Environmental Footprint

Pilot phase

An De Schryver

Environmental footprint team

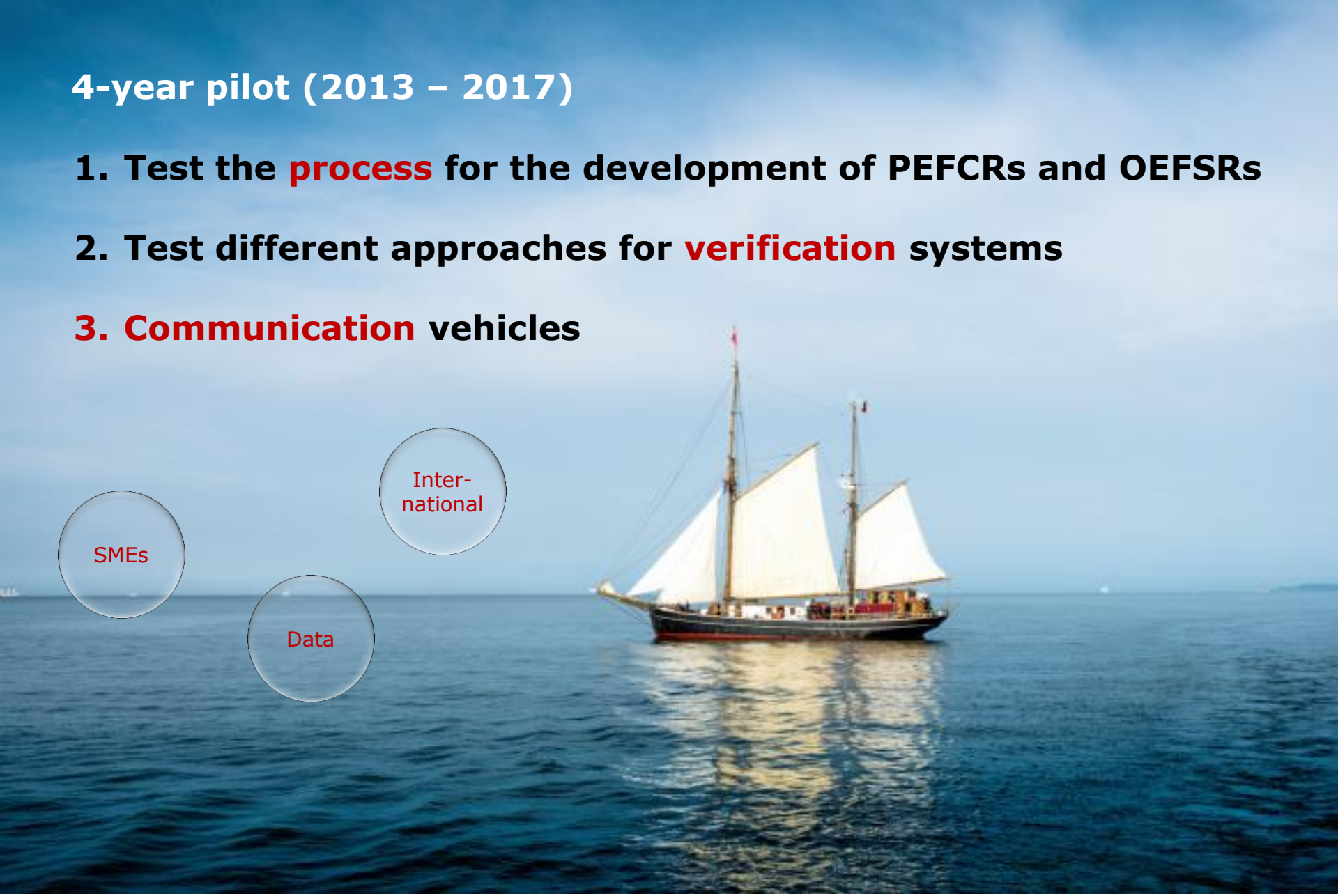
Sustainable Production, Products & Consumption
European Commission - DG Environment

Why to work on Environmental Footprint

- Strong request coming from several industry sectors, calling for harmonised rules and level playing field – green marketing has become for most of them a competitiveness issue
- Council conclusions (2010) asking for a harmonised method to calculate the environmental performance of products along their life cycle (PEF and OEF methods : adopted by the European Commission and published on the Official Journal in 2013).
- CE Action Plan makes explicit and implicit references to PEF/OEF as a tool promoting Circular Economy
- Need to focus on most relevant issues, promoting innovation and competitiveness, supply chain management, simplification and costs reduction

4-year pilot (2013 – 2017)

1. Test the **process** for the development of PEFCRs and OEFSRs
2. Test different approaches for **verification** systems
3. **Communication** vehicles



EF pilot phase

1st wave of pilots

- Batteries and accumulators
- Decorative paints
- Hot & cold water pipe systems
- Liquid household detergents
- IT equipment
- Metal sheets
- Non-leather shoes
- Photovoltaic electricity generation
- ~~Stationary~~
- Intermediate paper products
- T-shirts
- Uninterrupted power supplies
- Retailer sector
- Copper sector

2nd wave of pilots

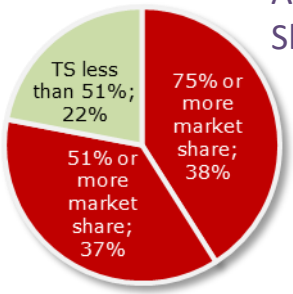
- Leather
- Thermal insulation
- Beer
- ~~Coffee~~
- ~~Fish~~
- Dairy products
- Feed
- Meat
- Pet food
- Olive oil
- Pasta
- Wine
- Packed water

120 applications: **22.5%** were selected = **27 pilots**

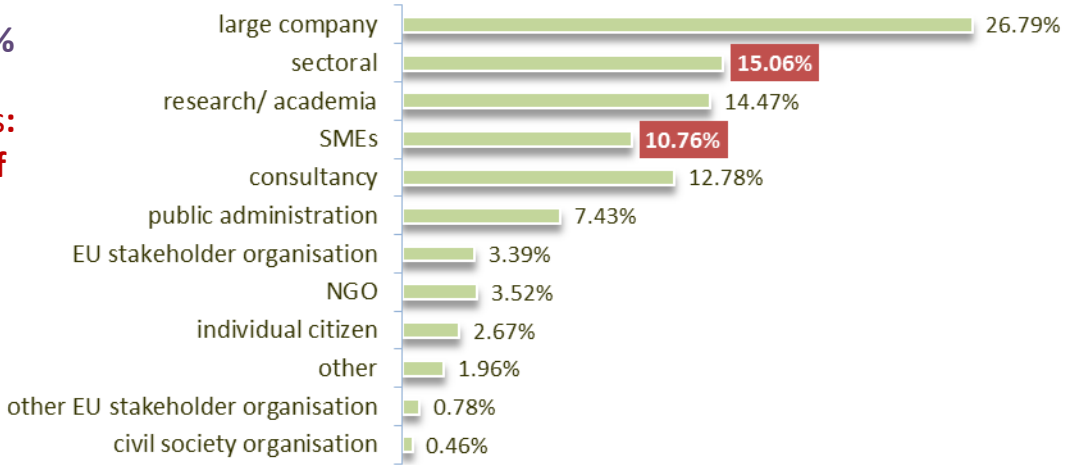
Participants (27 pilots):**1534** individual stakeholders (**4244** participations)

Average stakeholders/pilot: **157**

Share of **non-EU** stakeholders: **13.8%**



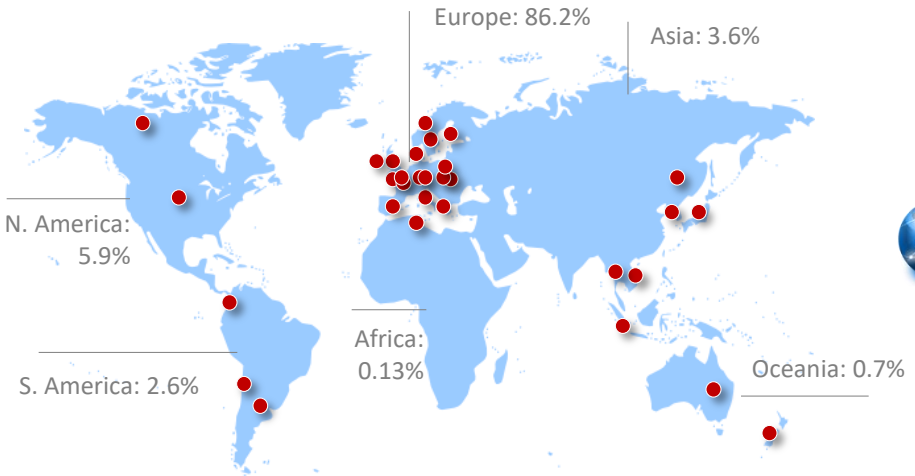
The EU market is behind the pilots:
75% of pilots have the majority of industry in the lead



+ PEF is THE news in the scientific community: we get invited to all major international events

Number of pilot meetings: 1081

283 leading stakeholders in **26** pilots



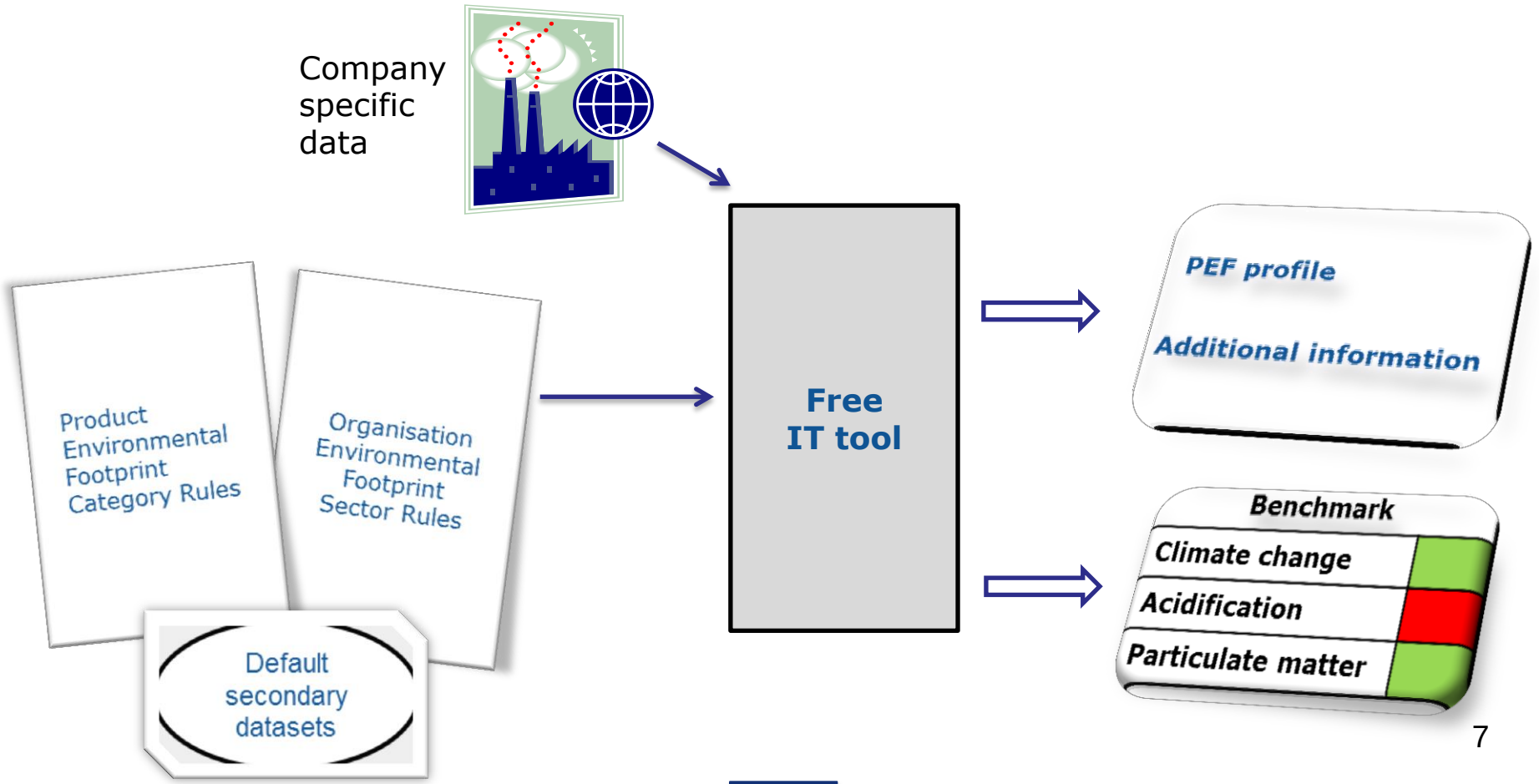
Stakeholders in the world (● = leading stakeholders)

Public Administrations: **AT**, BE, CZ, DE, DK, EL, ES, FI, **FR**,HR, **IT**, NL, PL, PT, SE, SL, UK;
AU, BR, CA, **CH**, CR, EC, JM, **JP**, KR, NI, NZ, SV, **TN**, USA

Many are watching
129 875 unique visitors to the SMGP sites since kick-off

The web-commenting tool had **42,390 views**
Average nr of stakeholders registering/day: **5**

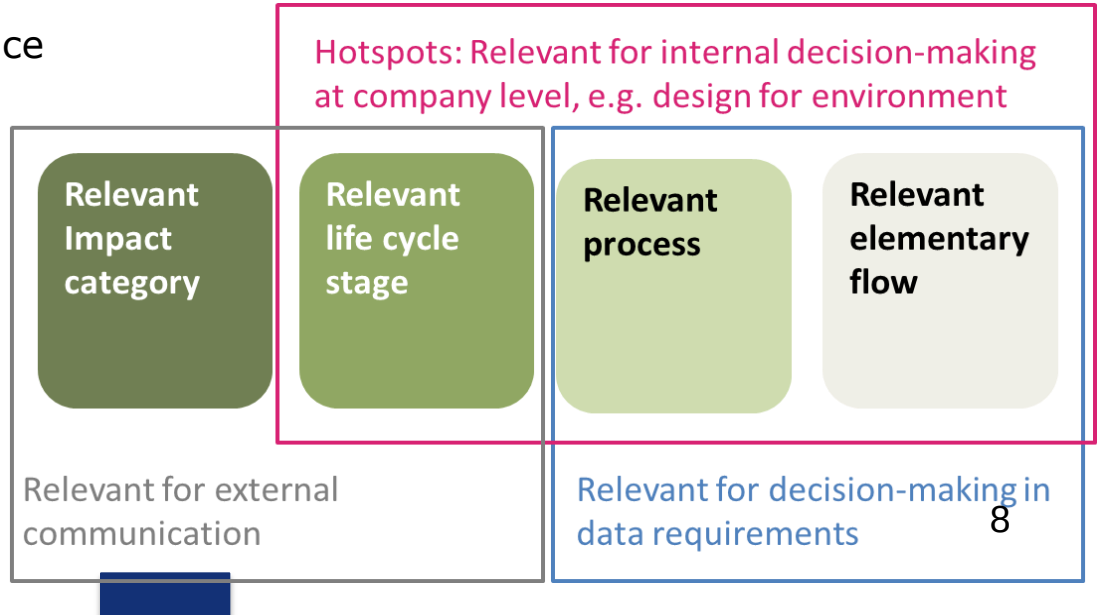
EF in practice



EF in practice

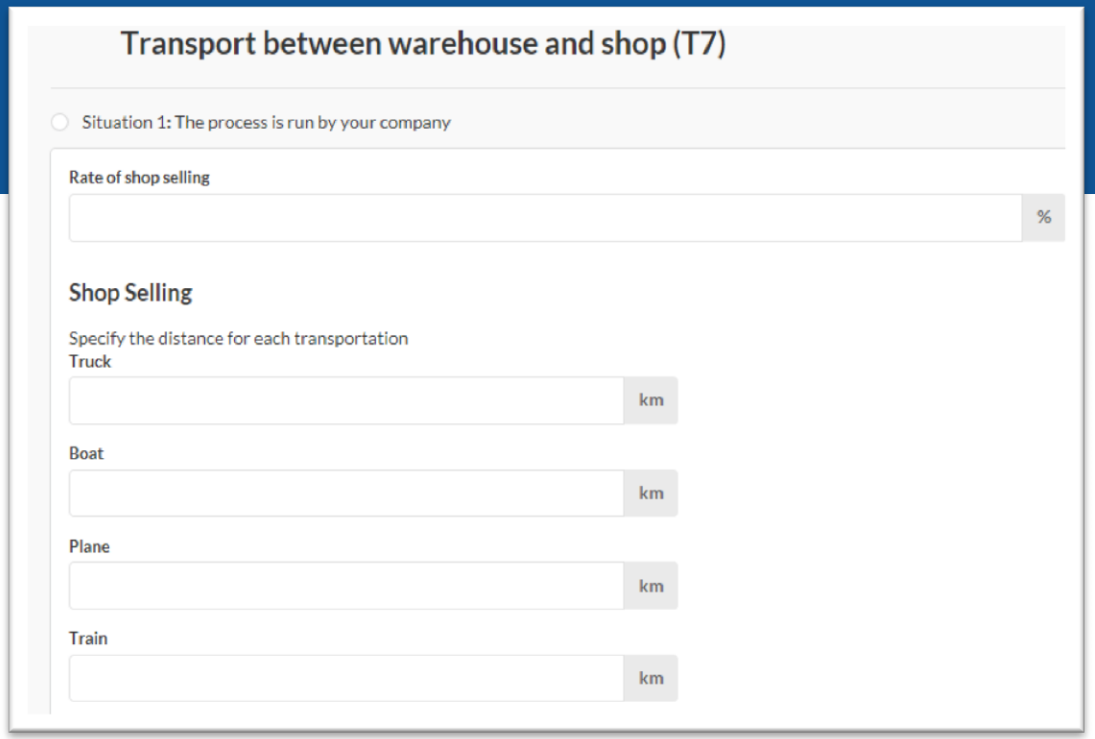
A PEFCR will make available:

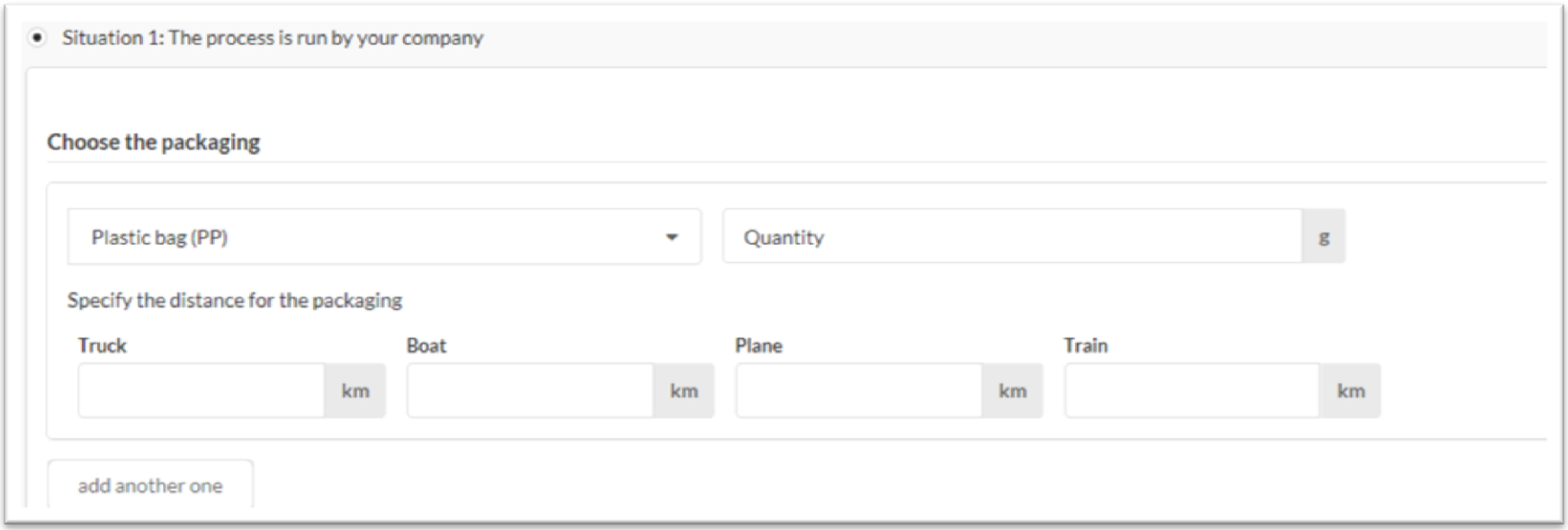
- The most relevant impact categories
- The most relevant life cycle stages
- The most relevant processes
- The most relevant elementary flows
- The environmental profile of the average product sold in EU (benchmark)
- Classes of environmental performance (optional)



SME tool

- Pilot specific
- Testing: T-shirt, beer, leather, olive oil
- Open source software





Communicate based on the PEF profile

European Commission

Supporting study

Possible to compare performance

Not possible to compare performance

XYZ Supermarket

Fantastic!
Your cart is greener than that of our average green buyer!

PEF A Milk	1€
PEF A detergent refill	4€
PEF A T-shirt	10€
Glass return	-5€

ENVIRONMENTAL IMPACT
A B C D E
BETTER AVERAGE WORSE
This rating has been verified by independent experts and is based on the product's contribution to:
- Global warming C
- Air pollution B
- Water pollution B

working with the Carbon Trust
850g CO2 per wash
The carbon footprint of this product is 850g per wash and we have committed to reduce this
By comparison the carbon footprint of non-biological washing liquid is 600g per wash
Help to reduce this footprint. Washing at 30°C rather than 40°C saves 160g CO2 per wash

Report

	Raw Materials Transport	Manufacturing	Application and Use	Equivalent Units
Climate Change 36	14.2	5.1	16.3	0.09	Grams CO_2
Acidification 18	8.9	1.7	7.2	0.03	Milligrams H^+
Eutrophication 16	12.4	1.7	1.4	0.2	Milligrams N
Human Toxicity 10.1	7.4	0.2	2.3	0.2	10^{-6} CTUh
Ecotoxicity 9.9	8.3	0.5	1.1	0.01	10^{-9} CTUe
Photochemical Smog 3.4	1.9	0.8	0.7	0.01	Grams O_3
Non-renewable Energy 1.6	1.2	0.1	0.3	0.002	MJ primary
Mineral Resource Sand 1.1	1.01	0	0.02	0.1	Micrograms minerals
Iron 24.4	21.4	0	0.2	2.8	Milligrams minerals
Water Resource 0.12	0.02	0	0.02	0.08	Liters water

Verification phase

	Red audit	Blue audit	Green audit
Description	Model and data verification Data verification limited to data owned by company	Model and data verification Data verification limited to data owned by company	Model and data verification Data verification extended to data owned by suppliers
	Distance audit	Audit on site at the company	Audit on site at the company and remote or on site supplier audit
	In one day	In two days	In two days and half a day with suppliers

EF (quasi)reality-check with few months to go

European Commission

Initial situation

- LCA standards too flexible to guarantee reproducibility and comparability of results
- Proliferation of PCRs often dealing with similar or identical products
- Benchmarks not existing
- Lack of high quality free secondary data
- Labelling and other communication activities not always focused on the most relevant issues

Situation after pilot phase

- A single method at EU level (published in the OJEU), much stricter in terms of requirements, leading to results more reproducible and comparable
- The enforcement of the representativity rules guarantees the existence of only 1 set of rules for each product group
- Benchmarks developed for about 20 product groups
- 8000 high quality secondary datasets available for free
- Materiality principle fully implemented

What EF cannot deliver

In the short term

- Toxicity-related impacts require further work (improvements expected in 2018
- Classes of performance (but the traffic light system is immediately implementable)
- Biodiversity as an "impact category" (but 6 out of the 15 impact categories used includes effects on biodiversity)

Never

- Social information
- Consequential information (analysis of large scale policy scenarios)

Some further elements of reflection

1. For food products the choice of the FU does not adequately reflect the questions **how long** and **how well**. Alternative approaches to mass and volume should be used in the next version of many food-related PEFCRs

2. The classes of performance are needed, but it is not technically feasible to develop already now 5 classes for each PEFCR. We should make a serious reflections about pros and cons of having a more simplified system (3 classes of performance, maybe with an aggregated score)

3. The 51% representativity rule (at the end of the process) shall be corrected to avoid distortions

Outlook

EC Evaluation

Peer review

Policy discussion

2017 2018

Transition phase (2018-2020)

- Monitoring the voluntary implementation of the developed PEFCRs/OEFSRs
- Development of a (limited) number of new PEFCRs/OEFSRs
- Methodological improvements

Table 1. Four aspects of the FU with additional requirements for food and non-food PEFCRs.

Elements of the FU	Food products	Non-food products
1. The function(s)/service(s) provided: "**what**"	The FU shall be measured at product consumption level and should exclude inedible parts[1].	PEFCR specific
2. The extent of the function or service: "**how much**"	The FU shall be mass or volume based. Any derogation shall be discussed and approved on a case by case basis.	PEFCR specific
3. The expected level of quality: "**how well**"	The "*How well*" feature is not always sufficiently taken into account so far. This item requires future developments	Not always possible to incorporate: Requires further developments
4. The duration/life time of the product: "**how long**"	Shall be quantified if shelf-life is indicated on the packaging (e.g. number of months)	Shall be quantified if technical standards or agreed procedures at sectoral level exist

Example of Beer

What:	A refreshing beer consumed in a social setting.
Where:	Consumed in a certain sales country.
How much:	One hectolitre of beer (1 hl).
How long:	Until at least 6 months after production.
How well:	A beer at the advised serving temperature (normally between 0 °C to 20 °C).

Example of Pet food

Product	Aspect detail	Pet food PEFCR
What?	Function provided	To feed prepared pet food for cats and dogs
How much?	Magnitude of the function	Daily ration
How long?	Duration of the product provided	1 day
How well?	Expected level of quality	To meet the daily nutritional requirements of an average cat or dog