

Climate Action Report: Saskatchewan

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Introduction

Located in the prairie region of Canada, the province of Saskatchewan is rich in natural resources, including coal, oil, gas, potash, cobalt, and uranium (Government of Saskatchewan, 2023c; Government of Saskatchewan, 2023d). Since the 1950s, the province has used these resources to fuel its heavy industries, generate cheap electric power for its residents, and earn income through national and international trade (Carter, 2020; Hurlbert et al., 2020). While the exploitation of these resources has benefited the province economically, it has also caused significant environmental damage, endangering human, animal, and plant life (Prebble et al., 2015). With the proliferation of coal plants, oil rigs and refineries, and gas facilities, Saskatchewan's native grasslands and wetlands have been irreparably eroded and destroyed, and its air and water systems have been contaminated (Carter, 2020). Industries and public electrical utilities in Saskatchewan continue to rely heavily on coal, a "dirty" fossil fuel that releases carbon dioxide, sulphur dioxide, mercury, and particulate matter when burned (U.S. Energy Information Administration, 2022). As a result, Saskatchewan is a major producer of greenhouse gas; according to a 2021 report on greenhouse gas emissions in Canada, Saskatchewan has the highest level of per-capita emissions of any province in the country (McCarthy, 2021). The provincial government of Saskatchewan clearly recognizes the harmful environmental impacts of natural resource development and exploitation and has taken some steps to mitigate these impacts. Some of these steps include protecting

ecologically sensitive lands from industrial activity, promoting renewable energy production, and imposing a cap-and-trade system on large industrial emitters (Saskatchewan Environment, 2002; Government of Saskatchewan, 2022b; Government of Saskatchewan, 2022c). The aim of this report is to describe, analyze, and critique the provincial government's various environmental and climate initiatives.

Literature Review

Over the past few years, a number of Canadian scholars have written about climate and environmental policy in Saskatchewan from both a historical and contemporary perspective. In their article titled *Transitioning From Coal: Toward a Renewables-Based Socio-Technical Regime in Saskatchewan*, Hurlbert et al. (2020) explain how coal became the primary source of energy in Saskatchewan in the 1960s due to its abundance, reliability, and low cost. Between 1960 and 1990, many coal power plants were built throughout Saskatchewan, providing cheap electric power to the province's industries and urban and rural communities. In the early 1990s, however, policymakers and the general public realized that the burning of coal was a major cause of smog and acid rain, rising carbon dioxide levels in the atmosphere, and global warming. Under pressure to reduce air pollution and carbon emissions, the provincial government of Saskatchewan decided to stop the construction of all new coal power plants in the province. Going further, it developed a plan/strategy to transition the province away from coal and towards other, less carbon-intensive sources of energy, such as natural gas, hydro, and wind. Hurlbert et al. (2020) explain how the provincial government's energy transition strategy arose in the 1990s, and how it evolved throughout the 2000s and 2010s under shifting political conditions. Throughout their analysis, they highlight

the various social, institutional, and geopolitical forces shaping this strategy and driving it forward.

In 2017, the Canadian federal government announced a plan to reduce Canada's carbon footprint (Pembina Institute, 2017). This plan had two main components: first, a national tax on diesel fuel, heating, and electricity, which encourages households and businesses to conserve energy and switch to electric vehicles; second, a national "cap-and-trade" system that punishes large industrial emitters with fines, while rewarding small industrial emitters with salable credits. Soon after the announcement of this plan, Rayner et al. (2017) wrote a report closely examining and deconstructing the federal climate plan, explaining how it is structured and designed. They note that the provincial government of Saskatchewan was vehemently opposed to the federal plan because it would presumably hurt economic growth and employment in the province. As an alternative to the federal plan, they explained, the provincial government preferred to phase out coal production, increase renewable energy production, and invest heavily in carbon capture and storage technology. These alternative methods of reducing carbon emissions do not require major financial sacrifices on the part of Saskatchewan's residents or businesses, making them both politically palatable and economically expedient. Interestingly, Saskatchewan later adopted its own cap-and-trade system in 2022.

Many scholars are highly critical of Saskatchewan's climate and environmental policies, arguing that they are too weak to effectively reduce carbon emissions, protect endangered species, or preserve sensitive grasslands and wetlands (Prebble et al., 2015; Olive, 2018; Carter, 2020). In a recent article, Nwanekezie et al. (2022) note that the provincial government is committed to doubling renewable energy production in Saskatchewan by the

year 2030. In order to meet this commitment, the government will greatly expand the solar, wind, hydro, and geothermal operations of SaskPower, the province's public electrical utility (Government of Saskatchewan, 2022b). It will also purchase renewable energy from large and small private producers. Nwanekezie et al. (2020) argue, however, that the government may lack the strategic vision, institutional capacity, technical expertise, and political will needed to achieve this lofty goal. These scholars base their argument on interviews with various stakeholders, including civil servants, academics, and private renewable energy developers. Carter (2020) argues that, ever since the Saskatchewan Party rose to power in 2007, the provincial government has lowered its environmental standards, much to the benefit of oil and gas companies. Over the last fifteen years, the provincial Ministry of the Environment has simplified and streamlined the approval process for oil and gas projects, allowing these projects to proceed without undergoing extensive environmental reviews. The Ministry has also allowed oil and gas companies to operate on ecologically sensitive lands, including vulnerable grasslands. As a result, many sensitive lands have been eroded and destroyed, and the animal species that reside on them have been threatened with extinction (Shewaga, 2022). It should be noted that Saskatchewan has a law protecting endangered or at-risk animal species—the Saskatchewan *Wildlife Act* of 1998—however, this law has been criticized for being limited in scope and lacking strong enforcement mechanisms (Olive, 2018).

Climate and Environmental Policies/Initiatives in Saskatchewan

Since the 1960s, many plant and animal species in Saskatchewan have been destabilized, disrupted, and threatened by human activity, often due to natural resource development and exploitation (Olive, 2018; Shewaga, 2022). In order to protect these vulnerable species, the provincial government has enacted a number of environmental

policies. One of the first policies was the *Wildlife Habitat Protection Act* (WHPA) of 1981, which places all Crown lands under provincial protection. Under the Act, individuals and businesses are not allowed to seize, damage, or alter Crown lands in any way (*Wildlife Habitat Protection Act*, 2018). Individuals who violate this law can be fined \$100,000, while businesses can be fined \$500,000. A similar policy is the Representative Areas Network (RAN) of 2000, which identifies lands throughout Saskatchewan that contain sensitive plant and animal ecosystems, and designates these lands as “protected lands” (Saskatchewan Environment, 2002). Like Crown lands, protected lands cannot be changed by human activity. Today, the RAN protects 6.4 million hectares of land, which represents about 10% of Saskatchewan’s total landmass (Government of Saskatchewan, 2020). Shifting focus, the Saskatchewan *Wildlife Act* of 1998 regulates the hunting, trapping, transportation, and propagation of wild animals throughout the province (*The Wildlife Act*, 1998). This Act also establishes a system for identifying and protecting at-risk animal species. Currently under the Act, one species is classified as “threatened,” nine as “endangered,” and five as “extirpated.” The Ministry of the Environment may develop plans to support, protect, and recover these species, but is not obligated to do so. More recently, the provincial government introduced the Invasive Species Framework, a province-wide strategy to prevent the spread of invasive species (Government of Saskatchewan, 2022a). Invasive species must be contained and exterminated, because they erode soil and water, cause disease, and feed on native species.

All four policies outlined above—the *Wildlife Habitat Protection Act*, the Representative Areas Network, the Saskatchewan *Wildlife Act*, and the Invasive Species Framework—are very broad measures designed to protect native animal and plant life in Saskatchewan. Each policy establishes rules and regulations that affect a wide range of

stakeholders, including farmers, hunters, fishers, oil and gas companies, mining companies, park managers, Indigenous communities, and tourists. It is important to note, however, that the provincial government does not just protect Saskatchewan's natural environment through such broad policies/measures. It also carries out a number of small-scale, targeted programs that increase the strength, resilience, and sustainability of sensitive ecosystems (Saskatchewan Ministry of the Environment, 2023). One of these programs is the Shand Greenhouse Donation Program, which provides native tree and shrub seedlings to rural landowners, businesses, and nonprofit organizations at no cost (Government of Saskatchewan, 2022b). These seedlings can be used to grow gardens, shelterbelts, and woodlands that support native animal species and purify the air. Another notable program, the Fish and Wildlife Development Fund (FWDF), maintains and remediates ecologically sensitive lands through pest control, tree planting, waste removal, and other means. The program also funds water aeration projects that help fish populations thrive (Government of Saskatchewan, 2023a).

As seen in the literature review above, the provincial government became concerned about Saskatchewan's high level of greenhouse gas emissions in the 1990s (Hurlbert et al., 2020). Aside from imposing a moratorium on coal plant construction, however, the provincial government took few concrete steps to reduce emissions during this decade. It was not until the 2010s that the government enacted a series of meaningful measures to "decarbonize" Saskatchewan (Hurlbert et al., 2020; Nwanekezie et al., 2020). The first of these was the renovation of the Boundary Dam Power Plant, the first coal-based power plant built in Saskatchewan. In 2014, the provincial government retrofitted the Boundary Dam plant with a sophisticated carbon capture and storage (CCS) system, which absorbs and captures carbon dioxide before it enters the atmosphere (Rayner et al., 2017). According to SaskPower, the

Boundary Dam's CCS system is highly effective, capturing hundreds of thousands of tonnes of carbon dioxide every year (SaskPower, 2019). Soon after the CCS system was installed, the provincial government announced a plan to incorporate much more wind, hydro, solar, and geothermal energy into Saskatchewan's energy mix. In a 2022 report titled *Climate Resilience in Saskatchewan*, the government promised that half of Saskatchewan's electric power would come from renewables by the year 2030 (Government of Saskatchewan, 2022b). Perhaps the government's most important and comprehensive climate initiative is the Output-Based Performance Standards (OBPS) program, a cap-and-trade program introduced in 2022. Under the OBPS, every large industrial emitter in Saskatchewan must establish a "limit" on its greenhouse gas emissions. If an emitter exceeds its limit, then it has three options: (1) it can pay a tax of \$65 per tonne of carbon beyond the limit; (2) it can purchase carbon credits from other emitters; (3) it can give money to the Saskatchewan Technology Fund (Government of Saskatchewan, 2022c). The Saskatchewan Technology Fund is a public investment fund administered by Innovation Saskatchewan, a nonprofit organization with close ties to the provincial government. The fund provides grants to companies that are developing, adopting, or implementing novel greenhouse gas reduction technologies (Government of Saskatchewan, 2023b). If an industrial emitter chooses to make a financial contribution to the fund (in order to comply with OBPS rules), then it must contribute a specific amount based on its emissions levels (Government of Saskatchewan, 2019).

The Importance of Extractive Industries and the Limits of Environmental Policy

Throughout its early history, Saskatchewan was known as the "breadbasket of Canada," because its economy largely revolved around the cultivation and export of wheat (Turner, 2014). In the 1950s, Saskatchewan's economy became much more diversified, as the

province developed substantial oil, gas, potash, and uranium industries (Carter, 2020). Over the next decade, these extractive industries became major drivers of economic growth in the province, and have remained so ever since. Today, Saskatchewan is the second-largest oil-producing province in Canada and the fifth-largest oil-producing jurisdiction in North America (Canadian Association of Petroleum Producers, 2023). According to a recent report from the provincial government, Saskatchewan's oil and gas industries produced 165 million barrels of oil and 137 billion cubic feet of natural gas in 2022 alone (Government of Saskatchewan, 2023c, p. 1). The same year, these industries invested \$2.8 billion in oil and gas exploration and development activities, and generated approximately \$1.2 billion in revenue. According to another recent report, Saskatchewan produces one-third of the world's potash, making it the single largest supplier of this salty mineral (Government of Saskatchewan, 2023d, p. 1). Oil and potash are currently Saskatchewan's largest export commodities, accounting for over half (55%) of Saskatchewan's total export trade in 2022 (Government of Saskatchewan, 2023e).

Based on the data presented above, it is clear that extractive industries are vital to Saskatchewan's economic health and development. It should not be surprising, therefore, that the provincial government eagerly supports, promotes, and nurtures these industries, and has done so for many decades (Richards & Pratt, 1979). Since the 1960s, the provincial government has provided oil, potash, and uranium companies with generous land concessions, subsidies, and technical support (Carter, 2020). It has also created a tax, royalty, and regulatory system that is highly favourable to these companies, allowing them to accumulate massive profits. Under this system, companies receive tax and royalty deductions if they perform R&D or invest in exploratory oil and gas projects (Government of

Saskatchewan, 2023f). In addition, companies obtain provincial permits, approvals, and licenses without being subjected to rigorous environmental assessments (Carter, 2020). Given its enduring loyalty and devotion to Saskatchewan's extractive industries, the provincial government is typically unwilling to introduce climate and environmental policies that threaten these industries, or that discourage investment in oil, gas, and mineral extraction. While the provincial government has tried to reduce greenhouse gas emissions and protect the environment, it has done so through conservative policy measures that have minimal impact on the extractive sector. The only provincial climate initiative that deeply affects the extractive sector today is the OBPS program, which was launched only recently, in 2022. It is important to note, however, that the OBPS program was introduced in response to federal action on climate change (Djuric, 2022).

Conclusion

Situated in the middle of four different eco-zones, Saskatchewan contains a rich variety of landforms, including grasslands, wetlands, boreal forests, and sand dunes (Saskatchewan Conservation Data Centre, 2023). These landforms are home to many different plant and animal species, some of which are rare or endangered (Shewaga, 2022). As we saw previously, the provincial government has tried to protect and preserve ecologically sensitive lands by enacting various environmental policies. The three most notable environmental policies are the *Wildlife Habitat Protection Act* (WHPA) of 1981, the Representative Areas Network (RAN) of 2000, and the Saskatchewan *Wildlife Act* of 1998. Unfortunately, these three policies do not provide sufficient protection to Saskatchewan's sensitive lands, or the flora and fauna that inhabit them. When it was first introduced in 1981, the WHPA prohibited individuals and businesses from seizing, purchasing, damaging, or

altering Crown lands. In 2014, however, the WHPA was amended, allowing businesses to purchase some Crown lands and use them for commercial purposes (Government of Saskatchewan, 2018; Olive, 2018). As Crown lands have been brought under private ownership and control, they have become far more vulnerable to pollution and contamination (Herriot, 2016). The second policy mentioned above, the RAN, successfully protects some grasslands and wetlands from human interference. It does not, however, protect any lands that contain coal, oil, potash, or other valuable resources (Carter, 2020). Without protection, these resource-rich lands are likely to be polluted and destroyed at the hands of extractive industries. Lastly, the Saskatchewan *Wildlife Act* is a rather weak policy that fails to protect at-risk animal species or recover dwindling at-risk animal populations. As explained previously, the Act does not require or compel the provincial government to carry out any animal conservation or recovery initiatives. Even more damning, Saskatchewan has many at-risk animal species that are not even recognized under the Act (Olive, 2018).

The provincial government's climate policies are much bolder and more ambitious than its environmental policies, which are quite abysmal. The most recent climate policy, the OBPS program, promises to significantly reduce greenhouse gas emissions in Saskatchewan by encouraging large corporations (large industrial emitters) to conserve energy, switch to renewable energy, and adopt CCS technology (Sciarpelletti, 2022). Also, the provincial government's plan to double renewable energy production in the province by 2030 is quite commendable; if successful, this plan will make Saskatchewan a much "greener" province (Government of Saskatchewan, 2022b). There are some concerns about Saskatchewan's climate strategy, however, that must be addressed. The first concern is that CCS technology is known to be unreliable, impractical, and overly expensive (at least in its current form) (Beer,

2022). In 2015, the Boundary Dam CCS facility, the first CCS facility built in Saskatchewan, started malfunctioning and needed to be redesigned (Leo, 2015). The second concern is that, while the provincial government has established ambitious targets for renewable energy production, it has not developed a detailed strategy to achieve these targets (Nwanekezie et al., 2022). It is unclear whether the provincial government will be able to mobilize all of the stakeholders necessary to accelerate renewable energy development, production, and distribution.

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