

## COMMENT OPEN



# The EU sustainable food systems framework - potential for climate action

Camilla Björkbom<sup>1</sup>✉

The EU's Farm to Fork strategy (F2F) marks the first time that the EU addresses food sustainability covering both production and consumption (ref. <sup>1</sup>, p. 586). The flagship initiative under the F2F strategy is an entirely novel Framework for a Sustainable Food System (FSFS). The FSFS is being developed at a time where the war on Ukraine has resurfaced the debate on food security, in particular that the initiatives under the F2F will lead to a decrease in EU food production and export (ref. <sup>2</sup>, p. 15) and increased world food insecurity (ref. <sup>3</sup>, p. 11). On the other hand, Röös et al. (p. 14)<sup>4</sup>, Pörtner et al. (p. 470)<sup>5</sup> and Schiavo et al. (p. 40)<sup>6</sup> argue that food insecurity will rather be a consequence of an unsustainable food system that threatens long-term food production. They state that a shift to agroecological practices, as promoted in the F2F strategy, can provide food security if in conjunction with demand-side dietary change, also promoted in the F2F strategy. It is clear that EU citizens will be important in order to demonstrate public support for the F2F strategy in general, and for the FSFS in particular. However, the abstract nature of the new Framework for a Sustainable Food System, the FSFS, may pose difficulties for citizens to exert political pressure on the next European Commission, on Member State governments and on the European Parliament. To make the FSFS more tangible as to what it could contain, I will outline three concrete policy proposals that the new law could include: (1) foster enabling food environments; (2) introduce a new incentives regime for food producers; (3) recognise animal welfare in the definition of a sustainable food system.

*npj Climate Action* (2023)2:4; <https://doi.org/10.1038/s44168-023-00034-9>

## INTRODUCTION

Even if fossil fuel emissions are eliminated, the emissions from the current food system alone would leave the 1.5°C target in the Paris Agreement out of reach<sup>7</sup>. The EU's Farm to Fork strategy (F2F) marks the first time that the EU addresses food sustainability covering both production and consumption<sup>1</sup>. The flagship initiative under the F2F strategy is an entirely novel Framework for a Sustainable Food System (FSFS), with a legislative proposal expected from the European Commission (EC) at the end of 2023. The FSFS is announced in the F2F's Action Plan and aims to make the EU food system sustainable and integrate sustainability into all food-related policies<sup>8</sup>. While the FSFS has the potential to be systemically transformative, Schebesta and Candel<sup>1</sup> note that it is unclear what it will entail in practice, for example, if the FSFS will set any concrete targets and what its high-level objectives will be.

The FSFS is being developed at a time where Russia's war on Ukraine has resurfaced the debate on food security, in particular that the initiatives under the F2F will lead to a decrease in EU food production and export<sup>2</sup> and increased world food insecurity<sup>3</sup>. On the other hand, Röös et al.<sup>4</sup>, Pörtner et al.<sup>5</sup> and Schiavo et al.<sup>6</sup> argue that food insecurity will rather be a consequence of an unsustainable food system that threatens long-term food production. They state that a shift to agroecological practices, as promoted in the F2F strategy, can provide food security if in conjunction with demand-side dietary change, also promoted in the F2F strategy.

It is clear that EU citizens will be important in order to demonstrate public support for the F2F strategy in general, and for the FSFS in particular. However, the abstract nature of the new Framework for a Sustainable Food System, the FSFS, may pose difficulties for citizens to exert political pressure on the next EC, on Member State governments and on the European Parliament.

To make the FSFS more tangible, I will outline three concrete policy proposals that the new law could include:

- (1) foster enabling food environments;
- (2) introduce a new incentives regime for food producers;
- (3) recognise animal welfare in the definition of a sustainable food system.

## FOSTER ENABLING FOOD ENVIRONMENTS

The high mitigation potential of lifestyle changes, including dietary shifts with a higher share of plant-based food, to quickly reduce greenhouse gas (GHG) emissions is widely recognised<sup>9</sup>. The F2F strategy notes that the transition to a sustainable food system will not happen without a shift in people's diets, and that the creation of a food environment that makes the healthy, sustainable choice easier will bring health and environmental benefits<sup>10</sup>. Rather than seeing food choices as purely dependent on the individual consumer, the concept of 'food environment' directs attention towards the structures that shape consumer choices. 'Food environment' is the "physical, economic, political and socio-cultural context in which consumers engage with the food system to make their decisions about acquiring, preparing and consuming food"<sup>11</sup>. It is shaped by large-scale actors, such as retailers and the public sector. These large actors determine what kind of food is available, advertised and seen as the norm<sup>12</sup>.

## Restrict marketing of unhealthy, unsustainable food

A majority of EU citizens consider that marketing and advertising that do not contribute to healthy, sustainable diets should be restricted<sup>13</sup>, but while the F2F strategy notes that "marketing

<sup>1</sup>Political Adviser Food Policy at Eurogroup for Animals which is the European umbrella for animal advocacy organisations, Brussels, Belgium.

✉email: c.bjorkbom@eurogroupforanimals.org

campaigns advertising meat at very low prices must be avoided<sup>10</sup> it does not lay out how this will be done. The foreseen EU sustainability labelling could be used in the FSFS to set thresholds for product advertising and thereby limit promotion of unhealthy, unsustainable food. The FSFS could also play an important role by providing the wider framework for the industry agreements on marketing (see ref. <sup>12</sup>).

One of the first deliverables under the F2F strategy was the development of an industry Code of Conduct on Responsible Food Businesses and Marketing Practices that should contribute to a food environment that makes healthy, sustainable food choices easier<sup>14</sup>. While Schebesta et al.<sup>15</sup> consider the Code of Conduct to be more tangible in placing responsibilities on food business operators than the upcoming FSFS, the industry code remains a voluntary measure. The Code of Conduct's current target to increase availability and access of fruit, vegetables, wholegrain cereals, nuts and pulses<sup>16</sup> should be complemented by targets addressing not only the 'better' but also the 'less' of food consumption, notably animal-sourced products and sugars (see ref. <sup>12</sup>). As a framework for the industry Code of Conduct to operate within, the FSFS could define the minimum criteria for healthy, sustainable food and ensure that food placed on the shelves comply with the requirements, i.e. addressing the 'less'.

### Align public procurement with planetary boundaries

The FSFS foresees laying down rules for mandatory minimum criteria for public procurement<sup>17</sup>. Public procurement is an important tool to foster favourable food environments where healthy and sustainable food becomes the default choice. In addition to the purchasing power of the public sector it also shapes norms around food consumption and production<sup>18</sup>. A concrete target of the FSFS could be to align mandatory minimum criteria for public procurement in the Member States with the planetary boundaries, which would include a predominantly plant-based diet with limited amounts of animal proteins<sup>19,20</sup>. For the reduced amount of animal-sourced food that is still purchased, the FSFS could set criteria for it to comply with the EU organic standard as the minimum level (see ref. <sup>21</sup>) and thereby contribute to the F2F objective to increase organic production<sup>10</sup>.

### INTRODUCE A NEW INCENTIVES REGIME FOR FOOD PRODUCERS

Agricultural subsidies, with animal production as one of the main recipients, have been found to hinder the shift to healthy, sustainable food systems and are steering us away from meeting the 1.5 °C target<sup>22</sup>. The current EU Common Agricultural Policy (CAP) expenditure amounts to €55.7 billion yearly, or 1/3 of the total EU budget<sup>23</sup>. The European Court of Auditors (ECA) observes that the CAP does not provide incentives to reduce livestock numbers and has so far not been able to reduce GHG emissions from animal and feed production. To the contrary, the CAP market measures include the promotion of animal products and the voluntary coupled support has encouraged the maintenance of livestock numbers<sup>24</sup>.

As a consequence of the subsidies, the true costs for public health, environmental pollution and climate impact, are not reflected in the food price. One measure to reduce the societal costs is to redirect agricultural subsidies from intensive animal agriculture to more plant-based food production and reduce livestock numbers<sup>21</sup>. It may, however, be difficult to reconcile the current CAP with the intentions of the F2F strategy<sup>15</sup>. While the CAP was recently revised and will remain in place until 2027, the FSFS could establish a new subsidy regime outside of the current CAP. This subsidy regime could i) cover incentives for plant-based food production for human consumption, ii) move away entirely from subsidies based on the amount of land owned or used and instead

reward farmers that transition towards agroecological practices, iii) support the development, processing, sale and export of EU plant-based food for human consumption, as well as the development of novel technologies such as cellular agriculture. Initially outside of the current CAP, this new incentive scheme could become part of the CAP at its next revision.

### RECOGNISE ANIMAL WELFARE IN THE DEFINITION OF A SUSTAINABLE FOOD SYSTEM

Although animal farming stands for 70% of EU agricultural GHG emissions<sup>10</sup>, animal welfare has so far not been integrated with EU sustainability policies. The EC notes, however, that the relationship should be emphasised and that improved animal welfare, towards pasture-based systems with lower stocking density, must go together with changes in food consumption patterns<sup>25</sup>.

While animal welfare is not explicitly mentioned in the Sustainable Development Goals (SDGs) there is recognition in the scientific literature that the SDGs and a commitment to animal welfare should be seen as mutually reinforcing. Conversely, the current treatment of animals hinders us from achieving the SDGs<sup>21,26,27</sup>. Improved animal welfare has a particularly strong relationship with SDG 2 'Zero hunger', SDG 12 'Responsible consumption and production' and SDG 14 'Life below water'. For example, keeping ruminants in extensive systems, on pasture that is unsuitable for crops for human consumption, improves animal welfare and avoids food-feed competition. Shifting consumption patterns towards more plant-based food can increase possibilities to improve animal welfare while reducing pollution, GHG emissions and deforestation<sup>26</sup>.

The F2F strategy, an important part of the EU's implementation of the SDGs, reflects an understanding of animal welfare as interlinked with a sustainable food system<sup>10</sup>. However, Schebesta and Candel<sup>1</sup> argue that, because the F2F strategy does not define 'sustainability', trade-offs between different areas of sustainability are obscured<sup>1</sup>. For example, shifting consumption from methane-intensive beef to intensively reared chicken, pig, eggs and fish will not only increase food-feed competition and exacerbate inefficient use of arable land, i.e. the production of animal feed rather than growing crops for human consumption. It will also affect animal welfare as the majority of these farming systems are the most intensive with high stocking density<sup>28,29</sup>. Recognising the link between animal welfare and a sustainable food system can provide direction for solving some of the trade-offs<sup>21</sup>.

von Braun et al.<sup>30</sup> note that the dilemma with definitions is that they can either become too complex or exclude important aspects, but a definition of a sustainable food system should be practically applicable if it is to guide policy action. Criteria for a practical definition should therefore a) focus on how the definition supports progress towards achieving the SDGs, in particular zero hunger, improved diets and ecosystem protection, and b) be precise enough to identify policy priorities while not excluding any aspect of the ecological, economic and social dimensions<sup>30</sup>. Given the linkages between animal welfare and the SDGs, a recognition of the role of animal welfare in the definition of a sustainable food system in the new FSFS can support the EU in achieving the SDGs.

### CONCLUSIONS

The EU Farm to Fork strategy's key legislative initiative, the Framework for a Sustainable Food System (FSFS), has the potential to promote a systemic transformation of the EU food system. However, given the recent debates about food security, there is a risk that ambitions are lowered. The political commitment of the European Commission, the European Parliament and from the Member States to enact the FSFS will be influenced by public pressure. EU citizens will have an important role in ensuring that

the FSFS achieves its transformative potential. By putting forward three concrete policy proposals for what the FSFS could contain, with examples on both the demand and supply sides as well as in terms of the definition of a sustainable food system, the initiative can become more tangible for advocates seeking to influence the FSFS, expected towards the end of 2023.

Received: 16 August 2022; Accepted: 9 December 2022;

Published online: 06 March 2023

## REFERENCES

- Schebesta, H. & Candel, J. J. L. Game-changing potential of the EU's Farm to Fork Strategy. *Nat. Food* **1**, 586–588 (2020).
- Beckman, J., Ivanic, M. & Jelliffe, J. Market impacts of Farm to Fork: Reducing agricultural input usage. *Appl. Econ. Perspect. Policy* **44**, 1995–2013 (2022).
- Baquedano, F. et al. 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. *Appl. Econ. Perspect. Policy* **44**, 1942–1954 (2022).
- Röös, E. et al. Agroecological practices in combination with healthy diets can help meet EU food system policy targets. *Sci. Total Environ.* **847**, 157612 (2022).
- Pörtner, L. M. et al. We need a food system transformation - In the face of the Russia-Ukraine war, now more than ever. *One Earth* **5**, 470–472 (2022).
- Shiavo, M., Le Mouél, C., Poux, X. & Aubert, P.-M. An agroecological Europe by 2050: what impacts on land use, trade and global food security? IDDR. *Study*. (2021).
- Clark, M.A. et al. Global food system emissions could preclude achieving the 1.5° and 2°C climate change targets. *Science* **370**, 6517 (2020).
- EC. *Sustainable EU food system - new initiative*. Retrieved 15 August 2022 from [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13174-Sustainable-EU-food-system-new-initiative\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13174-Sustainable-EU-food-system-new-initiative_en) (2021a).
- IPCC. *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. <https://doi.org/10.1017/9781009157926> (2022).
- EC. *A Farm to Fork strategy for a fair, healthy and environmentally-friendly food system*. (2020a).
- HLPE. *Nutrition and food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*. <https://www.fao.org/3/i7846e/i7846e.pdf> (2017).
- Garnett, T., Mathewson, S., Angelides, P. & Borthwick, F. *Policies and actions to shift eating patterns: what works. A review of the evidence of the effectiveness of interventions aimed at shifting diets in more sustainable and healthy directions*. <https://www.research.ed.ac.uk/en/publications/policies-and-actions-to-shift-eating-patterns-what-works-a-review> (Chatham House, 2015).
- EC. *Special Eurobarometer 505. Making our food fit for the future. Citizens' expectations*. <https://doi.org/10.2875/826903> (2020b).
- EC. *EU Code of Conduct on Responsible Food Business and Marketing Practices*. Retrieved 31 October 2022 from [https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy/sustainable-food-processing/code-conduct\\_en](https://food.ec.europa.eu/horizontal-topics/farm-fork-strategy/sustainable-food-processing/code-conduct_en) (n.d.a).
- Schebesta, H., Bernaz, N. & Macchi, C. The European Union Farm to Fork Strategy: Sustainability and Responsible Business in the Food Supply Chain. *Eur. Food Feed Law Rev.* **15**, 420–427 (2020).
- EC. *EU Code of Conduct on responsible businesses and marketing practices. A common aspirational path towards sustainable food systems*. Retrieved 15 August 2022 from [https://food.ec.europa.eu/system/files/2021-06/f2f\\_sfpd\\_coc\\_final\\_en.pdf](https://food.ec.europa.eu/system/files/2021-06/f2f_sfpd_coc_final_en.pdf) (2021b).
- EC. *Sustainable EU food system - new initiative*. Retrieved 31 October 2022 from [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13174-Sustainable-EU-food-system-new-initiative\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13174-Sustainable-EU-food-system-new-initiative_en) (n.d.b).
- Swenson, L. F. J., Hunter, D., Schneider, S. & Tartanac, F. Public food procurement as a game changer for food system transformation. *Lancet* **5**, e495–e496 (2021).
- Springmann, M. et al. Options for keeping the food system within environmental limits. *Nature* **562**, 519–525 (2018).
- Willett, W. et al. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *Lancet* **393**, 447–492 (2019).
- Verkuijl, C. et al. *Mainstreaming animal welfare in sustainable development: a policy agenda*. Stockholm+50 background paper series. (Stockholm Environment Institute, Stockholm, 2022).
- FAO, UNDP, & UNEP. *A multi-billion-dollar opportunity. Repurposing agricultural support to transform food systems*. FAO. <https://doi.org/10.4060/cb6562en> (2021).
- EC. *Financing of the CAP*. Retrieved 31 October 2022 from <https://www.europarl.europa.eu/factsheets/en/sheet/106/financing-of-the-cap> (n.d.c).
- ECA. *Common Agricultural Policy and climate. Half of EU climate spending but farm emissions are not decreasing*. (Special report, 2021).
- EC. *Commission Staff working document. Fitness check of the EU Animal Welfare legislation*. 4 October (SWD, 2022).
- Keeling, L. et al. Animal Welfare and the United Nations Sustainable Development Goals. *Front. Vet. Sci.* **6**, 336 (2019).
- Visseren-Hamakers, I. J. The 18th Sustainable Development Goal. *Earth Syst. Gov.* **3**, 1–5 (2020).
- Röös, E. et al. Moving beyond organic. A food system approach to assessing sustainable and resilient farming. *Global Food Sec.* **28**, 1–10 (2021).
- Schader, C. et al. Impacts of feeding less food-competing feedstuffs to livestock on global food system sustainability. *J. Royal Soc. Interface* **12**, 1–12 (2015).
- von Braun, J., Afsana, K., Fresco, L. O., Hassan, M. & Torero, M. Food system concepts and definitions for science and political action. *Nat. Food* **2**, 748–750 (2021).

## ADDITIONAL INFORMATION

**Correspondence** and requests for materials should be addressed to Camilla Björkbom.

**Reprints and permission information** is available at <http://www.nature.com/reprints>

**Publisher's note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>.

© The Author(s) 2023