

# 2018 CCIR Compliance and Offset Workshop

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Alberta Climate Change Office

Calgary

December 5, 2018



# Topics

Time	Topic
9:35	Introductions
9:40	Context and Related Policies
9:55	Regulatory Scheme Overview
10:20	Overview of Compliance Submission Contents
10:40	Overview of Quantification Requirements
10:55	Short Break
11:05	Compliance Form Walk Through
11:40	Obtaining Verification
12:30	Lunch break (lunch not provided)
13:45	Specified Gas Reporting Regulation
13:55	Emission Offset System
15:30	Adjourn

# Introductions

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# ACCO Organization Chart

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**Bev Yee**  
Deputy Minister

**Mike Fernandez**  
Assistant Deputy Minister  
Policy, Legislation, and Evaluation

**Bob Savage**  
Assistant Deputy Minister  
Regulatory, Engagement, and  
Intergovernmental

**Krista Berezowski**  
Executive Director  
Legislation,  
Evaluation, and  
Implementation

**Vacant**  
Executive Director  
Policy

**Justin Wheler**  
Executive Director  
Regulatory and  
Compliance

# Organization Offsets/SGRR/CCIR

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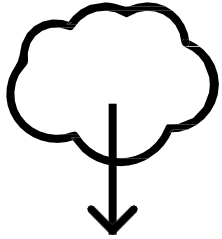
Justin Wheler, Executive Director, Regulatory and Compliance

Jacqueline Sichangwa, Office Administrator

- Rob Hamaliuk, Director, Emissions Inventory and Trading
  - Offsets
    - Amanda Bambrick
    - Amanda Stuparyk
    - Bryan Adkins
    - Lindsay McLaren
    - Nana Amponsah
  - Reporting / Inventory
    - Scott MacDougall
    - Shahin Manji
    - Reanna Zhang
    - Yury Potapovich
    - Steven Letourneau
- John Storey-Bishoff Director, Climate Change Compliance
  - Ward Gegolick
  - Maggie Scott
  - Patrick Forseth
  - Yan Liu
  - Shan Pletcher
  - James Chen
  - Ana Mirandarodriguez
  - Lisa Brown
  - Gustavo Hernandez (Seconded)
  - Prashant Reddy (RFS)
- Bio-energy
  - Arifa Sultana
  - Justice Asomaning

# Alberta's Climate Leadership Plan:

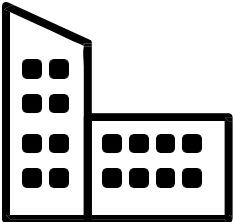
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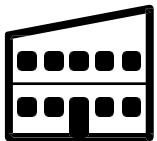
Methane emission reduction target of **45%** by **2025** for the oil and gas industry

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## Economy-wide carbon pricing



Industrial price that covers **13 industrial sectors**



A consumer-oriented price on carbon that reached **\$30 per tonne** in **2018**

Legislated 100 megatonne **limit** on Oil Sands Emissions

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## Energy Efficiency Alberta

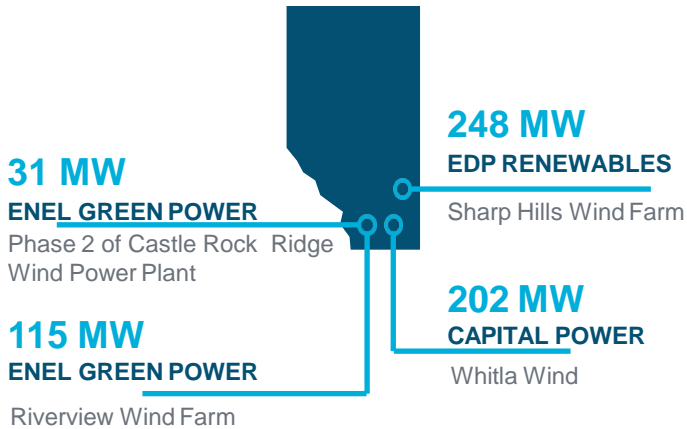
**\$385 M** in funding programs for solar installations, consumer product rebates and industrial efficiency

## Emissions Reduction Alberta

**\$375 M** invested in **>\$2.6 B** of projects accelerating innovative solutions that will secure Alberta's success in a lower carbon economy.

# The Climate Leadership Plan:

 **Eliminates**  
coal-fired electricity by 2030



# Sets 30% renewables target by 2030

Already awarded  
**600 MW**  
at a cost of just  
**\$37** per megawatt hour

Procuring up to  
**700 MW more**  
through two new rounds of  
the Renewable Electricity  
Program, including one that  
involves Indigenous partners



Set new bar for competitive renewable pricing in Canada



Local and international developers eager to invest in Alberta



12 bidders representing 26 projects and 3,600 MW of capacity



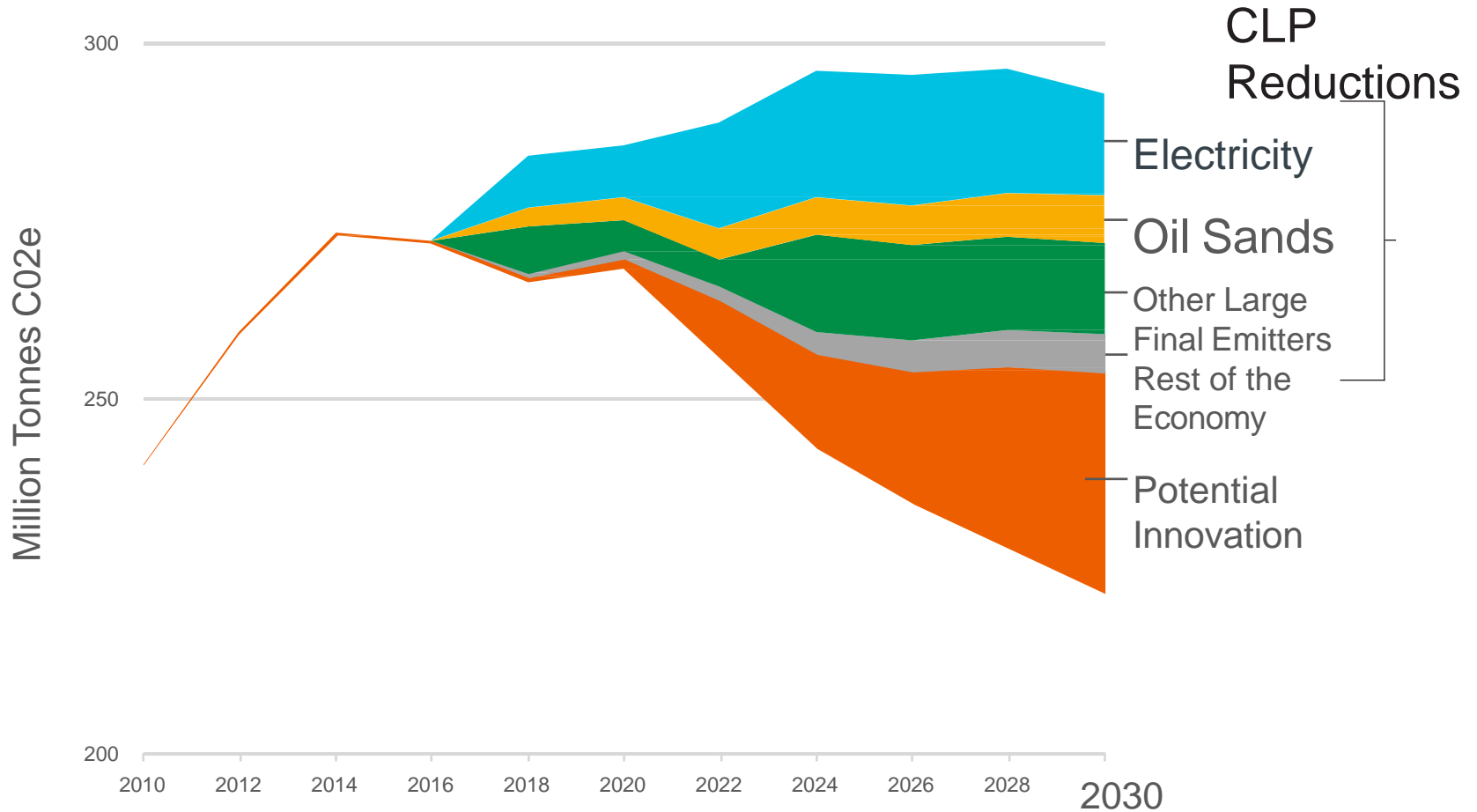
No new transmission costs for Albertans



Aligns with the electricity market transition

# Alberta's GHG Emissions

## Before and After CLP with Reductions by Sector





# Major investments in green energy and clean technology



- **\$1.4 BILLION**
  - **over the next several years**
  - **\$440 million** to Oil Sands Innovation Fund
  - **\$400 million** to Green Loan guarantees
  - **\$240 million** to Industrial Energy Efficiency
  - **\$225 million** to support emissions-reducing technologies
  - **\$63 million** to bioenergy projects
- 
- **Investing in new technologies through Emissions Reduction Alberta to reduce emissions per barrel in concert with industry**
  - In May, announced \$70 million in support to nine oil sands technologies through ERA's Oil Sands Innovation Challenge Funding will leverage a combined project value of more than **\$720 million**

# Federal and Pan Canadian Initiatives

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- Pan Canadian Framework for Clean Growth and Climate Change
  - Offset project team
  - Inventories project team
  - International mitigation project team
  - Forecasting project team
- Carbon Pricing
  - Fuel Charge
  - Output Based Pricing System,
- Clean Fuel Standard
- Electricity
- Methane
- Funding

# SGER Debrief

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- Thank you for 10 years of ‘learning by doing’
- Survey on lessons learned
- Review Completion
- Data publishing

Compliance Year	Emissions Reductions at Facility (Mt CO2e)		Offset Credits Submitted (Mt CO2e)	Total Reductions (Mt CO2e)	Fund Payment (\$Million)
	Facility Improvements	Cogeneration Recognition			
2007 (half year)	1.2	1.3	0.9	3.4	45.2
2008	1.1	2.6	2.9	6.6	88.3
2009	0.7	2.7	3.8	7.1	66.3
2010	0.4	2.6	3.9	6.8	78.9
2011	2.1	2.5	5.4	10.0	62.9
2012	1.5	3.4	3.0	7.9	93.7
2013	1.8	3.3	2.2	7.3	94.4
2014	4.7	3.1	2.3	10.2	84.3
2015	4.2	3.2	0.0	7.5	135.7
2016	5.6	3.4	0.8*	9.6	206.5
2017	6.6	3.7	9.2*	19.0	94.0
<b>Total</b>	<b>29.9</b>	<b>31.8</b>	<b>34.4</b>	<b>95.4</b>	<b>1050.2</b>

\* Includes additional credits issued under section 7(1.2) of the SGER

Figures are subject to change as a result of auditing and are rounded for presentation purposes.

Updated August 27, 2018

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# Alberta's Carbon Market

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## Emission Offsets

- Represent real and immediate GHG reductions in Alberta.
- Offer cost-effective compliance for facilities unable to achieve on-site reductions.
- Support economic diversification in Alberta by driving private investment directly to Alberta-based projects in sectors/activities that are not covered by carbon pricing.

**24** PROTOCOLS

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**OVER 240**

**PROJECTS**

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**OVER 47 MILLION TONNES**

**OF EMISSION OFFSETS TO DATE**

# Regulatory Review Schedules

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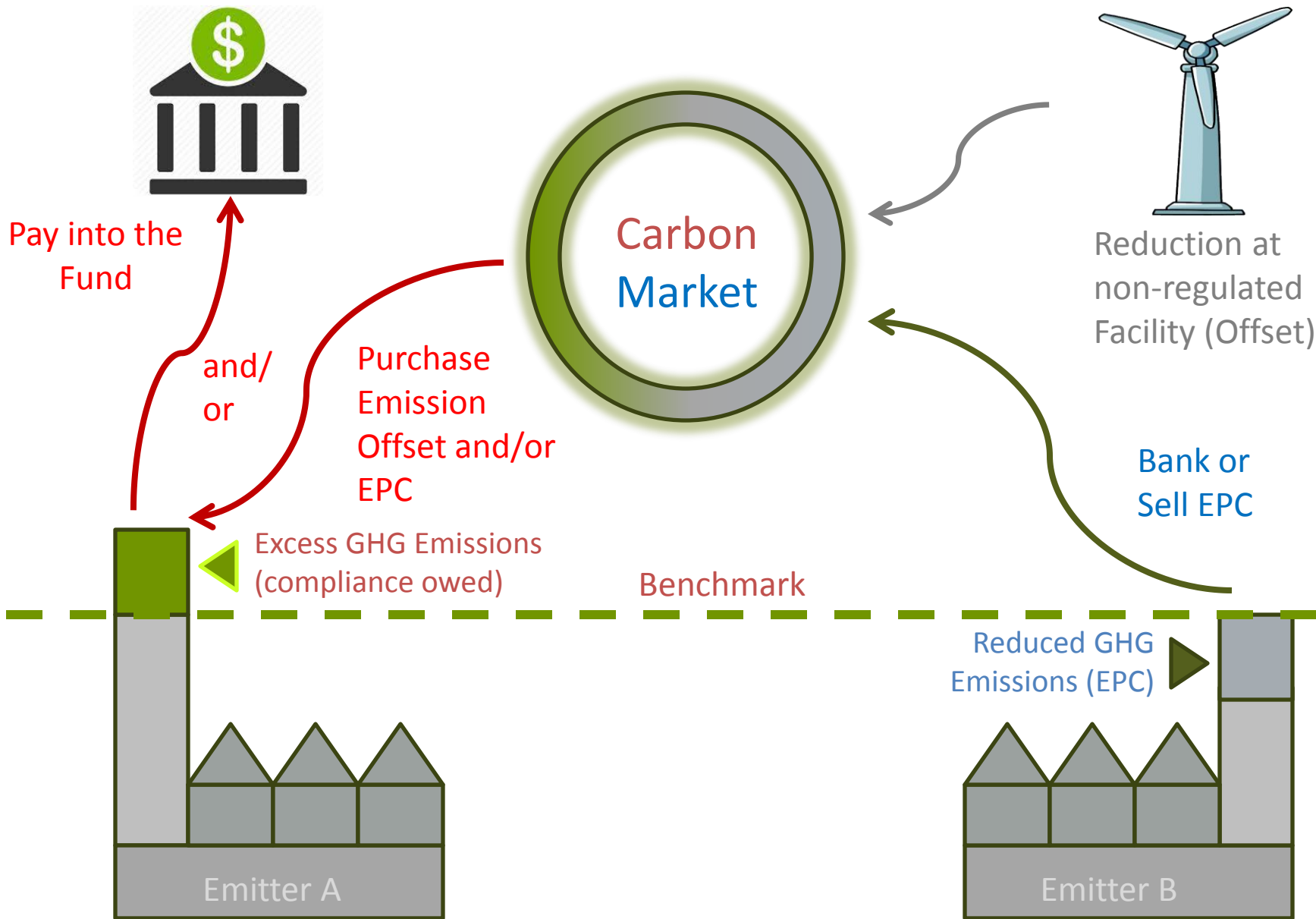
- Standards
- This Regulation must be reviewed
  - (a) on or before January 1, 2021, and
  - (b) on or before January 1 of 2023 and of every 5th year after 2023.

# CCIR Regulatory Scheme Overview

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Regulation updates

Regulatory scheme overview





# Regulation Updates

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- CCIR amended November 20, 2018
  - Clear fuels are subtracted from the Total Regulated Emissions
  - CO<sub>2</sub> for acid gas injection is subtracted from imported and exported CO<sub>2</sub> quantities.
  - Opt in application for 2019 due December 31, 2018
  - Cost containment application for 2018 and 2019 due December 31, 2018
  - Established Benchmarks for
    - Hardwood kraft pulp
    - Softwood kraft pulp
    - Ethylene glycol
    - High value chemicals

# Standards

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## Regulation incorporates four standards

- Standard for Completing Greenhouse Gas Compliance and Forecasting Reports
  - Facility requirements for reporting, forecasting
  - Associated with Quantification Methodologies for the Carbon Competitiveness Incentive Regulation and the Specified Gas Reporting Regulation
- Standard for Establishing and Assigning Benchmarks
  - Facility requirements for various applications
  - How benchmarks, transition allocations and cost containment are set
- Standard for Greenhouse Gas Emission Offset Project Developers
  - Rules for offset developers
- Standard for Validation, Verification and Audit
  - Requirements for validators, verifiers and auditors

# Standard for Completing GHG Compliance and Forecasting Reports

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Standard applies for 2018 annual and quarterly interim reporting, effective January 1, 2018

Includes binding Part 1

- Compliance and interim report certification requirements
- Required contents of compliance report package
- Annual forecasting requirements
- Quantification methodology for compliance reporting
- Emissions reduction plan report for facilities with cost containment designation
- Global Warming Potential for specified gases
- Requirements for verification

# Standard for Completing GHG Compliance and Forecasting Reports

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## Technical guidance in Part 2

- Opting-in and new entrants
- Materiality threshold
- Total regulated emissions and output-based allocation
- Compliance options
- Production
- Quantification Methodology and Document
- Fuel and feedstock usage
- Interim compliance reporting and annual forecasting

# New Entrants

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There are two possible types of new entrants:

- New or Existing facilities that exceed 100,000 tonnes threshold
- Opted-in facilities (generally preferred)
  - Direct Competition with regulated facilities
  - EITE sectors with TRE > 50,000 tonnes

Compliance:

- New, existing, or opted-in facilities will be required to report compliance for year 3 of full-year commercial operation.

# Opt in - 2018 Results

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## 71 Applications

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### 54 APPROVED

20 Power Plants Gas  
19 Power Plants Renewables  
5 Agroindustry  
2 Distilleries  
3 Coal Mining  
2 Chemicals  
1 In- situ  
1 Oil Sands  
1 Refineries

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### 10 DENIED

### 1 WITHDRAWN

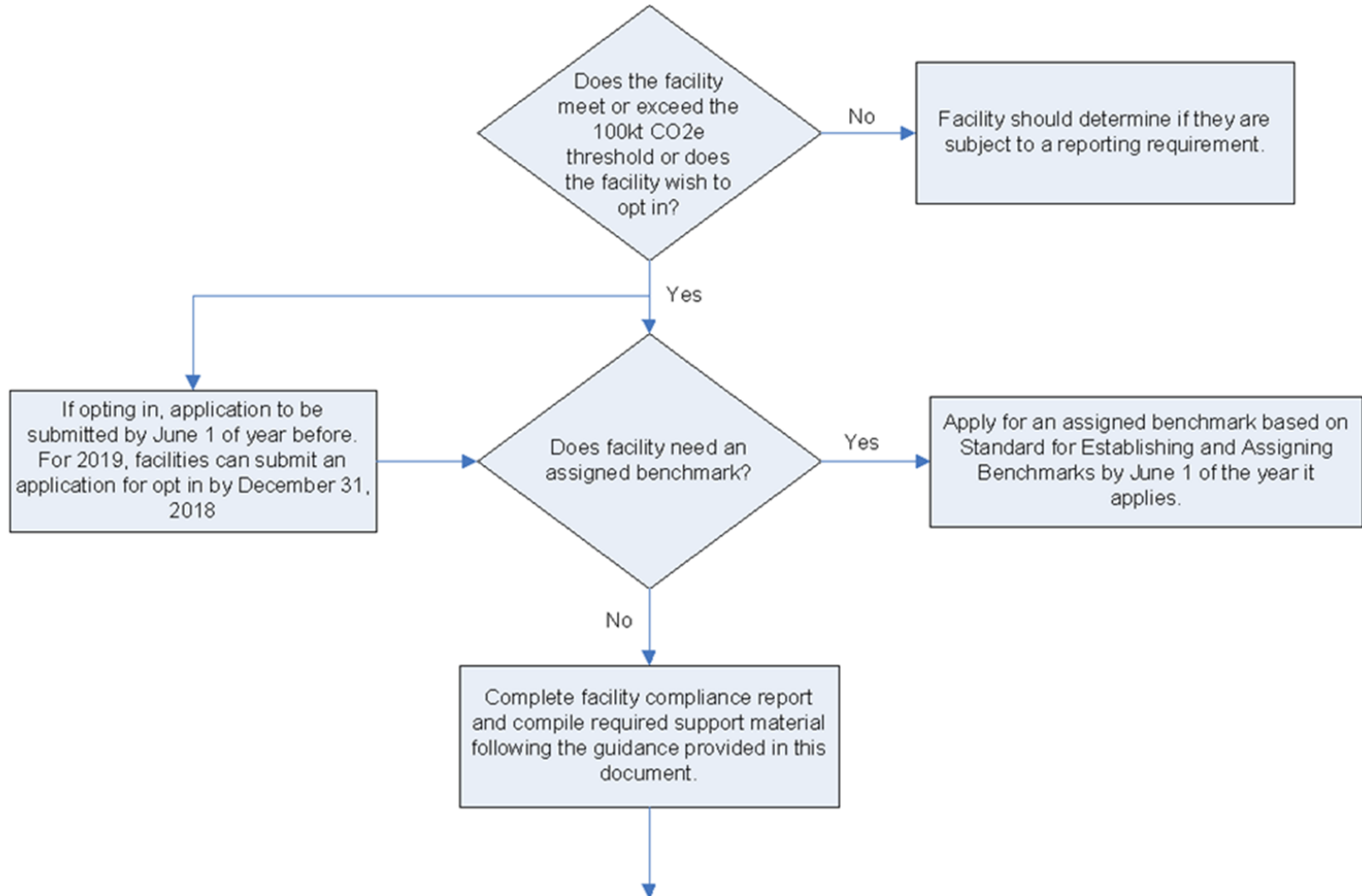
### 3 PENDING DECISION

### 3 POSTPONED

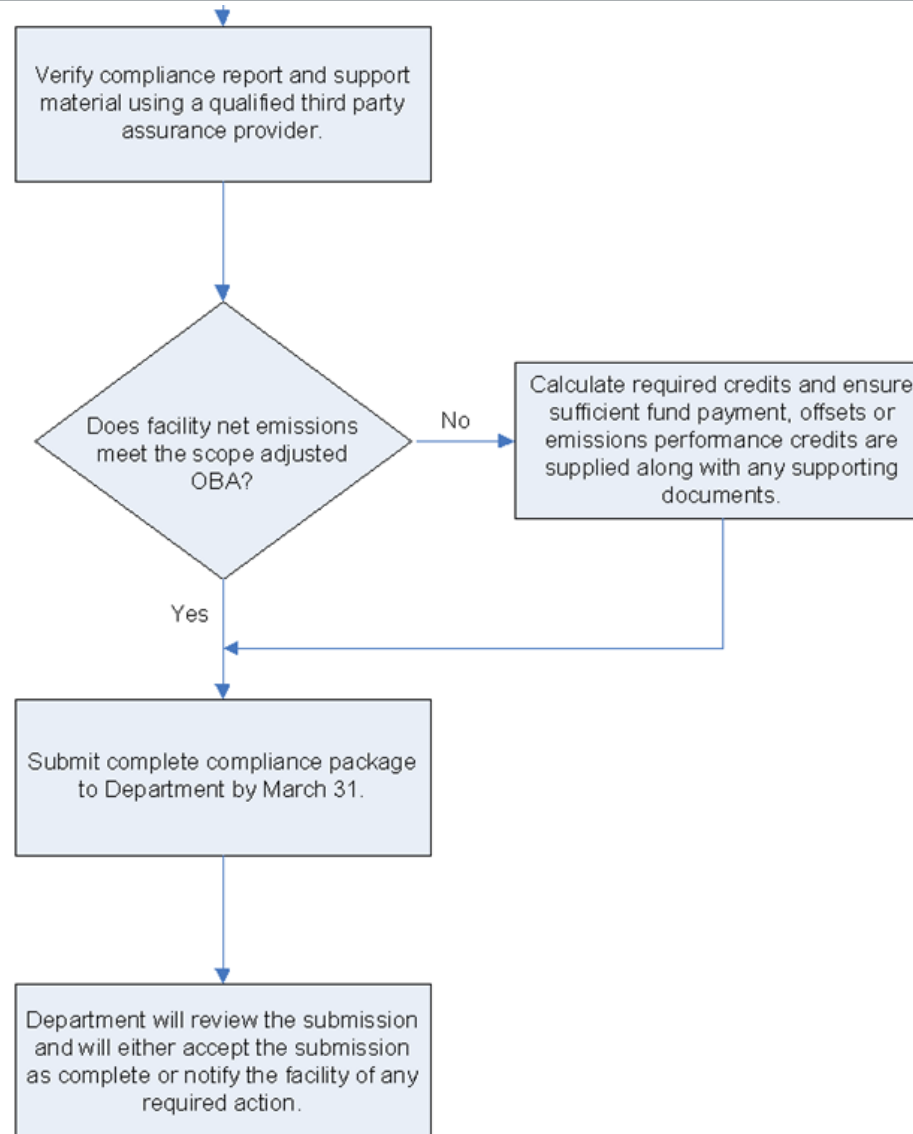
### New Products

- Crude Canola Oil
- Refined Canola Oil
- Biodiesel
- Ethyl Alcohol
- Ethanol
- Hydrogen Peroxide

# Compliance Submission Decision Tree



# Compliance Submission Decision Tree





# CCIR Compliance Requirements

## TRE and OBA

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### Total Regulated Emissions (TRE)

- all direct GHG emissions in tonnes CO<sub>2</sub>e except biomass CO<sub>2</sub> emissions, less emissions from clear fuels, less CO<sub>2</sub> brought on site which has been reported at another facility subject to the regulation, plus CO<sub>2</sub> sent offsite including as a product, plus CO<sub>2</sub> used as a feedstock for the production of urea.

### Output-based allocation (OBA)

- sum of the facility's various production multiplied by the corresponding established or assigned benchmarks, transition allocation benchmarks and cost containment allocation benchmarks; the scope adjustment for imported quantities such as electricity, heat, and hydrogen;

# Compliance True-up Obligation

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## True-up Obligation

$$= TRE - \left[ \left( \sum_{i=Product\ 1}^{Product\ n} B_i \times P_i \right) - Scope\ Adj. + \left( \sum_{i=Product\ 1}^{Product\ n} BTA_i \times P_i \right) \right]$$

Where:

- TRE = Total Regulated Emissions
- B represents either an established (BE) or an assigned (BA) benchmark
- $P_i$ : Production of product  $i$
- $Scope\ Adjustment = Electricity_{Import} \times BE_{Electricity} + Heat_{Import} \times BE_{Heat} + Hydrogen_{Import} \times BE_{Hydrogen}$
- $BTA_i$  = Transition Allocation Benchmark per unit of product
  - BTA is based on phase in schedule and SGER 2016 floor. No phase in for electricity product.
  - BTA for phase in schedule calculated at 50% of OBA compliance based on historic emissions and production for 2018, and 25% for 2019, zero for all facilities from 2020 onwards

Note1: Scope Adjustment for the refining and upgrading sectors does not include hydrogen imports.

Note2: any exported Electricity, Heat, or Hydrogen would be accounted for as a product in the Production term

Note3: Cost containment allocation benchmarks would be added to the transition allocation benchmarks when reporting .

# Net Emissions and True-up

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- The person responsible for a facility must ensure the net emissions (NE) do not exceed the OBA for the facility by truing up

$$NE = TRE - (EO + EPC + FC)$$

- EO is the quantity of emission offsets in tonnes on a CO<sub>2</sub>e basis,
- EPC is the quantity of emission performance credits in tonnes on a CO<sub>2</sub>e basis,
- FC is the quantity of fund credits in tonnes on a CO<sub>2</sub>e basis, represented by the fund credits

# Compliance Flexibility

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Policy goals: Maintain functional market, enable fiscal planning and avoid recreating credit oversupply

## Approach

- Base limit of 40% plus additional allowance for New credits starting at 10% in 2018
  - New credits defined as 2017 vintage and newer.
  - Credits = EPCs and Offsets

Credit Limit on	2018	2019	2020	2021
New or old	40%	40%	40%	60%
New	10%	15%	20%	

- Expiry period for credit vintages where:
  - credits from 2014 and older expire after 2020 compliance
  - credits from 2015 expire after 2021 compliance
  - credits from 2016 expire after 2021 compliance
  - New credits from 2017 and newer expire after 8 years.

# Interim Reporting and Forecasting

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- Quarterly interim reports are required which cover the period from January 1st to the end of each reporting period.
- Incremental compliance reconciliation is required with each interim report which includes incremental true-up from the previous payment or credit usage.
- The ratio of credit usage to fund usage in the interim report must be consistent with the latest forecast.
- Annual reports for forecasting facilities are required to include finalized reporting for each period, all of which are verified.

## CCIR Key Dates 2019 – Forecasting Facilities (> 1Mt)

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- May 15, 2019
  - Interim compliance report for period 1 (Jan 1 to Mar 31, 2019)
- August 15, 2019
  - Interim compliance report for period 2 (Jan 1 to Jun 30, 2019)
- November 15, 2019
  - Interim compliance report for period 3 (Jan 1 to Sep 30, 2019)
- November 30, 2019
  - Annual forecasting report for 2020 (Jan 1 to Dec 31, 2020)

## CCIR Key Dates 2019 – Opt-in

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- December 31, 2018
  - Opt-in application for 2019
- June 1, 2019
  - Application deadline request revocation of opt-in for 2020
  - Benchmark application deadline for 2019
- June 30, 2019
  - Opt-in application for 2020

# CCIR Key Dates 2019 – General

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- March 31, 2019
  - Compliance report for period 4 (Jan 1 to Dec 31, 2018)
- June 1, 2019
  - Benchmark application for 2019 (if required)
- Nov 30, 2019
  - Deadline to request a greater actual year of commercial operation (new facilities)

Compliance/Benchmark Application Forms available on CCIR website:

<https://www.alberta.ca/carbon-competitiveness-incentive-regulation.aspx>



# Cost Containment Program

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- Provides transitional support to eligible regulated facilities experiencing economic hardship as a result of the CCIR:
  - Net incremental CCIR compliance costs greater than 3 per cent of facility sales, or
  - Net incremental CCIR compliance costs greater than 10 per cent of facility profit.
- Program support/relief measures include:
  - Additional compliance flexibility,
  - Industrial energy efficiency grant funding,
  - Additional CCIR allocations.

# Cost Containment Program

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- Currently accepting applications for 2018-2022 compliance years.
  - 2018 and 2019 compliance years deadline: December 31, 2018.
  - Subsequent years deadline: November 30 of preceding year.
- Details and supporting documents available on the Government of Alberta's CCIR website.
  - Application package, procedures and requirements,
  - Standard for Establishing and Assigning Benchmarks,
  - Standard for Validation, Verification and Audit.

# Compliance Submission Contents

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The necessary documents for a complete submission package

# Contents of Compliance Submission Package

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- Completed Compliance Form (Excel workbook)
- Signed Statement of Certification (SoC)
- Verification Report, including
  - Signed Statement of Verification (SoV)
  - Signed Statement of Qualifications (SoQ)
  - Signed Conflict Of Interest Checklist (COI)
- Updated Quantification Methodology Document
- Area Fugitives Report (as required)
- Emissions reduction plan report for facilities with cost containment designation
- Confidentiality request for specified parts of the submission (optional)

# Compliance Submission

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- Send to [AEP.GHG@gov.ab.ca](mailto:AEP.GHG@gov.ab.ca) by March 31, 2019
- Payment information
  - Submit a cheque payable to “Government of Alberta” along with the fund credit purchase form:

Government of Alberta  
Finance and Administration Branch  
Alberta Environment and Parks  
6th floor, South Petroleum Plaza  
9915 108 Street NW  
Edmonton, Alberta  
T5K 2G8

# Compliance Submission

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- Payment information
  - Submit payment by electronic fund transfer and provide the fund credit purchase form at least three business days in advance of the electronic funds transfer

<b>Account Name</b>	Climate Change and Emissions Management
<b>Bank Name</b>	CIBC
<b>Bank Address</b>	10102 Jasper Avenue Edmonton
<b>Institution Number</b>	0010
<b>Transit Number</b>	00059
<b>Account Number</b>	92-74219
<b>Ministry/Department</b>	Alberta Environment and Parks, Finance and Administration Branch
<b>Department Contact</b>	Sandra Moore
<b>E-mail</b>	<a href="mailto:AEP.revenue@gov.ab.ca">AEP.revenue@gov.ab.ca</a>
<b>Phone Number</b>	780-427-9110

- Receipt will be given

# Using Credits for Compliance

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- EPC's/Emission Offsets: Credits must be in a pending retirement state on the registry prior to submission
- Action on the registry should be planned up to 10 business days in advance
  - Another 10 business days if transferring credits from one entity to another.
- EPCs must be retired to the facility that are using them to true-up

# Overview of Quantification Requirements

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Updates and upcoming quantification  
methodology chapters



# Quantification Methodologies

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- Standardized quantification methodologies developed for use under CCIR and SGRR
- Methodologies are tiered in order to address requirements under the two regulations
- Mandatory chapters under CCIR for 2018 include:
  - Chapter 1 Stationary Fuel Combustion
  - Chapter 8 Industrial Process Emissions
  - Chapter 12 Imports
  - Chapter 13 Production
  - Chapter 17 Measurement, Sampling, Analysis and Data Management
  - Appendix C General Calculation Instructions
- Updates have been posted November 2018:  
<https://open.alberta.ca/publications/9781460140406>

# Quantification Methodologies

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- **Definitions Section:**

“*Negligible emission sources*” are sources that represent less than 1% of a facility’s total regulated emissions (TRE) or output-based allocation (OBA) CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) and are not to exceed 5,000 tonne of CO<sub>2</sub>e for a facility regulated under CCIR. Alternative methods may be used to assess the negligibility of these emissions.

- Facilities may use alternative method to calculate emissions from negligible emission sources
- Facilities must include these emissions in the facility’s direct emissions (DE)

# Quantification Methodologies

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## Stationary Fuel Combustion (Ch. 1):

- Updated emission factors in Tables 1-1 to 1-4
  - Corrections to emission factors
  - Technology based emission factors added
- Updated structure in tier classification
  - Method 1 – Non-variable fuels
  - Method 2 – CO<sub>2</sub> emissions from natural gas combustion
  - Method 3 – Variable fuels
  - Method 4 – CEMS

# Quantification Methodologies

## Stationary Fuel Combustion (Ch. 1):

- Updated structure in tier classification

		Tier Classification			
		1	2	3	4
Fuel Types	Non-Variable	Method 1			Method 4
	Natural Gas	Method 2	Method 3		
	Variable	Method 3			

- Tier classification is prescribed in the Standard for Completing GHG Compliance and Forecasting Reports

# Quantification Methodologies

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## Mass Balance Methodology (Ch. 1 and 8, App C):

- Mass balance approach to quantify fuel consumption for a source category (e.g. SFC, IP, or flaring)
- Total facility fuel consumption must be accurately determined (e.g. custody meter, third party meter)
- This approach cannot be used for venting or fugitive emissions.

$$Fuel_{source} = Fuel_{facility\ total} - \sum_i^N Fuel_{known\ source,i}$$

Where:

$Fuel_{source}$	=	Fuel quantity determined for the source of interest (GJ or m <sup>3</sup> )
$Fuel_{facility\ total}$	=	Total fuel consumed by the facility (GJ or m <sup>3</sup> )
$Fuel_{known\ source,i}$	=	Fuel consumed by a source that is quantified and reported (GJ or m <sup>3</sup> )
N	=	Number of sources

# Quantification Methodologies

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## **New Products (Ch. 13):**

- New products with established benchmarks
- A workbook has been provided to upgraders and gas sector for the quantification of production
- Section will be updated to include quantification methodologies for upgraders and gas sector

## **Clarification on Fuel Quantification and Weighted Average (Ch.17):**

- For weighted average carbon, sampling/measurement frequency (Table 17.3) must be applied to both fuel analysis and fuel quantity.
- Reported quantity of fuel does not have to be measured at the frequency prescribed in Table 17.3

## Quantification Methodologies

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- Venting chapter (Ch. 4) and On-Site Transportation chapter (Ch. 5) will be posted before the end of 2018
- Fugitive chapter (Ch. 3) will be posted in the new year
- 30-day stakeholder consultation period
- Compliance standard being updated to include mandatory chapters starting in 2019
- Deviation request mechanism is available for facilities that are unable to meet mandatory requirements:  
<https://www.alberta.ca/assets/documents/cci-deviation-request-form.xlsx>

BREAK



10 Minutes



# CCIR Compliance Form



Walk through  
Notable changes

# Compliance Form Review

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# Obtaining Verification

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Verification Requirements  
Expectations of New Facilities

# Verification Requirements

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- All facilities (including opted in facilities) regulated under CCIR must hire a third party assurance provider (verifier) to verify their compliance report
- Purpose of verification is to provide assurance to the department that there are no material errors in the facility's compliance report
- For the compliance submission in March 31, 2019, the facility is required to submit a verification report including:
  - Statement of Verification
  - Statement of Qualifications
  - Conflict of Interest Form
- Approx. 170 facilities require verifications for 2018 (compared with 136 in 2017)
- Verifications may take up to 6 to 8 weeks or more to complete

# Verification Requirements

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- Highlights of a verification process:
  - Conflict of Interest (COI) assessment (COI form)
  - Execution of contract
  - Verification plan (including risk assessment and sampling plan)
  - Data and information request
  - Site visit
  - Review and analysis of data and information gathered
  - Develop and communicate findings and issues
  - Resolve and finalize issues and findings
  - Verification report (report template)
- Regulation requires a positive opinion in the Statement of Verification

# Verification Requirements

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- Standard for Validation, Verification, and Audit outlines the requirements for the verification process
- Verification requirements have been updated to reflect new reporting requirements under CCIR (vs. SGER)
- Part 1 outlines the mandatory requirements for third party assurance providers and auditors
- Updates to the standard include:
  - Qualifications of verification and validation team members
  - Materiality thresholds
  - Quantification of total error
  - Working paper and documentation requirements
- Workshop for third party assurance providers on December 19, 2018 to review updates to the standard.

# Questions



Upcoming Workshops

# Upcoming Workshops

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- December 19, 2018
  - Verification Workshop (webinar only)
  - Registration through Zoom
  
- January/February 2019
  - Quantification Methodologies (Venting, Fugitives and On-Site Transportation) Workshop
  - Stakeholder meeting for area fugitives at oil sands sites
  
- Other topics possible, let us know



# LUNCH BREAK



Offsite

# Topics

Time	Topic
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# Specified Gas Reporting Regulation

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# Specified Gas Reporting Regulation

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- Alberta's mandatory GHG reporting program for facilities emitting over 10,000 tonnes of CO<sub>2</sub> equivalent per year
- Builds on voluntary reporting by most Alberta emitters since the mid-1990's
- This regulation and standard were passed in 2003
- We continue to work with the national "one window" reporting system
- Emissions reporting data is used to inform policy development and analysis, and support federal national inventory reporting (NIR)

## Specified Gas Reporting Regulation – 2018 Updates

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- One window with Environment and Climate Change Canada (ECCC) GHG Reporting Program
- The second phase of expanded ECCC reporting requirements for 2018 has been posted for comment (Sept 4 – Oct 2, 2018)
  - Responses and Final Requirements to be posted later this month
- Mandatory Chapters within Quantification Methodology for 2018
- Tier 1 methodologies in these chapters are the minimum requirement for SGRR reporting, and are aligned with ECCC minimum requirements.

## Specified Gas Reporting Regulation – 2018 Updates

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- Specified Gas Reporting Standard will be updated and posted for public comment shortly.
  - Production reporting for products listed in Table 1 of the CCIR Standard for Establishing and Assigning Benchmarks
  - North American Product Classification System (NAPCS) numbers for products
  - Marked and unmarked transportation fuels must be reported separately
  - CO<sub>2</sub> that is in acid gas when sent off site or received on site
  - Geospatial files with facility boundary coordinates

# Emission Offset System Update

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# Benefits of Emission Offsets System

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- Primary purpose: provide a cost-effective compliance option for facilities regulated by CCIR.
- Additionally, the offset system:
  - Expands carbon price to non-CCIR regulated facilities and industries,
  - Regulatory quality emission reductions,
  - Real and immediate GHG reductions in Alberta,
  - An incentive for early action (for eg. methane abatement), and
  - Supports economic diversification and greening of economy.





## Biological Methane

- Anaerobic decomposition of agri. materials\*
- Anaerobic wastewater treatment\*
- Dairy cattle
- Age/Fed cattle
- Composting
- Aerobic landfill bioreactor
- Landfill gas capture



## Renewables

- Biofuels
- Distributed renewable energy generation
- Biomass energy
- Run-of-river hydro
- Solar
- Wind



## Energy Efficiency

- Energy efficiency projects
- Waste heat recovery



## Agricultural

- Conservation cropping
- Agricultural N<sub>2</sub>O reductions (NERP)



## CO<sub>2</sub> Sequestration

- CO<sub>2</sub> capture and storage in deep saline aquifers
- Enhanced oil recovery\*



## Oil and Gas Methane

- Pneumatic devices
- Solution gas conservation\*
- Engine fuel management and vent gas capture

\* Flagged Protocol

# Active and Retired/Pending Retired Offsets up to December 3, 2018

16000000

14000000

12000000

10000000

8000000

6000000

4000000

2000000

0

Total Active: 12,203,882

Total Retired/Pending: 37,833,942

Updated December 3, 2018

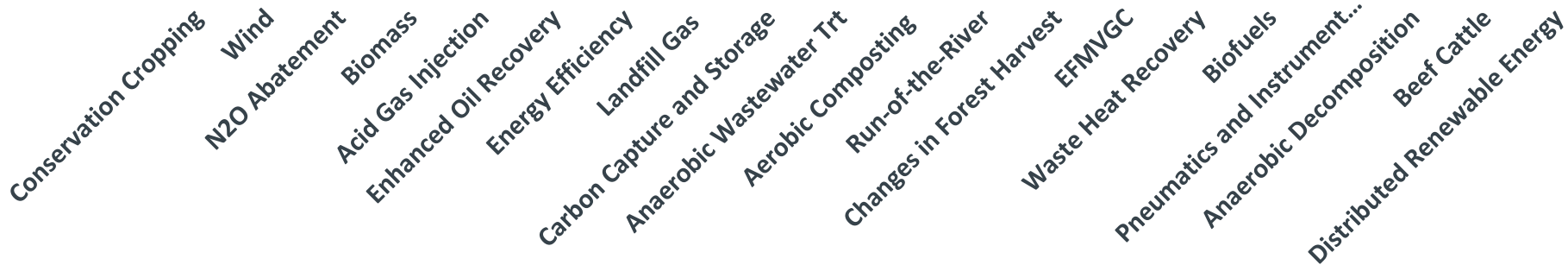


Active

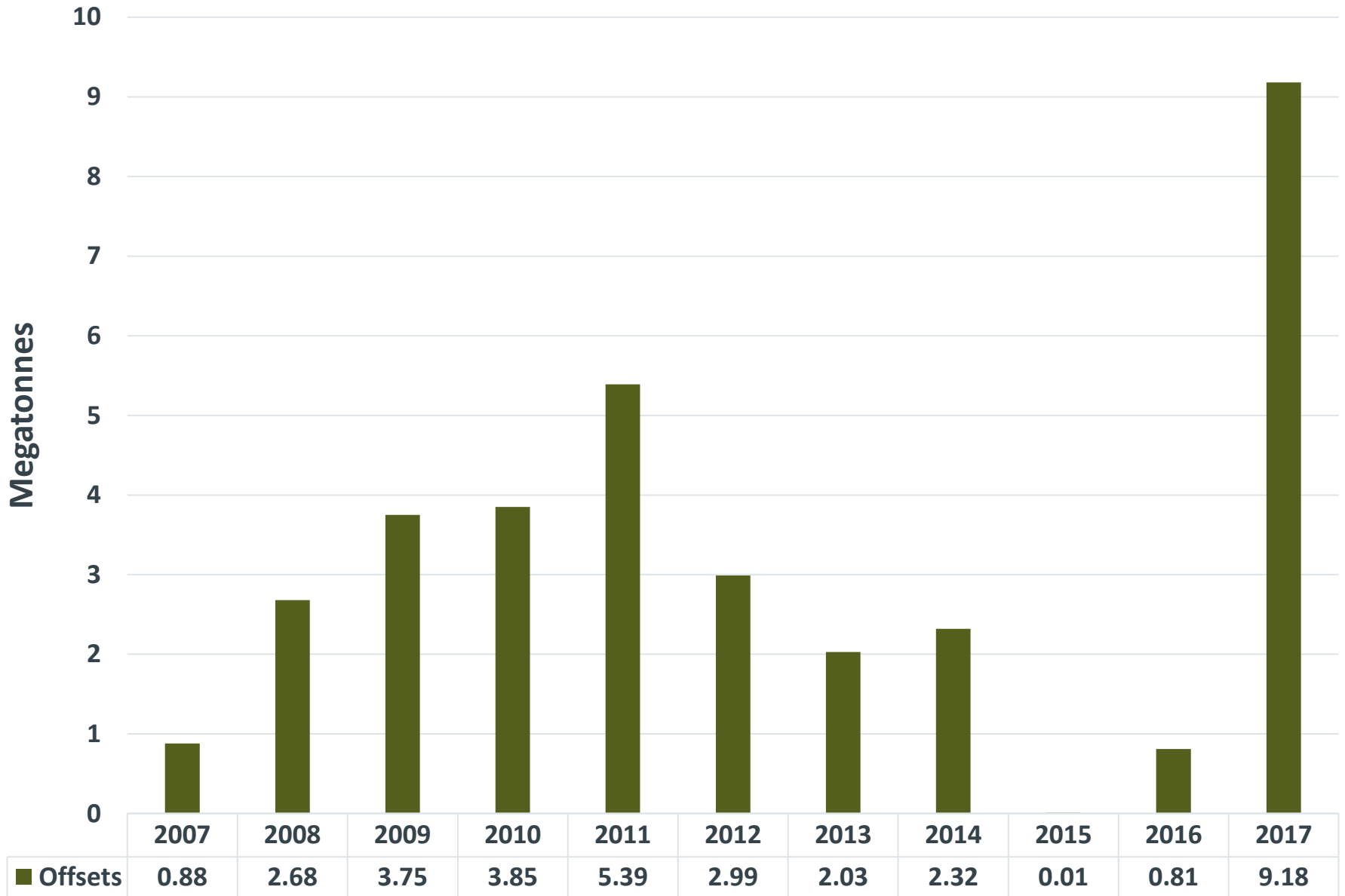


Pending/Retired

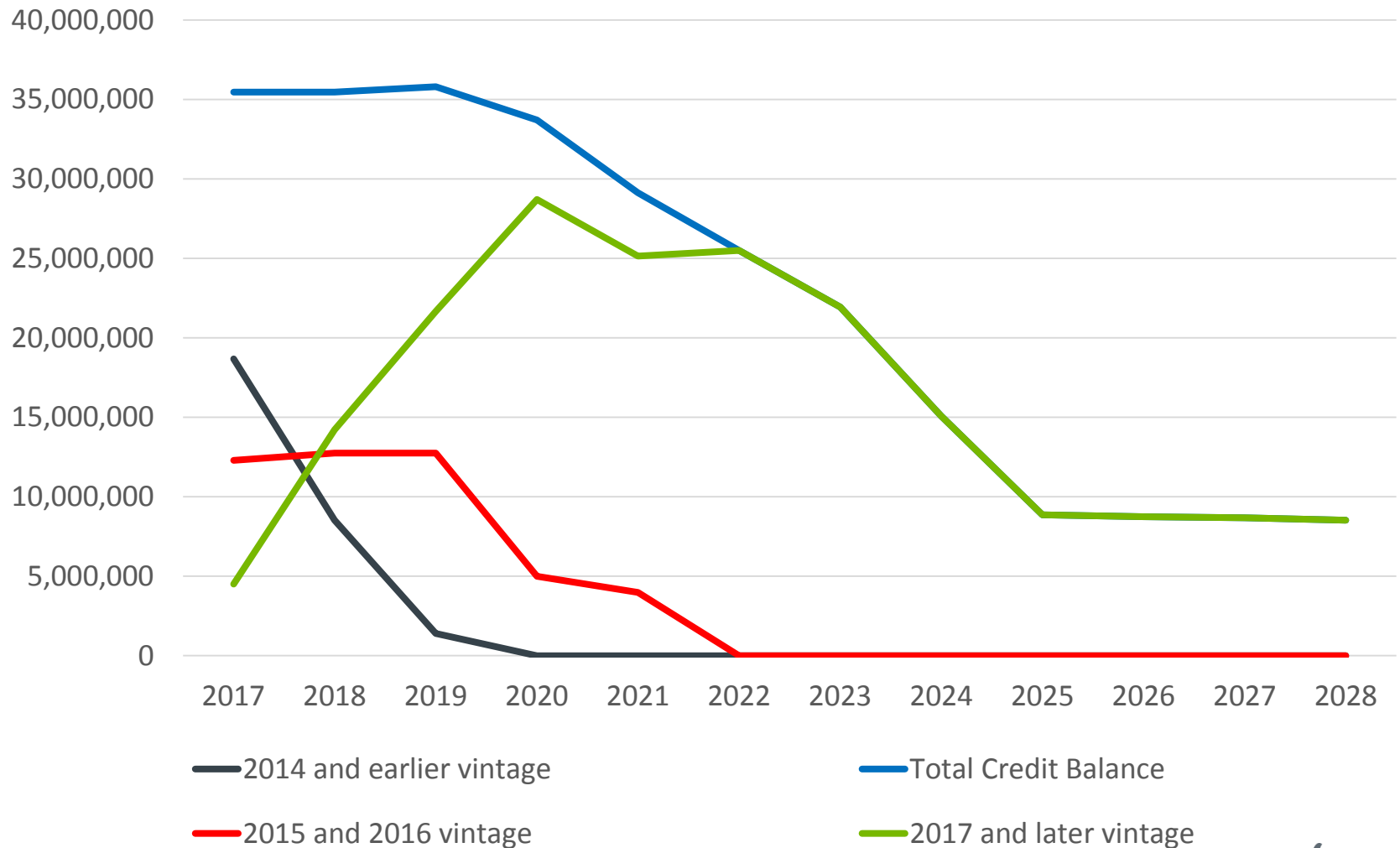
tCO2e



## Offsets Used for Compliance by Year



# Projected Credit Balance



# Alberta Carbon Registries – Offset/EPC

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- Updates have been made to align with the CCIR and updated standards
- Increased internal automation of intra-registry duplication checks for aggregated projects
- Planned updates requested for 2019:
  - Password requirement clarifications
  - Simplified update of invoicing address
  - Updated snapshot reporting
  - Ability for users to request transfer and pending retirement (same transaction)
  - Ability for users to upload macro-enabled excel files (.xlsm)
  - Update AEOR Project Listing information and search functionality
- CSA encourages users to directly contact with questions. Contact info in “help” section of the registry ([ghgregistries@csagroup.org](mailto:ghgregistries@csagroup.org))

# Registry Processing Common Issues

Improve the processing time for your requests by checking the following



Signed and dated



Check your templates



Contact information



Version management



Statement of verification

# Emission Offset Projects Aggregated Requirements Aggregated Project Planning & Reporting Sheets

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- New templates, version 3, for aggregated planning and reporting sheets available on the Registry (posted Dec.4)
- Main purpose of Aggregated Project Planning Sheet (APPS) is to provide a clear and transparent manner to demonstrate subprojects planned before crediting (go-forward crediting as required in Standard)
- Two main purposes of Aggregated Project Reporting Sheets (APRS):
  - To determine that subprojects included in a project report have been previously planned, and
  - To ensure no duplicate subprojects are being claimed
- Key that project developers ensure subproject information included in APPS is complete and correct

# Aggregated Project Planning & Reporting Sheets

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- Aggregated project planning sheet:
  - A planning sheet must be submitted to the registry with “project listing/creation” documentation.
  - To subprojects at a later date, an updated planning sheet with ONLY NEW subprojects must be submitted to registry.
  - Date upon which a subproject is permitted to begin to generate offsets is determined based upon date it is submitted to registry in a planning sheet and the activity start date
- Aggregated project reporting sheet:
  - Project developers MUST request their project-specific reporting sheet from the Registry. Registry will provide a reporting sheet including a tab which lists subprojects from ALL planning sheet submissions including eligible dates for each subproject.
  - Subprojects which are included in a reporting sheet but not a planning sheet will be rejected.



# Aggregated Project Planning & Reporting Sheets

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- Templates have several functions/checkstop help project developers ensure they are submitting accurate and correct information.
- Aggregated project planning sheet automated checks:
  - Ensure that data is inserted into all required fields
  - Check that LSD locations are potential Alberta-based locations
  - Check for duplicate entries within the same planning sheet.
- Aggregated project reporting sheet automated checks:
  - Same checks as planning sheet
  - Confirmation that subprojects listed in reporting sheet were listed in a previous planning sheet submission
- The ACCO plans to hold a webinar with more details on use of planning and reporting sheets.

# Technical Guidance on the Assessment of Additionality

\*New Version 1.0 May 2018

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- Additionality assessment now has formal guidance
- Increases transparency through documented decision tree approach, and flexibility.
- Comprises both legal/regulatory test, as well as an augmented penetration rate assessment with barriers analysis
- Extensions beyond 8+5 are now enabled, with assessment of additionality at project level
  - Of eight requests, two granted, one withdrawn.

# Standard for Emission Offset Project Developers

\*Updated V2.0 July 2018

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- Version 3.0 will be published in the next few months. No major shifts in policy, but some clarification:
  - Aggregated projects must include the project planning sheet for the project plan to be considered completed,
  - Follow up for re-verification will have director discretion.
- Version 2.0 published in July 2018 with key updates including:
  - Enabling subsequent extensions (if the project's first extension expired in 2017 the deadline is December 31, 2018 to apply for a subsequent extension)
  - Aggregated subprojects are eligible to generate emission offsets starting on activity start date as long as planning sheet is submitted within 30 days (overall project offset start date rules still apply), and
  - Clarified that NERP and Conservation Cropping must have project plans submitted to Registry by May 1 to generate emission offsets in that calendar year.

# Technical Guidance for Offset Protocol Development and Revision v2.0 July 2018

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- Update of previous Technical Guidance for Offset Protocol Developers v1.0 2011
- Improvements to process for selection of protocols for review and/or development:
  - Addition of Intent to Revise process
  - ACCO will consider risks, resources available and which protocols will achieve objectives and reductions aligned with government priorities and determine which protocols to revise/develop.
  - Intent to revise/intent to develop templates available in guidance.

# Protocols Under Development/Revision

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- Protocols currently being revised/developed:
  - Biogas
  - Agricultural Nitrous Oxide Emission Reductions,
  - Super-Utilization (improved forest management),
  - Enhanced Oil Recovery, and
  - Solution Gas Conservation.
- Upcoming protocol development/revision:
  - ACCO is accepting Request to Develop and Request to Revise proposals until December 31, 2018.
- Carbon offset emission factors handbook (version 1.0)

# Update on Forest Carbon Technical Experts Group

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- In May 2018, ACCO signaled intent to convene a Forest Carbon working group to develop a technical understanding of how to quantify carbon, whilst meeting regulatory requirements
- Convened the Forest Carbon Technical Experts Group
  - Over 80 experts in forest management, carbon projects, protocol development, remote sensing, and conservation.
  - FCTEG has met twice (July 19, and September 20) with a 3<sup>rd</sup> meeting on December 12, 2018.
- Consultant will deliver final conceptual framework for forest carbon in Alberta by 31 January, 2019.

# Webpage Migration

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- Offsets website content has been migrated to alberta.ca
- <https://www.alberta.ca/alberta-emission-offset-system.aspx>
- Content remains the same, format and location are updated

# Data Management

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- Modernization of internal data management system for SGRR and CCIR:
  - Centralized database and analytics
- Publishing 2004-2016 SGRR summary data shortly
  - Total greenhouse gas emissions by gas type and facility totals
- Future work:
  - Online CCIR compliance report submission survey:  
(invitation will be e-mailed)



# Electricity Grid Displacement Factor (EGDF) Review

## - Current State

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- Current values of 0.59 tCO<sub>2</sub>e/MWh for grid displacement with renewable generation; 0.64 tCO<sub>2</sub>e/MWh for increased or decreased use of grid power or renewable generation at point of use.
  - Carbon Offset Emission Factors Handbook v1.0 published March 2015
- Last grid factor update was performed in 2013, we've committed to review the factor every five years

# Electricity Grid Displacement Factor (EGDF) Review

## - Previous Methodology

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- Grid factor is used to quantify emissions for the marginal MWh for Alberta Offset System projects.

$$EGDF = (\omega \times BM) + ((1 - \omega) \times OM)$$

$\omega$  – Weighting Factor (0.5, i.e. 50/50 weighting)

BM – Build Margin

OM – Operating Margin

- The OM represents the emissions intensity of the megawatt-hour in the existing fleet that is impacted by the offset project condition.
- The BM represents the emissions intensity of the megawatt-hour from a future facility that is impacted by the offset project condition.
- Used the most recently available 5 historic years; updated every five years.

# Electricity Grid Displacement Factor (EGDF) Review

## - Changes in Policy and in the Sector

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- Changes are currently underway in Alberta's electricity system.
- Policy Changes:
  - Renewable Electricity Program (REP).
  - Utility-scale solar.
  - Capacity market development.
  - Transition from Specified Gas Emitters Regulation (SGER) to Carbon Competitiveness Incentive Regulation (CCIR).
- Economic changes:
  - Low gas prices.
  - Falling wind – and especially solar – costs.
  - Renewable + storage becoming competitive with gas peakers.

# Electricity Grid Displacement Factor (EGDF) Review

## - Updated method

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$$EGDF = (\omega \times BM) + ((1 - \omega) \times OM)$$

$\omega$  – Weighting Factor (0.5, i.e. 50/50 weighting)

BM – Build Margin

OM – Operating Margin

- Formula will remain the same.
- Data period reduced – now using 3 most recent years instead of 5 most recent years.
- Update frequency – going forward the EGDF will be updated every 2 years, with each new factor announced 2 years prior to taking effect.
- Updated factor is 0.54 tonnes CO<sub>2</sub>e per MWh and with the line loss factor it is 0.57 tonnes CO<sub>2</sub>e per MWh.

# Questions?

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