

# TIER Conventional Oil and Gas

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Technology Innovation and  
Emission Reduction Regulation

Alberta Environment and Parks

November 2019



# Presentation Outline

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Alberta & Federal  
Context



Offset Interaction



TIER System  
Overview



Application and  
Exemption Process



Conventional Oil &  
Gas Treatment



Next Steps and  
Important Dates



# Alberta & Federal Context



## Climate Policy in Alberta



# Federal context

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- On June 21, 2018 federal government enacted the *Greenhouse Gas Pollution Pricing Act* (GGPPA).
- Two Components:
  - 1) An output-based pricing system to regulate greenhouse gas emissions (GHGs) from large industrial facilities (>50kt GHG)
  - 2) A regulatory charge on fuel (the carbon tax) applied to fuel producers and distributors.
- Federal government will apply the federal carbon pricing systems in provinces and territories where no provincial or territorial pricing system exists or where the system in place does not meet federal standards.



# Federal context

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- The federal pricing systems have already been applied in several jurisdictions:
  - Manitoba, New Brunswick, Nunavut, Ontario, Prince Edward Island, Saskatchewan and Yukon.
- When Alberta's carbon tax was repealed (May 2019) the federal government decided to apply the Federal Fuel Charge in Alberta starting January 1, 2020.
  - Federal fuel charge does not have an exemption for conventional oil and gas. The fuel charge does not apply to vented gas.
- First and foremost, the Government of Alberta is challenging the constitutionality of the federal carbon pricing system in court.



# Federal context

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- The federal fuel charge applies to fuel producers and distributors on 21 types of fuel and combustible waste, including:
  - Marketable Natural Gas (5.87 cents per cubic metre in 2020)
  - Non-marketable Natural Gas (7.76 cents per cubic metre in 2020)
  - Gas liquids (4.99 cents per litre in 2020)
  - Gasoline (6.63 cents per litre in 2020)
  - Heavy Fuel Oil (9.56 cents per litre in 2020)
  - Light Fuel Oil (8.05 cents per litre in 2020)
- Complete list of fuels and charges available on the Canada Revenue Agency website.
- Rates will increase each April due to federal carbon price increasing to \$30 per tonne in 2020, \$40/tonne in 2021 and \$50 per tonne in 2022.



# TIER System Overview

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# Overview and Context

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- Government of Alberta began developing a new provincial system for regulating GHGs from industrial facilities in Spring 2019, the Technology Innovation and Emissions Reduction (TIER) system.
- TIER, released October 29, 2019, comes into effect January 1, 2020.
- Principals:
  - Effectively reduces greenhouse gas emissions.
  - Reassures investors.
  - Safeguards Alberta industry competitiveness
  - Maintain provincial jurisdiction over the regulation of industrial emissions.



# Historical Context



Province of Alberta

CLIMATE CHANGE AND EMISSIONS  
MANAGEMENT ACT

**SPECIFIED GAS EMITTERS  
REGULATION**

**SGER 2007**

- Large Emitters Only
- Facility Specific Reduction Targets
- No economy wide carbon price
- COGs below threshold



Province of Alberta

CLIMATE CHANGE AND EMISSIONS  
MANAGEMENT ACT

**CARBON COMPETITIVENESS  
INCENTIVE REGULATION**

**CCIR 2018**

- Large Emitters & Opted-In Facilities
- OBAs
- Alberta Carbon Levy
- COGs levy exemption until 2023



Province of Alberta

CLIMATE CHANGE AND EMISSIONS  
MANAGEMENT ACT

**TECHNOLOGY INNOVATION AND  
EMISSIONS REDUCTION REGULATION**

**TIER 2020**

- Large Emitters, Opted-In, & Aggregate Facilities
- FSBs & HPBs
- COGs may participate



# TIER Overview

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- Applies to large industrial greenhouse gas emitting facilities
  - Facilities emitting 100,000 tonnes CO<sub>2</sub>e or more per year
  - Ability for facilities below the threshold to voluntarily opt-in
- Emissions requirements
  - Based on the least stringent of two benchmark approaches.
- Electricity Generators
  - “Good-as-best-gas” emissions intensity benchmark
  - 0.37 tonnes CO<sub>2</sub>e per MWh



# Facilities

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- Regulation covers three kinds of facilities
  - Large emitters – facilities with emissions over 100,000 tonnes (mandatory inclusion).
  - Opted-in facilities – facilities under 100,000 tonnes which have applied to enter the regulation as an individual facility. Regulatory approach the same as large emitters (voluntary inclusion). Facilities may opt back out of the regulation in a subsequent year.
  - Aggregate facilities – made up of 2 or more small “conventional oil and gas” facilities. Different regulatory approach than Large emitters or opted-in facilities (voluntary inclusion).



# Benchmarks (Regulated Emissions Requirements)

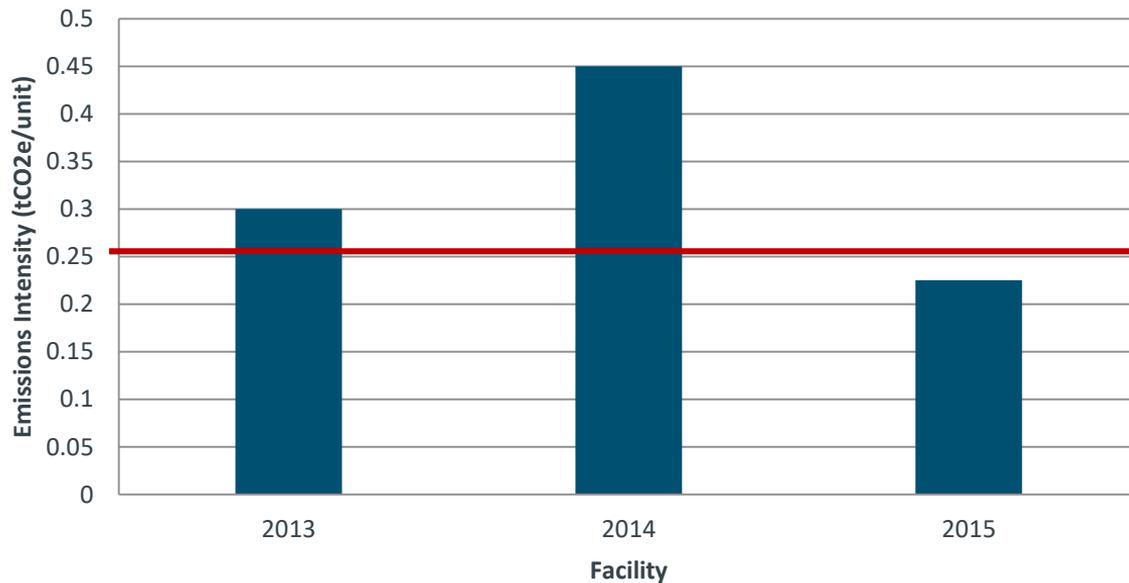
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- Intensity based approach where emissions requirements scale with production (tonnes of GHGs per unit of production).
- Regulation uses two main kinds of benchmarks to set emissions requirements:
  - Facility specific benchmarks – based on the historic emissions performance and production of a facility over three years.
    - Emissions intensity target starts at 90% in 2020 (requiring 10% reduction). Stringency increases by 1% annually starting in 2021.
  - High performance benchmarks – based on best performing facility or facilities in the sector.
- Regulated facilities are subject to the least stringent of the two benchmarks.



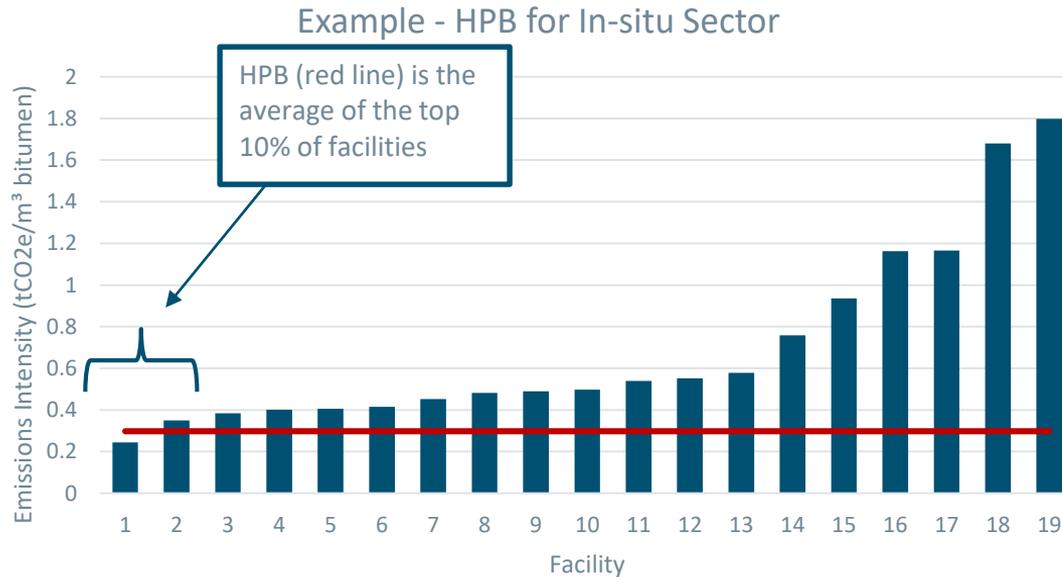
# Facility-Specific Benchmarks

## Facility-Specific Benchmark





# High Performance Benchmarks



\*HPB may be reviewed & updated prior to formal review period.



# Reduction Requirement

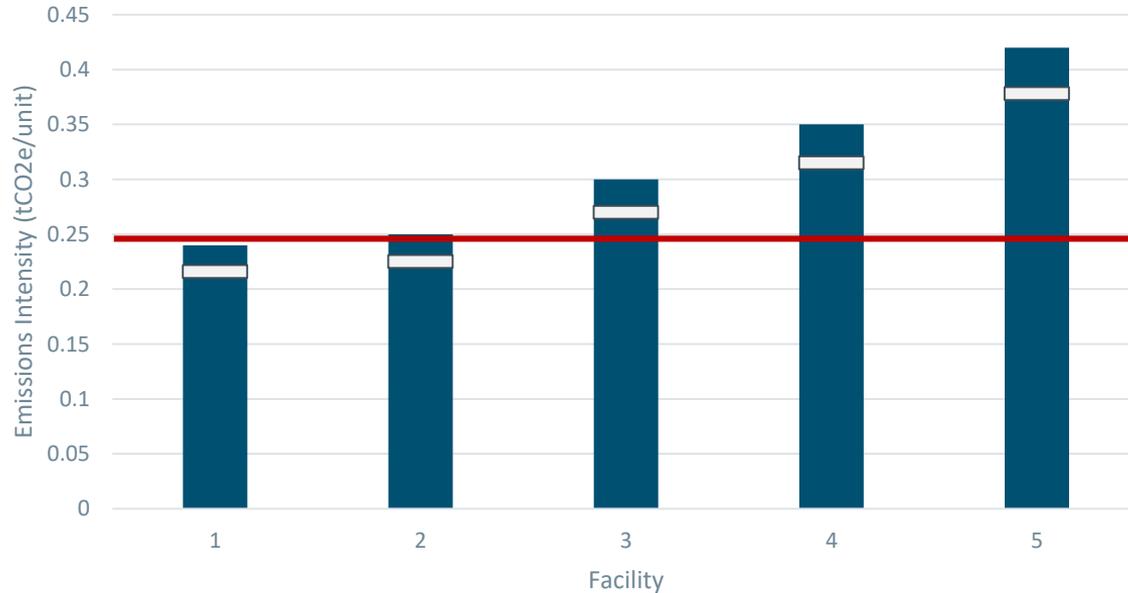
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- The reduction requirement for a compliance year is determined by multiplying production by the greater (or less stringent) of the high performance benchmark or the facility specific benchmark.
- For a facility specific benchmark, if the emissions and production were the same in a compliance year as the benchmark period, the reduction requirement would be 10% of total regulated emissions (90% of emissions freely allocated).
- For a high performance benchmark, if emissions and production were the same in a compliance year as the benchmark period, the facility would not be subject to a reduction requirement.



# Reduction Requirement

Example – FSB vs. HPB (Hypothetical Sector)





# True-up Obligation

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- True-up obligation is the difference between total regulated emissions and allowable emissions for the compliance year.
- Where total regulated emissions are greater than allowable emissions there is a true-up obligation that may be met in a number of ways.
- Where total regulated emissions are lower than allowed emission Emissions Performance Credits are generated.



# Methods of Compliance

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- Where total regulated emissions in a compliance year are greater than allowable emissions
  - Fund payments can be made at the rate of \$30/tonne for 2020
  - Emission offset credits can be obtained and retired
  - Emission performance credits can be obtained and retired
- Credit usage
  - Total usage of credits cannot exceed 60% of tonnes owed
  - Usage of pre-2017 credit cannot exceed 40% of tonnes owed
  - Credits have an expiry schedule



# Reporting Requirements

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- Annual compliance reports must be submitted for each facility and facility aggregate following each compliance year.
  - Deadline: June 30 of the following year.
- Facilities emitting greater than 1,000,000 tonnes CO<sub>2</sub>e per year required to submit annual forecast of emissions, production, and credit usage.
- Compliance reports must be verified by a qualified third-party assurance provider prior to submission.
  - Hired by the reporting entity.



# Review Period

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- Establish formal policy review three years after initial implementation (to be completed by January 1, 2023).
- Subsequent reviews to occur at five-year intervals from first review.
- Review items: HPBs, stringency, tightening rate, fund price, and compliance, reporting and assurance requirements.



# Conventional Oil and Gas



The Aggregate Facility Approach



# Conventional Oil and Gas

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- Objective: Provide options to protect conventional oil & gas from the Federal Fuel Charge.
- Allow voluntary entry into TIER system so sector can avoid federal fuel charge.
  - TIER is designed to meet federal requirements and protect regulated facilities from the GGPPA.
  - Similar approach taken in Saskatchewan.
- Reduce compliance cost burden relative to the federal fuel charge while still meeting federal requirements.



# Conventional Oil and Gas

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- Conventional oil & gas facilities below the 100,000 tonne threshold may apply to opt in to TIER or may apply to be designated as an aggregate.
  - Aggregates, and the individual facilities within them, may leave regulation in a subsequent year.
- Emission intensity reduction requirement of 10% for 2020 (rolling facility-specific benchmark approach).
  - Aggregate facilities are not subject to annual 1% stringency tightening.
- Emissions include stationary fuel combustion emissions only and no other emissions from other source categories
- Product-specific HPBs implemented January 2021, facilities subject to least stringent of FSB or HPB.



# Conventional Oil and Gas Facility

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“...(k) “conventional oil and gas facility” means

(i) a facility for extracting, from an underground geological deposit or reservoir, gas, oil or primary bitumen,

(ii) a facility for processing gas,

(iii) a facility for the primary processing of oil or primary bitumen,

(iv) a facility for disposing of waste, in an underground geological formation, resulting from an activity described in subclauses (i) to (iii),

(v) a facility for transporting, in a pipeline, gas, oil or primary bitumen, but does not include

(A) any facility that constitutes a distribution system for the distribution of gas within a community to ultimate consumers, or

(B) any facility for transporting oil, gas or primary bitumen across a provincial or international border,

or

(vi) a facility for storing gas, oil or primary bitumen in the course of the gas, oil or primary bitumen being transported by a facility included in the definition in subclause (v)...“Alberta”



# Aggregate Facility Approach

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- Any number of two or more conventional oil and gas facilities under a single person responsible.
- Rationale:
  - Many thousands of facilities in the sector. Individual company may be responsible for tens, hundreds or thousands.
  - Aggregation of multiple facilities streamlines the requirements and costs of reporting and compliance under TIER.
- Single benchmark and compliance report for entire aggregate rather than one for each individual facility.



# Compliance Period

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- Regulation is an annual scheme:
  - Compliance periods cover an entire calendar year (no partial year compliance).
  - An aggregate is fixed for the entire year but may be updated for the following year.
  - The person responsible for the aggregate at the beginning of the compliance year (January 1) is the person responsible for the whole compliance year.



# Total regulated emissions

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- For aggregate facilities total regulated emissions are only emissions from stationary fuel combustion (SFC).
  - Only SFC emissions are used to establish the benchmark and are used in calculating the annual emissions requirement.

$$TRE_{AGG} = E_{SFC} + ECO_2A$$

- This is a narrower scope than emissions covered for large emitters or opted in facilities.



# Benchmark Application

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- Aggregate facilities will have to submit a facility specific benchmark application for the aggregate
  - Must be submitted before Sept 1, 2020
  - Must be third party verified
  - Will include emissions and production data for 2019 by conventional oil and gas facility
  - Forms will be supplied on the TIER website for this purpose.



# Benchmark Reference Years

- FSB Benchmarks for aggregates are set according to reference years:

Compliance Year	Reference Years	Benchmark
2020	2019	90% of average emissions intensity in 2019.
2021	2019, 2020	90% of average emissions intensity for 2019-20.
2022	2019, 2020, 2021	90% of average emissions intensity for 2019-21.
2023-onwards	2019, 2020, 2021	90% of average emissions intensity for 2019-21.



# Modifying or Revoking an Aggregate

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- An aggregate facility may be modified in subsequent years.
  - May apply to add an individual facility to an existing aggregate
    - Deadline to apply is December 1 of the year prior to the year the change is intended to take effect.
  - May remove an individual facility from an aggregate
    - Not applicable for 2020.
    - Deadline is December 1 of the year prior for 2021-onwards.
  - May apply to revoke/dissolve an aggregate entirely
    - Deadline is December 1 of the year prior for 2021-onwards.



# Ongoing Development

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- Additional emission quantification options for 2019
  - We are looking at making available some simplified but conservative quantification options for the 2019 baseline year.
- Standard Product
  - A Petrinex based production metric that will work for most aggregates.
- High Performance Benchmark
  - One or more high performance benchmarks available beginning in 2021.
- Benchmark application and compliance forms
  - Program forms still to be developed



# Offset Interaction





# Offset system

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- TIER allows for offsets to be generated and used for compliance purposes (as did previous regulations)
  - Conventional oil and gas facilities have had a number of reduction activities recognized under the offset system.
  - Project types such as methane reduction from pneumatics replacement can continue if the facilities are designated as an aggregate facility
    - This is because these venting emissions are not included in total regulated emissions
  - Projects types where reductions relate to stationary fuel combustion may not continue to credit after 2019.



# Offset system

Activity	Location of Activity	
	Aggregate or not Regulated	LE or opt-in
Capture for CCS	Offset at injection	Offset at injection
Oil recover by CO2 EOR	Offset	Compliance calc
Distributed Renewable Electricity/Waste Heat Recovery	Offset (unless displacing stationary fuel at aggregate, export)	Compliance calc
Pneumatics	Offset	Compliance calc
Engine Fuel Management and Vent Gas Capture	Vent Gas -> Offset Engine Fuel -> Compliance calc	Compliance calc
Solution Gas Conservation	Offset	Compliance calc



## Other methane rules

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- All regulated facilities under TIER remain subject to any provincial or federal methane rules or requirements which may apply
- For large emitters or opted in facilities where methane emissions are generally included in total regulated emissions, methane reduction projects will lower the compliance required under TIER.



# Application and Exemption Process

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# Group petrinex sites to facilities

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- Under the regulation a facility is:
  - a plant, structure, thing or site, or
    - (ii) any 2 or more contiguous or adjacent plants, structures, things or sites
      - (A) that are operated and function in an integrated fashion, and
      - (B) for which the same person is the person responsible,
        - where one or more activities listed in any of sections 2 to 11 of the Schedule of Activities to the *Environmental Protection and Enhancement Act* occur, including all the buildings, equipment, structures, machinery and vehicles that are part of the activity or activities;
- Where they operate in an integrated fashion multiple petrinex ids should be considered as



## Asses your options

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- Individual conventional oil and gas facilities with emissions less than 100,000 tonnes have three options
  - Do not enter TIER and pay the fuel charge – this may be best for facilities with very little fuel consumption
  - Opt-in to TIER as a single facility – this may be a preferred option for sites with CO2 enhanced oil recovery projects
  - Apply to enter along with other conventional oil and gas facilities as an aggregate – this is the general approach designed for conventional oil and gas to minimize costs



# Applying

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- If applying to opt-in an individual conventional oil and gas facility the materials are available here <https://www.alberta.ca/technology-innovation-and-emissions-reduction-regulation.aspx#toc-2>
  - Send any questions to AEP.GHG@gov.ab.ca
- Applying for designation as an Aggregate
  - <https://www.alberta.ca/conventional-oil-and-gas.aspx#toc-2>
  - Send any questions to AEP.GHG@gov.ab.ca



# Applying - Aggregate

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- Aggregate applications have two parts
  - Aggregate application form
  - Collection of facility boundary files – all facilities with emissions greater than 10,000 tonnes in 2018 will need to submit a boundary file along with the application (one file per facility)
  - Instructions on how to create a boundary file using Google Earth are provided here  
<https://www.alberta.ca/assets/documents/ep-tierr-facility-boundary-file-instructions.pdf>



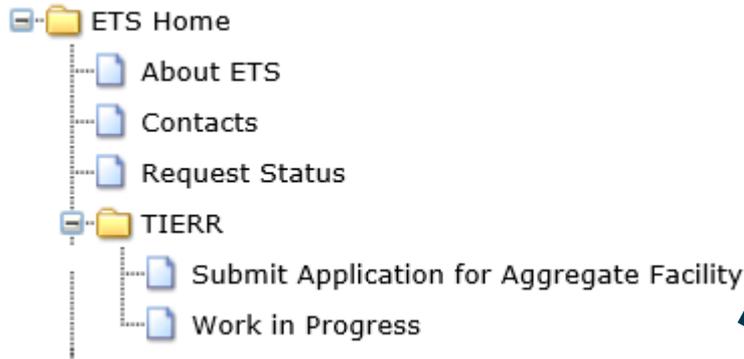
# Applying - Aggregate

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- Aggregate application form
  - <https://www.alberta.ca/assets/documents/ep-aggregate-application-form.xlsx>
  - Can be used to apply for one or more designation as aggregates.
  - Needs to be filled to be completed then signed by a company official before submission.



# Applying – Aggregate Submission



- Submission through ETS (Electronic Transfer System)
- If you do not have this menu item please consult your company's ETS administrator.

- The TIERR tree node has menu items to Submit Application for Aggregate Facility and to access Work in Progress.

**Technology Innovation and Emissions Reduction Regulation**

NOTE: Submissions made after 4:30 PM will be processed on the next business day.

**Comment:**

**Form Type:** Aggregation

**Form:**

**Please add supporting documentation here**

**Filename:**



# Application Review

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- Submission will be reviewed and you will receive:
  - An approval
  - A rejection
  - A request for information or correction and resubmission
- A status update could take up to 10 business days
- Designation will not be finalized until the federal fuel charge exemption process is final.



## After Designation

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- We will provide further information with your designation about what your next steps should be under the federal process.



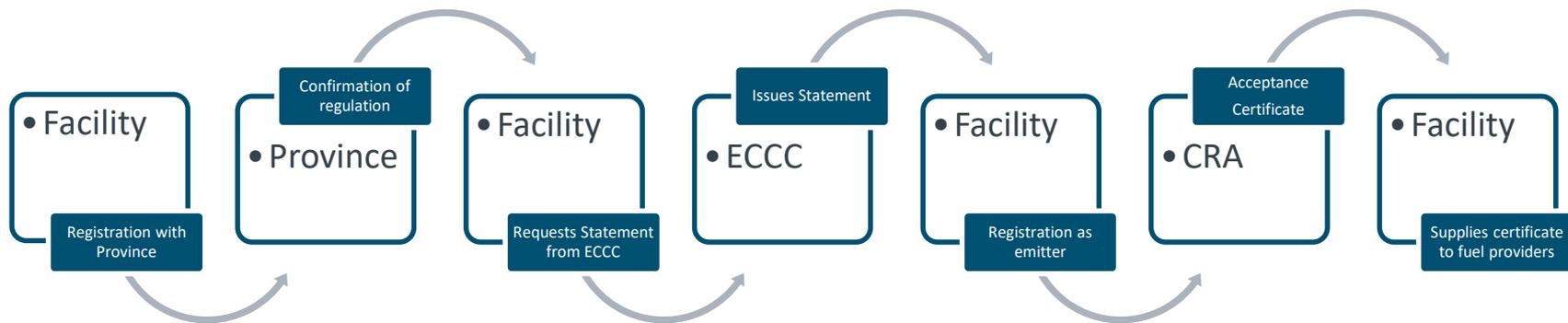
## After Designation

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- In Saskatchewan this is a three step process involving
  - The issuance of a statement by ECCC to the person responsible for a provincially regulated facility;
  - The person responsible for the facility applying, using that statement number, to the Canada Revenue Agency to be a registered emitter;
  - The registered emitter filling out and downloading an exemption certificate for presentation to their fuel supplier, which allows them to purchase fuel to which the federal fuel charge is not applied for use at their covered facility, subject to certain conditions and requirements.



# Saskatchewan Model





# Next Steps and Important Dates

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# Next Steps and Important Dates

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- December 1, 2019
  - Deadline for facilities opted-in to CCIR to opt-out of TIER for 2020 compliance year
  - Recommended date to apply for designation as an aggregate.
- January 1, 2020
  - TIER replaces the CCIR
  - Federal fuel charge begins
- September 1, 2020
  - Deadline for benchmark applications for 2020 compliance year
  - Deadline for opt-in for 2020 and 2021 compliance years
  - Deadline to apply to be designated as an aggregate facility for 2020



# Useful Links and Resources

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## TIER

- Regulation [http://www.qp.alberta.ca/documents/Orders/Orders\\_in\\_Council/2019/2019\\_213.html](http://www.qp.alberta.ca/documents/Orders/Orders_in_Council/2019/2019_213.html)
- TIER Conventional Oil and Gas Website <https://www.alberta.ca/conventional-oil-and-gas.aspx>
- TIER Conventional Oil and Gas Fact Sheets (available on website)
- Standard for Developing Benchmarks <https://open.alberta.ca/publications/standard-for-developing-benchmarks-technology-innovation-and-emissions-reduction-regulation>
- Compliance Cost Workbook
- Questions? Email: [AEP.GHG@gov.ab.ca](mailto:AEP.GHG@gov.ab.ca)

## Federal Fuel Charge Information

- Website <https://www.canada.ca/en/revenue-agency/services/tax/excise-taxes-duties-levies/fuel-charge.html>
- Fuel charge rates <https://www.canada.ca/en/revenue-agency/services/forms-publications/publications/fcrates/fuel-charge-rates.html>.
- Definitions <https://www.canada.ca/en/revenue-agency/services/tax/technical-information/fuel-charge-definitions.html>