



Ministry of
Energy, Mines and
Petroleum Resources



British Columbia's Low Carbon Fuel Requirements

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- In 2014, transportation was responsible for 24.8 megatonnes of greenhouse gas (GHG) emissions in British Columbia, or 37% of the total emissions in the Province that year.
- The BC-LCFS impacts the supply of over 8 billion litres of gasoline and diesel, (does not include aviation and marine fuels yet), resulting in a significant contribution toward British Columbia's legislated GHG reduction targets.
- It has been one of the Province's most successful emission reduction initiatives to date, with expected global reductions of 2.89 megatonnes per year on a full lifecycle basis at 10% reduction and 4.24 megatonnes per year at 20%.



What is a Low Carbon Fuel Standard?

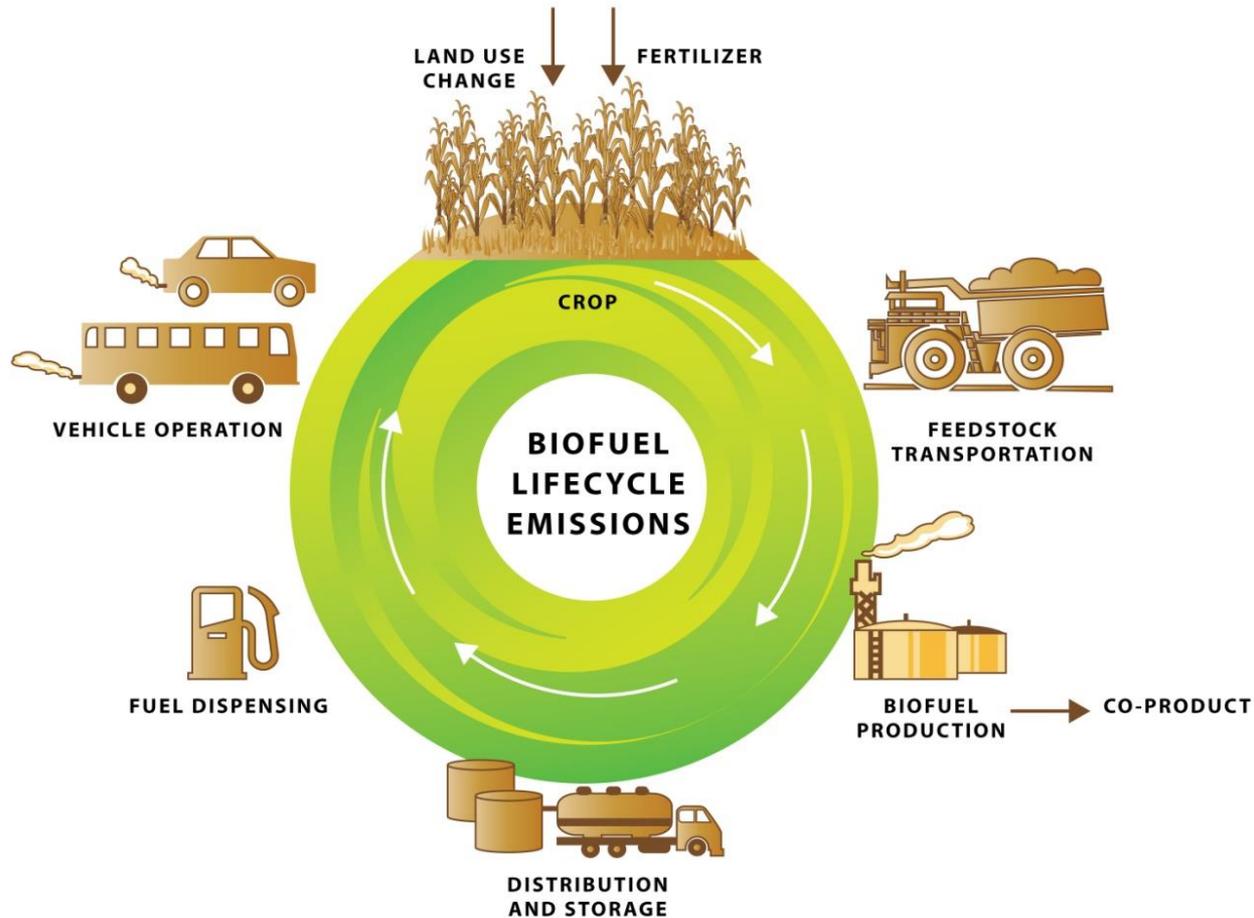
- The BC-LCFS is a “market based mechanism” to reduce GHGs. The “market” in this context is compliance, not a specific market for a specific fuel.
- Fuel suppliers receive **debits** for fuels with a higher carbon intensity than the current limit
- Fuel suppliers accrue **credits** for fuels with a lower carbon intensity than the current limit
- Credits can be traded between fuel suppliers
- Petroleum fuel suppliers can choose their strategy for achieving compliance with B.C.’s LCFS
 - Supply increasing quantities of low carbon fuels
 - Buy credits from low carbon fuel suppliers
 - (average market price for past 12 months = \$195.82/credit)
 - Earn credits through Part 3 Agreements
- A net debit balance at the end of the year results in a penalty of \$200/debit



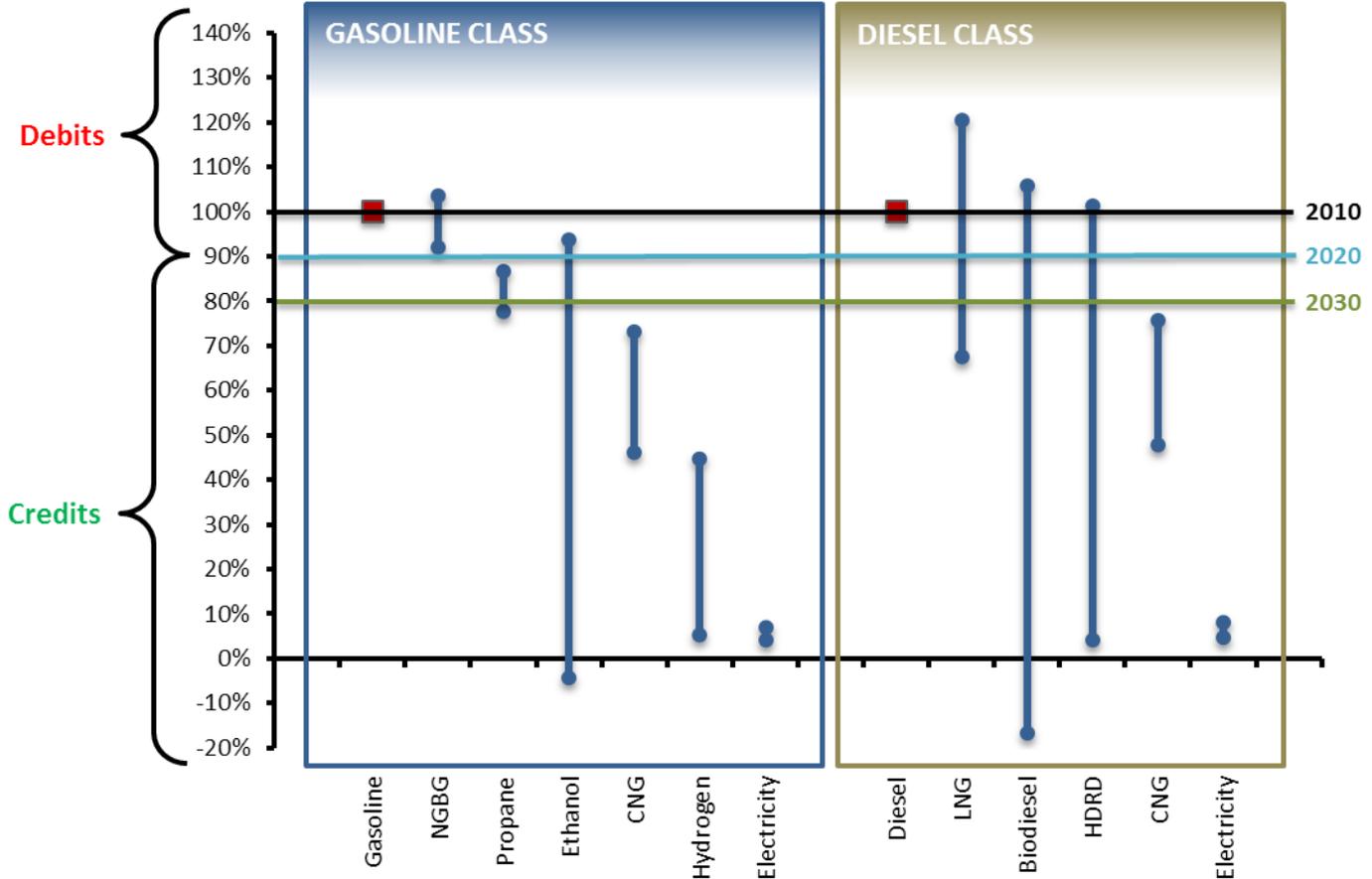
- The BC-LCFS was a new and complex regulatory instrument, and there have been numerous adjustments to the BC-LCFS since 2007 as the Ministry “learned by doing.”
- Historically, consultations have led to a number of accommodations for the fossil fuel industry that would enable suppliers to prepare to comply with the 2020 target.
- We have learned from ten years of experience, and are preparing a number of further improvements to the Act and Regulation to improve clarity and ensure equitable enforcement.



Lifecycle of a transportation fuel



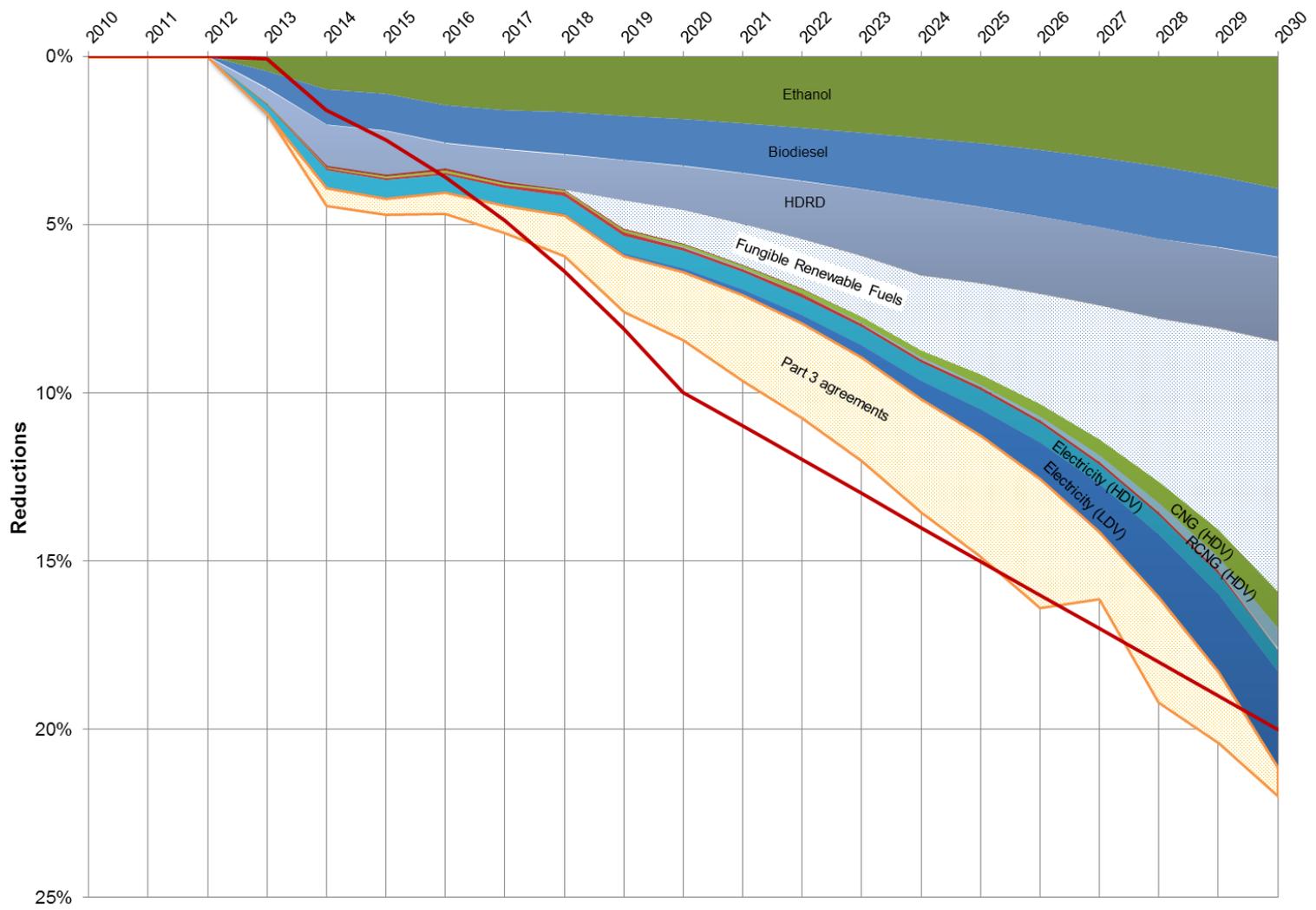
Credits and Debits





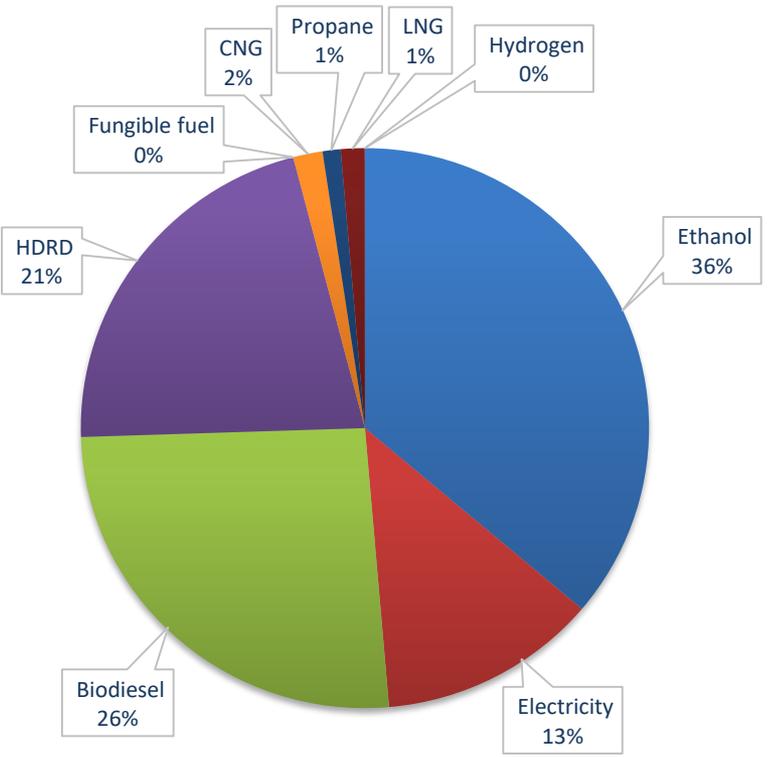
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Compliance Contributions

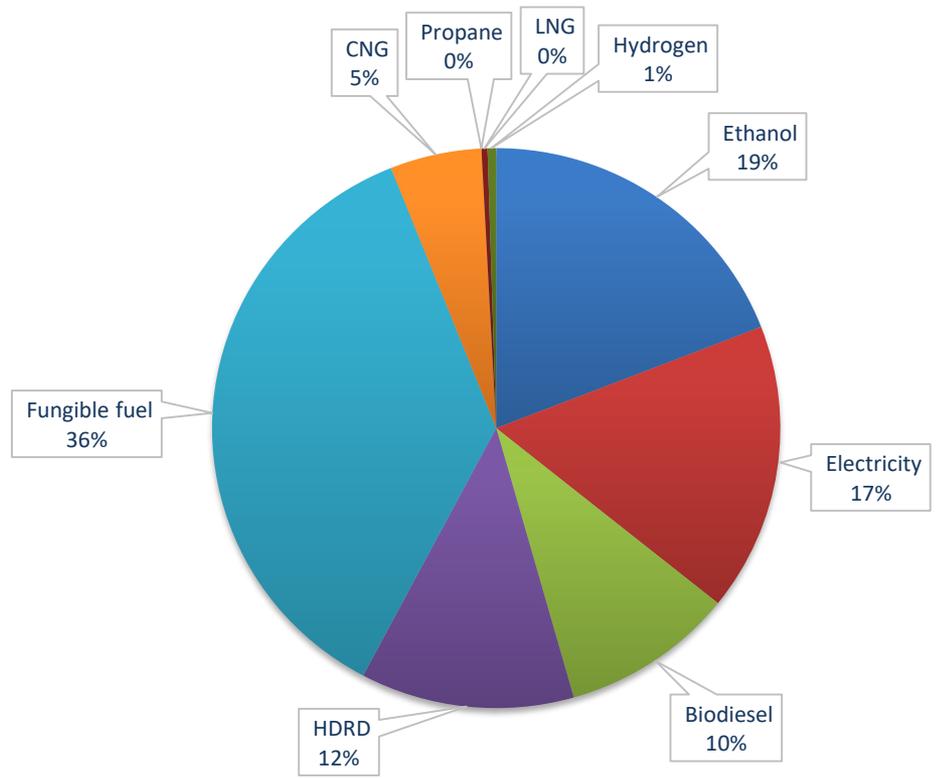




2017 Low Carbon Fuel

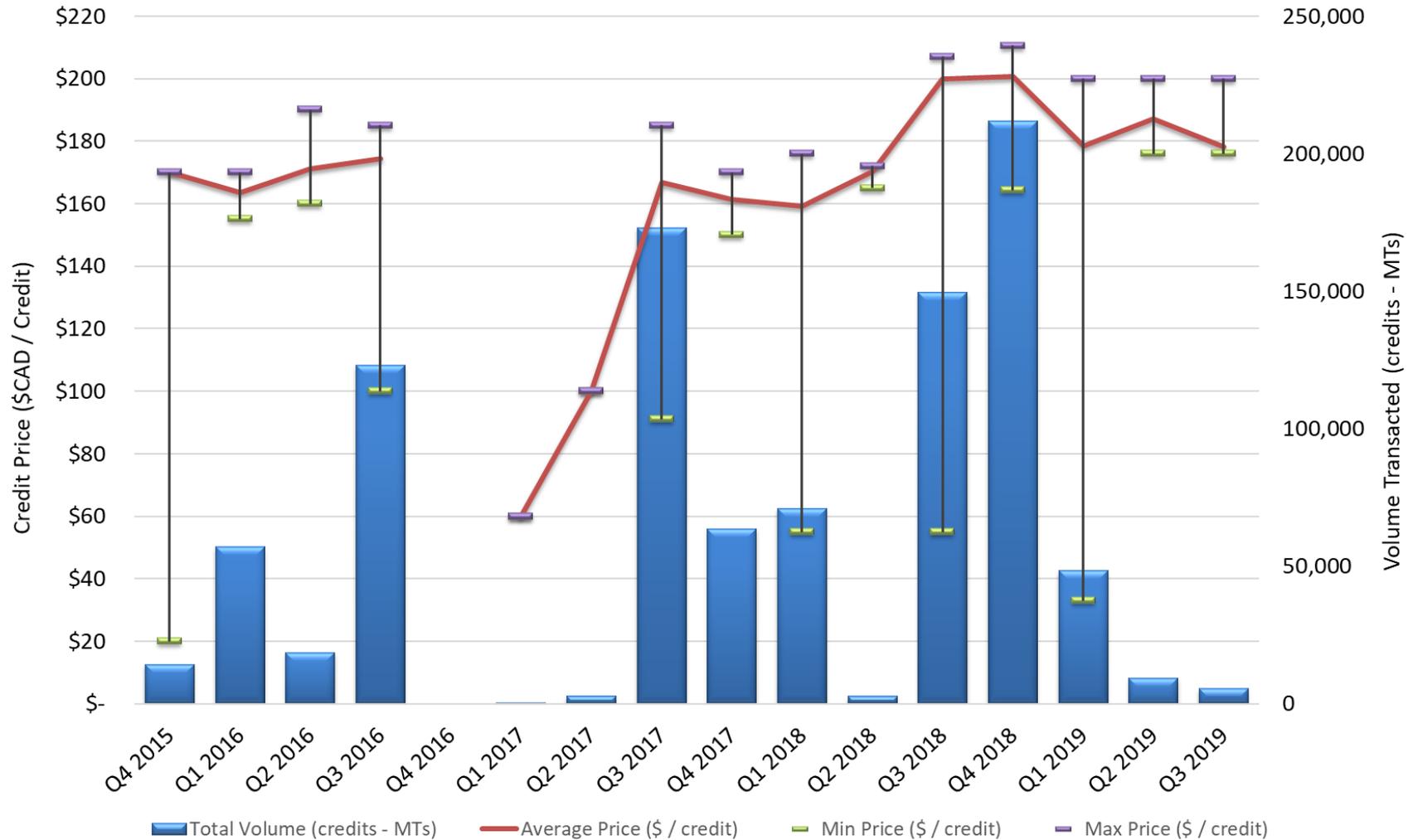


2030 Low Carbon Fuel





Credit Transfer Activity



Part 3 Agreements



- Part 3 Agreement credits are awarded when milestones have been achieved.
- The only mandatory criterion is that the director must be satisfied that the action proposed has a reasonable possibility of reducing GHGs from the use of Part 3 fuels.
- Agreements are not commercial contracts, they are, effectively, extensions of the Act. There are no penalties for failing to fulfill a Part 3 Agreement, but there would be no credits awarded for milestones that are not met.
- The program has been fully subscribed to date. Details are available online in Information Bulletin RLCF-014.



- Retrofit a bulk fuel terminal to enable the supply of ethanol-blended gasoline.
- Upgrade a fuel loading arm to enable the transfer of ethanol from marine transport.
- Provide a Scrap-It incentive for the replacement of an older fossil-fuel vehicle with an electric vehicle or a hydrogen fuel cell vehicle.
- Research and test production of gasoline and diesel with co-processed renewable feedstock from various sources.
- Use renewable natural gas at a refinery.
- Convert light duty gasoline vehicles to use propane as well as gasoline, and supply propane to the converted vehicles.
- Construct and operate a network of hydrogen fuelling stations, and produce of low carbon intensity hydrogen.
- Field test and supply biodiesel blends in winter operability zones.
- Install and operate blending pumps to supply E15, E85, B20, B50, and B100.
- Supply mid-level biodiesel blends.

What's happening because of P3A?



- We are seeing meaningful activity in co-processing.
- Some companies are starting to diversify product offerings to fleets and at the retail level.
- EV adoption is accelerating.

What do we see overall?



- The fuel supply industry as a whole has been slow to react to the need for reduced carbon intensity.
 - As a consequence, individual companies are facing significant compliance issues and consequently penalties.
- We are aware of supplier's concerns about their ability to comply, but Government is carefully weighing the impact of penalties relative to each company's efforts to comply over the past 10 years.



Thank you for your attention

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