



**Think  
2030**

Science-policy  
solutions for a more  
sustainable Europe

30.06.2022 Policy brief

# Towards a Sustainable Food Systems Framework Law

Paper realised in the framework of the Think Sustainable Europe network by:



**IDDRI**

This paper is a preliminary draft. The content and recommendations of the policy brief will be refined after the Think2030 conference based on the outcomes of the roundtable discussion.

# Towards a Sustainable Food System Framework Law

## Introduction

The Farm to Fork Strategy (F2F) published in May 2020 aims to increase the social, environmental, and economic sustainability of the EU food system for all stakeholders (farmers, consumers, retailers, and processors). Since its publication, successive crises including the COVID-19 pandemic and the war in Ukraine have increasingly made clear the urgent need for a systemic transition of the EU food system to reinforce its resilience and sustainability.

To accelerate and facilitate the transition called for by the F2F, the Commission proposed to develop a legislative framework for sustainable food systems (SFS) before the end of 2023. The Commission identified three policy options in the inception impact assessment for this legislative framework (see EC, 2021): a voluntary approach using only soft-law instruments; the reinforcement of existing legislation; and the development of a new comprehensive framework legislation on the sustainability of the Union food. The level of ambition set out by the F2F calls for the creation of a new comprehensive framework to, amongst other goals, (a) amend or reform existing regulations and policy instruments and (b) create new instruments to reach the needed level of resilience and sustainability.

This paper intends to identify the key challenges that need to be overcome for such a proposal to meet its objectives, considering both policy and political aspects. Our main objective is thus threefold:

- to identify the objectives that need to be included in the SFS legislative framework for it to contribute to increasing the sustainability and resilience of the EU food system;
- to specify what the content and governance of the legislative framework of the SFS itself might be, in terms of sustainability and relationship with existing policy instrument; and
- to outline political pathways to meet these objectives, the stakeholders involved, and the overarching institutional framework within which this legislation is to be negotiated.

The paper proceeds in five parts. Section 2 defines what a sustainable food system should look like according to the scientific literature and how an SFS law could bring EU food systems more in line with the evidence. Section 3 explores the objectives of the law and how to define a sustainable EU food system. Section 4 discusses the architecture of the law, and section 5 explores the need for a multi-level governance framework. Finally, the conclusion explores political pathways to achieve an ambitious SFS law.

## **Main dimensions of a (more) sustainable EU food system and consequences for the SFS legislation framework**

### **Towards a sustainable EU food system: Issues and challenges**

There is mounting evidence that the EU food system is neither environmentally nor socially sustainable (Pe'er et al, 2020 ; Crippa et al 2021), as acknowledged by the Commission in the text of the Farm to Fork (EC, 2020).

**On the environmental and health side,**<sup>1</sup> recent biophysical models (e.g. Karlsson et al, 2018; Muller et al, 2017; Schiavo et al, 2021; Searchinger et al, 2018; Springmann et al, 2018; van Selm et al, 2022), point towards four main changes needed to transform the EU food system in order to bring it within planetary boundaries:

1. A transition towards healthier and more sustainable diets, through a decrease in animal protein consumption (at least by 20-30% and preferably 50%) and an increase in consumption of fresh fruit and vegetables and pulses (by at least 80% for both);
2. A transition of the EU livestock sector including a sharp reduction in the use of food-competing feedstuff through both efficiency gains and changes in feeding strategies, leading to a decrease in the size of the EU herd (between 30% and 0% depending on the studies);
3. A reduction by half, and preferably by two-thirds, of food waste and losses;
4. A significant decrease in the dependence on external and synthetic inputs – pesticides and fertilizers – through both an increase in their efficiency and a rediversification of agroecosystems at all scales, from plots to landscapes.

For such transformation to take place, demand, supply, and food chain actors will have to change in a coherent way, which raises three key questions.

---

<sup>1</sup> Human nutrition and health, nutrient flows, greenhouse gas (GHG) emissions, biodiversity, and natural resources conservation

First, how can these **transformations be just or fair**, for example by maintaining jobs and livelihoods for the affected communities (Rosemberg, 2010) or compensating for the losses incurred by the transition, as set out in the F2F? A just transition of food systems requires that farmer incomes are not negatively affected, that the food system provides jobs and economic value for the society as a whole, and that food remains affordable for consumers. In this line, particular attention should be paid to the livestock sector which will be particularly affected by this transformation (Baldock and Buckwell, 2021), though preliminary research shows that under certain conditions, the transition can generate more jobs and income than the business-as-usual scenario (Aubert et al, 2021a; Aubert et al, 2021b).

Second, what **level of ambition for the four change areas** identified should be targeted? The studies give different answers to the extent of the transformation. For example, while all authors agree on the need to increase input use efficiency (the fourth change), some argue that significant *absolute* reduction in input use risks decreasing EU production and would put farmers' livelihoods, consumer choice (through price increases) and world food security alike at risk (Baquedano et al; Bremmer et al, 2021). On the other hand, others argue that the quantitative targets set out by the Farm to Fork Strategy are a strict *minimum* below which sustainability improvements would be very limited (e.g. Pörtner et al, 2022). This controversy cannot be overlooked and is intimately linked to the difficulty of studying the potential impacts of the systemic transformation laid out by the Farm to Fork Strategy, as pointed out in (Aubert et al, 2021a; Candel, 2022; EC, 2022).

Third, how should these objectives be translated across the **heterogeneous food systems** in Europe? Dietary habits and culture, agricultural practices and food chain dynamics vary greatly from Southern to Northern and across Eastern and Western Europe. As a result, the four key issues identified above lead to differentiated objectives for each specific region.

Fostering the transition while addressing these three questions will require evolutions in the current public policies impacting food systems. The SFS legislative framework should lead to reforming these policies, while also creating new policy instruments.

## Consequences for a European sustainable food system law

If it is to deliver on its promises, the SFS legislative framework should contribute to changing supply, demand and food chain actors across Europe to reach a greater level of sustainability in a fair and just way. As previously stated, the European Commission is currently exploring three options for the EU Sustainable Food Systems law (EC, 2021).

The first is a voluntary approach that would be based only on soft law instruments. While such an approach would most likely be welcomed by the Member States, it's been shown that, in the area of environmental policy, voluntary policies often have few environmental benefits (OECD, 2003). Furthermore, experience shows that when the Member States have latitude to define their own approaches (e.g. in the CAP), they often choose less ambitious environmental options.

The second identified option is to simply reinforce existing legislation, as much of this legislation affects the objectives set out by the F2F. Such a model, however, is unlikely to ensure the necessary coherence between different pieces of legislation (e.g. between food laws themselves and with other related but separate legislation, such as the CAP, the ESR, the Fit to 55 package, etc).

The third option presented is a new comprehensive framework legislation on the sustainability of the Union food system, which according to the inception impact assessment would: “set out the **common basis** composed of general objectives, definitions, principles and requirements for ensuring that sustainability considerations [...] are taken into account when food is produced/placed on the Union market [and] serve as an **integrated general approach** for *lex specialis*, when addressing specific sustainability considerations, including in the context of the sustainability assessment of regulated products, **throughout the food value chain**” (EC, 2021, emphasis original).

The latter approach would allow food systems to be managed as a coherent unit, rather than regulating separate elements within the systems. Yet, it raises three questions the next sections aim to address: (a) if the overarching objective as stated in the quotation above is to ensure that sustainability is better taken into account, how should this general objective be translated into specific objectives of the law that are achievable through policy instruments? (b) what would be the *lex specialis* that would become dependent upon the newly-created SFS legislative framework and how would coherence with other related laws (e.g. the European Climate Regulation) be ensured? (c) what sort of governance would best enable the implementation of such a law and support its objectives?

## **Towards sustainable food systems: How to define sustainability in the law?**

The purpose of the SFS is to provide a strategic regulatory driver to bring about progressively more sustainable food systems in the EU, as presented in the previous section. For this objective to be realistic, clear indicators and targets need to be identified for food sustainability such as have been identified in other fields (e.g. the

climate neutrality target for the European Climate Law). How to define such indicators and targets is not a trivial question.

From a technical point of view, food system sustainability has numerous facets. Some are well-defined and have agreed-upon metrics such as GHG emissions from the food system, even though here also there are some discussions, regarding for example whether we shall use global warming potential to assess the impact of food system emissions on the climate, while those are predominantly non-CO<sub>2</sub> emissions (Lynch *et al.*, 2021 ; Lynch J and Garnett, T. 2021). Others are even more complex to characterise, let alone to measure. This is particularly the case for biodiversity and natural resources conservation. Proxies will thus need to be used, as has been done in the F2F in which targets for nitrogen and pesticide use reduction have been set to decrease the pressure of agrifood systems on ecosystems. In section **Error! Reference source not found.**, we considered sustainability using a series of proxies derived from food system scenarios. There is a need for the SFS Law to establish indicators and set targets that would then be measured at several levels (regional (NUTS 2), national, and EU levels), building on existing metrics and results-based framework (see Schwoob, Hege and Aubert, 2018). The list below provides some examples of potential indicators and **Error! Reference source not found.** delves into the indicators needed to assess the transition of the livestock sector.

- on environmental sustainability: Nitrogen surplus, pesticide use, level of food-competing feedstuff used in animal farming and livestock unit density, crop rotation, landscape complexity, GHG emissions and food waste along the food chain, share of plant-based protein in food consumption;
- on social & economic questions: number of jobs in the agri-food sector, minimum wages along food chains, share of the added value for each actor of the value chain;
- on health questions: consumption of fruits and vegetables, consumption of fat and sugar.

While the list is not exhaustive or fully operational, it nevertheless points to two subsequent problems that need to be addressed.

First, as we already mentioned in section **Error! Reference source not found.**, there are important debates regarding the targets that need to be set for each indicator, and the relative importance of each indicator. Trade-offs exist between different objectives: pursuing climate over biodiversity objectives<sup>2</sup>, or choosing to emphasize environmental rather than social objectives, lead to different food systems. These challenges are illustrated by the case of livestock reduction for environmental reasons,

---

<sup>2</sup> See for instance the debate between land sharing and land sparing options (Kremen, 2015),

which will likely have negative socio-economic impacts (e.g. Blattner, 2020). As a result, the decision on how to choose and weigh those indicators often becomes a political question. However, the debates sparked by the publication of the Farm to Fork Strategy show that stakeholders do not yet agree on how to balance and prioritize these objectives. The formulation of the SFS Law therefore requires creating the conditions for a transparent discussion between stakeholders and policy makers to get to an agreed upon definition or political compromise on what exactly we mean by “food system sustainability”. This is not a small question in a context where such debates have become more and more polarized.

Second, defining sustainability of food systems at an aggregated level will not be enough to inform consumers. Therefore, indicators and targets defined at the system level need to be translated into indicators and targets at the product level. Yet, there are tensions between apprehending sustainability at the system vs product level (see Frehner et al, 2020). In a nutshell, while defining sustainability at the level of the product is deemed necessary to support consumer choice, it also relies on metrics that tend to overlook the specificity of *production methods* and how they relate to each other at the landscape level. A given product (e.g. beef) can have very different impacts depending on how and where it is produced (Poore and Nemecek, 2018) that will not necessarily be well reflected using a product-centred approach; even more, beef produced in the same way in the Netherlands or in Spain may not have the same environmental impacts because of differences in carrying capacities at the regional level (Harris and Kennedy, 1999).

**Box 1: Indicators to foster a sustainable transition of the livestock sector, from the Farm to Fork Strategy (*to be completed later on*)**

- A great variability in production and consumption patterns of animal proteins across Europe → reinforce the need for a national governance
- A key indicator to define livestock production sustainability at the landscape level: the level of heteronomy (how much of the feed is produced on farm)
- Bringing about changes in dietary patterns to reduce animal protein intake: regulating marketing, public procurement policies

## The shape of the SFS Law: Relationships with other policy instruments

### Architecture of the umbrella law

An SFS Law in the form of an umbrella law should serve a general approach (Baldock and Hart, 2021). It should be implemented through a legislative package including both old and new subsidiary “daughter” measures/policies as well as cross-cutting coordination with existing parallel “sister” laws (see figure 1 below). Indeed, like the Climate law passed in July 2021, the SFS Law should revise existing policy instruments (regulations or directives) and create new ones, thus forming hierarchical relationships. In addition, it would establish linkages to action at the Member State level.

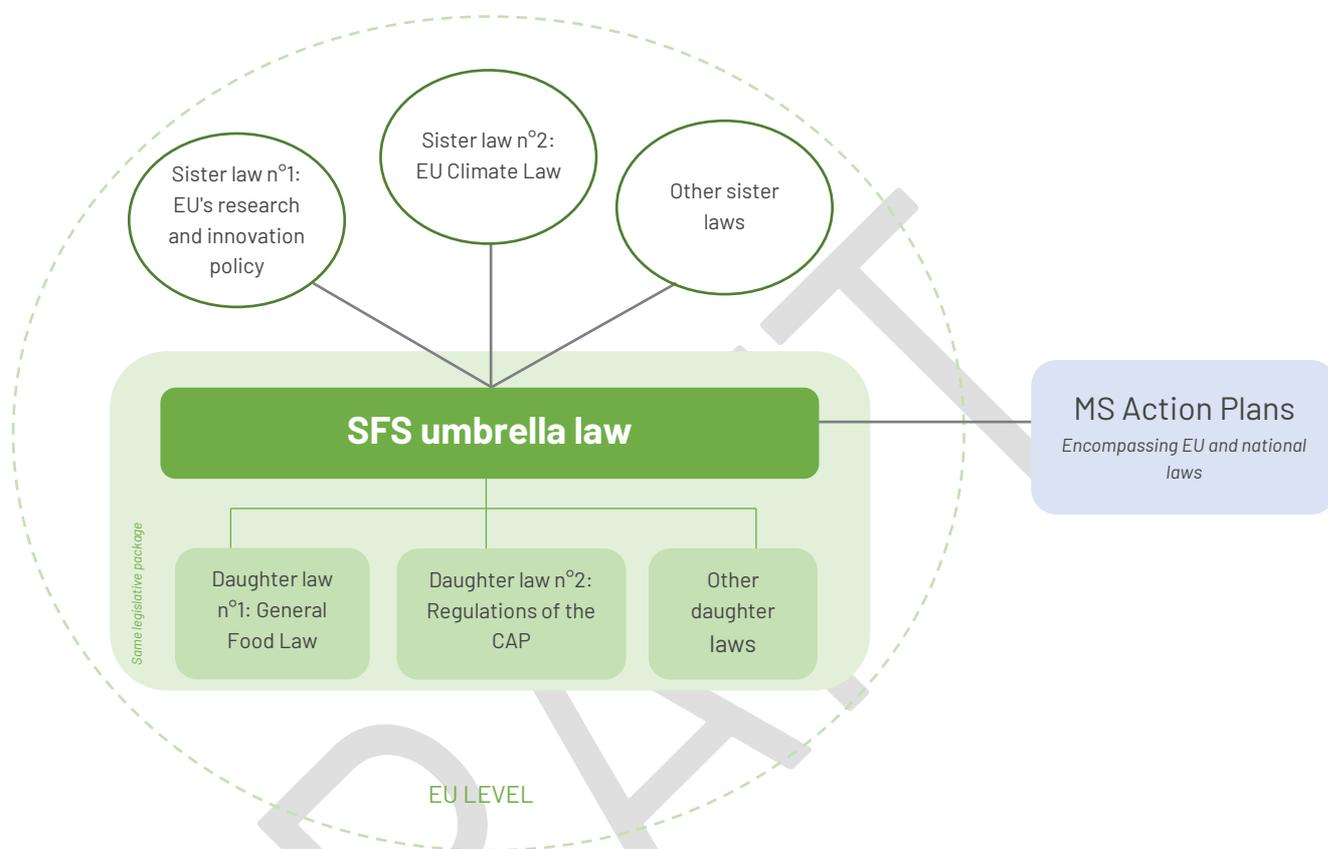
**The “daughter laws”** would share the general context and objectives of the umbrella law but develop certain aspects or policy areas in more detail. They could include both already existing laws that would need to be revised according to the umbrella law’s objectives, and new ones, which could be added to over time. This would include, for example:

- Requirements for key food chain actors to report on certain agreed sustainability indicators and to ensure that a certain proportion of their annual sales complied with a new defined threshold of sustainability. This proportion would be reviewed regularly and increased over time. Obligations to meet rising targets of sustainability could have parallels to the EU Renewable Energy Directive for example.
- A directive setting up a systems approach to reducing food waste, with measures to coordinate the actions required of different actors, lay out appropriate metrics and create new incentives for consumer action.
- A directive developing a new framework for increasing the proportion of plant products in diets and reducing livestock consumption and production in a coordinated way.
- A directive addressing sustainability in public procurement, with goals for increasing the proportion of sustainably produced food in public procurement.

**The “sister laws”** would be essential for the transformation of food systems but their scope extends far beyond the food domain. Since accelerating the development and use of new science, technology and social innovation will be a crucial part of the transition, this type of law could include, for instance, parts of the existing EU's research and innovation policy, in particular the Horizon Europe Program (see box 2 below).

Thus, the umbrella law would coordinate EU policies directly related to food systems, while also steering the strategic direction of other EU policies.

**Figure 1: Sustainable food system law architecture**



Finally, the umbrella law should also establish and apply a systems-based approach. Like the General Food Law, it should define governance arrangements, including the creation of a new Sustainable Food Systems Agency. It should also specify the necessary processes and mechanisms, including new governance systems, data gathering and review exercises, monitoring regimes, public participation, and accountability requirements to reach its goals. Specific funding could be made available for setting up these processes in all the Member States, for instance by establishing a new Just Transition fund for the sector. There should be new requirements on the Member States to establish their own action plans (see section 5).

## Box 2: Changing innovation policies through the SFS law

Innovation can play a major role in the transition to more sustainable food systems, including by supporting the move to biological pest control, developing novel plant-based foods and creating new forms of support for SMEs and smaller farmers.

Some EU policy mechanisms already support and fund research in these areas, including Horizon Europe and the EIP-AGRI Innovation partnership. However, without more investment and focus on how innovation can be applied in the field, the technological dimension of the agri-food transition will be significantly held back.

Removing barriers to sustainable innovation needs to be balanced by effective scrutiny and accountability. As the JRC has argued, good management of innovation should involve “objective science communication and citizen involvement, science-based risk assessment, efficient regulation and approval processes (avoiding regulatory bottlenecks), and appropriate integration into production systems” (Bock, Bontoux and Rudkin, 2022). The SFS law should enable both the strengthening of the existing governance and legislative system while increasing the flow of public and private investment into sustainable technologies.

## Integrating the CAP in the SFS law to foster change in agricultural systems

Agriculture is fundamental to the food chain and the transition to sustainability. The key objectives of the SFS law need to be embedded in agricultural policy to have any chance of coherence and meaningful delivery on the ground; spending under the CAP is particular needs to be fully aligned with these objectives. At the same time, interactions between farmers and other food chain actors need to be strengthened, with new policies supporting facilitation and co-operative initiatives, integrated production and marketing investments and new partnerships. Policies at the interface of the existing CAP and new SFS will be critical. For these reasons the CAP and the SFS law cannot be entirely separate pillars of EU policy. This has been underlined by the experience of the most recent CAP reform in which Member States were reluctant to align policies with the F2F targets unless legally required.

For these reasons, there is a strong case for the CAP to become a pivotal and very strategic “daughter” policy under the SFS. This would have the additional advantage of aligning the indicators used within the CAP with those applying to sustainable food systems as a whole. Two separate systems would be problematic. There are certain legal issues with a re-structuring of the CAP which do not arise with other potential daughter directives, but these do not look insurmountable provided there is enough political will. Expenditure under the CAP is an important, but increasingly questioned,

portion of the EU budget and bringing it within a larger frame of clear long-term value to all EU citizens would give it a stronger political foundation whilst helping to provide the resources for a just transition and a more resilient food system.

## Multi-level governance

**The nature and scale of food issues, and the way in which responsibilities are divided between different levels of governance in Europe, require Member States to be involved in the new governance and policy architecture for the SFS.**

### The Member states involvement to shift towards more sustainable food systems

Food systems involve many sectors and actors which are either regulated at the national level or are a matter of shared competence. For example, public health, education, social welfare and most aspects of industrial activity are national competences (for which the EU can provide assistance) while there are joint competences between Member States and the EU regarding agriculture, environment, consumer protection and energy. Moreover, as the principle of subsidiarity suggests, Member States have a better understanding of local needs and sensitivities and are therefore better placed than the EU to take action close to the ground and in issues with a strong socio-cultural dimension.

Moreover, the diversity of socio-economic and cultural systems needs to be celebrated and protected while ensuring common food safety standards across the bloc. Member States have different political preferences and visions of food policies and are actively considering new approaches to at least some aspects of food policy. For example, as illustrated in box 3, we found that each country surveyed is at a different point on the path towards developing national legislation on food systems. Most countries still address food systems-related issues through specific sub-sector initiatives without tackling food systems issues on the whole. These measures, along with local and regional ones, contribute to making parts of food systems more sustainable but are not enough to support systemic change. The case of Ireland and Germany are particularly instructive, as they show that the inclusion of all stakeholders in the negotiation process as well as political support can help governments put policies into place that not only seek to govern the whole food system but that are also accepted by private actors and civil society alike. These case studies highlight the importance of the SFS to harmonize approaches between Member States, while also pointing to potential pitfalls of the EU legislative project.

Member States need to carry out coordinated actions at national and sub-national level and in cooperation with the EU, and a way of doing so is through national action plans.

### Box 3: Member state experiences

Member states across the EU have different approaches to food policies, ranging from tackling different health, social and environment issues separately to putting in place national food policies.

In the case of France, Poland and Spain, each specific issue has its own policy. In France, socio-economic issues between producers and processors/retailers are dealt with under the Egalim 2 law. Meanwhile in Poland, the environmental effects on water from intensive livestock farming are covered by the 2017 Water Act. In highly decentralized Spain, some autonomous communities have innovated their own food systems policies: in Catalonia, for example, the Strategic Food Plan for Catalonia 2021-2026 was put into place using a highly participative process, which includes a target to replace 10% of traditional animal proteins with new sources of protein and transition the livestock sector.

Germany represents a country in between the two extremes, where there is increased momentum to have an overarching food law. The publication of the Future of Agriculture report from the Commission on the Future of Agriculture set the national agenda for an ambitious transition (ZKL, 2021) and the German elections of 2021 put the Green Party at the helm of the Ministry of Agriculture, which has since sought more ambitious environmental and health improvements (Lorenzen, 2021). Because of this movement in politics, a nutrition [strategy](#) has been proposed for 2023, with the stated goal of taking into account environmental, social and health factors.

Ireland provides a case of a country that already has a well-developed national food policy. Food Vision 2030 aims to make Irish agriculture a leader in sustainability and attain climate neutral food systems by 2050. At the same time, NGOs claim that the process was flawed because of lack of participation, ending with a less ambitious policy than they had hoped. They cite inconsistencies between the larger 51% emissions reduction goal set by the Climate Action and Low Carbon Development Bill and the current agricultural sector target of 20-30% reduction. Nevertheless, the Food Vision 2030 does take a systemic approach to food systems and considers all three dimensions of sustainability.

## Solutions: SFS national Action Plans

While an umbrella law is the most promising path towards a change in European food systems, it could meet strong opposition from MS if it was designed in a way that is too prescriptive (as in the case of a regulation setting targets to be reached at the Member States level and instruments to achieve them). To circumvent this problem, one solution would be to rely on Member States action plans (Baldock and Hart, 2021). Such plans would not need to be perfectly uniform but should respect some core EU rules, for example on participation and transparency and would need to comply with certain

minimum requirements. They would also give more power to Member states and encourage them to plan their policies by adopting a system-based approach.

One potential path would be to adopt an approach similar to the one developed in the CAP. Member States have to draw up national strategic plans subject to Commission approval, and then to implement them within a given period using common sets of indicators. This is appropriate for the CAP and has been accepted because Member States receive large allocations of EU funds and the plans determine how those funds are spent alongside national and private sector funds. However, unless the whole CAP budget is wrapped into a new SFS fund for the law and the CAP becomes one element of an SFS delivery policy then the funds flowing to the MS for SFS delivery are likely to be quite modest. So, Member States could refuse this level of requirements and the chance of this being accepted seem low. Hence, a lighter model could be more relevant. Here, we refer to such plans, involving much less onerous requirements, as action plans. Such plans would also reflect the high level of Member States competence in many areas of food policy. In the framework of the SFS law, the EC could check that MS' action plans are consistent with the objectives and targets set in the framework law as well as with other related laws (ESR, CAP, etc.). Potential minimum requirements for these plans could include:

- Time frames similar to CAP strategic plans as a means of linking delivery on the ground to policies and funds within the CAP. The consistency between the CAP and the action plans needs to be ensured.
- An explanation of how MS plan to use potential EU funding for the implementation of some key aspects of the SFS law (e.g. public participation, data collection for monitoring and evaluation, etc.). This could be reviewed and approved by the EC.
- A description of the approach being taken in the MS to achieving the broad goals of the SFS law as well as reporting on changes being made, even if purely within MS competence, to ensure EU level coherence. It should also explain how this approach complies with the single market and state aid legislation.
- A broad description of the measures being taken to meet the goals and the specific requirements of the EU SFS daughter directives to ensure coherence and avoid duplication as much as possible. The plan could also show how the measures are linking the supply and demand sides of the food transition, including through deploying the mechanisms of the CAP.
- Some mechanism for dealing with large multinational food companies based in the Member State.

- Ideally, these action plans should be based on a needs analysis and explain how MS plans to involve citizens through public consultation.

## **Conclusion: Which political pathway for an ambitious SFS?**

As discussed throughout this paper, there are many areas of discussion, or even contention, between stakeholders regarding the level of ambition of this legislative proposal and how sustainability should be defined and weighed against other objectives. This is likely to translate into tough political discussions at each stage of the policy process: during the drafting of the proposal by the Commission (due by the end of 2023), amendments by the Parliament and the Council and final negotiation between the three co-legislators. Moreover, the war in Ukraine and its impacts on global food security provides an additional argument for the many actors advocating for a less ambitious law. To add complexity, given the timeframe, it is also most likely that no political compromise will be reached before the next Parliamentary elections that will take place in spring 2024, meaning that a new Commission and a new Parliament will have to finalize and approve the text. While it is not in itself a problem, it can complicate the process if new political dynamics arise, as was the case for the post-2020 CAP reform.

The first step of this process requires the Commission to put an ambitious proposal on the table by the end of 2023. To this end, progressive stakeholders from all stages of the food chain should make their demand for such a proposal heard in as many political arenas as possible. Indeed, the changes needed in the policy framework for the SFS to become a cornerstone of a sustainable transition of the EU food system are massive: for example, it is necessary to make the CAP a daughter law of the SFS, and to have measures to accompany dietary shifts. Such changes will involve tough negotiations within the Commission itself, as different DGs often have competing views and need to find compromise. Yet, these negotiations are themselves influenced by the continuous interactions between the Commission and “external” actors of two broad types: Member states themselves (see Bailer, 2014; Bocquillon and Dobbels, 2014); and private stakeholders (company representatives and NGOs) active in Brussels (Smith, 2014). Most actors who are currently benefiting from the CAP are likely to resist attempts to make it a daughter law of the SFS – farmer unions, processing companies, and member states alike – for it would be seen as a threat: it could reduce income support and thus profitability for farmers; it could increase the price of raw material entering into the food processing industry and thus lower its price competitiveness (Wijnands and Verhoog, 2016). Progressive private actors – plant-based industries, biocontrol companies, etc. – and civil society organizations should therefore support counter

arguments to empower the Commission to resist the pressure for the status-quo. Only then can the changes needed to move food systems towards greater sustainability and ensure long-term food security take place.

## References

- Aubert, P-M, Gardin, B, Huber, É, Schiavo, M and Alliot, C (2021a) Designing Just Transition Pathways: A Methodological Framework to Estimate the Impact of Future Scenarios on Employment in the French Dairy Sector. *Agriculture* No 11(11), 1119.
- Aubert, P-M, Gardin, B, Schiavo, M and Alliot, C (2021b) *Towards a just transition of food systems. Issues and policy levers in France.* Iddri-BASIC, Paris.
- Bailer, S (2014) An Agent Dependent on the EU Member States? The Determinants of the European Commission's Legislative Success in the European Union. *Journal of European Integration* No 36(1), 37-53.
- Baldock, D and Buckwell, A (2021) *Just transition in the EU agriculture and land use sector.* Institute for European Environmental Policy.
- Baldock, D and Hart, K (2021) *Pathways towards a legislative framework for sustainable food systems in the EU.* Institute for European Environmental Policy, Brussels.
- Baquedano, F, Jelliffe, J, Beckman, J, Ivanic, M, Zereyesus, Y and Johnson, M Food security implications for low- and middle-income countries under agricultural input reduction: The case of the European Union's farm to fork and biodiversity strategies. *Applied Economic Perspectives and Policy* No n/a (n/a).
- Blattner, C (2020) Just Transition for agriculture? A critical step in tackling climate change. *Journal of Agriculture, Food Systems, Community Development* No 9(3), 1-6.
- Bock, A, Bontoux, L and Rudkin, J (2022) *Concepts for a sustainable EU food system.* JRC, Luxembourg.
- Bocquillon, P and Dobbels, M (2014) An elephant on the 13th floor of the Berlaymont? European Council and Commission relations in legislative agenda setting. *Journal of European Public Policy* No 21(1), 20-38.
- Bremmer, J, Gonzalez-Martinez, A, Jongeneel, R, Huiting, H, Rob, S and Ruijs, M (2021) *Impact Assessment of EC 2030 Green Deal Targets for Sustainable Crop Production.* Wageningen Economic Research, Wageningen.
- Candel, J (2022) EU food-system transition requires innovative policy analysis methods. *Nature Food* No 3(5), 296-298.
- EC (2020) *Farm to Fork Strategy. For a fair, healthy and environmentally-friendly food system.* European Union, Brussels.

EC (2021) *Inception impact assessment for the Sustainable food system framework initiative*. European Commission, Brussels.

EC (2022) *Green Deal targets for 2030 and agricultural production studies*. European Commission, Brussels.

Frehner, A, Muller, A, Schader, C, De Boer, I J M and Van Zanten, H H E (2020) Methodological choices drive differences in environmentally-friendly dietary solutions. *Global Food Security* No 24, 100333.

Harris, J M and Kennedy, S (1999) Carrying capacity in agriculture: global and regional issues. *Ecological Economics* No 29 (3), 443-461.

Karlsson, J O, Carlsson, G, Lindberg, M, Sjunnestrand, T and Rööös, E (2018) Designing a future food vision for the Nordics through a participatory modeling approach. *Agronomy for Sustainable Development* No 38 (6), 59.

Kremen, C (2015) Reframing the land-sparing/land-sharing debate for biodiversity conservation. *Annals of the New York Academy of Sciences* No 1355 (1), 52-76.

Muller, A, Schader, C, Scialabba, N E-H, Brüggemann, J, Isensee, A, Erb, K-H, Smith, P, Klocke, P, Leiber, F and Stolze, M (2017) Strategies for feeding the world more sustainably with organic agriculture. *Nature Communications* No 8 (1), 1290.

OECD (2003) *Voluntary Approaches for Environmental Policy – Effectiveness, Efficiency and Usage in Policy Mixes*. Organisation for Economic Co-operation and Development, Paris.

Poore, J and Nemecek, T (2018) Reducing food's environmental impacts through producers and consumers. *Science* No 360 (6392), 987-992.

Pörtner, L M, Lambrecht, N, Springmann, M, Bodirsky, B L, Gaupp, F, Freund, F, Lotze-Campen, H and Gabrysch, S (2022) We need a food system transformation—In the face of the Russia-Ukraine war, now more than ever. *One Earth* No 5 (5), 470-472.

Rosemberg, A (2010) Building a Just Transition: The linkages between climate change and employment. *International Journal of Labour Research* No 2 (2), 125-161.

Schiavo, M, Le Mouel, C, Poux, X and Aubert, P-M (2021) *An agroecological Europe by 2050: What impact on land use, trade and global food security?* Iddri & INRAe, Paris.

Schwoob, M-H, Hege, E and Aubert, P-M (2018) Making the SDGs count in the CAP reform: an analytical framework. *IDDRI Issue Brief* No 04/18, 8 p.

Searchinger, T D, Wiersenius, S, Beringer, T and Dumas, P (2018) Assessing the efficiency of changes in land use for mitigating climate change. *Nature* No 564 (7735), 249-253.

Smith, A (2014) How the European Commission's Policies Are Made: Problematization, Instrumentation and Legitimation. *Journal of European Integration* No 36 (1), 55-72.

Springmann, M, Clark, M, Mason-D'Croz, D, Wiebe, K, Bodirsky, B L, Lassaletta, L, de Vries, W, Vermeulen, S J, Herrero, M, Carlson, K M, Jonell, M, Troell, M, DeClerck, F, Gordon, L J, Zurayk, R, Scarborough, P, Rayner, M, Loken, B, Fanzo, J, Godfray, H C J, Tilman, D, Rockström, J and Willett, W (2018) Options for keeping the food system within environmental limits. *Nature* No 562 (7728), 519-525.

van Selm, B, Frehner, A, de Boer, I J M, van Hal, O, Hijbeek, R, van Ittersum, M K, Talsma, E F, Lesschen, J P, Hendriks, C M J, Herrero, M and van Zanten, H H E (2022) Circularity in animal production requires a change in the EAT-Lancet diet in Europe. *Nature Food* No 3 (1), 66-73.

Wijnands, J H M and verhoog, D (2016) *Competitiveness of the EU food industry – Ex-post assessment of trade performance embedded in international economic theory*. LEI Wageningen UR, Wageningen.

Commission on the Future of Agriculture (ZKL). (2021) *The Future of Agriculture A common agenda. Recommendations of the Commission on the Future of Agriculture*. [https://www.bmel.de/SharedDocs/Downloads/EN/Publications/zukunftskommission-landwirtschaft.pdf?\\_\\_blob=publicationFile&v=5](https://www.bmel.de/SharedDocs/Downloads/EN/Publications/zukunftskommission-landwirtschaft.pdf?__blob=publicationFile&v=5)



# Think 2030

Science-policy  
solutions for a more  
sustainable Europe

## I. About Think2030

Launched by IEEP and its partners in 2018, Think2030 is an evidence-based, non-partisan platform of leading policy experts from European think tanks, civil society, the private sector and local authorities.

By focusing on producing relevant, timely and concrete policy recommendations, Think2030's key objective is to identify science-policy solutions for a more sustainable Europe.

1. [think2030.eu](http://think2030.eu)

2. [#Think2030](https://twitter.com/Think2030)

For more information on this paper please contact:

**Pierre Leturcq**, Senior Policy Analyst, IEEP  
Coordinator of the Green Trade Network  
[pleturcq@ieep.eu](mailto:pleturcq@ieep.eu)

Paper realised in the framework of the Think Sustainable Europe network by:



**IDDRI**