Position Paper

The Role of Bioenergy in the Clean Industrial Deal

The Clean Industrial Deal should be designed to enhance the competitiveness of EU industry, while driving decarbonisation efforts. This will strengthen the EU's position in manufacturing clean technologies such as bioenergy.

As emphasized by President Von der Leyen, **legislative stability and predictability for investments and innovation are essential to drive clean industrial growth**: the new Clean Industrial Deal needs to reflect that.

The bioenergy industry has shown remarkable resilience to external competition and **will play a vital role in achieving a net-zero economy by 2050**. The Clean Industrial Deal presents a crucial opportunity to further strengthen the domestic bioenergy manufacturing sector. Therefore, **it is essential that the bioenergy sector is explicitly addressed within the Clean Industrial Deal** to ensure its potential is fully realised and integrated into the transition strategy.

Bioenergy Europe proposes 4 solutions to shape the next industrial strategy:

01 **Support bioenergy solutions** in the decarbonisation of energy intensive industries to ensure a competitive transition from a fossil-based to a bio-based economy

02 **Develop a bioenergy export strategy** to build on existing European technological leadership and expertise, and boost EU industrial competitiveness

03 **Unleash the potential of bioenergy to lower energy costs** for companies and households while ensuring a better system integration and more efficient use of resources

04 **Ensure regulatory stability** to promote investment in renewable technologies and strengthen European manufacturing of clean solutions such as bioenergy

01 Energy intensive industries: from a fossil- to a bio-based carbon economy

The EU's heavy dependence on fossil fuels poses a significant vulnerability, undermining Europe's energy security and long-term competitiveness. To address this challenge, **the EU must commit to progressively ending its reliance on fossil fuels**. A clear, structured and comprehensive strategy for reducing fossil fuel use in the most cost-effective way, is needed.

This transition requires prioritising the integration of renewable technologies, particularly in energy-intensive and heavy industries, which are among the largest contributors to greenhouse gas emissions. Many of these industries cannot directly electrify their entire process and bio-based fuel is approximately 2.4 times cheaper than other renewable alternatives[1].

The Clean Industrial Deal should serve as a cornerstone in this transition, actively promoting the adoption of renewable technologies and bio-based alternatives within industrial processes.

- *Bioenergy Europe urges the European Commission to establish legislative and economic measures through the Clean Industrial Deal to drive the defossilisation of the EU energy sector and facilitate **a competitive transition from a fossil-based carbon economy to a bio-based carbon economy**.*
- *Solutions are available for EU industries to phase-out fossil fuel use and offset residual emissions. **Bio-based carbon removal solutions – such as BECCS and biochar – should be prioritised** as the most cost-effective pathways to achieving net-zero emissions. These solutions need scaling in parallel with emission reductions.*

02 A bioenergy export strategy to support the European technological know-how

The bioenergy industry is primarily a European sector and is key to the local economy. The sector has the potential to create up to 1,5 million jobs by 2050[2] and its innovations promote the EU's industrial competitiveness.

In the early 2000s and 2010s[3] the number of EU patents in bioenergy technologies grew substantially. The Clean Industrial Deal should recognise and build on this **by supporting the export of *made in EU* bioenergy technologies** and **by scaling up bio-based carbon removal solutions** to capitalise on EU's leadership in bioenergy.

Europe has the potential to lead in carbon removal technologies such as Bioenergy with Carbon Capture and Storage (BECCS), which are pivotal in transitioning to a net-zero economy. As highlighted in Mario Draghi's report on the future of European competitiveness[4], advancing these technologies is critical to achieving Europe's climate goals. Expanding the budget to accelerate the development and deployment of bio-based carbon solutions is not just an environmental imperative but also a strategic opportunity.

1 When comparing the price of high temperature heat generation per GJ between biomass and green hydrogen. Source : IEA Bioenergy. Decarbonizing industrial process heat: the role of biomass. 2021.
2 Deloitte Global, Towards an Integrated Energy System: Assessing Bioenergy's Socio-Economic and Environmental Impact, 2022
3 Energy Technology Patents Data Explorer – Data Tools - IEA
4 The future of European competitiveness – A competitiveness strategy for Europe. *"The second key goal is to accelerate decarbonisation in a cost-efficient way, leveraging all available solutions through a technology-neutral approach. This approach should include renewables, nuclear, hydrogen, bioenergy and carbon capture, utilisation and storage, and should be backed by massive mobilisation of both public and private finance". (p. 46)*

In addition, there is an opportunity **to boost EU export technologies for energy production** (e.g. industrial steam or electricity) in regions with vast biomass resources, which might present challenging combustion characteristics. Such export strategy would also help third countries to decarbonize efficiently.

- *Bioenergy Europe calls on the European Commission to conduct a study on **the export potential of bioenergy technologies made in the EU**. The Joint Research Centre should lay the foundation for a comprehensive strategy to promote the export of bioenergy technologies and ensure their inclusion in future communications, trade missions and trade agreements.*
- ***Support for innovation in bioenergy must be further enhanced.** This must include among others, BECCS and biochar, through appropriate EU instruments including the Competitiveness Fund, the Innovation Fund, the 10th Framework Programme and a pragmatic implementation of the Carbon Removal Certification Framework Regulation.*

03 Lowering energy costs for companies and households with bioenergy

Heating accounts for half of the EU energy consumption, with more than three-quarters[5] of this energy still being produced using outdated and inefficient fossil fuels-based systems.

To achieve the EU's 2050 goals while supporting the EU industrial competitiveness, **the defossilisation of the heating sector** and **replacement of obsolete systems** are essential. Highly efficient bioenergy-based solutions will play a key role in the transition.

The average age of heating systems in European buildings is approximately 25 years[6]. Currently, the annual replacement rate of appliances is around 4%[7]. **Setting a target to replace fossil-based heating systems would have significant environmental, economic, and societal benefits**. From domestic solutions such as boilers or pellet stoves to **efficient district heating**, greater support for biomass energy systems throughout Europe could significantly reduce the share of fossils in the heating sector. This would have a positive impact on energy poverty, as it directly translates into lower energy bills.

A more efficient use of biomass in residential energy systems can unlock resources for the defossilisation of hard-to-abate sectors, without placing additional pressure on European ecosystems for biomass supply.

Both fossil fuel systems and outdated, inefficient biomass solutions must be replaced. **Modern, efficient bioheat systems improve air quality, and contribute to a better integration and optimisation of the energy system as a whole.** Securing sufficient funding for these replacements and proposing adequate incentives to buyers will also support the competitiveness of EU industries in the renewables and energy efficiency fields.

- *Bioenergy Europe calls on the European Commission to **launch a programme to replace fossil and outdated biomass heating systems with state-of-the art renewable energy alternatives**, including modern bioenergy technologies produced in Europe. This programme should be financed through the Just Transition Fund and European Regional Development Fund.*

5 Eurostat
6 Bioenergy Europe, Joint Position Paper on the Modernisation of Old and Inefficient Heating & Cooling Systems
7 6 percentage points

04 Regulatory stability to promote investment in renewable technologies

Bioenergy Europe believes that **the Clean Industrial Deal should prioritise the implementation of the existing legal framework for 2030** in the simplest, fairest and most cost-efficient manner.

A stable regulatory framework, free from excessive over-regulation, is essential for fostering economic growth while providing the certainty needed to drive new investments.

In recent years, the EU economy has faced a constantly changing regulatory environment. For the bioenergy sector, the repeated revision of the sustainability criteria across the latest mandates has increased investment risk in bioenergy projects.

As such, the extention of the revised sustainability criteria under the Renewable Energy Directive (REDIII) to smaller-scale bioenergy producers should be phased in gradually and consider local conditions. **Retroactive changes that would disrupt existing investments must be avoided to maintain trust and stability in the market**, especially at local level.

The implementation of novel additions to Article 3 of REDIII, such as cascading principle and industrial grade roundwood restrictions, must consider local market conditions. In addition, it must avoid disrupting well-functioning markets which are already achieving RED's policy goals. The EU Commission should acknowledge the historic challenge of codifying these principles and concepts into law. Effective implementation under REDIII should be prioritised before replicating these requirements in wider legislation.

- ***The next EU mandate must ensure regulatory stability for the bioenergy sector,*** *and therefore not reopen the REDIII Biomass Sustainability Criteria.*
- *REDIII implementation should not create* ***unnecessary red tape*** *and must take a pragmatic approach to the cascading principle and industrial grade roundwood rules.*