



Ministry of
Environment and
Climate Change Strategy

2018 Industrial Reporting and Control Workshop

November 14, 2018



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Climate Change Strategy

Acknowledgment

We would like to take a moment to acknowledge that we are on the traditional territory of the Coast Salish Peoples, including the Musqueam, Squamish, and Tsleil-waututh Nations.

AGENDA

9:30 – 9:45 AM

[Welcome & Team Introduction](#)

9:45 – 10:00 AM

[General Program Updates](#)

10:00 – 11:00 PM

[BC Industrial GHG Reporting](#)

11:00 – 11:15

Break

11:15 – 12:00AM

[Optimizing Requirements and Methodologies for Compliance](#)

12:00 – 12:45 PM

Lunch – Sandwich Bar

12:45 – 1:45 PM

[Compliance & Enforcement](#)

1:45 – 2:45 PM

[Offsets Program and Protocols](#)

2:45 – 3:00 PM

Break

3:00 -4:00 PM

[GHG Mitigation in the Industrial Sector](#)

4:00-4:15

[Selling Emission Offsets to the Province](#)

4:15-4:30

[Closing Remarks](#)

Workshop Purpose

To provide:

- program and regulatory updates for GHG reporting, offsets and compliance
- guidance on emission reporting methods and requirements
- an overview of government initiatives including Climate Strategy, Clean Growth program and provincial methane regulations



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Program Updates

Industrial Reporting and Control Workshop

November 14, 2018

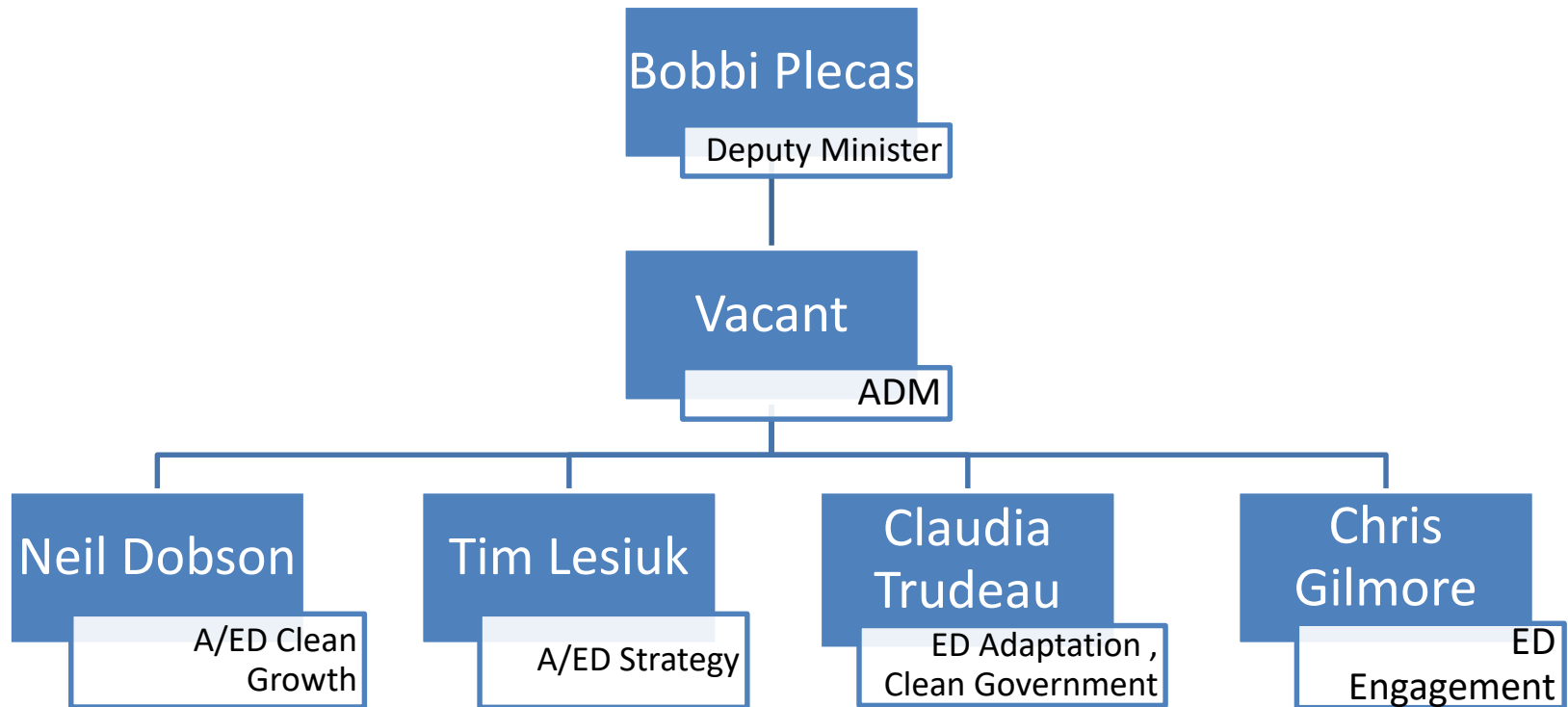


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Overview

- Organizational Overview
- Legislative and Regulatory Changes
- Industrial Program Highlights
 - Emission Reporting Program
 - Offset Program
- Federal OBPS
 - BC Offsets

Climate Action Secretariat



Industrial Reporting, Offsets, Compliance

A/ED Neil Dobson, Clean Growth

Director Adria Fradley, Industrial Reporting and Control

**Hurrian Peyman, Unit Head
Industrial Reporting, Evaluation**

**Don D'Souza, Unit Head
Industrial Mitigation**

- **Reporting, SWIM, Public Reporting**
 - Qinghan Bian
- **Benchmark Development**
 - Andrea Orellana
 - Jessica Knowler

- **Legislation and Regulation**
 - Konstantin Zahariev
- **Compliance**
 - John Nagle
- **Environmental Assessment**
 - Amy Van Reeuwijk
- **Offsets, BC Carbon Registry**
 - Maral Sotoudehnia

Legislation and Regulation Update

Greenhouse Gas Reduction Targets Act (Spring 2018)

- Renamed Climate Change Accountability Act
- Repealed the 2020 target
- Set targets for 2030 and 2040
- Enabled sectoral targets

Greenhouse Gas Emission Control Regulation (Spring 2018) Amendments

- Enable voluntary offset market

Professional Reliance Review

- GGIRCA Reviewed; minor considerations
- No expected impact

Program Highlights - Reporting

New public report format

- Published as reported (minimal corrections)
- Simplified; removed excessive categories
- Applied back to 2010

2016 Emission Report

- 18.6 MtCO₂e
- Emission level similar to 2015
- 103 companies and 125 reporting operations
- Delayed verification

GHG Reporting Methodology Review

- WCI standard for reporting operations
- Methodology Review to update and align with best practices
- Methodology Review includes
 - Jurisdictional Scan
 - Stakeholder Consultation
 - Analysis and Recommendations
- Incorporate recommendations by 2020 reporting period (i.e., submitted May 31, 2021)

Program Highlights - Offsets

- Fuel Switch Protocol 2018
- Draft Protocols
 - Vented Emission Reductions
 - Organic Waste Diversion

Consulted Aug 27 to Oct 27, 2018

Expected to be finalized 2018

- New Project Plan and Validation Templates –

Federal OBPS – Offsets

- Facilities over in federal backstop jurisdiction meet compliance through
 - Credits,
 - Offsets, and/or,
 - Emission charge (\$20 per tonne)
- BC, Alberta and Quebec offsets eligible
- Requirements – limited to projects outside scope of carbon tax



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BC Industrial GHG Reporting Statistics and Lessons Learned

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Session Objectives

- Review legal requirements for GHG emission reporting and verification
- Show the reporting statistics
- Lessons learned and best practices

Legal Requirements

Definitions

Item	Definition
EIO	Electricity Import Operation
IF_a	Facility with attributable $E \geq 10,000$ tCO ₂ e within a LFO
IF_b	Facility with attributable $1,000 \leq E < 10,000$ tCO ₂ e within a LFO
L_c	Group of facilities with each's attributable $E < 1,000$ tCO ₂ e within LFO
LFO	Industrial operation with linear facilities carrying out activities without clear boundaries between each facility's business operation
SFO	Independent facility carrying out activities with clear boundary to implement its business
Biomass C	Woody biomass specified in Schedule C of the Regulation
Reporting-only	Emissions including CO ₂ from Biomass C, emissions from mobile equipment combustion and those from open pit coal mining.

Legal Requirements

Obligation	Activities	Threshold (tCO ₂ e)	Action
Emission Reporting & Verification	Table 1 or 2 in Schedule 1 (SFO, LFO)	≥ 10,000 Excluding biomass CO ₂	<ul style="list-style-type: none"> Reporting operation; Annual reporting; Reporting Obligation continues 3 years <10,000
		≥25,000 Excluding Reporting Only	<ul style="list-style-type: none"> Annual verification obligation Option: <ul style="list-style-type: none"> Delayed Verification for 2 cons years. Pre-requisite s.28 (3) requirements (See GGIRCA Bulletin 002) Verification continues 3 years facility below <25,000

Legal Requirements – cont'd

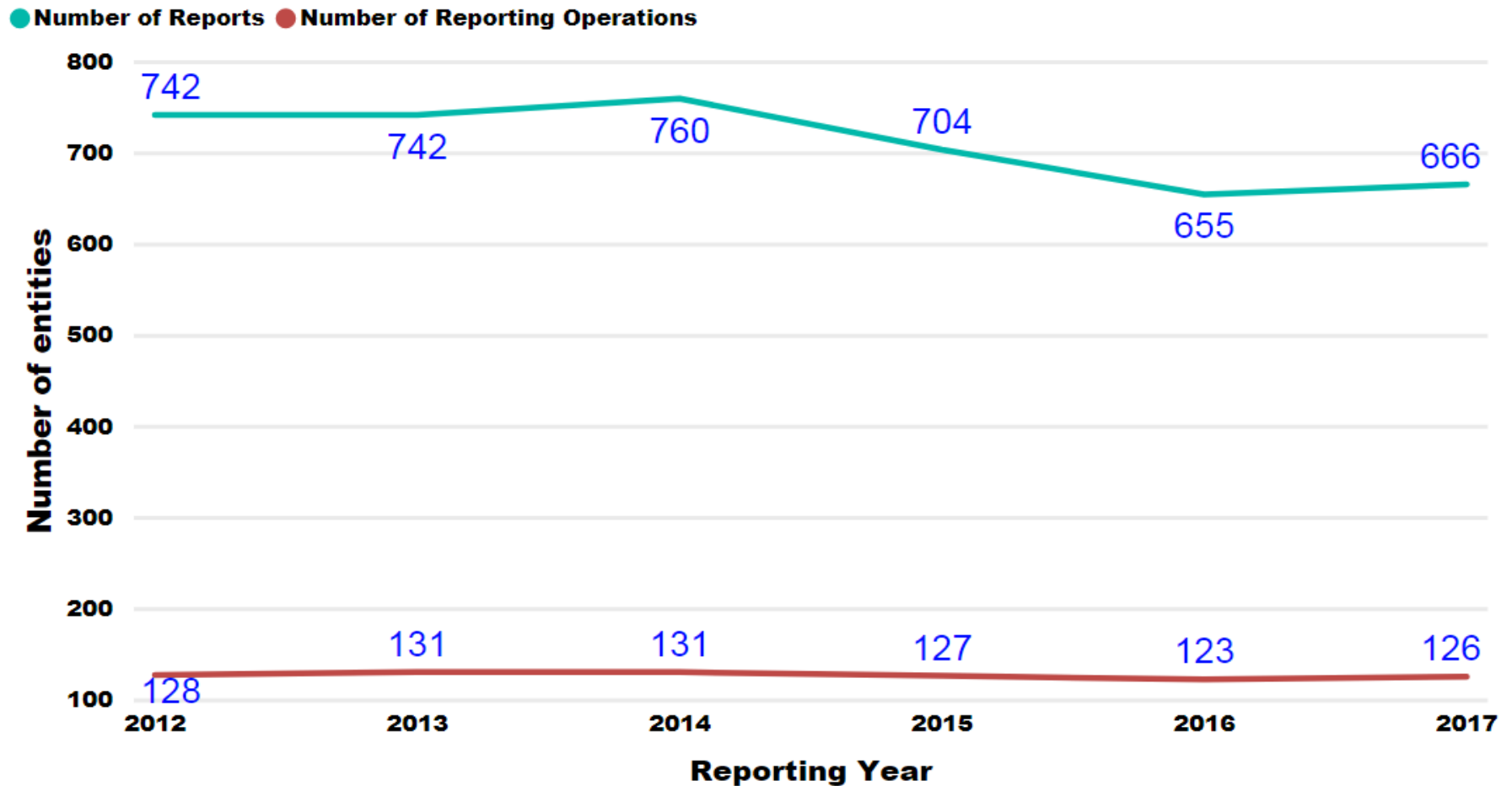
Obligation	Activity	Threshold (tCO ₂ e)	Action
Reporting & Verification	Electricity Import (EIO)	$E \geq 0$	Annual obligation for Reporting & Verification <ul style="list-style-type: none">• Option:<ul style="list-style-type: none">- Delayed Verification for 2 cons years.• Pre-requisites :<ul style="list-style-type: none">- Meet S.28(3) requirements

Legal Requirements – cont'd

Record Retention Period	Applies to	Record Contents
≥ 7 years	All reporting operation facilities; Reporting and Verification	<ul style="list-style-type: none">• Data management system,• Collected data,• Calibration records,• Lab test results and associate quantification methods,• Raw materials and products purchase and sale records,• Fuel receiving and usage records, etc.

Statistics

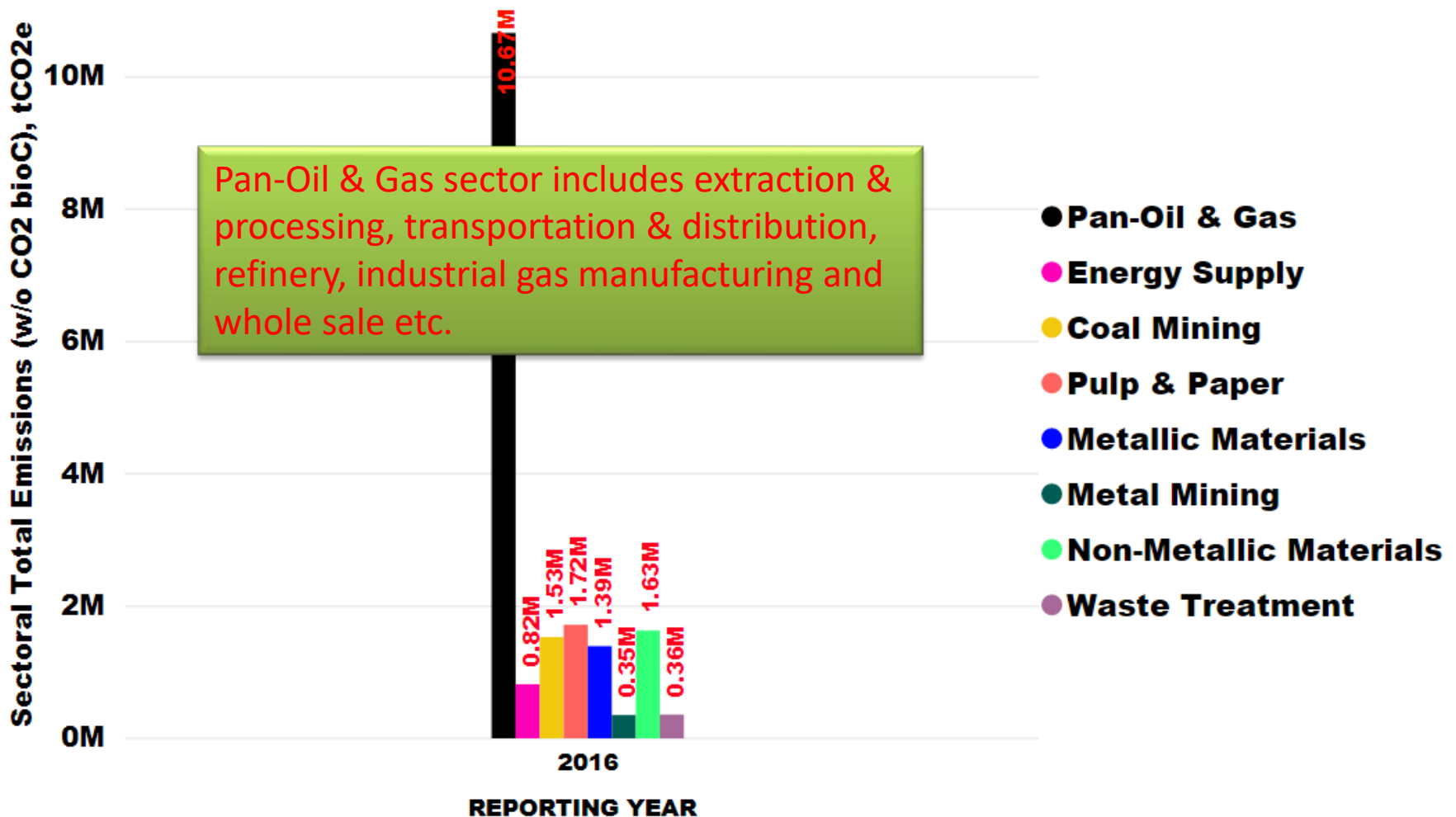
Reporting operations and facilities/reports



Business Activities under GGERR

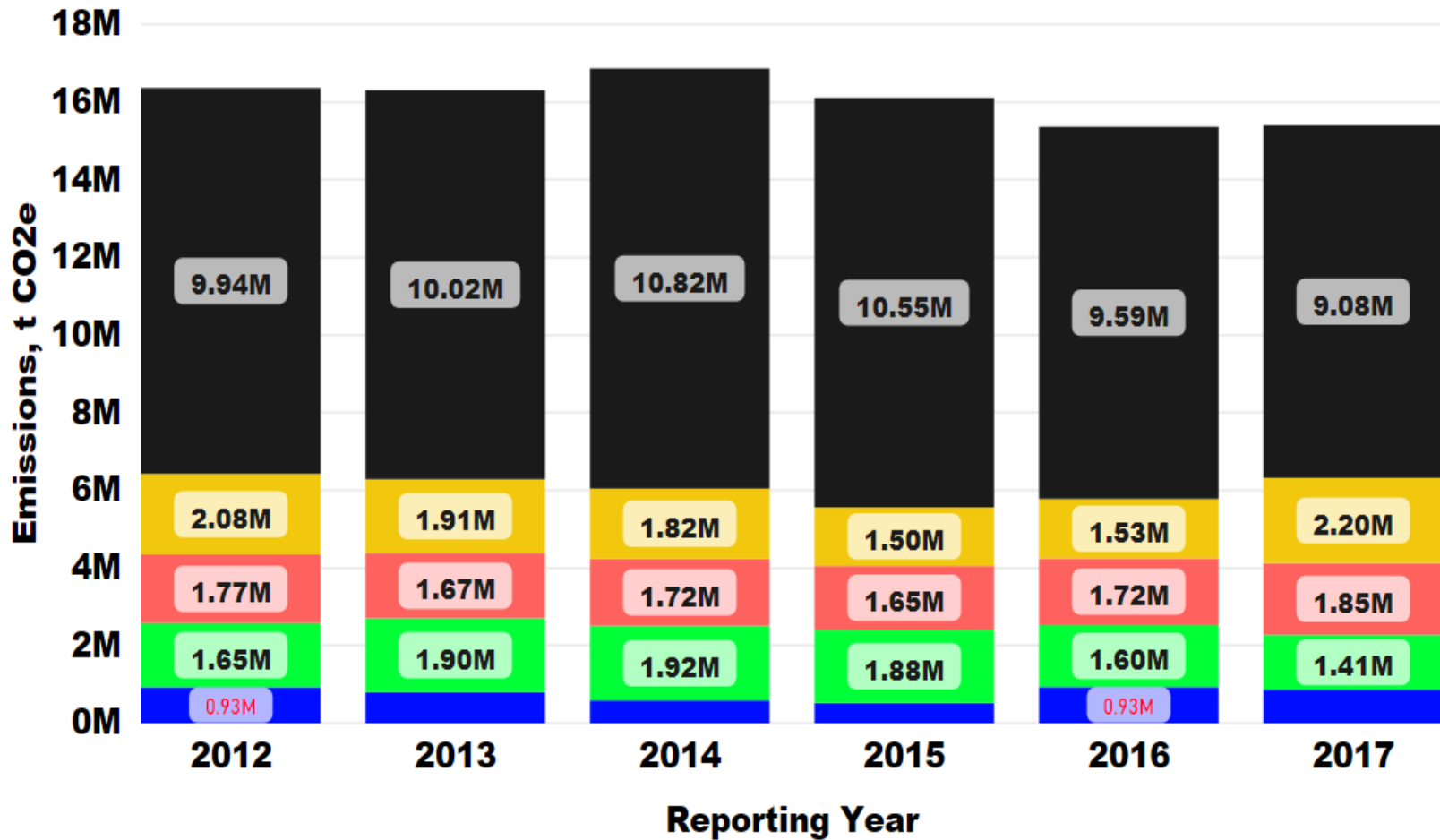
- Covers 45 NAICS codes, grouped into:
 - Oil & gas industry and energy supply
 - Mining (coal and metals)
 - Forest products manufacturing
 - Metallic and non-metallic materials production
 - Inorganic chemicals production
 - Food industry
 - Other consumer products
 - Waste treatment

Industrial Group emissions (W/o CO2bioC)



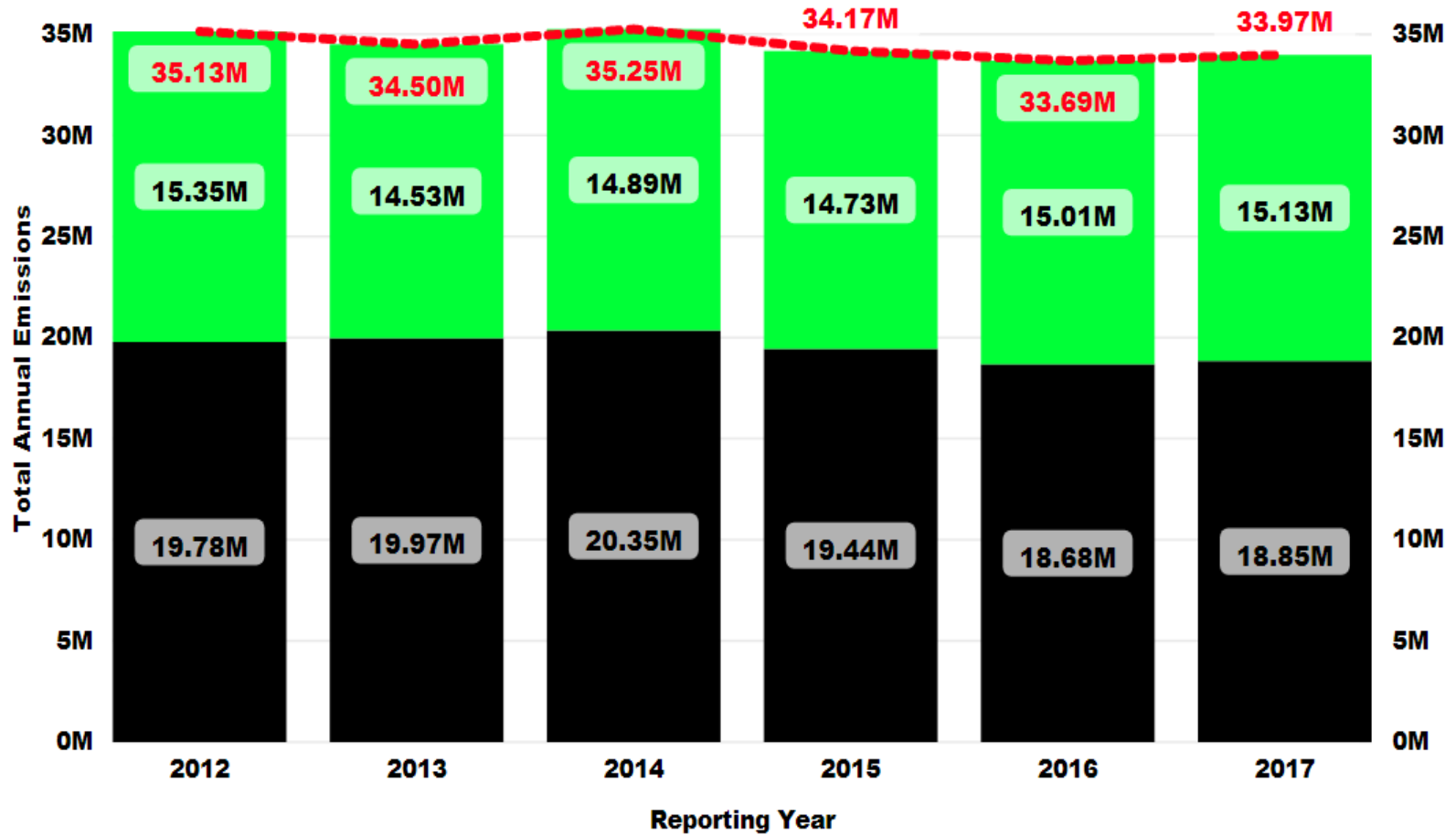
Main industrial sectoral emissions

● Aluminum ● Cement Lime Glass ● Pulp & Paper ● Coal Mining ● Oil Gas Extraction

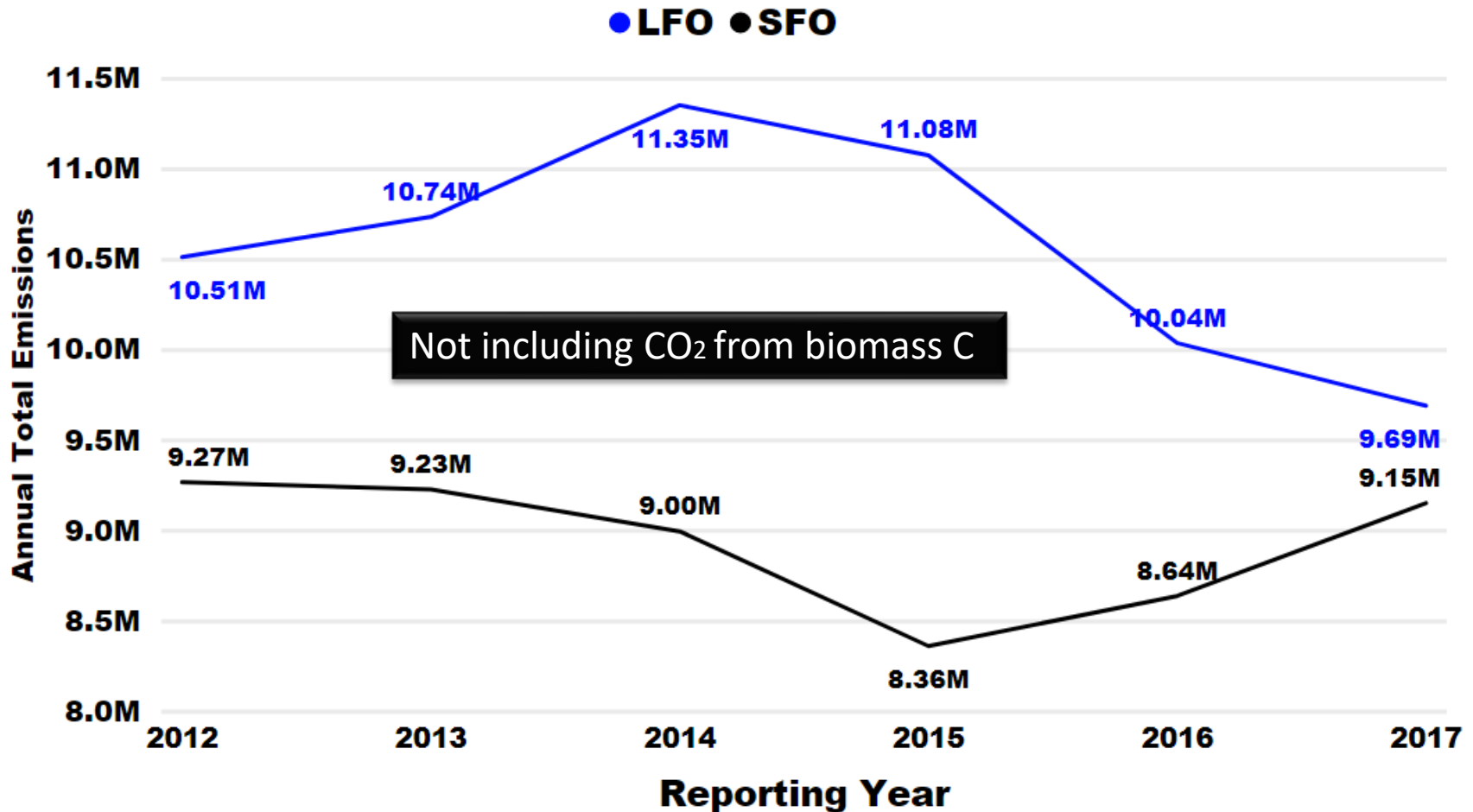


Industrial total emissions summary

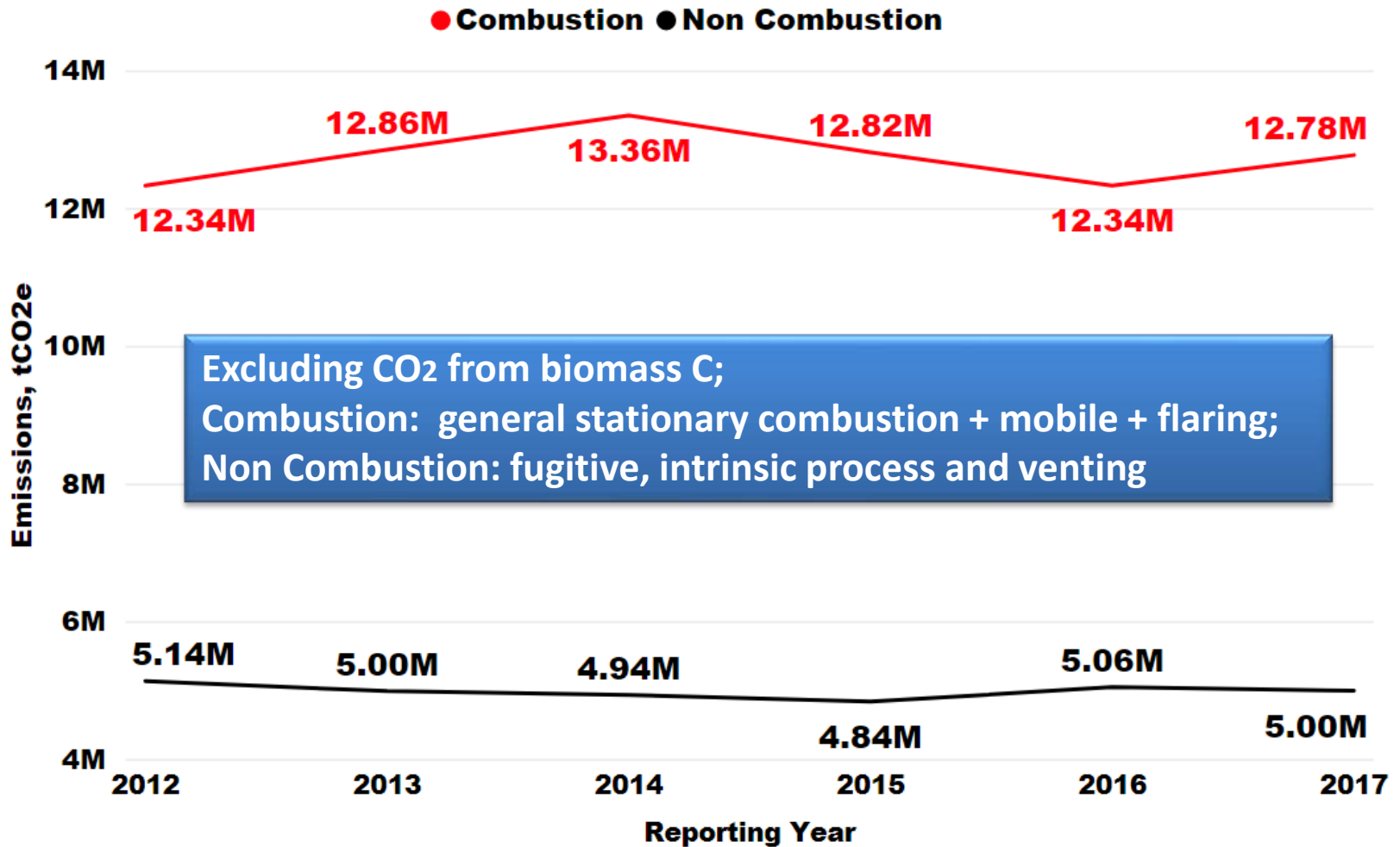
● Reportable Emissions (tCO₂e) ● CO₂ from Biomass C (tCO₂) ● Grand Total (tCO₂e)



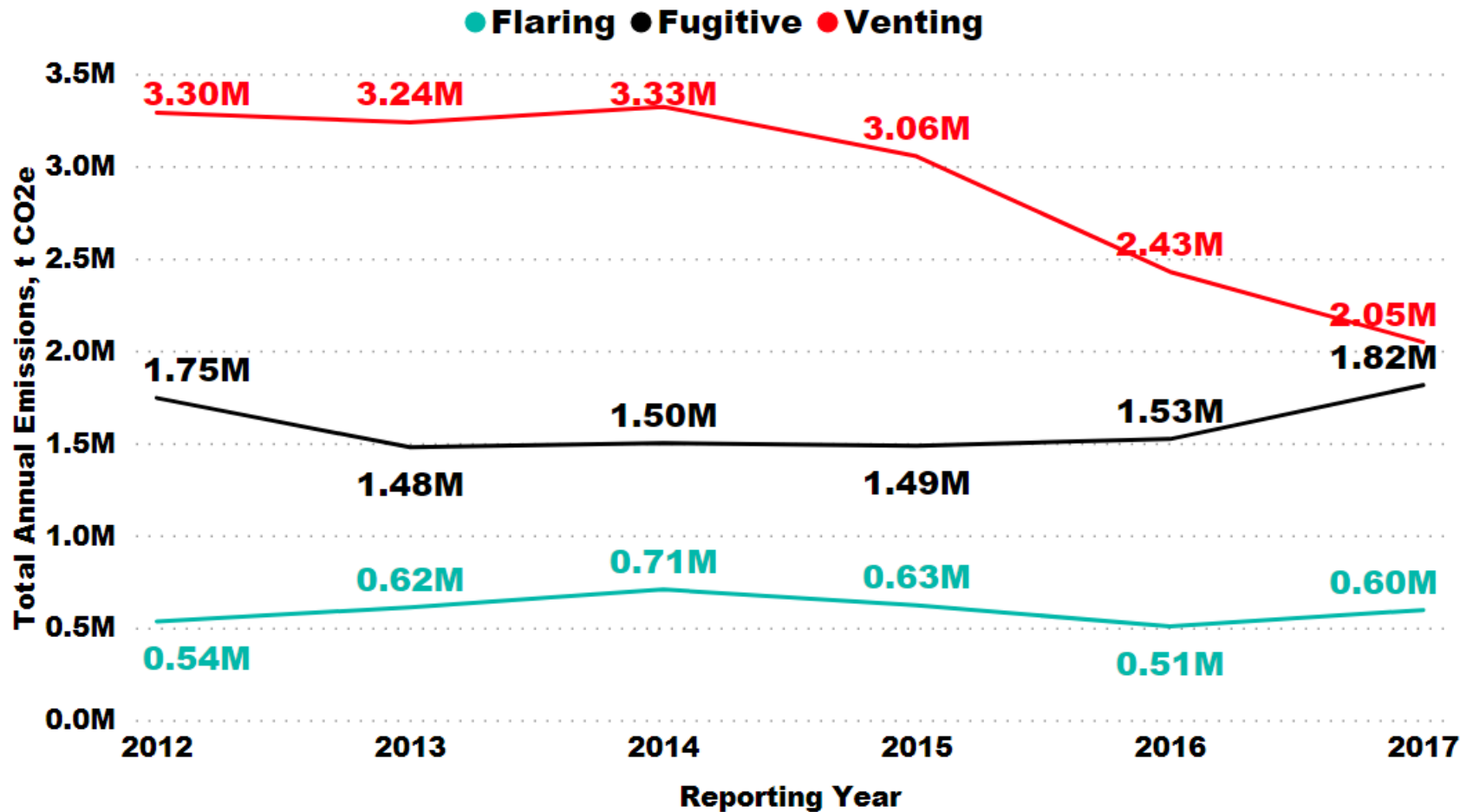
SFO & LFO Segmental Reportable Emissions



Annual combustion, Non-combustion GHGs





Total Flaring, fugitive, venting emissions



Issues and Lessons Learned

Administrative Information

1. NAICS code update

- NAICS codes for Oil & Gas Extraction updated in 2017: “211113/211114” → 211110
- Notified at 2017 workshop
-  305 facilities not updated (incl. 1 new facility)
-  243 facilities updated to “211110”

2. No NAICS Code

- One new facility

3. Wrong NAICS Code

- Two new facilities

4. Marijuana NAICS code now available in the system

Administrative Information

- Physical Address

- Duplicated the component such as

Alaska Highway Highway, f



Where the highlighted component “Highway” can be removed.



If this is a portable facility, please check here

Mailing Address Physical Address Geographical Address

Unit	Street Number	Street Name
88123	6708	Alaska Highway
Street Type	Street Direction	City
Highway		MileTrip
Prov/Terr/State	Postal Code / Zip Code	
British Columbia	V8W 9W9	
Country	Canada	
Additional Information		

Only keep this one

Administrative Information

Contacts:

- Must match duties and responsibilities of operation representative
- **Operation Representative** typically sr. officer, or individual with primary responsibility for operations and management of the industrial operation
- A Contractor cannot be acting as **operation representative**

Resubmission:

- Once “Report update” performed, *resubmission is a must* whether or not change is made
 - No resubmission will make your report status as “In Progress”

Administrative Information

- Use meaningful names for **company** and **facility**

Organization Name	Facility Name	Acceptable?
ABC Company- Victoria	ABC Company- Victoria	X
ABC Company- Langley	ABC Company- Langley	X
ABC Company	(ABC) Victoria Plant	V
ABC Company	(ABC) Langley Plant	V
XYZ Company	Aggregated Linear Facilities Operation (LFO)	X
MGH Inc.	Aggregated Linear Facilities Operation (LFO)	X
XYZ Company	XYZ Aggregated Linear Facilities Operation (LFO)	V
MGH Inc.	MGH Aggregated Linear Facilities Operation (LFO)	V

Facility Information

- **Facility Type – Confusion:**
 - **Facility types:** SFO, LFO, IF_a, IF_b, L_c, EIO;
 - Some reporters not familiar with categorization
- **To determine the facility type:**
 - Review the definition described earlier;
 - Review Regulation, especially Tables 1 and 2;
 - Refer to User Guide and contact Us

Facility Information

LFO & Individual reports

Facility	# of Facilities	Reports Required
IF_a or IF_b or L_c	only 1	IF_a or IF_b or L_c } + LFO
IF_a and/or IF_b and/or L_c	More than 1 in total	IF_a and/or IF_b and/or L_c } + LFO

- LFO emissions must match the sum individual reports, i.e.

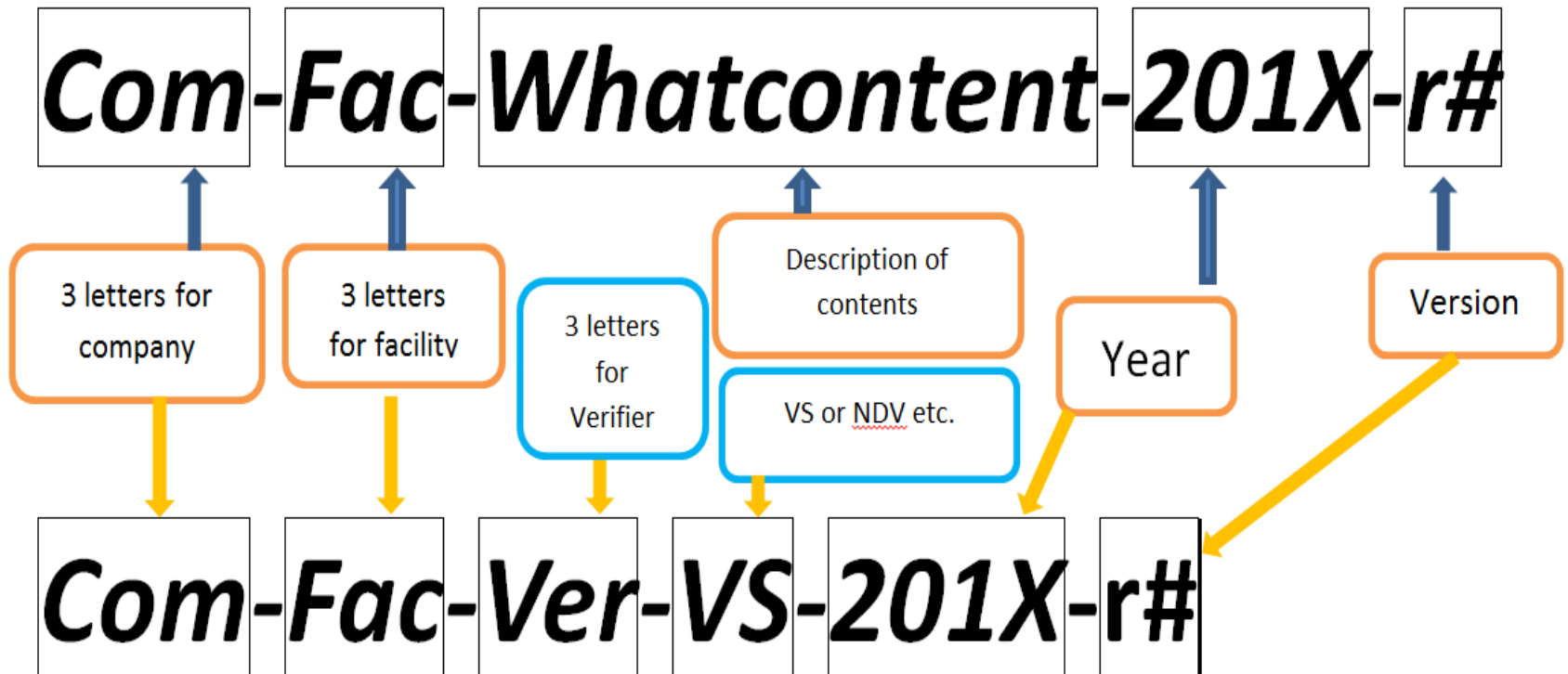
$$E_{LFO,source\ i} = \sum_i^n E_{IF_a,source\ i} + \sum_i^n E_{IF_b,source\ i} + E_{L_c,source\ i}$$

Energy Information

- **“Useful energy” and “non-useful energy”**
 - **“Useful energy”** – combustion produces for useful purposes such as process, heat, hot water
 - **“Non-useful energy”** — combustion produces not for useful purposes, **but simply discharged into atmosphere and wasted**

 Errors, wrong entries etc. need to be corrected

Naming Convention





Attached File must be machine **Readable** and **Searchable**

Naming Convention

2017 Emission Report Examples that do not meet this standard:

- “2016-2017 XXXX Verification Statement”
- Notice of Delayed Verification not mentioned, instead “No verification notification-2017 BC GHG Report”
- “**img-180518135259-0001**” – **what is it?**

Verification

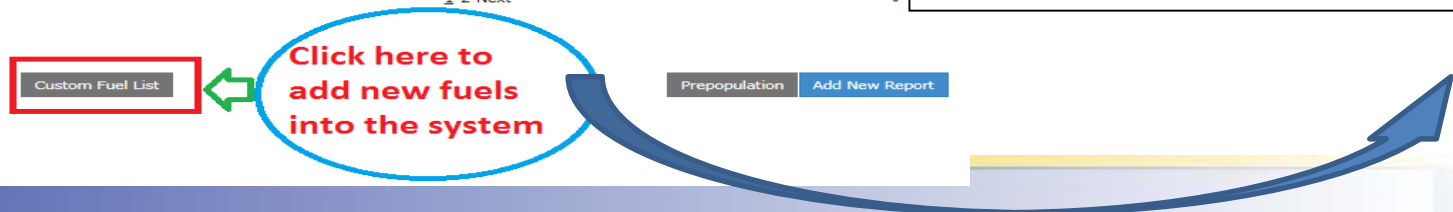
- Most verification statements and notices of delayed verification uploaded through **Report Verification** process 
- Several Notices of Delayed Verification uploaded into the Report Comments area 
- LFO report needs Verification Statement attached, not IF_a, IF_b or L_c reports
 - Verification must cover all IF_a, IF_b and L_c reports

Fuels

- How to add new fuels like plastics and carpet
 - Reporting Dashboard in BC GHG module in SWRS, add new fuels, i.e. Custom Fuels,

The image shows a screenshot of the SWRS Reporting Dashboard. The dashboard includes a navigation bar with 'Home', 'Help', 'My Profile: Qinghan Bian', 'Logout', and 'Ec.gc.ca'. Below the navigation bar, there is a 'Reporting Dashboard' section with a welcome message and a 'Report(s)' section. The 'Report(s)' section contains a table with columns for 'Status', 'Facility Name', 'Report Type', and 'Status'. The table lists various reporting facilities and their corresponding report types and statuses. A 'Custom Fuel' form is overlaid on the right side of the dashboard, showing fields for 'Fuel Name', 'Fuel Classification', 'Fuel Unit', and 'Fuel Description'. The form has 'Save' and 'Cancel' buttons.

Status	Facility Name	Report Type	Status	Action
⏸	Testing Fac. 6	IF_e	(6/32)	
➡	Testing Fac. 3	IF_b	Ready to Submit	
⏸	Testing Fac. 4	SFO	(2/7)	
✓	Testing Fac. 2	IF_e	Submitted (08/09/2018 12:23:41)	
⏸	Testing Fac. 2	SFO	(2/29)	
➡	Testing Fac. 3	L_c	Ready to Submit	
✓	TSTING FAC. 1	SFO	Submitted (05/31/2018 12:02:26)	
➡	Testing Fac 5	LFO	Ready to Submit	
✓	Testing Fac 5	EIO	Submitted (05/17/2018 15:10:31)	
⏸	Testing Fac 4	SFO	(0/22)	



Fuels

Issues with Fuel HHV Values

- After entering the HHV value for a common fuel into SWRS, a warning message as below may appear

Warning as a reminder

Annual Fuel Amount [↑] 123.44 Expected value

Warning: The value provided for High Heating Value is outside the expected range for the selected fuel (31.04 - 46.56) ×

Annual Weighted Average High Heating Value (GJ/unit fuel) ** 0.040123 Entered value

- Ensure data entered is correct and reliable

Pre-Population Function

- Be careful with existing Old Data, Files

DOUBLE EDGED SWORD



- Old data, and files especially the Verification Statement may exist.
Remove them first

Activity Selection – be careful

Report Update Comments

Reporter note →

Note: There is a mistake in the database system since there was no fuel reported for waste. Somehow waste emissions were generated in the 2017 report instead of the on-site transportation emissions.

General Stationary Combustion

← *Activity selected*

(b) General stationary combustion, no useful energy

Fuel Groups **

This should be an activity item, selected under the Facility Activities page

Mobile Combustion

GSC Unit Name *

Mobile Combustion

Description

Solution
Select an activity at the right place

Emissions from fuel combustion by mobile equipment that is part of the facility

Fuels

Propane (kilolitres)

Fuel *

Propane (kilolitres)

HOW TO SELECT ACTIVITY?

Reporting Details

Testing Fac. 6

BCGHG Reporting Lead - All Facilities

Facility Reporting Options

Select the Facility Contacts

Verify Facility Information

Facility Activities

Select Table 2 Source Categories

Activities

- Mobile Combustion
- Aluminum or Alumina Production
- Cement Production
- Coal Mining from Underground Mines
- Coal Storage at Facilities that Combust Coal
- Copper or Nickel Smelting or refining
- Electricity Generation
- Glass, Glass Fibre and Mineral Wool Manufacturing
- Hydrogen Production
- Wastewater Processing
- Lead Production
- Lime Manufacturing
- Petrochemical Production
- Petroleum Refining
- Pulp and Paper Production
- Refinery Fuel Gas Combustion
- Zinc Production
- Coal mining from open pit mines
- Storage of petroleum products
- Carbonate Use
- General Stationary Combustion
- O/G Extraction and Processing

Facility Activities

- Activity - Table 1

- Mobile Combustion
- Aluminum or Alumina Production
- Ammonia Production
- Cement Production
- Coal Mining from Underground Mines
- Coal Storage at Facilities that Combust Coal
- Copper or Nickel Smelting or refining
- Electricity Generation
- Electronics Manufacturing
- Ferroalloy Production
- Glass, Glass Fibre and Mineral Wool Manufacturing
- Hydrogen Production
- Wastewater Processing
- Lead Production
- Lime Manufacturing
- Magnesium Production
- Nitric Acid Manufacturing
- Petrochemical Production
- Petroleum Refining
- Phosphoric Acid Production
- Pulp and Paper Production
- Refinery Fuel Gas Combustion
- Zinc Production
- Coal mining from open pit mines
- Storage of petroleum products
- Carbonate Use

- Activity - Table 2

- General Stationary Combustion
- O/G Extraction and Processing
- Electricity Transmission
- Natural Gas Transmission
- Oil Transmission
- Carbon Dioxide Transportation
- LNG Activities

This is the complete list of all potential activities cited in the Regulation, including those in Table 1 and 2.

Depending on the specific situation at your facility, you need to select the activities properly from this list.

Measured Emission Factors

- These problematic or not?

Measured Emission Factor (CO ₂) **	1
Measured Emission Factor Unit (CO ₂) **	t/t
Measured Emission Factor (CH ₄) **	25
Measured Emission Factor Unit (CH ₄) **	t/t
Measured Emission Factor (N ₂ O) **	298
Measured Emission Factor Unit (N ₂ O) **	t/t

Don't confuse Emission Factors with GWPs

Reminders

Updates to Reporting System

- Updates to SWRS still underway
 - Suggestions for improvements welcome
- Stay tuned for details

User Guide

- User Guide

Illustrative User Guidebook on SWRS (*available soon*)

- Access/download at website:

<https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/reference-materials>



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Optimizing Requirements and Methodologies for Compliance

Industrial Reporting and Control Workshop

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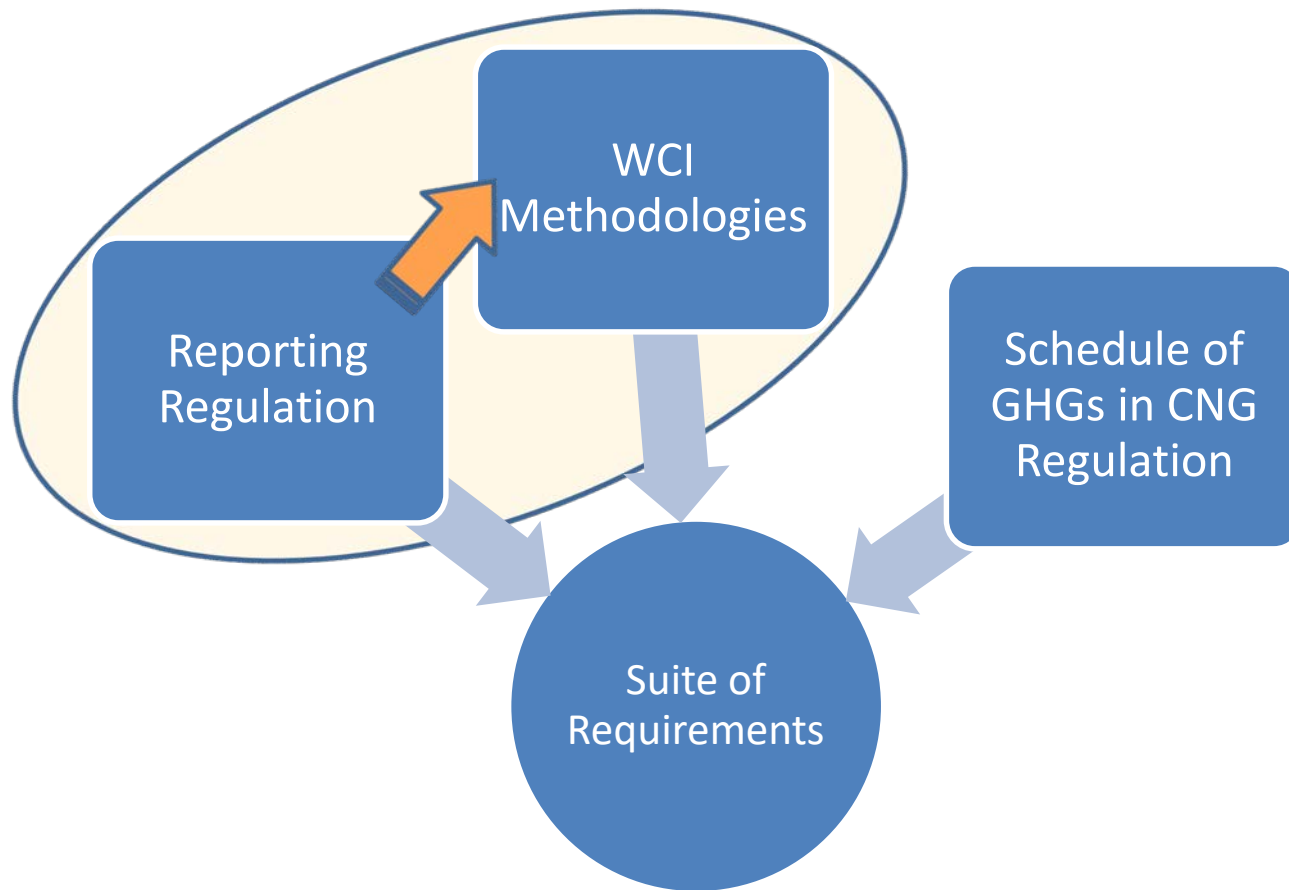
Overview

- Session Objectives
- Structure and types of regulatory requirements
- Making sense of it all – a logical reorganization
- Optimizing compliance - example with General Stationary Combustion

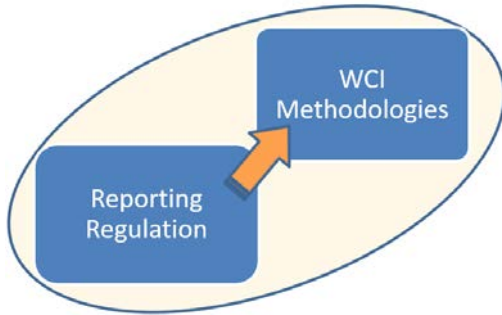
Session Objectives

- Review the scope and structure of regulatory requirements for reporting GHG emissions
- Increase understanding of what to do when, to ensure compliance

Structure and types of requirements (for quantifying and reporting GHG emissions)



Structure and types of requirements



Content of emission reports

14 (3) [...] the following information must be included in the emission report of a reporting operation for a reporting period:

(d) for each activity listed in column 2 of Table 1 or 2 of **Schedule A** carried out by the operation, any additional information referred to in the standards, codes or rules listed in column 5 opposite the activity;

Table 1

Column 1	Column 2	Column 3	Column 4	Column 5
Item	Activity	Source Type	Greenhouse Gas Type	Relevant Requirements
1	General stationary combustion excluding general stationary combustion referred to in column 2 of item 1 of Table 2	(a) General stationary combustion of fuel or waste <u>with production of useful energy</u>	Carbon dioxide from non-biomass Carbon dioxide from biomass listed in Schedule C Methane Nitrous oxide	WCI.020
		(b) General stationary combustion of waste <u>without production of useful energy</u>	Carbon dioxide from non-biomass Carbon dioxide from biomass listed in Schedule C Carbon dioxide from biomass not listed in Schedule C Methane Nitrous oxide	
2	Fuel combustion by mobile equipment at a facility that carries out activities referred to in this column of items 1 and 3 to 27 in this Table	Fuel combustion by mobile equipment that is part of the facility	Carbon dioxide from non-biomass Carbon dioxide from biomass listed in Schedule C Carbon dioxide from biomass not listed in Schedule C Methane Nitrous oxide	WCI.280

Structure and types of requirements

Western Climate Initiative



Typical structure of WCI methodology:

- **Source Category Definition**
- **Greenhouse Gas Reporting Requirements**
- **Calculation of CO₂ Emissions**
 - Use of the CO₂ Calculation Methodologies
- **Calculation of CH₄ and N₂O Emissions**
 - Use of the CH₄ and N₂O Calculation Methodologies
- **Sampling, Analysis, and Measurement Requirements**
 - Re: fuels or feedstocks
 - Re: parameters, etc.
- **Procedures for Estimating Missing Data**
- **Definitions**

§ WCI.20 GENERAL STATIONARY COMBUSTION

§ WCI.21 Source Category Definition

Stationary fuel combustion sources are devices that combust solid, liquid, or gaseous fuel generally for the purpose of producing electricity, generating steam or providing useful heat or energy for industrial, commercial, or institutional use, or reducing the volume of waste by removing combustible matter. Stationary fuel combustion sources are boilers, simple and combined cycle combustion turbines, engines, incinerators (including units that combust hazardous waste), process heaters, and any other stationary combustion device that is not specifically addressed under the methods for another source category. This source category does not include portable equipment, emergency generators, and emergency equipment (including emergency flares).

§ WCI.22 Greenhouse Gas Reporting Requirements

The emissions data report shall include the following information at the facility level:

(a) Annual greenhouse gas emissions in tonnes, reported as follows:

- (1) Total CO₂ emissions for fossil fuels, reported by fuel type.
- (2) Total CO₂ emissions for biomass, reported by fuel type.
- (3) Total CH₄ emissions, reported by fuel type.
- (4) Total N₂O emissions, reported by fuel type.

(b) Annual fuel consumption:

- (1) For gases, report in units of standard cubic meters.
- (2) For liquids, report in units of kilolitres.
- (3) For non-biomass solids, report in units of tonnes.
- (4) For biomass solid fuels, report in units of bone dry tonnes.

(c) Annual weighted average carbon content of each fuel, if used to compute CO₂ emissions.

(d) Annual weighted average high heat value of each fuel, if used to compute CO₂ emissions.

(e) Annual steam generation in kilograms, for units that burn biomass fuels or municipal solid waste and generate steam.

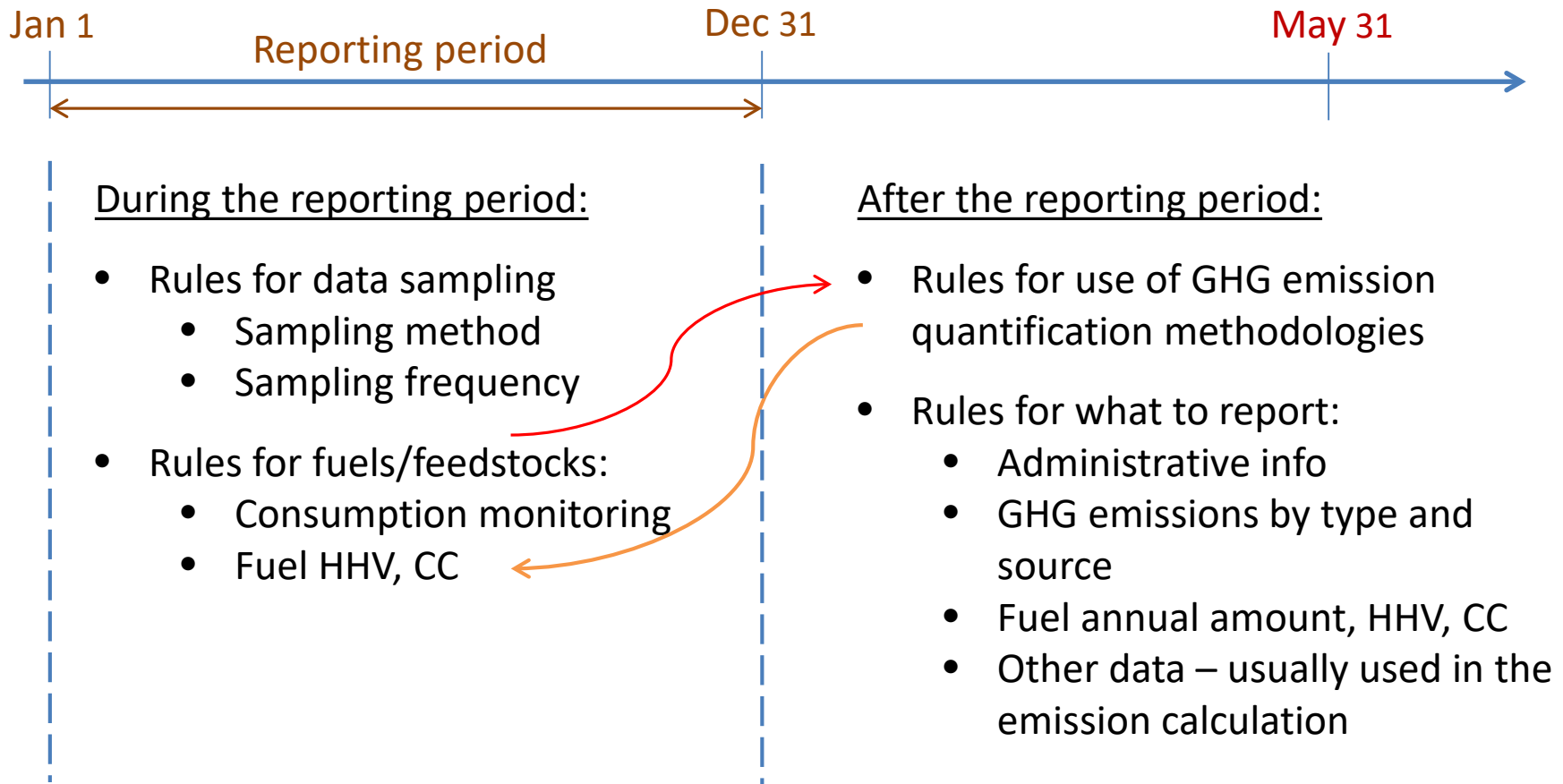
§ WCI.23 Calculation of CO₂ Emissions

For each fuel, calculate CO₂ mass emissions using one of the four calculation methodologies specified in this section, subject to the restrictions in WCI.23(e). If a fuel or fuels is not listed in all of Tables 20-1 through 20-7, or in Table C-1 or C-2 of U.S. EPA 40 CFR Part 98, Subpart C, then emissions from such fuels do not need to be reported so long as total emissions of these

Final Essential Requirements of Mandatory Reporting
Amended for Canadian Harmonization
December 17, 2010

WCI.20-1

Making sense of it all – a logical reorganization

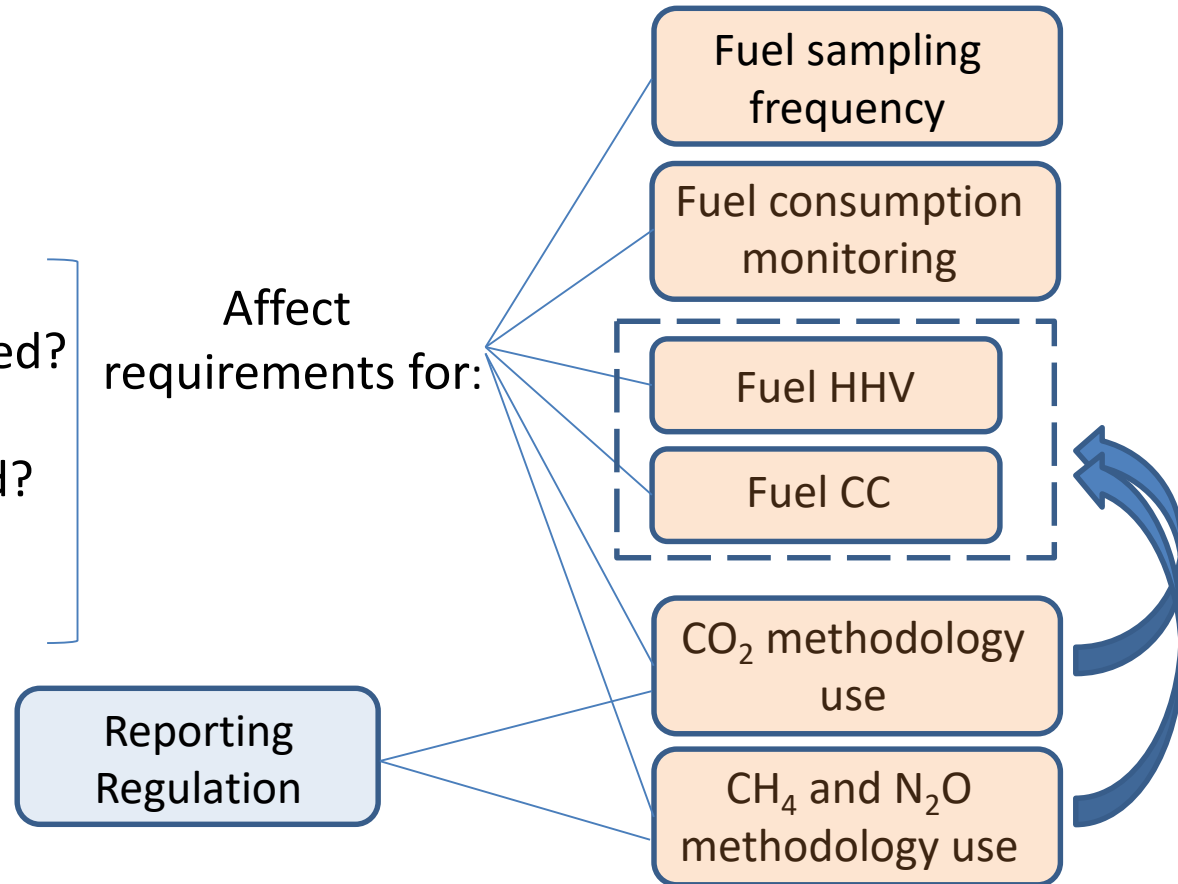


Inter-relationship – depends on fuel types; verification; others

Making sense of it all – GSC example

Key Attributes

- Fuel properties
- Verification required?
- Is CEMS required?
- Is steam generated?
- Others



Making sense of it all – GSC example

Key Attributes:

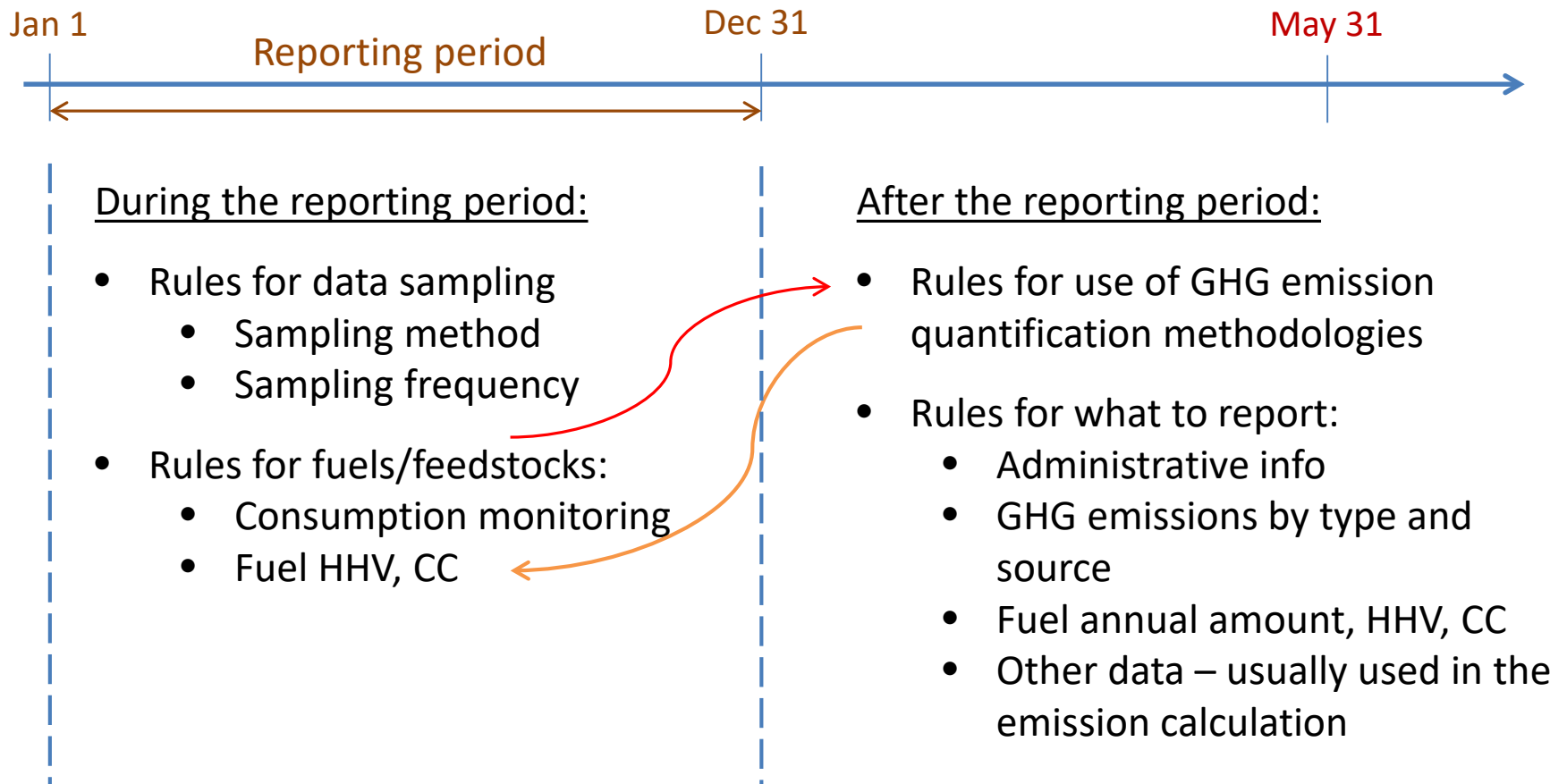
- Fuel properties:

S	Non-bio	MSW?	HHV listed?
L	Bio-not-C	Pipeline NGas?	HHV/CC
G	Bio-Sch-C	Fuel Listed?	supplied or measured

- Verification required?
- Is CEMS required by legislation/regulation?
- Is steam generated?
- Others (biomass with WDF?; heat input monitored?; Comb. unit larger than ...)

Reporting
regulation

Making sense of it all – a logical reorganization



Inter-relationship – depends on fuel types; verification; others

Resources

- Greenhouse Gas Industrial Reporting and Control Act
- Greenhouse Gas Emission Reporting Regulation
- WCI methodologies (original plus two addenda)

- All available at [Quantify Industrial GHG Emissions](#)

Index of Initialisms

- CC = Carbon Content
- CEMS = Continuous Emission Monitoring System
- GHG = Greenhouse Gas
- HHV = High Heating Value
- MSW = Municipal Solid Waste
- S, L, or G = Solid, Liquid or Gas [state]
- WCI = Western Climate Initiative
- WDF = Waste-Derived Fuel



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GGIRCA Compliance Framework

Industrial Reporting and Control Workshop

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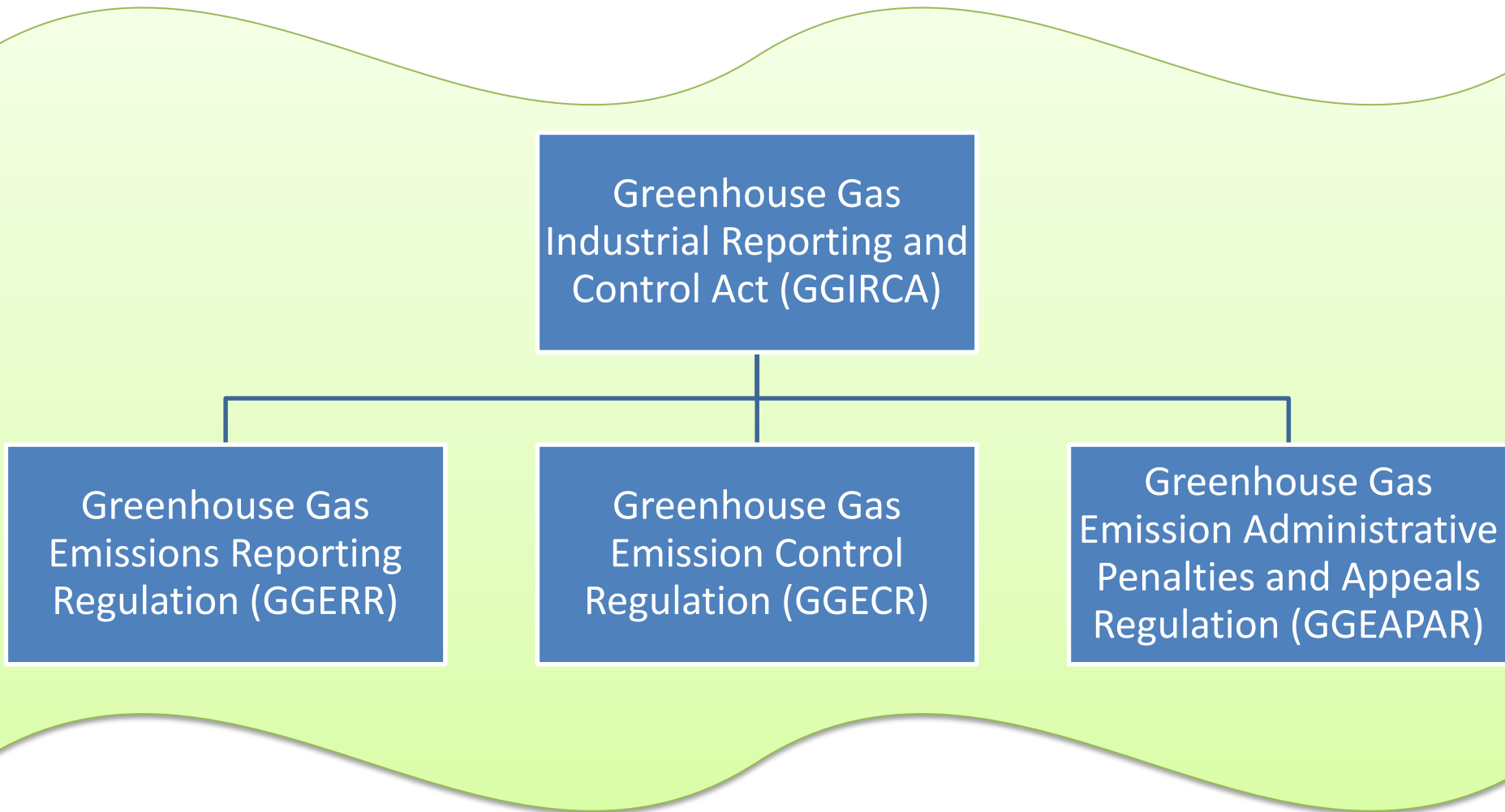
Presentation Overview

- *Greenhouse Gas Industrial Reporting and Control Act (GGIRCA) Compliance Framework*
- Policies and Procedures
- Roles and Responsibilities
- Compliance and Enforcement Activities
- Questions and Feedback

Session Objectives

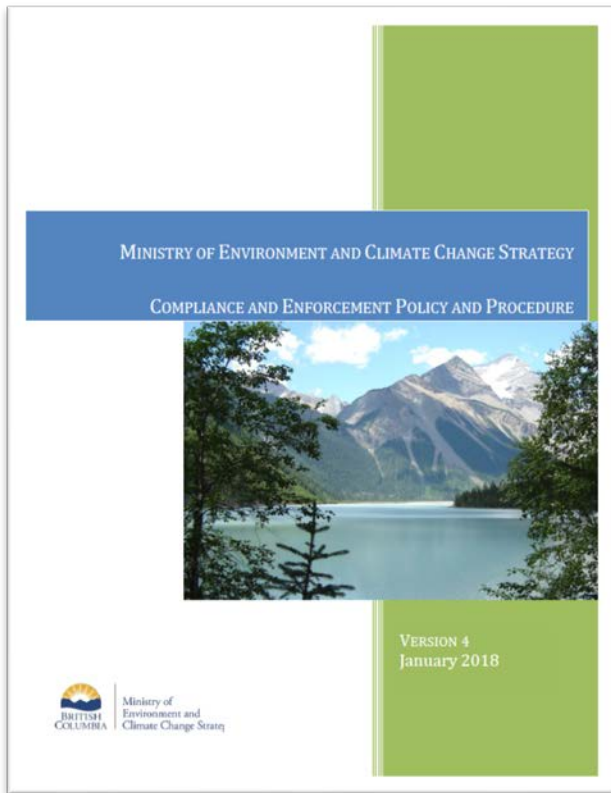
- Know what to expect
- Provide assurance that:
 - compliance framework is transparent and accountable
 - actions are administratively fair and proportionate to the risk created by non-compliance

GGIRCA Compliance Framework

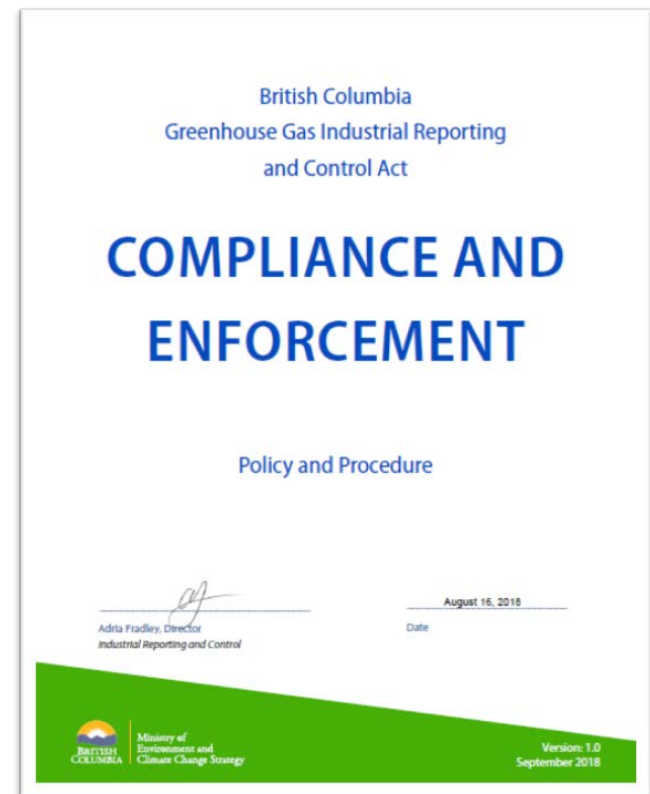


Policy and Procedure

MINISTRY



GGIRCA



Roles and Responsibilities

MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE STRATEGY (MOECCS)

- Overall direction for compliance
- Conservation Officer Service

CLIMATE ACTION SECRETARIAT (CAS)

- Ministry division that is responsible for administration of GGIRCA

Roles and Responsibilities

INDUSTRIAL REPORTING AND CONTROL (IRC)

- CAS branch responsible for administration of GGIRCA and ensuring and fostering compliance with GGIRCA
- **GHGRegulator@gov.bc.ca**

Roles and Responsibilities

DIRECTOR, GGIRCA

- Statutory Decision Maker, whose authority includes:
 - Issuance of administrative penalties
 - Refusal of non-compliant verification statements
 - Establishment of protocols
 - Acceptance of emission offset projects
 - Request for records

Roles and Responsibilities

INSPECTOR, GGIRCA

- Designated by the Director under S. 21 GGIRCA
- Conducts inspections under GGIRCA, either on-site and/or as an office review
- Assesses compliance
- Recommends and issues enforcement actions

Roles and Responsibilities

INSPECTOR, GGIRCA

- May enter land or premises
- Inspect any place, process, thing or activity
- Analyze, measure, sample or test anything
- Make or take away copies of records
- Take along the persons and equipment that the inspector considers may be necessary

Roles and Responsibilities

CONSERVATION OFFICER SERVICE (COS)

- Conducts investigations
- Recommends administrative enforcement response
- Recommends prosecutorial enforcement response (formal charges)

Compliance and Enforcement Activities

COMPLIANCE PROMOTION

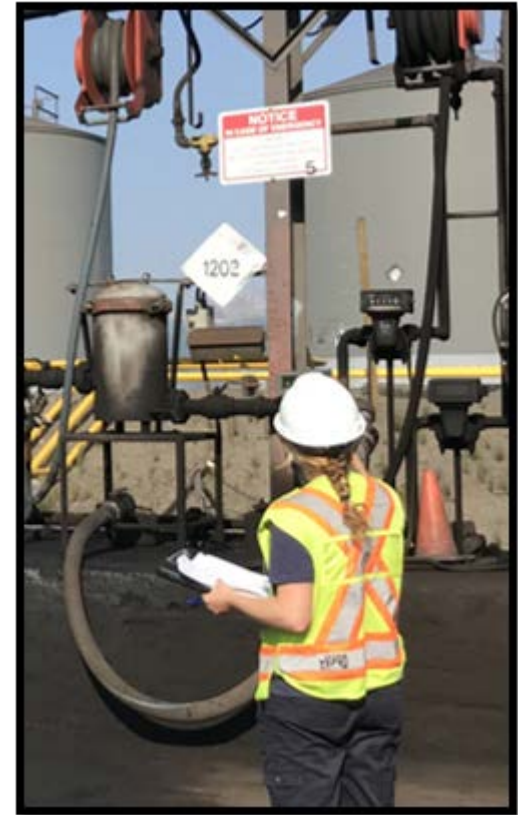
- Activity that increases awareness, educates, motivates or changes behaviour of reporting facilities
- Encourages voluntary compliance with a regulatory requirement



Compliance and Enforcement Activities

INSPECTION

- any action(s) taken to verify compliance with regulatory requirements, which includes office-based reviews and on-site inspection



Compliance and Enforcement Activities

INSPECTION

- **Office-based**

- Review of *submitted* information

- Emission Reports
- Emission Offset Project Plan or Report
- Verification Statement

- Review of *requested* information

- Supporting documentation

Compliance and Enforcement Activities

INSPECTION

- **On-site**

- Confirm that reported information matches what is occurring on-site
- Observe activities, equipment, processes
- Inspect fuel supply and combustion points, and emission source points (incl. fugitive)
- Ask questions and review records

Compliance and Enforcement Activities

INSPECTION

- Priority of an inspection is determined using a sampling plan based on:
 - Risk to overall system of emissions quantification and reporting
 - Random selection

GGIRCA Inspection Policy and Procedure

INSPECTION

- Risk factors that determine priority of an inspection:
 - past non-compliance
 - the number and/or size of facilities
 - the quantity and source type of emissions

Compliance and Enforcement Activities

ASSESSMENT

Requirement:	Greenhouse Gas Industrial Reporting and Control Act, Greenhouse Gas Emission Reporting Regulation 13 (a): An emission report under section 3 (1) of the Act must be submitted (a) to the director on or before May 31 of the calendar year immediately following the reporting period, and (b) in the electronic or other form, if any, specified by the director.
Details/Findings:	Based on a review...
Compliance:	IN / OUT
Actions to be taken:	Please re-submit....

Compliance and Enforcement Activities

- **NON-COMPLIANCE DECISION MATRIX**
 - Standard risk-based assessment tool provided in the Ministry C&E Policy and Procedure
 - Evaluates:
 - **LEVEL OF IMPACT**
 - **LIKELIHOOD OF ACHIEVING COMPLIANCE**
 - Identifies enforcement responses proportional to risk

Non-Compliance Decision Matrix (NCDM)

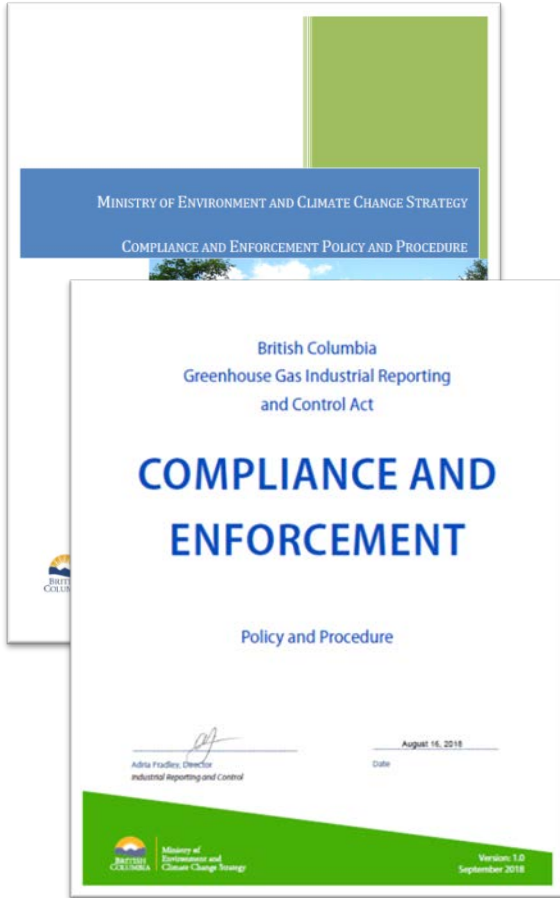
		ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
DIMINISHING LIKELIHOOD OF COMPLIANCE (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)	CATEGORY A (HIGH)	ADVISORY	ADVISORY - WARNING	WARNING - ORDER - ADMIN SANCTION - ADMIN PENALTY	ORDER - ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION	
	CATEGORY B	ADVISORY - WARNING	WARNING - ADMIN PENALTY	INVESTIGATION		
	CATEGORY C	WARNING - ADMIN PENALTY	WARNING - ORDER - ADMIN SANCTION	ORDER - ADMIN PENALTY - ADMIN SANCTION - INVESTIGATION		
		WARNING - ORDER - ADMIN SANCTION - ADMIN PENALTY	ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION			
	CATEGORY D					
CATEGORY E (LOW)	ORDER - ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION					

INVESTIGATION

NOTE: Increasing significance of real or potential impacts and diminishing likelihood of compliance warrant the full investigative process (referral to COS). The outcome of the investigation may still be a lower level response, but if the process uncovers more than expected, prosecutorial tools will be available.

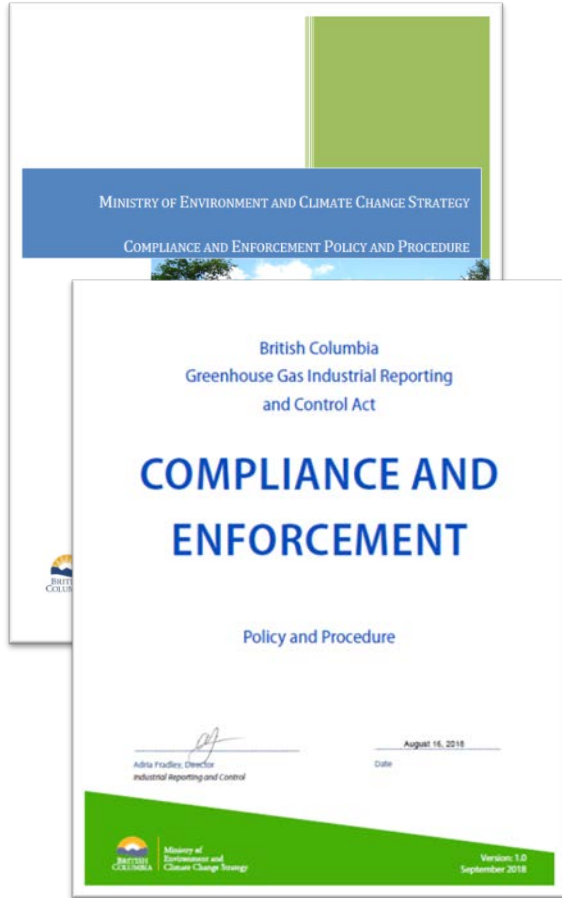
Violation tickets, restorative justice and prosecution are additional enforcement tools that are not listed on the matrix because they would be selected after an investigation occurs.

NCDM under GGIRCA C&E Policy and Procedure



		ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
DIMINISHING LIKELIHOOD OF COMPLIANCE (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)	CATEGORY A (HIGH)	ADVISORY	ADVISORY - WARNING	<p style="text-align: center;">INVESTIGATION</p> <p><i>NOTE: Increasing significance of real or potential impacts and diminishing likelihood of compliance warrant the full investigative process (referral to COS). The outcome of the investigation may still be a lower level response, but if the process uncovers more than expected, prosecutorial tools will be available.</i></p> <p><i>Violation tickets, restorative justice and prosecution are additional enforcement tools that are not listed on the matrix because they would be selected after an investigation occurs.</i></p>		
	CATEGORY B	ADVISORY - WARNING	WARNING - ADMIN PENALTY			
	CATEGORY C	WARNING - ADMIN PENALTY	WARNING - ORDER - ADMIN SANCTION			
		WARNING - ORDER - ADMIN SANCTION - ADMIN PENALTY	ADMIN PENALTY - INVESTIGATION			
	CATEGORY D	ORDER - ADMIN SANCTION - ADMIN PENALTY	INVESTIGATION			
CATEGORY E (LOW)	ORDER - ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION					

Non-Compliance Decision Matrix



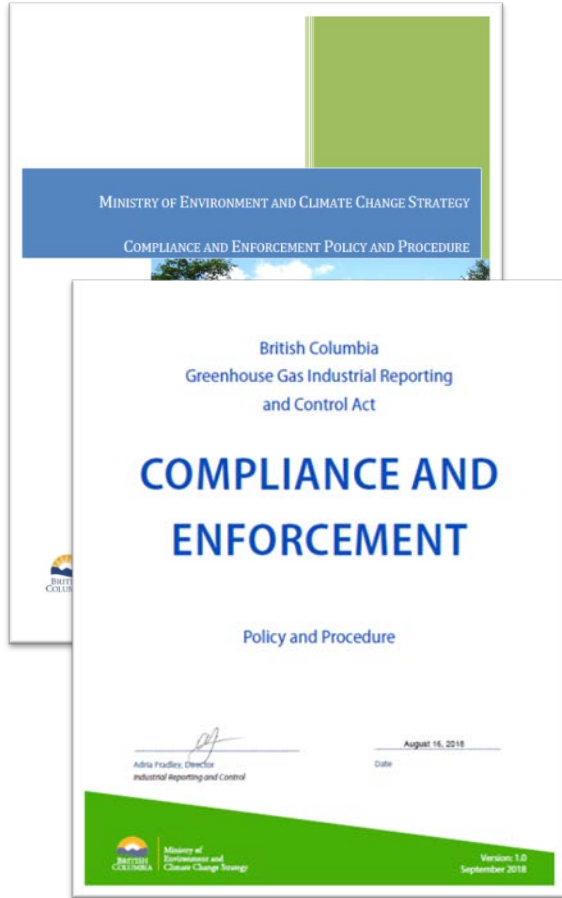
ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5

DIMINISHING LIKELIHOOD OF COMPLIANCE (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)	CATEGORY A (HIGH)
	CATEGORY B
	CATEGORY C
	CATEGORY D
	CATEGORY E (LOW)

IMPACT ASSESSMENT (GGIRCA)
Assessed as Level 1 or Level 2 in consideration of:

- Nature and extent of the non-compliance;
- Scale of the reporting operation in terms of quantity and source type of emissions;
- Number and size of facilities held or directed;
- Level of assurance in verification statement

Non-Compliance Decision Matrix



ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5

DIMINISHING LIKELIHOOD OF COMPLIANCE
 (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)

CATEGORY
A
(HIGH)

CATEGORY
B

CATEGORY
C

CATEGORY
D

CATEGORY
E
(LOW)

LIKELIHOOD OF COMPLIANCE

Assessed as Category A to E in consideration of:

- any related history of non-compliance;
- the person's willingness to co-operate with officials;
- evidence of corrective action already taken; and

Non-Compliance Decision Matrix

		ESCALATING ENVIRONMENTAL, HUMAN HEALTH OR SAFETY (ACTUAL OR POTENTIAL)				
		LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5
DIMINISHING LIKELIHOOD OF COMPLIANCE (COMPLIANCE HISTORY/WILLINGNESS AND CAPACITY TO COMPLY)	CATEGORY A (HIGH)	ADVISORY	ADVISORY - WARNING	<p style="text-align: center;">INVESTIGATION</p> <p><i>NOTE: Increasing significance of real or potential impacts and diminishing likelihood of compliance warrant the full investigative process (referral to COS). The outcome of the investigation may still be a lower level response, but if the process uncovers more than expected, prosecutorial tools will be available.</i></p> <p><i>Violation tickets, restorative justice and prosecution are additional enforcement tools that are not listed on the matrix because they would be selected after an investigation occurs.</i></p>		
	CATEGORY B	ADVISORY - WARNING	WARNING - ADMIN PENALTY			
	CATEGORY C	WARNING - ADMIN PENALTY	WARNING - ORDER - -			
		WARNING - ORDER - ADMIN SANCTION - ADMIN PENALTY	ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION			
	CATEGORY D	ORDER - ADMIN SANCTION - ADMIN PENALTY - INVESTIGATION				
CATEGORY E (LOW)						

Enforcement Responses

ADVISORY

- Legal notice
- Noted in compliance history of operator
- First response to non-compliance
- May list actions that you must take



Enforcement Responses

WARNING

- Warns of the possibility of an escalating response should non-compliance continue



Enforcement Responses

ADMINISTRATIVE PENALTY

- Monetary penalty
- Imposed in accordance with the *Greenhouse Gas Emission Administrative Penalty and Appeals Regulation*



Enforcement Responses

ADMINISTRATIVE PENALTY (PROCESS)

- Compliance assessment
- Determine penalty amount
- Notification of intent
- Opportunity to be heard
- Director's decision
- Appeal process (EAB)
- Penalty applied



Enforcement Responses

PROSECUTORIAL RESPONSES

- Investigation referral to Conservation Officer Service (COS)
- Initiation of formal charges by Crown Counsel in the exercise of their discretion



Enforcement Responses

PUBLIC REPORTING OF ENFORCEMENT ACTIONS

- Administrative penalties may be published in Quarterly Environmental Enforcement Summary
- Published since 2006

Recent Enforcement Actions

Late Submissions

- Inspection to determine if emission reports and/or verification statements were submitted by May 31 deadline.
 - 16 advisories and 1 warning issued

Resources

- [GGIRCA Compliance Framework:](https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/compliance-framework)
<https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/compliance-framework>



Ministry of
Environment and
Climate Change Strategy

Offset Program and Protocols

Industrial Reporting and Control Workshop

November 14, 2018



Ministry of
Environment and
Climate Change Strategy

Overview

- Session Objectives
- BC Offset Program Overview
- BC Offsets at a Glance
- Registry Updates
- BC Carbon Offset Program Updates
- Tips and Resources

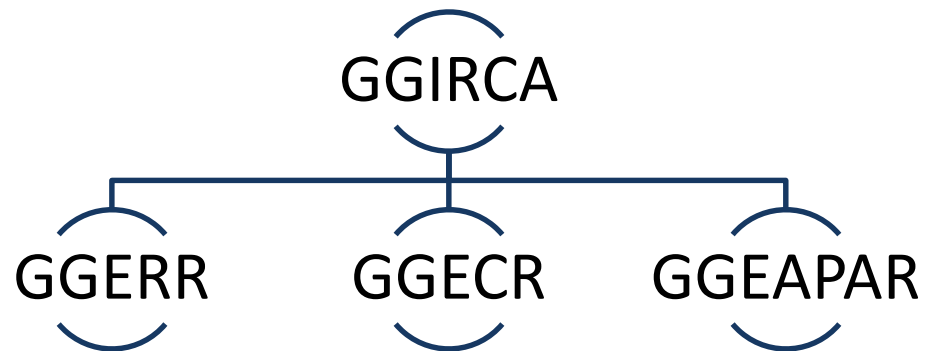
Session Objectives

1. To review BC's offset program and yearly activities
2. To inform offset stakeholders of regulatory processes, requirements and changes; and
3. To update stakeholders on the status of protocol development

BC Carbon Offset Program Overview

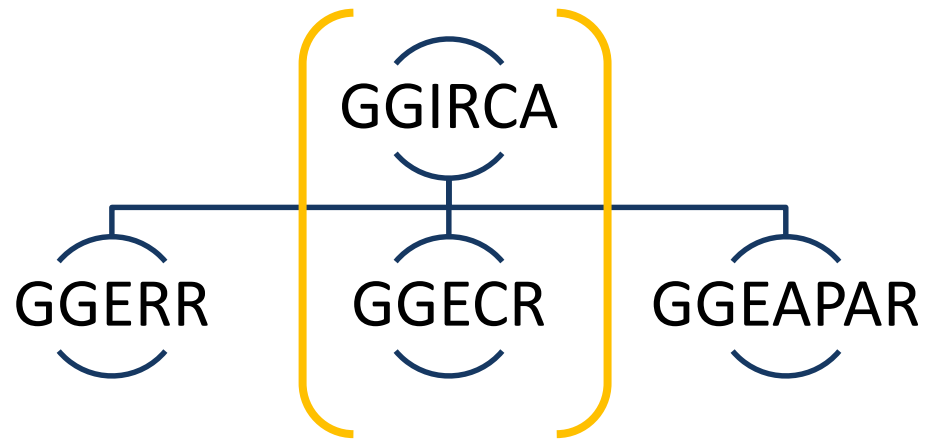
2016 enactment of:

- 1) The Greenhouse Gas Industrial Reporting and Control Act (GGIRCA)
- 2) The Greenhouse Gas Emissions Reporting Regulation (GGERR)
- 3) Greenhouse Gas Emissions and Control Regulation (GGECCR);
and
- 4) The Greenhouse Gas Emissions and Administrative Penalties and Appeals Regulation (GGEAPAR)



BC Carbon Offset Program Overview

Offset projects **must meet approved protocol requirements and criteria established in the GGIRCA and GGEOCR.**

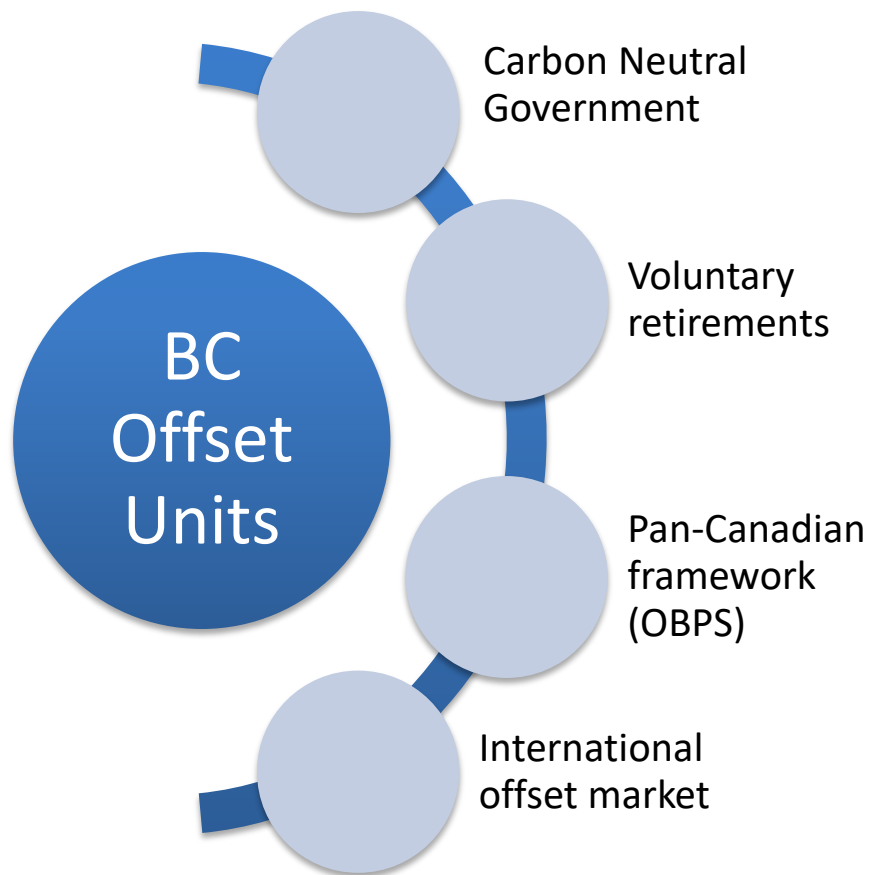


BC Carbon Offset Program Overview

Offset units may be credited for **verified** project activities **located in BC** involving the:

1. Reduction of greenhouse gas (GHG) emissions into the atmosphere; and/or
2. Removal of GHG emissions from the atmosphere

BC Offset Program Overview



BC's Carbon Offset Program drives:

- 1) GHG emission reductions; and
- 2) A Low-carbon economy

2018 BC Offsets at a Glance

January 1-October 31, 2018

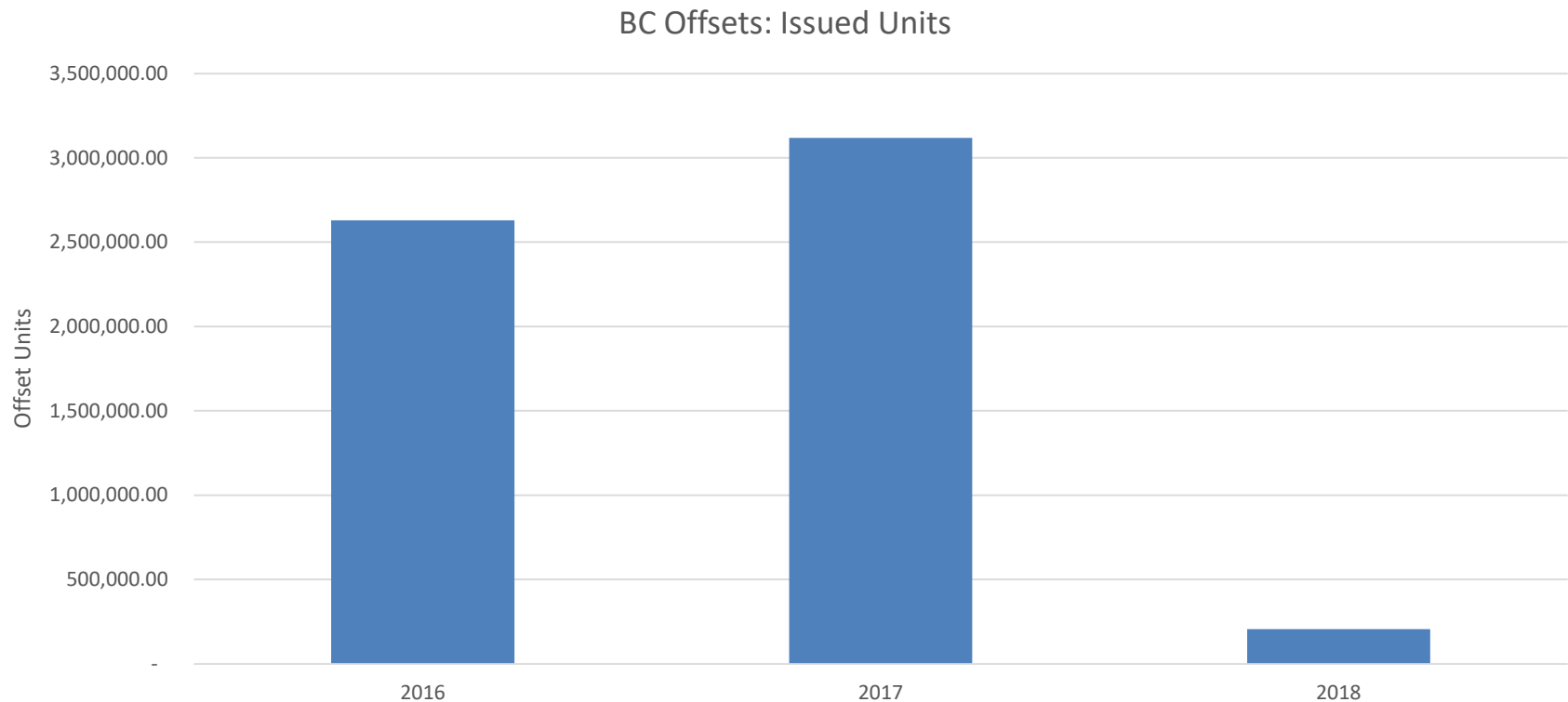
System activity	Number of Projects	Number of Offset Units (tCO ₂ e)
Issuances	12	205,507
Retirement: Carbon Neutral Government*	16	676,600
Retirement: Voluntary	8	9,827

** Retired to offset 2017 calendar year corporate emissions*

January-October 2018 Issuance Reviews

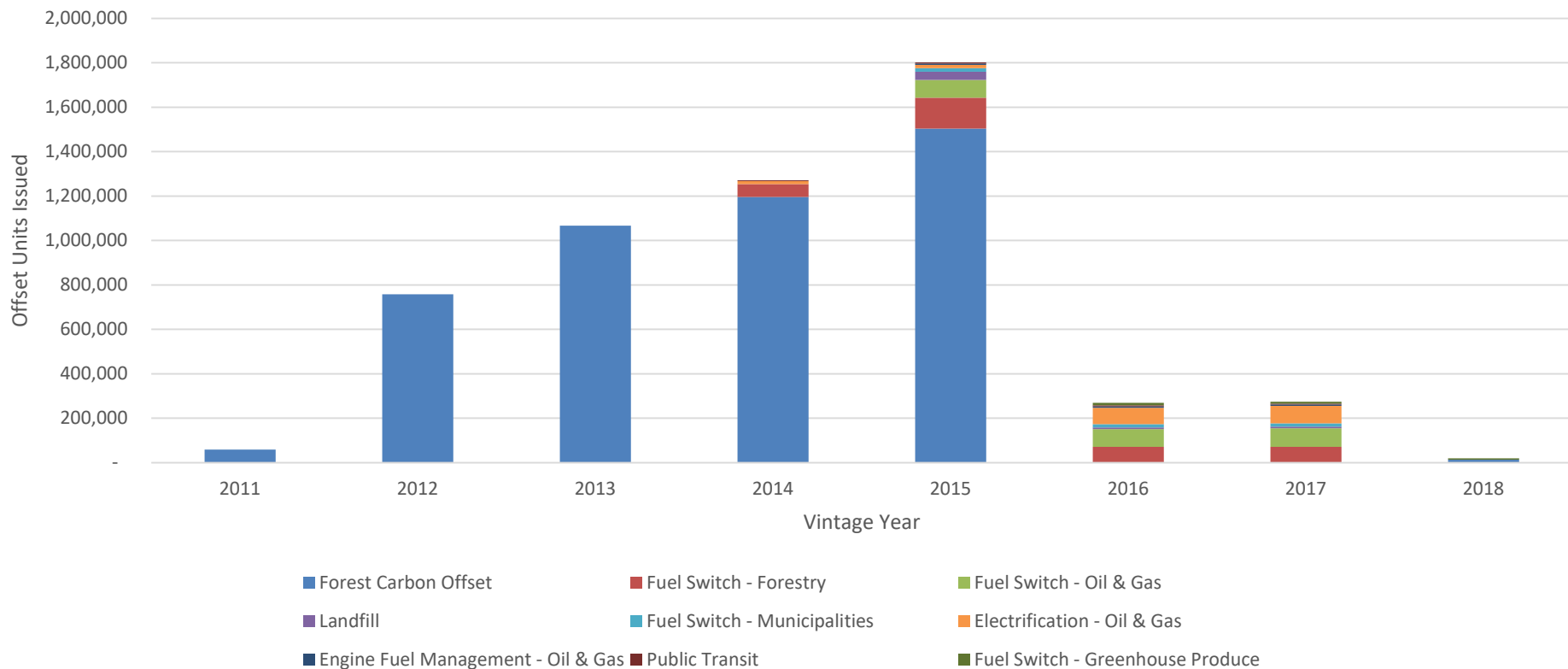
- Mean review time for issuance requests: 24 days
- 66% of issuance requests in 2018 required some type of revision

BCCR Issuances: 2016-2018



BCCR Issuances: 2011-2018 Vintage Years

BCCR Historic Issuances by Project Type



What's new?

BC Carbon Registry



New URL for the BC Carbon Registry:

- <https://carbonregistry.gov.bc.ca/br-reg/public/bc/home.jsp#/login>

What's new?

BC Carbon Registry

A horizontal banner featuring the text 'BC Carbon Registry' on the left. The background of the banner is a stylized illustration of the British Columbia flag (a blue field with a white and red vertical stripe) and a yellow and green field with a white and red vertical stripe, set against a landscape of hills and a sunset sky.

New and anticipated functionalities on the Registry

– IHS Markit Blockchain (Distributed Ledger) Pilot

What's new?

BC Carbon Registry

A banner featuring the text "BC Carbon Registry" on the left. The background of the banner is a scenic landscape with a British Columbia flag (blue and white stripes with a red vertical stripe) and yellow grass in the foreground, set against a sunset or sunrise sky over a body of water.

New functionalities on the Registry:

- General Participant account (Summer 2018)
- Sub-account (Summer 2018)

IHS Markit Blockchain Pilot

BC Carbon Registry

A banner for the BC Carbon Registry featuring the British Columbia flag (a blue field with a white and red vertical stripe and a yellow sunburst) and a stylized yellow and green leaf design.

Uses complex math (cryptography) to timestamp and verify offsets transactions privately and securely to:

- Prevent double-counting of voluntary offset units
- Improve voluntary offset data collection and analysis

IHS Markit Blockchain Pilot

BC Carbon Registry

The image shows the British Columbia flag, which features a blue field with a white and red vertical stripe, and a yellow and white wavy pattern at the bottom. The flag is set against a background of a sunset or sunrise over a body of water.

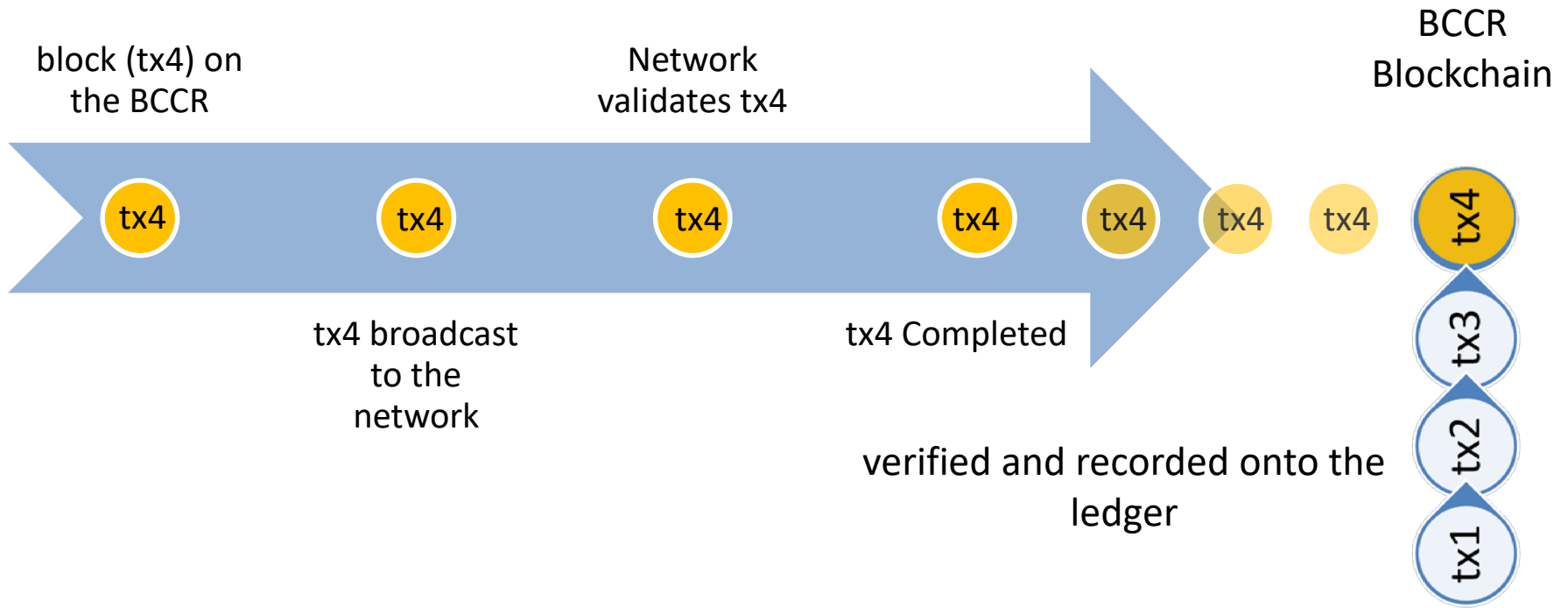
- Improves registry usability; and,
 - e.g., direct voluntary retirement on the BCCR, shorter processing times, better user-design and user-interface
- Facilitates potential interoperability with other, future registries
 - e.g.: Pan-Canadian Framework's OBPS

IHS Markit BCCR Blockchain Pilot: What is a blockchain?

A bundle of
voluntary offset
retirements placed
into a “block”



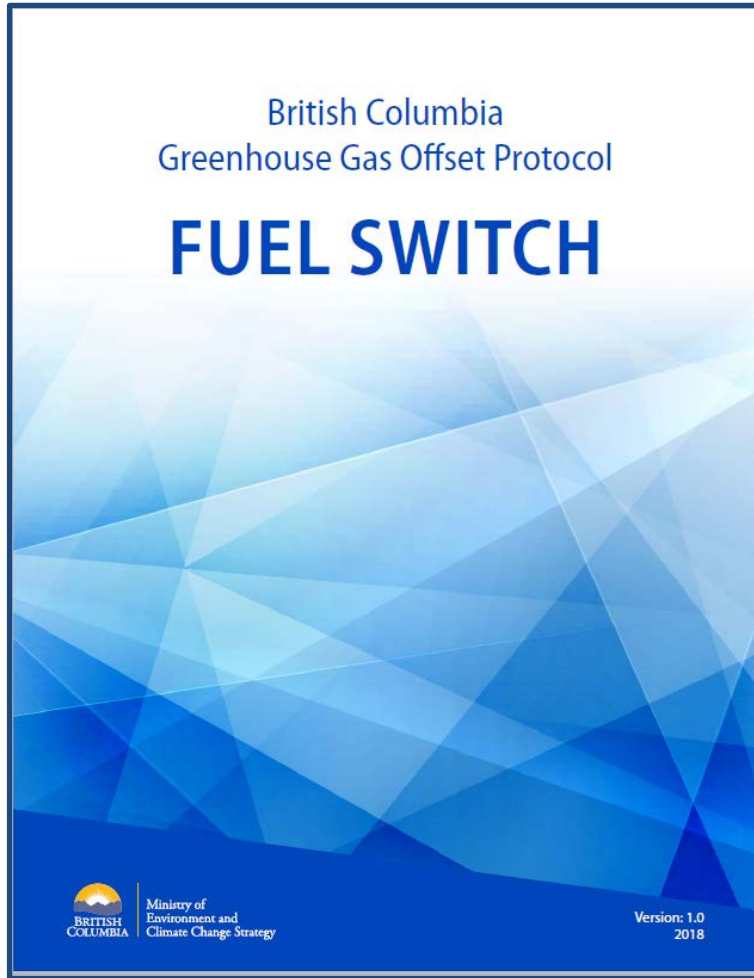
IHS Markit BCCR Blockchain Pilot: What is a blockchain?



BC Offset Program Updates

- New Project Acceptance Templates (August 2018):
 - Project Plan
 - Validation Statement
- Revised Issuance Templates (Winter 2019):
 - Project Report
 - Verification Statement

Protocol Updates



Approved on August 16, 2018;

Establishes mandatory requirements to carry out emission reduction projects resulting from fuel switching activities in BC.

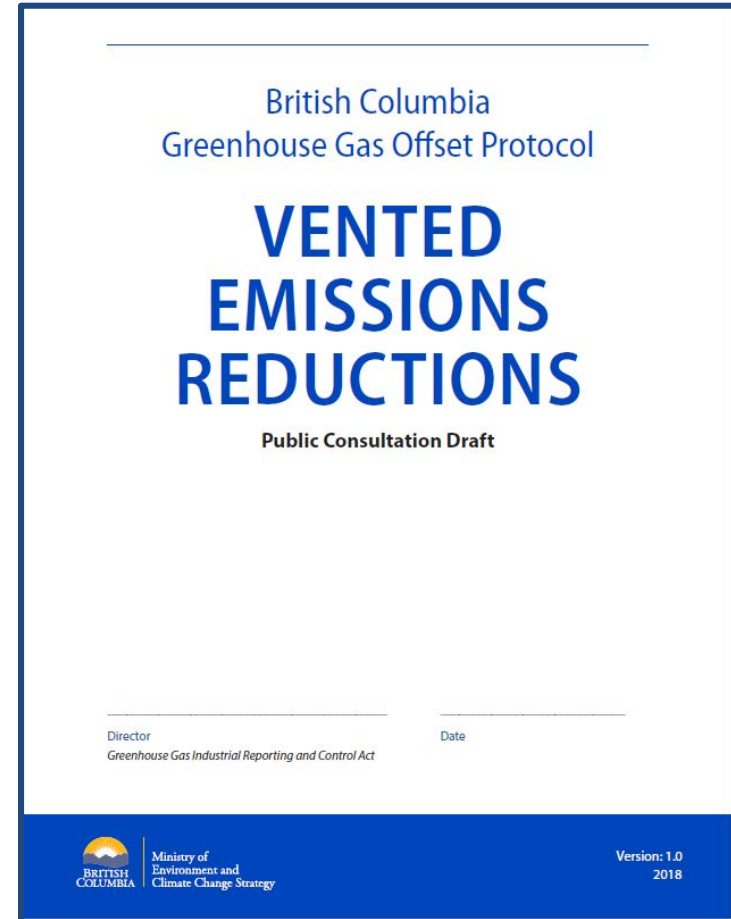
First Protocol approved under GGIRCA.

Protocol Updates

Public review period:
August 27-October 27,
2018

Feedback themes include
suggestions to clarify:

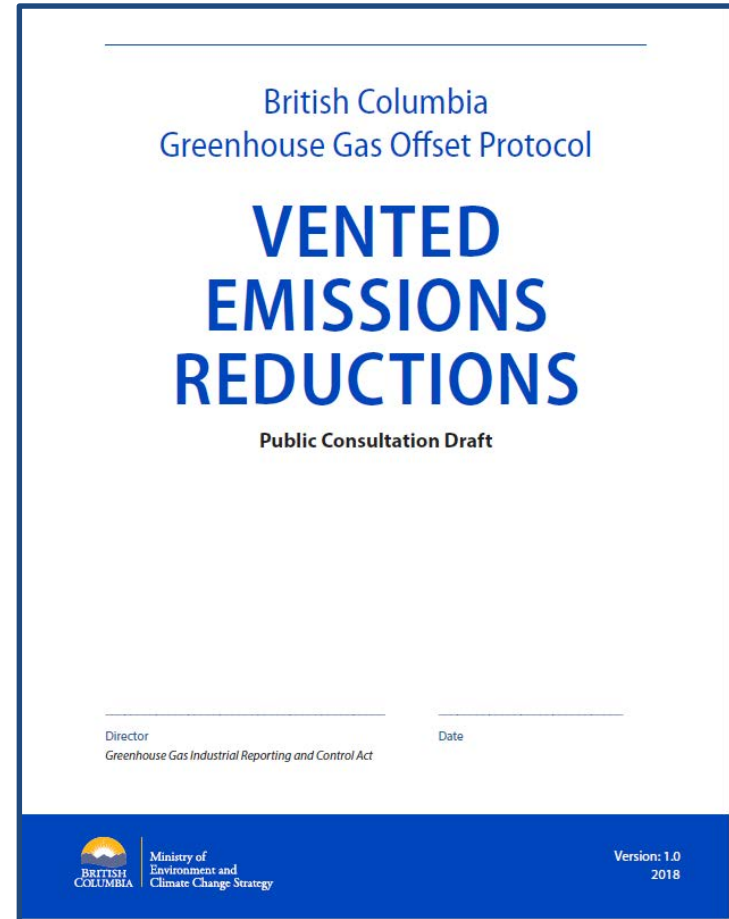
- Eligibility
- End date (2022)
- Terminology



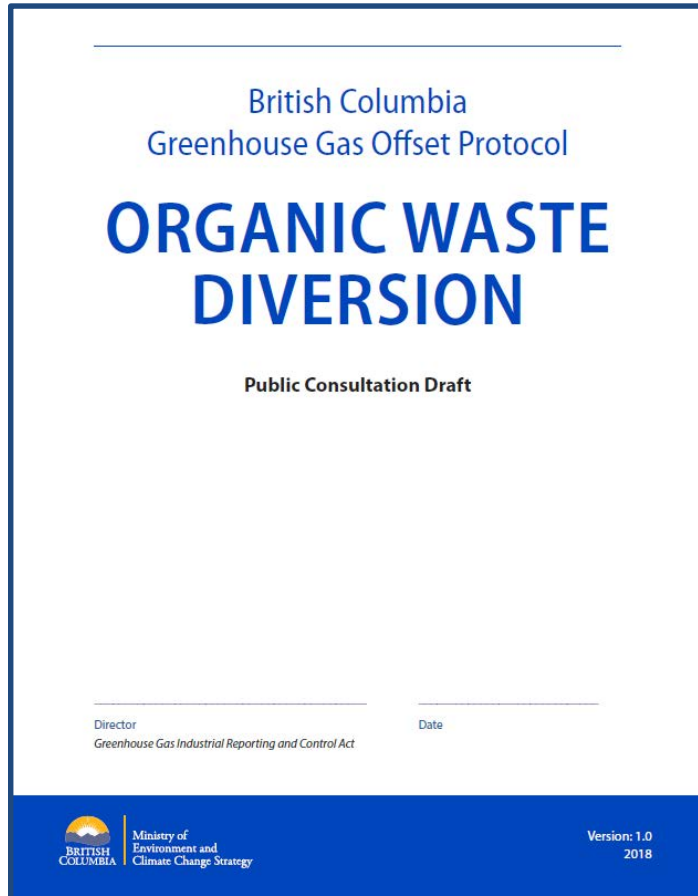
Protocol Updates

Next steps:

- Finalize Protocol for Approval (end of 2018)
- Publish online (Winter 2019)



Protocol Updates



Public review period:
August 27-October 27,
2018

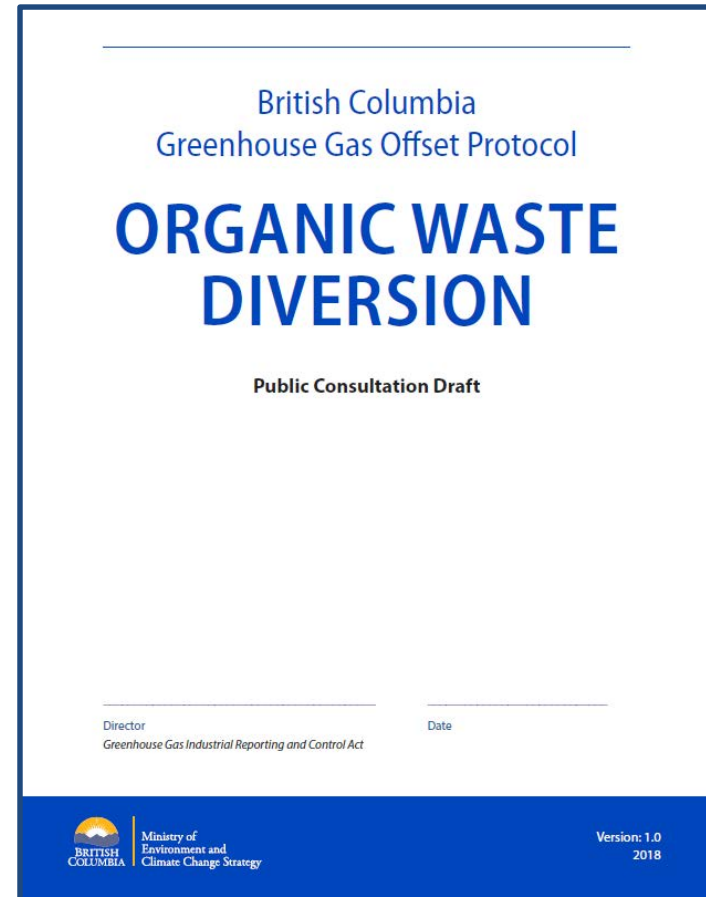
Feedback themes surround:

- Alignment with other regulations
- Mobile sources
- Start date
- Yard waste

Protocol Updates

Next steps:

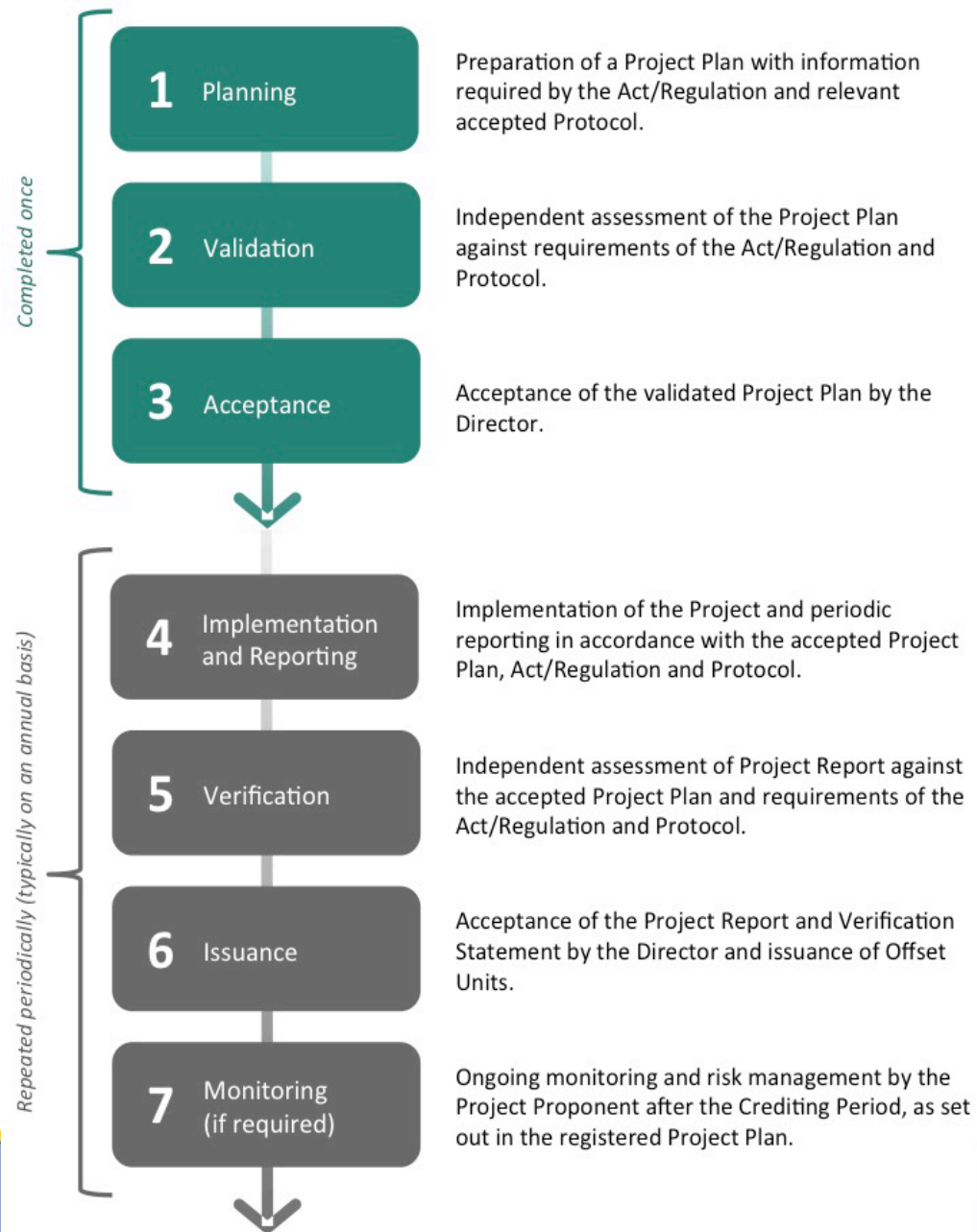
- Finalize Protocol for Approval (end of 2018)
- Post online (Winter 2019)



Protocols under Development

Protocol	Anticipated public consultation period
Anaerobic Digestion for Wastewater Treatment and Manure Management	Winter 2019
Landfill Gas	Winter 2019
Forest Carbon	Summer 2019
Low Carbon Intensity Concrete	Summer 2019
Industrial Carbon Capture and Sequestration	Fall 2019
Green Buildings	Winter 2020

BC Carbon Offset Application Procedures



Offset Review Time Period

(Based on receipt of complete documentation)

Activity	Anticipated Review Time*
New project acceptance	40 business days
Offset issuance**	40 business days (30 for IRC + 10 for CIB)
Voluntary retirement of offset units	15 business days

**Business days are Monday to Friday, excluding statutory holidays*

***Review time for rejected applications paused*

Issuance Process Tips: Common Issues

Document control – Naming convention errors

*Naming errors **will** result in a rejected application and delay offset unit issuance*

If Project Report is V1.2, then Verification Statement should also be V1.2

Issuance Process Tips: Common Issues

- Project Plan Deviations
 - Any deviations from estimated program activities need to be documented during the reporting period in clear and simple terms

Proponents need to justify discrepancies between actual emission reductions for a reporting period and reductions estimated in the Project Plan

Issuance Process Tips: Reminders

- Review and follow the template instructions (blue text)
- Ensure that you explain any project plan deviations in clear and simple terms
 - (ISO 14064-2 and quantification of offsets)
- Proofread the reports for errors or omissions
 - (ISO 14064-3 and professional care)
- Contact GHGRegulator@gov.bc.ca for project-specific questions

Resources

- Greenhouse Gas Emission Offset Projects

Website:

<https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/offset-projects>

- Protocol Consultation:

<https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/offset-projects/consultation>

Contact

Please direct all enquiries to
GHGRegulator@gov.bc.ca

Questions?

