

Prairie Resilience: **Implementation Update**

Energy Management Task Force – Saskatoon Chapter
Saskatoon, January 8, 2020

Introduction

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2. Regulatory Implementation
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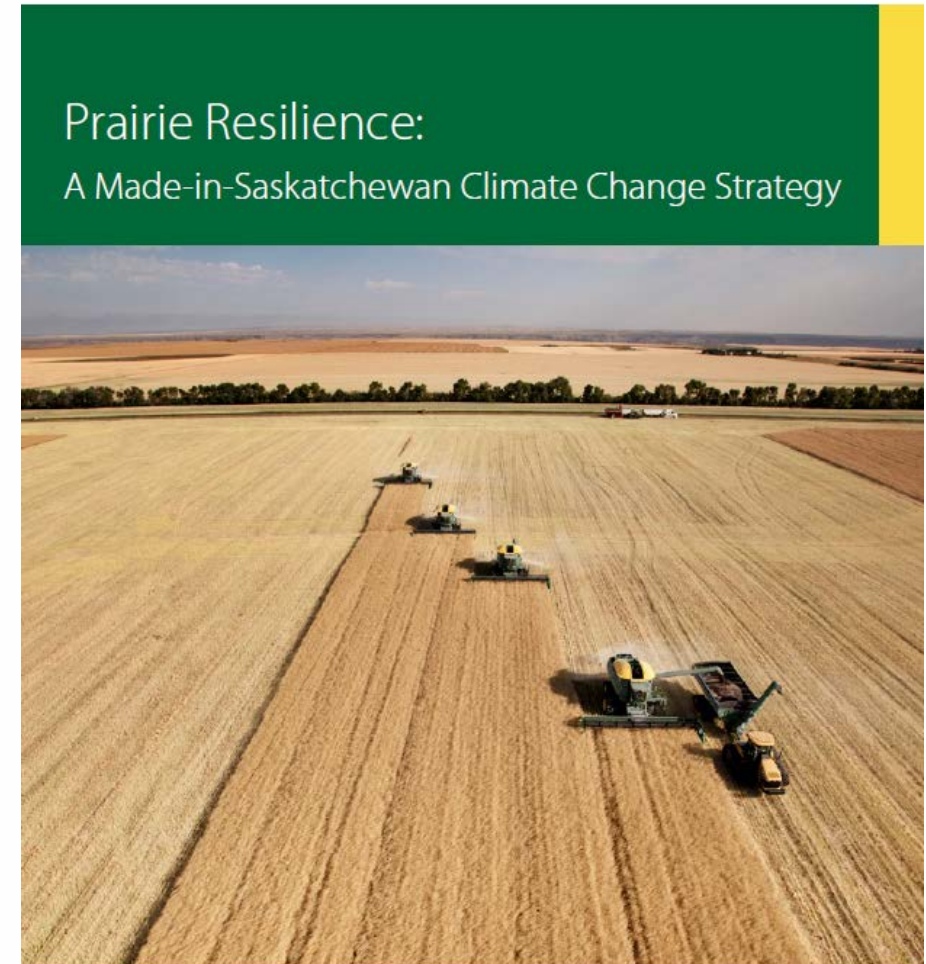
Provincial Strategy

Designed to make Saskatchewan more resilient to the climatic, economic and policy impacts of climate change

42 commitments in **5** key areas:

- Natural systems
- Physical infrastructure
- Economic sustainability
- Community preparedness
- Measuring, monitoring & reporting

14 Ministries and Crowns involved



Major Strategic Initiatives

Comprehensive **system-wide** policy approach:

- **Resilience** is over-arching focus - Climate resilience framework
- **Regulatory Framework**
 - **Output-based** performance standards, with flexible compliance mechanisms,
 - upstream **oil and gas emissions reductions**, with complementary policies; and
- Enhanced emphasis on **renewable energy in electrical generation.**

Climate Change Strategy

“Explore additional energy efficiency and conservation products and service to support emission reduction targets.”

As well as:

- Up to 50% renewables generating capacity
- Freight strategy & Trucking Partnership Program
- Adopt 2015 National Building Code and National Energy Code for Buildings
- Government fleet improvements & building certification
- Output Based Performance Standards (OBPS) for industry

national synchrotron facility are already at work on cutting-edge energy storage technologies.

Another way to reduce emissions is to modernize the electricity grid to integrate more renewable energy.

An equivalency agreement with the federal government on electricity sector emissions from conventional coal-fired electrical generation in Saskatchewan will enable SaskPower to manage reduction of its greenhouse gas emissions across its entire fleet rather than on a unit-by-unit basis. This agreement will give SaskPower increased flexibility in operating its existing coal units, helping to maintain low rates



for SaskPower customers. At the same time, SaskPower will be able to focus investment into lower emitting and renewable energy projects and agreements. These will play a key role in enabling SaskPower to achieve greenhouse gas emission reduction targets.

Actions taken on electricity generation will result in a 40 per cent annual reduction in greenhouse gas emissions from 2005 levels by 2030, representing a reduction of about 6 Mt of CO₂e.

We will:

- Introduce regulations governing emissions from electricity generation by SaskPower and Independent Power Producers.
- Meet the province's commitment of up to 50 per cent electricity capacity from renewables, through:
 - Increasing renewable energy sources, including wind and solar
 - Investigating the feasibility of energy storage services to expand renewables capacity

- Updating the provincial electricity dispatch method with emissions criteria to support reduced emissions.

- Explore additional energy efficiency and conservation products and services to support emission reduction targets.
- Determine the viability of extending carbon capture use and storage technology to remaining coal power plants while continuing to work with partners on the potential application for CCUS technology globally.

Transportation and Related Infrastructure

Saskatchewan is a trading province, producing fuel, food, fertilizer, products and commodities for consumers in markets around the world. Supporting this trade is an extensive transportation network including rail lines and roads.

Our highways are a connecting network for all other critical infrastructure and communities, helping increase Saskatchewan's resilience in overcoming climate emergencies. All-weather roads support access to northern communities and require attention as the climate changes.

This is critical infrastructure, vulnerable to climate change. Extreme weather events and longer-term climate changes cause floods that overwhelm culverts, wash out roads and destroy property.

Saskatchewan has responded with:

- Improved design of highway systems to reduce the amount of maintenance and repairs needed
- Improved culvert design to protect against events such as spring ice flow damage
- Longer culvert lengths where failures are more likely to occur during flood events
- Increased documentation of water levels at culvert crossings during floods to provide historic water level information to support new culvert designs

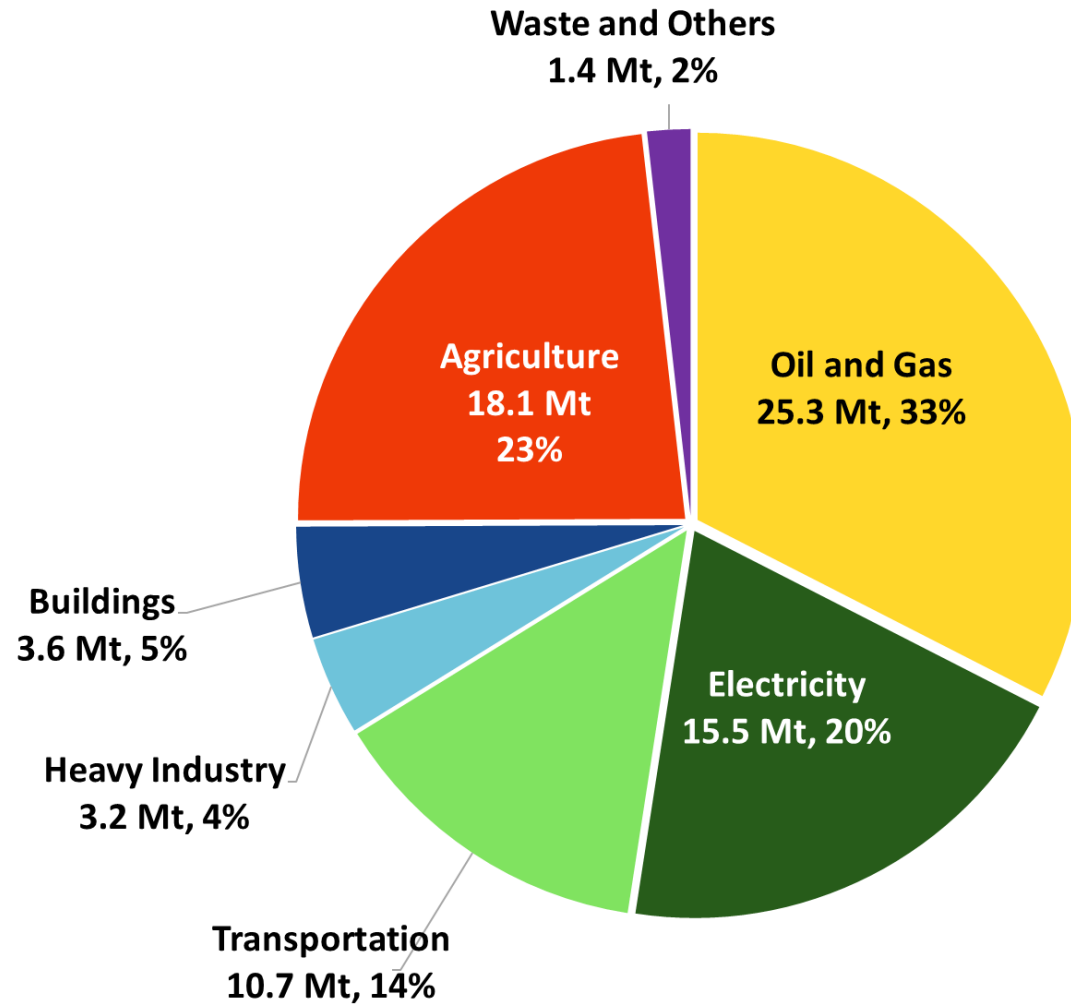
In one industry example, companies participate in the SmartWay Transport Partnership. This voluntary public-private collaboration aims to reduce fuel costs and improve environmental performance in the transportation industry. It does this by providing a system to measure, benchmark and share information about fuel use and freight emissions. In

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Saskatchewan's 2017 Emissions Profile



Sask Total (2017) = 77.8 Mt

Legislative Authority

Legislation

- *The Management and Reduction of Greenhouse Gases Act* (MRGHG) amended and in force since January 1, 2019.

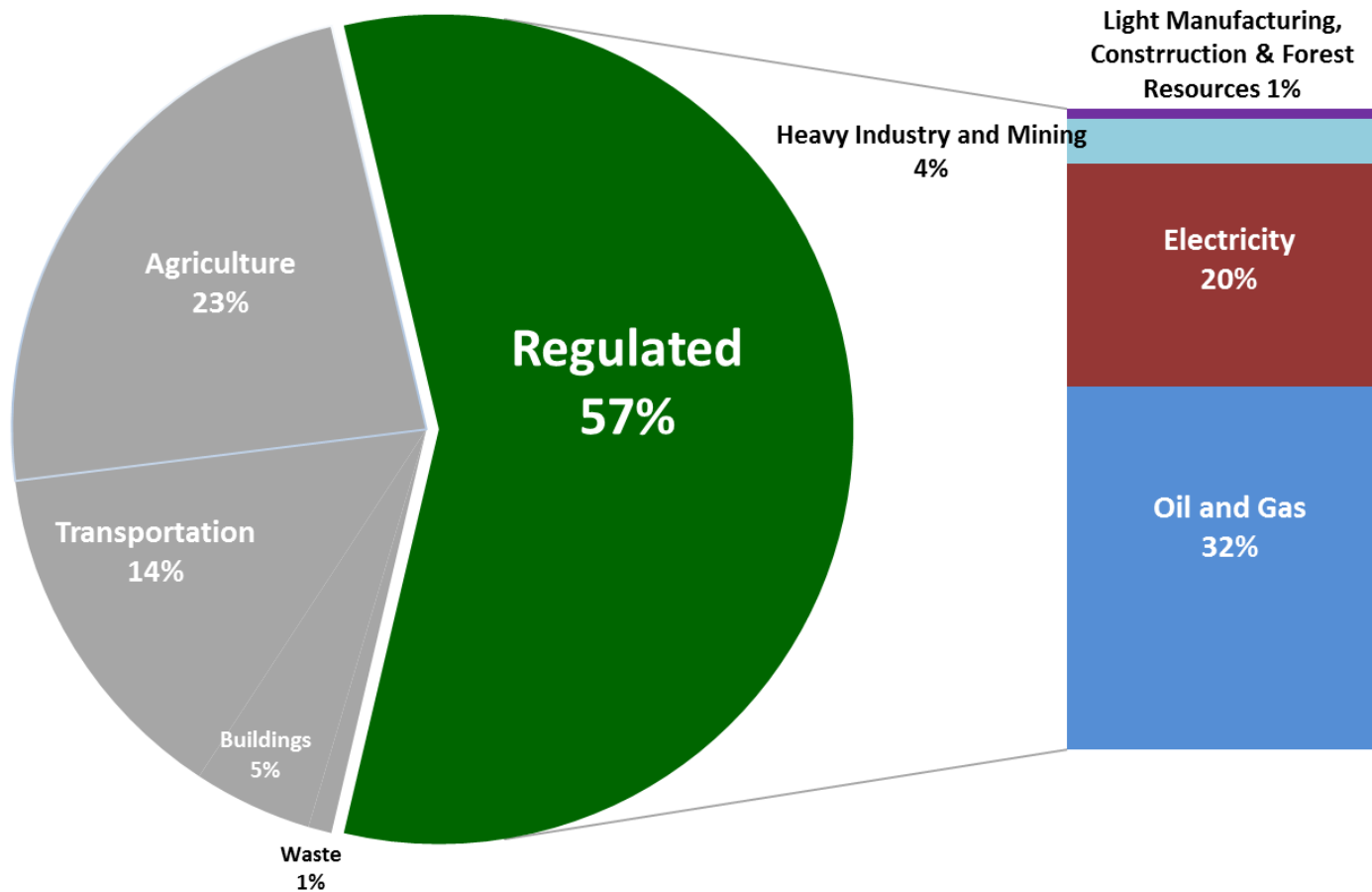
Regulation

- *The MRGHG (General and Electricity Producer) Regulations* (January 1, 2018)
- *The MRGHG (Reporting and General) Regulations* (September 1, 2018)
- ***The MRGHG (Standards and Compliance) Regulations* (January 1, 2019)**
- *The Oil and Gas Emissions Management Regulations* (January 1, 2019)

Standards

- *The MRGHG (Reporting) Standard* (September 1, 2018)
- ***The MRGHG (Baselines, Returns and Verification) Standard* (January 1, 2019)**
- *The MRGHG (Upstream Oil and Gas Aggregate Facility) Standard* (September 1, 2019)

Regulated GHG Emissions



57% of provincial emissions will be regulated under *Prairie Resilience*

(44.7 Mt of 77.8 Mt total)

Sources: Environment Canada NIR 1990-2017

Federal Backstop

- The federal “**backstop**” on Saskatchewan announced Oct 23, 2018:
 - Recognition that SK Output-based Performance Standard program is sufficient
 - On April 1, 2019, federal carbon tax on all input fuels (gasoline, diesel, propane, natural gas)
 - \$20/tonne CO₂e in 2019 increasing to \$50/tonne CO₂e by 2022
 - Starting January 1, 2019, large emitters in the electricity and natural gas transmission sectors will be subject to federal performance standards
- Facilities registered in the SK OBPS program **are exempt** from paying the federal carbon tax but are subject to meeting provincial performance standards.

Output-Based Performance Standards

Saskatchewan developed output-based performance standards to reduce emissions intensity across industrial sectors.

Saskatchewan's OBPS policy design considered:

- overall economic growth;
- competitiveness and trade exposure;
- minimal regulatory burden;
- early actions taken by regulated emitters; and
- sector-specific achievability.



Output-Based Performance Standard Program

The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations (January 1, 2019).

- Sector-specific, facility-level **performance standards** on facilities emitting $\geq 25,000$ tonnes CO₂e annually
- Voluntary opt-in for facilities emitting $\geq 10,000$ tonnes CO₂e annually
- **63 facilities** in sectors including mining, manufacturing, pulp, oilseed processing, steel, fertilizer, refining and upstream oil and gas
- These facilities generate 12 per cent of total provincial emissions and are expected to reduce that portion by a total of 10 per cent by 2030.

Output-Based Performance Standards (OBPS)

- Performance standards are set based on the **emissions per unit of production**.
- $$\text{Emissions Intensity} = \frac{\text{GHG Emissions}}{\text{Production}}$$
- Increasing stringency from baseline emissions intensity (@ 15% means 1.25% in 2019, 2.50% in 2020 15% in 2030)
- Achieving performance standards is a measure of the energy efficiency of operations



Meadow Lake Mechanical Pulp mill

Flexible Compliance Options

Industry can meet standard in ways best suited to their business by:

- Meeting the **performance standard**;
- Using a **best performance credit**;
- Contributing to the **technology fund**; or
- Purchasing an **offset credit**.



Nutrien's Patience Lake Potash Mine

Compliance Option - Technology Fund

Purpose is to enable investment in innovative technologies that lower GHG emissions at industrial facilities.

- Available to regulated emitters use only
- Funds to be administered by Innovation Saskatchewan
- Monies to be held outside of General Revenue Fund
- 8 member advisory committee make project recommendations to minister
 - Projects adjudicated by technical/scientific subcommittee
- Compliance cost = \$20/tonne CO₂e in 2019; **\$30/tonne CO₂e in 2020**

Compliance Option – Offset Credit

Offset credits can be generated when GHG emissions are reduced or CO₂ is sequestered.

- Offsets need to be real, verifiable, additional, permanent, and single use.
- Enforceable protocols required to guide offset generation programs
- Credits serialized and can only be used once.

Opportunity for incentivizing energy conservation measures

- Changes in processes, management practices, facility improvements

Implementation Schedule

2019	2020	2021
OBPS in place Baselines confirmed	Deferred compliance year: <ul style="list-style-type: none"> • Report 2019 emissions against OBPS • Verification in 2020 • True-up not required 	Full Regulatory compliance: <ul style="list-style-type: none"> • Report 2020 emissions against OBPS • True-up for 2019 and 2020 emissions (verified compliance obligations met)
Technology Fund implementation	Best Performance credit system implementation	Offset credit system implementation

Energy Efficiency Programs in SK

Efficiency Canada - Provincial Energy Efficiency Scorecard

Identified strengths and weaknesses in provincial approach

- Strengths: industrial energy management programs and building codes
- Weaknesses: energy efficiency programs particularly for ZEV.

Scoring did not consider:

- Provincial OBPS
- Energy efficiency programs in SK resulting from carbon tax recycling

Energy Efficiency Programs in SK

SaskPower

Generation – 407 Mw wind & 10 Mw solar in development; plans for additional 650+ Mw solar, geothermal & wind by 2030.

Industrial – Power Generation Partner, Demand Response & Energy Optimization programs

Home – Energy Assistance Pilot, Net Metering programs



SaskEnergy

Commercial Boiler, Space & Water heating rebates

High efficiency furnace rebate



Energy Efficiency Programs in SK

Climate Action Incentive Fund (CAIF)

SME Project Stream (via ECCC)

- \$21 million in 2019

MUSH Retrofit Stream (via SaskBuilds)

- \$12 million in 2019

Rebate Stream (not yet in place)

- Not-for-profits & SMEs
- \$10 million in 2019

Climate Action Incentive Fund



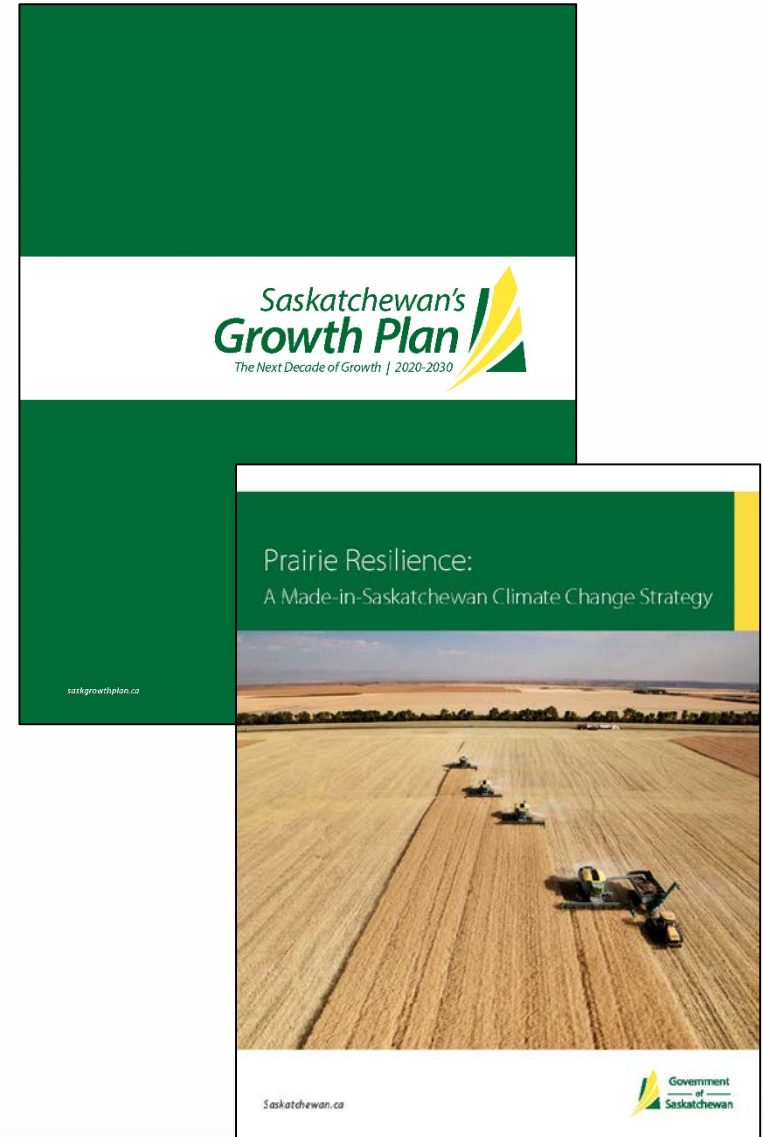
Energy Efficiency Programs – Next Steps

Saskatchewan Growth Plan

“Encouraging innovative solutions for the built environment to meet energy performance requirements, improve efficiencies, and reduce costs”

Prairie Resilience

“Explore additional energy efficiency and conservation products and service to support emission reduction targets.”



Energy Efficiency Programs – Next Steps

Open Discussion

What program(s) could best meet dual goal of increasing energy efficiency and reducing emissions?

Prairie Resilience:
A Made-in-Saskatchewan Climate Change Strategy



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