Proposals for the new Institutional Cycle

Meeting with Cabinet of Commissioner Valean

Brussels, 15 May 2024
FuelsEurope represents 40 Member Companies (~95% of EU Refining)
EU Strategy for the transition of liquid fuels and products

Why a strategy?
- For the transition to net-zero transport, contributing to climate neutrality.
- For a competitive EU industrial ecosystem.
- For enhancing secure, resilient & affordable EU energy.
- For supporting the circular economy and developing new value chains & a new decentralised model of energy production.

Scope
- Feedstocks availability & logistics: sustainable biomass, renewable electricity, recycled CO2, waste, ...
- Technologies & Production facilities
  - Import vs. domestic production.
  - Use of liquid fuels in all transport modes
  - Regulatory framework

Structure and Governance
- A Communication of the Commission, including Policy proposal.
- Stakeholders consultation.
- Synergy with existing initiatives (e.g. the R&LCF Alliance.)

Objectives & Deliverables
- Set quantitative targets and KPIs for domestic production of renewable fuels
- Identify enabling conditions for investments
- Operating plan to monitor progress & implement corrective measures

FuelsEurope
Conventional Jet Fuel / SAF yields

Conventional refinery:

**CRUDE OIL**

- **Naphtha/gasoline**: 10 – 37 %
- **Jet/Kero**: 8 – 13 %
- **Diesel/gas oil**: 20 – 40 %
- **Fuel oil**: 10 – 50 %
- **Others**: <13 %

Bio-refinery (bio-SAF via HEFA) *in max Jet mode:

**FATTY ACIDS AND VEGETABLE OIL**

- **SAF**: 60 %
- **Naphtha/gasoline**: 15 %
- **Diesel/gas oil**: 25 %
- **Fuel oil**: -
- **Others**: <5 %

e-SAF via Fischer-Tropsch *in max Jet mode:

- **Naphtha/gasoline**: 25 %
- **SAF**: 55 %
- **Diesel/gas oil**: 20 %
- **Fuel oil**: -
- **Others**: <5 %

* Illustrative Refinery Yields (processing medium crude basket and depending on the complexity of the production scheme)
Fossil vs. renewable fuels for maritime transport

Conventional refinery*

CRUDE OIL

Naphtha/gasoline: 10 – 37 %
Jet/Kero: 8 – 13 %
Diesel/gas oil: 20 – 40 %
Fuel oil: 10 – 50 %
Others: <13 %

For several uses, including maritime fuels

Bio-refinery

FATTY ACIDS AND VEGETABLE OIL

Naphtha/gasoline: 15 %
Middle distillates: 85 %
Fuel oil: -
Others: <5 %

For road, aviation (SAF), maritime fuels

e-fuels via Fischer-Tropsch

Naphtha/gasoline: 25 %
Middle distillates: 75 %
Fuel oil: -
Others: <5 %

For road, aviation (SAF), maritime fuels

* Illustrative Refinery Yields (processing medium crude basket and depending on the complexity of the production scheme)
General assumptions in all scenarios

- Strong political will to deliver the European Green Deal

- Focus on biofeedstocks in RED II Annex IX (Part A and B).
  - Traditional biofuel crops (1st generation) not included
  - Biomass sustainability criteria of RED II

- Granularity at EU country level, by 2030 and 2050

- Low ILUC risk concept

- No negative effect on biodiversity:
  - i) conservation of land with significant biodiversity values
  - ii) land management without negative effects on biodiversity

- Imports potential (up to 50-60 Mtoe/y in 2030/2050)

- Allocation biomass to fuel production is additional and come on top of biomass allocated to biobased products (bioplastics, biopharmaceuticals, construction materials, etc) and other energy uses.

Imperial College London’s scenarios

1. **LOW. Low mobilization:**
   - Farming and forest practices at 2020 levels.

2. **MEDIUM. Improved mobilisation in selected countries:**
   - Improved mobilisation in **countries with high biomass availability**

3. **HIGH. Enhanced availability through R&I and improved mobilisation in all EU countries:**
   - Pushed to a higher technical sustainable potential in all EU countries

We have published an **excel file** with potential availability per **feedstock and country and scenario**, by 2030 and 2050.

Example. Regional distribution and estimated biowastes potential for bioenergy - excluding the known demand for non-energy uses (in million dry tonnes, Scenario 1: Low mobilisation, for 2030)
Conclusions

• The Imperial College study shows that, taking into account the competition for other sectors, there is enough sustainable biomass potential (126-262 Mtoe for 2030 and 101 – 252 Mtoe for 2050) for biofuel production (RED II Annex IX part A/B) for all transport sectors in Concawe’s scenarios by 2030 and 2050 \(^{(1)}\).

• To realise this theoretical potential, additional R&D would be required as well as the implementation of improvement management strategies. Even if the theoretical potential is there, the supply chain would need to be developed to mobilise all these resources.

\(^{(1)}\) In a context of high electrification of road transport (consumption of liquids divided by 3 vs. today), and in a context where approx. 50% of the low-carbon fuels production is addressed by e-fuels. Considering a limited import of sustainable biomass only in the low EU availability scenario.
TNO – University of Utrecht

TNO – University of Utrecht, in their independent study “Limits to production of renewable and low-carbon fuels - Sustainable biomass feedstock supply chains for advanced biofuels” presented at the Concawe Symposium in October 2023, concluded that a volume of sustainable biomass for biofuels is potentially available in a volume broadly aligned with the Imperial College London Consultants’ study.

**Key finding 1: Biomass supply potentials from agriculture**

- Difference in biomass supply potentials over time is driven by:
  1. Yield increases
  2. Spatially explicit biophysical characteristics
  3. Adaptability of crops to such conditions.
  4. Management practices

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**PLEASE NOTE:**
Concawe is going to provide an updated view on the potential of agricultural biomass for biofuels production through a new study with TNO/University of Utrecht. In this new study, a more refined approach is being followed (compared to IC) to calculate the agricultural biomass availability at high granularity (local level) using representative low/medium/high scenarios.
Greening Corporate Fleets

FuelsEurope will reply to the public consultation

The initiative fails to recognise an holistic approach

- An holistic approach provides flexibility for consumers and companies to choose the vehicle that best suits their needs;
- It also reinforces the resilience and long-term planning security of the sector and safeguards against potential bottlenecks of the value chain.

The initiative should consider the role of different technologies to decarbonise corporate fleets

- CO2 neutral fuels are complementary to the roll-out of zero-emission vehicles, accelerating the phase-out of fossil fuels;
- CO2 neutral fuels for road transport are a driving force for the decarbonisation of hard-to-abate sectors (i.e. aviation and maritime).

The initiative should avoid including a purchasing mandate

- A purchasing mandate risks distorting competition.