

Update **Biofuels for the marine shipping sector**

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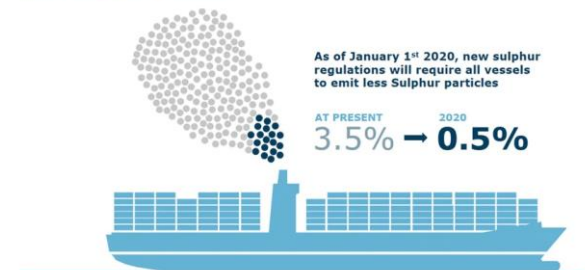
Structure of report

Mostly follow outline of old report but update content

- Overview of the shipping sector
- Marine propulsion technology – **shortly address improvement in battery technology for short distance transport/commuting and for navigation purposes in harbours**
- Current marine fuels – including legislation, fuel specifications
- Marine biofuels and conversion technologies – **include power-to-X (?)**
- **Feedstocks for marine biofuels – supply and sustainability**
- **Techno-economic evaluation?**
- Marine biofuels deployment and implementation – **discussion of need for support actions, new specifications, rules, research**

In red new topics

IMO 2020 Regulations



Conversion technologies

Conventional biofuels

- Plant oils, biodiesel (FAME),
- HVO and HEFA – Conventional/Advanced?
- Bioethanol
- Biomethan

Advanced biofuels

- Gasification (BtL) -> Bio-DME, Fisher-Tropsh
- Pyrolysis
- HTL
- Solvolysis (LEO)
- Emulsion biofuels
- Power-to-X

Align with Drop-in report on description of drop-in fuels – collaborate with Susan on co-processing aspects.

Marine biofuels deployment and implementation

What are bottlenecks for implementation and deployment:

Some initial thoughts...

- Production capacity
 - Biomass logistic and availability
 - Upscale of technologies incl research
- Fuel logistics – drop-in and mixing issues
- Legislation
- Fuel specifications – align with Steve
- Global initiatives for GHG reduction targets, decarbonisation of shipping sector

Plan for update

- Deadline early 2021
- April- scope report and agree on outline
- April - May – agree on collaboration with other tasks:
 - Task 34 - Direct Thermochemical Liquefaction
 - Task 45 - Climate and Sustainability Effects of Bioenergy within the broader Bioeconomy
- June-August – Writing first draft
- September-October – circulate and get feedback on first draft
- November-December – revise manuscript
- January – Approve final draft and executive summary
- February – report ready for sharing on members site