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# ENVIRONMENTAL STANDARDS AND INTERNATIONAL TRADE

## Latin American Stakeholders and the EU Environmental Footprint Program

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This paper presents the unique experience of participation of Latin American stakeholders in the definition of European environmental standards, in the context of the EU Product Environmental Footprint (PEF) Program for coffee. The PEF Program is an ongoing process and the results will not be available until 2016-2017. The author's focus is trade-related, and originates in a concern about the competitiveness of Latin American exports on the European market.

Section I of this paper is an overall Introduction and deals succinctly with issues such as Trade, Climate Change and Environmental Standards. Section II, presents the European Union (EU) Single Market for Green Products initiative and the European Commission (EC) Product Environmental Footprint (PEF) Program; Section III, deals with the PEF Pilot Program for Coffee and Section IV, presents the participation in the PEF process by Latin American stakeholders, through the activities of the Latin American and Caribbean (LAC) Coffee Environmental Footprint Network, as well as some controversial issues raised during this process. Section V, draws some conclusions about this process.

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**ENVIRONMENTAL STANDARDS AND INTERNATIONAL TRADE**  
**Latin American Stakeholders and the EU Environmental Footprint**  
**Program**

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**Bern, October 2015**

## **Presentation\***

This paper presents the unique experience of participation of Latin American stakeholders in the definition of European environmental standards, in the context of the EU Product Environmental Footprint (PEF) Program for coffee. The PEF Program is an ongoing process and the results will not be available until 2016-2017. The author's focus is trade-related, and originates in a concern about the competitiveness of Latin American exports on the European market.

Much of the field-work with the LAC Coffee Environmental Footprint Network was done by the author as a consultant at the UN Economic Commission for Latin America and the Caribbean (ECLAC)<sup>1</sup>. The author thanks the World Trade Institute (WTI) of the University of Bern and the Institute of International Studies of the University of Chile, for the opportunity to stay at the WTI as a SECO Visiting Fellow in October 2015, in order to reflect and write about the PEF Program and the participation in it of Latin American stakeholders.

Section I of this paper is an overall Introduction and deals succinctly with issues such as Trade, Climate Change and Environmental Standards. Section II, presents the European Union (EU) *Single Market for Green Products* initiative and the European Commission (EC) Product Environmental Footprint (PEF) Program; Section III, deals with the PEF Pilot Program for Coffee and Section IV, presents the participation in the PEF process by Latin American stakeholders, through the activities of the Latin American and Caribbean (LAC) Coffee Environmental Footprint Network, as well as some controversial issues raised during this process. Section V, draws some conclusions about this process.

### **I. Introduction**

Awareness of the impact of trade on climate change is here to stay. The concern of the effects of carbon embedded in the production, trade and consumption of goods and services has been increasing, and its visibility has influenced public and private policy initiatives, mostly outside the multilateral UNFCCC framework. The difficulties in advancing a multilateral architecture for international climate policy, the so-called top-

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\*My gratitude to Ximena Olmos for her comments and insights.

<sup>1</sup> Field-work with Latin American stakeholders was undertaken during 2014-2015 together with Ximena Olmos from ECLAC, with support from the UN Regular Programme for Technical Cooperation (RPTC).

down approach, have encouraged the development of alternative (or complementary) bottom-up approaches of different kinds.<sup>2</sup>

One pragmatic bottom-up approach is the definition of sectoral standards or product standards, developed by industry or national governments, which may be controversial regarding compatibility with trade rules and are thus under the scrutiny of the multilateral trade system. Nevertheless, governments and firms in an increasing number of countries are establishing new requirements to quantify greenhouse gas (GHG) emissions, as well as other sustainability indicators related to the supply chain of goods and services, in order to ensure product traceability throughout the life-cycle and inform consumers.

These environmental standards are usually defined by governments and industries in developed countries, without participation of developing-country stakeholders which are at the production phase of the supply chain. However, standards will impact the competitiveness of Latin American exports on international markets, and the producers' participation in this process is relevant, in order to include their own focus about the environmental footprint of the production part of the supply chain and help define the new standards<sup>3</sup>.

A new initiative to identify and quantify the product environmental footprint (PEF) is the three-year pilot program initiated in 2013 by the European Commission<sup>4</sup>, in the context of the *Single Market for Green Products* project. Its purpose is to develop environmental performance standards which could lead to a common, voluntary eco-labelling standard and is intended to help companies develop more resource efficient processes and promote more sustainable consumption patterns, as well as lessen consumer confusion caused by too many eco-labels. The Program is open to both EU and non-EU stakeholders.

One section of this program focuses on 11 food products and agro industries, which are of interest to Latin American producers. This paper focuses on the rule-making process of the European Commission Environmental Footprint Pilot Program and the work of the public-private technical secretariats which are leading the Program, as well as on the participation of non-EU stakeholders, such as Latin American food exporters, which are bound to be affected by the new standards. It presents the experience of

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<sup>2</sup> See Rafael Leal-Arcas, "Climate Change and International Trade", Edward Elgar, 2013.

<sup>3</sup> A new consumption rather than production-based GHG emissions-accounting model, which is being developed within the Carbon Cap (Carbon emission mitigation by Consumption-based Accounting and Policy) Project, offers a new perspective on traditional emissions accounting, focusing on the embedded carbon in trade and the consumption end of the supply chain. See Sonja Hawkings, Doug Crawford-Brown, "Exploring the trade impacts of consumer-facing climate policies", BIORES, Vol.9/5, June 2015.

<sup>4</sup> [http://ec.europa.eu/environment/eussd/smgp/pef\\_pilots.htm](http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm)

the public-private Latin American Coffee Environmental Footprint Network, created with the support of the UN Economic Commission for Latin America and the Caribbean (ECLAC) to actively participate in the PEF process and underlines the importance of non-state actors for setting technical standards.

## Trade and Climate Change

The issues which are at the intersection of trade and climate change are often controversial and have been on the agenda of multilateral negotiations, where there have been different positions by developed and many developing countries. This is due to the fact the climate change policies may affect trade. Some examples of these policies are carbon taxes at the port of entry, fuel tax regulations for incoming vessels, as well as environmental labelling initiatives<sup>5</sup>.

The World Trade Organization (WTO) has dealt with the links between trade, the environment and sustainable development since its creation in 1995, basically through the Committee on Trade and Environment, in order to minimize the potential negative impact of environment-related measures on trade flows. The WTO obligations that are most frequently invoked when dealing with environmental issues are Article XX of the GATT which includes two exceptions for specific environment-related measures, and Article III which establishes national treatment rules and provides that “like products” of national and imported origin should receive “no less favourable” treatment<sup>6</sup>. The exact implications of these provisions have often been challenged in WTO dispute cases, such as the US-Mexico *Tuna-Dolphin Case*<sup>7</sup>.

The likeness of products criterion is also raised in relation to standards about production and process methods (PPMs), which may be product-related or non-product related, need to meet the Article XX exceptions. Product labelling schemes which derive from PPM standards fall under the criteria of the TBT Agreement<sup>8</sup>.

Unilateral initiatives by developed countries to set environmental standards and regulations for both locally produced and imported products, have the potential to limit the competitiveness of countries which have not yet introduced climate change control policies<sup>9</sup>. Even though until now most product-related environmental

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<sup>5</sup> Alicia Frohmann, Ximena Olmos « Huella de carbono, exportaciones y estrategias empresariales frente al cambio climático » CEPAL, 2013.

<sup>6</sup> WTO Analytical Index — Guide to WTO Law and Practice, [https://www.wto.org/english/res\\_e/booksp\\_e/analytic\\_index\\_e/analytic\\_index\\_e.htm](https://www.wto.org/english/res_e/booksp_e/analytic_index_e/analytic_index_e.htm)

<sup>7</sup> *US-Tuna II (Mexico)* Panel and Appellate Body reports (2011-2012)

<sup>8</sup> For an analysis of PPMs and renewable energy, see Thomas Cottier, “Renewable Energy and Process and Production Methods”, The E15 Initiative, ICTSD and WEF 2015.

<sup>9</sup> For an analysis of the implications for developing countries of standards in global food chains, see Miet Maertens and Johan Swinnen, “Private standards, global food supply chains and the implications for developing countries”, in Axel Marx, Miet Maertens, Johan Swinnen and Jan

initiatives have been private and voluntary, cross-national initiatives such as the EU *Single Market for Green Products* could have an impact at a much larger scale.

Some actors (particularly developing-country governments) view environmental standards as protectionist measures and trade barriers, and consider that they should be challenged. Other actors (many of them in the private sector), take a very pragmatic stance and consider that environmental standards are here to stay, and that introducing them into their own business models may actually present an opportunity to innovate, implement energy-efficient technologies, diversify and add value to their products, and ultimately lower costs and increase competitiveness. Whatever these considerations, environmental standards are an increasing world-wide trend and need to be taken into account increasingly in business decisions.

### Trade and Environmental Standards

The diversity of environmental standards and labelling initiatives is confusing for consumers and costly for business. The International Trade Centre (ITC) Standards Map identifies 103 different environmental standards for agricultural products<sup>10</sup> alone. There are not only a diversity of standards, but also different environmental impact measurement methodologies and standards. For example, in the case of just one environmental impact indicators –greenhouse gas emissions (GHE), also called the carbon footprint- there are at least 8 major methods:

**Table 1**  
**Major carbon footprint measurement standards**

<b>International Organization for Standardization</b>	ISO 14064
<b>International Organization for Standardization</b>	ISO/TS 14067 (TS technical standard)
<b>World Business Council for Sustainable Development – World Resources Institute</b>	GHG Protocol Scope 1 &2
<b>World Business Council for Sustainable Development – World Resources Institute</b>	GHG Protocol Scope 3
<b>World Business Council for Sustainable Development – World Resources Institute</b>	GHG Protocol Product Standard
<b>British Standards Institute</b>	PAS 2050
<b>ADEME</b>	Bilan Carbone
<b>British Standards Institute</b>	PAS 2060-2010

Source: Frohmann and Olmos, op. cit

The result of the environmental impact assessment of products (carbon or multi-criteria environmental footprints) has often been communicated to consumers

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Wouters, *Private Standards and Global Governance. Economic, Legal and Political Perspectives*, Edward Elgar (2012)

<sup>10</sup> <http://www.intracen.org/standardsMap/>

through eco-labels, which can be private or public, mandatory or voluntary. Eco-labelling only complies with WTO/GATT and TBT Agreement rules if it is non-discriminatory<sup>11</sup>.

## II. The European Union *Single Market for Green Products* initiative<sup>12</sup>

The European Commission launched the *Single Market for Green Products* initiative in 2013 to address and seek the convergence of the variety of evaluation methods and labels used to identify and communicate the environmental footprint of products, which lack comparability, confuse consumers<sup>13</sup>, are costly for business, and may become a barrier to trade.

Between 2011 and 2013, different EC agencies, worked in order to develop a harmonized methodology for the calculation of the environmental footprint of products. This methodology was developed building on the International Reference Life Cycle Data System (ILCD) Handbook as well as other existing methodological standards and guidance documents (ISO 14040-44, PAS 2050, BP X30, WRI/WBCSD GHG protocol, Sustainability Consortium, ISO 14025, Ecological Footprint, etc.).

In addition to proposing EU-wide methods to measure the life cycle environmental performance of products and organizations<sup>14</sup>, the EC is encouraging Member States and the private sector to adopt them. The methods were announced and published in the Communication *Building the Single Market for Green Products* and in the Commission Recommendation on the *use of common methods to measure and communicate the life cycle environmental performance of products and organizations*<sup>15</sup>.

The EC's Recommendation declares that it:

- establishes two methods to measure environmental performance throughout the lifecycle, the Product Environmental Footprint (PEF) and the Organization Environmental Footprint (OEF);
- recommends the use of these methods to Member States, companies, private organizations and the financial community through a Commission Recommendation;

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<sup>11</sup> See section on *Environmental Protection and Trade* in Mitsuo Matsushita, Thomas J. Schoenbaum, Petros C. Mavroidis & Michael Hahn, "The World Trade Organization. Law, Practice and Policy", Third Edition, Oxford University Press (2015).

<sup>12</sup> This and the following section is based on the publicly available information on the DG Environment website <http://ec.europa.eu/environment/eussd/smgp/index.htm>

<sup>13</sup> According to the EC website, a recent Eurobarometer informed that "48 % of European consumers are confused by the stream of environmental information they receive. This also affects their readiness to make green purchases" (<http://ec.europa.eu/environment/eussd/smgp>).

<sup>14</sup> See European Commission, Joint Research Centre (JRC), "ILCD Handbook: Framework and requirements for Life Cycle Impact Assessments models and indicators" 2010.

<sup>15</sup> Recommendation 2013/179/EU, Official Journal of the European Union, 4.5.2013, L124/1.

- announces a three-year testing period to develop product- and sector-specific rules through a multi-stakeholder process;
- provides principles for communicating environmental performance, such as transparency, reliability, completeness, comparability and clarity;
- supports international efforts towards more coordination in methodological development and data availability.

### **The Environmental Footprint Pilot Program**

In late 2013 the Commission launched a three-year Pilot Program to test the PEF and OEF through an open call for volunteers:

- to set up and validate the process of the development of product group-specific rules (Product Environmental Footprint Category Rules – PEFCRs<sup>16</sup>), including the development of performance benchmarks;
- to test different compliance and verification systems, in order to set up and validate proportionate, effective and efficient compliance and verification systems;
- to test different business-to-business and business-to-consumer communication vehicles for Environmental Footprint information in collaboration with stakeholders.

Its purpose is to develop environmental performance standards which could lead to a common, voluntary eco-labelling standard and is intended to help companies develop more resource efficient processes and promote more sustainable consumption patterns, as well as lessen consumer confusion caused by too many eco-labels. The Program is open to both EU and non-EU stakeholders.

The PEFCRs resulting from the pilot phase will become **the** product rules, to be used by all stakeholders in the sector in the EU or internationally who decide to measure the performance of their products based on PEF.

A PEFCR is considered to be representative of a specific product category, companies which represent at least 75% of the yearly EU market turnover of the specific sector need to be invited to participate. A wide range of stakeholders, with particular reference to SMEs, consumers' and environmental associations need also be invited to participate. At the end of the process, industry stakeholders (including producers and importers) need to represent at least 51% of the yearly EU market turnover<sup>17</sup>.

For each pilot there is a Technical Secretariat which might be composed of companies, industry associations, NGOs, governmental representatives, national or international institutions, and/or university or research institutes. This Technical Secretariat is

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<sup>16</sup> Product Environmental Footprint Category Rules (PEFCRs) provide specific guidance for calculating and reporting products' life cycle environmental impacts.

<sup>17</sup> See [http://ec.europa.eu/environment/eussd/smgp/pdf/Guidance\\_products.pdf](http://ec.europa.eu/environment/eussd/smgp/pdf/Guidance_products.pdf)



responsible for the overall drafting of the PEFCR proposal and organizing the consultation with the other stakeholders

The institutional process through which a product is selected for a PEF pilot is that private sector stakeholders present the product, and indicate whether they want to lead or participate in the Technical Secretariat, which will lead the process toward the definition of the PEFCRs. The European Commission selects the product and often indicates how it expects the Technical Secretariat to organize.

As a result of the call for volunteers, the EC selected 14 industrial products and 11 food products for the Pilot Programs.

**Table 2**  
**Products selected by the European Commission for the PEF Pilot Programs**

Industrial Products	Food Products
Batteries and accumulators Decorative paints Hot and cold water supply pipes Household detergents Intermediate paper product IT equipment (storage) Leather Metal sheets Non-leather shoes Photovoltaic electricity generation Stationery (discontinued) Thermal insulation T-shirts Uninterruptible Power Supply	Beer Coffee Dairy Feed for food producing animals Seafood for human consumption Meat (bovine, pigs and sheep) Pasta Packed water Pet food (cats & dogs) Olive oil Wine

Source: European Commission, Product Environmental Footprint Pilots

[http://ec.europa.eu/environment/eussd/smgp/pef\\_pilots.htm](http://ec.europa.eu/environment/eussd/smgp/pef_pilots.htm)

The process includes several different steps and is technically complex, but it takes into account the necessary studies, reviews and consultations. One PEF screening and at least one PEFCR supporting study will need to be performed per each sub-category included in the PEFCR. At least three stakeholder consultations –physical or virtual– need to be held<sup>18</sup>. The importance of stakeholder consultations for the transparency and legitimacy of the process has been stressed by the EC.

<sup>18</sup> Although the EC Product Environmental Footprint Pilot Guidance document provides for three consultations in each of the pilots, they seem to have been reduced to only two in the implementation of the coffee pilot

The PEF pilots include during the final phase of the program, the development and testing of communication tools to inform consumers (B2C) and business partners (B2B) about the environmental performance of a product by providing reliable, comparable and clear information. It is not yet clear which communication tools will be used, whether there will be standardized labels which will be additional or replace other labels, or whether these will be voluntary or mandatory.

Although the proposed PEF methodology is new and its results have not been tested yet, there is critical analysis about its application of existing life-cycle assessment methods and its purported aim of harmonizing them<sup>19</sup>. Matthias Finkbeiner, a life-cycle analysis expert, argues that the PEF “does not contribute to harmonization [of existing standards], but rather to confusion, proliferation, and mistrust”, and that it is in “severe conflict with several requirements of ISO 14044 and ISO 14025”, which together with ISO 14040, are the basis of all quantification standards.

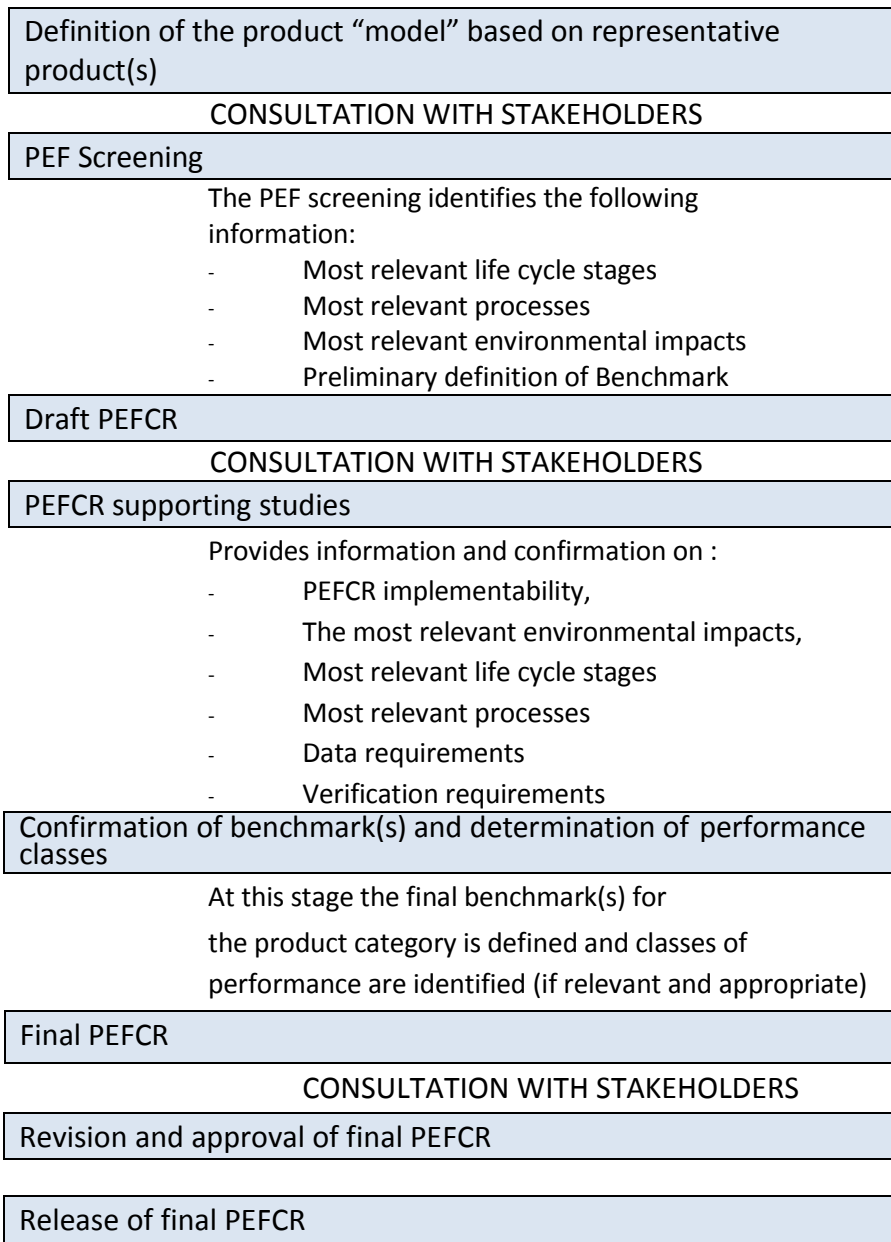
It is not within the scope of this article to either confirm or challenge Finkbeiner’s technical critique, but one of his concerns, regarding the supposed international cooperation dimension of the PEF, provides a warning about the participation of international stakeholders in the PEF process. The author confirms the relevance of international cooperation because many European environmental policies affect countries and producers in other parts of the world, who often consider environmental standards as “non-tariff barriers to trade”, and the need to address this issue. Thus consistency with internationally agreed LCA standards is important, especially because many developing countries have actively participated in the definition of ISO standards.

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<sup>19</sup> Matthias Finkbeiner, “Product environmental footprint – breakthrough of breakdown for policy implementation of life cycle assessment?”, *International Journal of Life Cycle Assessment* (2014), 19:266-271.

## Diagram 1

### Definition of PEF product category scope and scope of the PEFCR Steps to be followed for the development of PEFCRs (Timeframe: 27 months)



Source: European Commission, Product Environmental Footprint Pilot Guidance  
[http://ec.europa.eu/environment/eussd/smgp/pdf/Guidance\\_products.pdf](http://ec.europa.eu/environment/eussd/smgp/pdf/Guidance_products.pdf)

## Environmental impact categories

In addition to the better-known LCA impact categories such as climate change, land use and water depletion, there are several other categories of less publicly known environmental impact which need to be identified in the PEF screening<sup>20</sup>. The diversity of these categories, as well as the challenge of obtaining the necessary data, adds technical complexity to the process.

**Table 3**  
**Environmental impact categories**

Climate change	Particulate matter	Acidification	Freshwater ecotoxicity
Ozone depletion	Ionizing radiation HH	Terrestrial eutrophication	Land use
Human toxicity, cancer	Ionizing radiation E (interim)	Freshwater eutrophication	Water resource depletion
Human toxicity, non-cancer	Photochem. Ozone form.	Marine eutrophication	Mineral, fossil and renewable resource depletion

Source: European Commission, Product Environmental Footprint Pilot Guidance

Regarding this issue, Finkbeiner argues that the PEF methodology will require assessment of “numerous highly complex and untested impact categories” and that the need for “regionalized inventory data”, as well as the exclusion of cut-offs and a new verification scheme, would contemplate high costs for business<sup>21</sup>.

### III. The PEF Pilot Program for Coffee

One of the 11 food products selected by the European Commission for the PEF Pilot Program was coffee because of its importance on the European market and for consumers. The focus of this paper is the public-private standard setting process of the environmental footprint of this product, and specifically the participation of Latin American producers in this process, which have received technical support by the UN Economic Commission for Latin America and the Caribbean (ECLAC).

#### **Market relevance of coffee**

Coffee is a product of great economic interest to Latin American and Caribbean producers, who account for 57% of world coffee production<sup>22</sup>. A significant share of

<sup>20</sup> For requirements of specific impact categories, see European Commission, Joint Research Centre (JRC), “ILCD Handbook: Framework and requirements for Life Cycle Impact Assessments models and indicators” 2010

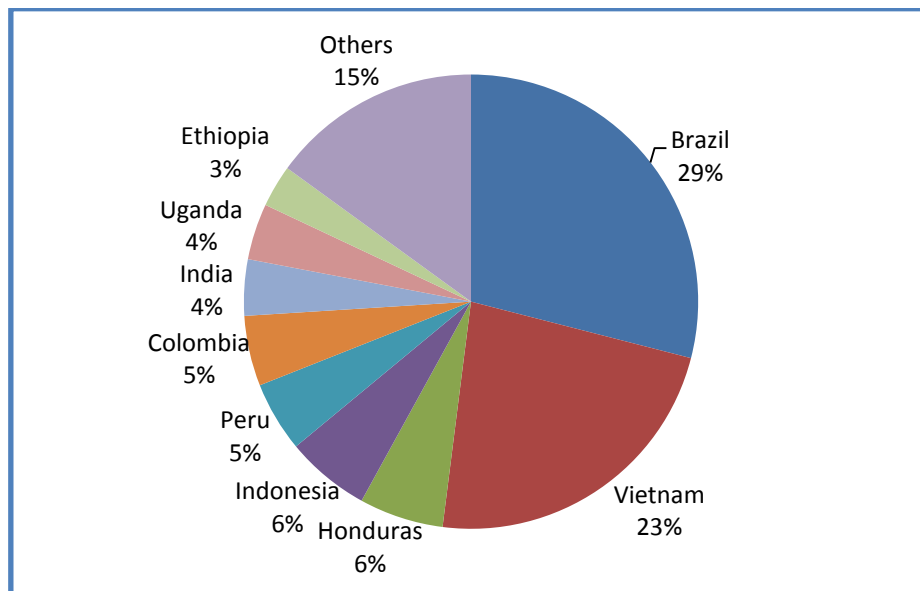
<sup>21</sup> Matthias Finkbeiner, op.cit.

<sup>22</sup> International Coffee Organization data for 2014, for 60kg bags of green coffee.

their exports of this product reaches the EU market. Coffee is a major export product for many economies in the region, with a considerable social impact on small producers and cooperatives.

On the other hand, coffee is also a very significant product for European consumers, with a per capita consumption of almost 5 kg in 2012. The EU imported 66% of world coffee production in 2012-2013 in value terms<sup>23</sup> and is the world's largest coffee market. About half of its coffee imports came from Latin America and Caribbean countries in 2013.

**Graph 1**  
**European Union imports of coffee, 2013**  
**Countries of origin, share by bags of 60kg of green coffee**



Source: Eurostat data, European Coffee Federation, European Coffee Report 2013/14

### **The Coffee PEF process**

Both the European Coffee Federation (EFC) and the National Federation of Coffee Growers of Colombia (Federación Nacional de Cafeteros de Colombia, FNC) proposed coffee as a product for the Pilot Program. The product was selected by the EC in early 2014, and a Technical Secretariat (TS) of 10 members was established, including companies and industry organizations, led by the EFC, with technical support by the consultancy firm Quantis. The industry's awareness about the importance of this program grew and, by September 2015, the membership of the TS had increased to 15, including all the major actors in the coffee industry.

The Coffee TS is a public-private group, with participation of EU and non-EU governmental stakeholders, as well as EU and non-EU industry and other non-

<sup>23</sup> European Coffee Federation, European Coffee Report 2013/14, July 2014

governmental stakeholders. The participation of developing-country stakeholders in this group is a rarity, even though the EC pilot program is open to non-EU participants.

This absence is often due to lack of information. When ECLAC informed Latin American producers about the EC program and the call for product proposals, in late 2013 and early 2014, the export sectors which do business in the EU were not aware of it. The Colombian Coffee Growers Federation promptly realized the initiative's relevance for the industry and decided to join. In the following months, stakeholders participating in the recently created Latin American and Caribbean Coffee Environmental Footprint Network, became active in the Coffee Pilot.

**Table 4**  
**Technical Secretariat of the Coffee Pilot Program**  
September 2015

<b>Leader of Technical Secretariat</b>	
<ul style="list-style-type: none"> <li>• <b>European Coffee Federation (ECF)</b></li> </ul>	
<b>Members of the Technical Secretariat</b>	
<ul style="list-style-type: none"> <li>• <b>European Aluminium Foil Association (EAFA)</b></li> <li>• <b>European Coffee Federation (ECF)</b></li> <li>• <b>Flexible Packaging Europe (FPE)</b></li> </ul>	European Industry Associations
<ul style="list-style-type: none"> <li>• <b>D.E Master Blenders 1753</b></li> <li>• <b>Illycaffè SpA</b></li> <li>• <b>Luigi Lavazza SpA</b></li> <li>• <b>Mondelēz International</b></li> <li>• <b>Nestec</b></li> <li>• <b>Nestlé Nespresso</b></li> <li>• <b>Tchibo</b></li> </ul>	European/Transnational Corporations
<ul style="list-style-type: none"> <li>• <b>Swiss Federal Office for the Environment (FOEN)</b></li> </ul>	Non-EU Government Agency
<ul style="list-style-type: none"> <li>• <b>Solidaridad Network</b></li> <li>• <b>Sustainable Agriculture Initiative (SAI)</b></li> </ul>	Non-governmental Organizations
<ul style="list-style-type: none"> <li>• <b>National Federation of Coffee Growers of Colombia (FNC)</b></li> </ul>	Non EU Producer Association
<ul style="list-style-type: none"> <li>• <b>Quantis</b></li> </ul>	Technical Support

Source: Coffee stakeholder workplace

<https://webgate.ec.europa.eu/fpfis/wikis/display/EUENVFP/Stakeholder+workspace%3A+PEF+CR+pilot+Coffee>

The PEF pilot began by assessing existing environmental performance guidelines in the coffee sector and identifying their limits and differences, in order to develop a harmonized methodology covering the entire lifecycle of coffee based beverages. The

first deliverable was the Scope and representative product definition, which was published on the Coffee Pilot Stakeholders Workplace<sup>24</sup> before the October 2, 2014 public consultation in Brussels. Deliverables 2 and 3 (PEF Screening Report and Draft PEFCRs) were published together on September 2, 2015, and public comments were received until September 30. The Coffee Product Environmental Footprint Category Rules (PEFCR) will then be tested on existing products in the market, before drafting the final PEFCRs.

**Table 5**  
**Initial timeline<sup>25</sup> of the coffee pilot and deliverables**

<b>Deliverable</b>	<b>Receiver</b>	<b>Date</b>
1. Scope and representative product definition	- Public on wiki (2 weeks before physical consultation) - Steering Committee (1 month before SC meeting)	October 2, 2014  November 15, 2014
2. PEF Screening Report	- EC/helpdesk for technical checks	April 2015
3. Draft PEFCRs	- Public (30 days prior to virtual consultation) - Steering Committee (1 month prior to SC meeting)	May 2015  August 2015
4. PEFCR Supporting Studies	- Companies involved	January 2016
5. Final PEFCRs	- Public (30 days before physical/virtual consultation) - Reviewers - Steering Committee (1 month prior to SC meeting) - European Commission	February 2016  April 2016 August 2016  October 2016

Source: Minutes Coffee PEF kick-off meeting, Coffee stakeholder workplace

<sup>24</sup>This Stakeholder Workplace is the means of communicating the official documents of the Coffee Pilot Technical Secretariat, publishes comments and questions by stakeholders, as well as the data stakeholders propose to be considered in the PEFCRs. It helps to give transparency to the process.  
<https://webgate.ec.europa.eu/fpfis/wikis/display/EUENVFP/Stakeholder+workspace%3A+PEFCR+pilot+Coffee>

<sup>25</sup> Deliverable 3, Draft PEFCRs, became public in September 2015. As of October 2015, the pilot was 4 months behind schedule.



## Coffee life-cycle analysis

The product to be analysed in the PEF study is not green coffee, but a coffee beverage which is basically an industrial product. The selected representative products are one cup of either roasted and ground coffee, prepared in a drip coffee machine; soluble coffee; and coffee in capsules, prepared in a machine<sup>26</sup>. Beverage preparation, consumption and end-of-life disposal are also included. The life-cycle analysis used to define the PEF covers the entire supply chain of coffee, beginning with green coffee cultivation and transport; the packaging supply at different stages of production and transport; coffee-product manufacturing and coffee-machine production, and transport; beverage preparation; and other ingredients supply.

**Diagram 2**  
**Coffee supply chain for life-cycle analysis**



Source: Coffee PEF Draft

## Data for life-cycle analysis

Data used to calculate the environmental impact of the different stages of the life-cycle can be either specific, generic or semi-specific. The data should have time, geographical and technological representativeness, and specific quality requirements were defined. In the early stages of the PEF process, the Technical Secretariat

<sup>26</sup> Definition of representative products could be subject to changes in the final draft.

considered that it would use basically generic data from international data bases for the coffee cultivation and production stage, alleging the lack of specific data. Since then, a more flexible approach has been included, allowing for the use of semi-specific or specific data when available.

A total of 15 environmental impact categories were defined, in accordance with the PEF Guidelines (see Table 3). Some of these impact categories are not relevant for the coffee supply-chain and making data inventories will be complex and costly. Definition of a more compact number of key environmental performance indicators would be easier to handle and could even be more accurate to assess environmental footprint of coffee.

#### **IV. Participation by Latin American stakeholders in the PEF process**

As mentioned above, Latin America provides a very significant share (50%) of the green coffee imported by the European Union and coffee is one of the top export products in many countries in the region. Hence, the environmental standards defined in the coffee PEFCR process are of great interest to Latin American coffee producers and will certainly have an impact on the industry's competitiveness on the European market.

The Colombian Coffee Growers Federation (FNC) was especially proactive by initially proposing coffee as a product for the Pilot Program phase, and then joining the Technical Secretariat (TS). Direct participation in the TS requires significant technical expertise and the FNC's scientific and technical agency, CENICAFE, was well prepared for this task, and assumed a leadership role among Latin American stakeholders.

In September 2014, these stakeholders created the Latin American and Caribbean (LAC) Coffee Environmental Footprint Network, with the support of ECLAC, to coordinate participation in the Coffee PEF Pilot which was being developed under the umbrella of the European Commission. The Network is an informal group of representatives of public and private institutions involved in the coffee industry. Initially, representatives from 9 coffee-producing countries participated in the Network: Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Peru and Nicaragua. In 2015, representatives from Guatemala, Haiti and Panama joined the group<sup>27</sup>. For the time being, Brazil, the biggest coffee exporting country is not participating.

The objectives of the Network are to:

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<sup>27</sup> Environmental issues are important for these stakeholders. Many coffee producing countries in Latin America and the Caribbean have been severely affected by climate change. See CEPAL, CAC/SICA (2014), "Impactos potenciales del cambio climático sobre el café en Centroamérica", LC/MEX/L.1169, México D.F. <http://www.cepal.org/es/publicaciones/37456-impactos-potenciales-del-cambio-climatico-sobre-el-cafe-en-centroamerica>

- Obtain information about the PEF process and anticipate its possible impact on the LAC coffee producers' market competitiveness
- Participate as stakeholders and add the producers' perspective to the PEF process
- Seek that the PEF does not become a non-tariff barrier to trade
- Identify national/regional data about the environmental impact associated with coffee production
- Acquire skills in the use of environmental impact assessment tools
- Identify the national and regional environmental hotspots associated with coffee production
- Publicize the contribution of sustainable coffee production to lower the environmental footprint of the coffee supply chain
- Evaluate the costs of implementing the PEF process in the cultivation and production phase of the supply chain.

**Table 6**  
**Countries represented in the LAC Coffee Environmental Footprint Network<sup>28</sup>**

Colombia	Haiti
Costa Rica	Honduras
Dominican Republic	Jamaica
Ecuador	Nicaragua
El Salvador	Panama
Guatemala	Peru

The creation of the Network was facilitated by the existence of coffee-industry associations in several countries –some of them private and others public/private- and also by PROMECAFE, a platform for the modernization of coffee cultivation in which several Latin American countries participate. Participation of representatives of national trade promotion agencies focuses on the trade-related aspects of the PEF. ECLAC's support for the coordination of the Network, as well as technical assistance, have been instrumental to the development of the group.

Most coffee producers of countries participating in the Network are small (over 90%) and thus the both climate change and trade-related standards have direct impact on thousands of small producers and their families. Millions of jobs are linked to the coffee sector which contributes significantly to export revenues. Coffee is among the three main export products in several countries. Issues such as the environmental footprint may impact the region's future export competitiveness and access to international markets.

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<sup>28</sup> As of December 2015.

From the very beginning, a priority identified by Network members was their need for information about the PEF process and capacity-building, in order to participate in a meaningful way. Three workshops have been organized in 2014-2015. The first, in Chinchiná, Colombia, in September 2014, at the Colombian Coffee Growers technical agency CENICAFE. The second, in San Pedro Sula, Honduras, in June 2015, at IHCAFE, the Honduran Coffee Institute. The third will be held in Santiago, Chile, in December 2015, at ECLAC, in conjunction with the institution's VII Environmental Footprint and International Trade Seminar.

The main objectives of the workshops were technical capacity-building in order to discuss the issues at stake, and to develop a joint perspective and inputs from the producers' perspective, which could contribute to the PEF.

The workshops included information and updates about the Coffee PEF Pilot Program by members of the Technical Secretariat (TS) and outside consultants, as well as analysis of the PEF drafts and other documents published by the TS and presentations about best practices and technical data about coffee cultivation in the region. Workshop participants were encouraged to prepare national data about the coffee cultivation process, and to participate in the PEF stakeholder consultations.

About 25-30 participants attended each workshop, most of them mid-level technical representatives from the coffee associations and government representatives of the Network's member-countries. Technical experts and ECLAC staff also participated in the meetings.

The European Commission convened a wide range of stakeholders to participate in the PEF process through an internet platform where the main documents are published once they have been discussed and approved by the Technical Secretariat. However, this mode of participation is mostly individual and does not include stakeholder partnerships. The novelty and value-added dimension of the Latin American Network is that it encourages the joint analysis and discussion of documents, and an exchange of information and best practices.

The Network's presence as stakeholders in the PEF process has been channelled through the active participation of some of its members in the consultations about the documents prepared by the Technical Secretariat and published on the stakeholders' workspace. These documents were first analysed and discussed by the Network participants.

Network participants have become increasingly active. The Colombian Coffee Producers (who are members of the Technical Secretariat) and an ECLAC

representative participated in the first Physical Consultation on Scope and representative product definition. Three Network members submitted comments to the Virtual Stakeholder Consultation on Scope and representative product definition in October 2014, and eight members submitted theirs to the Virtual Stakeholder Consultation on the Draft PEFCR and Screening Report in September 2015. National data to be included in the PEF screening, as well as supporting studies -on issues such as carbon storage in coffee agroforestry, biodiversity in coffee farming, coffee agroforestry potential for mitigation of climate change- were presented by Network participants from Costa Rica, the Dominican Republic, Guatemala, Honduras, Peru and ECLAC between February and September 2015.

Supporting studies to test the PEF of the representative products will be carried out in early 2016. The Network is planning to undertake a study to test the PEF of green coffee cultivation and production, whether it is considered or not “officially” by the TS and the European Commission. The study would test not only the PEF methodology, but also the availability of inventory data for the different impact categories and the objective relevance of local sustainability practices.

**Table 7**  
**Initiatives by the LAC Coffee Environmental Footprint Network 2014-2015**

<b>Year</b>	<b>Meetings</b>	<b>Consultations</b>	<b>Presentation of data and supporting documents</b>
<b>2014</b>	<p>Meeting at the VI ECLAC Carbon Footprint Seminar in Santiago to support the FNC’s participation in the Coffee TS and propose creation of LAC Coffee Network, June 2014</p> <p>I. Technical Workshop and creation of LAC Coffee Environmental Footprint Network, in Chinchina, Colombia, September 2014</p>	<p>Participation in Physical Stakeholder Consultation on Scope and representative product definition, Brussels, October 2014</p> <p>Participation by Network members in Virtual Stakeholder Consultation on Scope and representative product definition, October 2014</p>	

2015	Virtual Network meeting, January 2015		Data and supporting documents were presented by Costa Rica, the Dominican Republic, Guatemala, Honduras, Peru and ECLAC, February-September 2015.
	II. Technical Workshop, in San Pedro Sula, Honduras, June 2015	Participation by Network members in Virtual Stakeholder Consultation on Draft PEFCR and Screening Report, September 2015	
	III. Technical Workshop, in Santiago, Chile, December 2015		

### Controversial issues

Why is stakeholder participation and the presentation of the LAC coffee producers' own perspectives important in the PEF process? Has this participation achieved some degree of success? Some technical variations between the Technical Secretariat's initial document on Scope and representative product definition (October 2014) and the later Draft PEFCR and Screening Report (September 2015) indicate that the Network's efforts influenced the PEF.

The coffee producers want the specificities of their own product, of the cultivation and production process, to be visible in the PEF. Which are some the issues which concern the coffee producers and why?

***Specificity of cultivation and production in the life-cycle analysis:*** Although coffee production is a crucial phase in the supply chain, its specificities are not considered in the PEF draft. After the first public consultation in October 2014, the PEF draft included greater data specificity for the coffee production phase by i. including more detail about the different processes of the production chain; identifying the basic data necessary to measure impact about this phase; and iii. considering green coffee not only as an input, but viewing its entire life-cycle.

When the scope is a coffee beverage, the PEF should use specific or semi-specific country data, because different production systems have diverse environmental impacts. However, there are diverse production methods which generate different

environmental impact. For example, shade v. sun-grown coffee, wet and dry processing, natural or mechanic irrigation, Arabica or Robusta coffee varieties, organic or non-organic, environmentally certified or not. All these specific issues were not differentiated initially in the PEF life-cycle analysis proposed by the TS.

**Representative products:** The selected coffee beverages for the PEF are industrial products - roasted and ground coffee, prepared in a drip coffee machine; soluble coffee; and coffee in capsules, prepared in a machine. The coffee grains are no more than an ingredient. Including green coffee as a representative product would be useful to identify the specific environmental footprint of non-industrial coffee.

**Data:** The availability and use of data for the different environmental impact categories during the cultivation and production phase is at the core of the concerns of the Network stakeholders and the industry participants of the TS. The industry is inclined to use generic data, from international databases, to calculate the environmental impact of coffee cultivation and production. This type of data is usually worst-case scenario data.

Producers want their specific or semi-specific data to be used, in order to give visibility to the specificities of their production process and, in some cases, the sustainable practices they have adopted. The TS has argued that specific data is not available, but presentation of national data by Colombia and Honduras has somehow invalidated this argument, although it is not clear how this data will be used in the final PEFCR. Country specific data for production, type of coffee, average yield, land use change, transportation distances, irrigation rates and production volumes should be available for all coffee producing countries<sup>29</sup>.

**Sustainable coffee:** Initial drafts of the PEF do not take into account whether green coffee is certified as environmentally sustainable. There seems to be no specific incentive in the PEF for the use of sustainable coffee in industrial coffee beverage production. Thus, there is no sustainability premium for coffee growers in spite of the considerable effort and expense to obtain sustainability certification. Industry representatives have acknowledged off-the-record that the most important criteria for the purchase of green coffee are price and quality, not sustainability<sup>30</sup>. At the most, specific sensitivity studies will be made in the PEF for organic or sustainability certified coffee. The PEF process should include industry incentives to purchase environmentally sustainable coffee, in order to encourage sustainable cultivation and production.

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<sup>29</sup> Production data about coffee cultivation (area under cultivation, yield, coffee species, type of culture) from 7 coffee-producing countries in Central America can be found in the above mentioned CEPAL publication, CEPAL, CAC/SICA (2014), op.cit.

<sup>30</sup> A recent report shows that although 40% of coffee produced globally is standard compliant certified or verified coffee (4C, Rainforest Alliance, Fair Trade, UTZ, organic, among others), only 15% is purchased as such. See Sjoerd Panhuysen & Joost Pierrot, "Coffee Barometer 2014", Hivos, IUCN Nederland, Oxfam, Novib, Solidaridad, WWF(2014).

**Consistency with other coffee standards** The PEF's consistency with other standards and certifications is of concern to Network members, because of the effort and costs associated with standards and the uncertainty of obtaining a price-premium to compensate. Partly, those standards have been adopted as a result of the European importers. These other standards are usually associated with specialty-coffees, but should be consistent with the PEF which focuses more on industrially produced coffee beverages.

**Carbon storage** Shade-grown coffee, which is part of an agroforestry system, has an important role in capturing and storing carbon and thus much potential for the mitigation of climate change. However, this contribution of shade-grown coffee cultivation lower the impact of the entire supply chain is not considered in the environmental impact calculations. Network members have raised this issue in their comments in all stakeholder consultations. The TS argues that calculation methodologies such as PAS 2050 do not consider carbon storage and that, moreover, there are no studies quantifying its impact. However, research on the potential of shade coffee on carbon capture and storage can be found in many publications<sup>31</sup>. This issue should be included in the PEF.

Coffee plantations generate several environmentally positive impacts –included in the so-called environmental services- which should be considered by the PEF standard. Together with carbon storage, there is also the water sequestration and recharge potential, as well as other positive impacts of coffee plantations. Impact on biodiversity should also be taken into account. Along the line of residue disposal, coffee pulp and waste can also be used as natural fertilizers, reducing the use for chemical products, as well as the production of biogas from coffee-waste water, and other by-products<sup>32</sup>.

**Key environmental performance indicators** The draft PEF and Screening Report propose too many different impact categories and exceed the key performance indicators used in the industry. For Latin American producers it would be almost impossible to gather the necessary primary data and thus the generic values would be applied. A more compact number of key environmental performance indicators relevant to the production stage should be defined, where primary data is available and might be more accurate to assess the environmental footprint of coffee.

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<sup>31</sup> For example, Henk van Rikxoort, Götz Schroth, Peter Läderach, Beatriz Rodríguez-Sánchez, "Carbon footprints and carbon stocks reveal climate-friendly coffee production", in *Agronomy for Sustainable Development*, October 2014, Volume 34, Issue 4, pp 887-897 (data for Mexico, Guatemala, Nicaragua, El Salvador, and Colombia) and M. Noponen, J. Healey, G. Soto, J. Haggard, "Sink or source. The potential of coffee agroforestry systems to sequester atmospheric CO<sub>2</sub> into soil organic carbon", *Agriculture, Ecosystems and Environment*, Vol 175, August 2013 (data for Costa Rica and Nicaragua).

<sup>32</sup> Rajkumar Rathinavelu and Giorgio Graziosi, "Potential alternative uses of coffee wastes and by-products", International Coffee Organization 2005.



## 5. Conclusions

Environmental issues have a supra-national scope. This is true generally when addressing the impact of human activities (and trade) on the environment, but it is also relevant when dealing with product specific environmental standards and their impact on international trade.

In the case of the European Product Environmental Footprint Process (PEF) process, the supra-national scope of the standards which are being defined will affect not only stakeholders in all member countries of the European Union, but also non-EU stakeholders who do business on the European market.

If consistency and transparency criteria are met, the PEF process could be an opportunity for the participation by non-state actors in the setting of technical standards<sup>33</sup>. It is a multiple stakeholder program, coordinated by intergovernmental regulators of the European Commission, with participation of EU and non-EU governmental stakeholders, as well as EU and non-EU non-governmental stakeholders, including from developing countries.

The PEF Pilot Programs were convened by the European Commission, but at least in the case of the Coffee Pilot, this is dominated by European industry stakeholders, who want the PEFCR to serve their own business interests. They tend to deal with the coffee production phase in a perfunctory manner, using generic, worst-case scenario data, which will allow for a high up-stream environmental footprint, while reducing the relative share of the industry's down-stream values. On the other hand, coffee producers from Latin America (which provides 50% of European coffee imports) are participating in the PEF process in order to include their own specificities, influence the final outcome, and accommodate their own business interests. Both perspectives are not necessarily complementary and sometimes tend to clash. These differences arise regarding technical issues, but they have a political and economic background and consequences.

The LAC Coffee Environmental Footprint Network initiative is a unique case of participation of public-private stakeholders from developing countries in the definition of environmental standards in the European Union. The purpose of this initiative is to help define the standard, and not only adapt to it once it is implemented and the coffee suppliers need to adjust.

Whatever the outcome of the coffee PEF process, Latin American producers will have gained from their active participation. They will have learned about standard setting practices, identified national/regional data about the environmental impact associated with coffee production and acquired skills in the use of environmental impact

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<sup>33</sup> For a theoretical and case analysis, see Anne Peters, Lucy Koechlin Till Förster and Gretta Fenner Zinkernagel, *Non-State Actors as Standard Setters*, Cambridge University Press, 2009.

assessment tools. This will in the future affect their production practices and add value and competitiveness to their exports to international markets.