

Implementation Agendas Report: 2020-2021 Update **(compare-and-contrast transport biofuels policies)**

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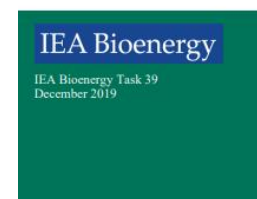
IEA Bioenergy Task 39, Virtual Business Meeting
April 2nd, 2020

Implementation agenda report- 2018-2019 Update

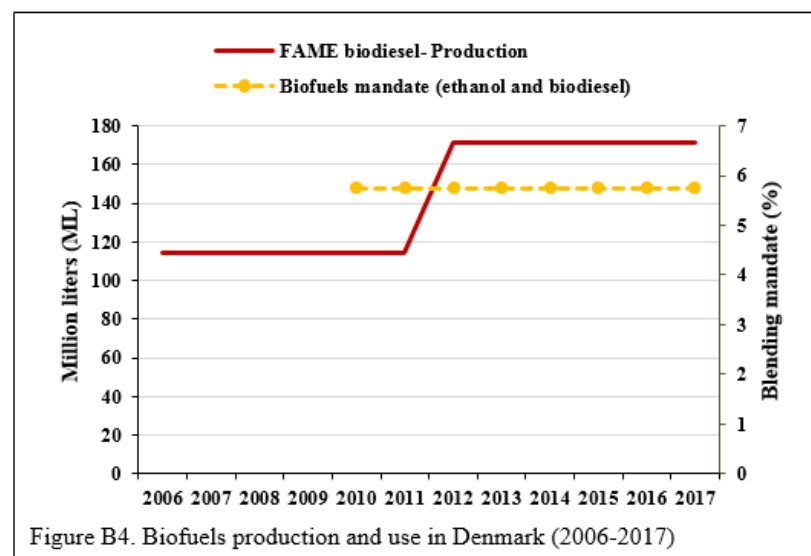
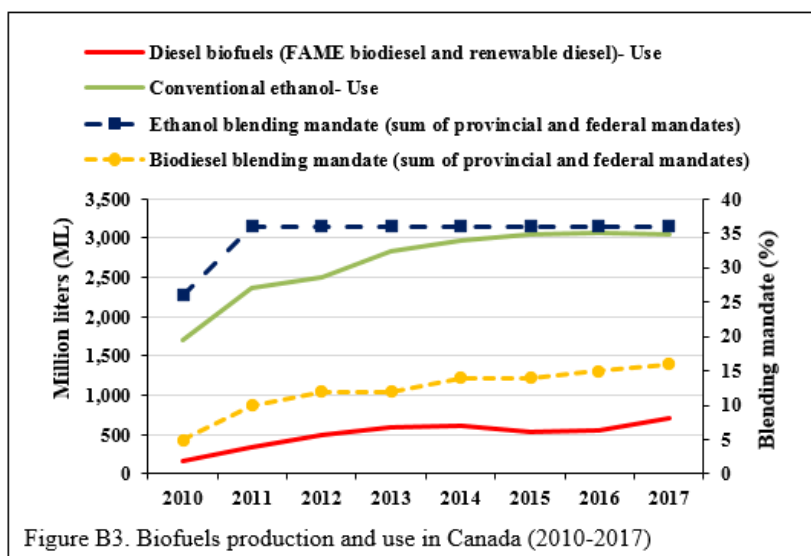
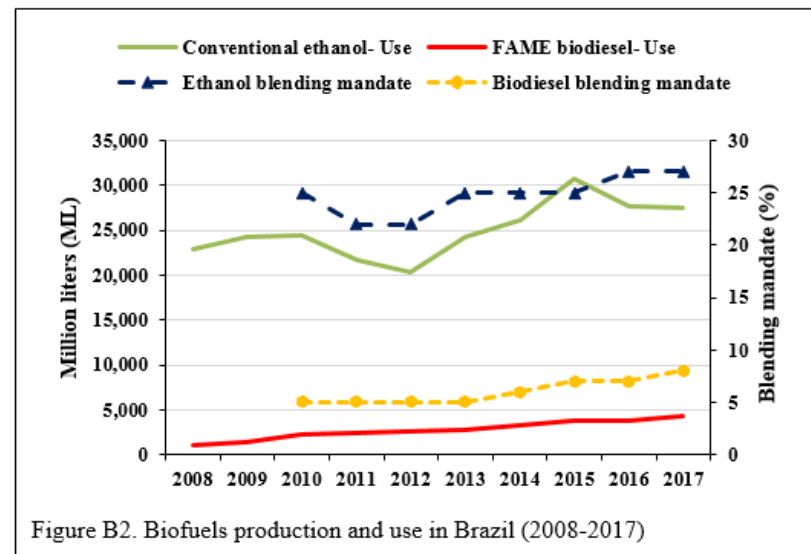
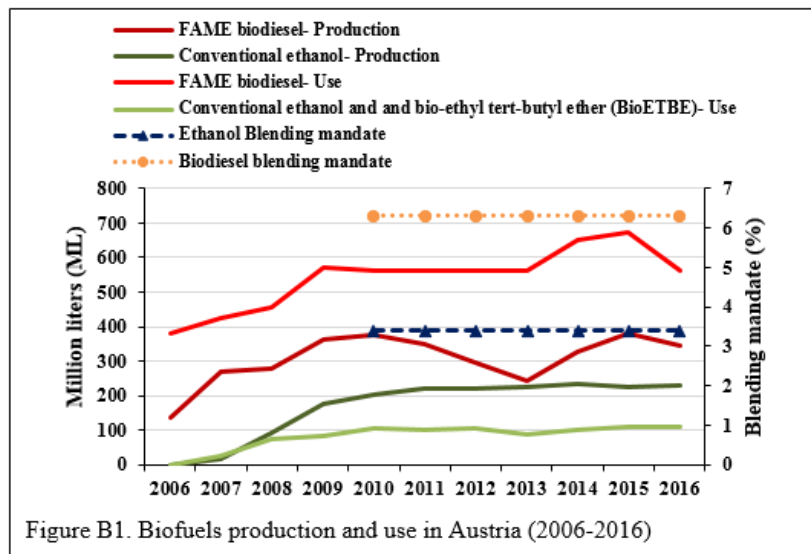
- 180-page report comprised of 18 chapters
 - Chapter 1: global biofuels production and use
 - Chapters 2-17: biofuel policies in 16 countries (country chapters)
 - Chapter 18: Compare and contrast biofuel policies



The full report and executive summary are available at “Publication Section” of Task 39 website.



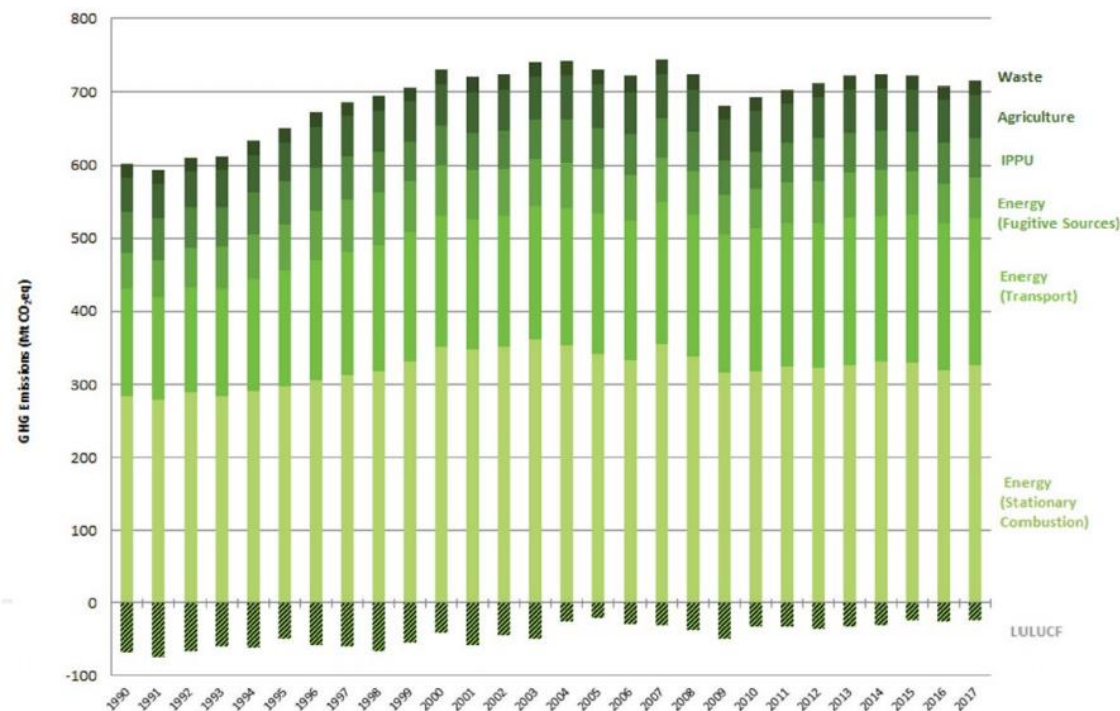
Biofuels production and use and blending mandate



Revised questionnaire- New additions

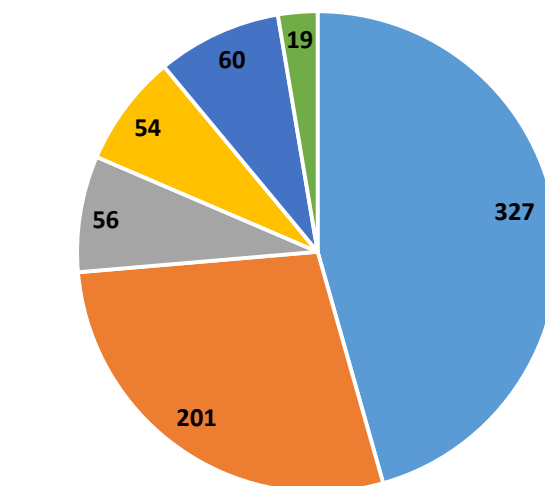
1. Historical GHG emissions inventory data and the contribution of transport sector
2. Existing and emerging sustainability certification schemes for transport biofuels and feedstocks
3. Compliance cost of biofuel policies (e.g. \$/tCO₂, \$/GJ)
4. Historical biofuels and feedstocks imports and exports
5. Metrics to measure the effectiveness of biofuel policies

GHG emissions inventory data- Canada as an example



Canada's GHG Emissions Trend, 1990-2017

Emissions by sector (Mt CO₂-eq)- 2017



- Energy- Stationary combustion sources
- Energy- Transport
- Energy- Fugitive Sources
- Industrial Processes and Product Use
- Agriculture
- Waste

Existing and emerging sustainability certifications schemes for transport biofuels

Category	LCA Tools/ Certification schemes	Outcome
GHG emissions reduction/carbon intensity of biofuels	US: GREET Canada: GHGenius EU: BioGrace Brazil: VSB	- Approve the biofuel pathways if they meet a minimum GHG emissions reduction (e.g. US's RFS2 and REDII) - Generate credits/deficits based on their carbon intensity (e.g. LCFS)
Sustainability of feedstocks	ISCC, RSB, FSC, CSBE, RSPO, Bonsucro, etc.	- Approve the use of a specific feedstock for biofuel production

Non-compliance cost of biofuel policies- could hinder the investment in biofuels projects

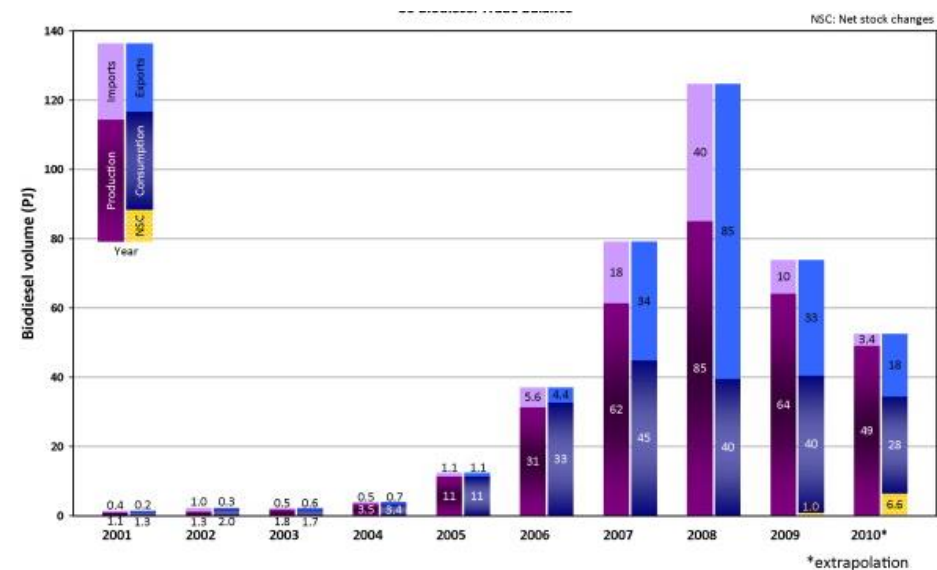
- Obligated parties (e.g. fuel importers, oil refineries, fuel distributors) constantly look for lowest-cost compliance pathways.
- Cost of non-compliance impacts the investors' decision on investing in commercial biofuels projects.

	Biofuel Share in Transportation Fuels	Overall Biofuels Mandate	Advanced Biofuels Mandate (Target Year)	GHG Reduction Quote (Target Year)	Cap on Conventional Biofuels (Target Year)	Price for Non-compliance ⁺
Denmark	5.75%	N/A	0.9% (2020)	N/A	Not Decided	Not Decided
Germany	5.9%	N/A	0.05% (2020) 0.5% (2025)	-6% (2025)	6.5% (2018)	\$517/tCO ₂ e
Italy	4.8%	7.15%	0.9% (2020) 1.85% (2022)	N/A	6.7% (2022)	\$82.5/GJ \$165/GJ (advanced biofuels)
Netherlands	7.75%	15.4%	1% (2020)	N/A	5% (2020)	Not Decided
Sweden	31.2%	N/A	N/A	-21% diesel (2020) -4.2% gasoline (2020) -40% both (2030)	Not Decided	\$418/tCO ₂ e (gasoline) \$523/tCO ₂ e (diesel)
U.K.	6%	9.6%	0.2% (2020) 2.8% (2023)	N/A	4% (2020) 2% (2032)	\$11-\$12/GJ \$56-\$63/GJ (development fuels)

Source: International Council on Clean Transportation (2018)

Overview of EU member states targets and compliance costs for renewable fuels

Historical biofuels and feedstock imports/exports



US Biodiesel Trade Balance

Source: Lamers et al., 2011



Source: Rulli et al., 2016

Metrics to measure the effectiveness of biofuels policies

1. Historical production and use of biofuel trends
2. Historical import and export of biofuels trends
3. Numbers of existing demonstration and commercial advanced biofuels plants.
4. Contribution of biofuels to the GHG emissions reduction in the transport sector (historical trend)
5. others??

Next steps

- Share a copy of the revised questionnaire with country members- April 2020
- Request completion of the revised questionnaire- June 2020
 - For established members: Share a copy of their respective country chapters, asking for an update of their chapters (e.g. changes in biofuels policies, biofuels production and use)
 - For new members: Fill out the questionnaire and send it back to Mahmood
- Develop the draft report of the implementation agenda and distribute among member countries for review and comments- September 2020
- Collect and incorporate comments and feedbacks from member countries on the initial draft- November 2020
- Review and Finalize the report Update- January/February 2021