



## Advice

# Product Environmental Category Rules (PEFCR) for Marine Fish for Human Consumption

Brussels, 6 August 2024

### I. Background

In 2020, the European Commission's Directorate-General for Environment (DG ENV) launched a policy initiative on substantiating green claims<sup>1</sup>. The Product and Organisation Environmental Footprint will be determined through Life Cycle Assessment methods. Environmental performance will be calculated from extraction/growing of resources to the end of life of the product or portfolio. The PEF method covers 16 environmental impact categories, which are shared across all products/industries.

Product Environmental Footprint Category Rules (PEFCR) are being developed by external experts, including PECFR for unprocessed Marine Fish Products (both for wild catch and farmed) under a Technical Secretariat<sup>2</sup>. PECFR for other food products, such as pasta and dairy have been developed. The First Open Consultation for the Marine Fish PECFR took place from 2 August to 4 October 2021. On 15 February 2022, DG ENV organised an online training session<sup>3</sup>. Following the development of supporting studies to test the PECFR, a Second Open Public Consultation was launched from 17 June to 15 July 2024.

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<sup>1</sup> [https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12511-Environmental-performance-of-products-&-businesses-substantiating-claims\\_en](https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12511-Environmental-performance-of-products-&-businesses-substantiating-claims_en)

<sup>2</sup> Information about the initiative, consultations, and the Technical Secretariat is available online: <https://www.marinefishpefcr.eu/technical-secretariat>

<sup>3</sup> Recording available online: [https://ec.europa.eu/environment/eusds/smgp/ef\\_trainings.htm#pefcr\\_fish](https://ec.europa.eu/environment/eusds/smgp/ef_trainings.htm#pefcr_fish).



The Market Advisory Council (MAC) welcomes the openness of the European Commission and of the Technical Secretariat to receive comments on the Marine Fish PEFCR project.

The present advice is also supported by the North Western Waters Advisory Council (NWWAC).

## **II. Previous advice**

In a previous opportunity, the MAC provided advice concerning the public consultation on a potential legislative proposal on substantiating green claims<sup>4</sup>, which should still be taken into account. Under the directive on the substantiation and communication of explicit environmental claims, operators would be able to use the PEF method to support claims about specific environmental impacts and overall on environmental footprint.

On 24 May 2022, the MAC provided advice, with a more political perspective, on the development of the Marine Fish PEFCR<sup>5</sup>, which remains valid and relevant, recommending that the European Commission should:

- a) Ensure policy coherence between the PEFCR project and the legislative proposal on substantiating green claims with other initiatives affecting the communication on sustainability information to consumers, such as the revision of the marketing standards framework for fishery and aquaculture products, the revision of rules on food information to consumers, and the sustainable food system framework;
- b) Seriously assess other possible options, beyond the PEF method, to substantiate green claims, before reaching a decision. Relying on a single framework or method can be counterproductive and the limitations of a single LCA approach must be accounted for;

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<sup>4</sup> Advice was adopted on 10 December 2020: <https://marketac.eu/substantiation-of-green-claims/>.

<sup>5</sup> <https://marketac.eu/recommendation-of-mac-concerning-product-environmental-category-rules-pefcr-for-marine-fish-for-human-consumption/>

- c) Taking into account the inherent complexity of the PEF method, maintain communication to consumers via this method as voluntary;
- d) Clarify the long-term planning on the use of the PEF method, particularly whether its use is expected to remain voluntary in the substantiating of green claims. As mentioned above, in the view of the MAC, the use of the PEF method should remain voluntary when communicating to consumers;
- e) Ensure that the development of concurrent policy initiatives on sustainability communication does not lead to future consumer confusion, since some consumers might be unable to interpret all of the simplified information provided. Besides the significant amount of information on the packaging, a product might, for example, attain a “positive” value under the proposed sustainability criteria of the marketing standards framework and, simultaneously, attain a “negative” value in the environmental performance under the PEF methodology;
- f) Take into account the significant administrative burden for operators, especially for SMEs, of the PEFCR initiative combined with other ongoing and existing initiatives;
- g) In the drafting of the PEFCR for unprocessed Marine Fish products, ensure respect for concepts and definitions provided by the existing regulatory framework, for example concerning “bycatch”, “discards”, and “targeted species”, in order to avoid conceptual misunderstandings;
- h) Taking into account the lack of consensus on a method or criteria to quantify biodiversity impacts for a specific product and that biodiversity is not included as an impact category in the PEF methodology, plus the difficulty for operators in providing primary data on the mentioned information, ensure that the provision of data on biodiversity impacts is not mandatory under “additional environmental information” or under “additional technical information”;

- i) If PEFCR for unprocessed Marine Fish product are adopted, accompany these with guidance documents with practical examples to facilitate understanding by operators and other stakeholders. It would be useful to include practical examples in the PEFCR document;
- j) Taking into account the need for consistency across future PEFCRs for other fisheries and aquaculture sectors, clarify the expected impact of the principles of the Marine Fish PEFCR on future rules (e.g., freshwater fisheries, farmed products, molluscs, processed fish), for example through the commissioning of a study on this matter.

On 21 June 2024, DG MARE sent a letter of reply. The letter recognises the importance of policy coherence and consistency, informing that DG MARE is working very closely with DG ENV and DG SANTE to ensure an integrated approach. The letter acknowledged that the PEF method – as it stood then – did not reflect fisheries-specific sustainability hotspots, such as impacts on the fish stocks or on the seabed. The work done with STECF on sustainability criteria would provide the opportunity to address these gaps. The letter adds that the green claims initiative would only address voluntary claims by operators, so a general obligation for applying the PEFCR was not foreseen.

### **III. Policy Recommendations**

Before proceeding with the technical comments on the draft report of the Technical Secretariat, the MAC would like to put forward some introductory comments concerning this project and the policy initiative on substantiating green claims. The MAC believes that the Commission should:

- a) Taking into account the complexity of the PEFCR, develop a simplified version to facilitate their use by the stakeholders of the fisheries and aquaculture value chain;
- b) Taking into account that the 16 impact categories of the PEF method do not cover other sustainability aspects that are specific and more relevant for fishery and aquaculture

- products, clarify the relationship between the PEFCR and other initiatives on sustainability communication, while ensuring that the PEFCR are not used for “greenwashing”;
- c) Keep in mind that the PEFCR, particularly in terms of data availability and administrative burden, might not be feasible for a wide range of companies in the EU<sup>6</sup>, particularly by SMEs, including in the case of imported raw material for which data might not be available to the LCA conductor;
  - d) To ensure a level-playing-field of EU market actors and consistency across future PEFCRs, clarify the planned next steps for PEFCR for other product categories excluded from the current scope (e.g., crustaceans, molluscs, freshwater fish), and for prepared and preserved fishery and aquaculture products (CN Code 16).

#### **IV. Comments on the Draft Report of the Technical Secretariat**

Comments on the draft report prepared by the Technical Secretariat (14.06.2024 version) are made available below. For ease of reference, the titles and numbering of the report are used.

### **3. GENERAL INFORMATION ABOUT THE MARINE FISH PEFCR**

#### **3.1. PEFCR Product Scope (p. 18)**

*“The product scope of this PEFCR is unprocessed wild and unprocessed farmed marine fish for direct human consumption in the EU market. This scope excludes crustaceans, molluscs and freshwater fish, both wild and farmed”.*

The product scope is on unprocessed products, even though some preliminary processing is covered (e.g., gutting, filleting, refrigeration, freezing). It is important to know when there will be

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<sup>6</sup> The present version seems more accessible for integrated companies focused on aquaculture production.

future initiatives for PEFCR for processed fish products (e.g., marinating, smoking, preparing) and/or for processed food products in general.

Taking into account that the product scope is unprocessed wild and unprocessed farmed marine fish for direct human consumption in the EU market, it is important to clarify how salmon and eels, are covered, since these are diadromous species. These species, which are quite important in the EU market, can be caught in freshwater, but live at sea.

Taking into account that the product scope refers to the EU market, it should be explicitly clear that the scope applies to marine fish produced inside EU waters and outside EU waters.

### **3.2.1 Feed for fish farming and system boundaries (p. 21)**

*“Feed for fish farming is within the system boundaries of this PEFCR, meaning that the feed production shall be included in the PEF profile of farmed marine fish products, but the instructions on how to the PEF profile of the feed (to the fish farm) shall be calculated are found in the Feed for food-producing animals. Section 6.1.2. provides more detail on how feed shall be included”.*

In the context of certain aquaculture productions, such as salmon farming, the production of fishmeal and fish oil can be significant steps in relation to carbon emissions. Fishmeal and fish oil are not formally included within the scope of the PEFCR Feed for food-producing animals (feed PEFCR), however this method can be employed to calculate the PEF profile of marine ingredients. In this context, fishmeal and fish oil producers have submitted a GLFI “data-in” project with the objective of providing an up-to-date and representative PEF profile of fishmeal and fish oil<sup>7</sup>. The methodology is based on the feed PEFCR and PEF profiles available in the GLFI LCA database,

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<sup>7</sup> [GLFI methodology and project guidelines, Version 2.1, July 2024](#)

which encompass the impact categories identified as most significant in section 4 of the PEFCR for Marine Fish Products. Therefore, it should be pointed out to the fish farmers that the PEF profile of fishmeal and fish oil can be obtained from the GFFI LCA database.

However, it is also essential to explicitly clarify that the production of the raw material used for the production of fishmeal and fish oil is included in the PEFCR for Marine Fish Products.

### **3.3 Target audience, comparability, and data quality requirements (p. 21)**

*“The main purpose of this PEFCR is to set rules for how a company that produces marine fish calculates and documents the PEF profile of their products”.*

*“The PEF will be calculated by many different actors in the marine fish life cycle and this PEFCR provides solutions for different cases, but the basic principle is that the analysis is performed with the availability of the most important data for the PEF of marine fish products (section 5.2.). In other words, the intended user of this PEFCR is the fishing vessel operator or the fish farmer, but solutions for other actors are presented in section 5.5. However, the following rules apply regarding the allowable data quality scores for different uses of the results from this PEFCR:*

- 1) If the calculated PEF-profile shall be used to substantiate comparisons and/or environmental claims at product level, it is required that the DQR total score shall be less than or equal to 2.*
- 2) If the calculated PEF-profile shall be used for claims (not comparisons) at product level, it is required that the DQR total score shall be less than or equal to 3”.*

It is fundamental to have full clarity on who are the actors that will be submitting the primary data as well as the data owners, in order to incentivise better record keeping. All roles related to data collection and reporting should be clear, for example, who can complete the GHG

calculation following PEF. In addition, it is also fundamental to know how the data will be verified, particularly verifications that the data is correct, and that the methodology was followed.

The focus to the level of individual fishing vessel operator appears rather challenging to operationalise in practice, particularly for those outside large integrated companies. There will be specific challenges in the collection of primary data at the individual level, particularly for SMEs, as well as in the aggregation of data at the fleet level. These challenges will make it unlikely for fishing vessels operators to voluntarily use the PEF method in the commercialisation of their products, even though these operators might face requests from other actors in the supply chain, particularly retailers, to undertake PEF studies.

In the case of non-EU production, challenges are also expected in the data collection as well as in data quality and verification.

### **3.3.1 Default values and data (p. 22)**

*“This PEFCR presents EF datasets that can be used to cover some of the inputs and activities that constitute the marine fish life cycle. These datasets are presented in the inventory data Excel file located at <https://www.marinefishpefcr.eu/stakeholderconsultation>. This PEFCR does not include default values. If the applicant is missing data to complete the PEF analysis, they shall find the best available proxies for these data, and this shall be reflected in the Data Quality Rating (DQR) score”.*

The use of default values and data can translate into less accuracy, transmission of irrelevant information, and the misleading of consumers. Therefore, the PEFCR should provide examples that demonstrate that the default values can be considered “conservative / less favourable”.



Plus, it should clarify the number of times, in the context of one assessment, where default values and data can be used.

### 3.6 Representative products and studies (p. 22)

*“The two representative products modelled are presented in Table 3-1. Both are a “virtual (non-existing) product”, since they are made up of different technologies/materials and calculated based on average sales-weighted characteristics of all technologies/materials covered by the scope of the PEFCR”.*

The main challenge in the undertaking of a PEF analysis is the data collection. The use of virtual products as representative products does not provide actual clarification on the challenges to be faced by operators in the data collection or clarification on the required calculations.

### 3.10 System boundary (p. 24)

Table 3-3 Description of life cycle stages that shall be included

Life cycle stage	Farmed	Wild
Raw material acquisition	Growing, fishing and other production of feed raw materials. Processing of feed ingredients and compound feed production.	N/A
Production (Manufacturing)	Hatchery, juvenile production and grow out of fish.	Fishing (including onboard preparation).
Preparation (Manufacturing)	Harvest (slaughter), gutting, filleting, refrigeration and/or freezing.	Gutting, filleting, refrigeration and/or freezing.
Distribution	Packaging materials and transport, including cooling, from preparation to retailer.	
Consumption (Use)	Retail of the product and consumption.	
End of life	Handling of fish mass that is not sold as a commercial product, or not consumed.	

In the case of wild products, under the “raw material acquisition”, “bait” should be included. “Transport” should be part of all life cycle stages and not only of “distribution”. Fish is one of the world’s most traded commodities. As an example, fish can be caught in North America (raw

material acquisition), transported to Asia for filleting (preparation) and then transported to the EU for sale (distribution). “Storage” should also be explicitly mentioned. The reference to “Packaging materials” only in the context of “distribution” seems unusual too.

### **3.10.1 Cut-off (p. 25)**

*“The rules for cut-off are defined by the PEF method and stated that any cut-off shall be avoided, unless under the following rules:*

- *Processes and elementary flows may be excluded up to 3.0% (cumulatively) based on material and energy flows and the level of environmental significance (single overall score). The processes subject to a cut-off shall be made explicit and justified in the PEF report, in particular with reference to the environmental significance of the cutoff applied.*
- *This cut-off has to be considered in addition to the cut-off already provided in the background datasets. This rule is valid for both intermediate and final products.*
- *The processes that (cumulatively) account for less than 3.0% of the material and energy flow, as well as the environmental impact for each impact category may be excluded from PEF study”.*

In the case of the production of feed, there are processes and elementary flows up to 2% that can have a very significant impact on the product.

Concerning the possibility to exclude processes and flows up to 3.0%, there should be clarity on whether this is determined based on the data quality scoring. Additionally, there should be incentives to increase data in quantity and improve in quality.

### **3.12 Additional technical information (pp. 26-27)**

## Farmed products

*“The system descriptions shall include the types of technologies that are used and where the different stages and activities are taking place. Examples of relevant aspects to describe:*

- *Kind of containment. Describe the system so that the level and system for containment is clear. Clearly state how/if the system includes collection of sludge and type of wastewater treatment.*
- *Density of fish in cage expressed as:*
  - o *Kg fish per m<sup>3</sup> and*
  - o *Number of fish per m<sup>3</sup>*
- *Fallowing period expressed in number of days.*

*State if the system is land-based, semi-land based or in sea. The location of the fish farming shall be explained in terms of distance from shore and GPS coordinates (according to the ETRS89 system).*

*The length of an average production cycle shall be presented. If the production from roe to fish ready for slaughter include different locations, this system shall be explained by a flow chart together with a description of the duration of each stage. The average size (weight) of the juveniles shall be clearly stated”.*

The system descriptions, especially kind of containment and density of fish in cage, seem to be connected to animal welfare concerns, while the PEF methodology is developed to assess environmental impacts. Therefore, it is important to clarify how this data will be used, what is the environmental impact under assessment, and whether animal welfare is being assessed.

## Wild products

*“Wild products: For fishing, it is important to include a good explanation of how, where and when the fishing is performed. This required a complete explanation that shall include, but not be limited to the following clarifications:*

- Classify the fishing gear that is used according to Annex 3 in the Regulation (EU) No 1379/2013 of the European Parliament (i.e., Annex 3 of the regulation) on the common organisation of the markets in fishery and aquaculture products*
- Specify fishing area according to the most detailed level of FAO codes for Major Marine Fishing Areas. If the vessel operated in different areas, indicate all of them and which months each area was fished.*
- Other relevant information:*
  - Specify the main targeted species*
  - Specify if there are clearly separated seasons or if it is a more continuous fishery. Example: Some fishing is almost exclusively performed during a specific time of the year.*
  - Specify by-catch by species and weight*
  - Specify if the vessel(s) use different fishing gears throughout the season. Specify month by month what gears were used.*
  - Specify, if relevant, the on-board preparation or processing done as part of the fisheries”*

If in the context of ongoing initiatives on the marketing standards framework for fishery and aquaculture products / fisheries-specific sustainability indicators / evaluation of the CFP Regulation, new reporting requirements on the FAO fishing subareas are introduced, the PEFCR should also refer to the subarea. This would allow better coherence between these two initiatives as well as the transmission of more specific information.

Considering the period of data collection under a PEF study, it is unclear why the fishing vessel operator would need to specify the gears month by month. The application of the seasonality aspect in the context of aggregation of data from various fishing vessels remains unclear.

In case multiple fishing gears are used, all gears should be recorded. Estimation of the time spent using each gear type should also be provided.

Clarity should be provided on the relevance of recording the fishing seasons as well as the definition of the concept of “season”, as it could be more relevant to identify the distribution of time spent in each season.

### **3.13 Additional environmental information (pp. 27 - 29)**

It is unclear which actors would be expected to provide the mentioned information. In practice, it would be very difficult for operators to provide primary data on the mentioned information, which means that generic data would consistently have to be used. Therefore, it would be more appropriate to not foresee reporting on additional environmental information. Reporting on this information could be more appropriately covered in other mechanisms, such as the marketing standards framework or private certification schemes. It is worth noting that several of these information requirements are already described in the STECF report on criteria and indicators to incorporate sustainability aspects for seafood products in the marketing standards under the Common Market Organisation. Several of these aspects are also already taking into account in existing certification schemes, such as MSC.

Taking into account that there is no consensus on a method or criteria to quantify biodiversity impacts for a specific product and that biodiversity is not included as an impact category in the PEF methodology, if the PEFCR for Marine Fish foresees additional environmental information on this topic, the collection of data on biodiversity impacts should not be mandatory. The collection

of data on biodiversity is positive, but should be voluntary, considering the substantial quantity of mandatory data already required.

## Wild products

### *“- Ghost fishing*

- Number of fishing gear lost per unit of catch (referencing the most detailed level of FAO codes for Major Marine Fishing Areas).*
- information about systems to retrieve lost fishing gear in the fishing areas that are used (referencing the most detailed level of FAO codes for Major Marine Fishing Areas).*
- the properties of the fishing gear are expected to be reported under “additional technical information”*
- Area trawled within the specific areas specified under section 3.13 as distance trawled per unit of catch landed.*
- Number of mammals killed per unit of catch landed. Specify species.*
- Number of birds killed per unit of catch landed. Specify species.*
- Plastic lost to sea (number of fishing gears and weight of ropes and floats).”*

Taking into account that PEFCR are not adequately prepared to assess biodiversity impacts, it would particularly be preferable not to include reporting on quantification of biotic impacts, area trawled, and the number of mammals and birds killed. If requirements on information about mammals and birds are introduced, in order to ensure their relevancy, these requirements should differentiate based on the conservation status (extinct, threatened, lower risk) of the affected species and/or on the existence of specific protection measures. If requirements on information about on area trawled and on biotic impacts are introduced, these should differentiate based on the affected habitats and on the types of gear.

Additionally, reporting per “unit of catch landed” as well as the reporting of bycatch are expected to be rather challenging for individual fishing vessel operators, while likely providing reduced figures without a meaningful relevance.

### **Farmed products**

- “- Escapees: number of fish escaped per tonne of fish produced*
- Number of mammals killed per unit of production (specify species as well as accidental versus deliberate animal removals)*
- Number of birds killed per tonne of production*
- Plastics lost to the sea (number of fishing gears and weight of ropes and floats)”.*

In the undertaking of marine aquaculture farming, mechanisms are used to ward off predators, such as mammals and birds, while aiming to prevent their killing. Reporting on these would not be representative or relevant.

The occurrence of escapees is an incident, not a consistent practice. Aquaculture farms can have several years of operation without escapees followed by one major incident with a high number of fish escaped. The number of fish escaped per unit of fish produced would be zero for several years and then have a one-time spike. Therefore, reporting on escapees would not be relevant for PEFCR. Taking into account the occasional nature of escapee incidents, it would also be necessary to know if this data would be expected to be constant or to be constantly updated, particularly since these could affect the scoring of products from the same farm that were produced at different times.

In terms of availability of data, it is worth noting that sustainable seafood advisory lists, which analyse production in a non-voluntary way, such as Seafood Watch, have published reports with detailed information about some production systems.

### **3.13.1. Antifouling agents (p. 29)**

*“To include information about this environmental impact the following shall be reported:*

- The antifouling chemicals used on equipment and vessels (list the product name and antifouling agents included).*
- The mass input of these chemicals per unit of catch or production. The time frame specified for this factor shall reflect the durability of the antifouling chemicals.*
- A statement (expert judgement) on the percentage of the overall system (vessels and equipment) covered by this information.*
- A statement (expert judgement) on the end-of-life of the antifouling paints. Example: Are they mainly lost to the marine environment or is some of it collected during maintenance or onshore washing?”*

It is important to keep in mind the developments on the regulation of antifouling agents that have taken place in the last 40 years, including the global ban on organotin compounds introduced by the International Maritime Organisation, which entered fully into force in 2008.

## **4. MOST RELEVANT IMPACT CATEGORIES, STAGES, PROCESSES AND ELEMENTARY FLOWS**

### **4.2. Most important stages (p. 31)**

Under Figure 4-1 “Wild RP: Stages contribution to each most important categories”, “preparation, packaging and distribution” appears as contributing to climate change up to 30% for wild products, which seems unusual in the context of fishing activities, so it would benefit from reassessment.



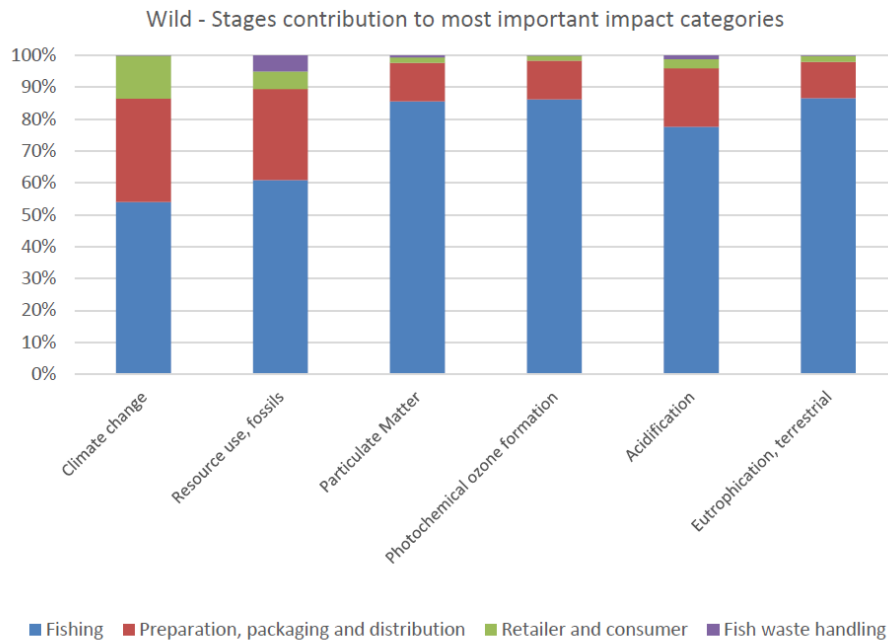


Figure 4-1 Wild RP: Stages contribution to each most important impact categories

## 5. REQUIREMENTS: LIFE CYCLE INVENTORY

### 5.1. Data sampling (pp. 32-33)

*“In some cases, a sampling procedure is needed to limit the data collection to only a representative sample. For marine fish products, a typical situation that requires sampling is when multiple fishing vessels or multiple farms sites are involved in the sourcing of the fish”.*

The establishment of a sampling procedure is welcomed, as the possibility to include multiple fishing vessels or multiple farm sites allows for a wider representation of primary producers, particularly small-scale operators. Nevertheless, it is necessary to clarify how bycatch will impact the sampling, since there are multiple sources included.

### 5.2. List of mandatory product-specific data (pp. 33-34)

For the data described in the tables 5-1, 5-2, and 5.3, the unit of reporting should be explicitly mentioned, so that, for example, it is clear whether “energy (fuel) use efficiency in fishery” covers both fuel and electricity.

### **5.3 List of processes expected to be run by the company (should be product-specific data) (pp. 34-35)**

#### **Farmed products**

- “- Energy use at the fish farm and by vessels supporting fish grow out and transport of fish from grow out to preparation*
- Management of wastewater and sludge from land-based systems*
- Relative value/price of the fish co-products from the fish farm*

#### **Wild products**

- “- Relative value/price of the fish products from fishing. This includes all fish biomass that are landed, independent of how they are classified by regulations, etc.”*

#### **All products (wild and farmed)**

- “- Energy use in preparation stage*
- Relative value/price of the fish co-products from preparation*
- Water use, including water source and emissions to water from the plant*
- Type of refrigerants used in preparation plant and leakage rate*
- Packaging, Bill of Materials and mass of packaging per unit of fish. This includes both transport and consumer packaging*
- Packaging materials (Bill of Materials). This includes packaging used during production, distribution, and consumer stage.”*

The list should also include “location of the preparation”, “mean of transportation”, “distance between preparations” as mandatory company-specific data. The transportation should cover

both in-bound and out-bound transportation. Other data that could potentially be relevant would be “type of preparation/product (e.g., fresh, marinated, frozen)”, “water consumption and type of water (e.g., marine, fresh)”, and “waste”. Additionally, information about “mixing of lots” could also be relevant for certain prepared products. The reference to “packaging materials” might not be relevant when the last parts of the value chain are not included in the assessment. There should also be clarity on whether the processes are expected to be described in a qualitative manner or with quantitative elements.

#### **5.4.1. DQR product-specific datasets (pp. 35-37)**

*“Considering that the data for the mandatory processes shall be company-specific, the score of P cannot be higher than 3, while the score for TiR, TeR, and GR cannot be higher than 2 (The DQR score shall be  $\leq 1.5$ ).”*

There appears to be a misalignment in the requirements for data quality, as in the documentation provided under the Second Open Public Consultation, there are allowances for  $>3$  and  $>3$ , while the draft report foresees  $\leq 1.5$ . Overall, it would be relevant to consolidate, into one Excel file, all the factors and allocations required when undertaking the PEF study, in order to facilitate the calculations.

#### **5.8. Allocation rules (pp. 43-45)**

In line with the PEFCR Feed for Food-Producing Animals, economic allocation is proposed for the PEFCR for Marine Fish Products. In the case of fish products, economic allocation might not be the most appropriate, as it is impacted by continuous fluctuations in the market value for both the main product and the co-products. For certain operators, particularly when importing from developing countries, there might be difficulties in accessing the necessary information. Mass / biological allocation could be more appropriate for fish products.

### 5.9. End-of-life, waste handling and recycling (pp.47-48)

*“End of life” includes the process from when the mass is discarded and ends when the product is returned to nature as a waste product or enters another product’s life cycle (i.e. as a recycled input)”.*

Further clarity should be provided on how discards are included in the waste flows.

### 5.10. Period of data allocation

*“Primary data should be an average of data collected for a period of the **last three years**. This includes the data used for allocation.”*

It should be explicitly stated that the mentioned period is also applicable for data collected in the context of “additional technical information” and “additional environmental information”. Additionally, the inherent complexity of collecting information for a period of three years for products produced outside of the EU should be considered.

### 5.13. Capital goods – infrastructure and equipment (p. 51)

*“Infrastructure and equipment shall be included for the following:*

- *Fishing vessel construction (wild fish)*
- *Fishing gear construction (wild fish)*
- *Construction of infrastructure and equipment for open-net pen stage (farmed fish)*
- *Construction of infrastructure for juvenile production stage (farmed fish)”*

Concerning fishing vessel construction, it is important to keep in mind that the average age of EU fishing vessels is 31.5 years, which means that the calculations can be quite difficult for operators. Even when possible, the emissions will not be representative. Furthermore, the fact that fishing vessels are usually resold / recycled / reused, instead of destroyed, is not accounted for. It is also unclear whether transshipment vessels are included.

Concerning fishing gear, “construction” is mentioned, but the maintenance and replacement of fishing gear are unaccounted for. As an example, in the case of pots or pelagic nets, fishing gear tends to be replaced regularly.

Overall, the provision of primary data on “capital goods – infrastructure and equipment”, for both wild fish and caught fish, appears extremely burdensome for the operators and with very limited impact on the PEF.

#### **5.14. Biogenic carbon (p. 51)**

*“A simplified approach can be used, and only biogenic methane shall be modelled”.*

A definition of “simplified approach” is not provided. It is important to keep in mind that there is a lack of well-established methods for the calculation of biogenic carbon. Therefore, there are doubts, particularly in the context of wild caught products, about the relevance of this data.

#### **6. Life Cycle Stages (Data collection instructions) (pp. 51-54)**

Figures 6-1 and 6-2 provides a flow chart for wild and farmed products, respectively. The reference to “byproducts” should be replaced with “co-products”. The term “byproduct” does not appear in the definition section of the Marine Fish PEF CR and, under EU regulations, refers to products of animal origin that can no longer be used for human consumption.

The reference to “generic data” should be clearer, as it likely refers to “secondary data”.

Figures 6-1 and 6-2 illustrate the high level of detail and burden expected from operators, which small-scale producers are unlikely to be able to meet. As an example, for farmed products, there would be the expectation to provide data on “aquaculture equipment and vessels construction”, “maintenance operations”, and “antifouling”, which is quite technical and complex to collect, while having limited impact in the PEF.

## **6.1. Raw material acquisition and pre-processing**

### **6.1.1. Fishing (pp. 55-56)**

*“The following methods can be used for modeling fuel use of vessels:*

*1) Modeling based on estimated sailing distance/hours in operation, fuel use and catch. The modeling may be done based on the following components:*

*a. Estimated sailing distance per vessel / or hours*

*b. Estimated hours in different operational modes*

*c. Fuel use in different modes distinguished by type of vessel and gear used”*

In the context of fishing, modelling fuel use of vessels based on “sailing distance” is not relevant, as it does not account for the needs of the various fleet segments and the impact of weather conditions. As fuel use is the largest use of resources in fishing operations, data on the actual fuel use should be required. If really not possible, allocation should be based on the catch per unit.

#### **6.1.1.1. Handling of mixed catch and mixed gear (p. 56)**

*“Data to model the fishery shall be collected so that they are as specific as possible for the product that is studied. The DQR shall reflect this precision. If the product that is analysed*

*is the result of fisheries using different gears the data should be collected per trip. To allocate the fishing effort among the landings of each trip, section 5.8.3 presents the allocation rules”.*

Economic allocation per trip seems difficult to implement in practice, as data likely not available per trip. Due to the sensitivity of the data in question, there would likely be less reluctance from producers in providing information based on volumes, instead of economics. Overall, more clarity would be needed on how to do the economic allocation for mixed gear and mixed catches.

Instead of providing economic allocation as the only option, the PEFCR could list various allocation methods and corresponding uncertainties, reducing inefficiencies and overburdening operators. A standard for comparison with other food systems could be developed.

#### **6.1.2. Feed (p. 56)**

*“When several different types of feed are used their contributions shall be weighted according to the share of the total mass of feed that is used up to the point of harvest”.*

In the case of several different types of feed, there should be a clear cutoff point mentioned.

#### **6.2.3. Aquaculture: Marine net pen grow-out (p. 57)**

*The growing of fish in marine net pens includes the system from when juvenile fish are released into the fish farm and until they are ready for harvest. The grow-out here includes all activities that are necessary to keep the fish farm operating and to handle the fish. For example, this includes the different vessels that are used, as well as those operated by sub-contractors, see Table 6-2”.*

The scope of the PEFCR covers (unprocessed) marine fish products, but clear indications for Recirculating Aquaculture Systems (RAS) and other types of marine aquaculture production are missing. The PEFCR appears primarily developed from a net-pen aquaculture perspective.

#### **6.2.5. Aquaculture sludge handling (p. 58)**

*“If sludge handling is required by the regulations relevant to the fish farm, this handling shall be included. This shall include the energy used to process the sludge, emissions of biogenic methane from the sludge, and transport of the sludge to EoL handling”.*

The complexity of collecting primary data on sludge handling should be taken into account.

#### **6.2.6. Preparation (p. 58)**

*“Preparation includes transformation of the fish such as gutting, filleting, freezing, etc., and this process shall be included using company-specific data. See section 3.1 for more information on the difference between preparation and processing. For fished products, preparation can happen both on the fishing vessel and on shore. For preparation on the fishing vessel, this process shall be included in the data for the fishery as stated in section 6.1.1.”.*

In the same way as previous sections, the list of products should clearly link back to the scope section of the report.

#### **6.2.7 Waste from manufacturing (p. 59)**

*“Waste generated during manufacturing (i.e. both fish and other materials) shall be included in the modelling”.*



The complexity of collecting primary data on waste from manufacturing should be taken into account, especially in the case of small producers.

#### **6.4. Retailer and consumer (p. 60)**

*“The retailer and the consumer stage shall be included. The sheet “19) Retail and use” in the inventory data file presents the data that shall be included and default data that can be used if primary data are not available”.*

In line with the PEF methodology, the Marine Fish PEFCR determines that the retailer and the consumer stage shall be included. In order to include the consumer stage, the operator applying the PEFCR must refer to secondary datasets, since primary data is not possible. For operators aiming to reformulate their products, access to average data on the consumer stage of their products can be useful. Nevertheless, according to the available information, the purpose of DG ENV is to improve consumer information, particularly in connection with the substantiation of green claims. For the consumer, it could be relevant to know the environmental performance of the purchased products until the point-of-sale. At the same time, average data on the consumer stage would not have relevance for the individual consumer. Therefore, the Commission should reconsider the purpose of the mandatory inclusion of the consumer stage in the PEFCR. The added value of the collected data in relation to the resources dispended in the collection should also be taken into account.

When developing the PEFCR for Marine Fish products, the Commission and the Technical Secretariat should take into account how the consumer stage, particularly in terms of data collection and relevance for consumer information was addressed by other food sectors.

#### **7.1. PEF Profile (p. 61)**



*“The contribution from N<sub>2</sub>O emissions shall be reported separately, and results shall be reported including and excluding its contribution”.*

Clarity should be provided as to what “N<sub>2</sub>O emissions” are referring to and reasoning to report these separately. Several relevant chemicals for aquaculture production are missing.