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# CLEAN FUEL STANDARD

February 2021



Canada 

## **CFS: PART OF CANADA'S CLIMATE PLAN**

- Clean Fuel Standard (CFS) forms a key part of Canada's *A Healthy Environment and a Healthy Economy* climate change plan
    - First announced in 2016 as part of the *Pan-Canadian Framework on Clean Growth and Climate Change*
  - The CFS will reduce emissions from producing and using liquid fuels in Canada
    - Liquid fuels include gasoline, diesel and oil
    - Mainly used in transportation, and to a lesser extent in industry and buildings
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# MODERNIZING CANADA'S APPROACH ON FUELS

- The CFS replace the federal renewable fuel blending mandate, and complement provincial requirements
  - **Federal Policy:** successful but needs updating
    - Federal Renewable Fuel Regulations for transportation fuels have been in place since 2010; require refiners to blend 5% ethanol in gasoline, 2% biodiesel in diesel
    - Delivers about 5 Mt/year of GHG reductions
    - Refiners are over complying and banking credits: on average, there is about 7% ethanol in gasoline and 2% biodiesel in diesel
  - **Provincial Policies:** provinces have taken action
    - Five (BC, AB, ON, SK, MB) have renewable fuel mandates equal to or higher existing federal requirements; QC has draft regulations
    - AB and ON also have carbon intensity requirements for renewable fuels
    - BC also has a low-carbon fuel standard
  - Jurisdictions like California, BC, Oregon have put in place low-carbon fuel standards for transportation fuels
    - Have led to significant emission reductions, stimulated clean innovation and accelerated the transition to low-carbon fuels and alternative technologies
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# WHAT'S DIFFERENT ABOUT THE CFS?

- The CFS builds on the existing federal blending mandate in 2 key ways:
    - **Life-cycle approach**
      - Includes all stages of fuel production and use, from extraction through processing, distribution and end use
      - Allows for innovation across a wide spectrum of activities, all of which contribute to reducing emissions from fuels
    - **Carbon intensity approach**
      - The life-cycle GHG emissions associated with producing a fuel, measured per unit of energy
      - Reducing carbon intensity over time drives innovation across the life-cycle
  - For Canada, moving to the Clean Fuel Standard means:
    - **Recognizing that not all biofuels are equal:** the CFS creates incentives for lower-carbon biofuels and fuels produced from waste
    - **Supporting alternative technologies**, such as hydrogen and electric vehicles
    - **Driving innovation** in how fuels are extracted, produced, distributed, and used
    - **Taking a flexible and efficient approach:** the CFS creates a credit market to keep costs down compared to more prescriptive regulations
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## APPROACH FOR LIQUID FUELS

- The CFS will apply to fossil fuel suppliers, generally refineries
- It will build off of the current approach, incorporating the biofuel blending requirement from the *Renewable Fuels Regulations*, along with credit surpluses under those regulations
- Regulated parties must reduce carbon intensity of their fossil fuels by 2.4 grams of CO<sub>2</sub>e per megajoule in 2022, increasing to 12 g CO<sub>2</sub>e/MJ in 2030
  - Phasing-in allows regulated parties to use credits from business-as-usual renewable fuel blending in early years, and provides lead time for investments

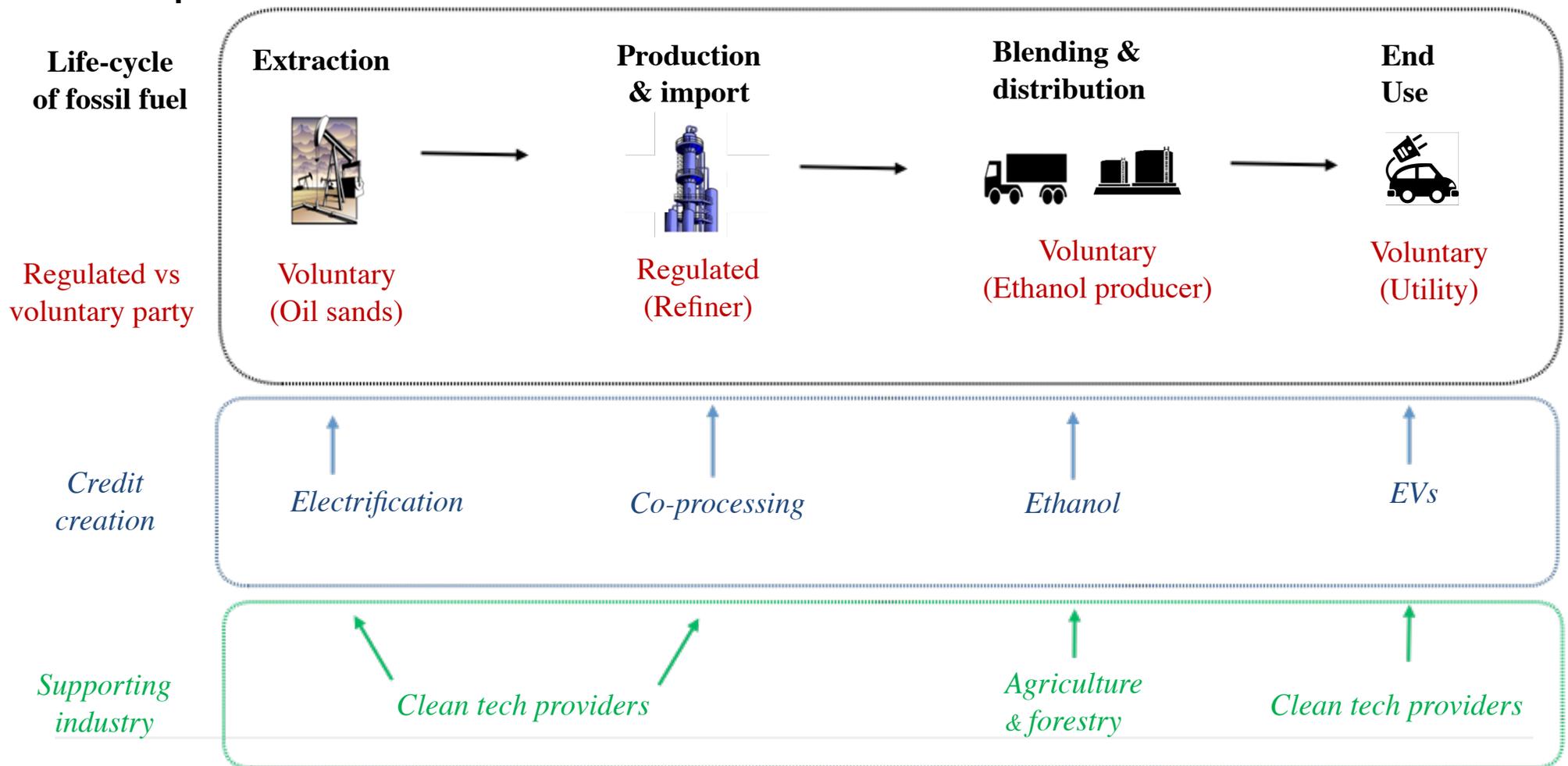
Annual carbon-intensity reduction requirements and limits									
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030
CI Reduction (%)	3%	4%	5%	6%	8%	9%	10%	11%	13%
CI Reduction (gCO <sub>2</sub> e per MJ)	2.4	3.6	4.8	6.0	7.2	8.4	9.6	10.8	12.0

- In order to provide a level playing field, the requirement is only on fuel used in Canada; not exports

# CREDIT SYSTEM

- Regulated parties start out in a ‘debit’ position and must acquire ‘credits’ (measured in tonnes of CO<sub>2</sub>e) to come into compliance each year
- Credits can be created in three ways:
  1. GHG reduction projects that reduce the carbon intensity of fossil fuels (e.g., carbon capture and storage, renewable energy)
  2. Producing or importing low carbon fuels for use in Canada (e.g., ethanol, bio-diesel)
  3. Investing in fueling advanced vehicle technologies (e.g., electric vehicles, hydrogen fuel cell vehicles)
- No limits on how many credits can be generated from each category
- Technology neutral approach; at a national level, action in all three categories will be needed
- Credits can be created by regulated parties and voluntary participants, and will be traded in a market
  4. Voluntary parties like biofuel producers have the opportunity to create and sell credits on the market
  5. Regulated parties can create or purchase credits from the market to come into compliance and can sell credits on the market
  6. The value of these credits flows down the value chain: Feedstock providers like farmers and foresters (that support biofuels) and clean tech providers (that support regulated parties) will realize greater value for their products

# ILLUSTRATIVE EXAMPLE: HOW THE CFS CREATES VALUE ALONG THE LIFECYCLE OF FOSSIL FUELS



# COMPLIANCE FLEXIBILITIES

- Compliance flexibilities mitigate compliance cost and ensure credit supply, while delivering real emissions reductions
- Credit clearance mechanism: regulated parties with credit shortfalls are required to buy credits which are voluntarily pledged; government would set maximum price, proposed to be \$300 per credit (indexed to inflation)
- Compliance fund mechanism: regulated parties can contribute to a fund for up to 10% of their annual obligation at a price set by government, proposed to be \$350 per credit (indexed to inflation)
  - Recognition of any fund that meets criteria set out in regulations (e.g., fund must deliver real, short term reductions)
- Carry-forward: regulated parties can carry forward up to 10% of their annual obligation for up to 2 years, with 20% interest
- Cross 'fuel class' credits: regulated parties under the liquid fuels regulations can use credits from actions to reduce the lifecycle carbon intensity of gaseous fuels (e.g., natural gas) and solid fuel (e.g., petroleum coke) for up to 10% of their annual obligation

## ENGAGEMENT & NEXT STEPS

- The CFS has seen unprecedented engagement with provinces/territories and stakeholders since its announcement in 2016
  - Publications:
    - Proposed regulations, regulatory impact analysis statement, guidance documents – December 2020
    - Technical update (shared through forums) – June 2020
    - Proposed Regulatory Approach – June 2019
    - Cost-Benefit Analysis Framework – February 2019
    - Regulatory Design Paper – 2018
    - Regulatory Framework – 2017
    - Discussion Paper – 2017
  - Next Steps:
    - March 4, 2021 -- End of formal comment period on proposed regulations
    - Fall 2021 – Publication of final regulations
    - December 2022 – Coming into force of regulatory requirement
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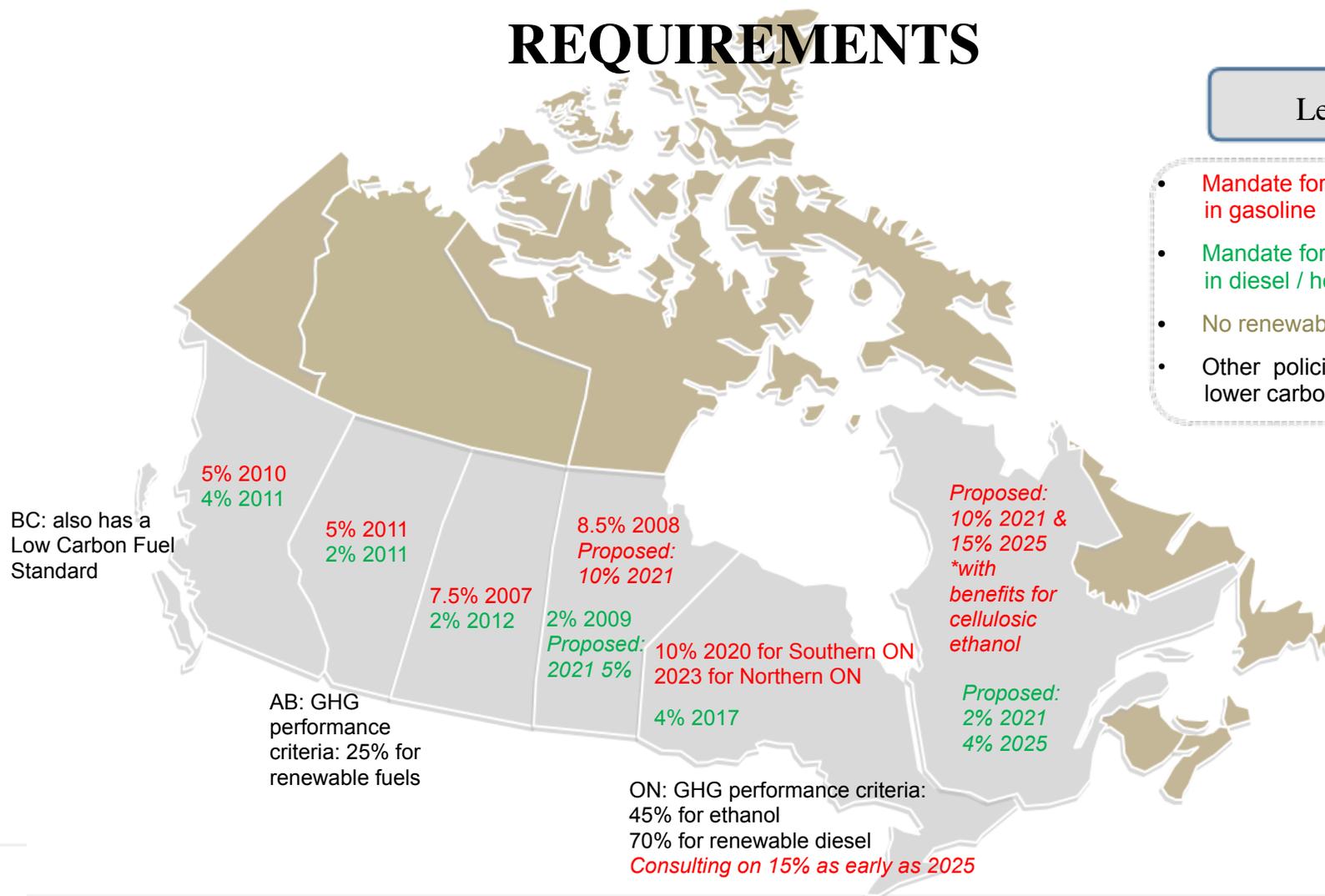
# CONTACT US

- Web page:
    - <http://canada.ca/clean-fuel-standard>
    - <http://canada.ca/norme-combustibles-propres>
  - Email: [ec.cfsncp.ec@canada.ca](mailto:ec.cfsncp.ec@canada.ca)
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# ANNEX: COMPLEMENTING PROVINCIAL REQUIREMENTS

## Legend

- Mandate for renewable fuel in gasoline
- Mandate for renewable fuel in diesel / heating oil
- No renewable fuel mandate
- Other policies that incent lower carbon fuels



# ANNEX: EXAMPLES OF COMPLIANCE

## PATHWAYS

### Case Study 1: GHG Reduction Projects

Carbon Engineering, a British Columbia-based company, uses Direct Air Capture to take carbon dioxide from the atmosphere to be stored underground or converted into carbon-neutral fuel. In partnership with Occidental, Carbon Engineering plans to build the world's largest direct air capture facility in the Permian Basin in Texas, which will capture 500,000 tonnes of carbon dioxide annually. The captured carbon dioxide would be used in enhanced oil recovery operations and subsequently stored underground permanently. The Clean Fuel Standard will incentivize investment in projects like this in Canada by enhancing the demand for clean technology, which in turn improves the conditions that allow Carbon Engineering, and companies like it, to innovate and find markets for their technologies.

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