CLEANBC INDUSTRIAL INCENTIVE PROGRAM

Oil and Gas Sector Webinar

July 29, 2020
AGENDA

1. Context
2. CIIP program in 2020 and program resources
3. How to apply
4. Completing the CIIP Application - Oil and Gas Sector Guidance
5. New Entrant Provision
6. Emission Reduction Plan
CLEANBC PROGRAM FOR INDUSTRY

• Program Objectives: support the competitiveness of B.C. industrial facilities while facilitating GHG emission reductions

• Funded by incremental carbon tax (i.e. portion > $30/tonne) paid by large industrial operators

• Open to operations with emissions >10,000 tCO2e annually within eligible sectors

• 2 components:
  • CleanBC Industrial Incentive Program (CIIP)
  • CleanBC Industry Fund (CIF)
CIIP IN A NUTSHELL

Carbon tax is paid each year as fuel is produced or purchased. CIIP payments are provided in the following year based on program guidelines.
CIIP PRODUCTS, BENCHMARKS AND THRESHOLDS

NAICS – 211110: Oil and Gas Extraction (except oil sands)
NAICS – 486210: Pipeline Transportation of Natural Gas

<table>
<thead>
<tr>
<th>Sub-Sector</th>
<th>CIIP Activity/Product</th>
<th>B</th>
<th>T</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas processing (excluding compression)</td>
<td>Oil and Gas – processing, sour gas</td>
<td>0.0176</td>
<td>0.0848</td>
<td>tCO₂e/m³ OE production</td>
</tr>
<tr>
<td></td>
<td>Oil and Gas – processing, sweet gas</td>
<td>0.0080</td>
<td>0.0848</td>
<td>tCO₂e/m³ OE production</td>
</tr>
<tr>
<td>Natural gas compression</td>
<td>Oil and Gas – compression, centrifugal</td>
<td>0.4784</td>
<td>0.8592</td>
<td>tCO₂e/MWh consumed energy</td>
</tr>
<tr>
<td></td>
<td>Oil and Gas – compression, reciprocating</td>
<td>0.5292</td>
<td>0.8592</td>
<td>tCO₂e/MWh consumed energy</td>
</tr>
<tr>
<td>Other oil and gas</td>
<td>Oil and Gas – other</td>
<td></td>
<td></td>
<td>100% of incremental carbon tax (above $30/tCO₂e)</td>
</tr>
</tbody>
</table>
CIIP IN 2020: TRANSITION+ YEAR

Incentive payment based on the **higher** of:

a) The incentive ratio based on emissions intensity compared to benchmark and threshold; or,

b) 75%*

*Facilities receiving 75% incentive required to submit **Emission Reduction Plan**

<table>
<thead>
<tr>
<th>Milestone</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIIP initial payments</td>
<td>July/August 2020</td>
</tr>
<tr>
<td>Single Window Reporting System (SWRS) Deadline</td>
<td>July 31, 2020</td>
</tr>
<tr>
<td><strong>CIIP application deadline</strong></td>
<td>August 31, 2020</td>
</tr>
<tr>
<td>CIIP second payment</td>
<td>November-December 2020</td>
</tr>
<tr>
<td>CIIP Emission Reduction Plan due (if applicable)</td>
<td>December 31, 2020</td>
</tr>
</tbody>
</table>
CIIP APPLICATION
(GREENHOUSE GAS INDUSTRIAL REPORTING AND CONTROL SYSTEM - GGIRCS)

• Process re-designed to reduce effort for reporters
  o New software – big improvement, but patience is requested
  o Province will assist reporters through process, as necessary
  o Additional functionality within system – exception paths/by-pass options (allow by-passing of tech problems) and ability to include comments or report a problem

• Automatic upload of data from Single Window Reporting System to reduce amount of data entry and improve accuracy and consistency
  o Upload of data from SWRS takes time – upload approx. once a week,

• Application required for EACH facility (or aggregation of smaller facilities)
CIIP APPLICATION RESOURCES
(GREENHOUSE GAS INDUSTRIAL REPORTING AND CONTROL SYSTEM - GGIRCS)

• New application system: CIIP.gov.bc.ca (Note: Do not use Internet Explorer)

• Updated program webpage: CleanBC Industrial Incentive Program which contains:
  o Previous webinar decks: Application Process & Program Update
  o Benchmarks and thresholds
  o Guidance documents
    ▪ General Application Reporting Guidance
    ▪ Oil and Gas Sector Guidance
    ▪ Oil and Gas Calculation spreadsheet

• Questions/issues: GHGRegulator@gov.bc.ca
CIIP APPLICATION: BEFORE YOU START

• Complete SWRS reporting (one week previously) and have information ready
• Review Application Process Webinar slides and guidance documents
• Other information ready:
  o SWRS report
  o BC Corporate Registry number (found at Orgbook)
  o Certifying official (e-mail address)
  o Emissions, fuel use, electricity, heat and production information
    ▪ Incl. facility information about production and power inputs and run time for compressors
• Apply to report on behalf of an organization at CIIP.gov.bc.ca
ADMINISTRATIVE, EMISSIONS, FUEL USE TABS

• Information in these tabs automatically uploaded from SWRS data

• Reporters must review to ensure data is consistent with reporting

• Administrative tab will require input of BC Corporate Registry number
PRODUCTION TAB

• On the production tab, facilities enter:
  • The amount of output/energy use for each product or activity (where applicable)
  • The emissions that are allocated to each activity (including those from purchased electricity)
  • The amount of purchased electricity and heat

• A compression facility (or other facility) may have one or both types of compression.

• **Only one type of natural gas processing** activity will apply (i.e. sweet or sour gas) – based on annual average composition:
  ○ Sour natural gas - a hydrogen sulfide (H2S) mole percentage >= 2%;
  ○ Sweet natural gas - a hydrogen sulfide (H2S) mole percentage <2%.

• “Other oil and gas facilities (including aggregated facilities, batteries, gas well pads, gathering pipelines, liquid separation facilities, liquid hubs, water hubs, and pipeline aggregates) also listed as product, but no production amount needs to be reported
### ELIGIBLE PRODUCTS BY FACILITY TYPE

<table>
<thead>
<tr>
<th>Facility type</th>
<th>Sour gas processing</th>
<th>Sweet gas processing</th>
<th>Reciprocating compression</th>
<th>Centrifugal compression</th>
<th>Other oil and gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compression station</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Processing plant</td>
<td>Only one of two may be chosen</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Other facility (e.g. batteries)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

- Any compression at an “other oil and gas” facility **MUST** be reported and have appropriate emissions allocated to it.
REPORTING PRODUCTION - PROCESSING

- Spreadsheet calculates production in m3 of Oil equivalent based on input of facility output (CH₄, C₂, C₃+, pentanes, etc.)
- Also input H₂S content to determine sweet or sour gas production.

![Oil Equivalent Calculator Table]

<table>
<thead>
<tr>
<th>Product</th>
<th>Unit</th>
<th>Production</th>
<th>Conversion Factor</th>
<th>m3OE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Gas</td>
<td>e³me</td>
<td></td>
<td>0.987</td>
<td>-</td>
</tr>
<tr>
<td>Liquid Propane</td>
<td>m³</td>
<td></td>
<td>0.66</td>
<td>-</td>
</tr>
<tr>
<td>Liquid Ethane</td>
<td>m³</td>
<td></td>
<td>0.45</td>
<td>-</td>
</tr>
<tr>
<td>Liquid Butane</td>
<td>m³</td>
<td></td>
<td>0.74</td>
<td>-</td>
</tr>
<tr>
<td>NGL-mix</td>
<td>m³</td>
<td></td>
<td>0.72</td>
<td>-</td>
</tr>
<tr>
<td>Pentanes+</td>
<td>m³</td>
<td></td>
<td>0.85</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

Input HHV of the marketable natural gas if it is greater than 38 GJ/e³m³
REPORTING PRODUCTION - COMPRESSION

• Natural gas compression
  o Oil and Gas – compression, centrifugal, and/or
  o Oil and Gas – compression, reciprocating

• Compression ($P_{centrC}$ and $P_{reciprC}$) - the product is the annual energy consumption for compression, in megawatt hour (MWh)

• Methodology for calculating energy consumption depends on whether the energy input of the compressor is measured directly independent of other energy usages, or if the compressor’s measured energy input is aggregated with other energy usage

• Guidance and spreadsheets assist in calculation
## Input and sale Compression Energy Consumption

**INPUT Method A:** Energy input to compression is measured separately

<table>
<thead>
<tr>
<th>Compressor</th>
<th>Fuel consumption (1)</th>
<th>Fuel HHV (2)</th>
<th>Electrical energy (MWh)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressor 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Compressor 2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Compressor 3</td>
<td>-</td>
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<tr>
<td>Compressor 4</td>
<td>-</td>
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<tr>
<td>Compressor 5</td>
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<tr>
<td>Compressor 6</td>
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<tr>
<td>Compressor 7</td>
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<tr>
<td>Compressor 8</td>
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<tr>
<td>Compressor 9</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>Compressor 10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) Fuel consumption in appropriate units (m³ for gaseous fuel, m³ for liquid fuel)
(2) HHV in appropriate units (GJ/m³ for gaseous fuel, GJ/m³ for liquid fuel)

**INPUT Method B:** Compressor rated power, compressor runtime, load factors, and energy consumption of compression auxiliary equipment:

<table>
<thead>
<tr>
<th>Compressor</th>
<th>Compressor Rated Power (MW)</th>
<th>Compressor Runtime (hours)</th>
<th>Load Factor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressor 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Compressor 2</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Compressor 3</td>
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<td>Compressor 4</td>
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<td>Compressor 9</td>
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<tr>
<td>Compressor 10</td>
<td>-</td>
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</tr>
</tbody>
</table>
PRODUCTION: OTHER OIL AND GAS

CIIP Product “Oil and Gas – other”

• No quantifying production necessary

• Other oil and gas must not be named as a product at compressor stations or gas plants

• Other oil and gas facilities must assign production to compressors if present at facility
EMISSIONS

• All emissions – including Scope 2 electricity emissions – must be allocated to products at a facility

• Sum of all allocated emission to production must equal SWRS facility emissions plus Scope 2 electricity emissions:

\[ E_{CIIP} = E_{processing} + E_{centrC} + E_{reciprC} + E_{other\ oil\ and\ gas} + E_{Electricity\ grid} \]

• Compression facility emissions include those related to inlet, sales and transmission compression including compressors, inter-stage coolers, and compressor related venting, fugitives and flaring and scope 2 electricity, if any

• Emissions associated with gas processing are all facility emissions, including scope 2 electricity minus those for inlet, sales and transmission compression

• LFO emissions normally aggregated for full LFO (e.g. blowdowns) can be allocated to an aggregated facility
EMISSION ALLOCATION

- Emission allocation complicated when a single generator provides energy for processing, compression and/or other oil and gas
- Follow guidance in spreadsheet
• All applicable products must be added for a facility
• In addition, purchased electricity must also be added as a “product”
• Be conscious of input units and convert where necessary
Products:

- Oil and Gas – processing, sour gas
- Oil and Gas – processing, sweet gas
- Oil and Gas – compression, centrifugal
- Oil and Gas – compression, reciprocating
- Oil and Gas – other
- Purchased electricity
• Purchased electricity also reported under the ‘Production’ tab – select “Purchased electricity” as product
• To quantify grid electricity emissions use published electricity emission intensity factor for grid-connected entities
NEW ENTRANT PROVISION

• New Entrant Provision supports new facilities which may take some time to achieve steady state emissions intensity

• New greenfield facilities with CIIP benchmarks to receive 100 percent of incremental carbon tax (> $30/tCO₂e) back for 24 months
  o Time in 2018 transition year considered part of NEP participation

• Facility must be a reporting facility under the Greenhouse Gas Industrial Reporting and Control Act (i.e. must have 10Kt emissions excluding those from Schedule C biomass)

• Must belong to a sector eligible for the CIIP and have a benchmarked product
  o “Other oil and gas” not to participate in NEP
NEW ENTRANT PROVISION
NEXT STEPS

• Facility director must email GGIRCA director at ghgregulator@gov.bc.ca to request a start date of provision for facility

• Start date must be between date facility receives leave (through permitting) to start operations and the date of first shipment of product

• In CIIP application, indicate that facility under NEP by leaving a comment – use “Report a Problem” function
EMISSION REDUCTION PLAN

Each facility with an incentive ratio less than 75% in transition+ year will need to commit to submitting a GHG emission reduction plan to be eligible for 75% incentive

- Multiple facility plans may be aggregated
- Plans are due prior to December 31st 2020 and must be submitted to GHGregulator@gov.bc.ca

- ERP elements:
  - Emission Reduction to 75% incentive payment or by 15% by 2030
  - Includes a high-level: description, budget, business case, and GHG reduction estimate for each project
  - CAS is developing a sample template
THANK YOU

• Application: CIIP.gov.bc.ca

• A fact sheet and Guidance Documents available on the CleanBC Industrial Incentive Program website.

• For follow-up CIIP questions email GHGregulator@gov.bc.ca.