Background document

Consultation on the potential policy options to implement the Environmental Footprint methods

5 November 2018

1. **INTRODUCTION**

    In its Communication on an EU Action Plan for the Circular Economy[1] the European Commission committed to explore the further use of the Environmental Footprint methods[2] for measuring and communicating environmental information after the pilot phase.

    The challenge of the proliferation of methods and initiatives for measuring environmental impact and providing the basis for green claims, and the related obstacles to the growth of green markets in the EU still stands true after the pilot phase[3].

    The appetite for environmental information is still high – consumers are interested more than ever, investors increasingly act upon the fact that on average companies with sound sustainability strategies have proved to be more profitable and industry increasingly wants to take advantage of this competitiveness factor.

    The pilot phase resulted in improvements in the Environmental Footprint methods, proved the possibility to set a benchmark and compare the performance of similar products and confirmed the potential for significant cost reductions for users, compared to conventional Life Cycle Assessment (LCA). The tests of communication vehicles are pointing to how to effectively communicate Environmental Footprint information. The tests on verification provided information on how to establish a reliable verification system.

    The scenarios under analysis for possible uses of the EF methods after the pilot phase include the continued support for the development of the EF methods, the integration of EF methods into the Eco-Management and Audit Scheme, into the EU Ecolabel and Green Public Procurement; or its use as a tool under the Unfair Commercial Practices Directive. Furthermore, the creation of a new instrument on

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[1]   COM(2015) 614

[2]   For more details about the methods, see Annex 1

[3]   For more details related to the problems, see Annex 2

green claims, addressing producers, importers or traders that voluntarily decide to make an environmental claim could be considered.

2. THE ENVIRONMENTAL FOOTPRINT PILOT PHASE

In November 2013, the Commission, started a 4-year pilot phase through an open call for volunteering stakeholders from within and outside of the EU. The pilot phase had the following main objectives:

1. To test the implementation of the PEF/OEF methods adopted in 2013 into Product Category Rules and Organisation Sectoral Rules (respectively called PEFCRs, and OEFSRs). Having a single set of rules for a product category or a sector could stop of the current proliferation of "similar-but-different" rules in the EU.
2. To develop a "benchmark" for each product category, where the benchmark is the quantified environmental performance of the average product sold in EU. The benchmark is available per impact category (the methods address 16 different impact categories) and as total environmental impact (single score).
3. To test alternative verification approaches, knowing that the reliability and traceability of the information provided is a key element to increase the lacking trust from stakeholders when it comes to green claims and labels.
4. To test alternative communication vehicles (websites, leaflets, Environmental Product Declarations, labels, bar codes, QR codes, etc).

120 proposals for pilots received in 2013. 27 pilots selected, 11 related to food drink sector (meat, fish, olive oil, coffee, pasta, packed water, wine, beer, dairy, pet food, feed) and 16 related to other sectors (Batteries, decorative paints, footwear, pipes, detergents, intermediate paper products, IT equipment (storage), leather, metal sheets, photovoltaic panels, stationery products, thermal insulation, t-shirts, Uninterruptible Power Supply, copper extraction, retail).

4 pilots decided to stop during the process due to technical reasons (fish pilot), disagreements amongst competitors (coffee), due to the complexity of project management (stationery products) or disagreement among stakeholders over the allocation of impacts (red meat).

20 pilots are currently active on PEF:

- food, drinks and related: beer, dairy, feed for food producing animals, pasta, packed water, pet food (cats & dogs), olive oil, wine;

- other sectors: batteries and accumulators, decorative paints, hot and cold water supply pipes, household detergents, intermediate paper product, IT equipment (storage), leather, metal sheets, thermal insulation, t-shirts, uninterruptible power supply (UPS).

2 pilots are active on OEF: retail and copper production.[4]

Most of the pilots finalised their work by the in April 2018. Some pilots continue work with the aim of finalising their documents by autumn 2018.

About 300 companies and business associations (from the EU and beyond) are directly involved in the technical work. More than 2000 stakeholders follow the work done during the pilot phase. Several public administrations are closely monitoring the work and some of them (e.g. France, Germany, Italy, Switzerland) are also contributing to the technical work.

The great majority of the pilots cover at least 51% of the European market (in terms of turnover of product sold in EU) with a total average for all pilots around 67%.

As a proof of concept, tools to calculate the Environmental Footprint profile based on four PEFCRs are developed. The tools can be used without having previous expertise. The aim is to help small- and medium-sized enterprises to access the PEF easily. The tools are developed based on the final version of the PEFCRs, and are expected to be available by the end of 2018.

Guidance documents (one related to PEF and one to OEF) provided instructions on how to develop PEFCRs and OEFSRs during the pilot phase.

These documents were regularly updated during the pilot phase to reflect agreements on methodological approaches (e.g. approach on how to identify most relevant environmental impacts, life cycle stages and processes, how to apply the principle of relevance to data gathering) and the need of additional steps (e.g. review of the screening studies, which were carried out based on available data to provide input on the most relevant environmental impacts, life cycle stages and processes related to a given product or sector).

The essential technical developments during the pilot phase include the following features:

- application of the materiality principle

    o approach for identifying most relevant environmental impacts, life cycle stages and processes;

    o primary data gathering is focussed on a limited number of specific processes;

    o data quality requirements vary based on environmental relevance and access to data;

- how to define a benchmark (which corresponds to the Environmental Footprint profile of the average product/ organisation on the market, also called representative product/ organisation);

- agreements on modelling climate change, electricity, transport, infrastructure & equipment, packaging, end of life and agriculture;

- progress on normalisation and weighting[5];

- guidelines on how to include biodiversity as additional environmental information (non-LCA information).

Issues where work will be finalised in 2018/19 include improvements on the toxicity-related methods (human toxicity – cancer effects; human toxicity – non-cancer effects; eco-toxicity, expected to be available in 2018) and resource use (available in 2019).

The pilot phase identified needs for further improvement of the approach on certain issues such as:

- scope definition: identifying rules for identifying the right coverage/ granularity for PEFCRs and OEFSRs;

- development an approach for defining classes of performance;

- improvement of modelling on agriculture and animals (allocation of impacts);

- improvement of the International Life Cycle Data Network format for datasets.

The assessment of the results of the pilot phase is based on the following:

- **An independent review** of the Environmental Footprint pilot phase by experts from international organisations (UNEP), the private sector and NGOs (performed by an environmental NGO expert). This report was finalised in August 2017[6] and concluded that:

  - PEF and OEF are a good basis for harmonisation at EU and international level, more action is needed internationally;
  - PEF and OEF are good tools for simplifying the assessment and information gathering for industry and for companies in supply chains;

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[5] Through normalisation the environmental footprint impact assessment results are multiplied by normalisation factors in order to calculate and compare the magnitude of their contributions to the environmental footprint impact categories relative to a reference unit (typically the pressure related to that category caused by the emissions over one year of a whole country or an average citizen, e.g. kg of CO_2 emitted over one year by a EU citizen). As a result, dimensionless, normalised environmental footprint results are obtained. These reflect the burdens due to a product relative to the reference unit (e.g. with how many kg of CO_2 does the product contribute to the CO_2 per capita in a region in a given year).

Weighting is a step where environmental footprint results, for example normalised results, are multiplied by a set of weighting factors which reflect the perceived relative importance of the environmental footprint impact categories considered. Weighted results for impact categories can then be compared to assess their relative importance (e.g. climate change more relevant than toxicity for a specific product). Results can also be aggregated across environmental footprint impact categories to obtain several aggregated values or a single overall impact indicator.

[6] Final report of the Environmental Footprint pilot peer reviewers

- o Stakeholders expect that the Commission will discuss as quickly as possible with stakeholders what the Environmental Footprint methods should be used for.
  - o Rules on verification are needed.
  - o A multi-stakeholder approach that considers existing initiatives should be continued;
  - o Integration into existing policies such as Ecolabel, Green Public Procurement and EMAS is a logical next step.
  - o The pilot phase created consolidated approaches to some long-debated methodological issues (e.g. end of life of products).
  - o There are a number of opinions on how to communicate EF information.
  - o There are a number of opinions on the Environmental Footprint methods, ranging from trust in its robustness to doubts on specific elements in the methods (e.g. toxicity impact categories); from appreciation of simplifications through the PEFCRs/ OEFSRs to worries about over-simplification.

- **A verification** of embedded impacts and traceability as part of the Environmental Footprint methods implementation, including recommendations on the verification of Environmental Footprint information. This report was finalised in April 2017[7] and:

  - o Stated that the good balance between cost and reliability of verification might be to verify models and data owned by the company (typically covering about 80% of the data) through on-site audits. This would require about 2 days of verification.
  - o Identifies different scenarios of verification activities needed and related costs based on wider types of policy.
  - o Identifies issues where clarity is needed (these issues will be addressed in the modified method and Guidance on developing product-specific and sector rules).

- A report on the **technical evaluation** of the pilot phase, by the Technical Helpdesk for the Testing of Environmental Footprint Rules. This report was finalised in April 2017[8] and:

  - o Identifies points of improvement needed for fair product comparisons (e.g. clearer rules on scope, improving the impact assessment of toxicity, etc.). These will be addressed during the revision of the PEF and OEF methods.
  - o Concludes that a significant reduction of cost of calculations will result from the PEFCRs/OEFSRs compared to conventional Life Cycle Assessment. Main drivers of this are the rules, the materiality principle (focus on what drives environmental impacts), freely available background data and models and having a single method as a basis.

- An assessment of different **communication vehicles** for providing Environmental Footprint information, including recommendations based on tests of pilots and complementary tests decided by DG Environment, with the

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7   [Final report on the verification stage](), Ernst & Young 2017

8   [Technical evaluation of the EU Environmental Footprint pilot phase]()

involvement of other interested services. Some key conclusions from the report[9]:

o A total of 51 communication tests were carried out – 27 focussing on business-to-business communication, and 24 focussing on business-to-consumer communication. Approaches included labels, environmental product declarations, reports, websites, videos, banners, infographics, ads and newsletters. To understand the impact of these approaches, surveys, interviews, workshops and focus groups were carried out.

o Both citizens and businesses find Environmental Footprint information of interest. Citizens are concerned about environmental sustainability even if environmental performance is not the main driver of their purchasing decisions; for many businesses, Life Cycle Assessment is already embedded in their thinking and they anticipate benefits for both business-to-business and business-to-consumer activities through the use of the Environmental Footprint.

o Both for citizens and businesses the clarity and simplicity of the information is key. Citizens find numerical information and scientific terms too complex and prefer graphics, bars and colour scales. QR codes, barcodes and links can lead to more detailed information for the interested citizen. Translating the complexity of EF information into simple, easily understandable messages is a challenge.

o Consumers want certification of information from named and independent sources.

3. POTENTIAL OPTIONS FOR POSSIBLE USES OF THE METHODS

The Commission will further reflect on possible options taking into account input from stakeholders. At this stage the following options are put up for the consideration and views of stakeholders.

Cross-cutting elements in the policy options

The results from the pilot phase would be used, in particular:

- the revised PEF and OEF methods and guidance on the development of PEFCRs and OEFSRs;

- free secondary data for implementing PEFCRs and OEFSRs;

- a verification system with accredited and licensed verifiers.

Alternative routes for the development of PEFCRs and OEFSRs would be considered:

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9 Final report on the assessment of different communication vehicles for providing Environmental Footprint information (2018)

- Development under the leadership of the European Commission for priority product groups and sectors.

- Development under the leadership of industry, following the European Commission guidance document for the development of PEFCRs and OEFSRs. After internal scrutiny of the European Commission, these rules may be adopted.

- Development based on mandates to European Standardisation Organisations, following the EC guidance document for the development of PEFCRs and OEFSRs.

For the provision of free secondary data[10] for implementing PEFCRs and OEFSRs, the following routes would be considered:

- Licenses for the use of secondary data are acquired by the European Commission;

- Licenses for the use of secondary data are acquired by the developers of the PEFCRs/ OEFSRs;

- Licenses for the use of secondary data are acquired in co-funding by the European Commission and the developers of PEFCRs/OEFSRs.

In all three cases, the European Commission would be responsible to ensure the coherence and consistency of data tendered.

The following **key features of verification** would be proposed:

- mandatory independent 3rd party verification according to rules detailed in the European Commission revised PEF/OEF methods;

- verification carried out by accredited or licensed verifiers;

- verification of the model, data and calculations;

- verification is partly done at desk (off-site), and partly on-site;

- minimum requirements for verifiers in terms of verification practice, LCA knowledge and industry/ sector knowledge are defined in the EC guidance;

- verification implements the materiality principle, meaning that most attention is paid to the data/ processes driving most relevant impacts.

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[10] Until 2020, the European Commission ensures free data by acquiring a license for secondary data under the PEFCRs and OEFSRs developed during the pilot phase, free for use to those applying these PEFCRs and OEFSRs.

Option 1: Business as usual

The European Commission Recommendation 2013/179/EU stays in place. Its Annexes are updated to a version of the Environmental Footprint methods that resulted from the pilot phase. The European Commission would take no further steps in applying the methods in other policies and to further develop product- and sector-specific rules (Product Environmental Footprint Category Rules – PEFCRs; and Organisation Environmental Footprint Sector Rules – OEFSRs, respectively). The methods would remain at the disposal of interested sectors and industries for the autonomous development of PEFCRs and OEFSRs.

Option 2: Continued support to the implementation of the EF methods

The European Commission continues to follow the development and update of PEFCRs and OEFSRs based on the EC Guidance and to maintain and periodically update the Environmental Footprint methods.

Option 3: Licensing of the right to use PEF and OEF

The European Commission would protect the PEF and OEF as trademarks and then license its use to interested bodies.

Option 4: Integration of the methods in existing policies

The PEF and OEF methods could strengthen several existing EU policy instruments. The range of instruments could be further expanded to consider arising policy needs.

- EU Ecolabel: potential to help set criteria based on an Environmental Footprint analysis; and/or potential to integrate PEF results into conditions for award and communication;

- Green Public Procurement (GPP): potential to help set criteria based on an Environmental Footprint analysis; and/or potential to use PEF thresholds as technical specifications in Green Public procurement.

- Eco-Management and Audit Scheme (EMAS): potential to bring clarity in how to calculate and communicate indirect impacts of an organisation and use of OEF to help define EMAS Sectoral Reference Documents.

- Unfair Commercial Practices Directive: potential to provide a tool/ guidance for competent enforcement authorities based on the Environmental Footprint methods to help check the accuracy of environmental claims.

Option 5: New instrument on specific green claims

The instrument, conceived to be complementary to the EU Ecolabel and GPP, would require the use of PEF to substantiate clearly defined types of green claims. It would only apply to those companies that wish to advance such green claims related to their product.

These could include claims on overall environmental performance (e.g. "green product") or claims related to a single environmental aspect covered by the EF

methods (e.g. "low carbon"). Comparative environmental claims would also be a relevant area to cover.

The scope of environmental claims not covered by the instrument would also need to be defined. Potential candidates are issues not covered by the methods (e.g. Genetically Modified Organisms, reparability, etc.), implicit claims (e.g. imagery and colours suggesting environmental friendliness) and labels regulated at EU level (e.g. Energy Label, organic label, CO_2 labelling of cars).

The role of Environmental Footprint profiles would be to substantiate the claims. PEF can inform whether the claim is relevant (is it an environmental issue that is significant for the given product) and whether there are any misleading omissions (important environmental impacts that are omitted from the claim).

The instrument would apply to products sold on the EU market and would also contain rules on how to communicate EF information. These rules would be based on the principles established in the Single Market for Green Products Communication[11]: transparency, availability and accessibility, reliability, completeness, comparability and clarity. They would cover the content, but not the format of the communication.

Regarding OEF, an EU registry for companies could be proposed.

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[11]   Building the Single Market for Green Products Facilitating better information on the environmental performance of products and organisations, COM(2013) 196 final

Annex 1 – The EF methods

The Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) methods are annexed to the European Commission Recommendation on the use of common methods for measuring and communicating the life cycle environmental performance of products and organisations[12].

PEF and OEF are Life Cycle Assessment methods. Environmental performance is calculated taking into consideration the environmental impacts throughout the value chain, from the extraction/ growing of resources to the end of life of the product or the product portfolio of an organisation, respectively.

They are able to calculate performance on 16 impact categories: climate change, ozone depletion, human toxicity – cancer effects, human toxicity – non-cancer effects, particulate matter, ionizing radiation, photochemical ozone formation, acidification, eutrophication – terrestrial, eutrophication – freshwater, eutrophication – marine, ecotoxicity – freshwater, land use, resource depletion – water, resource depletion – mineral, fossil.

Before considering developing a new method, the Commission carried out an in-depth analysis of the most widely applied methodologies[13, 14]. The objective of this analysis was to assess if the existing methodologies are "good enough" to achieve a number of policy objectives, such as: improvement of resource efficiency along the value chain; definition of environmental performance benchmarking; improvement of design for environment; reproducibility of results; and comparison of environmental performances. The analysis[15] indicated that none of the existing methodologies could be used as such, and a need to "fill some methodological gaps".

The methods were developed by the European Commission's Joint Research Centre, using existing methods and standards as a basis[16]. One important new feature of both methodologies developed by the Commission is that they enable the possibility of comparing the environmental performance of products and organisations. This feature required the development of product category specific rules, called Product

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[12] 2013/179/EU

[13] For products the methodologies assessed were: ISO 14044 (Environmental management -- Life cycle assessment -- Requirements and guidelines), ISO 14067 (carbon footprint of product), ILCD (International Reference Life Cycle Data System), Ecological footprint, Product and Supply Chain Standards Greenhouse Gas Protocol (WRI/ WBCSD), French Environmental Footprint (BPX 30-323), UK's Product Carbon footprint (PAS 2050), ISO 14025 (Environmental Product Declarations).

[14] For organisations the methodologies assessed were: ISO 14064 (Greenhouse gases -- Part 1, 2 and 3), ISO/WD TR 14069 (GHG - Quantification and reporting of GHG emissions for organisations), ILCD (International Reference Life Cycle Data System), Corporate Accounting and Reporting Standards Greenhouse Gas Protocol from WRI/ WBCSD, Bilan Carbon, DEFRA - Carbon Disclosure Project (CDP), CDP water, Global Reporting Initiative (GRI).

[15] The full report is available at: http://ec.europa.eu/environment/eussd/pdf/Deliverable.pdf

[16] *Analysis of Existing Environmental Footprint Methodologies for Products and Organisations: Recommendations, Rationale, and Alignment*, JRC, 2011.

Environmental Footprint Category Rules (PEFCRs) and of sector-specific rules, called Organisation Environmental Footprint Sector Rules (OEFSRs). The testing of this approach was subject to the Environmental Footprint pilot phase, alongside other developments needed to reach the full potential of the methods. These include the improved availability of good quality life cycle data; setting-up a verification system which is cost-effective; and normalisation and weighting system.

Annex 2
The problem of proliferation of methods and initiatives

There are more than 465 environmental labels worldwide, up from 430 in 2013. In the EU, more than 100 environmental labels are active[17]. 29% of food and drink sales and 53% of non-food/drink sales carried environmental labels in France, Germany, Italy, Poland and Sweden in 2017[18]. There are more than 80 leading initiatives on greenhouse gas reporting only[19].

These labels and initiatives are based on different methods, with a varied level of reliability and environmental issues covered. Also labels and initiatives based on Life Cycle Assessment (LCA) are based on similar-but-different approaches: looking at the same product or organisation, these methods would deliver different results due to different calculation rules and methodological assumptions. Companies wishing to prove their environmental credentials have difficulties in choosing an approach that would be accepted in the whole of the internal market, and users of the information (other companies along the value chain, consumers, investors, procurers, policy makers and other stakeholders), have difficulties in interpreting the results and understanding how they relate to results of other companies.

Especially where results might be interpreted as comparable by the user (e.g. absolute numbers presented on CO_2 emissions), these differences in methodology become a cause of misleading the users of information. As the Guidance on the implementation of Directive 2005/29/EC on unfair commercial practices points out "comparisons should refer to products within the same product category" and it is important "that the method used to produce the information is the same, that it is applied in a consistent manner (i.e. the same methodological choices and rules are applied, results are reproducible), and that the method applied allows comparisons, otherwise any comparison becomes less meaningful".[20]

When preparing the European Commission Recommendation on the use of common methods to calculate and communicate the life cycle environmental performance of products and organisations[21] and the Communication on Building the Single Market

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[17] Ecolabel Index, extracted August 2017. http://www.ecolabelindex.com/

[18] *Opportunities in Europe for Environmental labels*, Euromonitor for DG Environment, 2017. Product groups covered: wine, apples, coffee, olive oil, cheese, dried pasta, processed meat, bottled water, dog food, laundry care, footwear, jackets & coats, shirts & blouses, decorative paint, televisions.

[19] *Company GHG Emissions Reporting – a Study on Methods and Initiatives*. ERM for DG Environment, 2010

[20] SWD(2016) 163 final

[21] Recommendation 2013/179/EU

for Green Products[22], the European Commission was responding to calls for harmonisation from industry and stakeholders.

Respondents to the public consultation of 2012 considered the lack of consistency as one of the most important barriers to the display and benchmarking environmental performance (72.5% agreement), alongside lack of time or expertise (76.4%), and insufficient market reward for good environmental performance (70%). When asked about the drivers of the barriers, multiple initiatives in the EU (70.8%) and multiple ways of reporting (76.3%) received high agreement from stakeholders[23].

The proliferation is driven by the success of green products and the appetite for environmental information.

The majority of EU consumers consider themselves "occasional" environmentally friendly products' consumers (54%) and more than a quarter of the respondents often buy environmentally-friendly products (26%)[24]. In France, the share of consumers buying products bearing an environmental label grew from 40% in 2009 to 50% in 2017. Consumers are also willing to pay up to 44% more for environment-friendly products[25].

Price and quality remain the most important decision factor when buying products. However, proof is building up that more and more consumers follow their environmental values in their purchasing behaviour. In 2014, products bearing information on sustainability grew by 7% in comparison with 1% growth for those that didn't have a commitment in this area[27]

Businesses reported that they struggle to keep up with consumer demand for sustainable products[26]. The sale of goods demonstrating commitment to sustainability has been growing even during the economic crisis[27]. To differentiate themselves, companies are increasingly making environmental claims regarding their products. As part of their strategies, companies are looking at their supply chains and step up their requests for sustainability information.

Investors are increasingly requiring information as they are aware that a company with a sound sustainability strategy has better stock performance[28]. So-called "dark

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[22]   COM(2013) 196 final

[23]   See the impact assessment SWD(2013) 111 final and its annexes

[24]   *Attitudes of Europeans Towards Building the Single Market for Green Products*, European Commission, 2013

[25]   Results vary based on income levels and age group.

       Qui est prêt à payer davantage pour un produit vert?, French Ministry for the Environment, Energy and Sea, 2017 and Footnote 27.

[26]   *Long-Term Growth, Short-Term Differentiation and Profits from Sustainable Products and Services – a global survey of business executives*, Accenture, 2012

[27]   *The Sustainability Imperative – New insights on consumer expectations*. Nielsen, 2015

[28]   *From the stockholder to the stakeholder – How sustainability can drive financial outperformance*. Smith School of Enterprise and the Environment of the University of Oxford, Arabesque Asset Management Ltd, 2015.

green" funds, which boast clearer environmental features, have seen their volume almost double over the past three years[29]. Although assets under green funds in Europe are growing significantly (47% over the last three years totalling €22bn[29]), they remain a fraction of total assets, estimated at €24,567bn[30].

The issue of misleading claims

Given the proliferation of methods and initiatives, market participants are facing diverse environmental claims and have difficulties in identifying reliable ones.

The number of misleading green claims remains significant. Three in ten citizens have come across exaggerated or misleading statements on the effects of products on the environment[24].

An analysis of 50 products in the EU also revealed that often environmental claims are too general and vague and do not specify the concrete environmental benefit of the product. Moreover, it was hard to access the scientific evidence on which the claims were based. Furthermore, certain environmental claims did not relate to the environmental characteristic they should relate to[31]. This undermines the trust of consumers and other market players in green claims, and their readiness to purchase greener products[32].

The high demand and readiness to pay more prove potential for further growth for green markets; the increasing phenomenon of misleading green claims and the related mistrust and unfair competition on the market is hampering this potential to unfold fully. This phenomenon does not only concern consumers, but also other actors: investments and public procurement are also struggling to reach their potential.

Consequences

The proliferation of methods of initiatives has further consequences on different market participants.

Companies trading across borders are facing additional costs as they have to prove their environmental credentials in different ways on different markets. The EU Ecolabel is a solution for products that are best performers in a product category covered by the scheme; however, it does not resolve the issue for products that do not fall in the best performer category.

Furthermore, as information is not available in a consistent manner along the supply chain, there are missed opportunities for optimising performance, which would

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[29]   *The European Green Funds Market,* Novethic, 2017

[30]   *The 21 biggest banks in Europe by total assets*. Business Insider, 2017.

[31]   *Consumer Market Study on Environmental Claims for Non-Food Products*, European Commission 2014.

[32]   *The Effect of Misleading Environmental Claims on Consumer Perceptions of Advertisements*, Stephen J. Newell, Ronald E. Goldsmith and Edgar J. Banzhaf Journal of Marketing Theory and Practice, Vol. 6, No. 2 (Spring, 1998), pp. 48-60

typically go hand in hand with efficiency gains and cost savings[33], beyond decreasing environmental impact. Acting on the results of the analysis often results in product innovation and improvements in design, boosting the circular economy agenda[34].

Consumers are interested in products with better environmental performance but do not trust the environmental claims they encounter (see above.). Due to the many green claims they encounter, they are confused, they are overloaded with information and as a consequence might disregards claims altogether.

There is a growing interest from investors to consider environmental performance, but there are not sufficient common metrics to do this in a systematic manner[35].

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[33] Examples: Unilever reports over €700m of cumulative cost avoidance since 2008 through measures focussing on water, energy, waste and materials. A media company reached over €30m cost avoidance through a comparative life cycle assessment of packaging focussing on greenhouse gas emissions only.

[34] Philips is using life cycle assessment to identify environmental focal areas for their green products development programme. Life Cycle Assessment triggered processes of reducing water use , standards for recycle and reuse and initiatives in their supply chain at Levi Strauss.

[35] *Financing a Sustainable European Economy - Interim Report,* High Level Group on Sustainable Finance, 2017.