Review report of the Environmental Footprint Pilot phase

June 2017
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Not directly involved

Bibliography
Glossary
Explanes acronyms and abbreviations used in this report

B2B = Business to Business
B2C = Business to Consumer
Core Team = Team of European Commission, DG Environment, dedicated to EF
CPR = Construction Products Regulation
CSR = Corporate Social Responsibility
EF = Environmental Footprint
EMAS = Environmental Management and Audit Scheme
EPD = Environmental Product Declaration
GPP = Green Public Procurement
LCA = Life Cycle Assessment
OEF = Organisational Environmental Footprint
OEFSR = Organisational Environmental Footprint Sector Rules
PEF = Product Environment Footprint
PEFCR = Product Environment Footprint Category Rules
SC = Steering Committee
TAB = Technical Advisory Board
TS = Technical Secretariat
10YFP = 10 Year Framework of Programmes (on Sustainable Consumption and Production patterns)
1. Executive Summary

This report presents the overall results of the PEF/OEF pilot phase Peer review, an extensive activity that required the involvement of several interested parties and the analysis of different technical and behavioural aspects. In order to capture as many views on the pilot as possible, the reviewers gathered initial feedback from the members of the Technical Advisory Board and the Steering Committee. This was followed by an online survey aimed to reach a much wider audience, and to help frame the aspects deserving a deeper analysis, which were then followed up in the “one to one” interview phase.

The PEF/OEF pilot phase is considered by many to be a good opportunity for the LCA harmonization at EU level and beyond Europe. The level of technical discussion and the large participation of LCA experts and industry is considered a strong point. However, some feel that the aim of the process is unclear or unrealistic, and a number have doubts about the robustness and the feasibility of the methodology. Management and communication for this pilot phase were considered by some to be sub-optimal, whilst others praised the commitment of Commission staff and the attempts at transparency. Indeed, there is a strongly polarized view on Environmental Footprint (EF): broadly speaking, such view is more positive from the industrial perspective that see the opportunity to use LCA in the promotion of a green market in EU, and more negative from some consumer and environmental NGOs, who have cast serious doubts on the use of PEF/OEF for its perceived purpose around communication to consumers. At the same time there is a substantial interest from international actors on what the EC is doing on PEF and OEF.

It is recognized the added value of the creation of this forum created for high level discussion and to work in direction of a strong harmonisation in the implementation of LCA at EU level. At the same time the regrettable lack of participation of civil society is probably due to insufficient resources to follow the highly technical and time-demanding discussions, but in some instances may also be due to mixed feelings about the life-cycle analysis approach. Some doubts remain also in term of defined and implemented rule on market representativeness (e.g. due to difficulty to have official data on yearly turnovers).

Also the discussion on robustness and practicality on EF rules reflects the described polarized views. Many recognized the technical robustness of the existing rules, at the same time noting that for some impact category (e.g. ecotoxicity) the level of scientific consensus in not enough to promote a standardized use. Some others noted the lack of consideration of other important topics, like biodiversity and marine littering.

It is recognized that the system is complex, with some actors asking for simplifications whilst others warn about the risk of the lack of description of the environmental complexity.

There is a large recognition on the openness, competence and inclusiveness of the EC Core Team on this process and on the will to build up from the bottom any possible implementation of the EF. From the other side this contributed to delays in the process and, as a consequence, an increase of participation cost for the pilot members.

The area of verification is considered one of the less mature of the entire EF process, where more work needs to be done in terms of the development of the production of reliable and consistent results for the EU market. In addition some concern has been shown about the possibility that the EC will accept the verification of EF where the PEFCR/OEFCR don’t exist or are not created consistently with the existing process adopted by EC.

One of the most critical areas remains the lack of clarity on the future implementation of the EF, in particular on its communication. No consideration may be done at the moment for the lack of clarity on the EC decision on this direction. The only area where there seems to be consensus is on the possibility to have different approaches to communication for B2B (Business to Business) and B2C (Business to Consumer). The PEF/OEF pilot exercise is perceived as both a potential risk of overlapping with existing, more established schemes such as the ecolabels or sector standards, but at the same time it offers potential synergies with many of these schemes due to its methodological robustness. A potential for feeding into GPP (green public procurement) is perceived by many. Communication of the pilot process, particularly beyond the EU, is also an area for further exploration, in order to identify possible improvement opportunities.

Finally there is a large appreciation for the decision to continue the EF experience in the EC moving from the pilot to the transition phase. It is important that key lessons learned during the pilot phase are incorporated in
the transition, including a structured way to record and address comments from stakeholders; specific attention to be given to the power balance within industry clusters; and reducing the cost of participation by reducing the number of physical meetings in favour of virtual ones. From an international perspective, relevant bodies such as the 10 Year Framework of Programmes Consumer Information programme, or the International Trade Centre should be actively engaged in the Steering Committee, and experiences developed outside of Europe should be incorporated to the extent possible. More generally, the efforts already shown in the pilot phase to link with consensus building processes at the methodological level (e.g. with the Life Cycle Initiative, and ISO), and also with all stakeholders (consumer and environmental NGOs, EU country representatives), should be strengthened. In the transition phase, much more attention should also be given to the specific applications foreseen for the EF approach.
2. Introduction

For companies wishing to demonstrate that the way in which they are producing is environmentally friendly, the provision of this information is complicated by the existence of a wide range of different methodologies for the assessment of the environmental performance of products and organisations. As a response to this problem, the Commission announced a pilot phase for testing the creation of product-group and sector-specific rules under the Product Environmental Footprint and Organisation Environmental Footprint methods, approaches to verification of environmental footprint information and communication vehicles. This pilot phase was kicked off in late 2013 and was planned to run until the end of 2016; the aim of the pilot phase was to test the rules of the methodological framework, and the stakeholder engagement towards agreeing common ways of quantifying environmental footprint of products and organizations.

Extracts from EC Communication April 2013: “This initiative proposes a testing phase during which stakeholders together with the Commission will assess the effectiveness of the methods proposed, and the feasibility of using them throughout the Single Market. The results of the testing phase will be subject to an independent peer review process which will also consider alternative methods. If the test phase is successful, the Commission will consult further with stakeholders on how best to secure the benefits of this initiative” "After the pilot phase, the Commission will evaluate progress before deciding on the way forward (the "second phase").”

The pilot process was thus to be reviewed internally and externally. In late 2014 and early 2015 the Commission selected four external peer reviewers in order to assess the process while it was still ongoing, from 4 different points of view.

The objective was to identify what worked and what did not work during the pilot phase, assess potential fields of policy application in the light of the deliverables of the pilots and assess alternative approaches against policy objectives if required. In 2016 one peer reviewer, looking with the “Academia perspective”, withdrew her participation and three of them completed the assigned work.

2.1. Team of reviewers

This peer review report on the PEF/OEF Pilot phase has been prepared by the three following experts:

Non-governmental organisations - **Penelope Vincent-Sweet** (M.Sc in Environmental Engineering; Consultancy in Environmental Solutions, “Sweet by Nature”) Specialising in waste prevention and management, citizens' behaviour and composting, Penelope has worked for local authorities and consultancies in France and in Europe. Her voluntary responsibilities with the Waste Network of France Nature Environnement (FNE) led her to be nominated to the French economic, social & environmental council (CESE). She also worked on LCAs for FNE, and has been on critical review committees. She is an occasional expert to European environmental NGOs: ECOS for standardisation (environmental measurement standards), and EEB (European Environment Bureau) for Ecolabel, End of waste, BREF, Fertilisers. (ECOS is European Environmental Citizens' Organisations for Standardisation)
Fig. 1: The four different point of views identified by the EC to have a representative peer review of the Pilot Phase.

International organisation - Llorenç Milà i Canals (PhD Environmental Sciences, Acting Head of Life Cycle Thinking Unit and Science Focal Point in the United Nations Environment Programme (UNEP), Economy Division, Resources and Markets Branch). Any views expressed in this report are those of the authors and not of UN Environment.


Private sector, Industry – Daniele Pernigotti (Head of Aequilibria environmental consulting and training office)

Daniele is the Convener of ISO/TC207/SC7/WG8 (revision of ISO/TS 14067 on Carbon Footprint of product), Rotative Member of the ISO/TC 207 CAG (Chair Advisory Group) and Chair of UNI (Italian Standardization body) working groups on Environmental Management System (GL1) and on Climate change (GL15). He also works for Accredia (Italian accreditation body) as Lead Assessor for ISO 14001, EPD, EU ETS, GHG Inventory of organisation and CFP and as technical advisor for certification schemes on climate change. He is EA (European cooperation for accreditation) Peer reviewer for EU ETS.

Daniele started his career at DNV and ERM where he was responsible, respectively, for EMS Certification and EMS Services.
2.2.  **Goal of this report**

This report provides the results of the overall review process, based on the findings from the team of reviewers through various means during the two and a half year process, which is explained in Section 3. Section 4 provides the overall results and opinions of stakeholders interviewed, complemented in Section 5 with specific comments about the potential uses envisaged for the Environmental Footprint framework. Such results should be read in conjunction with the survey report presented in December 2016, although the main findings in that survey report are contained within this one. Finally, Section 6 provides the opinion from the reviewers based on their different perspectives and the findings from the Review process.
3. Methodology

The Peer review of PEF/OEF pilot phase is an extensive activity requiring the involvement of several interested parties and the analysis of different technical and behavioural aspects. In order to capture as many views on the pilot as possible, the reviewers gathered initial feedback from the members of the Technical Advisory Board and the Steering Committee. This was followed by an online survey aimed to reach a much wider audience, and to help frame the aspects deserving a deeper analysis, which were then followed up in the “one to one” interview phase.

The approach and timeline was:
- September - December 2015: Design of Survey
- November 2015: Brainstorming at Steering Committee (SC) meeting
- 22nd December 2015 – 25th January 2016: Survey live
- 1st June 2016: presentation of preliminary survey results to Steering Committee meeting
- December 2016: Survey report communicated to Commission
- June 2016 to May 2017: In-depth interviews with stakeholders
- April to May 2017: small update survey with pilots
- 31st May 2017: presentation of provisional overall results to SC meeting
- 30th June 2017: Finished report communicated to Commission

3.1. Brainstorming session 19th November 2015

The brainstorming session had a twofold aim: firstly to collect some initial impressions in order to check that the survey was correctly oriented, and secondly to raise interest in our review to encourage a good response to the survey.

Participants were given two ‘post-its’ and were asked to write one good point on the first and one negative remark on the second. They were allowed to ask for additional squares of paper. The comments were stuck on the wall and after a brief summary of the main points by the peer reviewers, participants could read the comments.

3.2. Survey

The survey’s goal was to obtain an indication of the most important aspects of the PEF/OEF pilot phase for the relevant interested parties, and its results represented useful input for the subsequent interview phase. The survey received 429 responses (224 complete) from a targeted audience of 1,374; respondents including both stakeholders actively engaged in the PEF/OEF pilot and others that were not participating. A separate report with the results of this survey was shared with the Commission DG ENV in December 2016, and its main findings are also incorporated into the results of the present report.

In order to update and complement the information obtained from this large survey a small questionnaire was sent to each technical secretariat in April 2017. 8 of the 22 surviving PEFCR pilots and both the OEFSR pilots replied to this questionnaire.

3.3. Participation in meetings

One or more of the peer reviewers participated in the following meetings:

SC = Steering Committee, TAB = Technical Advisory Board

30th Sept - 1st Oct 2015 SC
22th Oct 2015  CEN/TC 350 meeting with DG Growth and DG Env on EN 15804
3rd-4th Nov 2015  Mid-term conference on the Environmental Footprint Pilot Phase
17th - 18th Nov 2015  TAB
18th - 19th Nov 2015  SC
4th - 6th Apr 2016  TAB
31st May - 2nd June 2016  TAB & SC
3rd June 2016  End-of-life workshop
16th - 18th Nov 2016  TAB
21st March 2017  SC
30th - 31st May 2017  TAB & SC

3.4. **Interviews**

Initial findings from the survey and interactions between the reviewers and stakeholders of the pilot phase were then explored further in focused interviews of a semi-structured nature. Interviewees were selected by the reviewers from their own networks, and following feedback of the broader dissemination of the survey explained above (section 4.2). The names of those interviewed are detailed in the Annex (section 7).

3.5. **Consideration of the polarization of perceptions**

Attitudes towards LCA and EF vary widely, from very positive and hopeful to overly critical. Such attitudes may vary depending on the extent of involvement in these methods, as well as the attachment to specific views on the environment that may be challenged by LCA. There is often much enthusiasm from stakeholders who do not have direct experience of these methods, including NGOs and industry groups, and policy makers may put them in the centre of their environmental policies. As stakeholders become more closely involved in the detail of LCA and/or EF they become aware of the shortcomings and the limits of these tools. Some decide to work in another area while others stay on the inside and work to improve the tool and bridge the gaps.

Those working in this area tend to become deeply involved in the complexities of Life Cycle Assessment (LCA), and often stop considering whether the tool is the most adequate for a particular application. Indeed, consultancies and specialists work hard to make improvements, and obviously remain convinced that their work (and the tool) is useful. Large companies make use of the tool to improve their environmental impact, but sometimes also influence methodological choices in order to produce favourable results which show their products in a better position than their competitors’. This partisan use of the tool is precisely at the core of what the EF aims to tackle.

On the other hand, there are groups radically opposing the use of LCA and EF for the quantification of products’ environmental impacts. Due its very nature, LCA results often bust myths strongly held, and on which positions and pressure groups are formed (e.g. natural is **always** better than synthetic; glass is **always** better than plastic; recycling is **always** best...); whereas some of these myths are rightly busted, in occasions LCA practitioners have also gone beyond what can be demonstrated by the current status of the tool (e.g. impacts such as marine
litter are not properly addressed). Some NGOs for instance often become sceptical about the LCA approach, notably because of its flaws and limitations, but sometimes also as a reaction against something they see as an ‘industry tool’. Certain NGOs however remain proactive about the use of LCA, and collaborate with industry and researchers in order to improve the tool, and to ensure its correct use within its appropriate boundaries of decision support.

It was important to bear in mind this configuration as peer reviewers; we endeavoured to interview stakeholders representing all the above positions. But keeping a balanced sample was not sufficient, since we were confronted with opinions sometimes diametrically opposed. We tried in this report to give space to both views to give a better presentation on the complex perception on LCA. We each, from our particular point of view, had to stand back and analyse what we had found from a wider perspective, critically but positively.
4. Results

The following sections provide an overview of the main opinions expressed through the review process on various aspects of the Environmental Footprint pilot phase.

4.1. Context analysis: choice of process and methodology

The Environmental Footprint Pilot Phase resulted from a longstanding commitment to address the impacts of products over their whole lifecycle through a common methodology to assess products, or products and services, thus improving information in order to strengthen ‘green’ production and stimulate demand for green products (Integrated Product Policy Green Paper, 2001). A series of Communications and Council Decisions from 2003 onwards, culminated in the Commission Communication Building a Single Market for Green Products (9th April 2013).

4.1.1. The methodology choice

In the “Roadmap to a Resource-Efficient Europe” (20/09/2011) the Commission undertook to “establish a common methodological approach to enable Member States and the private sector to assess, display and benchmark the environmental performance of products, services and companies based on a comprehensive assessment of environmental impacts over the life-cycle (‘environmental footprint’)”

An analysis by the JRC in 2011 of existing LCA approaches and international standards, introducing further methodological specifications necessary to achieve more consistent, comparable and accurate results, was supported by a road-testing exercise in collaboration with industry in 2011-2013, which helped to conceptualise the process of the pilot phase and some of the technical content of the PEF/OEF methods.

A public consultation on delivering more sustainable production and consumption in early 2012 elicited a wide range of responses which included considerable support for harmonising methods for measuring environmental impact. However doubts were expressed in some quarters about the reliability of LCA or PEF as a tool to calculate product performance to communicate to consumers, and about the readiness or usefulness of OEF for policy implementation. 398 responses and more than 50 position papers were received, and the replies were taken into account in the impact assessment published in April 2013, which recommended Option 5, “Recommending the application of PEF and OEF on a voluntary basis”. ANEC, ORGALIME and ACEA (consumer, engineering and automobile sectors) sent a joint letter to José-Manuel Barroso, President of the European Commission, in March 2013 expressing their concerns about the EF methodology and its envisaged use in EU policy making, fearing that it would expose companies to unfair competition and market distortion, and pleading for a mix of tools and a sector-by-sector approach. By this time the choices had been made, but the EC services discussed the matter with these organisations and pointed out that the pilot phase was designed to explore several of the critical points raised.

4.1.2. Opinions about the EF methodology choice

Reactions to the Commission’s methodology choice received by the Peer Review team were varied. Many stakeholders were satisfied about the technical robustness of the chosen methodology.

Others found that there had not been enough upstream discussion about whether the methodology was suited to the finality sought. Some, particularly representatives of consumer and environmental NGOs, feared that the Commission was investing too much in a complex and costly process that would not necessarily benefit the environment, in pursuing an LCA-type approach.
A consumer NGO put one of the most negative reactions in these terms: “The OEF/PEF initiative of DG Environment was unfortunately not preceded by an in-depth investigation about fundamental limitations of existing approaches (in particular of Life Cycle Assessment, LCA) on the one hand, and a broad discussion about stakeholder perceptions and expectations regarding environmental assessment and related indicators on the other hand. This was a serious omission resulting in a questionable outcome with a potential to constrain environmental assessment and mislead environmental policy.”

It was not clear to all interviewees how the impact categories considered for the EF have been decided. If the criterion is the reliability of the Monitoring, Reporting and Verification (MRV) implementation of LCA there are some doubts expressed by interviewed stakeholders because some of them are considered not yet mature to be introduced in a solid methodology (e.g. human toxicity). Also the inclusiveness criterion is often questioned in LCA studies, because relevant impact categories are still not fully considered (e.g. marine litter, biodiversity).

In fact the choice of impact categories was based on the scientific work for the International Reference Life Cycle Data System (ILCD). Regarding reliability, additional work from JRC in revising the less mature impact categories was foreseen and is still being done to address some of these issues (including consideration of biodiversity impacts).

The choice of impact categories, is considered an important and sensitive equilibrium between the robustness and representativeness of the methodology and its reliability, and it is crucial in terms of result comparability.

Some interviewed suggest the reduction of the numbers of indicators and simplification of methodologies to facilitate the reduction of complexity of the system and facilitate a broader participation at the market level. A compromise could be to simplify these aspects at the PEFCR level. Other interviewees warned against simplification, since simplifying means losing information and the end result may not be robust.

It is important to remember that 4 of the starting number of 25 PEF pilots withdrew their participation to the pilot phase. This decision was based on different factors: the level of complexity of the system, limitation on budget availability and/or difficulties to find common solutions within the TS may have played an important role.

A further aspect mentioned by an expert is related to the formula developed within PEF, as the End of Life (EoL) formula. Before discussing a specific technical option the common principle should be agreed. For example, do we expect to measure the reality or to facilitate the comparability? Which is the expected level of complexity of the system? To give precedence to build up a shared view may give less opportunity for the technical arguments.

Additional point of discussion is related to the functional unit (FU). Some interviewed considered the request made by the EC asking “how much, how long, how well” as right steps forward in the description of the function of the product. But doesn’t seem all pilots took in the right consideration this request and at the end the FU for the EF is not really different than in other local EPD system.

Difficulties on the description of the FU seem to be more relevant in the food sector, where the qualitative differences of food remain more difficult to be described under a generic description of a function.

### 4.1.3. Setting up the process

Once the methodology had been chosen, volunteer pilots had to be found to be part of the project. The call for volunteers had an unexpected success, with 120 candidates in total of which only 27 could be retained. This number gave a good variety of sectors of different size and complexity, although only two organisational pilots
could be set up. The large number applying to the Pilot phase is a clear indicator of the level of interest from the market, but it also meant that the programme was unwieldy, and for one participant the Team could not give detailed attention to each pilot.

Some wondered whether the Commission had sufficiently consulted with stakeholders and specialists about the technical and organisational details of how best to run the pilot project. For example it could be interesting to understand what’s happened in a single EU country, like France. Some of those involved in the French Environmental Labelling experiment between 2011 and 2013 felt insufficiently consulted: they could have provided some indications and feedback. However, during the preparatory phase the Commission met with member states 5 times, and particularly consulted with the French whose experiment was particularly relevant, so we can consider their efforts sufficient.

These efforts could however have been better directed according to some participants. One thought DG ENV should have relied not just on the JRC but also on external consultants or other third parties to plan the entire process in a more effective way. They could for instance have focussed on fewer impacts in order to test the rules, and then expand to the whole range. Another complained that discussions between the road-testing and the pilot phase were dominated by technical expert debates, and suggested that the Commission should have taken more time to define PEFCR and OEFSR, making more use of companies’ experience, best practice and existing evidence.

4.2. Managing the pilot phase

4.2.1. Training and guiding the pilots

The Technical Helpdesk was in charge of training the pilots. This was done through face to face sessions and webinars: 5 in the first year, 5 in the second year and 3 in the third year (the latter open to anyone interested).

In 2016 the helpdesk provided specific training for each pilot using their draft PEFCR, since they were technically complex and were not easy to understand for the pilot participants.

The Helpdesk also produced 3 e-learning modules for footwear, paper and retail pilots.

Each pilot was followed by a member of the helpdesk. Feedback on this was very varied, with some mentioning good support from the Helpdesk, while others either had little contact, or were disappointed because they could not help.

4.2.2. Communicating with the pilots and stakeholders

Most of the communication between plenary sessions (SC and TAB) occurred via the dedicated website, the ‘wiki’. The helpdesk created and maintained this interface, which was considered a good system but did suffer some teething problems and was found by a significant number of participants to be difficult to use. The maintenance and updating of the interface became less satisfactory towards the end (mid-2016 onwards).
Communication with the Commission was widely appreciated, especially the listening posture and the quick reactions. However there was some doubt as to what extent questions and remarks were really taken into account, and some felt that the JRC was ‘imposing’ methodology choices. Moreover, many of the responses to the Survey mentioned that the Commission seemed to be unaware of industry constraints, and was imposing a process costly in time and money which could only be followed by the “richer” players.

Contact with the JRC was sometimes smooth and transparent but for other subjects stakeholders would have appreciated being able to make comments at an earlier stage of the work on particular issues.

4.2.3. **Adequacy of the working procedures implemented by the Commission**

To the statement “The EF Pilot Rules are practical and feasible”, 41% of Survey respondents among participants in the Pilot Phase agreed (or strongly agreed), while 35% disagreed (or strongly disagreed), as indicated below.
Many participants considered the procedures very complex. One important point was the fact that the rules evolved during the entire development of the pilot phase. Certain stakeholders felt they were trying to build houses without bricks because the groundwork on transversal rules, data etc. had not been done. Some considered that the way the EC wrote the rules added to the complexity. One expert involved from the beginning of the process remarked that the reporting burden was disproportionate, and the screening was an intensive process, so that not enough attention was paid to what really mattered: the drafting of the PEFCR.

**Co-construction: a brave choice...**

The Commission team could have provided a fixed frame with everything decided in advance, but it chose the risky and slower way of co-construction during the pilot phase. The peer reviewers consider this choice justified, as proof of an open mind, and as a way of acquiring the commitment of stakeholders to the participative process as well as improving the quality of the final result. Indeed, LCA (EF) is an iterative process: only by putting into practice can the problems and gaps be identified.

This process is harder work and less comfortable than a fixed framework. It necessitated adapting the rules several times and caused slippage in the schedule. The frequent changing of the rules was cited as a weak point by a considerable number of Survey respondents, although the Team tried to group changes rather than sending them in a constant trickle. Several of those interviewed considered that a lot of time could have been saved by having a more complete framework of rules before starting the pilot phase. This could then have been modified, but starting from a firmer base. Having 6 versions of the PEF guidance seemed excessive; juggling information into different templates made a lot of extra work. This contributed to the feeling of lacking the time to work properly because of tight deadlines, also mentioned by many in the Survey. Several commented that participants could have been better informed about the co-construction process and its inherent unpredictability, allowing them to prepare to be flexible and patient.
In fact, the changes were such that the Commission decided to add a Remodelling phase in order to apply the rules finalised during the pilot phase and better harmonise the PEFCRs and OEFSRs. This extra phase combined with the slippage which had already occurred means that the end of the process has been telescoped. The second and final public consultation was done on draft documents which are now being changed more or less substantially, and before the verification and communication phases. This was brought up several times in SC meetings, and is considered a weak point in term of stakeholder involvement and quality of the output by many pilots and participants especially NGOs, since the PEFCRs will have to be approved (or not) without proper consultation, and any errors or imbalances will then be ‘written in stone’ until the next revision which could be three or four years hence. Similarly, the independent critical reviews to be done on the draft PEFCRs and OEFSRs were started on unfinished documents, and will be updated according to the changes brought by the remodelling.

4.2.4. Ongoing process improvement

The Core Team received a great deal of feedback about different aspects of the pilot phase. Many comments were technical but some were organisational. The following examples illustrate how the process was adjusted in a positive way.

Example A: NGOs pointed out that in order to register for access to the Wiki you have to be registered as a stakeholder, and you then appear as a stakeholder of that pilot, which could be seen as endorsing the documents. For the sake of transparency, they asked the Commission core team to put the PEFCRs for the second consultation onto the EU website where no passwords were required. This was done.

Example B: The Intermediate Paper pilot as well as NGOs (WWF, EEB) wrote to ask that biodiversity be taken into account in PEF. The Team listened, with the end result that biodiversity must be mentioned as additional environmental information. If this information is not given, there has to be an explanation of why. Biodiversity is still not included as an impact category, however.

Example C: The voting process in the SC was causing problems at the beginning, because the decision could not be validated when a large number of participants abstained (which happened frequently). A new system was put in place whereby abstentions were not counted and a decision needed only a simple majority of positive over negative votes. On this topic see also 4.3.5.

4.3. Structures for working, discussion and decision

Two plenary bodies were set up: the Steering Committee (SC) and the Technical Advisory Board (TAB). For each product group or sector (called pilot) a Technical Secretariat was constituted, its members including someone from the core team in DG ENV and someone from the Helpdesk. As the pilot phase progressed some joint groups were created to find solutions to cross-cutting issues.

4.3.1. Technical Advisory Board (TAB)

The TAB is made up of representatives from each pilot, other specialists, and NGOs as well as Helpdesk and Commission representatives. It was the forum where technical matters were brought up and discussed.
There is a broad appreciation for the possibility of participation before and during the TAB meetings. The discussions, even if sometimes looping, are open and the total assembly is free to express their own views. Some interviewed underlined the possibility to improve the TAB works, in particular on the management of comments. Follow some remarks:

- “We have (in general) very interesting discussions in the TAB, with lots of inputs and feedbacks on proposal of the Commission. However, my feeling is that the Commission is often not making a clear wrap-up of the discussion with clear decisions for next steps. That could be improved”
- “In the case when the document is not an issue paper, I personally don’t know what is expected from the TAB and what is the use of the TAB discussions”
- “There are discrepancies in the level of answer from the PEF team members (sometimes absent) depending on who is responsible for the technical topic that is under discussion”
- “It is not clear to me the way the recommendations and suggestions are taken into account. In particular, I strongly wish I had answers back any time I sent feedbacks on issue papers or CFF specific topic, to know if they are accepted or not, and if not, the reason why”

In addition, the system of commenting through the wiki did not seem to be much used (estimated at 20% of comments), and stakeholders tended to submit comments orally at plenary meetings (around 50%), by phone, e-mail or letter, or directly to the authors of the document. Several with experience in ISO or CEN working groups believe that the adoption of the “ISO approach” in the disposition of comments from the beginning would have improved the transparency and effectiveness of the process. The ‘ISO-style’ table used towards the end of the process was appreciated by many stakeholders.

4.3.2. Technical Secretariats (TS)

On the base of the collected interviews, all TS worked on the base of agreed verbal procedures on how to develop documentations, manage comments and achieve decisions. In the majority of the case the production of written procedures has been considered as a not necessary extra work for the TS.

There was a general satisfaction on this approach, but in few cases the decision has been taken giving more attention to the requests and views of most important or committed (in term of resources) players in the TS.

A further important aspect is the impartiality of the TS. In two cases to have as TS the same body in charge to technically support the Commission for PEF/OF (JRC) posed some potential problem of impartiality in the management of discussion and decision within the TS.

Another situation with perceived risks to impartiality is when the European sectoral association is taking the role of TS. In this case the claimant highlight a potential conflict between the need to impartially represent the sectoral needs and expectations at European level and the support given in favour of requests of most important industrial players.

The preponderant role of big companies is illustrated by the example of the Coffee Pilot which failed to finish its PEFCR. One participant blamed this failure on disagreements between those making instant coffee and those making coffee for brewing, each wanting the methodological choices that would benefit them. “There was too much leeway left to the big industries, no-one to mediate or make the decisions. To get a good consensus, you need the right people round the table. Since SMEs and NGOs couldn’t participate, it ended up just a fight between companies.”

It is fully understandable the decision of the EC to fully leave at any single TS the decision on how to manage their activity to promote a bottom-up approach and to increase the effectiveness of the TS processes. On the
other hand this may facilitate the lobby capacity of industries having more resources availability (economical and technical), creating an unnecessary technical barrier for SMEs.

An interviewee underlined the possibility to increase the effectiveness of the PEF/OEF pilot activities through more frequent videoconference meeting, instead of long and less frequent physical meetings. The use of call conference is considered not really valuable by this expert, because it is not effective when there are many people attending it at the same time.

4.3.3. Working groups

Joint working groups involving several pilots were created to find common solutions to cross cutting issues, as in the case of the “Cattle model working group”, or the Packaging working group. There is a broad appreciation for this initiative, also from representative of pilots not involved in the Cattle model, because this is considered one of the first times different sectors worked together to find solutions on LCA common topics, such as allocation.

An interviewee underlined in this case a lack of clarity on the making decision process. For this expert it was not clear if the role of Pilot representative was to share the experiences or to take decisions. In addition, was the participation of JRC to support the discussion or to obtain a full understanding of the situation and to take the final decision?

Allocation at the slaughterhouse

The cattle model, specifically the allocation of farming impacts between products leaving the slaughterhouse, was the subject of heated discussions right to the end of the process. Should the impacts be allocated by weight, by economic value, or by a physiological model worked on by the meat pilot? In January 2015 the JRC produced a document proposing economic allocation, but while the pet food and leather pilots could accept this, the meat sector could not agree. The meat pilot worked on an alternative biophysical method which they tested in their supporting studies.

In November 2016 the TAB discussed this matter, coming to a consensus that economic allocation was the best choice. Since there was still strong opposition to this position by the meat pilot, the matter was put to the vote at the SC meeting in March 2017. After short presentations and some discussion, the meeting voted to uphold the TAB conclusion (11 for, 3 against and 13 abstentions). The meat pilot announced they could not accept this and walked out of the meeting.

The Team hoped that the meat pilot will finish its PEFCR, but they officially announced their withdrawal from the pilot phase in early July 2017. This kind of clash is inevitable when allocating impacts from multi-output processes, where options chosen mix technical and political reason and cannot please everybody.

On the other hand this is recognized as an important added value of the EF, permitting to build up intersectorial choices that are not feasible working only to PCR level. This approach also avoids using different allocation approaches through interconnected sectors resulting in the loss of environmental burdens.

4.3.4. Cross-cutting issues

A number of questions came up in almost all the pilots, and needed to be dealt with centrally. Some (such as Biodiversity, Distribution and storage data, Use stage, Electricity modelling) were discussed in the TAB and if necessary tackled by the core Team, including the JRC, sometimes with the Helpdesk or other consultants, who came up with issue papers. The latter were then discussed at TAB meetings and the Guidance documents
adjusted accordingly. Others required more stakeholder discussion: for instance two workshops were held on End of Life in 2016, following an initial discussion in 2014. The compromise proposal coming out of these workshops indicates, for some, that the Core team can listen and modify its position if there is sufficient stakeholder reaction.

4.3.5. How decisions were taken

In the technical secretariats (TS): it depended greatly on the makeup of the TS. In some the decisions were really collegial. In others there was either one industry federation weighing heavily on the decisions, or two or more large companies with converging or conflicting viewpoints. In general the TS are strongly weighted towards industry and consultants related to industry.

The TAB (technical advisory board) largely reflects the configuration of the different TS, with the addition of some general stakeholders (NGOs for example), helpdesk and Commission representatives. On the management of received comments in the TAB also see 4.3.1.

The Steering committee (SC) contains representatives of the member states, as well as general stakeholders and a representative from each pilot. Much of the membership is common to the TAB, and the decisions are generally aligned. In fact member states often have to rely on external consultants because of the high technical complexity of EF and of the decisions to be made around it. These consultants sometimes also represent industry bodies or companies, so the member states may well share an industry point of view.

One particular case is related to the energetic mix, where the decision to ask for the use of a national or European emission factor may have significant different implication in the case of countries that have energy production mainly based on coal, renewable or nuclear. The technical choice is normally on LCA to use always the most specific data possible. On the other hand this has the political implication to give a different energy burden to similar companies operating in different countries in the European market.

In the SC there is a problem of massive abstentions, since many of the decisions put to the vote are very technical. Country representatives and NGOs do not always consider themselves sufficiently specialised technically to vote; other pilots possibly do not have the time to study the topic in sufficient depth if it does not touch them directly. This means that decisions are made by a very small number of stakeholders (such as in the Slaughterhouse Allocation example above, 11 for and 3 against with 13 abstentions), which does raise questions about the representativeness of these decisions.

Conclusion: in general the Team encouraged full discussion of the important issues, including a vote in the SC on some issues, then drew together all the arguments in order to make a final decision. The Commission takes the responsibility of making final decisions in line with the wider policy objectives and not always following the result of the voting in the SC. This would seem a reasonable and trusted method, particularly where stakeholder representation is not homogeneous. It allows them to give weight to certain arguments even if only upheld by a minority of participants. A simple voting system may appear democratic but is much more prone to influence by strong lobbies, and would not give voice to those not well represented in the steering committee.
4.4. The later stages: verification, communication, remodelling

4.4.1. Verification

The verification of supporting studies has been carried out by a single verification body. Its main purpose was to test verification approaches in order to inform the Commission on how to balance reliability of information and cost of procedure, and thus include a proposal on verification in the policy proposals. At the market level there are several approaches to check the reliability of the LCA studies and consequent results (i.e. critical review, certification, verification). On this condition, the use of a single verification standard/reference would be a guarantee to adopt a consistent set of procedures and methodologies through the supporting studies in all EF pilots.

The verification body approached to the verification in three different way, identified by the colours red, blue and green.

![Red audit](product.png) ![Blue audit](product.png) ![Green audit](product.png)

Fig. 4: Description of characteristic of different kind of audit performed for the verification of the supporting studies. - (Product Environmental Footprint - Verification of embedded impacts and traceability as part of the Environmental Footprint methods implementation; Ernst & Young; 2016)
The decision on which kind of verification carry out and how much time spend in each verification is based on the output of previous activities in the Pilot phase, with further consideration on the dimension of the organization, the complexity of the study, number of production sites and level of involvement of the supply chain. It is not clear how these criteria were considered to define the specific amount of time needed for each verification and how it is decided which kind of audit to carry out for different studies, because no public information exists on the procedure used to support this decision.

The amount of time spent for the verification is between less than 1 day (7 h) and 2 days (16 h). It could be interesting, for comparison purpose, to know that for the verification of EPD under accreditation in Italy the average of total time spent for each verification is around 3 days, with at least 1 day spent on site (source: average of data supplied by three accredited verifiers). According to the interviewed verifier in the future any procedures on the verification should be focused more on the % of data coverage more than on number of man/days.

The verification activities of supporting study were carried out according to general rules for non-financial audit (ISAE 3000), that has not any kind of specific requirements related to LCA activities, because there aren’t specific requirements/procedures issued on the verification by the EC. The interviewed verifier recognized the lack of unique and complete reference for this kind of activities, where the critical review is more focused on the reliability of the model but it is not so focused on data check.
The verification has been carried out on a not fully stable system of rules for the supporting studies and has been considered by the verifier more as a test than a real verification. It has been underlined that this verification activity doesn’t express any level of assurance on the impact category data that should be one of the main goal for publicly available environmental data. The lack of clarity of ISO standard for the verification of publicly available environmental data based on LCA studies (ISO 14044, ISO 14071, ISO/TS 14067 the ISO 14026 under development) is a critical point and clarity on the verification procedures is needed. An NGO representative involved in the verification of PEFCR and screening studies considered an initial quite low level of quality of these documents, improved during the PEF/OEF process. The representative mentioned that no feedback on verification of supporting studies was available. The missing of formalized rules to define the amount of time needed for each verification and on how to decide which kind of audit (red, blue or green) to carry out for different studies may cause problem of fairness and different level of quality in the verification of existing supporting studies. The establishment of rules for it is fundamental for a more reliable and effective future verification process.

4.4.2. Communication phase

If the idea was to find the best vehicle for communication of the environmental performance of a product, it would have been better to decide it in advance and guide the EF methodology instead of to follow the actual EF results. As mentioned by an expert, “you can't divide the communication issue from methodological ones. We need to know what we want to communicate and to whom. We're putting the cart before the horse”. For example the lack of clarity on the target for the communication of EF results, as B2B or B2C, is considered a weak point.

Some other interviewed considered the unbalanced amount of time between EF quantification and communication as a weak point. From one side there is a high appreciation for the attention deserved to a complex topic discussed in a way considered very rigorous. But it is necessary to recognize that the big challenge is how to communicate reliable and understandable information, in particular in the case of B2C information.

The decision on communication requires different skills and industry is not necessarily the main stakeholder to choose the best type of communication. If it is for communicating to the public then sociologists would be best placed to study the matter. However, one should take into account that often the problem is more one of reliability and trust in the information received. The EF aims to provide a robust approach in terms of data collection and methodology, which may be the basis of information that consumers can trust; this is not to say that consumers should receive the comprehensive and complex information gathered through the EF, but this may be used to improving labels rather than writing them off altogether.

It should be noted that the TAB decided to take the communication part out of the PEFCRs. This was proposed by the European Environment Bureau, because otherwise the communication issues were going to be added to the PEFCRs at the last minute without any stakeholder consultation. The Core Team were in line with this request as they agreed that the decision about what and how to communicate depends on the field of the policy discussion.
4.4.3. Critical review

PEF guidance version 5.2 (2016) says: “At the end of the pilot project, a third party review panel, consisting of at least one LCA expert, one NGO representative and one industry representative, will review the draft PEFCR and provide guidance for the Technical Secretariat. The purpose is to ensure that the PEFCR is consistent with the PEF Guide, the functional unit, allocation and calculation are adequate, the data used is relevant, representative and reliable, and the LCIA indicators (and any additional information) are appropriate”.

The critical review process is underway at the time of writing and cannot be evaluated. The peer reviewers did however receive feedback indicating that the Commission had difficulty in finding sufficient reviewers from NGO background (competency or interest gap?). The reviews cannot be completed until the remodelling is finished. It is not known to what extent the remodelling will change the PEFCRs and OEFSRs.

4.5. Participation and stakeholder engagement in the pilot phase

As indicated already in the brainstorming with the Steering Committee members, and confirmed by the survey respondents, there is a clear perception that the level of participation of companies and industry associations in the pilot phase is high. On the other hand the level of participation of SMEs and NGOs is perceived as low, as is the level of participation of the existing EU EPD Program Operators.

![Fig. 6: Answers to the question “How do you assess the involvement of different stakeholders?” - (Survey on PEF/OEF Pilot Phase – Final Report; December 2016)](image)

The level of participation of other EC DG has been seen as limited (in the survey more than 40% reckoned that they were not participating or not too much).
4.5.1. Balance between different types of stakeholder

Virtually all participants to the interviews and survey recognized a general very good level of stakeholder engagement from the industrial perspective, while more weak points have been identified in term of civil society (i.e. NGOs). Some interviewed underlined that in case of very technical topics, as it is for LCA, it may be inevitable to have an unbalanced participation because in the industry sector it is easier to have stronger competencies.

Another evident reason is related to the lack of availability of economical resources for the NGOs and SMEs to guarantee a participation in a project lasting several years and requiring a high level of specialised knowledge. In one case the interviewee replied that some NGO refused the participation to the pilot because they were already involved in other international project for the same sector.

Some NGOs did not agree with the choice of LCA/EF, and did not give priority to participation for this reason. From the minutes of the 2nd SC meeting: “EEB expressed its concern that NGOs find it difficult to participate in pilots due to technical nature of the exercise, the time needed and costs. To dedicate the necessary resources to the project, more clarity would be needed about the intended use of the tool in the future.”

Only few pilots considered they had a balanced participation between economic actors and civil society. Those interviewed also underlined that during the public consultation the participation involved often more EF pilots members than a real broad stakeholder representativeness.

Fig. 7: Answers to the question “To what extent do you think other EC Departments and/or Services have been participating in the pilot phase and how?” - (Survey on PEF/OEF Pilot Phase – Final Report; December 2016)
4.5.2. Balance within the sector

In the survey (see below), 62% of respondents agreed (or strongly agreed) with the statement “The EF Pilot Rules provide representation of the majority of the market players”, but 21% disagreed or strongly disagreed.

![Graph showing survey results](image)

Fig. 8: Answers to the question “Do the EF Pilot Rules provide representation of the majority of the market players?” - (Survey on PEF/OEF Pilot Phase – Final Report; December 2016)

The version 1.1 of the PEF Guidance identify (clause 2.5.3.) three main conditions that need to be met to consider the development of a PEFCR representative of a specific product group:

1) The Technical Secretariat in charge of a specific product group has invited to participate to the PEFCR development process all the major competitors, covering for at least 80% of the EU market (in terms of yearly turnover).

2) The industry stakeholders participating to the whole process and endorsing the final PEFCR cover at least 51% of the EU market (in terms of yearly turnover). This requirement is deemed to be satisfied also if the PEFCR is endorsed by one or more European Associations for that product/sector – and representing companies covering at least for 51% of the EU market (in terms of early turnover).

3) The Technical secretariat has invited and involved in the PEFCR development process widest range of non-industry stakeholders, with particular reference to consumers’ and environmental associations.

Some interviewed claim lack of industrial representativeness inside specific pilots, such as the Copper production OEFSR pilot, to guarantee the representativeness of the majority of EU market for the specific product in each pilot.

The claimant underlined the difficulty to have official data on the coverage of the yearly turnover in order to have a confirmation of this coverage and the lack of clarity on how this figure has been calculated when important differences exist in term of specific characteristic of products part of the same PEFCR (e.g. brewed or instant coffee).
He also asked to report that the pilot is led by important company and government representative of a country not part of the EU (Switzerland).

In other cases a lower percentage of EU market has been noted for some sectors (e.g. retail, with an estimation by interviewed experts of around 5%)

A representative of EC Core team clarified that, according to EU rules, it is not possible to publically declare / ascertain the percentage of EU market share of any company or group of companies. It remains to clarify how transparent may be any kind of feedback on the market representativeness of any pilot.

### 4.5.3. Geographical balance

An analysis of attendance in TAB and SC meetings has been made to understand the level of participation of various EU countries, based on official data provided by the European Commission.

For the analysis, a participation of a country was accounted if at least one representative attended the meeting (2 or more representatives of the same country are then considered as one participation).

It is important to remember that in the SC each country delegate is an official representation of that country, but in the TAB each participant is only an indirect geographical indicator because, for example, a consultant coming from a country may work for a company based in another country, or a person working for a European NGO doesn’t represent the country he/she comes from.

The analysis considers 33 European countries, including 5 not part of the EU-28. The SC meetings took place from 2013 to 2017 while the TAB meetings from the end of 2014 until 2017.

It has to be underlined that for one SC meeting in October 2016 actual data of participation were not available, but some data of participation has been inferred from the security list.

For the TAB meeting of 1st March 2016 no data were available, therefore data in figure 9 and further analysis are related to 11 meetings.

![Graph showing attendance in SC and TAB meetings](image)
Fig. 9: Participation of EU countries in the SC and TAB meetings (total number of SC meetings is 17 and of TAB meetings is 12). The order of countries is determined by the number of participation in SC meetings as first level and of the TAB as second level.

Looking at the SC data, it can be seen that 8 countries participated in more than 80% of the meetings while, on the contrary 8 others did not attend any SC meeting. Almost 50% of the countries participated at least at 50% of the SC meetings.

Regarding the TAB, it can be noticed that 9 countries (about 27% of the total) were present at least at half of the TAB meetings. On the other side, 18 countries participated in less than 20% of the meetings, 13 of which did not attend any meeting.

From the comparison of the data above, considering for example as indicator the level of participation at 50% of the meetings, it can be observed that fewer countries were represented in the TAB than in the SC. It has to be considered that the participation at SC and TAB have a different implication, since the SC country delegates are a political representation (e.g. Ministers or government employees), while, on the contrary, the TAB is made by a technical representation (in particular from companies or consulting firms).

As a consequence, this poor or no participation of many countries in the TAB meetings may raise doubts about their technical capacity in providing competences and expertise to follow the process, also in the near future.

The interest shown on the PEF/OEF pilot phase outside of the EU is remarkable, but the level of awareness and participation is deemed to be relatively limited, compared to the importance of international actors in several stages of the life cycles of EU products. However, stakeholders interviewed also praise the fact that international stakeholders were involved in the process, and acknowledge that a stronger presence would have been hardly possible. In general, there is a good perception of the efforts made by the European Commission in communicating about the PEF/OEF pilot phase. Moving forward, interviewees from non-EU countries highlight the need to involve international (private and public) actors not only in consultation phases, but also in the development of criteria and rules. To do so, institutions and actors already working in similar approaches at the national level (e.g. MTEC in Thailand; the Chilean National Sustainability and Climate Change Agency; members of the national / regional LCA networks; etc.) could be used as focal points to identify suitable national initiatives or tools to be used as starting points to incorporate PEF/OEF approaches. Such local institutions would probably also be best placed to offer the outreach and capacity development required for those countries to scale up their acceptance and application of PEF/OEF.

4.6. **Effectiveness and efficiency**

4.6.1. **Breadth of sector coverage**

In the scope of the pilot phase, effectiveness could first be defined as the breadth of sectors covered with PEFCR or OEFSR, and in this sense the pilot phase has achieved a strong stakeholder engagement in a wide variety of sectors, which have seen their contribution stay through to the end of the pilot. From this point of view the pilot phase may be considered successful.

From a related point of view, the efficiency of the pilot would consider the amount of resources spent per set of rules; this is much more difficult to judge given the lack of benchmarks for such an exercise. What seems accepted by the majority of those interviewed is that it would be very difficult to deliver such rules with
significantly less resources, given the need to involve all stakeholders in order to achieve a high degree of acceptance.

4.6.2. Quality and robustness of the results

There is general agreement that the rules established during this pilot phase go a long way towards making possible the calculation of environmental footprints that are of better quality and considerably more robust and more harmonised than without the EF framework.

![Fig. 10: Answers to the question “Are the EF Pilot Rules technically robust?” - (Survey on PEF/OEF Pilot Phase – Final Report; December 2016)](image)

The quality of the results depends on several factors:

- The quality of the data is primordial. A crucial part of this pilot phase was the constitution of a good-quality and open data set. The Commission has bought in large amounts of data, and all participants appreciate this effort but some are unsure as yet of the quality level of these data - fearing it is not sufficiently robust. From another side it has been considered a very important added value, in comparison with the normal experiences to practitioners to have a common data set for all supporting studies under the EF, also considering that it can be very difficult to obtain accurate data, for example when materials or resources are bought on international markets.

- Whether the methodological choices are appropriate for the question being asked of the tool. There are many debates about issues such as End-of-Life, Allocation, Impact categories, Weighting... There is no single ‘right’ answer for any of these issues, so it is necessary to make compromises. The existence of these compromises is the reason why the present LCAs are always presented with a critical review, so that a third party can point out any incoherence, and to avoid misrepresentation - voluntary or involuntary - of the results. It should be clear that some of the choices are not science-based but are value judgements, such as the weighting choices.
All participants agree that EF does not cover all types of environmental impact. Biodiversity is frequently mentioned, but resource depletion and marine littering are other examples of poorly-covered impact categories. The inclusion of a qualitative indicator of biodiversity is a positive point, but felt by many stakeholders not to be satisfactory. The fact that toxicity is (temporarily) excluded from the impact categories - for good reasons - makes the results incomplete.

In summary, Environmental Footprinting provides a common measuring yardstick, and an agreed way to modify it when necessary. It can always be argued that the picture is not as good as in real life, because it never will be. But the picture can show certain elements of the reality, some better than others. This imperfect picture can be used to support some decisions but not all: it is very important to understand the limitations of the tool and define the boundaries.

### 4.6.3. Effort put into the process by Commission and central services

The Sustainable production, products and consumption division of DG Environment is in charge of this pilot phase (referred to as “the core team”). It is supported by the JRC and by the Technical Helpdesk - a conglomerate of 3 consultancies. Every pilot is followed by a staff member from the core team and by a member of the Helpdesk. The JRC provides technical backup with reports and discussion papers.

<table>
<thead>
<tr>
<th>Body</th>
<th>Estimated time spent</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG ENV</td>
<td>3 staff and 1 secretary full time since 2013</td>
<td>15 person-years executive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 person-years secretarial</td>
</tr>
<tr>
<td>JRC</td>
<td>3 staff in 2013 &amp; 2014, 5 staff from 2015</td>
<td>21 person-years researcher</td>
</tr>
<tr>
<td>Helpdesk</td>
<td>Contract covering 42 months</td>
<td>858,000 euros</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 to 6 person years consultant</td>
</tr>
<tr>
<td>Other Commission</td>
<td>Little direct involvement, mostly being “kept up to date” by</td>
<td></td>
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<tr>
<td>services</td>
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<td>colleagues.</td>
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Fig. 11: Estimated time spent and resources dedicated by European Commission and central services

#### 4.6.3.1. Involvement of Commission staff from other DG’s

Information about the EF Pilot Phase was regularly circulated to representatives in the following DG’s: SANCO, GROWTH, AGRI, ENR, CNECT and RTD. Representatives were occasionally seen at SC and TAB meetings.

There were some bipartite and interservice group meetings to update interested colleagues about the progress of the work.

There was some concern that exchanges were insufficient for DG ENV to grasp the viewpoints of other DG’s and the practical difficulties of application of this initiative. The public consultations were felt not to be the appropriate place for Commission services to comment.
4.6.4. Effort put into the process by Stakeholders

A constantly recurring comment was the amount of time and energy involved in this complex process. This was increased due to changing rules, recalculations, remodelling and slippage of the original schedule.

Technical secretariats were asked to estimate how many people were involved, and how much time was spent. This was very hard for most of them. Estimates of person-days over the 4 years of the pilot varied from 200 to 2500 days, often not including supporting studies or consultant’s time. Several of the estimates were around 600 person-days. There may have been a tendency to underestimate the time spent overall. Many consultants spent considerable time, either as part of contracts or as a choice in order to gain competence in this domain. For instance, one consultant spending a half-time on EF makes around 400 days (this was the case for a consultant on the paints pilot and member of the steering committee).

Pilots varied greatly in complexity and numbers of participants, so the wide variation in time estimated could be close to a true picture.

4.6.5. Resources needed for the pilot phase or to develop a PEFCR or OEFSR

It is difficult to have clear figure on the needed resources for the participation at the EF pilot phase. On the base the feedback received from several pilots the required budget to complete the EF pilot phase for a specific product category is between 150.000 and 300.000 euro. The broad range is also due to the different complexity of product categories, the previous experiences on LCA of industries participating to the pilot and of consultants. For the Retail OEFSR each company in the consortium contributed about 40,000€, and the French environment agency contributed nearly 90,000€ to this pilot phase.

Also the participation of industries to the pilot varied drastically for different pilots. The information collected with interviews showed a situation where the financial participation to pilots for company representative varied from 0 to 23.000 euro. A so large difference is due to the economical contribution given by the European association of producers of the product category under study and choice made in term of consultant support.

An additional problem connected with resources is the need for the pilot participants to work with extra-budget due to the EF evolving rules and tasks required to pilots by the EC that, in conjunction with the strict deadlines is considered very critical.

Some interviewed considered frustrating the limited technical progress of LCA rules/methodology within the EF, if the global amount of resources invested at EU level for this project is considered.

At the same time is important to remember that, according to the estimations of interviewed experts, a significant part of this budget is due to the establishment and consolidation of the EF system. If a PEFCR for a new product category and a supporting study will be developed from now it is expected to require between 100.000 and 150.000 euro.

For an NGO representative this cost for industry sector is not far from costs of participation to other EU projects as well as for the development of PCR, looking at the global costs. Looking from the industry perspective, these costs are significantly higher than the costs to develop a new PCR and the LCA supporting study within a recognized EPD system in Europe. This is an important aspect that should be considered by the European Commission to avoid potential economical barrier for any new PEFCR/OEFSR development, in particular for SMEs.

At the same time it is important to remember the comment of an interviewee considering the development of PEFCRs as a potential investment at EU level. This is because now PEFCRs are very structured in terms of model and data and this can lower the costs for who wants to develop the LCA study in the future. Indeed, from an application point of view, the PEFCR combined with the free access to LCA data provide in principle significant savings and thus should make it more applicable for SMEs.
4.6.6. **Efficiency of the process**

There was general agreement that the task the Commission had set itself was very complex and inevitably very time-consuming.

Some participants had suggestions about how the efficiency could have been improved. Some suggested it would have been more efficient to start with the basics, and in the first phase draw up transversal rules and build up data banks before involving the numerous companies and specialists in making the sectoral rules. This would have avoided the frustrating rule changes and the resulting slippage in the schedule.

Some pilots would have preferred more common work with linked sectors from the beginning. This would have streamlined the work and facilitated the harmonisation between sectors. The pressure of work within tight deadlines meant that pilots did not exchange with each other as much as they would have liked to. It was somewhat wasteful to have experts working separately when they could have done work which benefitted several sectors. On the other hand, some of the common work led to conflict!

Many participants complained (in the Survey and in the SC meetings) that the deadlines were too tight and that it was impossible to do good work within those time constraints. Other participants found the process too slow, and/or too time-consuming. This last reaction is frequently found in new participants to standardisation, for example. When one has never been involved in this type of process which includes exchanges, reaching consensus and frequent consultation of stakeholders, it is hard to imagine how much time is needed.

When we hear equally that the process was too rushed and that it was too slow, we can conclude that the Team found a reasonable compromise for the speed.

4.6.6.1. **Comparison with ISO and CEN standards**

It is possible to make a rough estimate of standards-making: for one CEN standard 20 people spending on average 20 days each, so 400 person-days

For one ISO standard 30 people spending 30 or 40 days so 900 to 1200 person-days

Several experts would suggest between 600,000 and 1 200 000 € as a rough range, depending on factors such as the type of standard.

However, comparison is very difficult as the scope and use can be very different.

4.6.6.2. **Comparison with European Ecolabel**

In general, it takes about 2.5 years to develop the Ecolabel criteria for a product group, including probably 3 meetings of the ad-hoc working group plus consultant work (JRC or external consultants). The procedure might be able to be shortened, for instance by incorporating more substance from existing ecolabels.

4.7. **Two special cases: the Construction Sector and Organisational Environmental Footprinting**

4.7.1. **The Construction Sector**

The construction sector approached to the EF with a previous strong sectoral experience based on the EN 15804. According to the DG Growth representative the PEF, the PEF arrived as a new perspective on the landscape. In some way the point was if the PEF was inventing the wheel or was entering to improve the existing situation.
Looking with by external perspective, the relation between EN 15804 and PEF was reflecting the different point of view/expectation on the construction sector of DG Growth and DG Environment. At the end a common ground has been found with the new mandate to CEN/TC 350 for the EN 15804 revision. The DG Growth representative see with interest PEF and any opportunity of improvement for EN 15804, as EoL and data quality. At the same time he reports of some worries within DG Growth on the level of maturity of PEF. The problem is more in the political than in the technical side in relation to the potential use for the risk of potential overlaps on construction sector between PEF and energy performance or ecodesign directive, where parameters per product are already set. There is an additional aspect that shall be considered in particular for the construction sector that already use EPD. They can use the LCA information from separate products as contribution to come up with a full LCA for the building. The danger with the environmental footprints is that it may be available for separate components such as the windows, bricks, etc., and someone tries to add all the footprints together to make a footprint for the whole building. This is a simplification that may not be appropriate. In the building there are more professionals that may look for information than in other manufacturing sectors and this is a potential weak point because you need to develop a more complex system of rules on communication. In this case more than in any other it is fundamental to have clarity on the target of communication between B2B and B2C. The representative of DG Growth sees the EPD communication, verified by an independent third party, as the best option for construction products, while for other kind of products also a B2C communication could be a valuable option. To support this option he underlines that Ecolabel was never used in the past for construction products.

4.7.2. Organisation Environmental Footprinting

According to the OEF Guidance, the objectives of the OEF pilot phase are the following:

- Set up and test the process for the development of Organisation Environmental Footprint Sector Rules (OEFSRs) for a number of sectors;
- Identify and exploit simplification opportunities for carrying out an OEF study through the OEFSRs;
- Set up a cost-effective verification system, in particular with reference to embedded impacts and traceability of information;
- Test the usefulness of information for the organisations' key stakeholders (e.g. business partners, investors, public administrations, NGOs) with the view of making sure that information is "translatable" to their needs.
- Support the advancement and alignment of existing LCA-based standards;
- Facilitate the involvement of all stakeholders interested in the development process.

Organisation environmental footprinting is a relatively new development in the Footprinting world, which may explain why there were only two pilots in the pilot phase. A 3rd pilot on household sanitary goods and toiletries had been selected to be led by the EC Joint Research Centre, but the European Commission decided to stop this OEFSR pilot as it became progressively evident that the pilot was not sufficiently backed by the major producers and the relevant European associations.

Many of the people interviewed either claimed poor understanding of OEFSR or criticised it as being too immature and not fit for purpose. It was suggested that it was a mistake to treat OEF in the same way as PEF, since the methods and the objectives are not the same.
Participants in the Retail OEFSR pilot who found it a positive experience explained that the aim was not to compare different retailers, but to establish a map of impacts within one company, which could then be used to identify hotspots and focus attention on the priority actions for improving the environmental impact of the company. There was no benchmarking suggested and no threat of comparison between companies, which vastly reduced the tensions which might otherwise have made the work difficult.

The Copper production OEFSR pilot had trouble finding sufficient participants to ensure representativity of the sector. Those who participated considered they had learnt a lot: “It taught us how much of the potential environmental impact takes place outside of the smelting & refining organization (i.e. copper concentrate), and other hotspots.”

Comparisons are difficult even between different years for the same retail company, because if sales volume or the range of products sold changes the footprint automatically changes. Participants in the Retail pilot agreed that comparison between companies was not meaningful in their case, despite the fact that this was originally one of the projected uses of OEF. Indeed, the ‘guidance for organisations’ states:

“An equally important objective is to enable comparisons and comparative assertions between organisations operating in the same sector (with a similar Product Portfolio) in all cases when this is considered feasible, relevant and appropriate.”...

“Meaningful comparisons can only be made if the organisations have similar Product Portfolios, as defined in the reporting unit (unit of analysis).
Pilot participants are encouraged to define a wide scope that can capture the typical Product Portfolio in the sector. A too narrow sector definition would result in a very large number of OEFSRs, which, in an extreme case could lead to meaningless OEFSRs.”

According to one participant, the Commission should have taken more time to define OEFSR. Industry was expecting test studies and framing, and two companies dropped out of the Retail pilot because of the indecisiveness on the experimentation phase and costs involved. A lot of time was spent in the first 2 years modelling screening studies, and defining rules and product categories.

4.8. General value of the EF pilot phase

According to a participant at the pilot phase “PEF has been a useful exercise because it promotes many interesting questions on LCA. ISO standards is recognized as the international reference on LCA and may be seen as a general umbrella on this topic and PEF is shall be considered as an application under this umbrella. The EF pilot phase has also made the LCA emerging in the public arena”. For the ISO/TC 207/SC5 representative the main challenge is to bring LCA into the decision making process and PEF is facilitating this.

Key strengths highlighted for the EF approach are its multi-impact, holistic nature, as well as its ability to highlight the key hotspots of production and consumption systems, thus guiding the decision-making towards the most effective pathways to reducing environmental impacts. These points actually relate to the strength of life cycle thinking and Life Cycle Assessment, and the added value of EF is to provide a common way of calculating the impacts.

Overall, the positive value of the EF exercise is also highlighted and recognized by interviewees from outside Europe, who see its interest in the scope of harmonization, raising awareness among all stakeholders in exporting economies, as well as in fairly showing potential advantages of the greenest products. It must be
noted however, that many of the interviewees, although they praise the efforts of the European Commission in reaching out and communicating outside Europe, they highlight at the same time that awareness (and thus engagement) outside of Europe was very limited. Possibly as a result, the stated perception from stakeholders outside of Europe is suggested to align closer to seeing the EF as a potential barrier to trade. Enhanced communication and capacity development is suggested as a way to overcome potential negative perceptions from non-EU countries (especially developing countries and emerging economies).

Some Pilot participants consider very important to keep the PEF experience through time, as it was done for the BREF in the IPPC, calling periodically the stakeholders for a meeting. This is to be done also to extend to new category of products and to keep updated the acquired experience. It is also possible to identify a potential role for the JRC to coordinate it, from a technical perspective, in the future.

The very worst scenario is considered the option that all the experience achieved with the EF will be forgotten.
5. Possible uses of the pilots results and potential policy developments

Opinions were diverse about the possible uses of the results of the Pilot Phase, and the EF in general. It was felt by many that the lack of clarity in the aims of the programme was detrimental to the process. In fact a number of participants had clear ideas about the aims, but not all had the same ideas, and they were never clearly laid upon the table. The Commission argued that it wanted a strict methodology without looking at the application, but many stakeholders argued that if you don’t know how the methodology is to be used it is very difficult to take positions.

Most interviewees highlight the many potential synergies with existing tools and approaches, to which EF could provide the solid and harmonized calculation background. In particular, identifying ‘hotspots’, calculating product benchmarks (e.g. what can be considered “green” within a specific category or sector), and further strengthening consumer information and ecolabels are often mentioned as application areas. Indeed, some of the interviewees mention the opportunity for the PEF/OEF to provide a coordinated / universal approach to footprinting which would benefit many actors in the quest towards sustainable consumption and production. However, this is a long-term aim, since it is a huge task to come to full PEFCRs for everything, requiring many years of data collection according to one expert.

The level of effort already put forward in the European pilot phase provides significant gravi; potential dangers include the consideration by the private sector of the approach being unrealistic / too ambitious, or perceptions of the scheme providing potential barriers to trade.

In the Survey the most often identified schemes with potential for synergies with EF were Standardisation, Ecolabel, GPP, EMAS and Eco-design. The EC has not yet decided on policy applications for the EF, and thus the peer review team could not assess the effectiveness of such applications. Instead, the following sections should be seen as the representation of the points of view obtained during the interviews.

5.1. Uses of Product Environmental Footprint (PEF)

Using PEF results to communicate on the environmental performance of products seemed to be a consideration among most interviewees. One of the most shared common points is that there is a large support in favour of the development of different approaches for B2B (for finished and semi-finished product) and B2C communication (for finished product).

The situation is more complex in the case of B2C communication and one expert estimated that another year of consultation and engagement would be required to work out how LCA/PEF can be used in the consumer market. The opinions on potential uses of EF in terms of communication to consumers are often strictly connected with the polarized views described in section 3.5.

Among those who would support direct communication of PEF results to consumers it is acknowledged that further simplification of the information is required, particularly when conveying the information in markets where consumers have a lower degree of environmental awareness. On the other hand there is uncertainty as to what extent the simplified information, or indeed a single figure or a performance class, would in fact be meaningful. It shall be noted that ISO 14040 clarifies that “there is no scientific basis for reducing LCA results to a single overall score or number, since weighting requires value choices”.

The use of performance class indicators, similar to the energy label, is seen as an interesting opportunity to some industrial representatives, but also recognizing that probably the market is not ready for it and it would reduce the EF implementation by the “low classes” producers. Some others, many NGOs in particular, are strongly against this because of the limitations of EF/LCA. In addition they underline that LCA is a tool needing
to be used and interpreted by experts, replying to a specific question and if the result is taken out of context may convey quite the wrong impression.

For B2C communication, (type I) Ecolabels seem to have broader support. On this perspective the PEF is perceived as a reliable way to transfer information on relevant impact groups or hotspots to the Ecolabel system. A few of those interviewed were against this option, considering that ‘life-cycle thinking’ is sufficient to identify the major environmental burdens. The 2014 Ecolabel consultation concluded that PEF could be used to develop ecolabels; however the approach of ecolabelling is quite different from that of PEF and care should be taken not to lose the more practical and market-based ecolabel approach focusing on a few key actions to improve products, if PEF is to be included in it. A minority of those interviewed considered that PEF could replace Ecolabels, since it is quantitative and more robust. However, many stated very firmly that PEF cannot be a substitute for ecolabelling and is only one piece of the puzzle.

With regard to other types of labelling, the organic farming sector does not want an additional label. PEF could however inform the organic label/regulation, since some stakeholders believe environmental impact assessments or EF should be included in the regulation.

In the area of B2B communication there seems to be a broader support for a type III communication, where a like EPD document may transfer reliable, accurate and verified information downstream in the supply chain. Several interviewed recognized the EF as a great opportunity for an evolution of the existing EPD systems, making the base for the creation of unique EPD system in EU. If this is the case a deeper discussion is necessary on the need to realize the benchmark for each product category.

Similarly to the case with ecolabels (type I), potential links between EF and Green Public Procurement (GPP, often referred to as Sustainable Public Procurement, SPP) also relate to the potential use of EF to inform the studies deriving in procurement criteria to be added in the tender process. EF may also be used in specific circumstances to convey full footprint information to the procurement bodies in EPD-like processes. In the future, there are also strong hopes that EF could help inform full Life Cycle Costing analyses, and complement Total Cost of Ownership currently advised for public procurement processes.

Finally, some stakeholders considered EF could inform ecodesign policies, giving a coherent methodology. The provision of a full picture of the environmental impacts related to production and consumption systems, as done by LCA and EF, is a useful first step to inspiring sustainable product and business strategies (eco-design / eco-innovation). In this sense, some of the pilots have already suggested they will continue using EF for their own improvement processes, regardless of the final decisions by the EC on policy applications.

Most pilots felt there was potential for use by industry in one or several of the frameworks mentioned above. There was even the suggestion that it could eventually be used in indirect tax policies. There was however little or no industry support for mandatory use of PEF or at least not in the immediate future. A few regulators and experts were more supportive of a drive towards the general adoption of EF within member states’ own legislative frameworks.

An NGO representative made a recommendation to start work at ISO level to produce an international methodology for PEF/OEF. Another interviewee shared the same view but he stressed the importance to achieve a stronger cooperation on data to give more global value to this experience; international cooperation on LCA data is ongoing around the Global LCA Data Access network (GLAD), supported by the EC. This process could start later, but for the NGO representative it is considered crucial to share this important European experience at the international level.
5.2. **Uses of Organisation Environmental Footprinting (OEF)**

There is general agreement that OEFSR is first and foremost an internal tool to help a company work towards its sustainability objectives. As one participant said, “The OEF is a tool for finding out the most efficient improvement targets for an organization. Our belief is that OEF Copper production pilot primarily taught us how much of the potential environmental impact takes place outside of the smelting & refining organization. We also see the remaining hotspots within the organizational boundaries, which may serve as a subject for technological or organizational improvements. The idea of how to apply the OEF might not be clear-cut yet, but we would assume it should be go towards continuous self-evaluation of a single company and potentially serve as a secondary factor (beside financial benefit, production maintenance) for investment evaluation.”

Several agree that OEF would help in significantly go beyond the greenhouse gas or even Carbon footprint metrics in the annual sustainability report\(^1\) since it is a stronger and more comprehensive tool. Indeed, an Organizational LCA perspective is identified as a strong starting point to provide a multi-impact, life cycle account of an organization’s footprint (UNEP, 2015b), which is essential to inform both the material aspects to be reported, and also to provide their quantification. Others fear that this would add complexity and put an inordinate burden on companies. It could in any case be a good opportunity to involve more companies in a broader level of LCA responsibilities along CSR thinking.

Concerning EMAS, a large overlap and potential for synergy is perceived by most. OEF could inform EMAS, making it more competitive compared to ISO 14001, which already requests for a life cycle perspective to be considered in the organization’s environmental management. The integrated reporting initiatives that the industry has developed and is following in EMAS gives it an advantage over OEF at present. It would be possible to develop a management system connected to OEF, but many think it would be more efficient to use the EMAS tool which already exists. Most of those interviewed were hesitant or hostile about using OEF for comparisons between companies (cf. section 4.7.2).

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\(^1\) The “Raising the Bar” report (UNEP, 2015a) of UN Environment identifies Greenhouse Gas emissions as the top environmental indicator used in corporate sustainability reporting, albeit it often is not reported considering a life cycle perspective but only direct emissions from company’s operations.
6. Concluding remarks:

6.1. The next steps: Transition phase

The experience gained through the pilot phase may be used as input for the transition phase to a stable PEF/OEF experience.

Here below some possible suggestions for the transition phase:

- the SC should adopt a structured way to collect and manage any comments received. For any comment should be recorded its status (i.e. accepted, not accepted, accepted with modification) and any decision taken to follow up a comment;
- in the future cluster, as well as it was within each Pilot in the previous experience, there is a risk of partiality related to who leads the pilot and his/her connection with the most powerful member participating in the pilot. A strong lobby activity may reduce the participation in the pilot by SMEs or competitors of this member. To avoid it, it is recommended to require that each cluster will define its own transparent internal procedure describing how to manage input and to deliver output in the cluster (e.g. participation costs, how proposed new items are to be discussed, how to have an inclusive discussion, how to achieve any decision/recommendation).
- cluster should be recommended to establish a solid videoconference tool in order to reduce any cost for cluster members, to limit environmental impacts of meeting and to increase the stakeholder participation
- The international perspective should be properly taken into account at the highest level within the transition phase. In this sense, presence of a relevant international initiative / institution within the Steering Committee is advised. From the findings of the review, this could be a representative of the 10 Year Framework of Programmes (10YFP) Consumer Information for Sustainable Consumption and Production programme (10YFP CI-SCP, co-led by the Governments of Germany, Indonesia, and Consumers International), or the International Trade Centre (ITC).
- Specific links with international consensus building efforts in the area of Life Cycle Impact Assessment are recommended (e.g. the Life Cycle Initiative).
- Identify and experiment the inclusion within the overall EF transition phase some cases for PEFCR / OEFSR developed outside of Europe, as shadow pilots.
- Stronger contact with ISO is suggestable to facilitate the internationalisation of EF experience through recognized standards
- It is important to clarify the policy application(s) as soon as possible also to better define the kind of participation that needs to be involved in the Steering Committee and the TAB
- To continue to work in direction of a broad stakeholder engagement, including NGOs and EU country representatives
6.2.  **Industry perspective (by Daniele Pernigotti)**

The European Commission decision to develop the EF Pilot phase is a remarkable initiative to facilitate the circulation of low environmental impact products in the EU market and the development of a green economy. The large participation of LCA experts as well as companies and industrial sectors representativeness created a unique opportunity at EU level to share experiences and to have a high level technical discussion on LCA, with the possibility to work together in the methodology improvement and increasing the level of harmonisation. The quality of this exercise was so appreciated that some interviewees consider the EF experience as a success, even if it will stop now, because it consolidates some rules (i.e. EoL), which is considered an added value for the LCA practitioners and for the market. One of the interviewees recognized that in the future it will be difficult to defend a study in EU if you do not use the PEFCR and this is considered a big result already achieved.

From the other side, there are several doubts on the decision to work in an area where there are no consolidated scientific knowledges or methodologies (i.e. the adoption of ecotoxicity impact categories). There is a general positive feedback in terms of representativeness of companies and experts/consultants in each pilot, although with a lack of NGO’s participation, with few exceptions. The lack of participation of NGOs may be attributed to several reasons, including lack of resources and the deeply technical content of this topic. In few cases, some companies and experts also claim a lack of industry representativeness in the PEF pilot and even more in the OEF pilots. On this regard, it is not possible to have clear figures of the real market representativeness due to the impossibility to know precisely the EU market shares, according to illegal contracts and agreements, also known as cartels, regulation.

The EC should reconsider for the future to keep a requirement of market representativeness if it is not possible to verify this information.

The balance between the inclusiveness and the technical competence is a key point for each EF pilot, to avoid the predominance in the decision of stronger lobbies and to guarantee technically sound results. The TSs supporting each pilots had different background, such as consultant, industry association, or the JRC. Each TS operated with its own rules, normally not written. There is a general good level of satisfaction on the TS activity, but there are also few pilot participants underlying the perception of a lack of impartiality in some particular moment.

In order to avoid the risk of an excessive lobby influence of larger market representatives, the EC should consider to develop some general framework rules on how different pilots should manage their activity. Three of the starting 25 PEF pilots withdrew their participation to the pilot phase. These decisions are based on limitation of budget availability, generic lack of resources, level of EF complexity, and/or difficulties to find common solutions within the TS.

The EC should take lessons from this experiences and check if it possible to establish countermeasures to avoid the repetition of such situations in the transition phase.

An additional PEF pilot announced recently the withdrawn from the Pilot phase mainly caused by a different view about the allocation rules decided by the EC. So far, however, the final decision has not officially been taken.

The participation cost to the EF pilot phase is another important topic that the EC shall consider to avoid the establishing of economical barrier, in particular for SMEs, to any future participation at the EF. In order to facilitate a larger participation of stakeholders in the process, including SMEs, some expert also suggest a different organisation of meetings, in particular for the TAB. According to this proposal, the promotion of a more extensive use of meetings via videoconference with higher frequency should be considered, instead of less frequent and in presence meetings.

In terms of sector, “food and beverage” remains one of the most difficult where sharing common views on allocation and on FU definition, in the last case mainly in relation to the difficulty in finding a unique view on the product function.

There is a positive feedback about the creation of inter-product task groups, like the “cattle model”. Participants recognised the importance of sharing different products views/needs and to work together in creating a common approach on allocation.
Somebody claims the lack of clarity at the beginning of the rules on how proceeding in the construction of the final decision. On the other side, many representatives of other pilots not part of the cow model think that the EC spent too much time in finding a common consensus based solution and should have presented in advance its final decision.

This may be related with the general aspect on how EC managed comments. As largely indicated in this report, this aspect has not been strictly regulated and managed. The risk according to somebody is that in this way there will be more room for who has more resources availability and lobby capacity to influence the process and may create more difficulties to SMEs.

It is also recognised that the approach adopted in last meetings, following the methodology already applied at ISO level, was very satisfactory.

Verification of PEF/OEF remains a critical area. So far the verification of supporting studies may be considered only as a test phase and not as a real verification expressing a level of assurance on the EF results. The lack of clarity at ISO level on verification of EF quantification and communication does not help the EF context. In any case a clear procedure for the EF verification (under development by the EC) is the first expected step to improve this activity, as well as clarity on qualification requirements for verifiers and the definition of a general system to control the verifiers activities (e.g. accreditation).

The final use of the EF in terms of communication remains the most critical area not yet fully investigated. For some EF participants the definition of the use in terms of communication should have been a decision made at the beginning of the EF pilot phase and not at the end, because it should have had consequences on decisions taken during the development of EF quantification rules.

At the moment, there is not a strong shared view on the possible use of EF in terms of communication, but it seems to exist a recognition of possible different approaches, in the case of semi-finished product supplied to other companies (B2B) or to the final consumer (B2C).

In the first case, there seems to be more support in direction of a type III communication, or Environmental Product Declaration (EPD), with the perspective also to create a unique EPD System within the EU. For the B2C communication, two possible approaches seem to prevail. The rating system, or performance classes, similar to the one existing for electrical appliance, seems to receive an interesting support. Somebody else thinks that the market is not ready for it. The other option for B2C communication, well supported also by NGO, is to use the EF results in the context of type I communication, like Ecolabel.

### 6.3. International perspective (by Llorenç Milà i Canals)

Overall, the process is not widely known outside of Europe in spite of efforts by the EC. Those who know of it are satisfied with the level of communication and openness demonstrated by the EC, as well as the opportunity generated in terms of harmonization. Some international actors are aware of the EF pilot, but not that this was open for participation also from outside of Europe (or considered that participation would involve too high a cost); as a result there are concerns of what may actually come out of it in terms of specific rules.

Harmonization is seen as positive because this would reduce the complexity that companies (and exporting countries) are faced with. In spite of the expected benefits from harmonization, some countries also express scepticism on the potential that “one size will fit all”, because they may require adjustments in terms of the methods applied (although it is not clear whether they refer to the calculation methods -where harmonization is usually welcome- or the communication of results -where different market maturity and consumer awareness needs to be taken into account-).

The EC has discussed about the EF with the World Trade Organization (WTO), although until any requirements are detailed in regulation (compulsory or voluntary) there would not be any WTO applicable. The EU has been sensitive to ensure that potential concerns from exporting countries do not become a blockage to what the EU consider a positive and useful approach. Engagement has been positive with those countries that have stepped forward (e.g. Japan, Thailand, Brazil).
Opportunities identified to link better with other ongoing international processes / forums where such type of information is being discussed (e.g. the 10 Year Framework of Programmes Consumer Information for Sustainable Consumption and Production programme), would help address some of the concerns raised in terms of trade / international considerations. The International Trade Centre is also mentioned as an organization that could act as a hub of information for the countries that would like to participate more closely / influence the results.

The review has found an overall positive attitude and perspective from international participants to this process. It has been labelled as a “tremendous opportunity” in terms of simplifying the needs for assessment and information gathering by industrial stakeholders in emerging economies; the key requirement for this, of course, is that the approach becomes internationally validated. There has been active collaboration and close follow up by the most proactive international stakeholders, albeit with the recognition that the awareness on the EF outside of Europe is very limited. The EU will have to consider seriously how applications and developments started outside of Europe would be considered, in order to achieve greater international acceptance; e.g. if a non-EU country or productive sector, representing a significant share of a value chain, defined PEFCR or OEFSR following the EF steps, would these be accepted in the EU? Such cross-recognition of schemes and actors is probably essential in order to achieve international acceptance.

6.4. Civil Society perspective (by Penelope Vincent-Sweet)

The Environmental and Consumer NGOs are strongly in favour of the European Commission's efforts towards better protection of the environment and the humans living in it, and the establishment of an economy which is circular and sustainable. They also recognise that we lack true understanding of the impacts of our actions on the environment. They supported the emergence of the Carbon Footprint and the 'Cradle to Grave' approach of the Life Cycle Analysis, and are in favour of further work towards quantifying more accurately the impacts of production and consumption choices. It is clearly an advantage to move away from concentrating only on greenhouse gases and carbon, and towards a much more global view of the impacts. From this point of view the environmental footprinting (EF) programme has much potential.

LCA is thus an interesting approach and goes in the direction NGOs have been pointing. Using it as a base for the Environmental Footprinting seemed a sensible choice but left NGOs uncomfortable. This could be seen from the numerous responses to the 2012 consultation on sustainable production and consumption, which while supporting more work on LCA and EF, warned against an over-reliance on EF as the magic tool to replace all others and bring us the Truth.

If many NGOs are less than enthusiastic about LCA-type processes, it is because they have been fighting against poorly-made or poorly-used LCAs for more than 15 years, and have thus become acutely aware of the limitations of the LCA approach. The tool is in its infancy, and the multiple limitations mean that the results are unreliable and frequently contradictory. It produces information, certainly, but it could be argued that it is better to have no information than bad information, and some of the information is indeed poor or not relevant. When figures are there people tend to regard them as accurate and scientific, put too much weight on them and forget to think more globally. Not all relevant criteria can be based on LCA/PEF, such as ecotoxicity or biodiversity, and the method is unsatisfactory when applied to the primary production processes of agriculture and forestry.

The EF programme attempts to deal with some of the weaknesses of the tool such as data gaps, choice of impact categories, allocation choices... and will certainly be a landmark in the development of LCA-based EF. But however good the programme is, there are some fundamental tensions in this approach which can never be resolved. Seeking better reproducibility and comparability is at the expense of flexibility, using only robust criteria precludes an all-encompassing approach, simplifying the expression of the results means loss of detailed information, and so on.
This whole pilot phase was impregnated with a sense of rush. This is understandable, since when politicians decide on a course of action they frequently underestimate the time needed to put it into practice. The Core Team therefore felt under pressure from the start, and did a remarkable job of constructing a comprehensive and ambitious scheme in a short time. However, the time pressure meant that the co-construction and consultation process was done in rather a hurry, and in some cases it appeared that the consultation was taking place about decisions that had already been taken and could not be changed. For instance, when the 2012 consultation took place, the road-testing exercise was well under way and the basic choices had already been made.

This led to a number of criticisms from participants that the process had not been sufficiently prepared, but some NGOs also regret insufficiently shared reflection about the aims of the programme, and whether the tool chosen was the most appropriate to achieve those aims. A certain ambiguity about these aims was apparent during the pilot phase.

The co-construction approach and the openness to listen was generally appreciated, but did lead to slippage in the schedule which meant that the final consultation took place on a document that was far from finished. This is a serious weak point in the opinion of NGOs, who could rarely afford to be part of the active pilots.

On a practical level, the deployment of videoconference facilities for some meetings could make the process less costly in time, money and energy use.

For the next stage, the fact that the critical review occurs only on the PEFCR means that PEFs will be produced with only a short verification, which could lead to inaccuracies or incoherences.

The civil society is particularly concerned about what this pilot phase will lead to, and whether the Commission will stop to seriously consider the alternatives. As one asked, “Was it necessary to mobilise so many people for a pilot phase where the rules and working methods were to be worked out, and the effectiveness and feasibility evaluated? Did this vast mobilisation not risk committing the Commission to continuing the programme, whether or not it was considered effective and feasible?”

The idea of labelling everything with its environmental footprint is attractive, but does not stand up to closer scrutiny. It is necessary to look at the wider picture, and LCA-type approaches have a blinkering effect. EF is only one factor among many to take into consideration.

With these limits in mind, if PEF shows its added value in the technical review of the pilot phase, it could inform other existing tools such as type 1 ecolabels. The European Ecolabel for example is based on a multicriteria approach addressing different environmental improvements of the products, based on cut-off levels and provides clear, credible and simplified information to consumers.

For B2B PEF could be used for product improvement by ecodesign and type III communication for example, while OEF, if it is considered mature, could strengthen EMAS. PEF could also be used by regulators and NGOs to help identify priority areas for policy-making and action. It is important that the impact categories be translated into concrete actions which are easy to understand and adopt. PEF alone does not give good comparable and conclusive information for consumers, and should not engender a stand-alone label.
7. **(Annex) List of interviewed people:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Company/function</th>
<th>Involvement in EFPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hans Blonk</td>
<td>Blonk Consultancy</td>
<td>Beer, Meat, Feed</td>
</tr>
<tr>
<td>Mario Cerutti</td>
<td>Lavazza</td>
<td>Coffee Pilot</td>
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<tr>
<td>Stefania Furfori</td>
<td>Lavazza</td>
<td>Coffee Pilot</td>
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<tr>
<td>Gustavo Gonzalez-Quijano</td>
<td>General Secretary of COTANCE</td>
<td>Leather Pilot</td>
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<tr>
<td>Pau Huguet Ferran</td>
<td>Eco-Matters (external consultant)</td>
<td>Paints pilot, industry asso CEPE</td>
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<tr>
<td>Sebastien Humbert</td>
<td>Quantis</td>
<td>Dairy, Coffee, Pet food, Packed water and Retail Pilots</td>
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<tr>
<td>Jeeranee Janrungautai</td>
<td>Charoen Pokphand Group, Thailand</td>
<td>Retail pilot</td>
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<td>Staf Laget</td>
<td>Umicore</td>
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<tr>
<td>Romain Poivert</td>
<td>ADEME (French Environment Agency)</td>
<td>OEFSR, Retail</td>
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<tr>
<td>Maud Jacquot</td>
<td>B4Green ConsultingTM</td>
<td>UPS Pilot</td>
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<tr>
<td>Emmanuelle Neyroumane</td>
<td>WWF then private consultant</td>
<td>Intermediate paper. Then on critical review of retail &amp; olive oil.</td>
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<tr>
<td>Romeo Pavanello</td>
<td>The European Container Glass Federation - FEVE</td>
<td>Dairy, Beer, Packed water and Olive oil Pilots</td>
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<tr>
<td>Anna Perissinotto</td>
<td>Lavazza</td>
<td>Coffee Pilot</td>
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<tr>
<td>Ellen Riise</td>
<td>Senior Environmental Specialist at SCA Group Function Sustainability</td>
<td>Intermediate Paper product Pilot</td>
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<tr>
<td>Max Sonnen</td>
<td>Ecomatters</td>
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<tr>
<td>John Swift</td>
<td>DS Smith</td>
<td>Intermediate Paper Product Pilot</td>
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<tr>
<td>Name</td>
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<tr>
<td>Rémi Bagard</td>
<td>RDC</td>
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</tr>
<tr>
<td>Imola Bedo</td>
<td>DG ENV</td>
<td>Core team</td>
</tr>
<tr>
<td>Kim Christiansen</td>
<td>EEB</td>
<td>TAB for NGO</td>
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<tr>
<td>An De Schryver</td>
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<tr>
<td>Michele Galatola</td>
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<tr>
<td>Mark Goedkoop</td>
<td>PRé Sustainability Consultants</td>
<td>Technical helpdesk</td>
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<tr>
<td>Kularb Kimsri</td>
<td>Charoen Pokphand Foods PCL, Thailand</td>
<td>shadow pilot on chicken meat</td>
</tr>
<tr>
<td>Jitti Mungkalasiri</td>
<td>MTEC, Thailand</td>
<td>supported Thai companies in manufacturing and retail sector participating in pilots and a Thai-run shadow pilot</td>
</tr>
<tr>
<td>Olivier Réthoré</td>
<td>ADEME (France)</td>
<td>TAB for France</td>
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<tr>
<td>Nicolas Schnebelen</td>
<td>E&amp;Y, Manager Environment and Sustainability</td>
<td>Verification of PEF supporting studies</td>
</tr>
<tr>
<td>Maesa Sriamporn</td>
<td>Betagro Group, Thailand</td>
<td>Shadow pilot on chicken meat</td>
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<tr>
<td>Nydia Suppen</td>
<td>Center for LCA and Sustainable Design, Mexico</td>
<td>Supported Colombian producers in coffee pilot</td>
</tr>
<tr>
<td>Marisa Vieira</td>
<td>Pré</td>
<td>Helpdesk &amp; remodelling</td>
</tr>
<tr>
<td>Carsten Wachholz</td>
<td>European Environment Bureau</td>
<td>Environmental NGO: SC &amp; TAB</td>
</tr>
<tr>
<td>Michela Vuerich</td>
<td>ANEC (consumer NGO)</td>
<td>SC (towards end)</td>
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Not directly involved

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<tr>
<th>Name</th>
<th>Company/function</th>
<th>Link to EFPP</th>
</tr>
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<tbody>
<tr>
<td>Mariana Aguirre, Andrea Cino</td>
<td>Fundación Chile, Chile</td>
<td>Supporting Chilean government in sustainable consumption and production</td>
</tr>
<tr>
<td>Jianhua Chen</td>
<td>Chinese National Institute of Standardisation, China</td>
<td>Expert in standards</td>
</tr>
<tr>
<td>Antonio De Angelis</td>
<td>DG AGRI</td>
<td>Has attended some SC meetings</td>
</tr>
<tr>
<td>Ian Fenn</td>
<td>Consumers International, UK / Global</td>
<td>Co-leading 10YFP Consumer Information programme</td>
</tr>
<tr>
<td>Franz Fiala</td>
<td>ANEC (consumers in standardisation)</td>
<td>Replied to 2012 consultation. Watches EF progress from afar.</td>
</tr>
<tr>
<td>Manfred Fuchs</td>
<td>DG GROWTH</td>
<td>Unit C.1 Clean Technologies and Products - Sustainable Construction</td>
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<tr>
<td>Roel Helmes</td>
<td>Researcher LEI (Agricultural Economics)</td>
<td>Follows EFPP for Sustainability Consortium</td>
</tr>
<tr>
<td>Nigel Howard</td>
<td>Clarity Environment</td>
<td>No link; expert in LCA and standards</td>
</tr>
<tr>
<td>Ari Ilomaki</td>
<td>CEN/TC 350 Chairperson</td>
<td>Construction products working group for CEN</td>
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<tr>
<td>Blanca Morales</td>
<td>BEUC (consumers NGO)</td>
<td>Ecolabel</td>
</tr>
<tr>
<td>Bob Page</td>
<td>Chairman of ISO TC 207</td>
<td>Expert in standards</td>
</tr>
<tr>
<td>Sébastien Paquot</td>
<td>DG ENV</td>
<td>In charge of EMAS</td>
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<tr>
<td>Peter Saling</td>
<td>Chair ISO/TC 207/SC5</td>
<td>ISO Subcommittee on LCA</td>
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<tr>
<td>Michael Schemmer</td>
<td>Sustainability Consulting</td>
<td>EMAS and CEN (for Germany)</td>
</tr>
<tr>
<td>Mathilde Séchet</td>
<td>IFOAM (organic food &amp; farming NGO)</td>
<td>Involved in Organic label. PEF: commented on beer, dairy, olive oil.</td>
</tr>
<tr>
<td>Cássia Ugaya</td>
<td>Federal Technological University of Paraná, Brazil</td>
<td>Involved in LCA data and capacity development</td>
</tr>
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</table>
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