

The Johnson Shoyama Graduate School of Public Policy has issued an in-depth policy paper on climate change. It examines the policy instruments being used to reduce carbon emissions, and the projected economic impact of each on the province of Saskatchewan. The study sets out the geopolitical, social, economic, environmental and fiscal challenges that are central to the climate change policy debate. It also explores the legal arguments likely to frame an expected constitutional challenge by the Saskatchewan government of a federally imposed carbon price.

This Policy Brief is a summary of the longer paper, which can be found at www.schoolofpublicpolicy.sk.ca/research/publications/reports.php.

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►► Climate Change: The policy options and implications for Saskatchewan

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Few public policy issues involve the complexities and challenges of addressing climate change. What is clearly a global problem requires action at the national and sub-national level among the world's more than 190 nations. In Canada, meeting our commitments on climate change presents a daunting test to environmental, economic and fiscal policy.

Adding to the challenge is the need for coordinated global action between nations with distinct and diverse political interests and economic priorities. Just how difficult it is to build and maintain the international agreement, such as the 2015 Paris Climate Change Accord, became evident with the election of Donald Trump as U.S. president and his decision to have the U.S. withdraw from the Paris Accord.

A much smaller, but still illustrative example of the policy challenge is the ongoing debate between the Governments of Canada and Saskatchewan over the proposed 2018 implementation of a carbon price by the federal government. At a first ministers' conference in March 2016, the Prime Minister, Premiers and Territorial leaders agreed to the national target of a 30 per cent reduction in Greenhouse Gas (GHG) emissions from 2005 levels by 2030. The Vancouver Declaration on Clean Growth and Climate Change unanimously committed first ministers to a collaborative approach in reaching the 2030 objective. Then, in its Pan-Canadian Framework

(PCF) on Clean Growth and Climate Change released in December 2016, the federal government announced its intention to ensure that a carbon price of \$10 a tonne is in place nationally by 2018. The annually escalating price — either in the form of a carbon tax, or a system of output-based emission allowances — will be a key mechanism for the Government of Canada to meet its GHG reduction goal. The price is projected to rise by \$10 a tonne each year after 2018, reaching \$50 a tonne by 2022. Both the Saskatchewan and Manitoba governments have refused to sign on to the PCF.

A carbon price is only one element in the federal government's Pan Canadian Framework. The strategy is multi-dimensional. It includes complementary policies designed to focus on GHG-emission outcomes, where market instruments like a carbon price are not expected to deliver results effectively, or in a timely manner. They include support for the development of clean technologies, and helping communities adapt to the unavoidable impacts of climate change that cannot be avoided.

But the policy prescription that has drawn the most attention is the federal government's intention to impose a carbon tax on provinces that have not established a price equivalent to at least \$10 a tonne by next year. The federal government has said that the carbon price will be "revenue neutral." As such, all revenue from a carbon price — whether from a tax or output-based emissions allowances — will

remain in, or be returned to, the jurisdiction where it is generated to be used as the province sees fit. The federal government intends to introduce legislation and regulation for a carbon pollution pricing system — its so-called “backstop” — that will be applied to jurisdictions in 2018 that do not have a carbon price that aligns with the national benchmark price.

The Government of Saskatchewan has taken a firm stand in opposition to a carbon tax, arguing that, in addition to be relatively ineffective in tackling global emissions, a carbon tax will do significant damage to the province’s natural-resource-dependent economy. It argues other mechanisms, such as carbon capture and storage, are more effective policy instruments to reduce carbon emissions. The Premier of Saskatchewan has signalled the province intends to challenge the imposition of a carbon price by Ottawa on Saskatchewan as unconstitutional.

▶▶ A Disjointed Policy Landscape

At the provincial level in Canada, there is no common policy consensus on how to address climate change mitigation. Approaches vary from provincially imposed carbon taxes, to cap-and-trade systems, to technology and regulatory measures. One challenge in trying to assess the efficacy of the policy options is the fact that changing behavior in a measurable way on this scale takes several years, and most climate change policies in Canada have not been in place long enough to reach a definitive judgment on their effectiveness. In spite of the arguments by advocates of different policy instruments there is no conclusive evidence of a single “best approach”.

The best test case in Canada for the effectiveness of a carbon tax, and where there has been sufficient time to make a judgment, is British Columbia. It implemented a carbon tax in 2008. The tax, which was initially set at \$10 a tonne, increased by \$5 a tonne each year until 2012 when it reached its current and stable level of \$30 per tonne. B.C. has also put other regulatory measures in place to reduce its level of GHG emissions. The tax applies to the purchase of fossil fuels such as gasoline, diesel, and natural gas, among others. After six years, the data suggest from 2008-13 the carbon tax has reduced emissions, both per capita and in total, significantly more than the Canadian average. Others disagree, arguing that the 2008 recession and slower economic growth account for the decline in the early years and that emissions have grown significantly since.

In Alberta, the government imposed an economy-wide carbon price of \$20 per tonne that took effect Jan. 1, 2017. The price is scheduled to rise to \$30 a tonne in 2018, increasing at two per cent, plus inflation, annually from that point forward. Previously, under the former government, Alberta’s primary climate change policy tool was a levy on large emitters of more than 100,000 tonnes a year that went into a green energy technology fund. Alberta has also set out a timeline to phase out coal power generation by 2030, in favour of clean energy sources such as wind, solar, natural gas and biomass.

For its part, the Saskatchewan government has steadfastly opposed

the federal plan to implement a carbon price. Even though the federal climate change plan calls for all revenue generated from a carbon price — whether a tax or from cap and trade — to remain in the jurisdiction where it was raised, the province argues a carbon price would have damaging economic effects on the province’s oil and gas, mining and agriculture sectors. It maintains that because critical parts of the Saskatchewan economy are trade exposed, it would make those sectors less competitive in markets that do not have a carbon price. The Saskatchewan position is that a more effective, measurable and predictive way to reduce carbon emissions without the negative economic consequences is through technology, such as carbon capture and storage (CCS). The government has invested approximately \$1.5 billion in CCS at its Boundary Dam coal-fired generator that it says is successfully removing up to 90 per cent or more of carbon emissions from the plant. Saskatchewan also maintains that CCS is key to a global solution, as coal power production continues to expand around the world and needs to adopt clean coal technology such as CCS.

Ontario and Quebec have each adopted cap and trade as a means to price carbon. Both are part of the Western Climate Initiative (WCI) with California, a collaborative to tackle climate change at a regional level. It has a process to auction carbon credits, which prices carbon by limiting total amount of emissions by large industry. Ontario’s system of cap and trade began January 1, 2017, whereas Quebec’s has been in place since 2013 when it joined the WCI, however its application to large emitters was not in place until 2015.

The fact there are significantly different approaches at the provincial level, with some provinces such as Saskatchewan and Manitoba resisting a price on carbon, reflects the challenge of finding a policy approach that balances multiple conflicting interests and priorities. The broad consensus in Canada is that we must act. The federal framework reflects this consensus and the federal backstop — the escalating carbon price that will be imposed on reluctant provinces — is the guarantee that action will be taken.

▶▶ Impact of a Carbon Price

So, what does a carbon price, whether as a tax, cap-and-trade system or through technology and regulation tools mean for Saskatchewan? The impact of a carbon price will have unique and significant effects on Saskatchewan. According to the Government of Saskatchewan’s climate change white paper, the proposed carbon price at a mature rate of \$50 a tonne by 2022 will have a cost of \$2.5 billion to the province’s economy. It should be noted that the province’s estimate is based on no sectors being exempt from the tax. The federal government’s position is that provinces have the latitude to exempt or impose a less stringent carbon price on certain sectors, thus reducing the amount of tax revenue raised.

1. The Carbon Tax Option

Using an input-output economic analysis of key sectors, the JSGS policy paper looks at the electricity, oil and gas, agriculture and railway sectors in Saskatchewan. In terms of a carbon tax at a mature level of \$50 a tonne in 2022, it found:

- A tax “shock” of \$757 million per year to the electricity sector would have a negative GDP impact of \$606 million per year and a reduction of 1,968 jobs by 2022.
- The oil and gas impact would reduce GDP by approximately \$570 million annually and cost 780 jobs.
- Taxes on agriculture would lead to GDP decline of \$150 million a year and reduce jobs by 1,404.
- Through the railway sector, GDP would fall by \$32 million and cost about 300 jobs.

But the other side of the analysis is that the revenue raised from the tax, which the province estimates will be \$2.5 billion, can offset negative economic consequences. With the proceeds, other measures can be taken, such as income tax and/or sales tax reductions, or government spending that will have stimulative economic impacts and increase employment. The paper explores, for example, the multiplier effects resulting from direct spending in key public sectors and notes that these stimulative effects, if properly constructed, could more than offset the negative economic effects of a carbon tax.

It is also important to recognize the issue and potential consequences of “embodied carbon.” Virtually all products are produced from activities that produce carbon emissions. So products from jurisdictions without a carbon price will be less costly and could displace those produced in Saskatchewan should a carbon tax be implemented.

2. The Regulatory Option - Cap and Trade

Under a regulatory system proposed by the federal government, any entity with annual GHG emissions greater than 50,000 tonnes would be subject to regulatory restrictions. Large emitters will be compared to the sector’s “best-in-class” and those with emissions greater than that benchmark will be subject to the levy. The paper assumes that only Saskatchewan’s electricity sector and its coal generation would come under restriction, as other industries could meet the federal government’s best-in-class standard and be exempt. Based on those assumptions, it found:

- Output-based allowances would add about \$800 million to the cost of electrical generation by 2022.
- It would reduce GDP by about \$640 million and cost 2,080 jobs upon full implementation.
- If SaskPower passed along the full cost of the carbon price to ratepayers, it would add about \$561 to a typical household’s current annual spending.

As with a carbon tax, there would be a revenue flow in Saskatchewan from a regulatory system of approximately \$800 million that could be spent on other programs or to reduce taxes. For example the government could eliminate the provincial corporate income tax. Spending on government programs would have a positive economic impact of between five and 30 per cent greater than the negative impact of the tax on electrical generation.

The output-based, cap-and-trade approach has the advantage of actually monitoring and measuring progress in reducing emissions

as part of an automatic feature in its administration. But it is disadvantaged in that it requires a significant administrative cost to operate, will apply only to a very small proportion of GHG producing activities, and, unlike the carbon tax, has no direct effect on the behaviour of individuals or households who may choose to absorb the additional costs and continue carbon intensive activities.

3. The Technology Option

Adopting a combination of low, or no-carbon technologies, such as nuclear, carbon capture and storage, solar, wind and geothermal, among others, for electrical generation is also a policy option. SaskPower is committed to increase its share of renewable energy sources to 50 per cent of its capacity by 2030, while using CCS to reduce emissions from its current coal-power generation. It projects that its strategy will reduce GHG emissions by 40 per cent from current levels.

Using Statistics Canada’s multipliers of 0.80 for GDP and 2.60 for jobs per million dollars of impact for “electrical power generation, transmission and distribution”, the input-output analysis found:

- An expected negative GDP impact of \$632 million and a loss of 2,054 jobs, assuming SaskPower reaches its goal in 2030.
- Increased costs to SaskPower of \$790 million a year based on its proposed technology option, adding 35.5 per cent to its total operating costs.
- The average household electricity bill going up by about \$553 annually.

As with a carbon tax, or cap and trade, there could be economic offsets from the additional spending to develop alternative technologies. However, determining the impact requires a general equilibrium model, which is beyond the scope of the analysis. Moreover, as is the case with cap and trade, the narrow application of the technological option to only electrical generation limits its effectiveness. The fact it has no direct impact on individual behaviour, other than through electrical rates, could severely restrict the potential for this option to affect other GHG emissions within the province.

One criticism of the province’s approach to CCS as a viable strategy is that CCS only makes sense in the context of a planned transition to a low-carbon future. In that future, clean electricity will replace fossil fuel use in a host of applications from personal transportation to home heating. As the International Energy Agency has repeatedly argued, as demand for clean electricity will only increase, CCS becomes a key transitional technology both here and in other parts of the world where coal will continue to be used in power generation. But the general reluctance to accept that this transition has to take place leaves CCS stranded as an expensive demonstration of our engineering prowess and a bargaining chip in federal-provincial negotiations on climate change policy.

►► The Constitutional Question

If addressing climate change inevitably raises divisive opinions about policy approaches, the resulting economic effects, and

the environmental consequences of not acting, the question of whether the federal government's imposition of a carbon price on the provinces is legal under the Canadian Constitution is equally fraught. The reality is that environment policy was not considered by the original framers of the British North America Act in 1867, but has become recognized as a shared jurisdiction.

In its opposition to a carbon tax, the Saskatchewan government position is that under the Canadian Constitution Act of 1982, the federal government does not have the authority to impose a carbon price on the provinces. The argument hinges on Sections 91 and 92, which set out provincial and federal jurisdiction. As the climate change policy paper points out, the federal government's powers include such things as interprovincial and international trade and direct taxation. Provincial jurisdiction includes property and civil rights, intra-provincial trade and natural resources. GHG emissions result largely from the oil, gas and mining, electricity, agriculture and transportation sectors, which, under the Constitution, fall within provincial jurisdiction (albeit the last two are shared with federal jurisdiction).

A key constitutionally based argument Saskatchewan will make is that section 125 prevents the federal government from imposing a tax on the provinces. In other words, given that the carbon tax would have to be paid by provincially owned SaskPower and SaskEnergy, which are a major GHG emitters, the tax is unconstitutional.

Although the federal government does not have jurisdiction over the sources of GHG emissions, it is likely to argue it has legal authority to address the impact of GHG emissions because their effects are not limited by provincial boundaries. In short, cross-border pollution cannot be addressed by provinces, which makes it a matter of federal jurisdiction. The 1988 Supreme Court case of *R. v. Crown Zellerback* ruled, under the national concern doctrine of "peace, order and good government" clause of the Constitution, the federal government could prohibit dumping of waste into the sea. Similarly, the effects of GHG emissions — changing and more intense climate effects, rising sea levels — would be regarded as matters of national concern that cannot be solved by the provinces.

However, other legal scholars argue the national concern doctrine is not appropriate for the regulation of GHG emissions. The position that the failure of Saskatchewan to have a carbon price would have significant harmful extra-provincial effects is difficult to sustain when, for example, the U.S. has withdrawn from the Paris accord. As the paper asks: "What impact would one province such as Saskatchewan have in light of such actions of a very large southern neighbour?" Another argument the federal government is likely to use is that under Section 132 it has the authority to enter into and carry out its international treaty obligations, such as the Paris climate change accord. Recently, an independent legal opinion sought by the Manitoba government concluded the federal government has the constitutional authority to impose a carbon price.

►► Conclusion

There can be no denying the scale of the challenge involved in finding policy solutions to address climate change. The fact that the issue has been on the global public agenda since the early 1990s and that, to this day, there has been only halting and minimal progress, is evidence of just how difficult a public policy challenge it remains. There have been multiple accords, heralded as significant breakthroughs, but in each case no consequences for subsequent failure to meet targets.

In a small way, the debate about a carbon price in Canada, the question of the best way forward, and the on-going disagreement between the Governments of Saskatchewan and Canada about the right policy prescription, reflects the tensions inherent in addressing climate change.

Our analysis suggests the proposed policy responses to climate change all have their limitations and come with a mix of advantages and disadvantages from an economic, administrative and legal basis. Our goal has been neither to recommend any particular policy instrument, nor to add to the many detailed analyses of their strengths and weaknesses that are now available. Rather, we have sought to provide an overview of the state of the debate around the choice of policy tools currently available. In conclusion, though, we would stress two points.

First, policy designs to tackle complex problems generally employ a mutually supporting mix of policy instruments. Contrary to the advocates of the "one big idea" approach to climate policy (whatever that idea might be), we do not think that carbon pricing, regulation or technology will, by themselves, be effective. The danger of the current approach in Canada, compounded by Saskatchewan's current position, is that we will get a scattergun of poorly integrated policy interventions when what is urgently needed is a well-designed mix in which the weakness of one policy instrument is counterbalanced by the strength of another. The value of the federal backstop is that it at least provides a common starting point from which provinces can develop policies to address the uncertain outcomes of market approaches and the need to meet specific targets in a timely way. For this reason, we support mandatory carbon pricing.

Second, the absence of a "perfect solution" does not provide a solid argument for inaction. Climate change is real. Every dollar we fail to spend on mitigation is not a dollar saved; it is dollar that will, soon enough, have to be spent with interest on adaptation to a changed world of catastrophic weather events, as well as large scale forest fires, melting permafrost, rising sea levels, drought and flooding. The Government of Saskatchewan has a long history of leading policy innovation on important national issues. It should seize the challenge and opportunity of climate change to demonstrate it can do so again.

NOTE: Sources for this Policy Brief are available in the full-length report posted online at www.schoolofpublicpolicy.sk.ca/research/publications/reports.php.

For information on the authors or the Johnson Shoyama Graduate School, visit www.schoolofpublicpolicy.sk.ca