

Building an Environmentally Sustainable Future for Saskatchewan

EXECUTIVE SUMMARY

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Several Saskatchewan economic growth policies are unsustainable and need to be reexamined in the context of four dangerous global trends which humanity must urgently grapple with:

- 1) climate change,
- 2) ocean acidification,
- 3) decline in biodiversity, and
- 4) nuclear weapons proliferation.

The authors examine each of these global threats, and how Saskatchewan's public policies significantly contribute to them. They then propose 30 policy changes that would put Saskatchewan's economy on a more environmentally sustainable footing.

1 The authors examine **climate change** in detail. Recent research documents that global greenhouse gas concentrations are now higher than at any time in the past 800,000 years. The authors examine the observed negative impacts that current emission levels are already having on human society and ecosystems. They conservatively estimate that Saskatchewan's 74 million tonnes of annual greenhouse gas emissions will cost the global community approximately \$2.7 billion per year in damages. Saskatchewan's emissions are more than nine times the world average for our population size, and thus disproportionately contribute to problems such as extreme flooding events, accelerated sea level rise, declining wildlife populations, a global decline in wheat and maize yields, and an expansion of the geographical range of many infectious diseases.

Saskatchewan itself is also starting to experience climate change impacts. Communities in southern Saskatchewan are facing increased severe weather events, some of which have clear climate change signals associated with them. Saskatchewan's government spending on the Provincial Disaster Assistance Program has jumped 30 fold in the past decade.

Drawing on analysis by the Intergovernmental Panel on Climate Change (IPCC), the authors observe that if greenhouse gas concentrations in the atmosphere are not fully stabilized by 2070, the world will face a marked increase in dangerous climate change consequences that will cause grave human deprivation. Because of the exceptionally long-lived nature of most greenhouse gases, achieving atmospheric stabilization requires the virtual elimination of manmade emission sources. In other words, fossil fuel consumption and production will need to be curbed sharply in the decade ahead, and will need to be phased out completely over the course of the next 50 years. Deforestation will also need to stop. This scientific reality needs to guide Saskatchewan public policy in the decades ahead.

2 The most prominent manmade greenhouse gas — carbon dioxide — also plays a critical role in the **acidification of the world's oceans**. The carbon dioxide emissions from Saskatchewan's economy alone now exceed 45 million tonnes per year. Over time 30% of this carbon dioxide is taken up by the oceans, where

it reacts with water molecules to form carbonic acid. As this same pattern plays out at a global level it is significantly lowering the pH of sea water. Ocean acidification poses an enormous threat to worldwide marine biodiversity and to the world's coral reef systems. That threat can only be curbed if manmade sources of carbon dioxide are phased out as quickly as possible.

The authors analyze Saskatchewan's manmade carbon dioxide and other greenhouse gas emission sources, primarily related to fossil fuels. The paper focuses on public policy recommendations to quickly curb the largest sources of emissions. It calls for strict regulation of venting and flaring practices in Saskatchewan's oil and gas industry, the phase out of Saskatchewan's coal-fired power plants over the coming decade, and a wide range of policy changes aimed at cutting transport emissions. Among the paper's recommendations is that Saskatchewan follow the lead of Ontario and over 70 countries by adopting feed-in-tariffs as a public policy mechanism to develop Saskatchewan's wind, solar, biomass and geothermal potential.

3 Decline in biodiversity is another serious global threat. At the global level, over the past 40 years, freshwater fish have declined in numbers by 66%, amphibians by 41%, organisms that build coral reefs by 33%, land-based mammals by 25%, marine fish by 20%, and birds by 13%. In Saskatchewan approximately 50 plant and animal species are considered species at risk, and many others are in decline.

The international community is trying to prevent further biodiversity decline by increasing protected land designations in each UN member country. A United Nations-sponsored target for 2020 for protected areas has been set at 17% of national land area. The authors recommend that Canada and Saskatchewan fully participate in this initiative.

Lands currently protected in Saskatchewan account for approximately 10% of the province's land area. Biodiversity decline in Saskatchewan's grasslands is particularly evident, and protective measures need to be taken to protect pristine prairie ecosystems, such as in the southern portion of the Great Sand Hills. Undisturbed wildlife habitat in other regions of Saskatchewan also needs protection, such as in the Cumberland Delta and many regions of the province's Boreal Forest. It is also urgent that the Saskatchewan government provides financial resources for ecological management of the former federally managed PFRA community pastures that have now been turned back to Saskatchewan.

4 The proliferation of nuclear weapons poses another serious threat to human well-being. Saskatchewan has contributed to this danger by allowing uranium to be sold to several jurisdictions that were known or suspected to be using their nuclear facilities for atomic weapons purposes.

One remedial action recommended by the authors is that the Saskatchewan government revise its surface lease agreements with uranium mining corporations, so as to disallow the sale of uranium from existing Saskatchewan mines to any country that has not signed, ratified and complied with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Important ways in which the NPT could be strengthened are also discussed.

The authors close by proposing that Saskatchewan's long-term goal should be a steady-state economy that provides a high quality of life for everyone, while relying on reduced energy and material flows, as well as an economy that recognizes our dependence on nature and seeks to function in harmony with it.