



BRILIAN

Circular Future for Rural Areas

First Bioeconomy Policy Paper

By Environmental Bioeconomy Bureau



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EXECUTIVE SUMMARY

Overview

This paper serves for Brilian partners, for external stakeholders including policy makers, to understand the rapidly evolving policy scene developing in the European Commission and institutions which relate to policies that may impact the rural bioeconomy.

Methodology/approach

The Policy Bulletin is the first of five that will be produced during the four years of the project. This edition has been drafted following the Policy Workshop organised by BRILIAN in Brussels on March 13th, 2024, in which issues related to the rural bioeconomy were discussed with external experts. These included representatives of CIRCE, project Coordinator, the European Commission DG GROW, JRC, CBE JU, European Bioplastics, FEAD, ZWE, MWE, BASF, and EBB.

Objectives

The principal objective of this first Policy Bulletin is to illustrate in a concise form the development of European legislation that may have impacts upon rural bioeconomy development. In this sense, the document will focus upon the priorities related to bioeconomy.

Index

Points 1 to 4 of this paper will look at the overriding strategic direction of European policy when related to the Bioeconomy.

Point 5 will illustrate the impacts of legislation that has been passed or is being tabled, upon the Bioeconomy.

Point 6 looks at the open European consultation processes stakeholders should be aware of and respond to.



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INTRODUCTION TO THE BRILIAN PROJECT

Currently, rural areas cover approximately 80% of the European Union's territory, containing 30% of its population (137 million people) and therefore they play a key role in improving sustainable bio-based value chains.

In parallel, climate change and resources scarcity have made agricultural residues, by-products, and waste gain attention as a renewable, abundant, and sustainable feedstock, enabling regional stakeholders in rural areas to create sustainable cooperative business models while reducing their dependence on fossil fuels and pollution levels. Nevertheless, the vertical integration of the bio-based chains in rural areas is a complex task that implies cooperation among actors with different profiles and many barriers (high capital requirements, operation of complex technologies, specialized workforce, cooperation with technology providers, sales channels, develop optimized short and sustainable logistic chains,...). that need to be addressed by farmers to convert the wastes and by-products produced and subsequently, to sell the respective bioproduct to final consumers.

The creation of a more sustainable, competitive and resilient Europe requires robust rural bio-communities.

In this context, vertical integration of primary producers in bio-based systems is needed to increase farmers market power and to pave the way towards a full cooperation between regional stakeholders (primary producers, feedstock conversion actors, bioproducts end users and policy makers) in rural areas. Supporting this integration and promoting the bioeconomy in rural areas is a priority for BRILIAN, in particular, given the opportunities it presents for job creation, diversifying primary producers' income, and encouraging rural regeneration.

1.1 Objectives

The BRILIAN project has been conceived to support the **adoption of sustainable and cooperative business models in rural areas**, to incorporate agricultural by-products valorisation, seeking to increase and diversify primary producers' income. These business models will contribute to enhance rural development, biodiversity preservation and climate-neutrality, easing a smoother transition towards bio-based economies. It plays a fundamental role in revitalizing these regions and promoting sustainable economic and social development by transforming primary producers into active players in the supply chain, aligned with the goals outlined in the Common Agricultural Policy (CAP), the Green Deal, and the European Bioeconomy Strategy.

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BRILIAN will set-up 3 cooperative pilots working with 10 value chains for the validation of a group of actions for bio-innovation (ABI), which will enable the proposition of specific cooperative business models. These business models will consider organizational and logistic optimization but also economic, social and environmental aspects, thanks to the Optimization Toolkit.

Using biomass to produce food, materials and energy can help boost rural communities, increase competitiveness and combat many of the challenges that the EU is faced with, including climate change, fossil-fuel dependency and food security.

1.2 This Policy Bulletin

Among the documents of the project is a regular Policy Bulletin that is published for public dissemination. It serves the partners of BRILIAN to foster understanding of the policy frameworks in which the rural bioeconomy functions, showing opportunities and challenges from a rapidly evolving policy landscape across the EU. The Bulletin also serves for external stakeholders and policy makers to understand the complexity within which rural actors operate and to help shape future policies so they take those complexities into account.

1. INTRODUCTION AND POLITICAL DECLARATIONS

In June 2024 citizens of 27 nations across the EU will elect a new European parliament. New Commissioners will be nominated to lead the various Directorates. At the time of writing therefore, the energies of the European institutions are devoted to closing processes including legislative acts, that have been subject to negotiation over the last four years. Parliament closes at the end of April 2024.

Given these timelines it is difficult to make estimations and predictions related to future work programmes of the Commission, which, while announced, will possibly be revised once a new Parliament and new Commissioners take their places. We can foresee however, that major legislative proposals are unlikely in 2024 while everyone finds their feet and gets used to their roles.

The current EU Presidency is held by Belgium. In July the Presidency transfers to Hungary.

The Belgian Presidency has placed Bioeconomy as a policy goal in their six- month Presidency¹. They state:

“The Belgian Presidency will focus on advancing a sustainable and circular economy. To further the green transition and to improve product circularity and energy performance, any remaining work on the Ecodesign for Sustainable Products Regulation (ESPR) will be finalised. The Presidency will explore the untapped potential of the bioeconomy, circular manufacturing, circular materials and material footprint reduction, as well as hydrogen and carbon capture usage and storage (CCUS) in achieving a sustainable net-zero European industry.”

Following up on this, the Antwerp Declaration for a European Industrial Deal² signed and delivered on February 20th 2024 by a large coalition of industries to the EU President and the Belgian Presidency, underlined the importance of the bioeconomy and biotechnologies. The statement from CBE JU says:

¹ https://belgian-presidency.consilium.europa.eu/media/3kajw1io/programme_en.pdf

² <https://antwerp-declaration.eu/>

“Today’s declaration acknowledges the role of the biobased sector in strengthening Europe’s industrialisation and in achieving the European Green Deal objectives by greening industrial processes and promoting circularity, while at the same time supporting a Just Transition through the creation of new high-skilled green jobs and revitalising rural and coastal areas. However, significant challenges remain for the sector to move from the laboratory and demonstration to upscaling, commercialising and replication of first-of-their-kind biorefineries which can provide consumers with new innovative circular products while at the same time increasing Europe’s technological leadership, reducing external dependencies on strategic imports and delivering the climate solutions Europe needs.”

The recognition of the Bioeconomy in these two statements is evident but the need for it to be highlighted shows in fact a weakness: the Bioeconomy has long been ignored as a potential solution to the climate and ecological issues Europe is facing. The EU has a lot of lost ground to make up to match the ambitions of the USA and China in using biobased feedstocks to make innovative materials. The emphasis of the CBEJU on scaling up and market access is a critical point bioeconomy experts have been making for some years, including the EBB. At least there now appears to be a recognition of how far the EU is behind its global competitors and this is reason to be optimistic.

At the same time, it is worth noting that several national governments have in any case developed a Bioeconomy Strategy. These have been issued partly as a result of the two Bioeconomy Strategies published by the EU in 2012³ and 2108⁴, partly to give impetus to national industries.

There are national bioeconomy strategies covering almost half of the EU’s nations: in Austria, Estonia, Finland, France, Germany, Ireland, Italy, Latvia, Netherlands, Portugal, Spain, Sweden⁵.

Therefore, we can say that at a strategic level the importance of the bioeconomy appears to be consolidated. The issue then becomes, how is this strategic overview implemented? What policy decisions are needed to make the vision an industrial and economic reality?

³ <https://op.europa.eu/en/publication-detail/-/publication/1f0d8515-8dc0-4435-ba53-9570e47dbd51>

⁴ https://knowledge4policy.ec.europa.eu/publication/new-bioeconomy-strategy-sustainable-europe_en

⁵ <https://bioeconomyassociation.org/bioeconomy-in-action/global-biostrategies/>

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2. WIDER POLICY CONSIDERATIONS- GREEN DEAL, CIRCULAR ECONOMY, CAP, CLIMATE LAW GOALS

We should understand that EU policy since 2019 has been driven by over-riding considerations derived from the Green Deal (in which Circular Economy is included) and the CAP. New goals for climate neutrality have also been established as over-arching targets for all EU policies. We make a short summary of these to contextualise subsequent policies and announcements.

1.1 The Green Deal⁶

Announced in 2019 the Green Deal established a long-term plan to deliver climate neutrality to the whole EU by 2050, a decoupling of economic growth from resource use, and a social programme to ensure inclusivity and poverty reduction.

Specific targets include investments (post Covid recovery) of €600 billion, an energy transition towards renewables, clean industrial production, modernised transport systems, promotion of healthier food production and the stimulation of innovative climate friendly industries through investments in research and innovation.

Circular Economy⁷ falls within the scope of the Green Deal as the means through which industries access raw materials, reducing dependence upon imports, as well as recycling and reusing those to maximise resource efficiency and reducing waste. We see CE policies enacted through instruments such as the Packaging and Packaging Waste Regulation, the Waste Framework Directive, as outlined below in this text. These follow from the CE action plan approved in 2020 as one of the key pillars of the Green Deal.

We should note that the backlash against the enacting policies of the Green Deal in the last months of the administration in 2024 has been significant, as we shall see below. Policies within the CAP, related to nitrates, the Nature Restoration Law, have all been considerably watered down to take into account the opposition from farmers struggling with the implementation of stricter ecological controls, especially in view of the elections in June 2024. How the new European political scene will look after the

⁶ https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

⁷ https://environment.ec.europa.eu/strategy/circular-economy-action-plan_en

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elections is of course impossible to predict but further dilution of “The Green Deal” is one possible outcome.

1.2 Common Agricultural Policy⁸

The current CAP came into force in 2023 and lasts through to 2027. Noting that farmer incomes are much lower than EU averages, the CAP aims to support farmers through income support, market measures to avoid price collapses, and funding to develop the rural economy. There are 10 million farms in the EU with around 9 million people directly employed. The CAP budget dedicated to these measures consists of circa €380 billion over the five year representing 35% of total EU spending- for a portion of the population representing circa 4% of the total workforce.⁹ The recent protests by farmers against EU policies demonstrates that the massive amounts spent on farmer support seems not to be translated into a perception of real benefits.

The CAP obliges farmers to help tackle climate change, manage resources sustainably, safeguard biodiversity, and maintain rural areas and landscapes while producing incomes enabling a decent lifestyle. These ambitions and targets are further laid out in the Farm to Fork Strategy¹⁰ and the Biodiversity Strategy¹¹ published by the Commission and adopted in November 2023, the latter laying down the framework for the both the Nature Restoration and the Soil Health laws explained in the text below.

Farmers are therefore under increasing pressure to reduce (for example) emissions to air, soil and water not only for climate change reasons but also to reduce pollution from eg nitrates; to reduce use of pesticides to improve biodiversity and reduce health impacts from residues; to improve animal welfare; to dedicate more land to allow biodiversity to flourish; to change land use, eg planting more trees. Organic farming is also promoted, with a target to achieve 25% of all land under organic farming by 2030, a massive leap from current practice.¹²

The CAP, Climate Goals and the Green Deal have also led to the 2023 revision of the regulation of land use change and forestry known as LULUCF¹³, which aims to reduce

⁸ https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en

⁹ <https://www.europarl.europa.eu/factsheets/en/sheet/104/the-common-agricultural-policy-in-figures>

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020DC0381>

¹¹ https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

¹² https://agriculture.ec.europa.eu/farming/organic-farming/organic-action-plan_en

¹³ https://climate.ec.europa.eu/eu-action/land-use-sector_en#eu-rules-on-land-use-land-use-change-and-forestry-lulucf

310 million tons of CO₂ emissions by 2030, representing some 15% of all EU emission reductions targets, through mechanisms such as carbon farming (see below) and changing agricultural practices. A Land Study shows how member states can achieve this target¹⁴ and how the new Bioeconomy Strategy contributes¹⁵.

On April 24th MEPs voted a barely noticed amendment to the CAP which loosens the rules on farmers need to respect GAEC (Good Agricultural and Environmental Conditions)¹⁶. This change has been made specifically to respond to farmers' unrest over their environmental burdens and has been heavily criticised by NGOs for being unscientific and above all, without wide consultation.

To conclude, the multiplication of norms, strategies and regulations which impact the rural economy is such that it cannot be expected for farmers to analyse and understand them fully- farming communities, tied as they are to cycles involving weather, crops, animal husbandry, markets, rely upon information and interpretation of policies through their associations and unions. The complexity is quite astonishing and if there is a recommendation to be made for rural communities, it could be that all these policies are illustrated in a logical sequence, clearly highlighting obligations and support mechanisms.

1.3 Climate Goals

The new announcement by the Commission in February 2024 of its long-term climate goals created some considerable debate among NGOs and other stakeholders.

The overall ambition is high: to reduce net emissions 90% by 2040 compared to 1990. Agriculture and land use are seen as the largest contributors to this reduction, illustrating graphically the pressure rural economies will be under to change practices. Whilst emissions from energy supply are estimated to fall to zero, thanks to renewables; and from industry to fall near to zero thanks in part due to renewable energy but also off-shoring, agriculture has to find other routes to reduce emissions- energy is just a part of the rural economy's emissions.

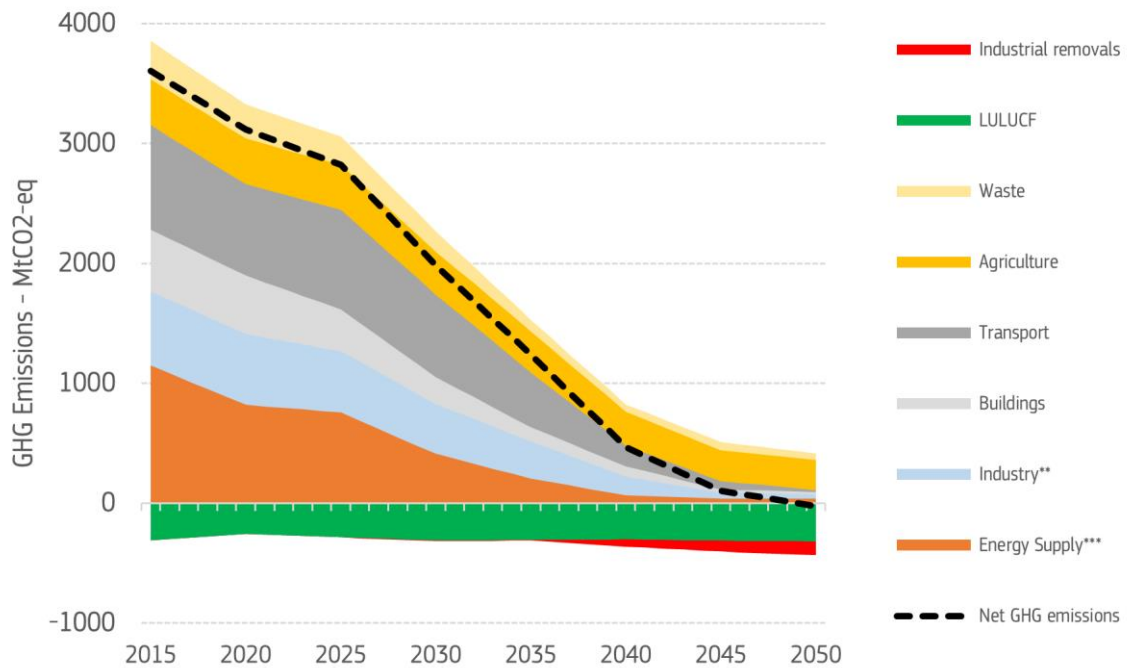
¹⁴ <https://op.europa.eu/en/publication-detail/-/publication/a21ad24a-eaff-11ed-a05c-01aa75ed71a1/language-en>

¹⁵ https://research-and-innovation.ec.europa.eu/research-area/environment/bioeconomy/bioeconomy-strategy_en

¹⁶ [Conditionality - European Commission \(europa.eu\)](https://european-commission.eu/conditionality)



Greenhouse gas emissions in the period 2015-2050*



*Source: PRIMES, GAINS, GLOBIOM

**Excluding non-BECCS industrial removals

***Including Bioenergy with carbon capture and storage (BECCS)

Criticism related to the targets comes from NGOs and the journal Nature precisely because the reliance on carbon capture and removals (eg from land use) is as Greenpeace¹⁷ states “dodgy accounting” and as Nature states, “untested”¹⁸. Therefore in the context of the rural bioeconomy, the emphasis on carbon removals presents both opportunities (new sources of incomes) and challenges (having to meet targets through new and unproven mechanisms. More on this in the text below.

Now we move to analyse specific policy announcements and measures related to the rural bioeconomy derived from the over-arching policies we have looked at above under section 2.

¹⁷ <https://www.greenpeace.org/eu-unit/issues/climate-energy/46934/eu-2040-climate-plans-dodgy-accounting-and-magic-wands-to-hit-the-target/>

¹⁸ <https://www.nature.com/articles/d41586-024-00391-3>

1.4 Biotechnologies and Biomanufacturing

Recognising the impact of the USA Inflation Reduction Act in promoting the bioeconomy and therefore in drawing industrial investment towards the USA and away from the EU, the Commission has announced on March 20th 2024 a new biotech and biomanufacturing roadmap called [Communication on Building the future with nature](#).¹⁹

BIC and another 16 organisations have presented to the Commission their vision of what the Roadmap should look like.²⁰

There are currently 803 biorefineries in the EU, of which 363 produce liquid biofuels and 177 are integrated biorefineries that combine the production of biobased products and energy. In the Communication on Sustainable Carbon Cycles,²¹ the Commission announced that at least 20% of carbon used in chemical and plastic products will come from sustainable non-fossil sources by 2030. The Commission's Communication on a Green Deal Industrial Plan for the Net-Zero Age also refers to the development of biobased substitutes.

What does the new Commission Strategy paper say?

There are several key messages of interest to the Brilian partnership and those interested in the development of bioeconomy industries. In brief they are

1. Boosting innovation. This means that funding for more research and product development will presumably be available.
2. Market pull. This is a request from the sector to the Commission going back years- how to overcome the gap between research and market?

The Commission foresees a series of instruments to answer this demand although none of these are short term solutions- they aim to “review the assessment of fossil-based and biobased products to ensure equivalence of treatment and incorporate methodologies for carbon storage in construction materials. To accelerate the substitution of fossil feedstock and to **stimulate the demand and market uptake of bio-manufactured products**, the Commission will conduct an in-depth impact assessment of the feasibility of **biobased content**

¹⁹ COM(2024) 137 final https://ec.europa.eu/commission/presscorner/detail/en/ip_24_1570

²⁰ <https://biconsortium.eu/media/joint-statement-eu-initiative-biotechnology-and-biomanufacturing>

²¹ COM(2021) 800 final

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requirements in specific product categories and in public procurement. Furthermore, the Commission will explore how bio-manufactured non-food products could profile themselves better through labelling of biobased products.”

All of the above is useful, but very long term and slow.

1. Streamlining the Regulatory Framework and working towards an EU Biotech Act and a Biotech Hub to explore possible simplification and overcome commercial barriers. Again to be welcomed, but not exactly a policy that will make investors immediately enthusiastic.
2. The paper then goes on to mention the need for more skills training, to foster private and public partnerships in investments, to ensure standards are aligned, improving international cooperation, supporting the uptake of AI and finally, with a review of the Bioeconomy Strategy by end 2025.

This important document lays down a pathway to facilitate the bioeconomy but does not offer a paradigm change in upscaling industries to become market leaders and substituting fossil carbon at scale in the short term.

1.5 A revised Bioeconomy Strategy in 2025

The last Bioeconomy Strategy published in 2018 is now clearly out of date, superseded by national strategies and by the new economic circumstances Europe faces after the Russian invasion of Ukraine. In any case the 2018 Strategy called for a review after six years, just as the 2012 Strategy led to the 2018 revision.

There is still a lack of a comprehensive regulatory policy approach. Coherent, clear, and consistent policy tools are needed to create a long-term pull and leverage for biobased products. The current policies and legislative frameworks support bioenergy, but not biobased materials and products (see below on the Biomass Strategy.) For example, the BIP²² target of 35bm³ of biomethane by 2030 is a clear target with consequential policies, investments and incentives. Such a target for biobased products is missing.

The EU should implement the principle of cascading use of all sources of biomass if it is certified as sustainable fixing a “prioritisation” for the use of biomass and balance

²² <https://bip-europe.eu/>

between bioenergy and biobased products. The incentives should account for the benefits that building biorefineries can bring to rural areas, as well as their capability to valorise side streams from agricultural and forestry biomass.

An actionable EU Bioeconomy Strategy, supporting a strong industrial base for biobased products, should be among the most important policy elements of the upcoming initiative on biomanufacturing to continue the path of a just and equitable ecological transition.

Harmonising regulations, supporting research and development, incentivising investment, stimulating market opportunities, and promoting sustainable feedstock sourcing should be essential components of the bioeconomy strategy providing strong support for the expansion of the EU's manufacture of sustainably sourced bioplastics. This should be implemented through a Bioproducts and Biopolymers Industrial Action Plan.

Boosting sustainable biomass production and create climate-smart incentives for EU agricultural producers and forest landowners. To achieve this, the framework of monitoring and assessment of innovative ideas and their applications needs to be expanded further considering the socio-economic aspects and unique characteristics of each ecosystem.

The revision of the Strategy is an opportunity for all Stakeholders, including those in the Brilian partnership, to feed into the consultation process and indicate priorities and policy requests.

3. A BIOMASS STRATEGY?

The focus of EU policy related to biomass has generally been determined by energy considerations- using biomass to provide renewable energy. This has in great part been stimulated by the Nordic countries whose vast forest industries seek alternative outputs to lumber and wood pulp and its by-products.²³ The revision of the Renewable Energy Directive in 2023 promotes a gradual shift away from conventional biofuels to advanced biofuels (mainly produced from non-recyclable waste and residues) and other alternative renewable fuels (e-fuels). The Biodiversity Strategy²⁴ recognises that chopping down trees to provide energy is not a long-term sustainable activity and that this use should be minimised, reducing the impact of forestry industries in harming biodiversity.

According to the Commission, biomass burning provides some 60% of EU's renewable energy resources, an astonishing amount²⁵ because in the debate about renewable energy it tends to go unnoticed- the focus is always on wind and solar or even nuclear power. Wood is the most important single source of energy from renewables in many Member States. Latvia (29%), Finland (24%), Sweden (20%), Lithuania (17%) and Denmark (15%) had the largest share of wood and wood products in gross inland consumption of energy (Eurostat 2018). Biomass burning is often heavily subsidised by the taxpayer, an amount estimated in 2022 to be €7bn a year²⁶; in 2022 the European institutions agreed to reduce the subsidies to zero by 2030 where the burning of whole trees is concerned.

How this will play out in terms of the development or decline of biomass as an energy source will be seen in the next few years.

We understand that Germany and France are developing national strategies for sustainable biomass use, prioritizing material production over energy generation. According to the Commission, the post-2040 EU climate strategy will also need to develop legislative tools to implement the cascading principle.

²³ https://energy.ec.europa.eu/topics/renewable-energy/bioenergy/biomass_en

²⁴ https://environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en

²⁵ <https://op.europa.eu/en/publication-detail/-/publication/7931acc2-1ec5-11e9-8d04-01aa75ed71a1/language-en/format-PDF/source-228478685>

²⁶ <https://www.landclimate.org/the-problem-of-bioenergy-in-the-eu/>

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From our point of view, (concerned with the Bioeconomy) these initiatives could fill the current strategy gap in steering the use of biomass towards the production of higher-value materials.

Mankind has always used non-food crops for the production of materials: from cotton, wool, flax for clothing and carpeting, to hemp for ropes, straw for thatched roofs, timber for furniture and house building and so on. As biotechnologies have progressed, so has the variety of biomass that can be transformed into materials: for mycelium to algae, corn starch and sugars, lignin residues, industrial and household food wastes, spent vegetable oils and greases, even sludges from humans and animals. Many CBEJU projects have developed research on these innovative materials and feedstocks. Moreover, if we are to meet goals of “carbon neutral” and reduction of emissions across the EU, then we need to adopt measures which do not simply look at fuel use, but also how we make materials. Green chemistry, using biobased feedstocks, can substitute many materials made from oil and gas if the pricing and other measures stimulate that demand.

To date they do not; whereas biomass used for energy has enjoyed huge and continuous taxpayers funding, for biomass used as materials (even bringing organic carbon to soil) no such funding has been available.

This creates two outcomes: on the one hand, competition for biomass feedstocks is distorted by the incentives and subsidies. It is today in the EU far more profitable to take food waste to make biogas or advanced aviation fuel, than it is to make compost. Nevertheless, EU soils have an increasing deficit of organic carbon that can be replenished using compost. There is an obvious disconnect which distorts waste management systems and material development.

The second outcome is that materials produced from biomass feedstocks, whether wastes or virgin, enjoy no incentives or subsidies in the EU. Whilst the impact may be limited in terms of overall market demand, in the USA the USDA “Biobased Preferred Programme”²⁷ exists which promotes Government departments to preferentially purchase biobased materials and products through mandatory obligations; in the EU there is no such preference.

The need for Biomass Strategy that looks at overcoming the conflict between energy and material uses of biomass is an essential ingredient of the development of the

²⁷ <https://www.biopreferred.gov/BioPreferred/>

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European Bioeconomy. Without such a strategic overview, it is likely that a) biomass will continue to be favoured above all for energy needs and b) the use of non-fossil carbon for material production will be severely disadvantaged.

A strategy is needed to develop sustainability criteria for biomass, including proof of sustainable origin of biomass and expansion of REDIII criteria to other sectors than energy.

Legal anchoring of the cascading principle to the waste hierarchy (priority of material use over energy use); adaptation of laws, funding programs, and regulations are needed.

Enforcing the EU's mandatory separate collection of organic waste for composting/AD (by reviewing the WFD). Organic waste is a resource which is still largely landfilled or incinerated despite the obligation to separately collect and treat it, which entered into force in 2024.

We hope that in 2025 a Biomass Strategy for materials will be discussed at EU level and Brilian partners should feed into this with their knowledge and experience.

4. ANCILLARY LEGISLATION.

This section of our paper looks at individual pieces of European legislation that have been (or are being) adopted and how they impact the development of the Bioeconomy, in the context of using biobased feedstocks for material production.

a) Packaging and Packaging Waste Regulation

The final version of the regulation was published on April 24th, after writing the first and second drafts of this paragraph. After its approval, the text will undergo legal checks and translations and will be published probably within the end of 2024. It is now certain that the process will therefore come to its logical conclusion, i.e. that there are no more political obstacles to the PPWR entering into force.

The initial reaction to the text is that compostable biobased plastics will continue to have a role in packaging within the EU. This is a major success given the opposition to such materials from some member states and associations, especially the main waste associations.

Indeed, the text mandates the use of compostable materials for sticky fruit and vegetable labels; allows member states to co-collect compostable packaging with food wastes; allows member states to mandate that only compostable teabags, coffee pods, light weight bags and carrier bags are on their market; requires member states to ensure compostable packaging put onto the market and not organically recycled is compatible with mechanical recycling; requires an update of the EN13432 standard and proposes an EU harmonised home composting standard; new labelling requirements will be imposed to ensure easier identification of products and to reduce cross contamination; Annex III lays down the conditions which govern the use of compostable packaging including that its use enhances organic waste collection; finally, those member states (eg Italy) which have already mandated the use of compostable materials in certain packaging applications may continue to do so, thus protecting status quo for these materials.

In conclusion, the text means that compostable packaging can be placed on national markets according to national mandates and that any lightweight bags, teabags, coffee pods and label must be compostable. Other compostable packaging must prove to be recyclable as well as compostable. Whilst those in the bioeconomy industries will not be happy with this outcome because there are fewer mandates than many would have wanted (eg all fresh food packaging), the sector does have a sizeable market especially

in lightweight bags. Food waste collections will also enhance the use of compostable materials, ie as caddy liners (see Italy, Spain, Denmark, Ireland).

b) Waste Framework Directive (food waste)

Once more at the time of writing the WFD revision (from its current text dating from 2018) has been voted upon by the European Parliament and we are awaiting the Council's view and a final Trialogue agreement, hopefully before the end of April 2024 with publication before summer 2024.

The present text voted by Parliament impacts the bioeconomy only relatively, in the sense that it focuses upon two main areas: 1) establishing EU-wide Extended Producer Responsibility for textiles, to place the cost of collecting, recycling, and disposing of textiles upon manufacturers, distributors, and importers of clothing. This probably has a marginal impact only upon the rural bioeconomy.

The second pillar of the WFD is food waste, a critical component of the bioeconomy both in terms of impacts from food waste and as a feedstock for bioeconomy industries (bioenergy, composting, chemicals).

On food waste the Parliament adopted legally binding targets to reduce the amount of food waste by 40% by 2030, less than the SDG goal 12.3 of 50% but still very ambitious. No targets were adopted nor were any methodologies adopted on the separate collection of food waste, which EBB and others had advocated for. Without collection targets, the EU will have a food waste reduction target and a food waste collection obligation, but without targets, making it meaningless.

Nevertheless, for the rural bioeconomy the implication of the food waste reduction target will mean less by-products and less food waste produced along the supply chain, which we should celebrate; at the same time, it might mean less feedstocks for certain industries such as biogas, composting, animal feeds, chemicals.

Industries which use food waste or food industry by-products are advised to review organic waste feedstock planning taking this reduction into account over the years.

The Directive makes no attempt to clarify the issues around end of waste criteria for food waste. This is a question which directly relates to bioeconomy industries- when is a material a waste, a by product, or a product? The answer determines in part which materials can be used by certain industries- if a material is a waste, it cannot be used in certain applications due to laws determining waste management; if the same material

is a by-product, it can be freely used as it no longer has waste status. Clarity on this is missing.

Further the Directive makes no attempt to classify biobased and biodegradable materials that do not have specific waste (CER) codes. This creates difficulty in identifying them for statistical terms but also in authorisations required by waste plants to treat them. This is a gap in legislation worth highlighting.

c) Renewable Energy Directive II²⁸

REDII²⁹, the revised RED entered into force on November 20th 2023 and proposes ambitious targets for the use of renewable energy in the EU: by 2030 there is a binding target of 42.5% renewable energy use.

Of particular interest to the rural bioeconomy is the future employment of bioenergy.³⁰

Bioenergies take several forms :

1. Biomass- the cultivation of biomass (mainly trees) or the use of biomass wastes and by products as a combustion fuel.
2. Biofuels- the transformation of biomass and biomass wastes and by-products into liquid or gaseous fuels, for example for transport and as an aviation fuel.
3. Biomethane- the conversion of biomass through anaerobic digestion into biogas and upgrading to biomethane to use as an alternative to Natural Gas for heating or fuel.

On biomethane, the Commission, in partnership with the biogas industry, has laid down a target of 35bm3 of biomethane to be produced in the EU by 2030. This target is roughly 7-8 times production capacity in 2023. The Biomethane Industrial Partnership³¹ is elaborating the policies needed to achieve this goal and the EBB is a member contributing to this work. For rural bioeconomy stakeholders the ambition already translates into national incentive schemes to promote the capture of biogas from (for example) agricultural wastes and manures. The BIP is expected to enhance the

²⁸ https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-directive_en

²⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023L2413&qid=1699364355105>

³⁰ https://energy.ec.europa.eu/topics/renewable-energy/bioenergy_en

³¹ <https://bip-europe.eu/>

marketplace through (for example) tradeable certificates and mutual recognition of biomethane standards across EU borders, facilitating trade and transport. Moreover the impetus from national governments to stimulate production through advantageous fiscal incentives, is expected to grow.

Biomass burning and biofuels are well established uses of biomass to produce energy, the former dating to the origins of Mankind. Some controversy over the burning of biomass for energy on a large scale has led to many NGOs protesting the growth of this industry, heavily supported by the forestry industries of the Scandinavian nations. Loss of biodiversity, destruction of old growth forests, water pollution, illegal logging, uncertain accounting, are just some of the criticisms levelled at this industry. A recent IEA paper draws unfavourable conclusions about the sustainability of biomass burning.³² For stakeholders of the Brilian partnership, we should caution those interested in making new investments in this sector.

For biofuels the distortive impact of incentives has led to the perverse use of feedstocks such as palm oil to blend with diesel as a vehicle fuel - the criticism of this being that the deforestation of tropical areas to grow palm oil is caused by the EU's target on renewable feedstocks in fuel. Until recently half of all palm oil imported into the EU was used as vehicle fuel.³³ In the USA about half of the total corn and soyabean crop is now used as fuel. The distortive impacts of incentives are outlined in a paper by the John Locke Foundation from 2023.³⁴

However, there are other forms of more sustainable feedstocks for biofuels which should be of interest to Brilian stakeholders, notably the use of waste oils (used cooking oils), greases and fats and extracts from the agri-industrial production chains. Whilst the movement towards the electrification of vehicles seems inevitable, the use of biofuels in other forms of transport such as aviation or even shipping appears to grow quickly. Virgin Atlantic recently flew a jet across the Atlantic fuelled with biofuels.³⁵ Small but potentially rapidly growing investments are being made into using biofuels in

³² <https://iea.org.uk/publications/trees-for-burning-the-biomass-controversy/#Conclusion>

³³ <https://www.transportenvironment.org/discover/record-levels-palm-oil-diesel-burning-food-fuel-madness-continues/>

³⁴ <https://www.johnlocke.org/research/in-the-tank/>

³⁵ <https://corporate.virginatlantic.com/gb/en/media/press-releases/worlds-first-sustainable-aviation-fuel-flight.html>

maritime shipping.³⁶ Our advice to rural bioeconomy stakeholders is to keep a positive and open mind on the possible growth of this sector.

d) Soil Monitoring Law

EBB and other stakeholders have long highlighted the perilous condition of soils in the EU, harmed by intensive farming practices, excessive tilling and erosion, compaction and loss through urban expansion.

The November 2021 Soil Strategy published by the Commission partly answered the need to take a long term look at solutions to maintaining healthy soils and restoring unhealthy soils in the EU. The Strategy has as its key objectives that by 2050³⁷

- all EU soil ecosystems are healthy and more resilient and can therefore continue to provide their crucial services
- there is no net land take and soil pollution is reduced to levels that are no longer harmful to people's health or ecosystems
- protecting soils, managing them sustainably and restoring degraded soils is a common standard

These objectives would be achieved by, among others, a new Soil Health Law to be published in 2023. In July 2023 the Soil Monitoring Directive was proposed³⁸ which aims to

- putting in place a solid and coherent monitoring framework for all soils across the EU so Member States can take measures to regenerate degraded soils
- making sustainable soil management the norm in the EU. Member States will have to define which practices should be implemented by soil managers and which should be banned because they cause soil degradation
- requesting Member States to identify potentially contaminated sites, investigate these sites and address unacceptable risks for human health and the environment, thereby contributing to a toxic-free environment by 2050.

³⁶ <https://www.dnv.com/expert-story/maritime-impact/Exploring-the-potential-of-biofuels-in-shipping/>

³⁷ https://environment.ec.europa.eu/topics/soil-and-land/soil-strategy_en

³⁸ https://environment.ec.europa.eu/publications/proposal-directive-soil-monitoring-and-resilience_en

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As of the time of writing there appears no possibility that the Directive will pass through the legislative process within the current European Parliament's lifetime and will therefore be pushed into 2025. Whether the new EU Commission and Parliament will have the appetite for a Soil Law remains to be seen. Many nations are contrary to such legislation as they see soil, land, as a national and not European issue and are hesitant to put into place monitoring of soil health and use.

Nevertheless, for Brilian stakeholders the issue of soil health is an increasing concern—loss of biodiversity, organic carbon and fertility, as well as increased desertification, are all issues threatening the rural bioeconomy. They are also linked into legislative proposals around carbon farming and regenerative agriculture, for which see below (f)

e) Nature Restoration

One landmark piece of legislation impacting the rural communities was passed by the EU Parliament in February 2024, to the applause of NGOs. The Nature Restoration Law³⁹ imposes legally binding targets to improve biodiversity and restore degraded natural ecosystems such as forests, grasslands and wetlands. Rewetting of peatlands, the planting of 3 billion trees and the restoration of fast flowing rivers to their original tracts, are among the obligations laid down. An estimated 81% of all habitats across the EU are damaged or in decline.

All of these actions will impact the rural bioeconomy because they will a) limit land use in some regions for example, by changing river courses and b) offer opportunities to landowners to benefit from the incentives and funding of activities such as tree planting. A full list of actions is to be found in this footnote.⁴⁰

However, after the Parliament voted for the law a final approval from the nation states themselves was postponed by the Belgian Presidency on March 22nd after Hungary showed opposition to it, backed unfortunately by several other EU nations⁴¹. We now do not know whether the Council will be able to find a solution to this opposition and if the law will finally be approved.

³⁹ <https://www.europarl.europa.eu/news/en/press-room/20240223IPR18078/nature-restoration-parliament-adopts-law-to-restore-20-of-eu-s-land-and-sea>

⁴⁰ https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en

⁴¹ [Member States betray deal on Nature Restoration Law following Hungary's U-turn \(eeb.org\)](#)

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f) Carbon farming

In November 2022 the Commission proposed the framework for the certification of carbon removals, a long awaited move and a critical element for the rural bioeconomy- if farmers can certify their actions supporting carbon removal, they can presumably profit from this. In February 2024 an agreement between the Commission, Parliament and Council has been reached for the first EU-wide voluntary framework for the certification of high-quality carbon removals.⁴² The Law has yet to be published in the EU's Official Gazette. As it is a Regulation, it will enter into force across all EU countries simultaneously.

The agreement sets out certification rules for:

- Carbon farming, such as restoring forests and soils and avoiding soil emissions, rewetting of peatlands, more efficient use of fertilizers, and other innovative farming practices;
- Industrial carbon removals, such as bioenergy with carbon capture and storage, or direct air carbon capture and storage;
- Binding carbon in long-lasting products and materials, such as wood-based construction materials or biochar.

A few points on this legislation:

1. It is a voluntary scheme so is not to be confused with the legally binding certification of carbon credits/trading under the Emission Trading Scheme.
2. It will take years to implement, as an EU carbon removal registry will not be in place at least until 2028.
3. It will however provide opportunities for the rural community to establish new business models. Some of these need to be explored within the Brilian project; previous research projects, such as The Life Carbon Farming project⁴³ and the North Sea Interreg Carbon Farming project⁴⁴ have already experimented models.

⁴² https://ec.europa.eu/commission/presscorner/detail/en/ip_24_885

⁴³ <https://www.st1.com/st1-life>

⁴⁴ <https://northsearegion.eu/carbon-farming/>

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We strongly advise Brilian stakeholders to look at the economic possibilities carbon removal will open over the medium to long term in the EU (5-10 years).

g) Green Claims

Another landmark piece of legislation approved by the European Parliament regards the use of claims on products sold into the EU. The legislation attempts to frame what is and what is not acceptable as a “green” claims in order to avoid greenwashing. The legislation is currently being finalised before publication in the EU Official Gazette.

The rules will require companies to “substantiate the voluntary green claims they make in business-to-consumer commercial practices, by complying with a number of requirements regarding their assessment (e.g. taking a life-cycle perspective).”⁴⁵

This is particularly important for Brilian stakeholders putting products onto the markets, especially consumer facing products. Whilst the rules will have little impact upon those selling raw materials (eg starch), they will impact those companies transforming into products (eg bioplastics). We strongly suggest a full reading of the law once it is published.

h) Urban Waste Water Treatment Directive- relation to the rural economy

The updating of the 1991 Directive on wastewater (eg sewage) treatment was long overdue and a proposal was launched after lengthy consultation in 2022. Whilst 90% of wastewater is treated effectively in line with the 1991 Directive, still 10 million Europeans have no wastewater treatment, especially in rural areas.

Two elements of the new Directive interest rural stakeholders, notably:

- pre-authorisation of all urban wastewater discharges, discharges from the food-processing industry and industrial discharges into urban wastewater collection systems. The Directive therefore applies to all those industries in rural areas that have liquid waste entering waste water treatment (eg dairy processing, breweries, fruit juice processing).
- controls of sewage sludge disposal and reuse and treated wastewater reuse whenever it is appropriate.

⁴⁵ [https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI\(2023\)753958](https://www.europarl.europa.eu/thinktank/en/document/EPRS_BRI(2023)753958)

The first changes the regulatory framework under which the food industry discharges waste liquids into the wastewater treatment system whilst the second changes the controls over the use of sewage sludges, eg spreading to soil. This potentially impacts farmers using sewage sludge as a soil amendment and requires more reporting and monitoring of application to land.

Interestingly, the law will also set up an Extended Producer Responsibility payment obligation for manufacturers of cosmetics and medicines that need to be treated in sewage plants, compelling them to pay for the extra costs. The law was agreed in principle at the end of February 2024 and we are awaiting its transcription in the Official Gazette.⁴⁶

⁴⁶ <https://www.consilium.europa.eu/en/press/press-releases/2024/01/29/urban-wastewater-council-and-parliament-reach-a-deal-on-new-rules-for-more-efficient-treatment-and-monitoring/>

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5. OPEN CONSULTATIONS

Finally, we look at any open consultations which may impact the rural bioeconomy.

At present there are two consultations of relevance:

The first is a consultation on the impact of the Nitrate Directive, which closed on 8th March 2024. EBB contributed to this through a position paper issued by the European Environment Bureau asking for the Directive not to be revised. The fear many NGOs have is that a revision will lead to increasing levels of nitrates loaded to farmland, whereas the ecological burden requires a reduction of nitrate loads.

On April 22nd the Commission posted a draft revision of the Nitrate Directive which is now open for consultation here [Nitrates – updated rules on the use of certain fertilising materials from livestock manure \(RENURE\) \(europa.eu\)](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13898-EU-fertilising-products-biodegradability-criteria-for-polymers-and-other-technical-amendments_en)

It should be decided within the Brilian partnership whether it is appropriate we supply comments to this, closing date 17th May 2024.

The new proposal from the Commission is made without an impact assessment and seemingly in a great rush. Essentially it increases the amount of nitrogen which can be applied to soil provided this derives from non synthetic sources, eg from animal manures. This is of benefit to those farmers using animal manures to produce biogas for example, whilst at the same time provoking the risk of even greater N overloads to already vulnerable agricultural regions.

The second is of interest to polymer producers and relates to the open consultation (closed on 5th April) which aims at introducing biodegradability criteria for polymers (coating agents, water retention agents, mulch films and other polymer-based technical additives) in EU fertilising products.⁴⁷ This is particularly of interest to Brilian partners looking at new market opportunities for biodegradable polymers. A policy proposal on this has yet to be issued by the Commission.

⁴⁷ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13898-EU-fertilising-products-biodegradability-criteria-for-polymers-and-other-technical-amendments_en

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6. CONCLUSIONS

The European policy landscape is evolving very quickly, especially in light on the June 2024 elections for the Parliament. This has led to a raft of policies being adopted prior to the closure of Parliamentary works at the end of April 2024.

Within this landscape there is much of interest to rural communities and to the partners of the BRILIAN project but we can see that as yet the policy frameworks contain contradictions and often a lack of final enacting instruments. We do not know at the time of writing whether the Nature Restoration Law will be finalised; the implications of the revised Nitrate limits under the partial revision of that Directive; how countries will enact those parts of the PPWR which allow national flexibility; and how all this matches the CAP and the mooted ambitions of a new Bioeconomy Strategy. Meanwhile a sorely needed level playing field for biomass use (energy V materials) is not even discussed.

Worth mentioning in these contexts are the declaration of the Environmental Ministers of G7 meeting in Italy April 29th and 30th 2024 which includes three paragraphs (34-36) on the bioeconomy and in particular:

We will thus promote circular and sustainable bioeconomy solutions to contribute to sustainable production of food, raw biological materials, bio-products in line with our overall effort to halt biodiversity loss, fight climate change and avoid practices that contribute to deforestation, forest loss and land degradation, pollute or harm ecosystems and their services.⁴⁸

Naturally those interested in the bioeconomy hope that such declarations are translated into effective and implemented policies in the near future.

The Policy Bulletin has hopefully highlighted the sectors of interest and in the next editions will review development and underscore those policies which impact rural communities.

⁴⁸ https://www.g7italy.it/wp-content/uploads/G7-Climate-Energy-Environment-Ministerial-Communique_Final.pdf

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