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AGRICULTURE & CLIMATE CHANGE

Food is central to many aspects of our lives, and it is also at the heart of the environmental crises we are facing. The global food system, from farm to fork, is responsible for about **25-30% of global greenhouse gas (GHG) emissions**.

In the EU, food production alone – up to the farm gate – is responsible for **at least 15% of our net GHG emissions**, but this does not include the considerable emissions embedded in the livestock feed and other agricultural inputs we import every year. The evidence

is unequivocal and public pressure is growing: we must urgently change how we produce and consume food to prevent catastrophic climate change.

This is absolutely critical because a stable climate is the very foundation of agriculture. Higher temperatures and more frequent extreme weather events are already wreaking havoc for European farmers. The good news is that farmers themselves hold the keys to many solutions. They have an array of agronomic practices and technologies at their disposal to mitigate and adapt to climate change. The Common Agricultural Policy (CAP) must facilitate and accelerate the transition to resilient and low-carbon food production.

“AGRICULTURAL EMISSIONS” SHOW ONLY PART OF THE PICTURE

39% of food production-related emissions for the year 2004 were estimated to occur **outside the EU**, through feed imports, feed transport, and emissions from land use change (deforestation). In 2013, Europe had **net imports of 27 million tonnes of soya for animal feed**.

Emissions in the agricultural sector

The emissions accounted in the agriculture category are primarily methane and nitrous oxide from livestock farming and fertiliser use.

Because they are caused by biological processes, they are to some extent inherent to food production, but significant reductions are possible and necessary.

Carbon sinks and emissions from agriculture-related land use

Agricultural lands can mitigate climate change by absorbing carbon from the atmosphere and storing it in soils (and plants).

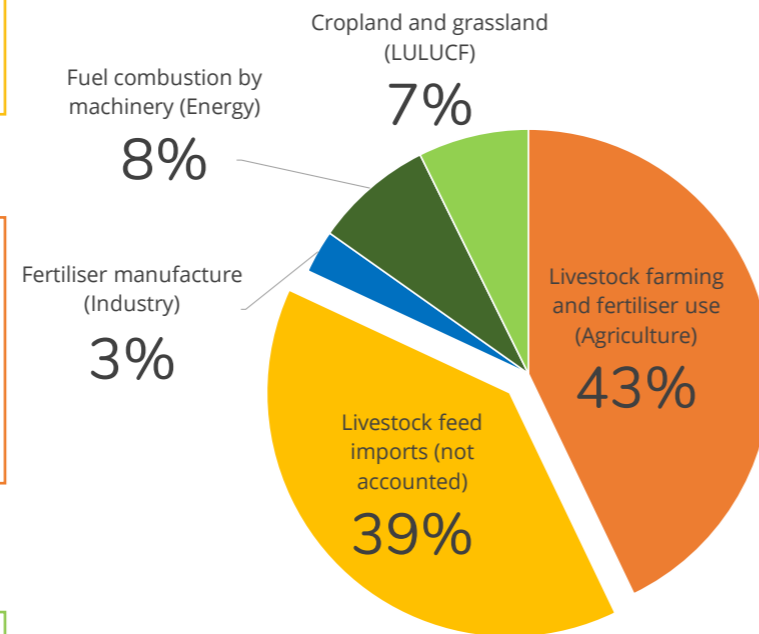
However, careful land management is necessary for this carbon to remain in the ground. When grassland is ploughed and reseeded or converted to cropland, as much carbon is lost to the atmosphere as would be stored over a 20-year period.

Emissions caused by food production but accounted in other sectors

There are also emissions accounted under other categories which are directly attributable to our food production: emissions from the production of nitrogen fertilisers, and from fuel combustion by machinery. Together, they add another sizeable slice to the footprint of our food.

This still leaves out some missing emissions, for example from machinery manufacture or greenhouses heating, which are harder to estimate.

The carbon footprint of our food production



For the year 2017. Source: EEA

Hidden emissions: livestock feed imports and on-farm food waste

Finally, a major share of intensive agriculture's emissions remains hidden, as it takes place outside our borders or is not accounted.

Intensive livestock farming relies on imports of feed from third countries, where soy monocultures are linked to deforestation and dramatic soil erosion, causing further CO₂ emissions. Globally, **feed production and processing represents 45% of emissions** linked to livestock production. **Food waste on farms is also a major issue**, with up to 30% of harvests not reaching markets, depending on the crop and region.

While this does not cause additional emissions, it means considerable land and resources are used and GHG emitted in the production of food that never gets eaten. Tackling this, as well as food waste along the whole supply chain, is key to reducing food production-related GHG emissions.

MANY SOLUTIONS ARE WITHIN OUR REACH

Reduce farm animal numbers in Europe and help farmers transition

Technological solutions and efficiency improvements can reduce emissions from livestock farming, **but will not provide the required step change**. The evidence is unequivocal on the need for **reducing production levels**, i.e. reducing livestock numbers, and changing diets, in particular cutting meat and dairy consumption, to improve our health and bring GHG emissions down.

The EU must help its farmers to move away from intensive livestock production towards extensive systems, producing less but higher-quality meat, dairy, and eggs, and reaching self-sufficiency in livestock feed and fodder. This could be done through transition payments from the CAP's investment funds or sector-specific subsidies linked to farm transition plans developed with support from extension services.

Promote EU-wide adoption of agroecological farming practices

Intensive agriculture is linked to soil erosion and degradation. In such conditions, soils are net sources of CO₂ emissions and rely on fertilisers and pesticides to remain productive.

The CAP must mainstream agroecological practices that build soil health and fertility. Crop rotation with leguminous crops, landscape features, and the reduction of the use of inputs should be promoted. This will allow for higher carbon sequestration in agricultural soils and lower emissions from machinery and fertilisers production.

Enforce best practice in nutrients management

We are overusing fertilisers: on average, **EU agricultural land has 51kg of nitrogen surplus per hectare**, causing air and water pollution, and GHG emissions. The CAP should require and support farmers to manage nutrient optimally, both at farm-level and through local collaboration networks.

Protect and manage permanent grasslands for climate and biodiversity

Protecting grasslands as part of extensive livestock systems has **considerable emissions mitigation potential**. This requires a complete ban on ploughing or converting permanent grasslands, protection and enhancement of landscape features such as trees and hedges, and stocking density limits in line with biodiversity requirements, which are effectively enforced by the European Commission. This will provide win-win benefits for carbon storage, adaptation to climate change, biodiversity, and soil protection.

Ensure the conservation and fund the restoration of wetlands, peatlands, and forests

Preserving and restoring wetlands and peatlands with carbon-rich soils, as well as forests, will **contribute to carbon sequestration** and should therefore be adequately supported through CAP funding.

Help farmers adapt to a changing climate by building a resilient and diversified agriculture sector

Implementing all the above policy solutions will help EU agriculture to become more resilient to our changing climate.

In addition, the CAP should reconnect producers and consumers through a circular and solidarity economy that prioritises local markets and seasonal production, and supports local economic development. This will revitalise rural areas and make farming businesses more adaptable to economic and climatic shocks.



INTEGRATING CLIMATE, TRADE AND AGRICULTURE POLICY

Meeting our international climate commitments requires **“rapid, far-reaching and unprecedented changes in all aspects of society.”** This can only be achieved by ensuring all policies and economic sectors contribute to climate objectives, including trade and agriculture.

Ensure all trade in food and agricultural products contributes to EU and global climate targets

EU trade must contribute to the supply and consumption of low carbon products. This requires, as a start, defining robust standards for monitoring GHG emissions embedded in agricultural imports; then ensuring that these do not increase the carbon footprint of our consumption, compared to EU production.

Guarantee ‘climate expenditure’ in the CAP achieves effective GHG reductions

The European Commission’s target of 25% of EU expenditures contributing to climate objectives in the 2021-2027 budget is an opportunity to fund far-

reaching change. However, the methodology used to assess climate spending must be robust, results-based, and transparent. Although 52% of climate-labelled expenditure stemmed from the CAP in the 2014-2020 budget, in that same period GHG emissions from farming increased significantly. The European Court of Auditors has **heavily criticised the current tracking methodology.** It should be revised to ensure that only money spent on science-based climate mitigation and adaptation schemes is counted as ‘climate expenditure’.

Align all EU funding and policies with climate objectives

EU policies and national plans are still plagued with incoherence and perverse incentives, which are undermining progress towards our climate ambition. ‘Climate mainstreaming’ should go beyond the 25% of climate expenditure: policy-makers must ensure all policies and spending are coherent with climate commitments. This means, inter alia, joining-up agriculture and climate both at EU and national levels: the CAP, national Strategic Plans, National Energy and Climate Plans, and Rural Development Plans, must be joined-up to work towards common objectives.

DELIVERING JOINTLY FOR CLIMATE AND BIODIVERSITY

Biodiversity collapse and climate breakdown are two of the most pressing challenges of our times.

Both challenges are intertwined and exacerbate each other in a never-ending vicious cycle: climate change is a major driver of biodiversity loss, which in turn inhibits climate change mitigation and adaptation. Conversely, climate mitigation solutions can have different impacts on biodiversity, positive or negative.

We must strive for win-wins and avoid mitigation measures which have negative trade-offs with other environmental dimensions. For instance, a win-win solution is the establishment or adequate

management of hedgerows and other landscape elements which provides habitats and increases carbon sequestration.

Applying certain biodiversity safeguards to climate measures will help to mitigate potential negative trade-offs between biodiversity and climate objectives. Any policy incentivising for land use changes (e.g. afforestation) must include biodiversity in its objectives and must be based on an assessment of the pre-existing biodiversity value, either at planning or at project level. Schemes should be monitored both for GHG emission and for their wider environmental impacts.

With support from:



Federal Ministry for the Environment, Nature Conservation and Nuclear Safety




European Climate Initiative EUKI



The LIFE programme of the European Union

based on a decision of the German Bundestag

This communication reflects the authors' views and does not commit the donors.

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