Feedback & Response Document: Public Consultation

PM.0002: Adoption of low-emission fertilizer strategies to transition to low-carbon agriculture

24 September, 2025

Overview

This document outlines the feedback received during the public consultation period on version 0.95 of the GHG methodology for low-emission fertilizer strategies, detailing how the feedback was addressed and its impact on the methodology, culminating in version 1.

Consultation process

Consultation period

The methodology has been opened up for public consultation on our website during the period May 21th 2025 - June 21st, 2025.

Consultation process steps

- This methodology started in 2024 by taking the perspective of the fertilizer producers. After developing a first draft it was shared with the public for the first consultation. During that period a few fertilizer producers, farmer cooperatives and market makers gave their feedback which led to the adjustment of the approach of the methodology. The problem was that the perspective should be of the transition to low-emission agriculture, which is closer to the actual crop production.
- We also organized a webinar on July 18th, 2024 to present and discuss these topics.
- Prior to the start of the second public consultation period, Proba has already included a lot of feedback from the scientific committee of the International Fertilizer Association (IFA) and from other IFA members, based on a similar GHG methodology (https://proba.earth/nitrogen_stabilizers_methodology).
- The methodology draft document v0.95 was published for public consultation on https://proba.earth/public-consultation between May 21th 2025 - June 21st, 2025.
- Proba has invited its stakeholders to provide feedback via LinkedIn messages, email, website publication and during meetings.
- Proba has processed the feedback from the second round of the public consultation into the v0.95 of the methodology. See the detailed feedback and response section for more details.
- Proba used relevant feedback from other fertilizer related methodologies during their public consultation and expert review rounds to strengthen this methodology as well.
- This feedback and response document will be published on the Proba website next to the methodology.

Stakeholders

Stakeholder	Stakeholder type
International Fertilizer Association (IFA) members	Industry Association members
Academic reviewers	Academia (via IFA)
Project developers	Market participants
Carbon market makers	Environmental commodity traders
Farmer cooperative	Consultants to crop producers
Independent experts	Consultants
Fertilizer producers	Industry participants

Channels

Channel	Description	Feedback received
Proba website	Open platform for submissions	1 response
LinkedIn post	Public announcement and open call for feedback via social media	1 responses
Email	Direct submissions from stakeholders	4 responses
One on one meetings	Targeted consultations with selected experts	4 responses
Webinar	Organized a webinar to discuss the approach of the methodology	A few comments

Detailed feedback and responses

	Section	*Feedback/comment/suggestion*	*Response*
1	3. Baseline scenario	When talking about nutrient use efficiency, we suggest adding the agronomic indicators that the EPD adopts i.e. Agronomic Efficiency Index and the uptake index. This is because the fertilisers' primary role is agronomic production, which could affect food security. In doing so, we will avoid using the emission values regardless of the agronomic values of products to greenwash consumers.	Great suggestion. We added an appendix presenting the NUE metrics that can be used. "Appendix D: Different NutUE metrics" These include: • Partial Factor Productivity (PFP) • NUE based on soil surface outputs and inputs (NutEpb) • Nutrient Balance (NutEfg) • Agronomic Efficiency (AE) • Recovery Efficiency (RE) These were selected based on the *Sustainable Plant Nutrition Responsible Practices Network* (SPRPN) in their 2024 issue brief "Defining Nutrient Use Efficiency in Responsible Plant Nutrition. And now we also mention: "*While numerous definitions of NutUE exist, this methodology adopts a practical approach by recognizing a core set of indicators, which can be used individually or in combination, depending on data availability and project context.*"
2	4.5 Evidence for PCF EF	We suggest the evidence for the carbon footprint be taken from LCAS, not from PCF, for different reasons. The first is that other environmental impacts could indirectly impact the carbon cycle and, therefore, climate change. For example, nitrification in the short term is unrelated to the carbon cycle, but in the mid- and long-term, it leads to desertification and strongly perturbs the carbon cycle. Secondly, sustainability reporting, for now, does not include the scope 3 emissions declaration,	The PCF is only used to calculate the emissions coming from the Production Phase of the fertilizers. So indeed this could either be taken from a proper LCA, which we now added as acceptable evidence) or directly from a (validated) PCF report. What is key in either case, is that the *method* used to calculate the production emissions, is consistent between baseline and project, so that the (possible) emission reduction is not over- (or under-) estimated. For the source of the PCF we added: "*The evidence for the PCF of the fertilizers (baseline or project) must be sourced from one of the following sources in descending priority, depending on availability of data :* *fertilizer producers through verified Environmental Product Declarations (EPDs), PCFs or sustainability reports,* *widely accepted industry tools and platforms, such as CoolFarmTool, ecoinvent, Agri-footprint database, Carbon Footprint Calculator for Fertilizer Products* *Tier 1-2 industry reports such as the one published by the International Fertilizer Society titled "The carbon*

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		which could be a problem.	*footprint of fertilizer production: regional reference values" or,* *Relevant scientific literature* *Non-validated individual PCF data directly provided by fertilizer suppliers. If only non-validated individual PCF values are available, their use is allowable under the following conditions:* • *a) The PCF must be cross-verified against at least one value from higher-tier sources (preferably for a comparable fertilizer type and manufacturing context). Significant deviations must be explained and justified.* • *b) The underlying LCA methodology must be aligned with ISO 14067 or the GHG Protocol Product Standard* • *c) The lack of third-party verification must be clearly disclosed*" And for the method: "*The project developer must clearly present the calculation method used for determining the product carbon footprint (PCF) of fertilizers. Accepted methods include:* *a) ISO 14067 (Carbon footprint of products),* *b) ISO 14040/14044 (Life cycle assessment principles and requirements),* *c) the GHG Protocol Product Standard.*" On your argumentation : 1. For the risks you mentioned (other environmental impacts, perturbation of the carbon cycle), we actually require the project developer to create a Risk and Mitigation Plan to be fully transparent on these risks and explain how they are going to be dealing with them. For instance, for the long-term impact on the carbon cycle; project developers must make sure that they are protecting their soils (it is for their own benefit as well). 2. For the Scope 3 reporting, we do not see an issue, as from the PCF/LCA we only need the production emission and not the Scope 3 emissions (of the producer of fertilizers), which are essentially the transportation and in-field emissions. These will be calculated separately, using the methodology (see scoping figure in section *2.2 GHG sources*).
3	4.5 Evidence for PCF EF	In chapter "4.5 Evidence for PCF EF" you propose that PCF data should ideally be obtained through verified EPDs from fertilizer producers. In practice, many suppliers can provide individual PCF but without external	We agree that in many cases, individual PCF values provided directly by fertilizer suppliers may still be based on detailed quantification methods and be accurate. However, our approach prioritizes transparency, consistency, and *comparability* of PCF data across projects. To address this, we established a hierarchy of preferred PCF data sources. In this hierarchy scheme the non-validated individual PCF data from suppliers will be last, but still eligible to be used under the following conditions:

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		validation. Those data sources can not be considered in your current version, although they are probably more accurate than the three other sources on your list. I propose to also consider non-validated EPDs as sources for fertilizer PCFs	• The PCF must be cross-verified against at least one value from higher-tier sources (preferably for a comparable fertilizer type and manufacturing context). Significant deviations must be explained and justified. • The underlying LCA methodology must be aligned with ISO 14067 or the GHG Protocol Product Standard • The lack of third-party verification must be clearly disclosed
	General comment	LinkedIn comment: In drip/micro irrigated permanent crops, low carbon inputs are the only way to go. When you have the opportunity to deliver fertilizer inputs on-demand, it is critical that those nutrients are provided in a way that ensures immediate uptake in alignment with the demand curve. We can't be guessing when the availability shows up with variable soil conditions.	We allow for flexibility in fertilizer application methods, including fertigation systems. This ensures the methodology is compatible with diverse fertilizer practices, crop types and evolving on-farm practices.