



## Perspectives

# Is anyone out there? Exploring Saskatchewan's civil society involvement in hydraulic fracturing

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## ABSTRACT

No Canadian province has fewer regulations surrounding the controversial practice of hydraulic fracturing (fracking) than Saskatchewan. Other provinces – and some US jurisdictions and foreign countries – have banned fracking or chosen to heavily regulate it because of its environmental and public health risks. Saskatchewan has lax regulations and a political regime that favors the oil and gas industry. This paper asks where environmental non-government organizations (ENGOS) are in the landscape of public opposition to fracking. Previous research has shown the rural communities can be dependent on natural resource extraction for revenue and jobs thereby leaving citizens unwilling to speak out against the industry or the government policy that surrounds it. Through surveys and interviews with ENGOS in Saskatchewan we find these organizations are not engaged in fracking debates or policy at all. No ENGO in the province is lobbying for regulatory changes and no ENGO is presently working to disseminate information on fracking to the public or government. This suggests, in line with earlier work, that Saskatchewan will remain the wild west of Canadian fracking, while the public and the environment may pay a significant cost.

## 1. Introduction

Recovering unconventional oil and gas for human use is often politically controversial. In the case of hydraulic fracturing (fracking), which involves blasting a water and chemical mixture deep into the ground to shake oil and gas from shale rock, controversy has sometimes led to stringent government regulation and even moratoria and bans. In Canada there is regional bifurcation where the eastern provinces have heeded the precautionary principle and opted for heavy regulation or banned fracking, while the western provinces have embraced this unconventional technique.

No province is fracking more with fewer regulations than the prairie province of Saskatchewan, which is home to a large swath of the Bakken Shale Formation shared with North Dakota, and to a much lesser extent Manitoba and Montana. Saskatchewan has taken a hands-off approach to regulating oil and gas development [1]. In fact, all oil and gas exploration activity is exempt from environmental assessment [2,1] and fracking wells are approved without impact statements. These exemptions are part of the government's "results-based regulatory regime" [3].

In a recent article published in this journal, Eaton and Kinchy [4]

argue that fracking is less politically controversial in Saskatchewan because it is often a main source of employment and revenue for rural communities. Through landowner interviews they found that "rural dwellers often feel alone, unsupported, and vulnerable to economic and social exclusion" and lack the "civic capacity and political opportunity" to express their opposition to unconventional oil and gas production (2016, 29). This paper approaches the same research, but from a different angle: the involvement of environmental non-governmental organizations (ENGOS) in Saskatchewan. The main research question asks: are ENGOS involved with fracking in Saskatchewan? If so, how? And if not, why not?

## 2. Literature

The environmental impacts of fracking have been well explored in scientific literature (see, for example [5–11]). The main concerns, and those most studied, involve water pollution and scarcity, methane emissions and climate change, habitat destruction and species at risk, and air and noise pollution. Indeed, the risk of water contamination is often a common rallying cry for communities opposed to fracking in North America. Contamination is usually the result of one of the five

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methods: “transportation spills, well casing leaks, leaks through fractured rock, drilling site discharge, and wastewater disposal” [11]. As one example, North Dakota reported 42 wastewater spills a week on average in 2014 [5]. This is problematic because the wastewater produced by fracking operations is highly saline, and contains contaminants such as selenium, lead, and ammonium [9]. When these wastewater spills occur, they can contaminate surrounding soil and water and the chemicals can persist for up to four years in the surrounding environment [9].

Air pollution and greenhouse gas emissions are other important areas of environmental concern. A single well pad, which houses the drilling rig and other equipment, “creates substantial increases in local air quality pollutants during peak activity” [7]. For example, landowners in Saskatchewan’s Bakken region cited “persistent coughs and sore throats” and “itchy red eyes” [12]. This could be due to hydrogen sulfide leaking from wells. The gas has led to serious health impacts and death to oil workers and animals in Saskatchewan [12].

The venting of excess natural gas from fracking wells is related to climate change since methane, released in natural gas, is a more potent greenhouse gas than carbon dioxide. The total lifecycle greenhouse gas emissions – i.e. the emissions released from the time the oil is developed to the time when it is refined and used in vehicles – associated with Bakken oil production is similar to that of oil produced elsewhere in the United States [19]. However, local emissions of methane volatile organic compounds from well pads in the Bakken can be particularly high, as one study found that 14% of wells in North Dakota’s Bakken region were high-emitting, compared to 1% in Wyoming’s Powder River oil field [20]. These emissions have environmental and health implications for the people and animals that live nearby the wells since they can lead to more ground-level ozone, the main ingredient in smog and a pollutant that can cause chest pain and lung harm [22].

This literature on environmental and public health risks is not surprisingly matched by a rapidly growing literature around ENGO involvement in the overall global fracking landscape, from Western Europe (i.e. [13]) to Eastern Europe (i.e. [14]) to Africa [15]. Closer to Saskatchewan, there have been multiple cases of ENGOs working with communities in North America to fight proposed hydraulic fracturing (see for example, [16]).

ENGOs traditionally serve as sources of pressure for governments to change their policies. In Canada, a “great deal” of policy is crafted with some degree of involvement with ENGOs [26]. Environmental NGOs, for instance, played a major role in the crafting of Canada’s Species at Risk Act, and they did so in part by mobilizing the public in support of federal endangered species legislation [21]. The environmental movement in Canada has also “influenced land-use planning through advocacy, public participation and collaborative processes” [23]. In addition, Canadian ENGOs have directly challenged the country’s fracking practices in court. The Sierra Club and the Wilderness Committee sued the British Columbia Oil and Gas Commission and Encana Corporation over fracking practices that they say violate B.C.’s water act [24]. In fact, ENGOs, along with the government and industry, are one of the three major institutions involved in discussions over oil and gas production in Canada [25].

Given the variety of environmental concerns related to fracking we would expect active public opposition in Saskatchewan. Indeed, we would expect environmental organizations to champion this issue and give voice to people impacted and concerned about the myriad of environmental risks. Essentially, ENGOs in Saskatchewan should play a significant role in this issue – that of a watchdog, public educator, and government lobbyist. While Eaton and Kinchy [4] find that landowners feel isolated and unable to speak against the oil industry or government because of economic dependence and social ties, we would posit that local existing ENGOs should play a “mediating role” between the government and its citizens.

### 3. Oil development in the Bakken

Saskatchewan is Canada’s second largest producer of oil and the sixth largest oil producing jurisdiction in Canada and the US. According to the Saskatchewan Ministry of Economy, the province produced 460,000 barrels of oil per day in 2016 and has estimated oil reserves of up to 1.2 billion barrels [17]. The oil and gas industry contributed an estimated \$600 million in revenue to the provincial economy in 2016 and employed 32,000 people directly and indirectly in the industry [17]. The provincial government often touts Saskatchewan as an “energy giant.” There are about 36,000 active oil wells across Saskatchewan, and there has been approximately 7200 oil well completions in the Bakken region of Saskatchewan to date [18]. Oil was discovered in the Bakken in the 1950s, but only over the past decade, as a result of fracking technology, has oil production occurred there. As the government points out, oil wells in the Bakken are “primarily horizontal with a multi-stage frack completion” [18]. In 2016, the Bakken produced 19.7 million barrels of oil, which is about 54,000 barrels a day. There is no denying the region is a significant economy staple for the province providing both jobs and government revenue.

There is “widespread agreement among elected officials in both governing and opposition parties that fracking is safe and should be continued” [1,411]. This vacuum of political opposition has created a “proindustry regulatory climate around oil and gas” [1,411] and resulted in little direct regulation of the fracking industry as well as little in the way of other environmental regulations that might infringe upon fracking and oil development. While non-government organizations in Saskatchewan have historically been successful in mobilizing political parties to act on issues of health care, nuclear energy, and uranium mining, for example, “NGO attention has not coalesced” around oil and “government regulations have not been changed by civil society” [1,412]. This paper is an attempt to understand why NGOs are not engaged on the issue of fracking and oil development in the Bakken, especially given both the significant environmental risks and the success of ENGOs in other fracking jurisdictions.

### 4. Methodology

To examine ENGO involvement in fracking in Saskatchewan we decided to contact all existing ENGOs in the province and survey them in regards to involvement and knowledge of fracking. To establish a list of existing and active environmental non-governmental organizations we consulted scholarly literature, grey literature, Google, Twitter, and Facebook. This research resulted in a list of 22 Saskatchewan based ENGOs.

A web-survey was emailed to the ENGOs three times over the course of three weeks. See Appendix A in Supplementary material for a list of questions from the survey. Of the 22 organizations that received surveys, 11 filled out the survey and 2 responded to the email to say they were not interested in filling it out because their organization was not engaged with fracking. Of the 11 that filled out the survey, 3 gave contact information for a follow-up interview. All 3 of these organizations were contacted via email; however only two agreed to interviews. These interviews were conducted one-on-one over the phone with a representative from each organization. Both organizations wished to remain anonymous. These interviews are used in this research to give depth to the survey information and provide useful qualitative data, while it is noted that they are in no way representative of all ENGOs in Saskatchewan and are not generalizable as such.

### 5. Results

Among the 11 NGOs that answered the survey, education was the most-cited objective of the organizations, with five NGOs listing education on forests, drinking water, the outdoor environment, and the prairie ecosystem as the main objective of their ENGO. Three listed

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