

Greenhouse Gas Emissions

Why it matters

Climate change is real and is a problem we must address. The global concentration of carbon dioxide in the atmosphere has reached 400 parts per million. This is the highest rate in recorded history. As stated in Saskatchewan's White Paper on Climate Change released in October of 2016:

As we go about the business of feeding people and building an economy, we generate carbon and other gases. Those gases cause the planet to warm and the current rate of warming endangers our future.

Canada's share of global greenhouse gas (GHG) emissions is 1.6 per cent. Saskatchewan emissions represent 10 per cent of that 1.6 per cent. We believe greenhouse gas emissions can be reduced in Saskatchewan with a special emphasis on developing transformational clean technology. This new clean technology can be used in our country and around the world.

While we go about the work of addressing climate change, we must remember Saskatchewan has special obligations. People count on our province to provide secure energy and high-quality food.

Our province is helping Canada achieve national emissions reduction targets. We are already taking action to cut GHG emissions in Saskatchewan. In fact, by 2030, we will be one of the few Canadian provinces achieving actual GHG reductions from current levels.

What is happening

Research indicates that climate change may cause increased temperatures and precipitation over the next several decades in Saskatchewan. That could lengthen the growing season in some parts of Saskatchewan. However, warmer winters may also cause problems with more pests and invasive weeds. Changes in how, when and what we feed livestock may also be required.

Drier growing seasons will also make fish and wildlife conservation more difficult. Biodiversity may also suffer. Over the longer term, forest composition and biodiversity will shift in unpredictable ways. Forests may also start growing more quickly in some parts of Saskatchewan, due to warmer temperatures, longer growing seasons and higher carbon dioxide levels.

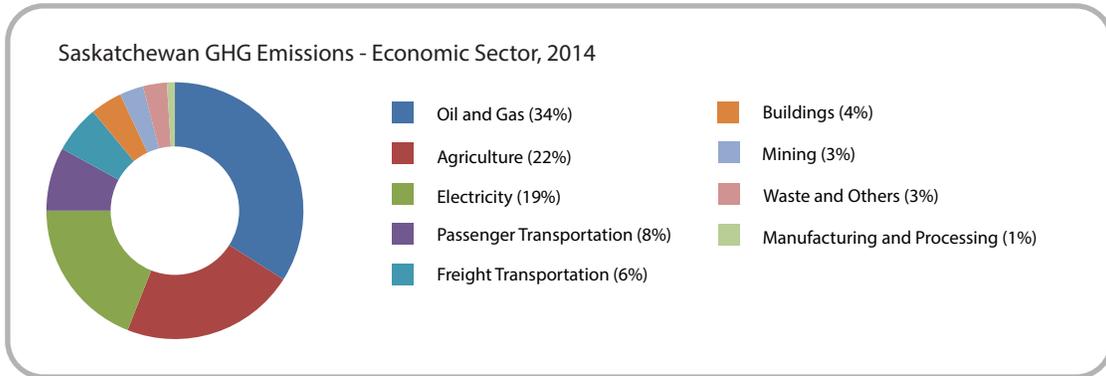
Saskatchewan's Climate Change Numbers

Saskatchewan's GHG emissions in 2014 totalled 75.5 million tonnes. This is small in comparison to the rest of the world. However, the numbers are rising. Our provincial economy is growing. That means oil and gas production, electricity production, agricultural activity and transportation of goods and services are all expanding.

Carbon dioxide represents 66 per cent of Saskatchewan's total 2014 emissions. Other sources include methane (24 per cent), nitrous oxide (10 per cent) and fluoridated gases (less than one per cent).

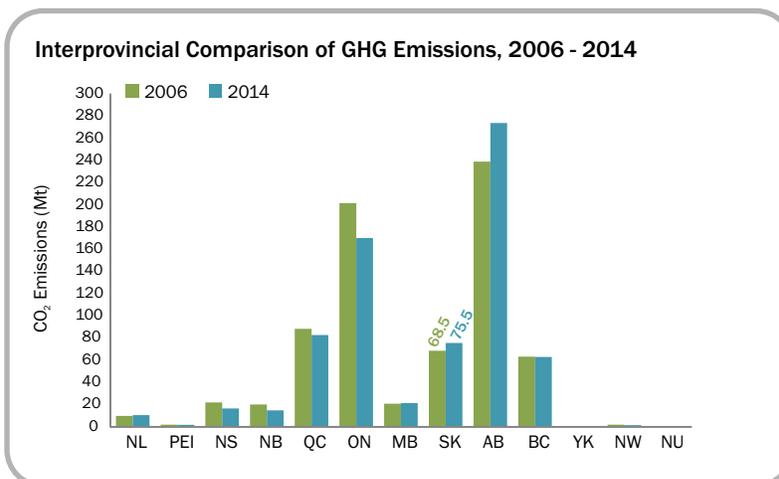
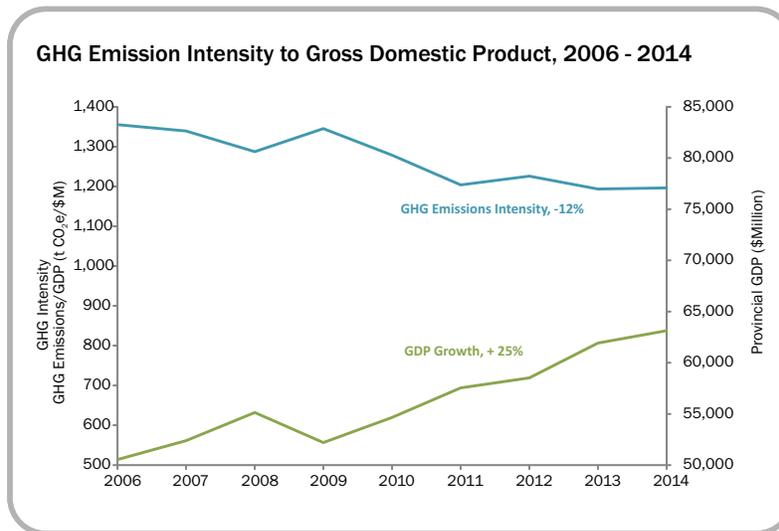
However, Saskatchewan's GHG emissions intensity is dropping. Intensity is the average emissions rate per a given unit of economic production. From 2006 to 2014, GHG emissions intensity in Saskatchewan dropped by 12 per cent, while the province's gross domestic product (GDP) value increased by 25 per cent during the same period. This illustrates the profound impact of energy efficiency improvements and innovation focused on low-carbon technology. We are building and growing more, but polluting less.

Saskatchewan's GHG emissions totaled 75.5 million tonnes in 2014.



GHG emission intensity decreased by 12 per cent during the 2006-2014 period due to energy efficiency improvements and technological innovation in low-carbon technology.

Saskatchewan is showing leadership in balancing economic growth with environmental outcomes.



What we are doing

Saskatchewan is taking action to reduce its GHG emissions by supporting technology solutions to reduce GHGs from high-emitting sectors.

The province has prioritized cleaning up its use of coal for electricity generation by installing world-leading carbon capture and storage (CCS) technology at SaskPower's Boundary Dam near Estevan. Approximately 800,000 tonnes of carbon dioxide (CO₂) were captured in 2016. CCS technology has the potential to reduce emissions in other countries that continue to open new coal plants. There are currently about 2,400 coal plants in development across the world.

As the province's largest GHG emitter, SaskPower has committed to doubling its renewable energy generation capacity from 25 per cent today to 50 per cent by 2030.

A commitment to an equivalency agreement with the federal government on phasing out coal-fired electricity generation was announced in November 2016. Once finalized, the federal/provincial equivalency agreement will provide Saskatchewan more flexibility in transitioning to additional renewable energy, including evaluating future opportunities for CCS. An equivalency agreement provides flexibility for coal-fired electrical producers to meet compliance obligations, while achieving equal or better environmental outcomes.

As the province's largest GHG emitter, SaskPower has committed to doubling its renewable energy generation capacity from 25 per cent today, to 50 per cent by 2030. This goal will be achieved by a major expansion in wind power, along with other renewables, such as solar, biomass, geothermal and hydro. SaskPower will reduce its GHG emissions to 40 per cent below 2005 levels by 2030.

Investments in new electricity generation systems will also lay the groundwork for deeper emissions reductions beyond 2030. SaskPower and SaskEnergy are pursuing energy efficiency and conservation measures to reduce energy usage by their customers to further reduce provincial GHG emissions.

The land itself is an important carbon sink. Saskatchewan's land base includes extensive natural landscapes such as forests, wetlands and grasslands, and also supports agricultural ecosystems that capture and store carbon.

Saskatchewan is also working in partnership with the Canadian Association of Petroleum Producers (CAPP) and the Ministry of the Economy to reduce GHG emissions from flaring and venting activities. The Ministry of Environment is encouraging the development of GHG inventories in partnership with the Saskatchewan Urban Municipalities Association (SUMA), and the cities of Saskatoon and Regina, under the Federation of Canadian Municipalities' Partners for Climate Protection Program. Best practices for reducing GHGs from landfills, transportation systems, and other municipal operations are being implemented under this program.