Amending Regulations and Standards for Saskatchewan's OBPS Program

Ministry of Environment, Climate Resilience Branch

January 19, 2023

Live Event will start at 9:00 AM CST

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Housekeeping

TECH ISSUES

Email, text or call for support:
Email: Jared.Dunitz3@gov.sk.ca
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QUESTIONS

Submit anytime through the Q and A Box

PRESENTATION

Will be provided to participants after the session

Purpose: Highlight proposed amendments to the regulations and standards governing Saskatchewan's Output-Based Performance Standards (OBPS) Program

Objectives:

1. Provide context, regulation overview and next steps for amending *The Management and Reduction of Greenhouse Gases (Standards and Compliance) Regulations*
2. Answer your questions
3. Seek feedback regarding proposed changes to regulations and standards

Saskatchewan's OBPS Program

OBPS Program design guided by 5 principles:

- Provincial autonomy
- Results-based regulation
- Sector-specific achievability
- Industry competitiveness
- Continued economic growth

Regulatory Framework

- Updated *The MRGHG (Standards and Compliance) Regulations*
  - Updated *The MRGHG (Baselines, Returns and Verification) Standard*
  - Updated *The MRGHG (Upstream Oil and Gas Aggregate Facility) Standard*
  - Updated *The MRGHG (Performance Credit) Standard*
  - New *The MRGHG (Electricity Compliance and Verification) Standard*
  - New *The MRGHG (Carbon Capture, Utilization and Storage Credits) Standard*
  - New *The MRGHG (Quantification, Measurement and Sampling) Standard*

The MRGHG (Standards and Compliance) Regulations

- Consider products within sectors rather than facilities within sectors
  - Baselines and performance standard allocations for each product
  - New products in place of new facilities
  - Standby applied for each product rather than entire facility
- Adoption of standards respecting additional matters including:
  - Carbon capture, utilization and storage (CCUS) credits
  - The Saskatchewan Technology Fund
  - Quantification methodologies

The MRGHG (Standards and Compliance) Regulations

- Voluntary participation open to all facilities with products in a regulated sector
- Five previously announced sectors added
- Audit and inspection authority transferred to standards
- Confidentiality requests cover up to five years of returns and submissions
- CCUS credits available as a compliance option
- Natural gas transmission pipelines and electricity generation sectors added
- Carbon price established: $65 in 2023 rising to $170 by 2030

New Performance Standard Allocations

- Performance standard allocations increased to 15% and 20% to maintain carbon pricing signal
- Regulated emitters will use the new PSA schedule starting in 2023 compliance year

Sector	Reduction Period											
	1	2	3	4	5	6	7	8	9	10	11	12
15%	0.9875	0.9750	0.9625	0.9500	0.9375	0.9250	0.9125	0.9000	0.8875	0.8750	0.8625	0.8500
20%	0.9833	0.9667	0.9500	0.9333	0.9167	0.9000	0.8833	0.8667	0.8500	0.8333	0.8167	0.8000
	2019	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**

Example: A product in its 5th reduction period in 2023 that was previously subject to a 5% reduction will have a PSA of 0.9375 in 2023.

Treatment of Electricity in the OBPS Program

The MRGHG (Standards and Compliance) Regulations

Types of regulated facilities

- **Industrial facility** – produces commercial product(s) other than electricity
- **Electricity facility** – only products are electricity and sold heat

Types of emissions at a regulated facility

- Regulated industrial emissions
- Regulated electricity emissions

The MRGHG (Standards and Compliance) Regulations

Two types of electricity generation

- Stand-alone electricity generation at an **electricity facility**
- Electricity generation from a unit or group of units at an **industrial facility**

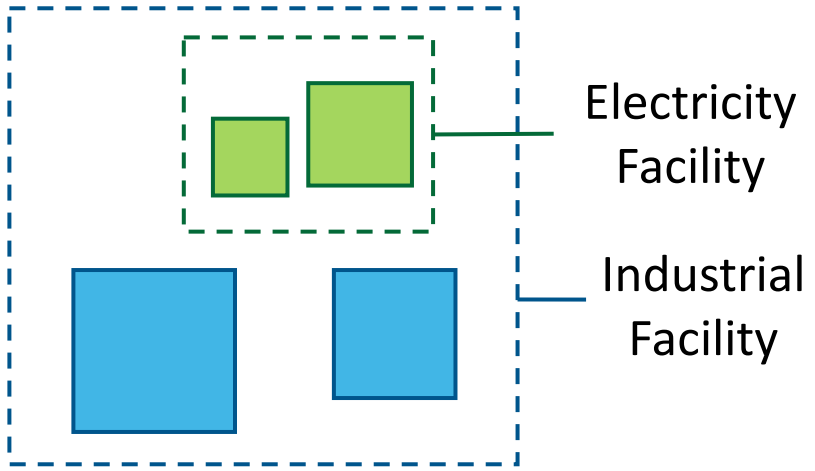
Treatment of associated gas-to-power emissions

- Included in regulated industrial emissions for an **industrial facility.**
- Included in regulated electricity emissions for an **electricity facility**.

The MRGHG (Standards and Compliance) Regulations

Electricity generation in the OBPS Program

- A unit or group of units at an **industrial facility** may be considered an **electricity facility** if:
  - Regulated electricity emissions ≥ 10,000 tonnes CO_2e
  - Electricity efficiency > 50 per cent

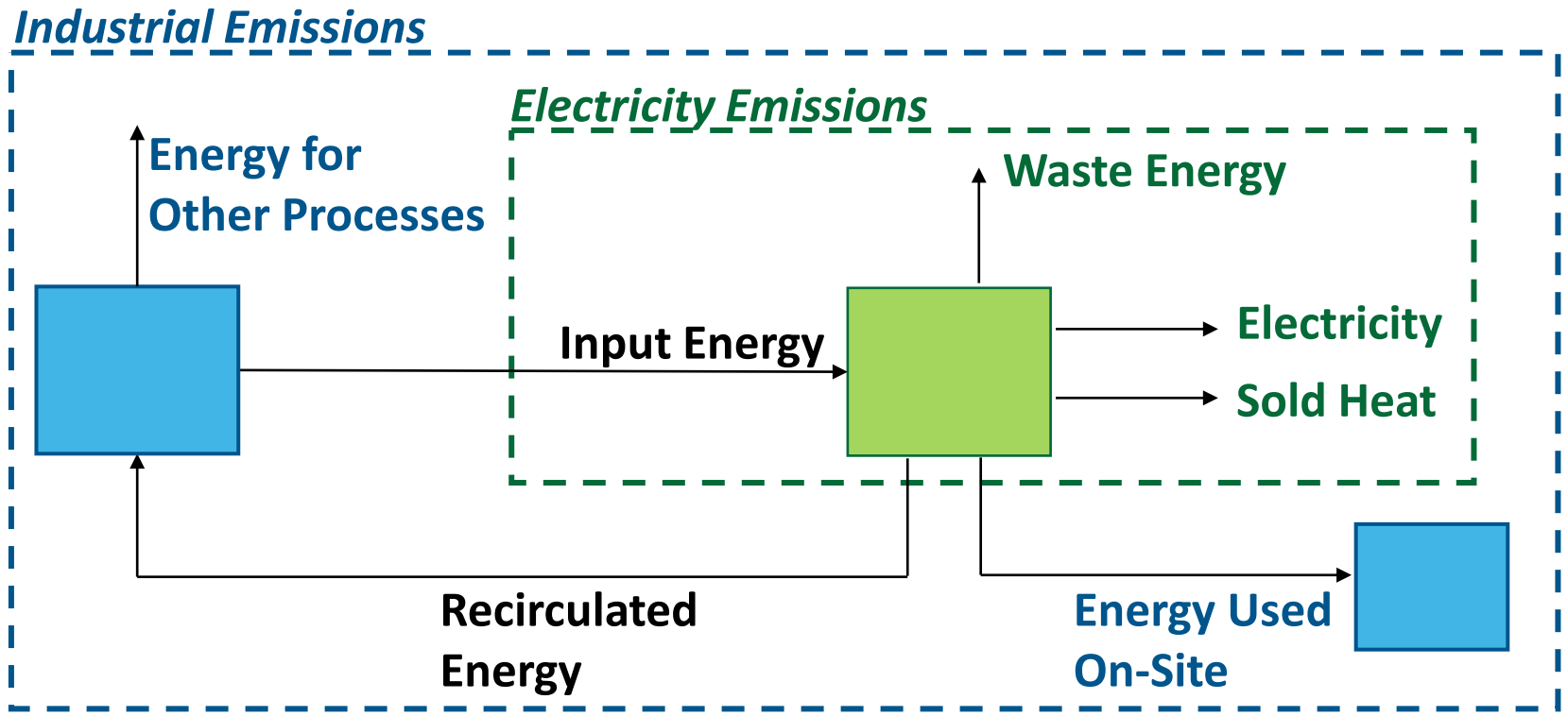


Electricity efficiency (EE)

- G_u = gross electricity generation for unit u.
- E_u = input energy into unit u.

$$EE = \frac{\sum_u G_u}{\sum_u E_u} \times 100\%$$

Allocation of Emissions at an Industrial Facility



Recall: Associated gas emissions from a gas-to-power operation are allocated to the industrial emissions for an industrial facility

The MRGHG (Electricity Compliance and Verification) Standard

	Emissions Intensity Standards for Electricity (tonnes CO_2e/GWh)				Sold Heat Benchmark (tonnes CO_2e/GJ)
Compliance Year	**Solid Fuel**	**New and Expanded Gas**	**Existing Gas**	**Liquid Fuel**	**Sold Heat**
2023	566	288	370	550	0.058
2024	538	247			
2025	510	206			
2026	482	164			
2027	454	123			
2028	426	82			
2029	398	41			
2030	370	0			

The MRGHG (Electricity Compliance and Verification) Standard

New/Expanded Gas Standard applies if:

- Facility has increased total capacity ≥ 50 MW on or after January 1, 2023, from gas units with EE > 50 per cent.

New/expanded gas standard applies to:

- All capacity at new gas units with EE > 50 per cent
- New capacity at expanded units with EE > 50 per cent

- Existing gas standard continues to apply to the existing capacity for existing gas units

Gas-to-Power Operations

- Current approach (95% allocation of current gas-to-power emissions) does not maintain carbon pricing signal

- New approach treats gas-to-power electricity at **industrial facilities** as a product
  - Baseline established based on 2 years of operation
  - Only emissions and electricity generation from associated gas are considered
  - Unique gas-to-power PSA schedule established and applies starting in 2023

Gas-to-power	Reduction Period							
	1	2	3	4	5	6	7	8
PSA	0.9938	0.9875	0.9813	0.9750	0.9688	0.9625	0.9563	0.9500

Updates to OBPS Program Standards

Drilling Operations at Industrial Facilities

- Optional reporting of stationary fuel combustion emissions from drilling operations
- Benchmark approach used: 0.0255 tonnes CO_2e/meter drilled
- Reported separately as part of emissions return
- Emissions from drilling operations quantified using *The MRGHG (Quantification, Measurement and Sampling) Standard*
- Drilling emissions omitted from reporting do not receive fuel charge exemption

The MRGHG (Baselines, Returns and Verification) Standard

- Reflects coverage of additional source categories for oil and gas sector
  - flaring, on-site transportation and industrial product use
- CH_4 and N_2O emissions from useful biomass combustion excluded
- Verification terminology updated to align with 2019 ISO Standards
- Reflects updated treatment of electricity generation

The MRGHG (Baselines, Returns and Verification) Standard

- Ability for regulated emitters to use alternative quantification methodologies and emission factors

- Updated global warming potentials
  - IPCC's Fifth Assessment Report to be used starting in 2023

- Ability to request shorter exemption period after a product exits standby

The MRGHG (Upstream Oil and Gas Aggregate Facility) Standard

- Reflects coverage of additional source categories
  - flaring, on-site transportation and industrial product use
- Verification terminology updated to align with 2019 ISO Standards
- CH_4 and N_2O from useful biomass combustion excluded
- Threshold for application of Part 2 vs Part 3 of standard increased from 10,000 tonnes to 15,000 tonnes
- Deadline for updating facility information extended to October 1 (Part 2 facilities only)

Re-establishing Baselines for Oil and Gas Facilities

- Flare emissions may be included in baselines
  - 3 consecutive years of data between 2018-2022
  - Combine with existing baseline emissions intensity for aggregate facility

- Verification required for data related to flare emissions not previously verified
  - Baseline submissions due: **September 1, 2023**

- Similar treatment for on-site transportation and industrial product use emissions

- Regulated emitters must report all covered emissions in total regulated emissions even if baselines are not re-established

Example: Adding Flare Emissions to Baseline

Current baseline data

Baseline Year	Emissions (tonnes CO_2e)	Production (BOE)
2014	1000	4500
2015	1500	4800
2016	1200	4600

Flare baseline data

Baseline Year	Emissions (tonnes CO_2e)	Production (BOE)
2018	300	5100
2019	200	5000
2020	400	5200

Current BEL = 1,233 tonnes CO_2e

Current BPL = 4,633 BOE

Current BEI = 0.2662 tonnes CO_2e / BOE

Flare BEL = 300 tonnes CO_2e

Flare BPL = 5,100 BOE

Flare BEI = 0.0588 tonnes CO_2e / BOE

New BEI = Current BEI + BEI_{flare}

New BEI = (0.2662 + 0.0588) tonnes CO_2e / BOE

New BEI = 0.3250 tonnes CO_2e / BOE

The MRGHG (Carbon Capture, Utilization and Storage Credits) Standard

Eligible CCUS Projects must:

- Register through submission of a Credit Plan
- Capture and inject CO_2 within Saskatchewan
- Have authorization for project from Ministry of Energy and Resources
- Be in good standing with all applicable operating permits and regulations

CCUS Credits:

- Awarded annually to regulated emitters based on allocation in Credit Plan
- May be used to meet a compliance obligation
- Cannot be sold or transferred

The MRGHG (Carbon Capture, Utilization and Storage Credits) Standard

$$CCUS\ Credits = CO_{2_{injected}} - \left(E_{project} + E_{discount} + E_{holdback}\right)$$

- $E_{project}$ = Project emissions
- $E_{discount}$ = Discounted emissions
- $E_{holdback}$ = Holdback emissions

Discount and Holdback Factors

0.5% for CCS Projects

2.0% for EOR Projects

- Holdback may be released following site reclamation and 10-year monitoring period

The MRGHG (Carbon Capture, Utilization and Storage Credits) Standard

Credit Plan

Contact & facility information

Credit allocation *(can be updated)*

Project description

Geological characterization

Existing Wells

Operations History

Risks & Mitigations

Monitoring Plan

Containment Assurance Plan

Can be satisfied through Project Application to Ministry of Energy and Resources

Credit Report

Annual Emissions

- Injected CO_2
- Project Emissions

Containment Assurance

- Any project changes that may have an adverse impact
- Evidence of CO_2 plume extent

Can be satisfied through annual reporting to Ministry of Energy and Resources

The MRGHG (Performance Credit) Standard

- Performance credits awarded 1:1 below permitted emissions starting in 2023
- 10-15-20 Performance Credit Model will continue to apply for 2021 and 2022 compliance years
- Trading of performance credits unchanged, credits do not expire

Reminder: Supply of credits in the OBPS Program must not exceed demand to maintain the price signal

Saskatchewan Technology Fund

- No substantial changes required to the Saskatchewan Technology Fund
- All regulated emitters with an established baseline eligible to apply
- Changes after fall 2022 engagement include:
  - Projects to be reviewed by Saskatchewan Review Panel
  - Scoring matrix gives more weight to GHG emission reductions
  - Maximum $25 million in funding for individual projects
  - Up to 85% of money held in the Fund available each year for projects

Transition to New Requirements and Next Steps

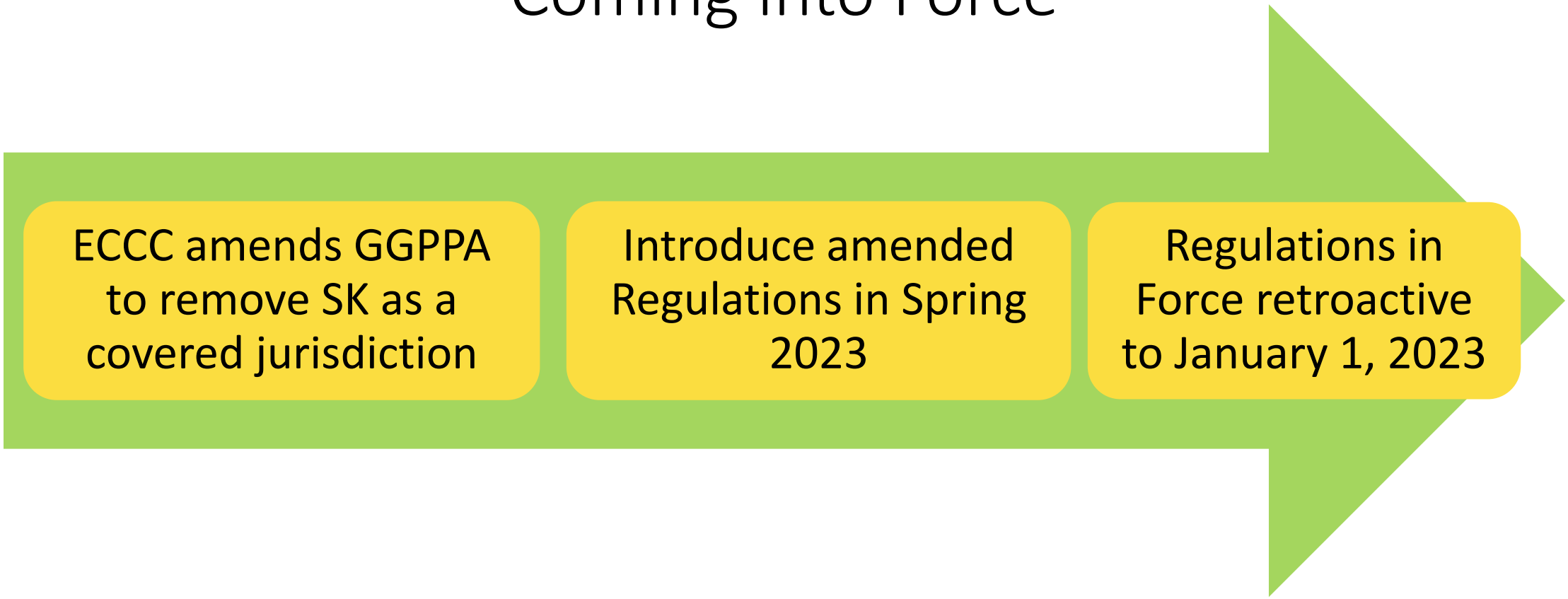
Next Steps

- ☑ Engage on new federal carbon pricing benchmark
- ☑ Engage on proposed OBPS Program changes
- ☑ Submit SK proposal to ECCC and receive benchmark approval
- ☑ Engage on amendments to regulations and standards
- ☐ Assess feedback received from SK industry
- ☐ Release final regulations and standards

Fall 2021

Spring 2023

Coming into Force



Note: The Ministry will repeal existing regulations and replace with new regulations. However, existing provisions will continue to apply for previous years

Complying with OBPS Program Requirements

- Existing provisions apply for 2021 and 2022 compliance years
  - Emissions returns for 2021 and 2022 compliance years
  - Compliance returns for 2020 to 2022 compliance years

- New regulations and standard provisions apply starting with the 2023 compliance year

OBPS Program Deadlines

Baseline Submissions (Not applicable for Electricity Facilities)

- Within 6 months of registration
- For a new product by June 1 of the first and second compliance years

Emissions Returns

- June 1 of year following compliance year

Compliance Returns and Compliance Obligations

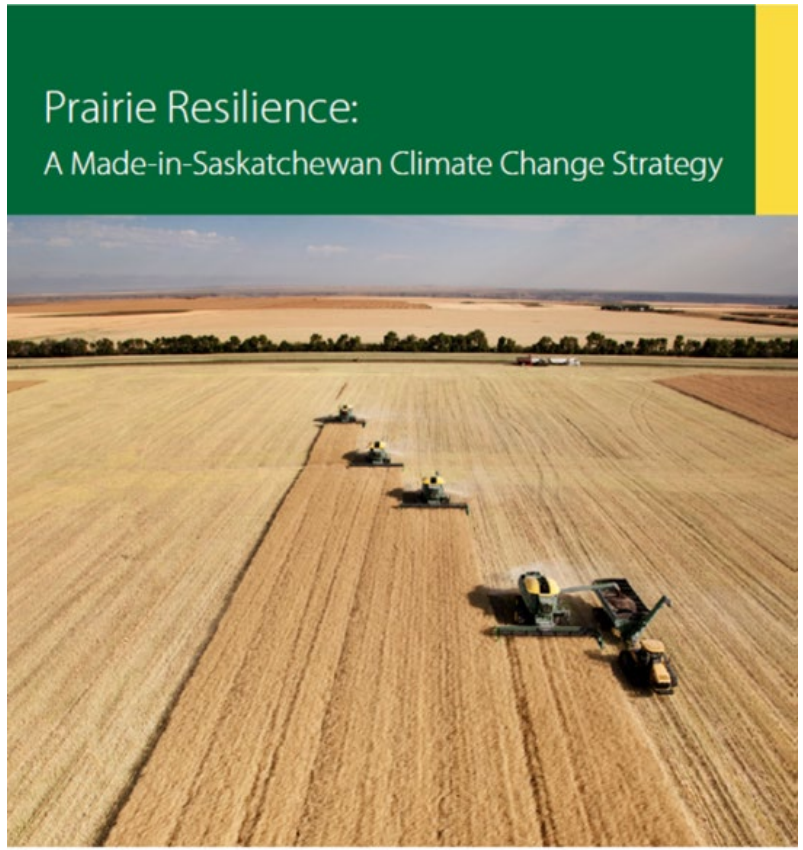
- December 31 of year following emissions return deadline

Example

- Emissions return for 2023 compliance year is due June 1, 2024
- Compliance return for 2023 compliance year is due December 31, 2025

Saskatchewan

Thank you!



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