Agora
Agriculture

CONSULTATION

Agriculture, forestry and food in EU climate policy towards 2040

Response to the European Commission's call for evidence on National targets and flexibilities in the EU climate policy framework after 2030 — May 2026

Content

Introduction

Agriculture and forestry both emit greenhouse gases and remove carbon from the atmosphere. They can support the targeted decarbonisation of other sectors of the economy by supplying sustainable biomass as substitute for fossil-based feedstocks, materials and fuels along with a shift away from bioenergy towards material use. This uniquely positions the sectors to **contribute to climate change mitigation, resilience and innovative value chains.**

The European Union (EU) has agreed on a binding climate target of a 90% reduction in net greenhouse gas emissions by 2040 compared to 1990 as part of its effort to achieve climate neutrality by 2050. This target includes the possibility to use, from 2036 onwards, "high-quality international credits […] of up to 5% of 1990 net emissions"[1], with detailed criteria still to be defined.

The European Commission is now in the process of reflecting on the **governance framework** that would be required to support the EU and member states in reaching these climate commitments by 2040.

Three aspects are especially relevant for the design of such a framework for agriculture and forestry – the land use sectors – and food:

1. The definition of an appropriate **level of ambition** for the contribution of the land use sectors to climate change mitigation, including nature-based removals,
2. The translation of this level of ambition into **relevant national climate targets,**
3. The design of appropriate **policy instruments** to incentivise emissions reductions, land-based carbon removals and a climate- and land use-efficient use of biomass to support efforts in reaching climate neutrality, all this while avoiding carbon leakage and enhancing ecosystems resilience.

1 Contribution to GHG mitigation and carbon removals

Emissions from agriculture and agriculturally used peatlands accounted for approximately 14% of total European Union (EU) greenhouse gas emissions in 2020. Despite a reduction in agricultural emissions of approximately 20% between 1990 and 2005, emissions only fell by 7% between 2005 and 2023. Based on current estimates, and with additional planned measures, agricultural emissions are projected to decline by approximately 15% by 2050 compared to 2023 (or 20% compared to 2005).[2] Emissions from agricultural peatlands have remained largely stable since 2020.

1 https://data.consilium.europa.eu/doc/document/PE-5-2026-INIT/en/pdf
2 European Environment Agency (EEA) (2025) Greenhouse gas emissions from agriculture in Europe. https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emissions-from-agriculture?activeAccordion=ecdb3bcf-bbe9-4978-b5cf-0b136399d9f8

By 2050, the agricultural sector is expected to be the largest source of greenhouse gas emissions in the EU. While the extent of agriculture's contribution to climate neutrality will be subject to societal negotiations, climate neutrality will require compensating for the remaining emissions – incurring costs and possibly needing public funding.

The main emissions from agriculture and agricultural peatlands are methane (CH_4) from enteric fermentation and manure management, nitrous oxide (N_2O) from manure management and agricultural soils, and carbon dioxide (CO_2), largely from agricultural peatlands. **Methane** has a special characteristic since it is a short-lived but powerful greenhouse gas and has not only an important role to play in climate neutrality, but also in helping to slow down near-term global warming.

Methane emissions are already captured in EU targets through CO_2-equivalent accounting, but this standard metric understates their near-term climate relevance. For example, based on current EU methane emissions, a 30% reduction would equal roughly 120 $MtCO_2eq$ per year using the standard 100-year GWP, while its 20-year warming impact would be closer to 340 $MtCO_2eq$ per year. Under the Global Methane Pledge, countries – including the European Union – agreed to work collectively towards at least 30% methane reduction from 2020 levels by 2030, which could eliminate over 0.2°C of warming by 2050.[3] This illustrates why a dedicated methane benchmark could complement aggregate greenhouse gas targets: It would make visible the specific contribution methane reductions can make to limiting peak warming in the coming decades.

Nitrous oxide (N_2O) sits at the intersection of multiple environmental challenges and policy domains, linking climate change with air quality, water protection, and biodiversity. Current governance of nitrogen in the EU remains fragmented, with different forms addressed in separate policy frameworks, which can obscure important interactions and create risks of shifting pollution from one medium to another rather than reducing it overall. Addressing N_2O more explicitly offers an opportunity to improve policy coherence, capture cross-sectoral co-benefits, and enhance the overall efficiency of environmental measures. For these reasons, N_2O should receive a more prominent and targeted focus within EU climate policy.

With our scenario (Agora Agriculture 2024)[4], we show that it is possible to **reduce emissions from agriculture and agricultural peatlands by 60% by 2045 compared to 2020,** resulting in around 186 $MtCO_2eq$ in residual emissions by mid-century (or 150 $MtCO_2eq$ of agricultural emissions only).

This level of ambition is achievable while maintaining food and nutrition security, enhancing biodiversity in agricultural landscapes, producing more biomass for the bioeconomy and improving animal welfare. Moreover, the EU would become a net exporter of virtual agricultural land. This is possible if land is used more efficiently and the consumption of food, feed and other biomass is more sustainable than today, which involves a shift towards healthier and more plant-rich diets, a reduction in food waste and using biomass less for energetic and more for material applications.

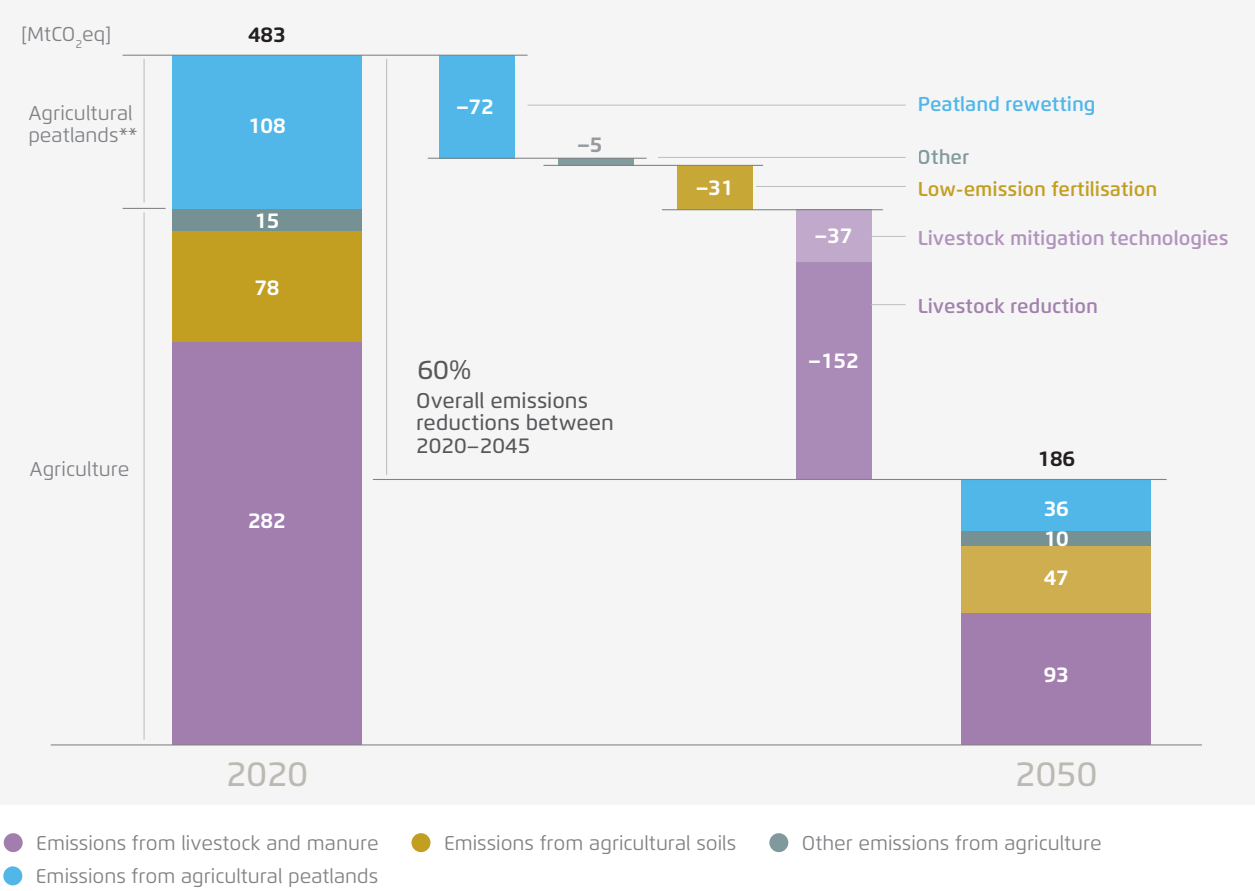
Our scenario (Agora Agriculture 2024)[4] provides an orientation for setting the overall level of ambition for emissions reductions from agriculture within the EU climate framework by mid-century. With a view to **2040,** a recent report by the European Scientific Advisory Board on Climate Change (ESABCC) considers that **emissions reductions from agriculture by one third** compared to 2005 levels are attainable through cost-efficient

3 The Global Methane Pledge. https://www.globalmethanepledge.org/

4 Agora Agriculture (2024): Agriculture, forestry and food in a climate neutral EU. The land use sectors as part of a sustainable food system and bioeconomy. https://www.agora-agriculture.org/publications/agriculture-forestry-and-food-in-a-climate-neutral-eu.

Reduction of greenhouse gas emissions from EU agriculture and agricultural peatlands between 2020 and 2050*

→ Fig. 1



Agora Agriculture (2024) based on CAPRI results. *Values for 2050 taken from 2045 modeling result; N_2O emissions from manure application under "livestock and manure", N_2O emissions from organic soils under "agricultural peatlands"; **estimate for emissions from agricultural peatlands with CAPRI data on organic soils and emission factors from IPCC

technical measures alone, under current market trends.[5] Additional potentials resulting from demand-side measures or innovations that could make mitigation technologies more powerful or cheaper (enlarging potentials and lowering costs) are taken into account in the ESABCC study. Therefore, this benchmark should be the lower bound of ambition in negotiating a target for the agricultural sector.

The sector **Land Use, Land-Use Change and Forestry (LULUCF)** does not only play a role in emission reduction, as mentioned above, but entails three other levers to contribute to carbon sinks: forests, harvested wood products and agricultural land use on mineral soils.

5 European Scientific Advisory Board on Climate Change (2026) Climate Adaptation and mitigation in the agri-food system – Recommendations for coherent EU policies. https://climate-advisory-board.europa.eu/reports-and-publications/climate-adaptation-and-mitigation-in-the-agri-food-system-recommendations-for-coherent-eu-policies; the share of one third refers to the S3 scenario originating from the Impact Assessment (IA) report accompanying the European Commission's Communication on the 2040 Climate Target.

Forests are the EU's most important carbon sink and contribute significantly to counterbalancing the EU's greenhouse gas emissions. In 2023, forest land removals were 9.2% of the EU's total greenhouse gas emissions – declining from almost 12% in 2013.[6] [7] There is an overriding pattern of declining forest sinks in North, West and Central Europe, which is due to many reasons including accelerated climate change impacts and intensive forest management. Salvage logging increased and led to harvesting rates that exceeded the national forest reference levels of the 2000–2009 period.

Accordingly, the latest scenarios compiled from member states' projections[7] suggest the LULUCF greenhouse gas balance will further deteriorate. The scenario With existing measures projects a LULUCF net carbon sink of -183.5 $MtCO_2eq$ by 2030 and -147.9 $MtCO_2eq$ by 2040. In the scenario With additional measures, the sink decreases less, to -233.2 $MtCO_2eq$ by 2030 and to -199.0 $MtCO_2eq$ by 2040, thus staying below the -310 $MtCO_2eq$ target for 2030.

A key limitation of absolute net emission figures for the LULUCF sector – or forests in particular – is their inability to separate management impacts from **natural variability**. While natural variability affects the baseline, targeted management changes (e.g., reduced harvesting in stable, non-saturated stands, longer rotation periods) can enhance carbon removals regardless of the baseline. However, carbon removals are just part of a broader set of targets for forest management. Interactions of mitigation measures with biodiversity protection and adaptation must be considered. Forest adaptation, which often requires harvesting, stabilizes forests in the long run and can therefore be considered climate mitigation of the future. Expectations towards forestry in the bioeconomy play a strong role as well. Supply-side interventions risk carbon leakage if they merely shift harvesting to third countries.

With our scenario (Agora Agriculture 2024)[4], we show how **adaptive forest management, afforestation and an optimised forest wood usage** can increase the contribution of forests and harvested wood products to climate mitigation. For example, afforestation and a temporarily reduced timber harvesting of 10% amount together to an additional net carbon removal of around 50 $MtCO_2eq$ per year by 2045.

Moreover, a strengthening of negative emissions through **carbon storage in products** needs an increased, prolonged and more circular material use of biomass in the built environment. To avoid trade-offs with the forest carbon sink, alternative resources need to be incorporated. This can be biomass that is currently used energetically or newly created resources, such as wood from fast-growing trees on agricultural land or paludiculture on rewetted peatlands.

Fast-growing trees on agricultural land can both expand biomass supply and contribute to land-based carbon removals. In our scenario (Agora Agriculture 2024)[4], we estimate the potential for **carbon removals on agricultural land** through woody features at 35 $MtCO_2/yr$. While this is a potent option to strengthen temporary carbon removals, we consider it unrealistic under advancing climate change, to substantially and permanently increase soil organic carbon stocks in EU arable soils – even maintaining current levels will require significant effort.

6 European Environment Agency (EEA) (2025) Total net greenhouse gas emission trends and projections in Europe. https://www.eea.europa.eu/en/analysis/indicators/total-greenhouse-gas-emission-trends

7 European Environment Agency (EEA) (2025) Greenhouse gas emissions from land use, land use change and forestry in Europe. https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emissions-from-land

2 National targets and flexibilities

2.1 Targets

Establishing targets is a core component of a **long-term and credible climate policy**. Among others, national climate targets need to:

- Create predictability for the agriculture and forestry sectors regarding their expected contribution to mitigation and negative emissions,
- Enable the design of a clear framework for the land use sectors that aligns economic incentives with the expected climate contribution,
- Allow sufficient flexibility to cost-efficiently achieve these contributions while maintaining climate integrity as well as planning and investment security.

The agreed EU-wide 90% net emissions reduction target must serve as the starting point for **allocating national targets**. To maintain a shared sense of commitment, it is essential that the EU target is fully allocated. This can be achieved either through a complete allocation across member states, or through an allocation to EU-wide targets for areas governed by uniform policy (e.g. ETS 1), combined with a distribution of remaining net emissions among member states. The former approach would better reflect the reality that member states exert considerable influence over addressing so-called non-economic barriers to emission reductions in ETS sectors. Furthermore, given the limited solidarity mechanisms within the ETS, national targets encompassing all sectors – including those under ETS 1 – would enlarge options to address solidarity among member states.

While national targets must cover all sectors of the economy, a sub-division of the target within member states can help to strengthen clarity, accountability, as well as investment and planning security. These advantages must be carefully weighed against disadvantages of sub-targets, such as potential inefficiency and fragmentation. First and foremost, it is reasonable to have **separate targets for temporary carbon removals** in the land-use sectors, especially forests. This would avoid that CO_2 emissions are counterbalanced by non-permanent removals from the land-use sector, violating the like-for-like principle, which states that removals and compensated emissions should have the same characteristics.

Policy measures affecting greenhouse gas emissions and removals are very often sector specific. This also holds true for agricultural and land use policies – encompassing instruments such as the Common Agricultural Policy, national peatland rewetting schemes, and forest management frameworks. Here, clear sectoral targets would facilitate the design of effective policy instruments, providing policymakers with clear and actionable guidance.

The current Effort Sharing Regulation falls short in this regard. By establishing a single overarching target across multiple sectors, it fails to provide agricultural policymakers with a sufficiently defined emissions envelope. The share attributable to agriculture becomes contingent on developments in unrelated sectors – such as transport or buildings – over which agricultural policy has no leverage. This structural ambiguity undermines accountability and weakens the incentive for sector-specific climate action.

Similarly, emissions from agricultural peatlands and other carbon fluxes on agricultural land are counted towards the greenhouse gas balance of the LULUCF sector, whose overall balance is substantially influenced by forest dynamics. Given the limited predictability of forest carbon stock developments due to the risk of natural disturbances, the accountability for acting on the rewetting of peatlands is obscured.

In our study (Agora Agriculture 2024)[4] we, therefore, describe the relevance of establishing a climate target for agriculture with, preferably, peatlands and agricultural land use included, resulting in a net target for **Agriculture and Agricultural Land Use (AALU).**

This approach means combining, for policy purposes, the climate reporting category of agriculture with parts of the reporting category of LULUCF. This would equip agricultural policymakers and stakeholders with clear incentives to search for cost-efficient solutions of greenhouse gas mitigation in agriculture and enable a better alignment of policies affecting different kinds of inventory categories – such as, for example, peatland emissions and emissions from livestock farming occurring on peatlands. A potential drawback of an AALU target is the risk of violating the 'like-for-like' principle, as nature-based carbon removals on agricultural land – which are inherently uncertain – would be mixed with long-term emission reductions. This risk would need to be carefully assessed and appropriately managed.

As stated above, the strength of the forest carbon sink is partly beyond human control. A future architecture should ensure that **natural dynamics in forests do not confound the pathways and targets of other sectors** or sub-sectors, including agricultural peatlands. Options to ensure that would be: a) a separate target for forests, b) a "LULUCF minus ALU" target or c) a target for nature-based removals – isolating the non-permanent carbon fluxes.

Regardless of the concrete architecture, natural disturbances in forests can affect efforts to strengthen the natural carbon sink. High levels of disturbances move the targets out of reach, undermining their credibility and making them politically attackable. Low levels of disturbances make the targets reachable without effort and remove any ambition, even for cost-efficient measures.

Flexibilities are key to deal with these uncertainties (see next section). In addition, the development and application of activity-based rather than outcome-based targets should be further explored. Also, the introduction of dynamic baselines, accounting for natural disturbances, is a possible solution but requires more granular and harmonized monitoring and reporting approaches across member states.

2.2 Flexibilities

Flexibilities are an **important part of the current climate framework**. With national targets being largely set based on fairness and solidarity considerations, flexibilities between member states can improve cost-efficiency in achieving targets and give frontrunners an incentive to achieve the target ahead of time. Therefore, these types of flexibilities should be continued.

Beyond existing flexibilities, the European Commission is considering a variety of options to enhance the flexibilities provided to member states in achieving the 2040 target.

The possibility to use **high-quality international credits** can be considered as one such flexibility. The decision on whether to use such credits, and what to use them for, needs to consider the trade-offs this can entail. This includes the risk of reducing available resources for investing into the mitigation potential of the EU land use sectors.

If international credits are employed, their use would need to focus primarily on **covering shortfalls in forest sinks** due to unforeseen natural disturbances, which are higher than in the reference period. In this context, the definition of natural disturbance and the quality criteria linked to such credits need careful consideration. This is even more because legislators have, with the latest amendments to the European Climate Law, explicitly ruled out that other sectors can compensate for LULUCF deficits and agreed that the Commission can resort to a downward adjustment of the 2040 intermediate target because of shortfalls in net natural removals. By allocating international credits for these circumstances, a weakening of the target becomes less likely or can be avoided.

With land-based carbon removals, there is the risk of reversal. Therefore, international credits based on these kinds of removals can only provide flexibility for domestic shortfalls in domestic land-based removals. Shortfalls in emission reductions need to be compensated by international credits linked to permanent carbon removals.

In the public consultation on the national targets and flexibilities[8], respondents are asked to assess the possibility that member states receive **enhanced flexibilities** conditional on fulfilling a number of **"key performance indicators" (KPIs)** or based on increasing long-term resilience. There are risks and opportunities associated with additional KPI-based flexibilities. If provided, it is important that the KPIs demonstrably support member states in achieving their national as well as the overall EU target and that their use remains circumscribed. The main risk is that they open the door to substantially reduce national targets, which would put the achievement of the 90% target for 2040 at risk.

Below is an initial and non-comprehensive set of ideas for KPIs pertaining to agriculture, forestry and food that could **facilitate the achievement of national climate targets**:

- Establishing a binding national agricultural target and/or agricultural and agricultural land use target,
- Establishing binding and policy-relevant target(s) in the LULUCF sector,
- Implementing farm-level nitrogen balance sheets,
- Developing an indicator on the climate impact of the national diet, linked to a national food strategy and monitoring framework,
- Developing an indicator on the contribution of national use of harvested wood products to long-term carbon storage,
- Establishing a national reference calculator for agricultural greenhouse gases,
- Updating national greenhouse gas inventories to increase accuracy,
- Establishing a forest adaptation indicator based on national forest inventory data (incl. tree species diversity, age structure, rejuvenation) and restoration of forest ecosystems.

8 https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/16692-National-targets-and-flexibilities-in-the-EU-climate-policy-framework-after-2030-review/public-consultation_en

3 Policy instruments

Agriculture and forestry have so far lacked an enabling policy environment to support their climate change mitigation potential. A core achievement of the upcoming 2040 climate package would be to advance, over time, **a set of consistent and effective economic incentives** to promote mitigation measures in the land use sectors.

The main **climate change mitigation measures for the agricultural sector** (reported under agriculture and LULUCF) include:

- Promoting a shift towards healthier and more sustainable diets, including a diversified protein intake, through fair food environments and new value chains,
- Increasing the use of mitigation technologies and practices in the livestock sector,
- Rewetting agricultural peatlands,
- Reducing nitrogen surpluses and increasing nitrogen use efficiency,
- Increasing carbon storage on agricultural land through woody features.

The main measures **for enhancing removals in forests and through harvested wood products** are:

- Enhancing the carbon sequestration capacity of forests by establishing mixed-species and uneven-aged forests, improving soil health, and extending rotation periods in stable forest stands (including supporting member states to identify stable forest stands, based on scientifically sound monitoring data and risk assessment),
- Adapting forests to climate change to decrease their vulnerability to storms, pests, and diseases, considering both silvicultural and ecological elements for the sustainable provision of multiple ecosystem services,
- Increasing forest area through afforestation and avoided deforestation,
- Incentivising the long-term material use of wood.

The following policy instruments can provide an important contribution to creating **an enabling policy environment** to support the achievement of the 2040 EU and national climate targets.

Furthermore, in view of a rapidly evolving societal context, it is important to add a **review and evaluation clause** to the package to enable a regular assessment of the impacts of policy instruments and to trigger a timely response from the European Commission if impacts fall below expectations.

3.1 Create effective voluntary incentive schemes for mitigation measures while building the foundations for a compliance system

Introducing a **compliance system that puts a price on greenhouse gas emissions from agriculture** and encourages innovation, such as an emissions trading system, is an effective approach to incentivise climate action in the agrifood system (ESABCC 2026)[5]. The coming period would need to create the conditions for introducing such a compliance framework in the 2030s, taking a stepwise approach.

We see three main components:

- Creating a **credible system of voluntary incentives** based on credits linked to the Carbon Removals and Carbon Farming (CRCF) Regulation. This would allow to incentivise mitigation measures and to test and build familiarity with market-based approaches to climate change mitigation in the land use sectors. To create trust, this system needs to rely on robust and workable certification methods. Introducing a certification methodology for livestock emissions would add value.
- The CRCF will only work if **significant demand** is generated for credits that provide an adequate reward for farmers and forest owners. The success of the system also depends on its **climate integrity.** In view of the potential use of CRCF credits in the context of enhanced flexibility, it is important to avoid situations in which measures credited under the CRCF framework that have already been counted in national inventories are also counted as part of flexibilities.
- Starting a process towards creating a streamlined **system for agricultural greenhouse gas data collection and reporting.** A measurement, reporting and verification (MRV) system that facilitates data handling for farmers, food sector companies, financial institutions and administrations, while creating consistency in greenhouse gas emissions calculation methods is a cornerstone of a future-oriented agrifood sector. Such a process will also have to involve updating national inventories to increase accuracy of reporting.

3.2 Make targeted use of public funds

Better targeting available European public funds, including through blended finance where relevant, can **improve the business case** for climate change mitigation actions while maintaining **global competitiveness.** Priorities include:

- Payments for ongoing costs related to the application of **greenhouse gas mitigation technologies and practices** through the Common Agricultural Policy (CAP),
- Payments for **semi-natural woody landscape features**, such as hedges and agroforestry systems, as well as the maintenance of extensively managed permanent grasslands through the CAP,
- Investments into climate-efficient and high animal welfare **stables and anaerobic digestion** facilities through the CAP and the European Competitiveness Fund,
- **Protein diversification** across the value chain and food innovation through the CAP, European Competitiveness Fund and Horizon Europe,
- Sustained support of forest owners in the **sustainable management of forests** through the CAP, European Competitiveness Fund and Horizon Europe,
- A coherent investment strategy to create **economic opportunities in rural areas** linked to a transition to a climate-neutral economy, using the opportunity presented by the European Commission's proposal for an "EU Rural Target" under the Multiannual Financial Framework (MFF).

3.3 Advance a climate- and land-use efficient bioeconomy

The bioeconomy has an important potential to contribute to climate neutrality by substituting certain fossil feedstocks and materials throughout the economy. Moving forward a coherent set of policies for a **climate- and land-use efficient bioeconomy**[9] involves, among others:

- Creating value chains for long-lasting and circular uses of **biomass for materials** and bio-based products through investments in innovation and scaling, as well as the creation of lead markets for long-lasting wood products and carbon storage in products,
- Limiting the use of biomass for energy uses to sector-specific applications that are hard to electrify, (e.g. high temperature process heat) or strategic (e.g. dispatchable backup electricity generation), including by **phasing out subsidies for inefficient bioenergy uses**,
- Considering sustainable **biomass supply constraints** in the use of Bio-CCS.

3.4 Create fair food environments for healthier and more sustainable diets

Supporting the **creation of fair food environments** that enhance the availability, affordability, appeal and information on foods for healthier and more sustainable diets and that reduce food waste are a central driver of climate mitigation in the agrifood system. Supporting such food environments involves, among others:

- Encouraging the development and implementation of **national integrated food strategies and action plans** accompanied by a monitoring system. This could be supported by:
  - Establishing a regular EU-level platform to facilitate exchange and mutual learning on food policies among member states,
  - Working towards the design and implementation of an EU framework with common definitions of key principles and objectives for sustainable food systems.
- Creating a European framework for the promotion of healthy and sustainable **public food procurement practices,**
- Integrating investment priorities for **protein diversification and food innovation** into the European Competitiveness Fund and Horizon Europe,
- Introducing an **EU Action Plan for Plant-based Foods** with measures to improve production, value chain development and market uptake of plant-based foods, including fruit, vegetables, legumes and nuts.

9 Agora Think Tanks (2025): Biomass and land use in a competitive, resilient and sustainable bioeconomy. Submission to the European Commission consultation *Towards a Circular, Regenerative and Competitive Bioeconomy.* https://www.agora-agriculture.org/publications/biomass-and-land-use-in-a-competitive-resilient-and-sustainable-bioeconomy

Imprint

About Agora Agriculture
Agora Agriculture develops science-based and politically feasible approaches for a sustainable food, agriculture and forestry sector. As part of the Agora Think Tanks, the organisation works independently of economic and partisan interests and aims to contribute to achieving democratically negotiated sustainability goals such as climate neutrality and biodiversity protection.

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