

Winds of Change

Public Opinion on Energy Politics in Saskatchewan

By Andrea Olive, Emily Eaton, and Randy Besco



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About the Authors

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Introduction

Energy politics are controversial in Canada. Debates over pipelines, from the Kinder Morgan Trans Mountain expansion to TransCanada's Keystone XL, are often splashed across newspaper headlines. In Saskatchewan, however, the Saskatchewan Party government and the official NDP opposition have rarely disagreed about the importance of defending the province's oil industry from anti-pipeline activists and federal climate change policies. Most recently, the interim leader of the NDP sided with Alberta Premier Rachel Notley in the dispute between Alberta and British Columbia over Kinder Morgan.¹ Although Saskatchewan produces no bitumen itself, the NDP joined Premier Notley in condemning BC Premier Horgan's announcement that British Columbia will place

restrictions on the shipment of bitumen through its territory.

Given the seeming political consensus that defending the oil industry is consistent with defending the province's interests, one might assume that Saskatchewan people are relatively united in their support for fossil fuel extraction. In this report we present some surprising results of public opinion polling that we conducted on issues of oil extraction, environment, and climate change in the province. Our results show that people living in Saskatchewan support a transition away from fossil fuels and agree that the government should invest more in solar and wind power while strengthening environmental regulations.



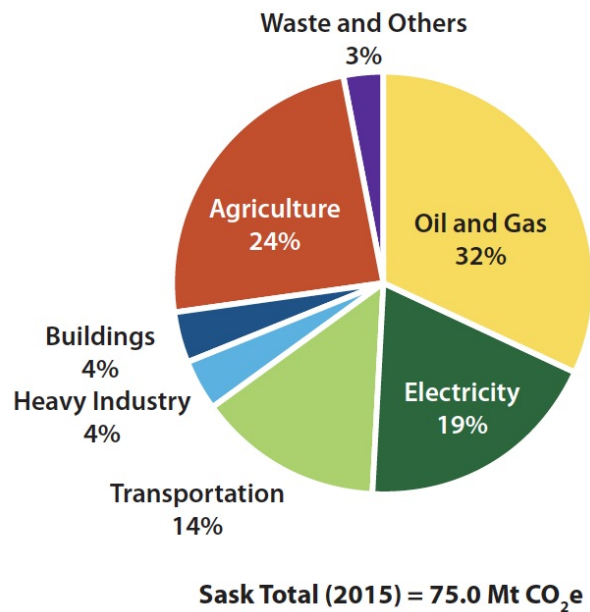
Justin Trudeau speaks at a panel with Canadian premiers at the COP21 climate change conference in Paris in 2015.
photo credit: Province of British Columbia via Flickr, CC BY-NC-ND 2.0

Background

Saskatchewan is Canada's second largest oil producer (after Alberta), with about 13% of Canada's total crude oil production. The majority of oil production occurs in southeastern, southwestern, and south-central Saskatchewan. In 2017, the province's average production was 484,575 barrels of oil per day (Government of Saskatchewan, 2018). About a quarter of the province's oil is found in shale rock formations that are now accessible and profitable because of recent technological advances in the oil industry, namely multi-stage hydraulic fracturing (fracking). This is a technique whereby a mixture of sand, chemicals, and water is blasted into shale rock to loosen the oil so it can be extracted from the ground. For fracking to occur, an oil firm must secure the mineral rights and install a well pad, similar to conventional oil extraction. At the well pad, drilling can occur both vertically as well as horizontally, and the same well site can be "fracked" multiple times so as to maximize oil recovery.

Given its oil production, Saskatchewan is also a significant producer of carbon emissions. In 2015, emissions were 75 Mt.² That is much smaller than Alberta's emissions at 274 Mt or Ontario's 166 Mt, but is still enough to rank Saskatchewan third for total emissions, and first for per capita emissions in the country (Government of Canada, 2017). Moreover, between 2005 and 2015, Saskatchewan's emissions increased by almost 8% while national emissions fell because of decreases in other provinces (like Ontario). As Figure 1 illustrates, the oil and gas sector is the largest emitter of GHG emissions in the province (by industry sector). It represents about a third of the province's already high emissions.

Figure 1: Saskatchewan's GHG emissions by economic sector, 2015 (*Prairie Resilience*, 2017)



The extent to which the government of Saskatchewan is willing to regulate oil and gas production to reduce greenhouse gas emissions, or enhance environmental quality at all, is a contentious political issue. There is research to suggest that Saskatchewan's government is not only reluctant to regulate, but actually working to remove environmental barriers that would slow-down or otherwise prohibit oil production, such as environmental assessments. Carter and Eaton (2016) compared Saskatchewan to other jurisdictions across North America and found that the province has taken the most minimalist approach to regulating its growing fracking industry. Of particular note is that the province has adopted no new significant regulations to deal with the risks associated specifically with fracking; that regulators have provided a de facto exemption from environmental impact

assessment for the oil industry, and that the province's capacity to monitor and enforce existing regulations has diminished.

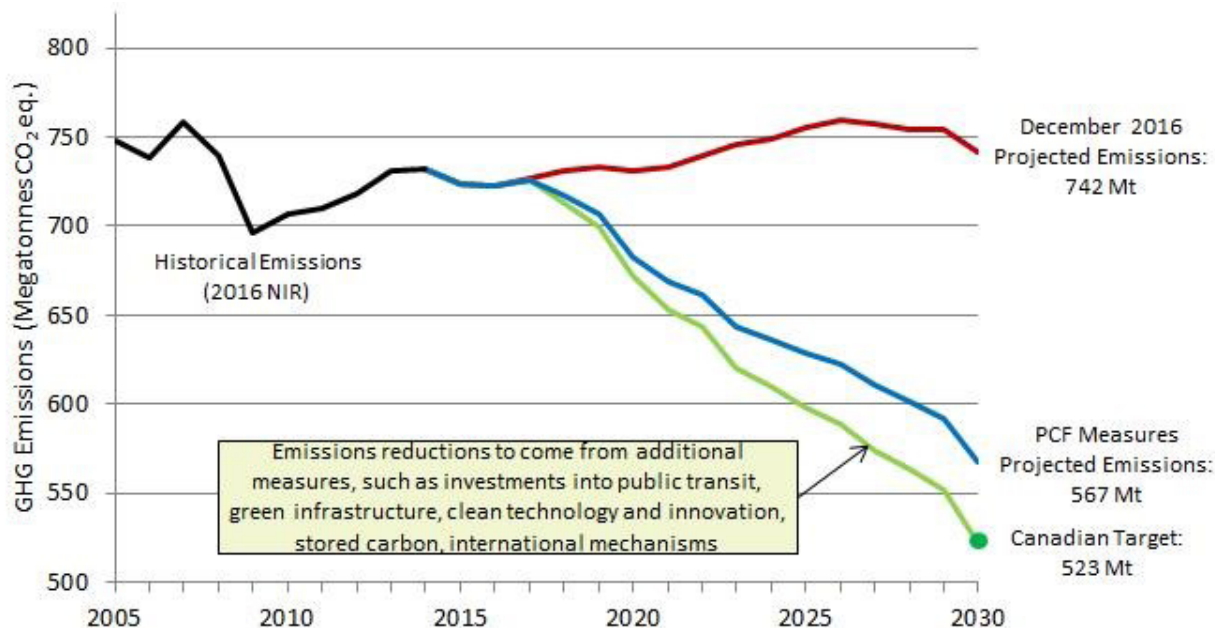
However, Saskatchewan is not alone in this respect. Carter, Fraser, and Zalik (2017) examined four energy producing provinces (Alberta, BC, Saskatchewan, and Newfoundland) and found a similar trend toward consolidated environmental policy-making authority in energy/resource orientated agencies, limited opportunities for public involvement in energy debates, and policy inaction on the cumulative effects of energy production. Of particular note in Saskatchewan, Carter *et al* (2017) demonstrate that the Ministry of Economy, created in 2012, is now the lead agency of oil and gas while the Ministry of Environment has a diminishing role in decisions about the environment-energy nexus.

The Government of Saskatchewan has also been an adamant opponent to regulating carbon emissions through a price mechanism. In March of 2016, Ottawa and the provinces agreed to the Vancouver Declaration on Clean Growth and Climate Change, which commits governments

to meeting or exceeding Canada's United Nation's Paris Agreement 2030 targets of a 30% reduction in GHG emissions, when compared to 2005 levels. In order to achieve this aim, all provinces and territories, except Saskatchewan, signed on to the Pan-Canadian Framework (PCF) on Clean Growth and Climate Change. Through this framework Canada committed to reducing its total economy-wide emissions to 523 Mt in 2030 as shown in Figure 2. However, projected emissions in the country are 742 Mt by 2030 if "business as usual" practices continue. If the PCF were to be adopted by all provinces and implemented according to plan, then emissions are projected to be at 567 Mt. Thus, even with the PCF, additional reductions would still be required to meet Canada's commitments to the Paris Agreement.

Saskatchewan's refusal to sign on to the PCF revolves around that framework's commitment to carbon pricing. Former Premier Brad Wall was adamantly against a price on carbon. And the new Premier, Scott Moe, has expressed similar opposition to a federally imposed

Figure 2: Canada's GHG emissions projected to 2030 (ECCC 2018)



price on carbon. Instead of joining the PCF, the Saskatchewan Party government released its 2017 climate change plan entitled *Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy*. This plan specifically claims:

A carbon tax would not significantly reduce emissions in our province where our economy and geography don't allow for easy alternatives. In fact, a carbon tax would make it more difficult for our province to respond effectively to climate change because a simple tax will not result in the innovations required to actually reduce emissions. We believe the challenges we face are complex and will not yield to simple measures. The conversation about climate change must be broader than carbon pricing. It must encompass how we as Canadians prepare, mitigate and adapt.

Indeed, *Prairie Resilience* has been critiqued by environmentalists and environmental organizations in Saskatchewan for leaning too strongly towards adaptation measures without putting forward stringent enough mitigation measures (Dechene, 2017). However, as of January 1, 2018, the province has set into force parts of its 2010 *Management and Reduction of Greenhouse Gases and Adaptation Act* (MRGGAA). Of note, all industries that emit greenhouse gases are required to report their "baseline emissions

levels" — or what they emit in a given year — to the Minister. Then, "for each prescribed year, every regulated emitter shall reduce its greenhouse gas emissions by the prescribed amount below the baseline emission level" (MRGGAA 2010). The Minister sets the reduction level that each emitter must meet each year. Any firm that is falsifying data or failing to meet the reduction target is subject to fines and penalties. In order to avoid fines for going over the set baseline, emitters are allowed to purchase carbon offsets and/or pay into a technology fund.

If Saskatchewan continues to reject a price on carbon and pursue emission reductions solely through the MRGGAA, it may struggle to significantly reduce its emissions. The province has no firm commitment or target set for GHG reductions across the province. *Prairie Resilience* does recognize Canada's international commitment of 30% below 2005 levels by 2030, but does not state whether or not Saskatchewan is committed to this goal. The strategy does include one goal — "up to 50%" electricity from renewables through increasing wind and solar energy (Government of Saskatchewan, 2017, 6). However, the province is presently producing very little of these energies.³ That is the only time alternative energy is mentioned at all in *Prairie Resilience* so it is not clear how the province intends to transition to more alternative energy.

Attitudes Toward Energy

There are few independent studies of residents' attitudes toward energy issues in Saskatchewan. What does exist tends to be narrowly focused on a carbon tax and/or beliefs about global warming (see for example, Mildener et al, 2016). There is, however, focused research on landowner attitudes in oil producing regions of Saskatchewan. Zink and Eaton's (2016) research has found that farmers, ranchers and other landowners with oil wells on their land often have serious grievances with the oil industry having to do with leaks and spills that affect their farms, living beside flare stacks that make them sick and much more. Yet, as Eaton and Kinchy (2016) argue, they rarely express their opposition to oil companies through collective action, instead opting to individually challenge industry while otherwise remaining silent. Eaton and Enoch (2018) describe how residents of Saskatchewan's oil producing communities display 'psychological identification' with the oil industry such that they regularly adopt industry discourses when they speak about a host of energy-related issues. This psychological identification is evident in Eaton's (2017) report which found that variously positioned residents of rural oil producing communities expressed high levels of dismissal of the realities of climate change and antagonism towards the federal government over its climate change and carbon pricing policies. In sum, this research has found that while grievances do exist, residents of oil producing communities frame their complaints within an overall acceptance and identification with the oil industry and its discourses on energy and climate change.

Similarly, Olive and Valentine (2018) surveyed and interviewed environmental organizations working in the province and found very little engagement with oil and fracking issues. For example, they found that "one ENGO representative from a well-established prairie grasslands organization was not even sure if fracking was occurring in Southern Saskatchewan" (pg. 195). This is shocking given that thousands of wells are fracked in the grasslands across the province. Given the lack of awareness of fracking and engagement with oil production politics, Olive and Valentine conclude that both politicians and the public are "not receiving a high level of messaging" from an environmental standpoint (pg. 196).

This report examines the attitudes that residents living in the province have toward energy politics. In February 2018 we surveyed 500 adult residents of Saskatchewan using an online survey. Research Now, a public opinion consulting firm, recruited the participants. The demographics of the participants are available in the Appendix. However, it should be noted that our sample is generally representative of the Saskatchewan population as a whole. We asked about climate change and carbon pricing, the oil industry, hydraulic fracturing, and alternative energy. While the common assumption is that Saskatchewan is pro-oil, our results suggest a more nuanced view of the balance between oil and the environment among the people living there.

Results and Discussion

Climate Change

Participants in the study were mostly familiar with climate change: 34% said they have read/heard a lot about climate change, 44% said they have read/heard some, and only 18% reported that they have heard/read a little about climate change. In terms of where individuals read or hear about climate change, the sources varied. While we know from prior research that most people hear about climate change on television, we asked about newspapers, radio, and social media. Respondents were able to choose as many sources as applicable. As can be seen in Figure 3, almost half of the respondents learn about climate change through local newspapers, while only 10-15% rely on Canada's national newspapers. When asked about specific local newspapers, most respondents mentioned the *Regina Leader-Post* (20%) and the *Saskatoon Star Phoenix* (18%) but also identified other papers such as the *Prince Albert Daily Herald*, *Medicine Hat News*, *Saskatoon Express*, and the *Southwest Booster*. Outside of print media, Facebook and the radio are other important sources of information for about a third of respondents.

Survey participants believe that the earth is warming. A total of 74% agreed compared to only 10% that believe the earth is not warming, and 16% who say they do not know if the earth is warming. But even though three-quarters agree, only 51% think the warming is caused by human activities such as burning fossil fuels (see Figure 4). The presented data excludes the 95 respondents who answered "don't know" and instead breaks down the responses into those who believe the earth is warming due to human activity or natural patterns and those who do not believe the earth is warming.

Figure 3: From what sources do you get information about climate change? (Check all that apply.)

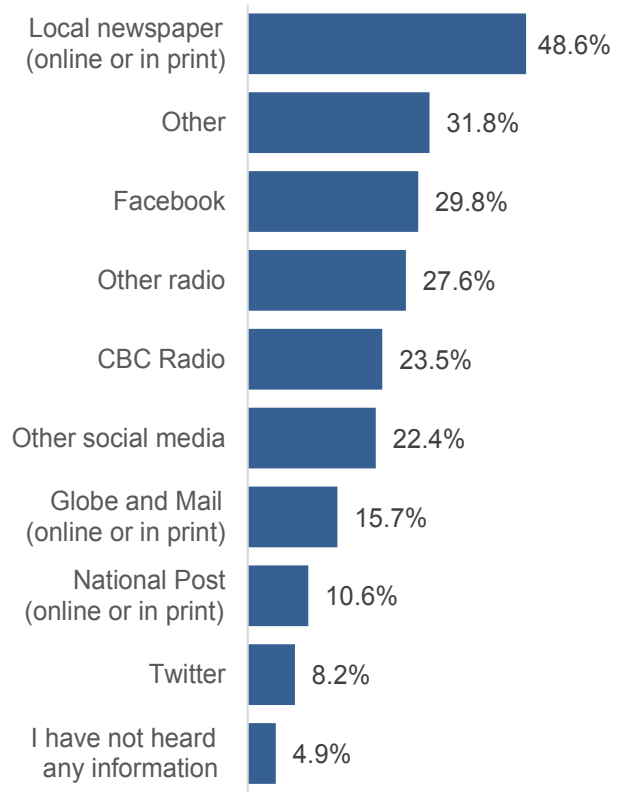
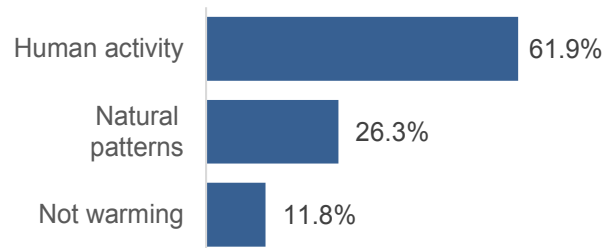


Figure 4: The earth is getting warmer mostly because of ...

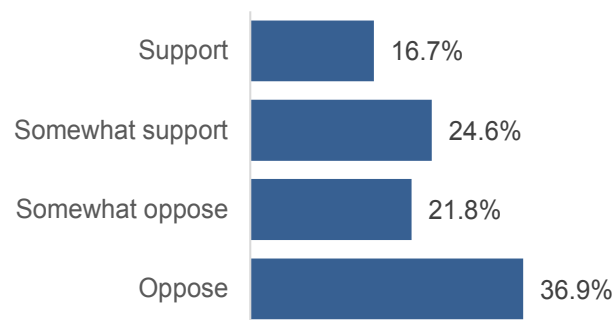


The predictors of belief that climate change is caused by humans are consistent with other studies. Those with higher education, those from urban areas, and those who identify as women are more likely to believe climate change is primarily anthropogenic. Similarly, those who identified with more centrist and left leaning political parties were also more likely to believe in anthropogenic climate change. In our sample, income was not a significant predictor of belief that climate change is caused by humans.

While identification with the Saskatchewan Party correlated with lower rates of belief in the human causes of climate change, the official position of the Saskatchewan Party government is that the earth is warming because of human activities. The government’s climate change website states that “modern human activities, especially the burning of fossil fuels for heat and electricity and transportation, have been releasing more greenhouse gases (GHGs) than ever before, warming the earth at a significant rate” (Government of Saskatchewan, n.d.) However, there seems to be a gap between the Saskatchewan Party’s official position and the beliefs of party identifiers.

A majority, 59%, of survey respondents oppose a price on carbon (see Figure 5). Here party identification is significantly correlated with

Figure 5: Do you support or oppose a price on carbon emissions to reduce the use of fossil fuels such as coal, oil, or natural gas?



attitudes toward a price on carbon. Of those that oppose the tax, 57% identify with the Saskatchewan Party while only 16% identify with the NDP.

Likewise, of those that support the tax, 50% identify with the NDP and only 13% identify with the Saskatchewan Party. Moreover, people who believe climate change is caused by humans are more likely to support a carbon tax.

Both the Saskatchewan Party government and the NDP have taken positions of antagonism to the federal carbon tax. Not surprisingly, then, our survey identified significant opposition to the federal price on carbon. The question we posed stated, “The Federal Government is requiring all provinces to put a price on carbon, starting at \$10 a ton this year, and increasing to \$50 in 2022. The Saskatchewan Government has refused, saying it is unconstitutional for the Federal Government to force the provincial government to do that.” Respondents were then asked on a scale from 0 (Federal) to 10 (Saskatchewan) who is “right”? The mean answer was 6.5. This suggests that support is higher for the Saskatchewan Government than the federal government.⁴

The opposition to a carbon tax is likely explained by the fact that Ottawa is perceived to be imposing the tax, or as the question states “forcing” the tax, on Saskatchewan. However, part of the opposition to a price on carbon might also be because Saskatchewan respondents felt strongly that industry, not consumers, should be responsible for reducing carbon emissions. When asked “who do you believe should be most responsible?”, 85% of respondents chose industry. This suggests a more nuanced view of carbon pricing beyond feelings of Western alienation and tensions within the Canadian federal system when it comes to environmental power. It also could be that residents feel a tax would harm the individual as opposed to industry.

One way government and industry are collaboratively trying to reduce emissions is through carbon capture and storage. This is a technique where carbon emitted from coal generation (and other sources) is captured and transported to a facility where it is pumped into the ground for storage purposes or otherwise used to heat and mix with crude oil so that more of it can be extracted from conventionally depleted oilfields. Specifically, SaskPower's Boundary Dam Power station near Estevan Saskatchewan is the world's first and largest CO₂ capture and storage project.

While carbon capture and storage may be industry's attempt at dealing with emissions, it is important to note that in Saskatchewan the project is well funded by Canadian taxpayers at the provincial and federal level. It received \$240 million from the Government of Canada and over \$1.4 billion of investment from the provincial crown corporation SaskPower. Unfortunately, this carbon and capture project has experienced numerous setbacks since its unveiling in 2014, largely because of breakdowns and maintenance issues. Moreover, SaskPower had to pay \$1.2 billion to Cenovus Energy because the government was not able to provide all the CO₂ it had contracted to the company for use in enhanced oil recovery (see Eaton, 2017). While Cenovus claims to be injecting 2 Mt of CO₂ per year into its oil fields, this represents a mere 2.6% of Saskatchewan's total GHG emissions of 75.5 Mt year (see Cenovus, 2017 and Flanagan, Zimmerman, Horne and Frappé-Sénéclauze, 2016).

We asked survey participants "is carbon capture and storage a worthwhile climate change strategy for the province?" and 39% said "yes." However, 44% said "don't know." NDP partisans are the least supportive of carbon capture and storage, while Saskatchewan Party and provincial Liberal Party partisans are the most likely to think it is a good strategy (about 45%). Non-partisans generally don't oppose carbon

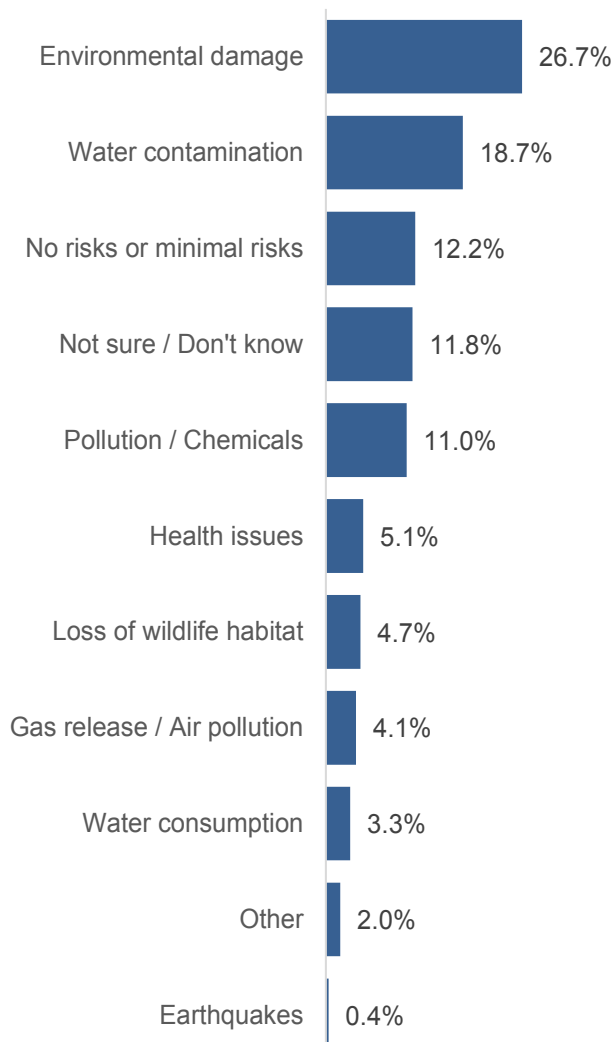
capture and storage, but 63% say they don't know if it is a good strategy. These results are not surprising given that the NDP has attacked the Saskatchewan Party government for overseeing the project which has been mired with cost overruns and maintenance and breakdown issues mentioned above.

Oil Industry and Hydraulic Fracturing

We asked survey participants some background information about their knowledge of the oil industry in Saskatchewan. Respondents were generally correct about the comparative amount of oil production in the province. In total, 40% of respondents knew that Saskatchewan's production is higher than average when compared to other provinces while 41% thought the province's production was just average. This might be because respondents tend to compare Saskatchewan to Alberta or Western provinces only, thereby perceiving Saskatchewan's production as average or lower. However, it could just be that residents do not realize that Saskatchewan is actually the second largest producer of oil in Canada. Nevertheless, virtually all respondents believe that oil is important to Saskatchewan's economy: 56% said that oil is "very important" and 41% said "somewhat important." According to the government of Saskatchewan, the oil industry contributed 14.5% of the provincial GDP in 2016.⁵ As a percentage of total provincial government revenue, oil and gas contributed 12.3% in 2015.⁶

Even though respondents acknowledge the importance of the industry, they also identify risk in the industry. We asked respondents to choose among a list of risks related to oil extraction. The respondents could only select one option, including the "no or minimal risk" option. As Figure 6 illustrates, about a quarter of respondents are most worried about general

Figure 6: What would you say is the most important risk related to oil extraction in Saskatchewan?



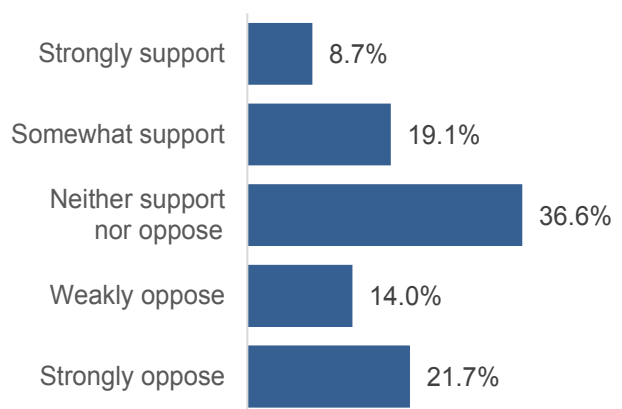
environmental damage while almost a fifth are concerned about water contamination. However, the risks most chosen after those two were “no risks” and “not sure” at 12% each.

Respondents were asked to gauge their awareness of hydraulic fracturing (fracking) in general. 20% claimed to be “very aware” and 48% said “somewhat aware,” while 23% were not very aware and 9% not aware at all. However, when asked “as far as you know, is fracking currently being done in Saskatchewan?” 48%

of respondents said they did not know, while 45% correctly answered yes, and 6% incorrectly said no.

When asked if they support fracking in Saskatchewan 28% support it while 35% oppose it and the remainder of respondents neither support nor oppose it (see Figure 7). Party identification is significantly correlated with support for fracking in the province. Of those that strongly support it, 64% identify with the Saskatchewan Party and 4% identify with the NDP. Of those that strongly oppose it, 37% identify with the NDP and only 11% identify with the Saskatchewan Party.

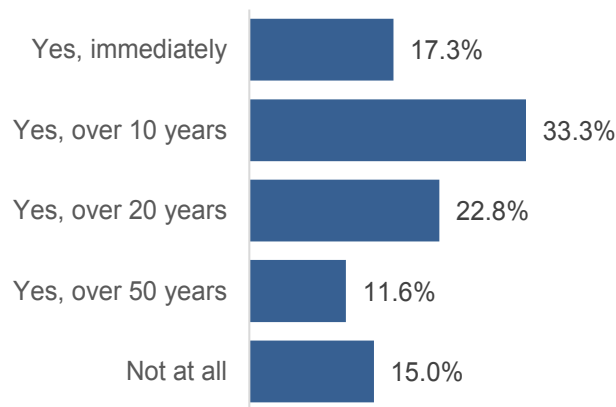
Figure 7: Given what you know about fracking or hydraulic fracturing, would you say you support this activity in the province of Saskatchewan?



Alternative Energy

Perhaps the most surprising result of our survey concerned Saskatchewan resident’s support for a transition away from coal, oil and gas. We consider this support surprising since there is little conversation in the province, among political leaders or ENGOs about winding down the oil industry. Respondents were largely open to a transition away from fossil fuels and an increase in investments for alternative energy in the province. In fact, only 15% of respondents

Figure 8: Would you support a transition away from fossil fuels (coal, oil, gas) for the Saskatchewan economy?



said they would not support a transition at all, while the highest percentage of respondents (34%) supported a transition over 10 years.

Large majorities said that the government should invest in renewable energy: 64% of respondents said the government should invest more in wind power and 73% said the government should invest more in solar power. While some respondents were unsure, very few were opposed to investing in wind (7%) or solar (4%). These results are similar to a 2015 phone survey conducted by Oracle Poll Research where 75%

of the respondents felt that Saskatchewan was not doing enough to develop renewable energy like wind and 51% said that wind should be the highest priority technology for the province (Oracle, 2015).

Perhaps more surprising than just general support for wind and solar energy was support of clean energy even if energy costs increase and/or hurt some industries (see Table 1). Almost 66% of respondents agree that Canada should do more to support clean energy even if energy costs increase. And 58% agree that governments should protect the environment even if costs increase or regulations hurt industry.

Figure 9: Should the government invest in wind and solar energy?

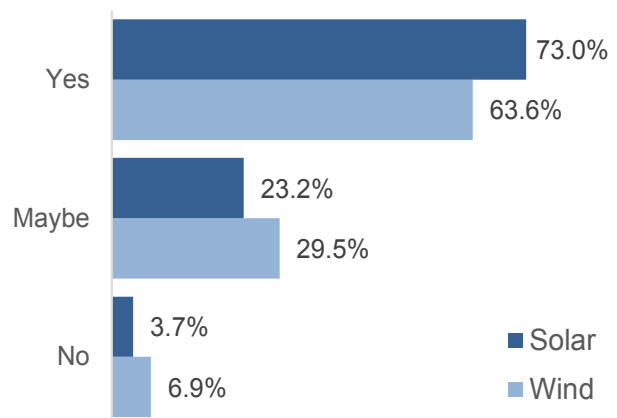


Table 1: Attitudes to clean energy technology and environmental protection

Question	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Canada should do more to support the development of clean energy and clean technology even if it results in an increase in energy costs.	3%	11%	21%	40%	24%
Governments should take necessary action to protect the environment, even if such action could result in an increase of energy costs and hurt some industries.	5%	12%	24%	35%	23%

Implications

Saskatchewan resident's attitudes toward energy are not as uniform as might be expected. Respondents are familiar with the concept of climate change and three-quarters do believe that the earth is getting warmer. While only about 50% acknowledge that human activities are the cause of the warming, 40% of respondents support a price on carbon emissions (though not necessarily a carbon tax). The Saskatchewan government, under the leadership of Premier Moe, has remained adamant that it will not place a price on carbon in Saskatchewan. This has sparked national controversy and led to Prime Minister Trudeau making two trips to Saskatchewan to meet with the Premier in 2018.

If Saskatchewan is going to refuse to price carbon and rely on other mechanisms, our results suggest little enthusiasm for carbon capture and storage. Only 39% think the technology is a worthwhile climate change strategy despite all the money spent by the province and all the promotion by the Saskatchewan Party government.

Awareness of the oil industry is high among respondents and there is across the board agreement that the oil industry is important to the Saskatchewan economy. When forced to choose among a list of risks associated with oil production, respondents predominately focused on environmental and water quality risks. This result is consistent with previous research on landowner perceptions of the impacts of the industry which show that farmers and ranchers are concerned with a wide variety of environmental impacts. Surprisingly, while media has focused on the problems with air quality,⁷ including hydrogen sulphide, respondents in the survey showed less concern for air quality.

Awareness of fracking is surprisingly low among respondents. Support for fracking is also low, and even its supporters are more ambivalent, with 22% strongly opposing the activity (and only 9% strongly supporting). This is a surprising result given the prevalence of the technology in the extraction of oil in the province since the mid 2000s. This result further supports Olive and Valentine's findings in a survey of ENGOs in the province. It seems residents as a whole, and even those working in environmental organizations, are not aware that fracking is happening in the province. However, in this survey there was no correlation between awareness and either support or opposition. The data suggests that increasing awareness in general will not necessarily increase opposition or support for it. More research would need to be conducted about messaging around the economic and environmental impacts of fracking in order to test whether support or opposition to fracking results.

Survey respondents are very open to a transition away from fossil fuels in Saskatchewan. While the majority see this as a 10-20 year transition, only 15% were against a transition at all. This is not a discussion that policy elites are having in the province right now. With the election of Ryan Meili as the new leader of the NDP, there is the potential to open up new space around climate change policies. Although the numerous leadership debates over the past few months between Trent Wotherspoon and Ryan Meili did not focus on the environment, climate change, or energy politics, Meili has indicated his support for carbon pricing. In a recent debate hosted by SaskForward, Wotherspoon ruled out the possibility of transitioning Saskatchewan's

economy from fossil to renewable fuels while Meili would neither support nor oppose a transition outright.

Regardless of the contentious politics of carbon pricing and carbon capture, clear majorities of respondents would like to see the Saskatchewan government invest more in wind and solar energy. Moreover, the majority agreed that investments in renewables should be done even if energy costs increase. In fact, more than 50% of respondents want governments to increase their protection of the environment even at the risk of harming industry.

The results of this study indicate that there is more room in the province for discussion around energy issues. Our respondents had diverse

views that did not always map neatly onto party identification. The Saskatchewan Party continues to refuse a price on carbon, but it would be wise to review its overall climate and energy strategies. Respondents do not support carbon capture and storage or hydraulic fracturing as much as expected in a province that has invested so much financial and political capital on these types of technologies. And respondents show a willingness to accept regulation of the oil industry for environmental protections. Most notable, respondents are open to a complete transition away from fossil fuels in the next few decades. The winds could be changing in the province, and politicians would be smart to invest in long-term strategic thinking about a transition to alternative energy.

Endnotes

- 1 www.facebook.com/notes/saskatchewan-new-democratic-party/statement-from-nicole-sarauer-in-support-of-saskatchewan-workers-and-standing-wi/10156293425606742/
- 2 Megatonnes of carbon dioxide equivalent.
- 3 According to the Canadian Wind Energy Association, wind energy is currently supplying about 3% of Saskatchewan's electricity needs through its 143 wind turbines which are concentrated in Southern Saskatchewan (Canwea, 2017).
- 4 Note that this cannot be interpreted as the proportion of respondents who took the Saskatchewan government's side. Since the response categories are a scale, a smaller number of respondents with extreme opinions can outweigh a larger number closer to the middle of the scale.
- 5 Government of Saskatchewan (2017) Saskatchewan's Oil and Gas Supply Chain <http://publications.gov.sk.ca/documents/310/93225-Saskatchewan's%20Oil%20and%20Gas%20Supply%20Chain.pdf>
- 6 This figure was calculated by Dr. Angela Carter using the Public Accounts, Volume 1 available at www.publications.gov.sk.ca/deplist.cfm?d=15&c=268 and data provided on the resource surcharge from Jeff Welke, Ministry of Finance.
- 7 The CBC's ITeam and The Price of Oil investigations have produced numerous media articles in local and national television and print sources on the topic of hydrogen sulphide pollution. See www.thestar.com/news/canada/2017/10/01/that-rotten-stench-in-the-air-its-the-smell-of-deadly-gas-and-secrecy.html ; <https://www.nationalobserver.com/2017/10/01/inside-saskatchewan-failure-stop-silent-killer> ; <https://globalnews.ca/news/3786947/saskatchewan-government-oil-industry-danger/> and www.cbc.ca/news/canada/saskatchewan/sour-gas-from-oil-wells-a-deadly-problem-in-southeast-saskatchewan-1.3042939

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Appendix

Methodology

This is an online non-probability sample of current Saskatchewan residents. The sample was provided by ResearchNow, an international survey sample provider. Respondents are recruited through both online and offline partners and targeted advertising. Respondents who meet the criteria and complete a screener survey are added to the panel. Panel members then receive invitations to participate in surveys, such as this one. Respondents are sometimes provided compensation, and generally take non-political surveys. The most recent research in Canada suggests that online surveys are now of equal quality to phone surveys (Breton, Cutler, Lachance, and Mierke-Zatwarnicki 2017). The sample was benchmarked against census data for age, gender, education, and region, and is broadly representative. However, it should be noted that respondents are slightly older than the Saskatchewan population, and probably more interested in the survey topic than the general population (e.g. politics and the environment), as is true for most surveys.

Demographics of Respondents

What part of Saskatchewan do you live in?

Regina/Saskatoon	66%
Another part of Saskatchewan	34%

Sex of Respondents

Male	48%
Female	52%

What is the highest level of education you have completed?

Less than high school	3%
High school	25%
Some college	11%
College diploma	20%
Some university	10%
Undergrad	21%
Post-grad	9%

What was your household's total household income before taxes last year?

Less than \$30,000	12%
\$30 – \$60,000	31%
\$60 – \$90,000	22%
\$90 – \$110,000	13%
\$100,000+	21%

Do you have friends or family that work in the oil and gas industry in Saskatchewan?

Many	5%
Some	10%
Few	26%
None	58%
No answer	1%

Have you worked in the oil and gas or oil field industry in the last five years?

Yes	5%
No	95%

Did you grow up on a farm?

Yes	31%
No	69%

How interested are you in politics generally? On a scale from 1 (not at all interested) to 10 (very interested).

Mean	5.65
SD	2.69

In provincial politics, do you usually think of yourself as:

Liberal	9%
NDP	24%
Saskatchewan Party	42%
Green Party	3%
Other	1%
None	21%

In federal politics, do you usually think of yourself as:

Liberal	22%
NDP	15%
Conservative	36%
Green Party	3%
Other	1%
None	21%