

## Biosphere Economy Innovation

### REPORT & RECOMMENDATIONS

following the 8<sup>th</sup> meeting of 7 April 2022

#### EXECUTIVE SUMMARY

The EU Commission has recently outlined its intention to come up with a sustainable food system framework initiative. At the same time, the Commission published a Communication on food security and resilience of food systems, which maintains the overall objective to transition food systems into sustainability but introduces short term measures to ensure sufficient food production and prevention of trade distortion.

In the light of the Covid-19 pandemic and the war in Ukraine and the increase in food insecurity, the HLG discussed the upcoming EU Regulation on a sustainable food system framework.

At the same time, the Commission is rolling out the carbon farming initiative. The concept is being pulled in different directions, depending on whether one primarily sees it as 1) a method to sequester atmospheric CO<sub>2</sub> in soil carbon sinks, 2) as a business model enabling an alternative/additional income source for farmers and producing a tradable commodity for the market, or 3) a re-clad term to define arable farming generally emphasizing the photosynthesis of the growing crops.

The HLG discussed carbon farming as a more profound concept, with expectations for overall sustainability, and resilience from the agronomic perspective and yet compatible with the idea of a carbon market. Europe's carbon farming concept should uphold the idea of cultivating food and carbon on the same field. Thus, emphasizing carbon farming is complementary to the definition in the Commission paper on Sustainable Carbon Cycles.

#### Introduction to the meeting

The chairman, Mr José Manuel Silva Rodriguez, former Director General for agriculture in the EU Commission, welcomed all members<sup>1</sup> at this 8<sup>th</sup> meeting. He reminded them of our role: these independent tripartite High Level Groups on EU Policy Innovation need to 'think outside-the-box', according to their original mandate from the Competitiveness Council.<sup>2</sup>

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<sup>1</sup> Members participate in their personal capacity. All recommendations for action and all ideas for further consideration have not always been agreed on by all members, but advice is based on a very wide consensus. The final version is written under responsibility of the chairman and the secretary general - <https://www.highlevelgroup.eu/>

<sup>2</sup> Council of the EU, 5-6 December 2011, Presidency Note.

## Biosphere Economy Innovation

They are a new, ‘open innovation’ approach between governments, business and academia, to inject innovative policy ideas into the EU system.

In these unprecedented times, he outlined the need to support the policy proposals which help mitigate the immediate impacts of the current crisis: the war in Ukraine, the rise in the prices of food commodities and growing food insecurity. At the same time, he emphasized that the EU's future policy needs to be forward-looking and consider the necessary transition into a more sustainable food system as an inevitable step to building resilience.

### I. Sustainable EU food systems framework

Moving to a sustainable food system is an important component of addressing climate change, as 32% of global greenhouse gas emissions are attributed to the food system, according to UN FAO. The shift to sustainable food systems should combine gains in public health, environment, social benefits, and economic competitiveness; it cannot ignore its global impact. Therefore, all foods on the EU market need to become more sustainably produced and consumed.

The HLG noted that the Commission aims at a horizontal framework, a ‘lex generalis’ that will apply to all elements of the food system. It would set general objectives, definitions, and requirements for ensuring sustainability considerations when food is produced and placed on the EU market.

Key for the overall transition to more sustainable food systems remains the initial EU objective of sustainability in food systems (food security and reduction of overall costs of the food systems through lower negative environmental externalities and improved resilience). How can it be achieved in the current context and what should be the amended objectives of the upcoming EU proposal? the transition alone without the current crisis would lead already to extra costs and higher food prices; its impact on vulnerable populations in Europe and globally is still unknown.

The premise that food sustainability is critical to food security is not yet proven. This needs to be supported by increased investment and funding in research and facilitating the transition from inventions into innovations in the market.

Progress has been made, but not enough. Convergence of interests and objectives between researchers, industries and governments contributed to make global industrial success stories based on European innovation; it should be repaired in the agri-food systems to make them regenerative. Alignment between technical standardisation and the regulatory agenda plays a key enabling role. Today, the EU still has a strong standard-setting power inherited from the past in many technology-intensive sectors, despite a relatively declining industrial ecosystem compared to other regions. But vested interest prevents timely innovations, market scale-up and commercialization of innovations born in Europe.

It requires a performing European Standardisation System aligned with rapid innovation cycles. The interface between technical standardisation and legislation is also a crucial element.

## Biosphere Economy Innovation

There is a growing tendency in the EU to push very detailed technical requirements into the law rather than a standard to the detriment of technical change and innovation. The EU needs future-proof, innovation-friendly legislation that focuses on essential requirements.

A resilient and sustainable food system, which benefits Europe and the world, needs more collaboration between innovators, investors and governments, with aligned objectives and interests, but there are no single answers. A complex web of policies and regulations and funding will have to be designed and implemented in a synergetic way.

### ***Considerations for a future policy framework on sustainable food systems.***

It was underlined that the discussions about sustainability do not address enough the *productivity* aspect. Especially from the farmers' perspective, a suitable approach could entail aiming at *innovative productive and regenerative agriculture* that can produce profitably and can reduce the negative externalities. In this sense, productivity is critical alongside innovation. However, about the potential conflict between productivity and sustainability, the EU is bending more towards a sustainable food system. What could be questioned is the coherence and balance of this transition, but not the need for the transition itself.

As costs of farming are rising sharply, there is an additional effect of regulations, and this might hinder productivity because they are meant to stop action rather than facilitate transition. Bigger, faster, and more effective machines and technology pose two questions: their potential weight and their shared cost, which means the size of farms and the management of the size of the farms is a significant point in how to bring productivity up. What should be questioned is how the utilization of new technology could be better managed more effectively through cooperation, asset sharing, etc.

the discussion on the potential reduction of agricultural inputs needs to be science-based and subject to an ex-ante impact assessment. At the same time, addressing advances in plant genomic techniques and precision agriculture is vital as both concepts have the potential to boost agricultural productivity while increasing the sustainability element.

On the issue of *nutrition habits*, it is necessary to consider incentives at the policy level in order to improve the European diets. This is also linked to the need to distinguish between different types of production, particularly sustainable and unsustainable, and how the consumer will follow these initiatives. If the sustainably sourced farming products are not chosen by the consumers, there will be an opening for huge imports, a loss of market shares, and an overall increase in greenhouse gas emissions globally.

In the global context, the dependency on the inputs from fossil fuels (including fertilizers, etc.) needs to be addressed better as it is the source of some international geopolitical and climate concerns (e.g., deforestation). In this case, a holistic approach looking at the food system through a 360 degrees view would be recommended (e.g., providing the information to the consumers, and not only by imposing the regulations and the subsidies).

## Biosphere Economy Innovation

Two areas where innovation is needed are finding alternatives to fossil fuel-based fertilizers and the different mechanisms for the reduction of food waste. The latter would have important consequences on land use. innovations can be framed when measuring sustainability by indicators at the farm level which can tell if innovation helps the farm be more sustainable or not.

Innovation is moving faster than regulatory reasoning, regulations may prevent future innovations.

### *Recommendations for a sustainable food system*

- The effects of both COVID and the war in Ukraine on the global supply chains and food security need further analysis given that their impact on the proposals will be long term and may require amending the proposals and their timelines. The EU needs to elaborate on how to get the right kind of innovations and the governance mechanisms needed to develop these innovations. The question of governance mechanisms and different time scales should also be explored, as there are immediate food security issues and long-term ones. There is currently too much path dependency.
- Overall, the approach to *sustainable* agricultural production must be coupled with the *productivity* element – based on a concept of jointness, a transversely aligned sustainability and productivity. This requires more collaborative methods between public and private actors in the system.

## II. Carbon Farming and Transition to Sustainable Food Systems

The concept of carbon farming relates to systems and mechanisms which can help integrate the ecological and productivity objectives in agriculture and forestry.

The key elements of transitioning to regenerative farming are as follows:

- Knowledge (data, inter-disciplinary science, agronomic practices, and learning)
- Cooperation (advisory services, training, international cooperation)
- Adaptation (supply chain sustainability, market innovations, policy adaptation, carbon incentives).

Further, carbon farming is a way of managing the farm and this is not about single measures. For example, one of the methods includes organic fertilizer use and making use of the potential of biomass to reduce fossil dependency.

## Biosphere Economy Innovation

From a climate policy perspective, the carbon market can accelerate the increase of carbon sinks. But a number of issues still need to be addressed, particularly regarding the CAP and the market incentives (goals, boundaries, and baselines), practical knowledge (definitions, learning from pilots), broader market dynamics (land markets, financial markets). Carbon is already driving transformation in the food chain and the main question is about how to accelerate that transformation.

There are several main areas highlighted, such as the pastures can absorb CO<sub>2</sub>, silvo-pastures, and permanent crops play an important role.

There is therefore the need to accelerate investment in the landscapes for carbon capture and storage, as the agricultural landscape, like forests, wetlands and plantations, hedges, private gardens and city green, have great potential to capture carbon. An assessment of the metrics and measures system as part of the discussion on promoting carbon farming and the corresponding incentives, metrics, and measures is necessary.

There is a surprisingly large number of practices showing synergies with enhancing biodiversity and maintaining productivity, and in the long-term even increasing productivity. But there is a limit on carbon storage as well as on how it can be managed in the long run.

When it comes to carbon farming, creating an effectively functioning *carbon market* is the first step. However, a consideration is whether this system may become too costly with all the potential suggested requirements (e.g., securing the additionality of the sinks, tailoring the contracts to different needs of primary producers, etc.).

Overall, the whole development of the *carbon market* would have greater potential if the consumers were better informed on the environmental aspects of the food they consume. diet choice and reducing climate impact can be stimulated by (dis)incentives for a change in the people's lifestyles including their diets.

As *forests* play a role and share the same dynamic, it was advised to develop an understanding of the biology and the rules of nature and approach agriculture and forestry in the same way.

It is preferable to turn agricultural land into forest because it is a more efficient carbon sequestrator than farming, but the feasibility of that solution needs to be explored, land value and food production are key considerations. The additionality issue was underlined regarding forestry and carbon farming, as there is an effort to translate to the farmer the carbon sequestration benefits. Innovation was also highlighted as well as the need to develop the ambitions mechanism and the capacity.

More needs to be understood about *weather and weather resilience*, as weather conditions have a huge impact on carbon storage and mitigating them is quite challenging.

## Biosphere Economy Innovation

### *Recommendations for carbon farming*

- A disconnect between the farming and the forest sector, which is still visible in science, policy, and practice needs to be overcome. Factoring all the risks to forests in the carbon price would help cast more positive opportunities for the system.
- The main issue with climate change is that policies are dealing with a moving target. Therefore, securing the multiple agronomic and societal and broader economic benefits is essential to stimulate carbon farming. This probably cannot be achieved in traditional CAP models and requires a fundamental re-think.

18 May 2022