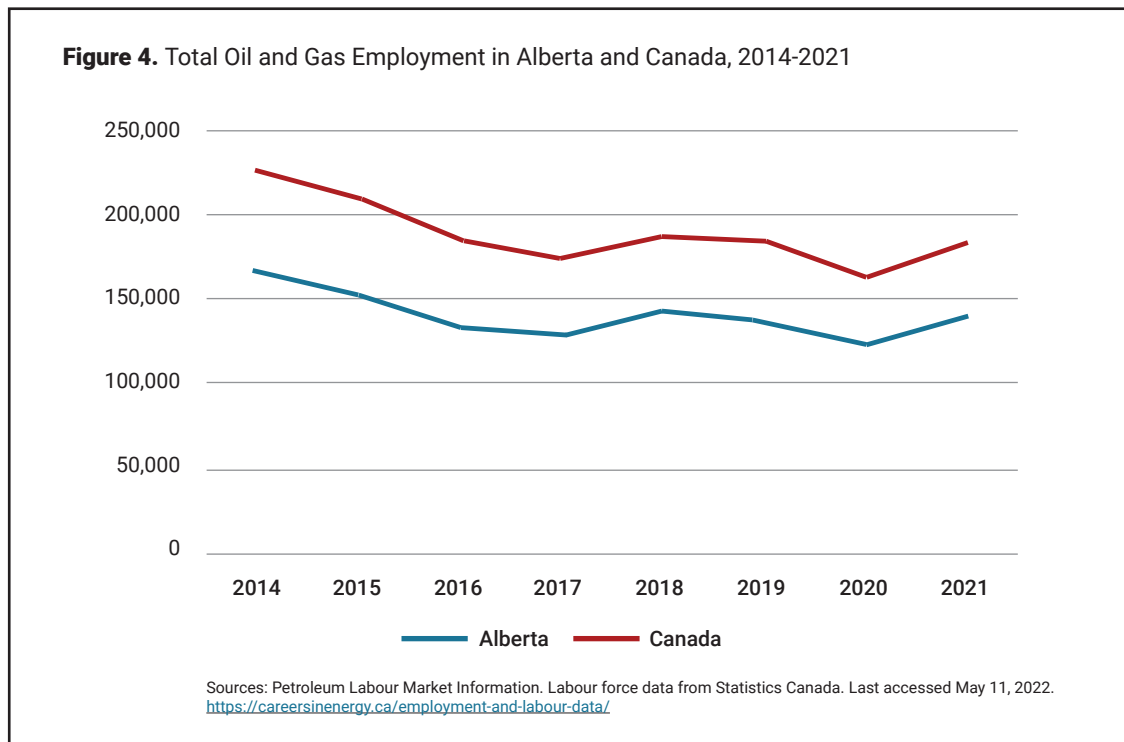
Table 13 lists the annual totals of oil and gas employment in Alberta and Canada for 2014 through 2021.

**Table 13.** Total Oil and Gas Employment in Alberta and Canada, 2014-2021

	2014	2015	2016	2017	2018	2019	2020	2021
Alberta	166,028	151,788	133,060	128,908	143,484	136,356	124,520	140,240
Canada	225,856	208,824	185,116	174,100	187,808	184,316	163,192	184,520

Sources: Petroleum Labour Market Information. Labour force data from Statistics Canada. Last accessed May 11, 2022. <https://careersinenergy.ca/employment-and-labour-data/>

Figure 4 portrays the same data as a line graph to help readers visualize the employment trends.



Peak oil and gas employment in Alberta and Canada in the last decade came in 2014. The general trend in oil and gas employment has been negative since 2014, with upswings in 2018 and 2021.

The net result is that the Alberta industry employed 25,788 fewer workers in 2021 compared to 2014; that is a 15.5% decrease in jobs. Nationally, employment in the industry dropped by 41,336 or 18.3% in the same period.

When the UCP's Bill 3 was introduced in late May 2019 to reduce the income tax rate for large corporations, Minister of Finance Travis Toews claimed the corporate tax cut would "get Alberta working again" (GoA 2019a). Labour force data for the provincial oil and gas industry does not support the Minister's claim.

Oil and gas employment in Alberta was 142,012 jobs in June 2019, the month before Alberta's corporate tax reductions began. The Alberta industry cut 10,968 jobs (-7.7%) to drop to an employment total of 131,044 by February 2020, the month before COVID-19 was declared a global pandemic.

In July 2020, during the height of the pandemic, the number of oil and gas jobs in Alberta bottomed out at 118,656. Employment in the Alberta industry increased to 139,004 by the end of 2021; that is 6,104 fewer jobs (-4.2%) than the April 2019 total, the month before the UCP formed government.

The Alberta industry had a net gain in jobs in 2021 but, according to PetroLMI, the industry also cut jobs because of industry consolidation, corporate restructuring, and leading companies deepening automation and digitalization (PetroLMI 2021, 8, 12).

The Alberta industry is forecast to have net hiring requirements of 15,140 positions in 2021 through 2023, though 63% (9,480) of these new hires will replace retiring workers and only 37% (5,660) of the new hires will be due to industry activity (ibid, 10). Most of these new hires are expected to be in the oil and gas service sub-sector. The oil sands sub-sector is forecast to have a net loss of 590 jobs by 2023 (ibid, 7).

PetroLMI's forecast is that the Alberta industry job total in 2023 will be 143,760 and the national job total will be 175,850 (ibid, 3). We can view this forecast for 2023 in its historical context by comparing it to the 2014 peak in industry employment. The predicted 2023 national total is 50,006 jobs below the 2014 peak (-22.1%). The predicted 2023 Alberta total is 22,268 jobs below the 2014 peak (-13.4%).

We are now eight years from the 2014 peak in industry employment, capital spending, and operational spending. Let's turn now to an Alberta Energy Regulator (AER) forecast of Alberta's oil and gas industry spending for 2022 through 2030 to see what the provincial regulator believes the future of the industry looks like.

### ***Alberta Oil and Gas Industry Spending Forecast, 2022-2030***

The Alberta Energy Regulator forecasts capital spending in Alberta by the oil sands, crude oil, and natural gas industries "to grow modestly" in the 2020s but "remain relatively low compared with the last decade" (AER 2022a, 8).

Table 14 lists the 2021 CapEx totals and the AER's forecast for Capex in 2022 through 2030 (the forecast was last updated in May 2022).



**Table 14.** Alberta Oil Sands and Crude Oil and Natural Gas Capital Expenditures, 2021-2030 (in C\$ billions)

	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Oil sands	\$8.7B	\$11.6B	\$12.3B	\$13.4B	\$14.7B	\$14.8B	\$14.5B	\$13.9B	\$13.9B	\$13.9B
Crude oil & natural gas	\$10.9B	\$17B	\$18.3B	\$18.1B	\$18.2B	\$18.3B	\$18.5B	\$18.8B	\$19.1B	\$19.3B
Total	\$19.6B	\$28.6B	\$30.6B	\$31.5B	\$32.9B	\$33.1B	\$33B	\$32.7B	\$33B	\$33.2B

Sources: AER. 2022b. Capital Expenditures. Last accessed July 22, 2022.

<https://www.aer.ca/providing-information/data-and-reports/statistical-reports/st98/prices-and-capital-expenditure/capital-expenditures>

The combined annual CapEx total in the Alberta oil sands, crude oil, and natural gas industries peaked in 2014 at \$60.6 billion (AER 2022b). Oil sands CapEx that year was \$33.9 billion, and CapEx in crude oil and natural gas was \$26.7 billion.

The AER forecasts that oil sands CapEx will be about 40% of the 2014 peak throughout the 2020s. For the crude oil and natural gas industries, the AER expects annual CapEx to be 65-70% of the 2014 peak throughout the 2020s.

With Teck Resources' withdrawal of its application for the Frontier oil sands mine in February 2020, there are no new oil sands mining projects on the horizon. In situ capital spending in the 2020s is expected to mostly focus on low-cost expansions and efficiency gains in existing facilities.

Oil sands CapEx is not expected to bounce back to boom-time levels of the early 2010s because CapEx was much higher in the 2000-2018 growth phase of the oil sands business life cycle (Hussey 2020). Going forward, oil sands producers, as members of a mature industry, are expected to continue to deepen efficiency gains through automation and digitalization.

## 7. Automation and Digitalization in the Oil and Gas Industry

This section explores the decade-long trend of increasing automation and digitalization in the oil and gas industry. I start on the global level to provide context for the Canadian case. I then examine the industry in Canada, including specific examples of the technology used by the oil sands majors. This gives us a better picture of which jobs are most at risk of being eliminated through automation and shows us the strategy being used by each firm.

### *Automation and Digitalization in the Global Oil and Gas Industry*

A March 2020 forecast by Rystad Energy, a global independent energy research company based in the US, asserts that in the next decade at least 20% of oil drilling, operational support, and maintenance workers around the world could be replaced by automation (Wethe 2021).

In June 2020, shortly after the release of the Rystad forecast, global accounting firm Ernst and Young (EY) commissioned a survey that generated data from oil and gas executives who live and/or work for corporations with operations in North America, the Middle East, Asia-Pacific, Europe, and South America (see EY 2021). Unfortunately, the number of respondents is not mentioned in the EY report. Table 15 summarizes the current use of digital technologies by surveyed companies.

**Table 15.** Use of Various Digital Technologies by Surveyed Companies

Type of digital technology	Percentage of companies currently using it
Remote monitoring	93%
Mobile platforms/apps	92%
Cloud computing	90%
Operational technology	89%
Advanced analytics	85%
Robotic process automation (RPA)	70%
Artificial intelligence and/or machine learning	68%
Internet of things (IoT)	66%
Chatbots	52%
3D printing	49%
Virtual and/or augmented reality	48%
Edge computing	44%
Next-gen enterprise resource planning (ERP)	42%
Blockchain	23%
Autonomous transport	14%

Sources: Ernst & Young. September 29, 2020. "Oil and Gas Digital Transformation and the Workforce Survey 2020." Page 4.

The EY survey results indicate the use of automation and digital technologies is widespread in the oil and gas industry around the world. Generating and analyzing large amounts of operational and predictive data is seen by executives as having “the greatest potential to positively impact their business growth” (EY 2021, 2). However, the maturity of many technologies such as data analytics, artificial intelligence, and cybersecurity outpaces the current level of adoption by the industry (ibid, 1). This is in part because many oil and gas workers need upskilling so companies can take full advantage of the efficiency and productivity gains that can be realized with further automation and digitalization (ibid, 10).

The pandemic helped many employers overcome cultural and organizational barriers that had previously slowed the pace of digitalization. Coming out of the pandemic, the role of technology in the global oil and gas industry will accelerate as leading companies are expected to invest counter-cyclically in technology and workers’ skills (ibid, 22).

## ***Automation and Digitalization in the Canadian Oil and Gas Industry***

Turning our attention to the Canadian oil and gas industry, let’s begin with the fourth instalment of the Daily Oil Bulletin’s digital oilfield report (the first report was released in 2015). The November 2020 report, authored by JWN Energy, Amazon Web Services (AWS) and Rackspace Technology (RT), includes survey results from 251 industry insiders on digital oilfield technology and a roundtable of oil and gas executives on digital implementation in their businesses.

Like their international peers, industry leaders in Canada have used the interconnected public health and economic crises of 2020-2021 as an opportunity for “accelerating the digital transformation that has been advancing in the industry for a decade” (JWN, AWS, and RT 2020, 37). Ongoing energy transitions and related efforts to mitigate the worst effects of climate heating mean global oil demand is expected to decline in the coming decades. Fossil-fuel companies in Canada and around the world are competing in a shrinking market, and deepening digitalization of operations and of evidence-based decision-making are among the leading strategies to capture more profit from assets in this business environment (ibid, 43). Digital technologies “pay for themselves more quickly than other forms of investment” (ibid, 10) because they decrease maintenance and repair costs, increase asset “uptime,” and enhance the efficiency of productive facilities (ibid, 22).

Fleet management, remote asset monitoring, and field productivity are mature and widely used technologies in the Canadian oil and gas industry

(ibid, 10). Vehicle telematics and GPS tracking are examples of fleet management technologies that enable the use of real-time data from onboard sensors to improve vehicle use and logistics operations. Downhole drilling sensors are an example of a remote asset monitoring technology that helps companies collect and analyze data to improve asset performance and operational safety. Field tablets and augmented reality are examples of field productivity technologies that provide workers with wireless mobility access to field data, inventory, engineering drawings, and communications with centralized operations experts (ibid, 6).

Amid the COVID-19 public health crisis, it is unsurprising that Canadian oil and gas businesses are increasingly using “remote” technologies (ibid, 2). Besides the technologies mentioned in the paragraph above, this suite of technologies includes production asset optimization (e.g. sensors to optimize steam use in a steam-assisted gravity drainage facility), supply chain and field logistics technologies (e.g. software to predict and manage inventory), remote asset operation (e.g. off-site plant control centres), and remote asset inspection (e.g. pipeline inspection drones) (ibid, 19, 11).

Leading oil sands producers with mining operations are also using automated asset operations technologies, such as autonomous haul trucks (more on the Big Four’s use of technology below). Automating asset operations is believed to yield one of the highest returns on investment with low risk (ibid, 10). These technologies are lower ranked by Canadian industry insiders as a whole because intermediate and junior companies are less able to invest in the related technologies, cultural change, and upskilling that is needed to take advantage of automated asset operations. In general, automated asset operations technologies require supervisory control and data acquisition integrated infrastructure, and edge computing for artificial intelligence, machine learning, and analytics (ibid, 19). Though most Canadian oil and gas companies use data analytics for limited applications, only about one in eight use analytics extensively (ibid, 24).

Getting down to brass tacks, what are the employment implications of accelerating automation and digitalization in the Canadian oil and gas industry?

According to an August 2020 forecast from EY and PetroLMI, more than half of Canadian upstream oil and gas jobs could be eliminated by 2040 because of automation and digitalization (EY and PetroLMI 2020, 14). Exploration, production, and oil sands jobs are included in the upstream segment of the oil and gas sector.

Table 16 lists the predicted job cuts in 14 job-family categories and the types of jobs in each job family that are expected to be most impacted by 2040. A total of 124 specific types of jobs were analyzed by their core competencies,

and 14 job families were determined by grouping types of jobs based on a 70% match or higher in the competencies needed to perform it (ibid, 7).

The 124 types of jobs were also ranked according to the probability of being automated. Determining the probability of automation for each type of job involved weighing seven factors:

1. Predictability/repeatability
2. Data availability
3. Technical feasibility
4. Social feasibility
5. Economic feasibility
6. Risk reduction
7. Traceability/explainability (ibid, 6)

**Table 16.** Forecast of Canadian Exploration, Production, and Oil Sands Jobs to be Automated Away by 2040

Job family	2019 job numbers	2040 job numbers	Number of jobs automated away	Percentage of decrease in jobs	Roles most impacted
Equipment operator	9,679	3,342	6,337	65.5%	Heavy equipment operator
Drilling operations	7,066	2,631	4,435	62.8%	Drilling and service labourer
Trades	12,878	5,002	7,876	61.2%	Machinist
Marine and nautical	2,928	1,151	1,777	60.7%	Marine engine room crew
Technician	4,767	1,920	2,847	59.7%	Warehouse technician
Facility operations	13,986	5,976	8,010	57.3%	Control centre operator
Geology	5,395	2,725	2,670	49.5%	Seismic labourer and seismic operator
Business operations	7,641	3,947	3,694	48.3%	Purchasing agent and records management technician
Engineers/technologists/operators	10,347	5,588	4,759	46%	Power engineering technologist and stationary steam engineer
Information technology	1,970	1,088	882	44.8%	Database administrator
Human resources	3,858	2,390	1,468	38.1%	Human resources analyst
Environmental health and safety	1,382	885	497	36%	Environment technician
Land lease operations	1,072	733	339	31.6%	Mineral land and surface land professional
Relations	1,809	1,292	517	28.6%	Investor relations specialist
Total	84,778	38,670	46,108	54.4%	N/A

Sources: Ernst & Young, and PetroLMI. August 8, 2020. "Preparing for the future now: Rethinking the oil and gas workforce in 2040." Pages 11, 12, and 14.

The job families are listed in descending order based on the percentage of jobs that are forecasted to be automated away by 2040. In total, 46,108 job losses are predicted for the upstream oil and gas sector, or 54.4% of the upstream jobs that existed in 2019. More than 40% of the jobs in ten of the 14 job-family categories will be eliminated by 2040.

Equipment operators, drilling operations, and trades are the three job families that are expected to have the highest percentage of job cuts. Heavy equipment operators, drilling and service labourers, and machinists are among the specific types of jobs that are anticipated to be most impacted by automation by 2040.

The Canadian oil and gas industry's growing use of automation, digitalization, and modular facility designs in the last decade has already resulted in big gains in labour productivity. Productivity in the Canadian oil and gas industry increased 47% per employee from 2011 through 2019, and productivity in the oil sands increased 72% in the same period (Hussey 2020, 23). This indicates that the thousands of jobs that have been lost in recent years are likely not coming back. Production increased 23% from 2014 through 2019, while jobs declined by 23% in the same period (ibid).

Besides the thousands of job terminations connected to the 2014 oil price crash and industry consolidation since then (Hussey et al. 2018), and the decrease in construction jobs connected to the more than 50% cut in capital spending, labour productivity gains in the oil sands and the conventional oil and gas sectors have been and will continue to be driven by technological innovations and modularization. Let's turn now to an analysis of the oil sands majors' recent investments and uses of automation, digitalization, and modularization to improve the efficiency and productivity of their assets.

## ***Automation, Digitalization, and Modularization in the Oil Sands Majors***

### **Suncor Energy**

Suncor pilot-tested driverless trucks in 2015, and the company began to permanently eliminate its truck driving jobs in January 2018. Nine months later, North Steepbank — one of three Suncor-operated mines — eliminated all of its truck drivers (Jaremko 2019; Suncor 2020, 11). Suncor deployed driverless trucks at the Fort Hills mine in 2020 (Suncor 2021, 1). The company expects 400 truck drivers will have their jobs terminated by the end of 2023, as Suncor achieves full automation of its haul trucks (TCP 2018). CNRL and Imperial Oil have also pilot-tested automated trucks in their oil sands mines (McDermott 2018).

Suncor's digital transformation involves much more than autonomous trucks. The company invested \$830 million in technology development and deployment in 2019, including \$263 million in digital transformation spending (Suncor 2020, 5, 11). In 2020, Suncor invested \$535 million in technology (Suncor 2021, 5). They are investing in data analytics, remote sensing technology (e.g. drones and wireless employee monitors), automation/robotics, and artificial intelligence (Suncor 2020, 5, 11).

In November 2019, Suncor announced a multi-year agreement with Microsoft Canada to advance its digital transformation by moving toward a cloud-based computing platform to increase analytics capabilities and the connectivity of its workforce (Suncor 2019; Suncor 2020, 42). The strategic alliance with Microsoft should enable Suncor to improve productivity and safety across its operations and to deploy more quickly “artificial intelligence, machine learning, enhanced automation, and visualization” (DOB, CanOils, and KPMG 2020, 29).

Suncor’s business strategy also includes recent investments in sustainable aviation fuel production facilities that “are being constructed using a design that is expected to be able to be replicated” (Suncor 2022a, 41). Replicable design, also known as modular design or modularization, enables companies to reduce labour costs because modular buildings generally require fewer engineering and construction work hours to design and build.

Suncor’s automation and digitalization strategy resulted in 600 job cuts in 2020 (TCP 2021). The company expects to terminate a further 1,330 jobs by mid-2022, as the digital transformation across its operations continues (Healing 2020a).

*Suncor’s automation and digitalization strategy resulted in 600 job cuts in 2020.*

---

## Canadian Natural Resources Limited

In the 2010s, CNRL spent \$3.7 billion on researching and developing new technologies (CNRL 2020, 4). The company leveraged technology and innovation to earn about \$550 million in incremental margin improvements in 2019 and identified a further \$900 million in similar savings in 2020 and beyond (ibid, 3).

CNRL has major natural gas producing assets and core exploration growth areas in northeast BC and northwest Alberta (see CNRL n.d.1). The company says its drilling costs “have been reduced significantly over time through applying learnings, improved technology and efficiency gains via large consolidated drilling programs, using multi-well pads and sharing services” (ibid).

The use of multi-well drilling pads means rigs can drill more wells before having to be moved (see PetroLMI 2017, 27-28). This reduces the labour required to dismantle and rebuild rigs, lay down drill pipes, and design and build access roads. The net result of this technological innovation is that more wells can be drilled with less labour and the wells take less time to drill, thus reducing the labour required even further. Multi-well pads also enable efficiency gains in the delivery of materials and reduce the labour required for reclamation of wells and disturbed land.

CNRL has completed initial tests and a pilot plant trial of its “In-Pit Extraction Plant” (IPEP) technology (CNRL n.d.2; OSM 2022d). The company is moving forward with “detailed engineering” work for a 750 tonnes/hour commercial IPEP (OSM 2022d). IPEP uses extraction facilities built from “modular components that can be moved with the mine face” (CNRL n.d.2). CNRL says the technology “has the potential to reduce mining costs by \$2.00-\$3.00 per barrel” (ibid). This is considered a “major leap in cost reduction” (DOB, CanOils, and KPMG 2021, 36). Savings will include reduced labour costs for materials transportation (because the bitumen will be processed at the mine site) and for land reclamation (because the process produces dry stackable tailings that can be left in the mine pit) (ibid; OSM 2022d).

## Imperial Oil

Imperial Oil wants “to lead [the oil sands] industry in advancing digital and AI technology” (Imperial Oil 2019). The company established a “digital accelerator” team of data science experts to speed up the development and applications of digital technologies throughout the firm’s upstream business. Imperial is using or exploring many digital and automated technologies, including:

- Big data analytics
  - Cloud computing/storage
  - Collaborative technology platforms
  - Real-time communications and tracking
  - Mobile connectivity and augmented reality
  - Sensors
  - 3D scanning
  - Virtual reality
  - Additive manufacturing
  - Unmanned vehicles
  - Robotics and automation
- (Imperial Oil 2019)

In September 2019, Imperial Oil said it had recently collaborated with the Alberta Machine Intelligence Institute to improve the productivity of its assets through the development of “in-house machine learning capabilities... [to] enable a range of applied artificial intelligence (AI) projects” (Imperial Oil 2019). By mid-2020, Imperial Oil was using “machine learning models and a mathematical optimization model to help put limited steam to the best locations [in Cold Lake] to maximize production” (DOB, CanOils, and KPMG 2020, 29).



Imperial Oil is also using machine learning in a predictive maintenance model “to predict haul truck component failures far in advance in order to avoid unplanned downtime” (ibid). In addition, Imperial Oil is deploying digital technologies to optimize maintenance processes and scheduling at the Kearl mining facility to reduce costs and minimize risk (ibid).

### Cenovus Energy (and Husky Energy)

Like the other three oil sands majors, Cenovus is “accelerating the adoption of technology solutions” (Cenovus 2020, 59). In 2020, Cenovus invested \$60 million “in technology and infrastructure to modernize our workplace, improve our cost structure and reduce costs and risk” (Cenovus 2021, 22).

Cenovus is unique among the oil sands majors, however, in that the company is the largest in situ producer and all its reserves are suitable for that technologically intensive production process and not for mining. Cenovus “use[s] a repeatable, manufacturing approach” to build its in situ facilities in phases, so each new “phase benefits from improved technology” (Cenovus n.d.1). The technologically advanced plants have low operating costs and require low sustaining capital.

Similarly, Husky’s 11 thermal heavy oil plants, acquired by Cenovus in January 2021, “use repeatable, modular construction templates to...drive capital efficiency” (Cenovus n.d.2). As mentioned above, designing and building modular facilities requires less engineering and construction labour than one-off projects.

Before the Cenovus/Husky business combination, Husky was also investing in automation and digitalization. The amalgamated company is benefiting from those investments in machine learning, artificial intelligence, drones, fibre-optic cable, satellite technologies, mechanical sensors, pattern recognition software, advanced analytics for preventative maintenance, and pilot programs for robotic process automation (Husky 2020, 16).

## 8. Conclusion: Albertans Own Our Resources; Let's Start Acting Like It

The United Conservative's so-called job creation tax cut is a multi-billion-dollar handout to big businesses, who are cutting jobs and making excess profits from inflated prices on household fundamentals like gasoline, groceries, natural gas, and insurance. Albertans are footing the bill for skyrocketing CEO pay and record cash transfers to shareholders, while our health-care system is being privatized, our emergency medical system does not have enough workers or ambulances, new teacher hires are not keeping up with enrolment, and user fees are being hiked for everything from vehicle registrations to school programs to park passes to post-secondary tuition.

Since the United Conservative government gave away \$4.3 billion in tax cuts to the Big Four oil sands companies in 2019, these businesses, with \$160 billion in annual revenue, have cut almost 3,500 jobs by accelerating automation in their oilfields and downtown offices. These job cuts are the latest in a pile of more than 25,000 pink slips in the Alberta oil and gas industry since 2014, when capital spending was more than twice as high as it is today.

These jobs are probably not coming back, and more job losses are likely to occur. Accounting firm Ernst & Young expects more than half of upstream oil and gas jobs to be automated away by 2040. The Alberta Energy Regulator expects oil sands capital spending to be about 40% of the 2014 peak throughout the 2020s, and natural gas and conventional oil spending to be down by a third.

There is no accountability for the big oil and gas companies. They are given a big tax break and subsidies to pay workers' wages and to clean up orphan wells that they profited from while polluting our environment. Yet, the same companies with bulging bank accounts are fast-tracking automation because CEOs and shareholders benefit from increasing production while cutting jobs and capital spending. CEOs are raking in multi-million-dollar pay raises by boosting stock values with increased operational efficiency using automation and modular designs that require less capital spending and fewer jobs.

Albertans need to hold our government to account, so they stop lining the pockets of their corporate buddies while working families are struggling to make ends meet and the public services that we rely on go under-resourced. Instead of handing more than a billion dollars a year in public funds to four profitable oil companies, the Government of Alberta could have hired more than 10,000 nurses, emergency medical responders, teachers, and educational assistants.

Albertans — not CEOs and shareholders — should be reaping the benefits of our resources. Yet, the United Conservative government is still hyping the job-

*These jobs are probably not coming back, and more job losses are likely to occur.*

---

*The Government of Alberta needs to start acting on behalf of Albertans as the owners of our natural resources.*

---

cutting, investment-slashing oil and gas industry instead of providing workers and communities with a credible plan for how we are going to secure jobs and investment in future energy booms in wind, solar, hydrogen, and critical minerals. If targeted tax incentives are one part of a broader provincial jobs plan, then there need to be strings attached to ensure businesses that receive incentives are creating jobs and increasing investments in local communities.

The oil and gas industry will not disappear in the next decade, but peak oil demand will likely occur in the next five years, and the industry will continue to automate away jobs as it competes in a shrinking market. Giving oil companies a tax break to cut jobs by accelerating automation is the opposite of what Albertans need from our government. Blanket tax giveaways do not work. The United Conservative's term in office has proved that fact.

The Government of Alberta needs to start acting on behalf of Albertans as the owners of our natural resources. We give companies access to our oil and gas resources with the expectation they will create jobs and invest in our economy, not cut jobs and capital spending by investing in automation. Since this has been the industry's approach to business for several years, the provincial government needs to consider other ways for Albertans to fairly benefit from our natural resources, including higher corporate taxes and royalty rates.

Besides Alberta, the other three western Canadian provinces have corporate tax rates of 12% (GoC 2022). Alberta should align with its western peers and return to a 12% tax on the profits of large corporations.

Alberta's oil sands royalty rates are generous in several respects (see GoA n.d.). Changes are required so Albertans can start receiving a fair share of our resource wealth. For example, in the post-payout period of an oil sands project, the royalty rate only rises to 40% of the project's net revenues when WTI is at \$120 a barrel. As the resource owners, Albertans should earn at least 50% of net revenues when oil prices are high. The Government of Alberta should also consider lowering to \$90 the price threshold for when the maximum royalty rate applies.

The federal government also has a role to play to ensure Albertans and all Canadians receive a fairer deal during periods of high commodity prices and excess corporate profits. To help households struggling with the surging cost of living, several countries — including the United Kingdom, Spain, and Italy — have recently imposed a windfall tax or levy on the excess profits of large corporations in certain sectors, such as oil and gas, utilities, and banking (see Bloomberg 2022b; Soto 2022; Brambilla and Albanese 2022). The Government of Canada should join its peers in imposing a temporary windfall profit tax to help pay for household support programs.

## References

Alberta Energy Regulator (AER). 2022a. ST98 2022: Alberta Energy Outlook – Executive Summary. [https://static.aer.ca/prd/documents/sts/ST98/2022/ST982022\\_ExecutiveSummary.pdf](https://static.aer.ca/prd/documents/sts/ST98/2022/ST982022_ExecutiveSummary.pdf)

Alberta Energy Regulator (AER). 2022b. Capital Expenditures. <https://www.aer.ca/providing-information/data-and-reports/statistical-reports/st98/prices-and-capital-expenditure/capital-expenditures>

Bloomberg. 2022a. “Drillers awaken in Canada as war leaves world begging for oil.” *JWN Energy*, March 15. <https://www.jwnenergy.com/article/2022/3/15/drillers-awaken-in-canada-as-war-leaves-world-begg/>

Bloomberg. 2022b. “Big Oil set for record profit as world reels from high fuel cost.” *JWN Energy*, July 26. <https://www.jwnenergy.com/article/2022/7/26/big-oil-set-for-record-profit-as-world-reels-from-/>

Brambilla, Alberto and Chiara Albanese. 2022. “Italy to Hit Energy Companies With 10% Levy to Fund Support Plan.” Bloomberg, March 19. <https://www.bloomberg.com/news/articles/2022-03-19/italy-to-hit-energy-companies-with-10-levy-to-fund-support-plan#xj4y7vzkg>

Canadian Association of Petroleum Producers (CAPP). 2021. “Natural Gas and Oil Industry Investing in Canada’s Economic Recovery.” January 13. <https://www.capp.ca/news-releases/natural-gas-and-oil-industry-investing-in-canadas-economic-recovery/>

Canadian Natural Resources Limited (CNRL). 2020. Canadian Natural 2019 Annual Report. <https://www.cnrl.com/investor-information/annual-documents.html#2019>

Canadian Natural Resources Limited (CNRL). No Date 1 (accessed August 12, 2021). “Natural Gas.” <https://www.cnrl.com/operations/north-america-exploration-and-production/north-america-natural-gas-light-crude-oil-ngls/western-natural-gas-region>

Canadian Natural Resources Limited (CNRL). No Date 2 (accessed May 12, 2022). “Oil Sands Mining & Upgrading.” <https://www.cnrl.com/operations/north-america-exploration-and-production/oil-sands-mining>

Cenovus Energy. 2020. Cenovus Energy 2019 Annual Report. [https://mc-ced23ebb-4707-4c95-9c94-3171-cdn-endpoint.azureedge.net/-/media/Project/WWW/docs/investors/2020/2019-annual-report.pdf?rev=d9317dfe128c4fc6bf8779563bb090c7&sc\\_lang=en&hash=60492395F77405B48475A8A194FF792B](https://mc-ced23ebb-4707-4c95-9c94-3171-cdn-endpoint.azureedge.net/-/media/Project/WWW/docs/investors/2020/2019-annual-report.pdf?rev=d9317dfe128c4fc6bf8779563bb090c7&sc_lang=en&hash=60492395F77405B48475A8A194FF792B)

Cenovus Energy. 2021. Cenovus Energy Management’s Discussion and Analysis for the Period Ended December 31, 2020. <https://www.cenovus.com/Investors/Financial-results#annual>

Cenovus Energy. No Date 1 (accessed August 13, 2021). “Oil sands.” <https://www.cenovus.com/operations/oilsands.html>

Cenovus Energy. No Date 2 (accessed August 13, 2021). “Heavy oil production.” <https://www.cenovus.com/operations/heavy-oil-production.html>

Cochrane, DT. 2022. “The Rise of Corporate Profits in the Time of Covid.” Canadians for Tax Fairness. April 6. <https://www.taxfairness.ca/en/resource/report-rise-corporate-profits-time-covid>

CTV News Calgary. 2021. “Latest round of layoffs arrives at Calgary-based Cenovus following purchase of Husky.” CTV News Calgary. March 16. <https://calgary.ctvnews.ca/mobile/latest-round-of-layoffs-arrives-at-calgary-based-cenovus-following-purchase-of-husky-1.5349030>

Daily Oil Bulletin (DOB), CanOils, and KPMG. 2020. “Top Operators 2020: The Great Disruption.” *JWN Energy*. <https://www.jwnenergy.com/reports/oilweek-top-100/>

Daily Oil Bulletin (DOB), CanOils, and KPMG. 2021. “Top Operators 2021: Up Off the Canvas.” *JWN Energy*. <https://www.jwnenergy.com/article/2021/9/8/2021-top-operators-report-uncertainty-remote-work/>

Egler, Megan. 2021. *Not Well Spent: A review of \$1-billion federal funding to clean up Alberta's inactive oil and gas wells*. Parkland Institute and Oxfam Canada. [https://www.parklandinstitute.ca/not\\_well\\_spent](https://www.parklandinstitute.ca/not_well_spent)

Ernst & Young, and PetroLMI. 2020. *Preparing for the future now: Rethinking the oil and gas workforce in 2040*. August. [https://www.ey.com/en\\_ca/oil-gas/rethinking-the-oil-and-gas-workforce-in-2040](https://www.ey.com/en_ca/oil-gas/rethinking-the-oil-and-gas-workforce-in-2040)

Ernst & Young. 2021. *Oil and Gas Digital Transformation and the Workforce Survey 2020*. May. [https://assets.ey.com/content/dam/ey-sites/ey-com/en\\_gl/topics/oil-and-gas/ey-oil-and-gas-digital-transformation-and-the-workforce-survey-2020.pdf](https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/oil-and-gas/ey-oil-and-gas-digital-transformation-and-the-workforce-survey-2020.pdf)

Fedor, Tyson and Mark Villani. 2021. “Calgary-based Cenovus Energy to lay off upward of 2,000 workers.” CTV News Calgary. January 26. <https://calgary.ctvnews.ca/calgary-based-cenovus-energy-to-lay-off-upward-of-2-000-workers-1.5282448>

Ferede, Ergete and Bev Dahlby. 2012. “The Impact of Tax Cuts on Economic Growth: Evidence from the Canadian Provinces.” *National Tax Journal* 65(3), 563-594.

Ferreira, Victor and Kevin Carmichael. 2020. “FP Investigation: As CEWS flowed in, dividends flowed out.” *Financial Post*. December 7. <https://financialpost.com/investing/fp-investigation-as-cews-flowed-in-dividends-flowed-out>

Government of Alberta (GoA). 2019 (2019a). “Job Creation Bill Gets Albertans Back to Work.” May 28. <https://www.alberta.ca/release.cfm?xID=63953004C20BF-C2C7-1781-80CD1F23ECDF6BED>

Government of Alberta (GoA). 2019 (2019b). “Job Creation Tax Cuts: Premier Kenney.” June 28. <https://www.alberta.ca/release.cfm?xID=641413F230092-A4A5-3929-A6DFEDAF60175BF4>

Government of Alberta (GoA). 2020. “Alberta’s Recovery Plan: Creating Jobs, Building, Diversifying.” June 29. <https://www.alberta.ca/release.cfm?xID=727120D7B418C-DF0C-FB14-235849A8D5356268>

Government of Alberta (GoA). No Date (accessed July 26, 2022). “Oil sands royalties – Overview.” <https://www.alberta.ca/royalty-oil-sands.aspx>

Government of Canada (GoC). 2022. “Corporation Tax Rates.” May 12. <https://www.canada.ca/en/revenue-agency/services/tax/businesses/topics/corporations/corporation-tax-rates.html>

Healing, Dan (The Canadian Press). 2020a. “Suncor Energy says it will cut 10 to 15 per cent of its workforce over next 18 months.” *Toronto Star*. October 2. <https://www.thestar.com/business/2020/10/02/suncor-energy-says-it-will-cut-10-to-15-per-cent-of-its-workforce-over-next-18-months.html>

Healing, Dan (The Canadian Press). 2020b. “Canadian Natural CEO says conditions right for consolidation as company reports profit.” BNN Bloomberg. November 5. <https://www.bnnbloomberg.ca/canadian-natural-resources-reports-408m-third-quarter-profit-1.1518035>

Husky Energy. 2020. Husky Energy 2019 Annual Report. [https://huskyenergy.com/downloads/abouthusky/publications/annualreports/HSE\\_Annual2019.pdf](https://huskyenergy.com/downloads/abouthusky/publications/annualreports/HSE_Annual2019.pdf)

Husky Energy and Cenovus Energy. 2020. “Creating a Resilient Energy Leader.” November 9. <https://huskyenergy.com/downloads/investorrelations/HSE-CVE/HSE-CVE-Husky-Cenovus-Information-Circular.pdf>

Hussey, Ian, Eric Pineault, Emma Jackson, and Susan Cake. 2018. *Boom, Bust, and Consolidation: Corporate Restructuring in the Alberta Oil Sands*. Parkland Institute, Canadian Centre for Policy Alternatives BC Office, and the Corporate Mapping Project. <https://www.parklandinstitute.ca/boom-bust-and-consolidation>

Hussey, Ian. 2020. *The Future of Alberta’s Oil Sands Industry: More Production, Less Capital, Fewer Jobs*. Parkland Institute and the Corporate Mapping Project. <https://www.parklandinstitute.ca/the-future-of-albertas-oil-sands-industry>

Imperial Oil. 2019. “How we are using digital technology to advance our business.” September 27. <https://www.imperialoil.ca/en-CA/Sustainability/Innovation-and-research/Lets-get-digital-digital>

Jaremko, Deborah. 2019. “Autonomous hauling likely underway at Fort Hills as SMS deploys largest driverless truck.” *JWN Energy*. April 17. <https://www.jwnenergy.com/article/2019/4/autonomous-hauling-likely-now-underway-fort-hills-sms-deploys-largest-driverless-truck/>

JWN Energy, Amazon Web Services, and Rackspace Technology. 2020. Digital Oilfield: Outlook Report 2020. *Daily Oil Bulletin*. <https://www.dailyoilbulletin.com/article/2020/11/18/digital-oilfield-outlook-report-2020-ready-for-dow/>

Lewis, Jeff and Rod Nickel (Reuters). 2020. “Cenovus to cut up to 25% of workforce after merger with Husky.” *Financial Post*. October 27. <https://financialpost.com/commodities/energy/cenovus-to-cut-up-to-25-of-workforce-after-merger-with-husky>

MacDonald, David. 2020. “Fail Safe: CEO Compensation in Canada.” Canadian Centre for Policy Alternatives. January 2. <https://policyalternatives.ca/publications/reports/fail-safe>

MacDonald, David. 2021. “The Golden Cushion: CEO Compensation in Canada.” Canadian Centre for Policy Alternatives. January 4. <https://policyalternatives.ca/publications/reports/golden-cushion>

Macdonald, David. 2022. “Profit Squeeze: Excess Corporate Profits are Making Inflation Tougher for Canadians.” *The Monitor*. April 4. <https://monitormag.ca/articles/profit-squeeze-the-case-for-an-excess-profit-tax-in-canada-on-corporate-inflation-drivers>

McDermott, Vincent. 2018. “Imperial plans deployment of seven automated trucks by year’s end, CNRL to start pilot in 2019” *Fort McMurray Today*. July 31. <https://www.fortmcmurraytoday.com/news/local-news/imperial-plans-deployment-of-seven-automated-trucks-by-years-end-cnrl-to-start-pilot-in-2019>

Oil Sands Magazine (OSM). 2022a. “Western Canadian Egress Gets a Boost: A Look at the Heavy Oil Discount Post-L3R.” March 18. <https://www.oilsandsmagazine.com/market-insights/2022/3/18/western-canadian-crude-egress-wcs-heavy-oil-discount-post-line-3-replacement>

Oil Sands Magazine (OSM). 2022b. “Oil Sands Operations.” May 20. <https://www.oilsandsmagazine.com/projects/bitumen-production>

Oil Sands Magazine (OSM). 2022c. “US Imports of Canadian Crude.” July 15. <https://www.oilsandsmagazine.com/energy-statistics/usa-weekly#CdnImports>

Oil Sands Magazine (OSM). 2022d. Mid-Year Update – Part 2: Alberta’s Oil Sands Miners Revise Outlook. August 10. <https://www.oilsandsmagazine.com/news/2022/8/10/oil-sands-miners-revise-2022-bitumen-production-outlook>

Petroleum Labour Market Information (PetroLMI). 2017. *Labour Productivity in Canada’s Oil and Gas Industry: A Discussion of Historical Trends and Future Implications*. [https://s3-ca-central-1.amazonaws.com/petrolmi-media-library/petro-lmi/corporate-website/current/wp-content/uploads/2019/07/30161315/LabourProductivityReport\\_2017\\_FINAL1.pdf](https://s3-ca-central-1.amazonaws.com/petrolmi-media-library/petro-lmi/corporate-website/current/wp-content/uploads/2019/07/30161315/LabourProductivityReport_2017_FINAL1.pdf)

Petroleum Labour Market Information (PetroLMI). 2021. *Labour Market Outlook 2021 to 2023: Canada’s Oil and Gas Industry*. <https://petrolmi-media-library.s3.ca-central-1.amazonaws.com/petro-lmi/corporate-website/current/wp-content/uploads/2021/03/22131247/Labour-Market-Outlook-2021-to-2023-FINAL.pdf>



Soto, Alonso. 2022. "Spain Slaps New Tax on Banks to Help Ease Price-Crunch Pain. Bloomberg." July 12. <https://www.bloomberg.com/news/articles/2022-07-12/spain-to-impose-exceptional-tax-on-banks-prime-minister-says-l5i2428j>

Stephenson, Amanda (The Canadian Press). 2022. "Industry group expects oil and gas investment to rise 22 per cent this year to \$32.8 billion." CBC News Calgary. January 20. <https://www.cbc.ca/news/canada/calgary/canadian-association-of-petroleum-producers-investment-increasing-1.6322270>

Suncor Energy. 2019. "Suncor accelerates digital transformation journey through strategic alliance with Microsoft." November 12. <https://sustainability-prd-cdn.suncor.com/-/media/project/suncor/files/news-releases/2019/2019-11-12-suncor-microsoft-strategic-alliance-en.pdf?modified=20210902051047>

Suncor Energy. 2020. Suncor Annual Report 2019. [https://sustainability-prd-cdn.suncor.com/-/media/project/suncor/files/investor-centre/annual-report-2019/2019-annual-report-en.pdf?modified=20210902050140&ga=2.246194564.128297862.1662665975-1871383901.1658516333&gac=1.229371176.1662665989.EAIAIQobChMI8Ym5tPmF-gIV-CitBh0AwguQEAAAYASAAEgIKGPD\\_BwE](https://sustainability-prd-cdn.suncor.com/-/media/project/suncor/files/investor-centre/annual-report-2019/2019-annual-report-en.pdf?modified=20210902050140&ga=2.246194564.128297862.1662665975-1871383901.1658516333&gac=1.229371176.1662665989.EAIAIQobChMI8Ym5tPmF-gIV-CitBh0AwguQEAAAYASAAEgIKGPD_BwE)

Suncor Energy. 2021. Suncor Annual Report 2020. [https://sustainability-prd-cdn.suncor.com/-/media/project/suncor/files/investor-centre/annual-report-2020/2020-annual-report-en.pdf?modified=20210902050148&ga=2.246194564.128297862.1662665975-1871383901.1658516333&gac=1.229371176.1662665989.EAIAIQobChMI8Ym5tPmF-gIV-CitBh0AwguQEAAAYASAAEgIKGPD\\_BwE](https://sustainability-prd-cdn.suncor.com/-/media/project/suncor/files/investor-centre/annual-report-2020/2020-annual-report-en.pdf?modified=20210902050148&ga=2.246194564.128297862.1662665975-1871383901.1658516333&gac=1.229371176.1662665989.EAIAIQobChMI8Ym5tPmF-gIV-CitBh0AwguQEAAAYASAAEgIKGPD_BwE)

Suncor Energy. 2022a. Suncor Annual Report 2021. <https://www.suncor.com/en-ca/investor-centre/financial-reports/annual-disclosure>

Suncor Energy. 2022b. Suncor 2021 Fourth Quarter Report. <https://www.suncor.com/en-ca/investors/financial-reports/quarterly-reports>

The Canadian Press (TCP). 2018. "Driverless trucks will eliminate 400 positions: Suncor Energy." *Global News*. January 31. [https://globalnews.ca/news/3998291/driverless-trucks-will-eliminate-400-positions-suncor-energy/?utm\\_expid=.kz0UD5JkQOC6yMqxGqECg.0&utm\\_referrer=](https://globalnews.ca/news/3998291/driverless-trucks-will-eliminate-400-positions-suncor-energy/?utm_expid=.kz0UD5JkQOC6yMqxGqECg.0&utm_referrer=)

The Canadian Press (TCP). 2020. "Imperial Oil to lay off 200 workers following cost cutting analysis." *JWN Energy*. November 26. <https://www.jwnenergy.com/article/2020/11/26/imperial-oil-to-lay-off-200-workers-following-cost/>

The Canadian Press (TCP). 2021. "Industry optimism rising with production but producers still cautious." *JWN Energy*. April 6. <https://www.jwnenergy.com/article/2021/4/6/industry-optimism-rising-with-production-but-produ/>

The Canadian Press (TCP). 2022. "Kenney tells municipalities no time to super spend despite soaring oil cash." *JWN Energy*. March 11. <https://www.jwnenergy.com/article/2022/3/11/alberta-premier-tells-municipalities-no-time-to-su/>



United Conservative Party (UCP). 2019. *Alberta Strong & Free: Getting Alberta Back to Work*. <https://www.unitedconservative.ca/wp-content/uploads/2020/07/Alberta-Strong-and-Free-Platform-1.pdf>

Wethe, David (Bloomberg). 2021. "Report Predicts Oilfield Job Losses to Robots." *Rigzone*. March 29. [https://www.rigzone.com/news/report\\_predicts\\_oilfield\\_job\\_losses\\_to\\_robots-29-mar-2021-165022-article/](https://www.rigzone.com/news/report_predicts_oilfield_job_losses_to_robots-29-mar-2021-165022-article/)



1-12 Humanities Centre  
University of Alberta  
Edmonton, Alberta  
T6G 2E5  
Phone: 780.492.8558  
Email: [parkland@ualberta.ca](mailto:parkland@ualberta.ca)  
Website: [www.parklandinstitute.ca](http://www.parklandinstitute.ca)

ISBN: 978-1-894949-88-0