RED II: EU sustainability criteria for bioenergy

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2020-2030 EU POLICY FRAMEWORK ON CLIMATE AND ENERGY

2020
- 20% GHG Emissions

2030
≤ - 40% GHG Emissions Including LULUCF

20% Renewable Energy

≥ 27% Renewable Energy

20% Energy Efficiency

≥ 30% Energy Efficiency
THE 2016 CLEAN ENERGY PACKAGE

CREATING JOBS & GROWTH, REDUCING GHG EMISSIONS, SECURING ENERGY SUPPLY

Energy Union Governance

- Energy Efficiency

- Renewables
  (Revised Renewable Energy Directive)

- New Electricity Market Design
  (including Risk Preparedness)

- Energy prices and costs report

Enabling Framework

#EnergyUnion
INTERACTIONS WITHIN THE CLEAN ENERGY PACKAGE

**Governance Regulation**
- Integrated national energy and climate plans (art 3, art 13)
- Integrated national energy and climate reports (art 15, art 18)
- Response to insufficient ambition and progress (art 27)
- Commission recommendations (art 28)

**Electricity Regulation**
- Balancing responsibility (art 4)
- Balancing market rules (art 5)
- DA and ID market rules (art 6-7)
- Priority dispatch (art 11)
- Priority access / curtailment (art 12)
- Network planning (art 12)
- T&D network tariffs (art 16)
- Network codes on curtailment + grid tariffs (incl. connection charges) + ancillary services (art 55)

**Electricity Directive**
- Entitlement to a dynamic price contract (art 11)
- Aggregators (art 13, art 17)
- Active / self-consumers' rights (art 15)
- Local energy communities' rights (art 16)
- Smart metering (art 19-21)
- Ancillary services by DSOs (art 31) and TSOs (art 40)
- Integration of electro-mobility in networks (art 33)

**Energy efficiency**
- Energy savings obligation (art 7)
- Metering obligations for H&C (art 9a)

**Energy efficiency buildings**
- Charging points / pre-cabling requirements (art 8)
THE REVISED RENEWABLE ENERGY DIRECTIVE (RED II)

- Art 1-2: Updated objectives and definitions
- Art 3: Binding Union target
- Art 4-6: Support schemes and renewable electricity
- Art 7-14: Target calculation and joint projects
- Art 15-18: Admin procedures and training
- Art 19-22: Consumers: GOs and self-consumers
- Art 23-24: Heating and Cooling
- Art 25: Transport mandate
- Art 26-28: Bioenergy sustainability
- Art 29-34: Implementing measures, delegation, repeal
Bioenergy is the main EU renewable energy …

Gross inland energy consumption (2014, %)
- Fossil fuels: 73%
- Bioenergy: 8.0%
- Nuclear: 14%
- Hydropower: 2%
- Wind: 1.36%
- Solar: 0.73%
- Geothermal: 0.38%

Gross final bioenergy consumption (2014, %)
- Bioheat: 73%
- Biopower: 14%
- Biomass in transport: 13%
- Derived heat: 15.8%
- Industry: 26.6%
- Residential: 50.1%
- Other: 7.5%
Bioenergy: benefits vs risks

**Benefits**
- Sizeable contribution to the RES targets
- Energy security: mostly domestically sourced and affordable for consumers
- Storable renewable energy, grid balancing
- Climate benefits compared to fossil fuels
- Growth and jobs, in particular in rural areas

**Risks**
- Climate performance of certain biofuels and forest biomass pathways
- ILUC impacts of biofuels from food and feed-crops
- Other environmental impacts: biodiversity, air quality, soil
- Possible competition with other biomass using sectors
- Low efficiency of biomass electricity conversion
Articles 26-28
Sustainability and greenhouse gas emissions saving criteria for biofuels, and bioliquids and biomass fuels

Objectives:

✓ Cover all bioenergy uses (biofuel, heat and power)

✓ Minimize risks of negative environmental impacts (e.g. deforestation, degradation, biodiversity and carbon stock impacts)

✓ Deliver optimal greenhouse gas savings compared to fossil fuels

✓ Promote resource efficiency and avoid market distortions

✓ Ensure proportionality and cost-effectiveness by applying a risk-based approaches and de minimis thresholds for bioheat and power plants
Article 26, para 1 (updated)
Sustainability and greenhouse gas emissions saving criteria for biofuels, and bioliquids and biomass fuels

Purpose
➢ Cover also solid biomass and biogas for heat & power (beyond biofuels/bioliquids)

Key elements
• Compliance with the sustainability criteria necessary for: contributing towards EU and MS renewable energy share, measuring compliance with the renewable energy obligations, be eligible for financial support
• Bioenergy from waste and processing residues (e.g. saw dust, manure, black liquor) needs to meet only the GHG saving criteria
• Sustainability and GHG criteria apply to:
  ✓ All biofuels/bioliquid installations
  ✓ Solid biomass installations with fuel capacity equal or above 20 MW
  ✓ Biogas installations with a fuel capacity equal or above 0.5 MW

Note:
➢ Member States cannot set additional or different criteria for biofuels/bioliquids
➢ Member States can set additional sustainability criteria for biomass fuels and can set lower capacity thresholds at national level
Effectiveness of the 20 MW threshold

Size and fuel consumption of bioenergy installations in Europe
(in number, Millions odt, MW)

>3000 (63%)
>800 (16%)
>400 (9%)
>600 (12%)

Woodchip Consumption
Pellet Consumption
Number of installations

Source: AEBIOM (data from BASIS project and EPC)
Impacts of the 20 MW threshold

2 MW

1.5 MW heating plant with pellets, industry customer
Article 26, para 2-3-4 (updated)
Sustainability criteria for agriculture biomass

Purpose
➢ Streamline sustainability criteria for agriculture biomass

Key elements
• Remove criterion on cross compliance (dealt with under the CAP)
• Set a minimum size for highly biodiverse grassland
• Clarify that highly biodiverse grassland to be identified by competent authorities
• Ensure a stricter peatland protection (easier to verify)
Article 26, para 5-6 (NEW)
Sustainability criteria for forest biomass

**Purpose**
- Minimise risk of unsustainable forest harvesting

**Sustainable harvesting (para 5) - key elements:**
The following *minimum requirements* apply to forest biomass (domestic or imported):

- i. Legality of harvesting
- ii. Forest regeneration
- iii. Protection of high conservation value areas, including wetlands and peatlands
- iv. Minimization of harvesting impacts on soil & biodiversity
- v. Harvesting does not exceed the long-term production capacity

- Two options to **demonstrate compliance** with this criteria:
  - Option A. National or sub-national legislation applicable to the harvesting area
  - Option B. If evidence A not available, evidence at the forest holding level
Banning stemwood is not environmentally desirable nor tecno-economically feasible
Article 26, para 5 (NEW)
Sustainability criteria for forest biomass (LULUCF)

Purpose
- Minimise risk of negative impacts on forest carbon stock

LULUCF accounting (para 6) - key elements:
The following minimum requirements apply to forest biomass (domestic or imported):

Option A) the country of origin of the biomass:
  i. Is a party of/has ratified the Paris Agreement
  ii. Has submitted a NDC, including LULUCF accounting
  iii. Has a national system for LULUCF reporting

Option B)
  • Management systems are in place at forest holding level to ensure that forest carbon stock and sink level are maintained
Purpose

- Promote carbon efficiency throughout the supply chain, delivering optimal GHG savings

Key elements:

Biofuels/bioliquids
- at least 50% (plants in operation before October 2015)
- 60% (plants in operation after October 2015)
- 70% (plants in operation after January 2021)

Biogas/biomethane for transport (plants equal or above 0.5 M): 70%

Biomass in heat and power (plants equal or above 20 MW)
- at least 80% (plants in operation after 1 January 2021)
- 85% for those plants starting operation after 1 January 2026

Note:
- Annex V: revised default values for biofuels/bioliquids
- Annex VI: new GHG methodology and default values for biomass fuels, biogas and biomethane
Purpose
➢ Limit pressure on limited forest biomass resources and promote resource efficiency

Key elements:
Electricity from biomass in large scale plants (equal or above 20 MW) must be produced through high-efficient cogeneration technology (EED) and meet the EU sustainability and GHG criteria for:

• Contributing to the RES obligations/national RES contributions, unless the installations are already or will become operational within 3 years from the adoption of the Directive. Such electricity will not be subject to the CHP requirement.

• Receiving public support, unless the relevant scheme was approved by the Commission within 3 years from the adoption of the Directive. E.g. biomass plants receiving support for 10 years under a state aid scheme approved no later than 3 years after the date of adoption of the Directive will be considered sustainable for the entire 10 years' timeframe.

Note:
➢ Derogation for duly substantiated risks for the security of supply of electricity, notified and approved by the Commission.
Article 27 (updated)
Verification of compliance

Purpose
➢ Clarifying and strengthening verification of compliance

Key elements:
When showing **compliance**, bioenergy generators shall: a) use a mass balance system for the supply chain; b) ensure independent auditing of the sustainability claim:

• **Mass balance system:**
  ✓ Clarified rules for biomethane injected into the gas grid
  ✓ Rules for mixing of fuels with differing energy content (co-digestion)

• **Verification** of the sustainability claims takes place either through a) national rules/schemes (involving Member States’ authorities) or b) voluntary schemes (national/international) recognized by the Commission:
  ✓ Commission can specify implementing rules for verification carried by voluntary schemes
  ✓ Commission can recognize voluntary standards for soil, water and air protection
  ✓ Member States allowed to control work of certification bodies of voluntary schemes
  ✓ Provision on bilateral or multilateral agreements with 3rd countries dropped because non-operational
Article 28 (updated)
Calculation of GHG impact

Purpose

- Update GHG accounting rules for biofuels/bioliquids and introduce new rules for biomass fuels, while minimizing administrative burden for economic operators

Key elements:

- Legal basis allowing the Commission to update the GHG calculation methodology
- Clarification of the future use of Member States reports on average cultivation emissions

Updated Annex V – biofuels and bioliquids

- Part A & B: updated typical and default values for 1G biofuels/bioliquids and advanced biofuels
- Part C: updated GHG emission accounting methodology

New Annex VI – GHG impact of biomass fuels and biogas/biomethane

- Part A: new typical and default values for biomass fuels, biogas and biomethane
- Part B: new methodology for GHG accounting of biomass
Illustrative surveillance of EU bioenergy sustainability criteria

European Commission
- Voluntary (verification) scheme
  - Accreditation
  - Develops verification rules/standards
  - Certification bodies

EU sustainability and GHG saving criteria
- National (verification) scheme
  - Approval and surveillance
  - Certification bodies

Agri biomass
- Farm/Plantation
- Transport
- First Gathering Point
- Transport
- Trader/Warehouse
- Conversion
- Transport
- Trader/Warehouse
- Transport
- Relevant market player

Forest biomass
- Certificate
- Production process
- Distribution process

Evidence A: Assessment of national or sub-national legislation meeting the EU criteria

Evidence B: evidence provided at forest holding level
CO-DECISION PROCESS

Presidencies of the Council of the EU:
- Malta: January-June 2017
- Estonia: July-December 2017
- Bulgaria: January-June 2018

Committees of the European Parliament:
1. Renewable Energy Directive (recast):
   - ITRE (Rapporteur: MEP J.Blanco López)
   - ENVI (exclusive competence on bioenergy sustainability): (Rapporteur MEP B.Eickhout)

2. Governance of the European Union:
   - ENVI and ITRE single draft report (joint committee procedure): (MEPs M.RIVASI, C.TURMES)

THANK YOU!

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Article 2
Definitions (updated)

New elements:

ccc) ‘biomass’ means the biodegradable fraction of products, waste and residues from biological origin from agriculture, forestry and related industries including fisheries and aquaculture, as well as the biodegradable fraction of waste, including industrial and municipal waste of biological origin;

(ddd) ‘agricultural, aquaculture, fisheries and forestry residues’ means residues that are directly generated by agriculture, aquaculture, fisheries and forestry; they do not include residues from related industries or processing;

(eee) ‘bioliquids’ means liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass;

(ffe) ‘biofuels’ means liquid or gaseous fuel for transport produced from biomass;

(ggg) ‘agricultural biomass’ means biomass produced from agriculture;

(hhh) ‘forest biomass’ means biomass produced from forestry;

(ii) ‘forest regeneration’ means the re-establishment of a forest stand by natural or artificial means following the removal of the previous stand by felling or as a result of natural causes, including fire or storm;

(mm) ‘forest holding’ means one or more parcels of forest and other wooded land which constitute a single unit from the point of view of management or utilisation;

(jj) ‘harvesting permit’ means an official document giving the right to harvest the forest biomass;

(pp) ‘biomass fuels’ means gaseous and solid fuels produced from biomass;

(qqq) ‘biogas’ means gaseous fuels produced from biomass;