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Member Country Updates **European Commission**

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Presentation contents

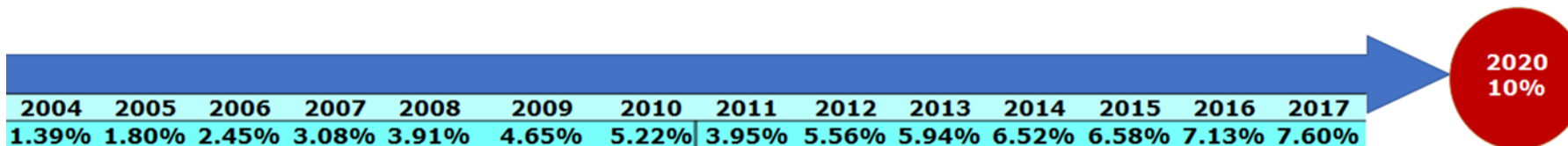
1. Regulatory developments: RED Recast 2030
2. EU-funding ~ advanced biofuels
3. Sustainability criteria
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Where we are...

The RED - Renewable Energy Directive 2009/28/EC

- Requires Member States to achieve **at least** a **10%** share of **renewable energy in transport** fuels in **2020**.
- Only **sustainable biofuels** can be counted towards the 10% target.
- **Progressively stricter minimum emission reduction thresholds**.
- **Emissions calculated over the entire life cycle** of biofuels and **include direct land use change** emissions.
- **Indirect land-use change emissions** are subject to **reporting** as of 2015 (Directive (EU) 2015/1513).



What is new...

RED Recast 2030 ~ Directive (EU) 2018/2001

- **Renewables** count towards the **32% renewable energy target** and towards the **transport sub-target of minimum 14%** of the energy consumed in the transport sector **by 2030**.
- **Transport sub-target: 3.5% from advanced biofuels**
 - produced from feedstocks listed in Part A of Annex IX: 0.2% in 2022, increasing to 1% in 2025 and up to 3.5% in 2030 (e.g. agriculture and forestry residues, biowaste from households and industry, manure and sewage sludge)
 - produced from feedstocks listed in Part B of Annex IX: capped at 1.7% in 2030; double-counted towards the 14% target (animal fats cat 1 and 2, used cooking oil).
- **Advanced biofuels** will be **double-counted towards both the 3.5% target and towards the 14% overall transport sub-target**.
- **Sustainability criteria** for biofuels used in transport are **defined by the Directive** - as well as for solid and gaseous biomass fuels used for power, heating and cooling sectors – **determine** their **eligibility** to count towards the regulatory targets (forthcoming ILUC Delegated Act).

EU-funding ~ advanced biofuels

Newsletter Issue #50

Task 39 Newsletter - December 2018

Biofuels Production and Consumption in the European Union (EU): Status, Advances and Challenges

Laura Lonza and Adrian O'Connell, Joint Research Centre, European Commission

1. Status of the biofuels industry in the EU

The EU is the third largest producer of biofuels in the world. In 2017, North America, South & Central America and Europe had world shares of 45.5%, 26.9% and 16.8%, respectively. The EU's biofuels production in 2018 is estimated to be about 18.8 million tonnes. The main biofuels being produced are biodiesel (fatty acid methyl ester or FAME), renewable diesel produced by hydrogenating (hydrotreating) animal and vegetable oils and fats (also known as hydrotreated vegetable oil (HVO) or hydrotreated esters and fatty acids (HEFA)), as well ethanol and a small but growing amount of biomethane in some countries (e.g., Germany and the Netherlands). As shown in Figure 1, the production of FAME biodiesel, HVO/HEFA renewable diesel and conventional (first generation) and cellulosic (second generation) ethanol were estimated to be 12.2, 2.2, 4.3 and 0.008 million tonnes, respectively. FAME biodiesel has the highest share of biofuels production in the EU (65%) due to the strong demand in EU Member States to meet blending mandates. Figure 2 shows the estimated shares of different feedstocks in the production of FAME biodiesel in 2018.

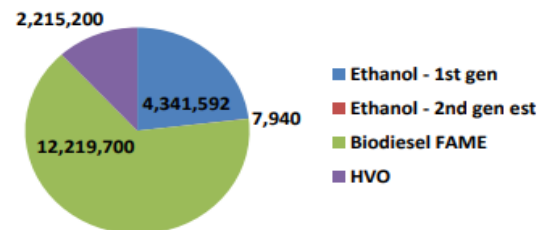


Figure 1. Estimated production of biofuels in the EU (tonnes), 2018 (USDA, 2018)

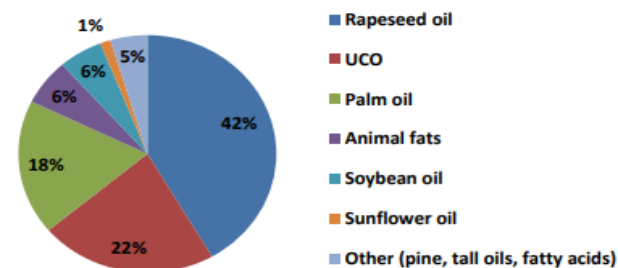
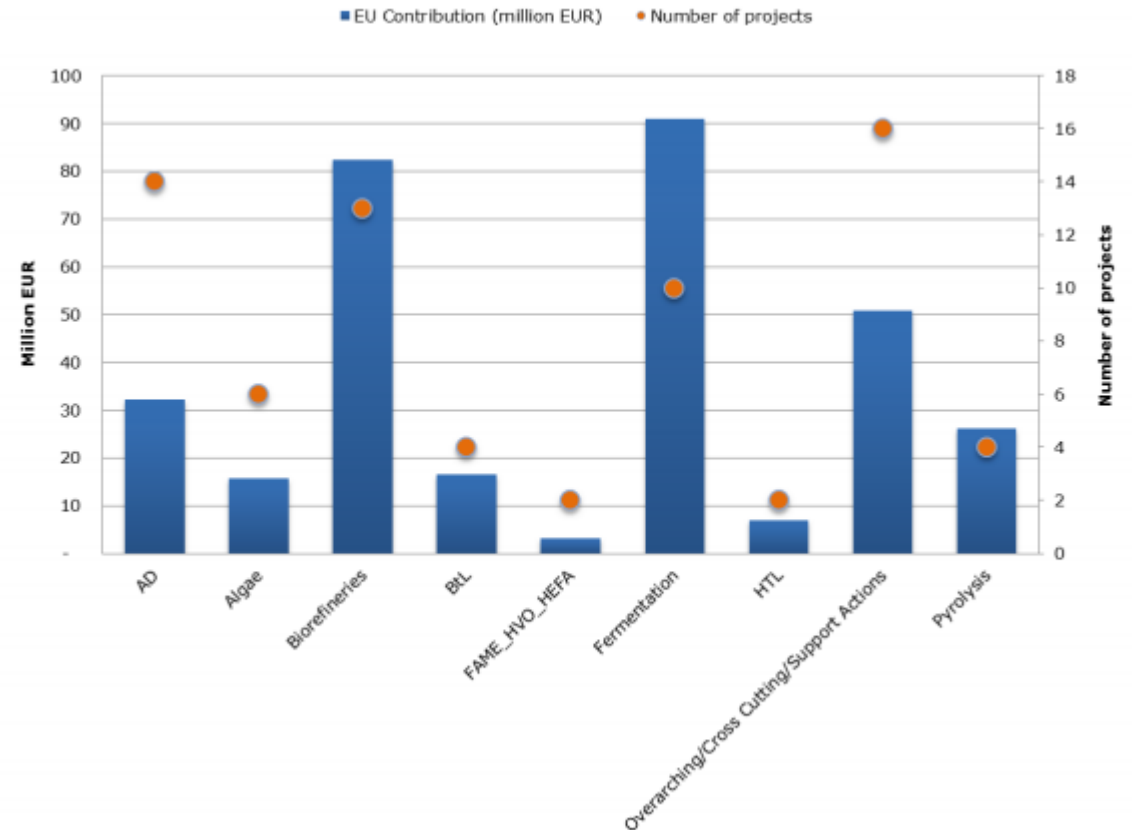


Figure 2. Estimated 2018 FAME biodiesel feedstock shares in the EU (USDA, 2018)¹

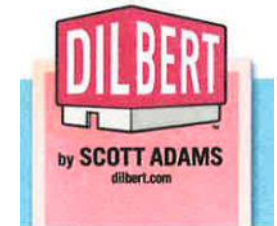


Distribution of EU funded advanced biofuel technologies projects above 250k EUR

In a nutshell...

- RED Recast strengthens the EU policy approach:
 - Accounting for ILUC effects by progressively discouraging food/feed- and land-competing feedstocks (Article 26: 7% cap progressively decreasing to 0% unless 'low-ILUC' certified)
 - Impulsing investment in advanced technologies (multiplier for advanced biofuels).
 - Accruing the interest of fuel producers to supply non-road transport modes (multipliers for biofuels used in the aviation and maritime sectors).
 - Tempering competition peaks across transportation modes by fostering the uptake of alternatives to liquid fuels (renewable electricity multipliers for the road and rail sectors).

Sustainability



RED Recast 2030 ~ Sustainability Criteria

RED Recast revises **sustainability criteria** for **renewable energy use** in **transport** sector, in particular sustainability for **forestry feedstocks** and **minimum thresholds for GHG emission reductions**.

Plant operation start date	Transport biofuels	Transport renewable fuels of non-biological origin	Electricity, heating and cooling
Before October 2015	50%	-	-
After October 2015	60%	-	-
After January 2021	65%	70%	70%
After January 2026	65%	70%	80%

Biofuels, bioliquids and biomass fuels from agricultural biomass must not be produced from raw materials originating from:

- **High biodiversity land**
- **High carbon stock land**
- Land that was **peatland** (Reference year: 2008)

...Sustainability Criteria?

Alternative Fuels are interesting for mitigating GHGs if they are **sustainable** but...

...sustainability criteria are not unequivocally defined

	Sustainability criteria
EU RED(s)	• GHGs saving (progressive emissions thresholds) • Land use change - carbon stock • Biodiversity • Social and economic sustainability criteria: not mandatory but reported on (impact of increased demand for biofuels on food prices, the respect of land-use rights and main producer countries' have ratification of international labour conventions. Corrective actions can be proposed.
CORSIA	• GHGs saving • Carbon stock

On-going
activities...



The new update for the default values

“Definition of input data to assess GHG default emissions from biofuels in EU legislation”

published in July 2017 and
revised in May 2019

<http://data.jrc.ec.europa.eu/collection/alf-bio>

This page links to:

1) Liquid biofuels pathways:

- Report with input data and explanations (2017 and 2019 versions)
- Appendix with stakeholders' comments and replies (2017)
- Database in excel (2017 and 2019 versions)

2) Bioenergy pathways (2017)

Co-processing

Article 28 (5):

By 31 December 2021, the Commission shall adopt delegated acts ...by specifying the **methodology** to determine the share of biofuel, and biogas for transport, **resulting from biomass being processed with fossil fuels in a common process**,

On-going work at JRC on co-processing:

Screening of different methods used/proposed in EU or outside EU

Initial methodology in discussion with policy services

Novel transport fuels

Article 28 (5):

By 31 December 2021, the Commission shall adopt delegated acts ...by specifying the **methodology** for assessing greenhouse gas emissions savings from **renewable liquid and gaseous transport fuels of non-biological origin and from recycled carbon fuels**, which shall **ensure that credit for avoided emissions is not given** for CO₂ the capture of **which has already received an emission credit** under other provisions of law.

The delegated act will determine **minimum greenhouse gas emission savings** required for these fuels

On-going work at JRC

The methodology will be generally consistent with the principles established in the document

'Data requirements and principles for calculating the life cycle GHG intensity of novel transport fuels and invitation to submit data'

published in DG-CLIMA website in September 2016

https://ec.europa.eu/clima/sites/clima/files/transport/fuel/docs/novel_transport_fuels_default_values_en.pdf



Any questions?

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<https://ec.europa.eu/jrc/en/alfa>