



Addressing sustainability in the fresh fruit and vegetable sector

Nicola Pisano (Freshfel Europe), Jeroen Weststrate (Fresh Produce Centre), Roline Broekema and Irina Verweij-Novikova (Wageningen Economic Research). With contributions from: Frédéric Rosseneu (Greenyard) and Drew Reynolds (Dole Plc.)

The need for sustainability information is rising

The environmental impact of products has increasingly gained attention, driven by both supply chain and legislative sustainability demands. More and more consumers look for trustworthy sustainability information while NGOs demand transparency from companies e.g. by seeking media attention. More recently, financial institutions, retailers and other large companies are also demanding increased transparency, partly as a result of upcoming regulations, such as the EU Corporate Sustainability Reporting Directive (CSRD), mandatory due diligence legislation and food sustainability labelling. Whether you are a producer, producer association or trading company of fresh fruits and vegetables, sooner rather than later you will have to be transparent about the environmental impact of your products.

Individual fresh fruit and vegetable companies have been calculating environmental footprints of their products. However, efforts within the sector to address sustainability through environmental footprint calculations have been highly fragmented until now. This fragmentation has led to a continued proliferation of environmental certifications, claims, initiatives and labels, causing confusion and mistrust on markets.

Product Environmental Footprint (PEF) method for fresh produce

To ensure comparability, verifiability and reproducibility of environmental footprint calculations and subsequent sustainability claims, it is important to use a uniform and reliable methodology across the sector.

Over the past decade, the European Commission (hereinafter: EC) has made lots of efforts to develop such a methodology. This methodology of the EC is called the Product Environmental Footprint (PEF) method. The PEF method is a life-cycle assessment (LCA) based method, i.e. a method that considers impact on the environment from one unit of a product, starting from extraction of raw materials to the waste treatment (end-of-life) of the product (see Figure 1). The PEF method is declared by the EC as the method that European society should rely upon when measuring environmental sustainability of a specific product [1]. The EC recommends using the PEF method to measure and communicate the life-cycle environmental performance of products (Box 1).

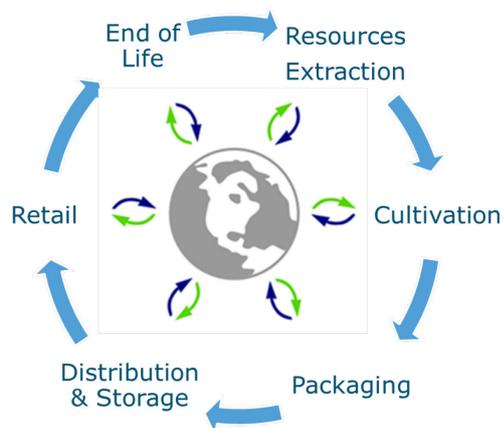


Figure 1 Product Life Cycle

In 2013-2018 the EC has facilitated the industries in developing product-specific PEF rules, the so-called Product Environmental Footprint Category Rules (PEFCRs). Under close supervision by the EC, using the overall PEF Guiding principles, calculation rules were developed while accounting for the sector-specific conditions. Nineteen pilots were successfully released, among which those relevant to agriculture: dairy, beer, wine, pasta, olive oil, packed water and feed (see [here](#)). In Spring 2019, the EU issued a call for volunteers for the Environmental Footprint transition phase that concerned the development of new PEFCRs/OEFSRs, the full revision of existing PEFCRs/OEFSRs and the integration of “shadow pilots” (PEFCRs and OEFSR developed outside of the pilot phase in the period 2013-2018) among the officially listed ones [2]. Five new pilots are running, among which ‘PEFCR Cut Flowers and Potted Plants’ led by the Dutch public-private consortium HortiFootprint [3]. Other pilots are: marine fish, flexible packaging, synthetic turf, and apparel (see [here](#)). Besides the official pilots that enrol through the call, there might be other sector initiatives that develop so-called shadow PEFCRs. Examples are shadow PEFCRs for shampoos [4] and for growing media [5]. In the official Call for volunteers [2], the EC specifies the set of steps towards formalising the shadow-PEFCRs.

The start of the development of the shadow PEFCR for Fruits and Vegetables can be marked with the development of the HortiFootprint Category Rules (hereinafter: HFCR, see [6]).

Box 1. References to environmental claims/sustainability labels in most recent EC Policy Proposals and Recommendations

- ‘Companies should substantiate their environmental claims using Product and Organisation Environmental Footprint methods and committed to test the integration of these methods in the EU Ecolabel’ [1];
- ‘The Product Environmental Footprint method has the potential of being one underlying methodology for various product policy tools in the EU and the framework for sustainable products, taking also other suitable methodologies into account’ [1];
- ‘The Circular Economy Action Plan provides for the need to set the rules on environmental claims using Product and Organisation Environmental Footprint methods’ [8];
- ‘The proposal [8] aims at a ban on displaying a sustainability label which is not based on a certification scheme or not established by public authorities’;
- ‘The proposal [8] aims to ban generic environmental claims used in marketing towards consumers, where the excellent environmental performance of the product or trader cannot be demonstrated in accordance with EU Ecolabel regulation, officially recognised eco-labelling schemes in the Member States, or other applicable Union laws, as relevant to the claim;
- ‘The objective of the Green Claims initiative will be to introduce further requirements in relation to environmental claims made about products and organisations, both when made by businesses towards consumers and by businesses towards other businesses’ [8].

In 2022 the fresh fruit and vegetable sector launched the Freshfel Environmental Footprint Initiative at European sector level under the guidance of Freshfel Europe, the European Fresh Produce Association [7]. The aim of the Initiative is to start developing a shadow PEFCR for the fresh fruit and vegetable sector that can later be converted into a formal PEFCR for the sector. This shadow-PEFCR will already at this stage ensure that environmental assessments are calculated in the same scientific way for any type of fruit or vegetable sold in Europe. The environmental assessment includes all life cycle stages, even when they take place outside Europe.

Legislative & sector developments around PEF method

Following quotes from Box 1, the EU PEF method is recommended for substantiating environmental claims through several future policies impacting the fresh fruit and vegetable sector. The EC's Proposal for a Directive on empowering consumers for the green transition [9] (released on March 30, 2022) will revise the Unfair Consumer Practices Directive (UCPD) and proposes to ban sustainability labels and claims that are not substantiated. In November 2022, a proposal for a legislation on Green Claims Initiative (GCI) is expected [10]. Both of the above-mentioned initiatives are part of the Circular Economy Action Plan of the European Commission and 'are mutually consistent and complementary'. Following [8], the upcoming CGI legislation will formulate how the PEF methodology is to be applied, i.e. what will be the requirements in relation to environmental claims made about products by businesses towards consumers and by businesses towards other businesses.

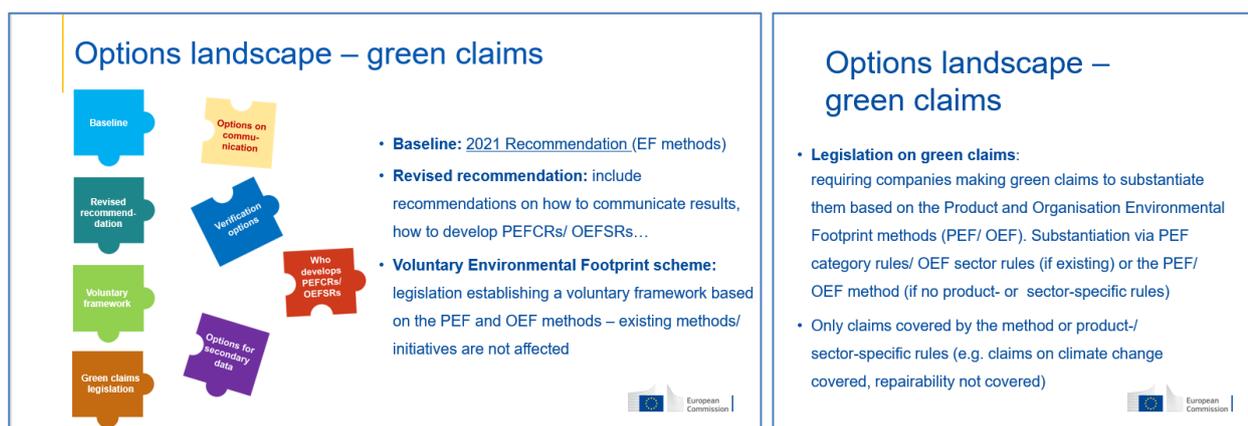


Figure 2 Options under green claims initiative [10]

Figure 2 presents four options that are being assessed suggesting that the PEF approach may be used either on a voluntary basis or through a legislation [10]. The most recent presentation [11] clarified that the GCI will be focusing on voluntary claims made by organisations regarding their products and it is not a proposal on mandatory labelling. In other words, companies may or may not communicate environmental claims but once they do, they will be advised or required to substantiate their environmental claims using PEF methodology.

The PEF methodology is expected to be used in several ongoing policy initiatives. The development of GCI goes in close collaboration with the proposal development for a legislative framework for sustainable food systems (FSFS, see [12]). Especially in the proposal for a future Sustainability Labelling Framework, covering the provision of consumer information relating to the nutritional, climate, environmental and social aspects of food products, the baseline policy option of the future food sustainability labelling (Option 0) assumes building on the adopted and implemented GCI. Since the GCI will be built on PEF (see [10]), there is a strong potential link between the FSFS and PEF.

Options in the FSFS for pull measures: Sustainability labelling				
Option 0	Option 1	Regulatory options		
		Option 2	Option 3	Option 4
			New EU framework for sustainability labelling	
Do nothing	Voluntary	Reinforcing existing legislation	Optional EU sustainability label	Mandatory EU sustainability label
Currently applicable EU food labelling legislation remains in force. Upcoming vertical sustainability component specific labelling initiatives (e.g. front-of-pack nutrition labelling (nutrition), "green claims" (climate/environment)) are adopted and implemented.	Voluntary approaches that go beyond legal requirements would be developed by the Commission such as guidelines or private commitments are incentivised such as Memorandums of Understanding or codes of conduct.	Sustainability labelling provisions related to <u>more than one sustainability component</u> (e.g. environmental + social sustainability) are developed in sector specific legislation (e.g. Fisheries Marketing Standards).	1/ Development of an EU general framework for sustainability-related food information to consumers applicable to all foods (scope, definitions, objectives and principles/general rules) 2/ Development of a voluntary EU sustainability label for EU and imported food products: <ul style="list-style-type: none"> • Sub-option 3a: optional label applicable only to food products of higher sustainability performance • Sub-option 3b: optional label applicable to all food products 	1/ Development of an EU general framework for sustainability-related food information to consumers applicable to all foods (scope, definitions, objectives and principles/general rules) 2/ Development of a mandatory harmonised EU sustainability label on EU and/or imported food products <ul style="list-style-type: none"> • Sub-option 4a: mandatory label for all EU food products and voluntary for imported food products • Sub-option 4b: mandatory label for all EU and imported food products

Figure 3 Policy options considered under sustainability labelling framework

Source: Presentation by Expert group on General Food Law and sustainability of food systems on May 20, 2022 [12].

In addition to the implementation of PEF in EC policy, the predecessor of the PEF method in horticulture (HFCR, [6]) is already applied in practice. SIFAV, Sustainable Initiative Fruit and Vegetables, has developed an Excel-based Environmental Footprint Toolkit for fresh fruits and vegetables for its members on the basis of the HFCR. For use by individual companies participating in the SIFAV programme, it derives the most relevant indicators, including climate change, water scarcity, eutrophication, and ecotoxicity. Tools will have to be updated once a new version of the official PEFCR for F&V is available.

The benefits of developing a PEFCR for the fresh fruit and vegetable sector

Developing a shadow PEFCR for the fresh fruit and vegetable sector is a process spanning several years that requires intensive engagement of different stakeholders and substantial resources. However, collective sector efforts will see the wider sector benefit from this shadow PEFCR and succeed in reducing the environmental impact of fresh produce.

The development and application of the PEF method is complex. The shadow PEFCR will derive 16 important environmental indicators in total, among which are included climate change, resource use (fossils), toxicity, acidification, water use, and land use. The large number of indicators and the complex method result in heavy data demand on primary processes in the fresh fruit and vegetable sector, i.e. on everything that a farmer decides upon. Some of the life cycle stages are modelled based on company-specific data because these have a large influence on the total impact on a product. Other stages are modelled using default data provided by the PEFCR itself through rules and PEF-compliant databases. When these data are to be processed in a life-cycle model, only LCA experts can complete such calculations.

Despite the complexity involved, the PEF method has many benefits. The most important gain of developing a uniform method is in building both B2B and B2C trust. A PEFCR supports fair comparisons. This in turn increases reliability of environmental footprint information and

environmental impact claims. Through the trust in the method that is endorsed by the EC and stakeholders and through proactive engagement with all stakeholders, the sector gains in reputation among supply chain partners. Also, building trust towards consumers in light of the transition towards a greener economy becomes more feasible.

The ability to quantify 16 environmental indicators and to monitor the footprint on an annual basis gives companies a solid management tool. Insight into sustainability, especially hotspot identification, often also provides opportunities for reduction of costs due to increased efficiency.

Another important benefit is that the development of the shadow PEFCR for the fresh produce sector ensures preparation for future EU legislation and ensures sector compliance to policies which are foreseen to take effect in the near future (GCI [8], UCPD [9], FSFS [12]).

Finally, having such a detailed, but yet harmonised modelling method to calculate environmental footprint per product will help prepare business to tackle upcoming requirements on non-financial reporting at company level. In April 2021, the Commission adopted a proposal for a Corporate Sustainability Reporting Directive (CSRD) that requires large (with more than 500 employees) companies to publish regular reports on the social and environmental impacts of their activities. The exact requirements of which environmental indicators to report on are not yet formulated. Having PEF results per product at hand will supposedly assist companies to tackle the CSRD requirements but also make them better prepared to address voluntary reporting initiatives at company level like the Carbon Disclosure Project (CDP), Global Reporting Initiative (GRI), Taskforce on Climate Related Financial Disclosures (TCFD) and Science Based Targets initiative (SBTi).

How to stay connected?

The development of a shadow PEFCR for the fresh fruit and vegetable sector is expected to start in January 2023. The work will be carried out by an international consortium of partners (the Technical Secretariat) led by Freshfel Europe. Some of its members will also support the work. The shadow-PEFCR will be developed in compliance with the most recent PEF Guideline [1], prescribing a very strict process that involves independent reviewers and two Open Public Consultations.

We invite you to stay informed and follow our project page ([link](#)).

Further information about the Freshfel Environmental Footprint Initiative is also available [here](#).

References

- [1] Commission Recommendation of 16.12.2021 on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organizations ([link](#)).
- [2] EC (2019). The application package for the Call for volunteers concerning the development of new PEFCRs/ OEFSRs, the full revision of existing PEFCRs/ OEFSRs and the integration of 'shadow pilots' (PEFCRs and OEFSR developed outside of the pilot phase in the period 2013-18). DG ENV and DG GROW, European Commission ([link](#)).
- [3] Haasnoot, A., Broekema, R., Verweij-Novikova, I., Wieringa, E., Broekman, B. and Schamp, F. (2022). Addressing sustainability in floriculture. Wageningen Economic Research ([link](#)).
- [4] Golsteijn, I., L. Lessard, J.-F. Campion, A. Capelli, V. D'Enfert, H. King, J. Kremer, M. Krugman, H. Orliac, S. Rouillet Furnemont, W. Schuh, M. Stalmans, N. Williams O'Hanlon, M. Coroama (2018). Developing Product Environmental Footprint Category Rules (PEFCR) for shampoos - The basis for comparable Life Cycle Assessments: Product Environmental Footprint Category Rules for Shampoos. Integrated Environmental Assessment and Management 14(5), pp. 649-659. <https://doi.org/10.1002/ieam.4064>
- [5] GME (2021). Growing Media Europe: Growing Media Environmental Footprint Guideline V1.0 ([link](#)).
- [6] Helmes et al. (2020). *Hortifootprint Category Rules: Towards a PEFCR for horticultural products*. Wageningen Economic Research report; No. 2020-041). Wageningen Economic Research ([link](#)).
- [7] Freshel (2021). Freshfel Europe kick-starts collective pan-European environmental footprint initiative. Press release ([link](#)).
- [8] GCI (2020). Legislative proposal on substantiating green claims, Inception Impact Assessment, Ref. Ares(2020)3820384 - 20/07/2020 ([link](#)).
- [9] UCPD (2022). Proposal for a Directive on empowering consumers for the green transition - COM(2022)143 ([link](#)).
- [10] DG-ENV (2022a). Update on EF methods and policies. TSC webinar, April 22, 2022 ([link](#)).
- [11] DG-ENV (2022b). Driving greener food & drink choices: Unlocking the potential of the European Commission's proposal on substantiating green claims (EBCD.org). DG-ENV, European Commission, April 22, 2022 ([link](#)).
- [12] EGGFLSFS (2022). Legislative framework for a Union sustainable food system. Expert Group on General Food Law and Sustainable Food System. Presentation at the second meeting of the expert group on general food law and sustainability of food systems on May 20, 2022 ([link](#)).

More information (WUR)

Roline Broekema
T +31 (0)70 335 81 00
E roline.broekema@wur.nl
www.wur.eu/economic-research

More information (Freshfel)

Nicola Pisano
T +32 (0)2 777 15 80
E n.pisano@freshfel.org

2022-119