



Policy Brief

Policy pathways to unlocking Europe's transition to bio-based fertilising products

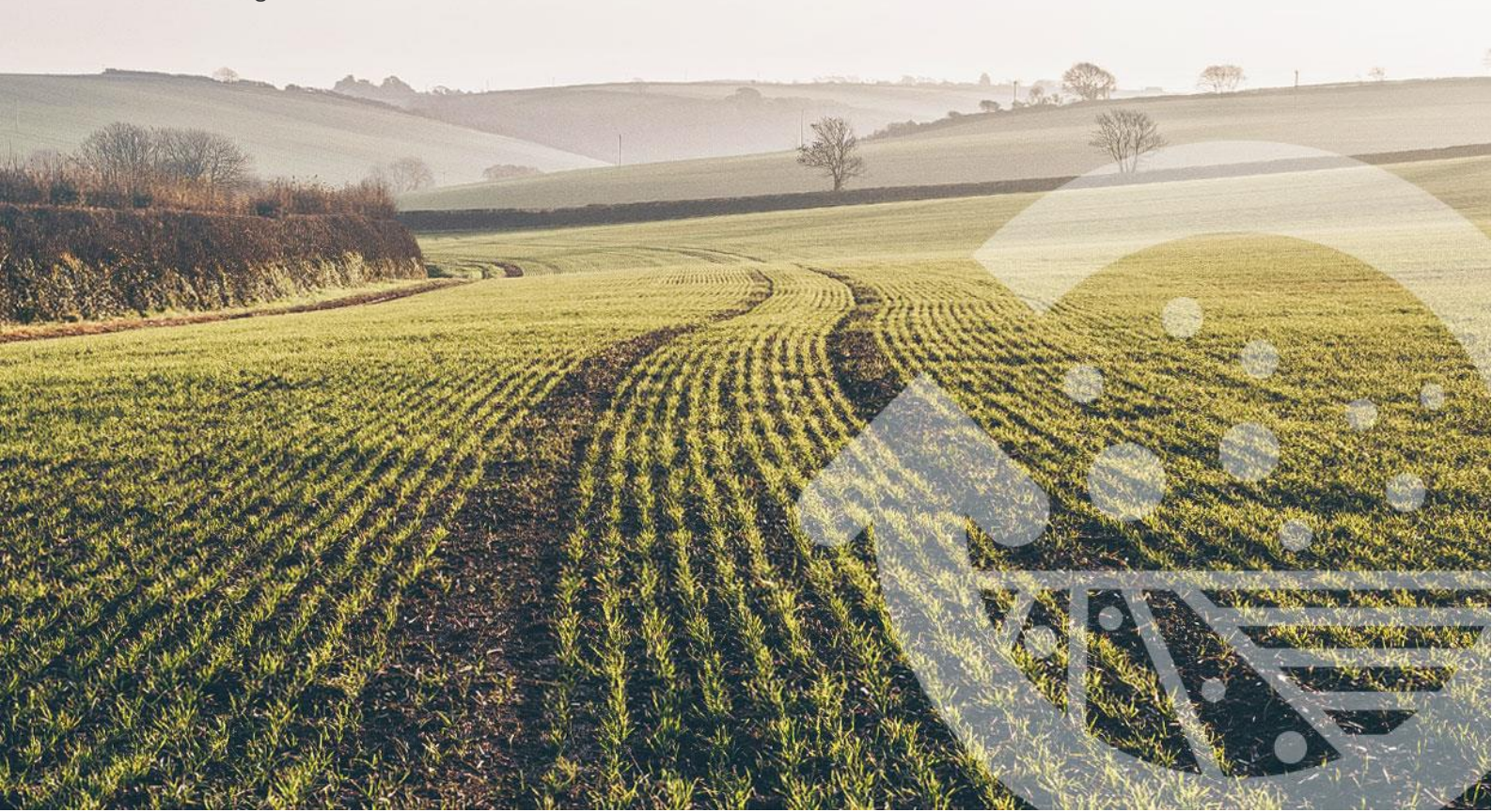
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About FertiCovery:

The [FertiCovery project](#) supports farmers, bio-based fertiliser producers and policymakers to remove barriers and promote nutrient recovery and the application of bio-based fertilisers, from secondary raw materials such as biowaste, manure, and wastewater.

The project focuses on identifying the best available technologies for recycling fertilisers from secondary raw materials. It aims to guide policymakers and stakeholders in adopting alternative fertilising products to balance nitrogen and phosphorus flows, enhance soil health, and maintain ecological sustainability at both regional and local levels.



Europe has entered yet another fertiliser and energy crisis in 2026. Rising energy prices, increasing fertiliser costs and renewed concerns over food security are adding pressure to an already fragile agricultural sector struggling with declining competitiveness and farmers' livelihoods. This new crisis demonstrates that, despite the first wake-up call triggered by Russia's invasion of Ukraine, the European Union remains heavily dependent on imported fertilisers and external suppliers that cannot always be considered reliable strategic partners. At the same time, Europe's fossil-based fertiliser industry continues to face structural vulnerabilities linked to its dependence on natural gas and the urgent need to decarbonise production processes.

These economic and geopolitical pressures are unfolding alongside a worsening environmental crisis. **Soil degradation remains a major challenge** across the European Union: despite recent progress through the EU Soil Monitoring Law, an estimated 70% of European soils are still considered unhealthy, threatening long-term food production, climate resilience, biodiversity and water retention capacities.

In this context, bio-based fertilising products represent a **strategic opportunity** for Europe to develop a more domestic, circular and low-fossil fertiliser supply. The fertilising products developed within the FertiCovery project can broadly be divided into two categories.

First, mature products such as **compost and digestate** already account for the majority of bio-based fertilising products used in Europe today. However, their potential to replace synthetic fertilisers, improve soil health, contribute to carbon farming and strengthen nutrient circularity remains insufficiently recognised in current policy and market frameworks. In particular, digestate often has little or no market value, providing farmers with a low-cost source of fertiliser but simultaneously limiting incentives for quality improvements and discouraging investment in more advanced bio-based fertilising products. Second, innovative carbon and nutrient recovery products (including **mineral concentrates, potassium salts, struvite, liquid ammonium nitrate/sulphate, biochar, liquid organo-mineral fertilisers from innovative processes, and nitrogen-enriched manure slurries**) are still produced at very limited scale. However, they currently face high production costs and limited market uptake, as end-users, particularly farmers, are often unwilling or unable to pay a premium compared to conventional synthetic fertilisers. Until economies of scale can reduce production costs, these innovative products will likely require stronger regulatory recognition, targeted incentives, and dedicated market support to compete effectively with fossil-based alternatives.

More broadly, **scaling up production** remains a central challenge across all categories of bio-based fertilising products. Current production volumes are simply insufficient to enable a meaningful transition away from synthetic fertilisers at European level.

Nevertheless, the current geopolitical and economic context is creating renewed momentum for policymakers to **accelerate the development of a resilient European bio-based fertiliser industry**. In this regard, the European Commission's Fertiliser Action Plan, published on 19 May 2026, is positioning itself as a key framework to support the deployment and market integration of bio-based fertilising products across the European Union.

Based on initial results from the project, FertiCovery puts forward 11 policy recommendations addressing the EU legislative frameworks analysed throughout the project:

- 1. Require Member States to ensure legal certainty by granting end-of-waste status to all bio-based fertilising products derived from waste and assess the introduction of a bio-waste and manure recycling target within the Waste Framework Directive (Directive 2008/98/EC).**
- 2. Establish clear and achievable end points for the use of animal by-products in EU fertilising products under the Animal By-Products Regulation (Regulation (EC) No 1069/2009).**
- 3. Define achievable process and quality criteria and consider the inclusion of new input materials in the EU Fertilising Products Regulation (Regulation (EU) 2019/1009).**

4. **Review the regulatory framework to enable the use of additional bio-based fertilising products under the Organic Farming Regulation (Regulation (EU) 2018/848).**
5. **Allow the application of specific bio-based fertilising products above 170 kg N/ha/year when they meet the RENURE criteria within the Nitrates Directive (Directive 91/676/EEC).**
6. **Introduce stricter limits for heavy metals and set thresholds for currently unaccounted pollutants within the Sewage Sludge Directive (Directive 86/278/EEC).**
7. **Ensure that all bio-based fertilising products are included when setting minimum targets for phosphorus recovery and reuse from sludge and wastewater under the Urban Wastewater Treatment Directive (Directive (EU) 2024/3019).**
8. **Strengthen support for the production and use of bio-based fertilising products within the Common Agricultural Policy (Regulation (EU) 2021/2115).**
9. **Recognise the use of bio-based fertilising products as a carbon farming practice in the Carbon Removals and Carbon Farming (CRCF) Regulation (Regulation (EU) 2024/3012).**
10. **Streamline and broaden recognition of bio-based fertilising products within sustainable finance frameworks within the EU Taxonomy (Regulation (EU) 2020/852).**
11. **Incentivise phosphorus recovery into bio-based fertilising products within the Critical Raw Materials Act (Regulation (EU) 2024/1252).**

1. Require Member States to ensure legal certainty by granting end-of-waste status to all bio-based fertilising products and assess the introduction of a bio-waste and manure recycling target within the Waste Framework Directive

Article 6 of the Waste Framework Directive (WFD) defines end-of-waste criteria as the conditions a recovered material must meet after recycling or recovery processes to cease being waste and exit waste legislation. However, implementation across Member States remains uneven, creating legal uncertainty and situations where bio-based fertilising products are still classified as waste despite meeting recovery/recycling standards. Establishing harmonised end-of-waste status for all bio-based fertilising products derived from waste would strengthen legal certainty, reduce administrative burdens and support market uptake.

The WFD also promotes recycling of municipal waste through binding targets, with bio-waste playing a key role in achieving the EU objective of recycling 65% of municipal waste by 2035. It requires separate collection of bio-waste, but implementation remains weak.

The upcoming Circular Economy Act planned for September 2026 could address both issues by improving consistency in end-of-waste criteria and reinforcing enforcement of separate collection across Member States, thereby strengthening bio-based fertiliser markets and feedstock availability. In addition, setting a nutrient recycling target for bio-waste- and manure-derived fertilising products would support the implementation of separate collection and the production of recycled fertilising products.

2. Establish clear and achievable end points for the use of animal by-products in EU fertilising products under the Animal By-Products Regulation

Article 5 of the Animal By-Products Regulation (ABPR) defines the “end point in the manufacturing chain” as the stage at which derived products cease to be subject to ABPR requirements. This end point is essential for allowing animal by-products to be used in EU fertilising products under the Fertilising Products Regulation (FPR) and has been set through several delegated acts for certain animal by-product-derived materials used in organic fertiliser and soil improvers. However, for many products the end point is still missing or based on criteria that are difficult to achieve in practice, creating barriers to market access, innovation and nutrient circularity. These gaps should be addressed by establishing clear, science- based and proportionate conditions that ensure safety while facilitating market uptake.

3. Define achievable process and quality criteria and consider the inclusion of new input materials in the EU Fertilising Products Regulation

The EU Fertilising Products Regulation represents one of the main opportunities for bio-based fertilising products, as it enables harmonisation through a clear CE certification process. However, to date, only a limited number of bio-based fertilising products have been certified and successfully placed on the EU market under the Regulation. To address this, the FPR should define clear, achievable and risk-based process and quality criteria that ensure safety while facilitating market access for innovative products. It should also consider expanding the list of permitted sustainable input materials and Component Material Categories (CMCs) in line with technological progress, thereby increasing feedstock availability, supporting innovation and accelerating nutrient recovery pathways.

4. Review the regulatory framework to enable the use of additional bio-based fertilising products under the Organic Farming Regulation

Today, only a limited number of bio-based fertilising products are authorised for use in organic farming, despite the sector's strong need for non-synthetic inputs. This restricts an important market for bio-based fertilising products and limits farmers' available tools. The Implementing Regulation (EU) 2021/1165, which sets conditions for authorising substances in organic production, has not been sufficiently updated to reflect recent innovations, meaning many safe and effective products remain excluded. This gap is increasingly relevant in the context of climate adaptation, as organic systems require to maintain soil fertility under growing climate stress. A review of the regulatory framework is therefore needed to allow additional safe bio-based fertilising products, better align rules with innovation, and strengthen the resilience of organic farming systems.

5. Allow the application of specific bio-based fertilising products above 170 kg N/ha/year when they meet the RENURE criteria within the Nitrates Directive

The Nitrates Directive seeks to prevent water pollution from nitrogen fertilisers and, in Nitrate Vulnerable Zones, limits livestock manure application to 170 kg N/ha/year. When crop needs exceed this threshold, farmers often rely on synthetic fertilisers, reducing nutrient recycling. Although the recent RENURE amendment adopted in 2026 allows an additional 80 kg N/ha/year for certain bio-based fertilisers, its scope remains limited to specific products such as ammonium salts, mineral concentrates from reverse osmosis and struvite. Digestate liquid fraction and mineral concentrate from ultrafiltration, that can be able to fit all RENURE criteria except the processing requirement¹, are still excluded. Allowing these two types of products to be used above the 170 kg N/ha/year limit, when they are RENURE-compliant, would better support nutrient recycling, reduce reliance on synthetic fertilisers and improve environmental performance, provided they respect appropriate environmental safeguards.

6. Introduce stricter limits for heavy metals and set thresholds for currently unaccounted pollutants within the Sewage Sludge Directive

The Sewage Sludge Directive has not been substantially updated for nearly 40 years, despite major advances in scientific understanding of sludge treatment, contaminant behaviour, and risks associated with land application. The current framework focuses primarily on a limited number of heavy metals and does not adequately address many emerging pollutants now recognised as significant environmental and public health concerns. Updating the Directive should therefore include stricter limits for heavy metals and establish monitoring and threshold values for additional contaminants. Since wastewater treatment processes can transfer and concentrate many persistent contaminants into sludge, stronger regulation is necessary to protect soils, water resources, ecosystems, food safety, and public health. Such reforms would also improve public confidence and acceptance of sewage sludge-derived fertilisers, supporting their safe use within circular nutrient systems.

7. Ensure that all relevant bio-based fertilising products are included when setting minimum targets for phosphorus recovery and reuse from sludge and wastewater under the Urban Wastewater Treatment Directive

In the recast published in December 2024, to be transposed by Member States by 31 July 2027, the Urban Wastewater Treatment Directive mandates the European Commission to set, by 2028, minimum targets for phosphorus recovery and reuse from sludge and urban wastewater. These targets must consider available technologies, economic feasibility, and market conditions, while ensuring safe sludge

management. To ensure their effectiveness and consistency with circular economy objectives, all relevant bio-based fertilising products derived from phosphorus recovered from sludge and urban wastewater should be included. In addition, nitrogen recovery and reuse could also be considered for future target setting.

8. Strengthen support for the production and use of bio-based fertilising products within the Common Agricultural Policy

The 2023–2027 Common Agricultural Policy (CAP) does not include mandatory requirements under Statutory Management Requirements (SMRs) or Good Agricultural and Environmental Conditions (GAECs) for the production or use of bio-based fertilising products, which limits their uptake across EU farming systems. While Member States can include eco-schemes and agri-environmental and climate commitments in their CAP Strategic Plans to reward farmers for using or producing these products, uptake remains uneven. Strengthening CAP support through eco-schemes, investment measures, advisory services and nutrient management interventions would better incentivise the production and use of bio-based fertilisers, reduce dependence on imported fertiliser inputs, and accelerate their integration into sustainable farming practices.

9. Recognise the use of bio-based fertilising products as a carbon farming practice in the Carbon Removals and Carbon Farming (CRCF) Regulation

On 22 January 2026, the European Commission published the [draft carbon farming methodology](#) under the CRCF. It identifies practices relevant to bio-based fertilising products, including the use of organic soil improvers and fertilisers to increase soil carbon removals or reduce CO₂ emissions, and the replacement of mineral nitrogen fertilisers to lower N₂O emissions. These include products such as compost, solid digestate fractions, and struvite, which can enhance soil carbon storage and reduce emissions compared to synthetic fertilisers. Clarifying their recognition under the CRCF would provide legal certainty and help scale up their use as recognised carbon farming practices.

10. Streamline and broaden recognition of bio-based fertilising products within sustainable finance frameworks within the EU Taxonomy

The EU Taxonomy Regulation (2020/852) provides a classification system defining environmentally sustainable economic activities to redirect capital towards those activities. Within its Environmental Delegated Act, relevant provisions for bio-based fertilising products include phosphorus recovery from wastewater (2.1) and bio-waste recovery through anaerobic digestion or composting (2.5). However, recognition remains limited in scope. For instance, phosphorus recovery is mainly framed around incineration pathways, despite alternative routes that also enable nutrient recycling, including nitrogen recovery. In general, current provisions focus primarily on struvite, compost and digestate, without fully capturing the broader range of bio-based fertilisers and input materials. Broadening the scope of eligible activities to encompass additional nutrient recovery technologies and fertilising products would improve access to sustainable finance and support investment in circular nutrient systems.

11. Incentivise phosphorus recovery into bio-based fertilising products within the Critical Raw Materials Act

The EU Critical Raw Materials Act (2024/1252) aims to secure supply of critical raw materials, including phosphorus, which is highly import-dependent in the EU. It promotes recovery from waste streams, with draft acts including digestate, compost and sewage sludge. Incentivising phosphorus recovery into all relevant bio-based fertilising products would reduce import dependency, strengthen circular nutrient use and improve the resilience of European agricultural systems.

This policy brief was developed by the European Biogas Association in collaboration with the partners of the FertiCovery project.

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