



Sustainability criteria and standards for biofuels – their and our future

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Short term future

Policy review for biomass value chains in the European bioeconomy

The global standardization scheme

Standardization review for biofuels and sustainability

The policy and standardization gaps

What to expect

How to become involved

Policy review for biomass / biofuel value chains in the EU



Supply

- Common Agricultural Policy (CAP)
- EU Forest Strategy
- EU Biodiversity Strategy 2020
- Industrial Emissions Directive (IED)
- Indirect Land Use Change (ILUC) Directive
- Waste Framework Directive (WFD)

Demand

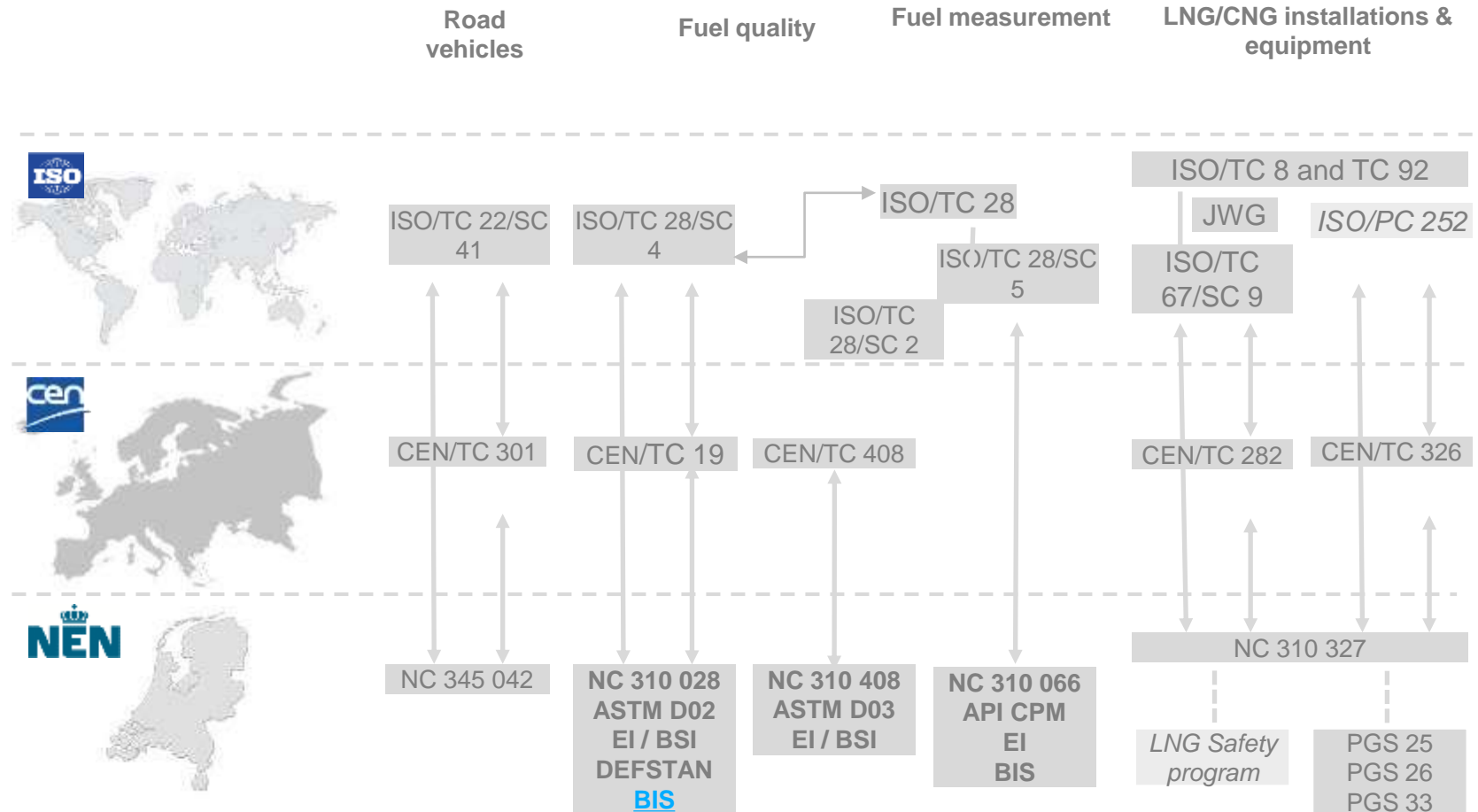
- Renewable Energy Directive (RED II),
- Fuel Quality Directive (FQD)
- Industrial Emissions Directive (IED)
- European Green Deal
- Circular Economy Action Plan 2020
- Roadmap to Resource Efficient Europe
- Alternative Fuels Infrastructure Directive (AFID)
- EU Regulations on vehicle emissions

Global standardization scheme

Standardization is Global Cooperation



Global standardization scheme



Standardization review for sustainable feedstock

- Sustainability criteria (CEN/TC 383):
EN 16214, Sustainability criteria for the production of biofuels and bioliquids for energy applications - Principles, criteria, indicators and verifiers
ISO 13065:2015, Sustainability criteria for bioenergy
- Bio-based products (CEN/TC 411):
EN 16751:2016, Bio-based products - Sustainability criteria
- Chain-of-Custody (ISO/PC 308):
ISO 22095:2020, Chain of custody — General terminology and models



Standardization review biofuels

- Biofuels ([ISO/TC 28](#) and CEN/TC 19)
- Biogas/biomethane ([ISO/TC 193](#), [ISO/TC 255](#) and CEN/TC 408):
EN 16723-2:2017, Natural gas and biomethane for use in transport and biomethane for injection in the natural gas network - Part 2: Automotive fuels specification
- Solid biofuels ([ISO/TC 238](#) and CEN/TC 335):
ISO 17225, Solid biofuels — Fuel specifications and classes
- Solid recovered materials/fuels ([ISO/TC 300](#) and CEN/TC 343):
EN ISO 21644:2021, Solid recovered fuels - Methods for the determination of biomass content
- Hydrogen ([ISO/TC 197](#), CEN/TC 268 and JTC 6)

Policy and standardization gaps

1. To ensure that new fuels are compatible with existing processes, standards and distribution channels or infrastructures, and
2. (Consumer) awareness about the quality and availability of biofuels.

To improve support for large-scale distribution as well as to create European-level labels, certifications and standards for a wide range of bio-based products and services.



Policy and standardization future



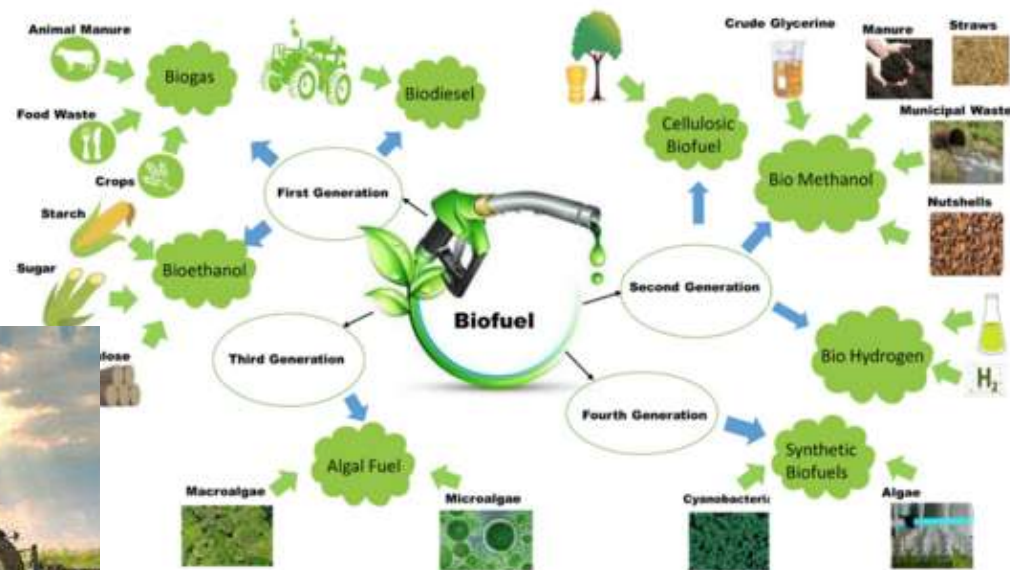
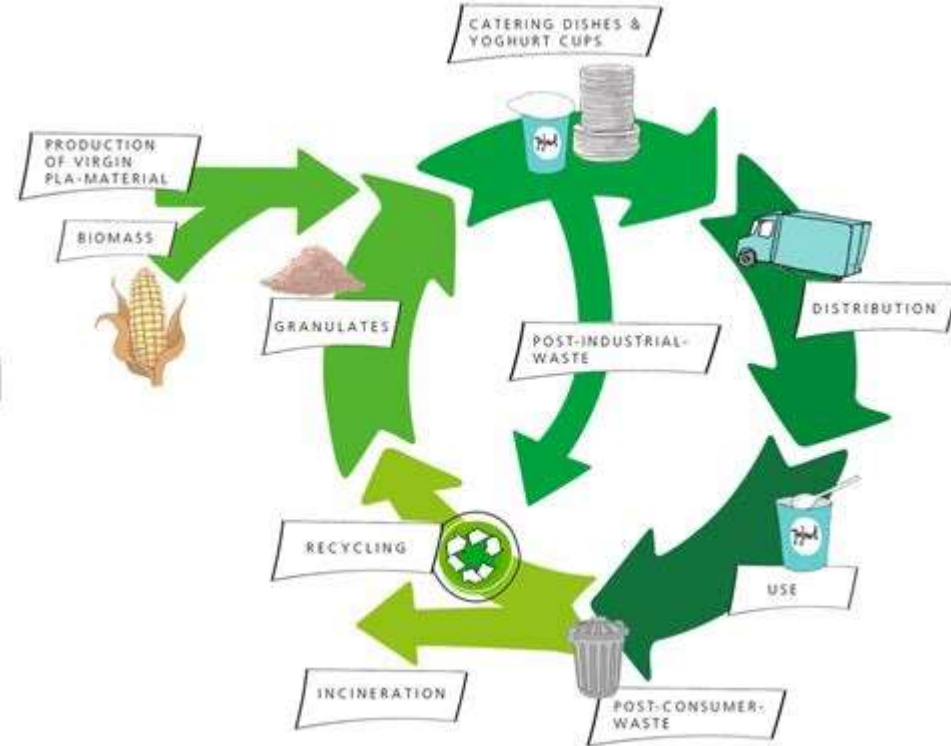
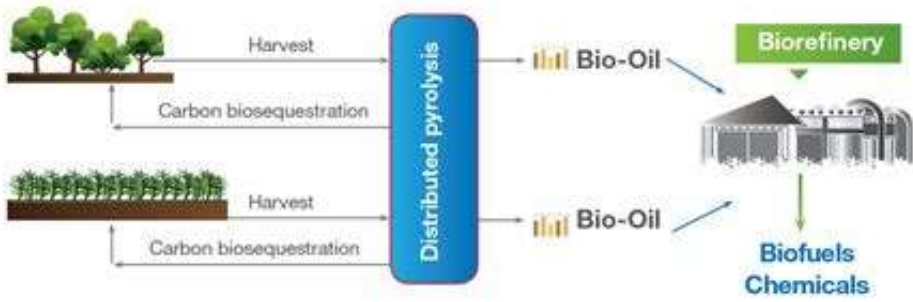
Mobilisation and circularity of waste

Attract consistent year-round supply of low-cost high-quality sustainable feedstock

Heterogenous composition of biological materials

Policies are in place, need to complement these with additional instruments to make them more robust

What to expect



What to expect - standardization

- ISO work on methanol, ammonia (especially for marine applications)
- CEN work on higher fuel blends and mixed qualities (plus applications)
- More blend component types (in aviation) and shorter certification tracks
- Check what RCFs and RFNBOs require
- Sustainability certification (leveled and consumers)
- Simpler sustainability and biological content proofing

How to become involved

- Quality impacts expected?
- Production, logistic chain and 'vehicle' experience available?
- Agreement on a certain product (blend) quality?
- Present the idea at a standardization session
- Discuss what is required in addition
- Present idea(s) for new work and ILS
- Contact undersigned

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Background literature

- *Policy review for biomass value chains in the European bioeconomy*, Asha Singh, Thomas Christensen, Calliope Panoutsou, [Global Transitions 3 \(2021\)](#)
- Proposal for a regulation of the European Parliament and of the council establishing rules on support for strategic plans to be drawn up by member states under the common agricultural policy (CAP strategic plans) and financed by the European agricultural guarantee fund (EAGF) and by the European agricultural fund for rural development (EAFRD), [COM/2018/392](#)
- *A Farm to Fork strategy for a fair, healthy and environmentally-friendly food system*, [COM/2020/381](#).
- *Progress in the implementation of the EU forest strategy 'A new EU forest strategy: for forests and the forest sector'*, [COM/2018/811](#)
- [The European green deal](#)
- *A new circular economy action plan for a cleaner and more competitive Europe*, COM/2020/98 final
- ISO: www.iso.org
- CEN: www.cen.eu

Background literature

- FQD, [Directive 98/70/EC](#) of the European Parliament and of the Council of 13 October 1998 relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EEC
- iLUC Directive, *European Commission, Directive (EU) [2015/1513](#) of the European Parliament and of the Council of 9 September 2015 .. on the promotion of the use of energy from renewable sources*
- REDII, *Directive (EU) [2018/2001](#) of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources*
- WFD, *European Union, Directive [2008/98/EC](#) of the European Parliament and the Council of 19 November 2008 on Waste and Repealing Certain Directives, Official Journal of the European Union*
- AFID, *[Directive 2014/94/EU](#) of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure Text with EEA relevance*