

MUSIC - WORKSHOP “BIO-ECONOMY IN A NET-ZERO EUROPEAN INDUSTRY”

Developments in European policy and role for Intermediate Bioenergy Carriers’ market uptake

Manolis Karampinis, CERTH
31 May 2022
@DBFZ in Leipzig, Germany



Contents

- The RePowerEU Plan
- REDII – Biomass sustainability requirements
- REDIII – Proposals and implications
- Conclusions

Note: the assistance of Bioenergy Europe's Advocacy team in the preparation of this presentation is gratefully acknowledged.



The RePowerEU Plan

RePowerEU: plan for saving energy, producing clean energy, and diversifying our energy supplies following disruption of European and global energy markets after Russia's invasion of Ukraine

SHORT TERM MEASURES



- **Common purchases of gas, LNG and hydrogen via the EU Energy Platform** for all Member States who want to participate as well as Ukraine, Moldova, Georgia and the Western Balkans
- **New energy partnerships** with reliable suppliers, including future cooperation on renewables and low carbon gases
- **Rapid roll out of solar and wind energy projects** combined with renewable hydrogen deployment to save around 50 bcm of gas imports
- **Increase the production of biomethane** to save 17 bcm of gas imports

- Approval of first **EU-wide hydrogen projects** by the summer
- An **EU Save Energy Communication** with recommendations for how citizens and businesses can save around 13 bcm of gas imports
- **Fill gas storage** to 80% of capacity by 1 November 2022
- **EU-coordinated demand reduction plans** in case of gas supply disruption



MEDIUM-TERM MEASURES TO BE COMPLETED BEFORE 2027



- **New national REPowerEU Plans under the modified Recovery and Resilience Fund** – to support investment and reforms worth €300 billion
- **Boosting industrial decarbonisation** with around €3 billion of frontloaded projects under the Innovation Fund
- **New legislation and recommendations for faster permitting of renewables** especially in dedicated 'go-to areas' with low environmental risk
- **Investments in an integrated and adapted gas and electricity infrastructure network**
- Increased ambition on **energy savings by raising the EU-wide target on efficiency for 2030 from 9% to 13%**

- **Increase the European renewables target for 2030 from 40% to 45%**
- **New EU proposals** to ensure industry has access to critical raw materials
- Regulatory measures to **increase energy efficiency in the transport sector**
- **A hydrogen accelerator** to build 17.5 GW by 2025 of electrolyzers to fuel EU industry with homegrown production of 10 million tonnes renewable hydrogen
- **A modern regulatory framework for hydrogen**



Source: European Commission (2022) RePowerEU Actions factsheet

Bioenergy in RePowerEU

Before official publication



Letter by over 500 companies urging the European Commission to include bioenergy as part of the REPowerEU strategy

In anticipation of the REPowerEU Communication, more than 500 companies of the bioenergy value-chain **wrote to the European Commission** President Von der Leyen, Vice-president Timmermans, and Commissioners Simson and Breton calling for a holistic approach in

Bioenergy reference in RePowerEU

Bioenergy makes up 60% of the renewable energy in the EU. It is a domestically available and stable energy source but sustainable sourcing is key. Current estimates show a moderate but steady increase of biomass use until 2030. Prioritizing use of non-recyclable biomass waste and agricultural and forest residues will ensure a sustainable energy production that can contribute to the REPowerEU objectives.

- ✓ Prominent role of bioenergy is acknowledged
- ✓ Mentioning potential of waste, agricultural and forest residues
- x No concrete measures or support provided (unlike for LNG, hydrogen and biomethane)

After official publication



REPowerEU's neglect of the bioenergy sector could put EU energy targets at risk

Bioenergy Europe welcomes the long-awaited **REPowerEU Plan** by the European Commission to phase-out the fossil fuel dependence on Russia. However, we regret to see that the plan still lacks the needed vision to recognise sustainable bioenergy as one of the key solutions to increase EU energy security.

REDII – Introduction of sustainability and GHG saving criteria for bioenergy (I)

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 / commonly referred to as REDII

- Sets the main framework for RE targets and promotions
- Substitutes Directive EU 2009/28 (no longer valid from 1 July 2021)
- (Should have been) transposed in national legislation by 1 July 2021
- Establishes for the first time – and after a long process EU-wide sustainability criteria for (solid and gaseous) biomass fuels
 - Compromise position of EU member states on minimum criteria
 - Regular review & adjustment foreseen; further tightening very likely under REDII



REDII – Introduction of sustainability and GHG saving criteria for bioenergy (II)

Article 29 Sustainability and greenhouse gas emissions saving criteria for biofuels, bioliquids and biomass fuels

“1. Energy from biofuels, bioliquids and biomass fuels shall be taken into account for the purposes referred to in points (a), (b) and (c) of this subparagraph only if they fulfil the sustainability and the greenhouse gas emissions saving criteria laid down in paragraphs 2 to 7 and 10:

- a) contributing towards the Union target (...) and the renewable energy shares of Member States;
- b) measuring compliance with renewable energy obligations (...);
- c) eligibility for financial support for the consumption of biofuels, bioliquids and biomass fuels.”

Note: carbon neutrality of biomass in the EU-ETS is considered “financial support”. Compliance with these criteria is required for biomass to be considered as carbon neutral



REDII – Introduction of sustainability and GHG saving criteria for bioenergy (III)

Which installations need to comply?

Installations producing electricity, heating and cooling or fuels

- with a total rated thermal input equal to or exceeding 20 MW in the case of solid biomass fuels
- with a total rated thermal input equal to or exceeding 2 MW in the case of gaseous biomass fuels

Member States may apply the sustainability and greenhouse gas emissions saving criteria to installations with lower total rated thermal input.

Compliance with the sustainability and GHG criteria shall apply irrespective of the geographical origin of biomass



REDII – Introduction of sustainability and GHG saving criteria for bioenergy (IV)

What are the criteria / requirements established?

- Sustainable biomass production – REDII Art. 29 (2-7)
 - Examples: legality of harvesting operations, forest regeneration, maintenance of soil quality & biodiversity, compliance with LULUCF criteria, etc.
- Minimum greenhouse gas savings – REDII Art. 29 (10)
 - for biofuels, biogas consumed in the transport sector, and bioliquids: at least 50 % if produced in installations in operation on or before 5 October 2015; at least 60 % if produced in installations starting operation from 6 October 2015 until 31 December 2020; at least 65 % if produced in installations starting operation from 1 January 2021
 - for electricity, heating and cooling production from biomass fuels: at least 70 % if used in installations starting operation from 1 January 2021 until 31 December 2025; at least 80 % for installations starting operation from 1 January 2026
- Traceability and mass balancing – REDII Art. 30 (1, 2)



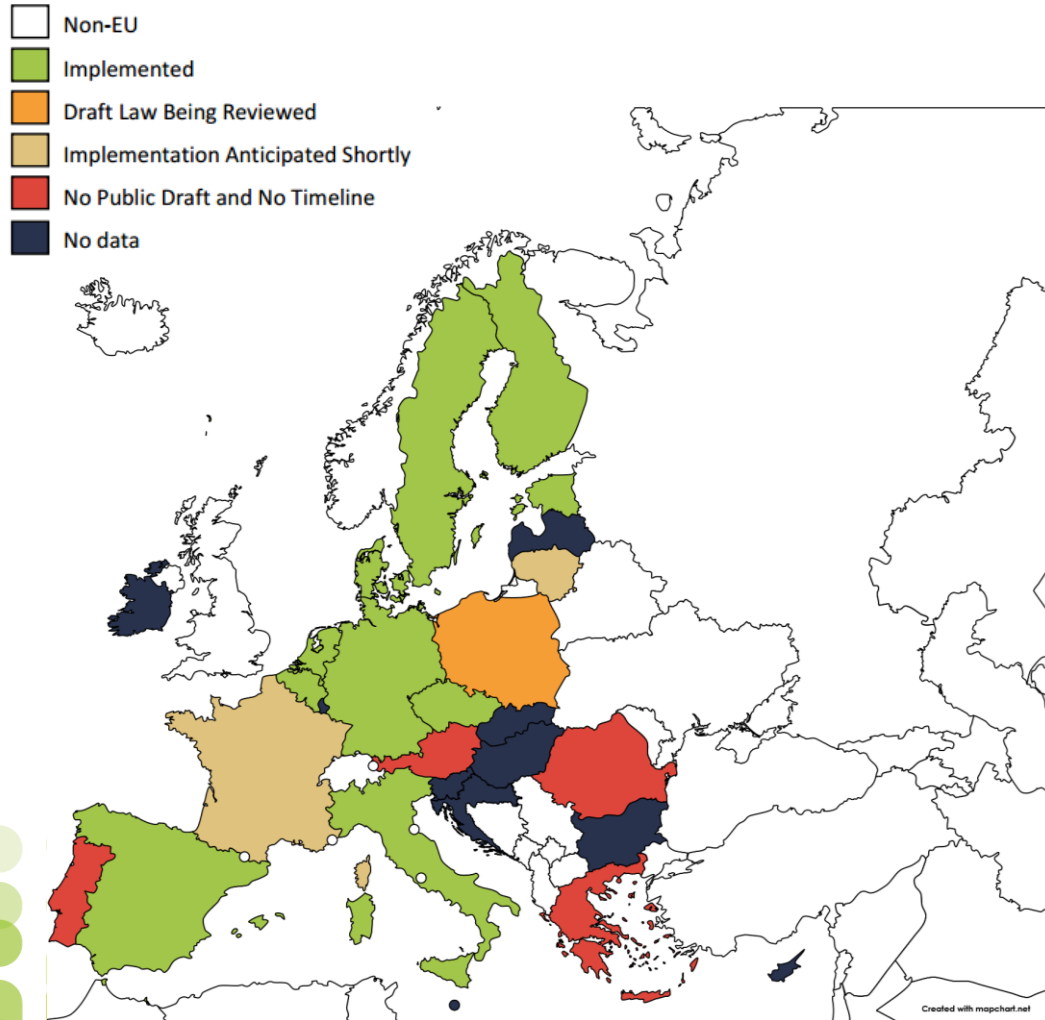
REDII – Introduction of sustainability and GHG saving criteria for bioenergy (V)

Special requirements for electricity production from biomass – REDII Art. 29 (11)

- a) it is produced in installations with a total rated thermal input below 50 MW;
 - b) for installations with a total rated thermal input from 50 to 100 MW, it is produced applying high-efficiency cogeneration technology, or, for electricity-only installations, meeting an energy efficiency level associated with the best available techniques (BAT-AEELs) as defined in Commission Implementing Decision (EU) 2017/1442 (26);
 - c) for installations with a total rated thermal input above 100 MW, it is produced applying high-efficiency cogeneration technology, or, for electricity-only installations, achieving a net-electrical efficiency of at least 36 %;
 - d) it is produced applying Biomass CO₂ Capture and Storage.
- “Electricity-only-installations shall be taken into account only if they do not use fossil fuels as a main fuel and only if there is no cost-effective potential for the application of high-efficiency cogeneration technology according to the assessment in accordance with Article 14 of Directive 2012/27/EU”
 - Members state may adopt stricter energy efficiency requirements
 - Some “derogations” may be accepted for reasons of security of supply



REDII –Implementation



Source: Bioenergy Europe / WG Sustainability (May 2022)

Implementing Acts	Deadline / Implementation
Operational Guidance on Forest Biomass Criteria, REDII Art. 29 (8)	31 January 2021 / pending
Standards for voluntary schemes, REDII Art. 30 (8)	30 June 2021 / 10 March 2022 draft approved by Member States but not yet published in official journal
Recognition of Voluntary Schemes RED II Art. 30 (3) (d)	1 July 2021 / 12 April 2022 (13 voluntary schemes recognized)

Implementing Regulation (EU) 2018/2066 (monitoring and reporting of GHG emissions), Art. 38

→ Paragraph 6 added: “By way of derogation from paragraph 5, first subparagraph, Member States, or competent authorities as appropriate, may consider as fulfilled the sustainability and greenhouse gas emissions saving criteria referred to in that paragraph for biofuels, bioliquids and biomass fuels used for combustion from 1 January 2022 to 31 December 2022.”

REDIII – Decision Making Process



Source: Bioenergy Europe / WG Sustainability (April 2022)

REDIII – European Parliament Timeline

ITRE



3 March

Consideration of Draft report

15 March

Deadline for tabling amendments

19 April

2nd Shadows' meetings

12 May

Shadows' meeting

15 June

Shadows' meeting

29 June

Final Shadows' meeting

1 July

Compromise amendments

13 July

Vote in Committee

ENVI



2 February

Consideration of Draft opinion

9 February

Deadline for tabling amendments

19 April

2nd Shadows' meetings

22 April

Technical meeting

29 April

3rd Shadows' meeting

17 May

Vote in Committee

Note: the ENVI Committee is having exclusive competence over Art. 29 but ITRE over the whole policy file

AGRI



25 January

Consideration of Draft opinion

31 January

Deadline for tabling amendments

28 February

Consideration of amendments

20 April

Vote in Committee



September

Foreseen Plenary

REDIII – Sustainability requirements for bioenergy?

- EC proposal and amendments discussed in ENVI Committee point to the adoption of stricter requirements
- Some suggested amendments (discussed in ENVI Committee) could result in huge volumes of bioenergy being considered as not renewable

EC Proposal on sustainability / major changes to REDII	Major changes ENVI Committee compromise amendments
No-Go areas: Carbon-rich and Highly Biodiverse environments	+ old growth forests in no-go areas
Details on sustainable forest management	No major differences
Lower exception threshold (to 5 MW)	Lower exception threshold (to 7.5 MW)
2027 end of subsidies for electricity only installations using forest biomass (with exceptions: just transition regions or BECCS)	+ Additional requirement: maximum capacity 20 MW
Retroactive application of GHG emissions saving thresholds	Adopted
Delegated act on Cascading use of biomass (prioritizing high quality biomass use for materials and construction)	Implementing act on cascading; mention of waste hierarchy
-	New definitions: primary and secondary woody biomass <u>with major implications</u>

REDIII – “Primary” vs. “Secondary” woody biomass (ENVI definitions)

“Primary woody biomass”	“Secondary woody biomass”
All roundwood felled or otherwise harvested and removed. It comprises all wood obtained from removals, i.e., the quantities removed from forests, including wood recovered due to natural mortality and from felling and logging. It includes all wood removed with or without bark, including wood removed in its round form, or split, roughly squared or in other form, e.g., branches, roots, stumps and burls (where these are harvested) and wood that is roughly shaped or pointed.	Residues from forest-based industry, including bark, sawdust and wood shavings that result from sawmilling or wood milling, and recovered post-consumer wood.
It excludes wood obtained from sustainable wildfire prevention measures in high-risk fire prone areas and woody biomass extracted from forests affected by active pests or diseases to prevent their spread.	It excludes primary woody biomass, including when it is processed into chips, briquettes or pellets.

“**Primary woody biomass**” is essentially considered as “unsustainable” and is not taken into account for the points (a), (b) and (c) of Art. 29 (1):

- a) contributing towards the Union target (...) and the renewable energy shares of Member States;
- b) measuring compliance with renewable energy obligations (...);
- c) eligibility for financial support for the consumption of biofuels, bioliquids and biomass fuels.”



Conclusions

- Bioenergy can provide solutions today but EU strategic planning does not acknowledge its potential (apart from biomethane)
- Huge delays in implementing REDII → limiting opportunities to assess the impact of sustainability criteria
- REDIII sets draconian requirements that will have huge implications on the sector (primarily regarding feedstock supply, but also for end-use)
- Several bioenergy stakeholders, forest owners consider (naturally) that the direction of REDIII is not incorrect for several reasons: cascading regulations have failed in the past, actual forest management practices and wood flows more complex than definitions, etc.
- Other developments on the policy / regulation front make life more challenging for bioenergy (especially from forest): Taxonomy / Sustainable Finance Platform, Energy Taxation Directive, etc.





MUSIC

Market Uptake Support for Intermediate Bioenergy Carriers

THANK YOU
FOR YOUR
ATTENTION!

WWW.MUSIC-H2020.EU

#MUSIC_H2020



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 857806.