

The EU Single Market for Green Products (SMGP) initiative under the

EU4Environment programme in Azerbaijan

PEF applicability in Azerbaijani enterprises

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Background

In 2013, the European Commission (EC) published a recommendation on the use of a common methodology to measure and communicate the environmental performance of products and organizations¹. This recommendation was part of the 'Single Market for Green Products initiative' (SMGP) and a response to the endless list of 'green or sustainable labels' that may result in confusion for consumers and/or costs for companies that wish to market their products as environmentally friendly². The initiative aimed at a higher uptake of 'green' products and practices for companies operating in the EU market, thereby focusing on products sold and/or consumed in the European Union. Naturally, this also created a further appetite for sustainable products for manufacturing companies exporting to the European Union.

In this context, the Product Environmental Footprint (PEF) methodology, published by the European Commission (EC) in 2013, provides guidance on how to calculate a PEF study(i.e. a multi-criteria measure of the environmental performance of a good or service throughout its life cycle)³.

Since 2019, the EU-funded EU4Environment programme has been supporting Azerbaijan, along with the other Eastern Partner (EaP) countries, in pursuing the path of green transformation. It helps the EaP countries preserve their natural capital and increase people's environmental well-being by supporting environment- related action, demonstrating and unlocking opportunities for greener growth, and setting mechanisms to better manage environmental risks and impacts. To this end, it integrates into a single strategic framework greener decision-making, circular economy, smart environmental regulations, ecosystem protection and knowledge sharing.

In 2021 the Ministers of Environment of the EaP countries recognised the European Green Deal (EGD) as a benchmark for their national policy design⁴. Since then, EU4Environment has built the provisions of the EGD into its activities. Azerbaijan's active participation in this programme have also allowed it to achieve tangible results.

What is Product Environmental Footprint (PEF)?

Product Environmental Footprint (PEF) is a methodology for calculating the environmental impact of a product over its lifetime. Although PEF has been proposed by the EC as part of the SMGP initiative, PEF is still a methodology, and not a piece of legislation in its own right. PEF is based on a product's life cycle assessment.

What is a life cycle assessment (LCA)?

Life cycle assessment (LCA) is a methodology for calculating a product's environmental impact. LCAs are widely used in the apparel industry, as they provide a clear picture of the materials that make up a product, and how these materials impact the environment at every stage of a product's life —

¹ EC (2013) European Commission. Commission recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organizations (2013/179/EU). Of J Eur Union

² European Commission (EC) (2016) Single Market for Green Products Initiative [Internet]. [Cited 2017 July 17]. Available from: <http://ec.europa.eu/environment/eusd/smgp/>

³ EC (2013) European Commission. Commission recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organizations (2013/179/EU). Of J Eur Union

⁴ European Commission (EC) (2021) A European Green Deal [Internet]. Available from: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

from raw material extraction to manufacturing, distribution, usage, and all the way through to disposal.⁵

PEF and LCA

Life cycle thinking is the way of thinking of the consequences in the environmental, economic and social effects of a product throughout its entire life. Life cycle assessment (LCA)⁶ is the steady-state, global/regional, comprehensive and quantitative analysis of environmental or social impacts of a product/process/system of processes from its entire life cycle from beginning to end – which means the effects on ecology, resources and human health. The life cycle stages include all the raw material, resource and energy consumed through the manufacturing stages including the raw materials acquisition stage, processing stage, manufacturing stage, product life phase, and waste management/end-of-life scenario. At the same time, transportation is inclusive in every step. Example of Life Cycle can be seen in the infographic below. Each manufacturers or suppliers is responsible for ensuring sustainability through product stewardship.

Life Cycle Assessment (LCA) represents the practical realization of this concept, aiming to analyse comprehensively potential environmental implications of a decision-making process. LCA forms the scientific and methodological foundation of the PEF (Product Environmental Footprint) and OEF (Organization Environment Footprint) methods.

PEF is similar to LCA, and the common LCA calculation can be used for the PEF calculations. Just like LCA's, PEF is a science-based, clear method that quantifies all the environmental impacts over the entire life cycle of a product. This includes product's emissions to water, air, and soil emissions, resource use and depletion, the impact of land and water usage, etc.

However:

- PEF is more stringent in its rules than a 'normal' LCA, due to it being a detailed prescribed method for analysis.
- The PEF method and its database offer consistency, making it suitable for comparing products within the same product groups.

Moreover, the PEF and Organisation Environmental Footprint (OEF) methods provide guidance for the collection and modelling of inventory data (including allocation rules for recycled materials as well as data quality requirements).

In a nutshell, PEF is based on LCA, and both are methodologies for calculating the impact of a product over its lifetime. PEF, however, is more clearly defined than the universal LCA methodology, and could become the 'gold standard' for LCAs in Europe.

For example, PEF defines clear system boundaries for a product's lifecycles, whereas LCA boundaries are open to interpretation. PEF also provides rigorous guidance for assessing end-of-life, which LCA does not require. PEF is standardized for comparability between products, whereas the scope of an LCA can differ depending on who is conducting the assessment. This is an important distinction, as comparability is only possible if the results are based on the same rules (reason for which the Product Environmental Footprint Category Rules (PEFCR) exist. PEFCR are PEF's 'Category Rules' for

⁵ <https://blog.greenstory.io/life-cycle-assessment-in-the-fashion-industry>

⁶ <https://eplca.jrc.ec.europa.eu/lifecycleassessment.html>

individual product groups, offering step-by-step guidance on conducting PEF for different kinds of products. These category rules make PEF ideal for achieving consistent and comparable environmental impact reports across industries, ensuring that every product's impact is calculated in the same standards and that consumers can accurately compare goods within the same category.

Life cycle approaches in Azerbaijan

The academic literature on PEF and LCA in Azerbaijan revealed only few examples for the application of LCA in the country. One example focused on comparing the environmental impacts of two alternative façade panels used in the construction of Heydar Aliyev Cultural Centre in Baku⁷. While the lack of previous success stories and know-how experiences still poses challenges in kicking-off the use of different approaches based on LCA, the multilateral ties and commitments of the country provide unique opportunities for utilizing this approach. Such an opportunity is the introduction of the Product Environmental Footprint methodology .

Challenges and opportunities in the application LCA in Azerbaijan

Multinational enterprises have many times pioneered the application of LCA to various products as a means to improve operational efficiency and gain a competitive edge by manufacturing more sustainable products and communicating efforts via environmental labelling schemes. The availability of financial resources and reliable records of inventory data have naturally facilitated these efforts. For example, LCA performed in by the Midwest Research Institute (MRI) in 1969 for the Coca-Cola Company beverage containers is considered one of the first conducted LCA studies. Today, many larger industrial companies have their own LCA specialists and can integrate the methodology into product development and R&D activities. Multinational corporations currently operating in Azerbaijan are prime candidates and potential partners for the development and application of LCA studies in the country. This would be in line with Sustainable Development Goals (SDG) target 12.6⁸(Sustainability reporting - Businesses) that requires the states to encourage companies (particularly large and transnational companies) to integrate sustainability information into their reporting cycle. However, Azerbaijan also needs to adopt a national sustainability reporting policy to further support these efforts.

The fact that consumers are especially interested in purchasing a product that is considered ecologically appropriate (acceptable) and therefore willing to pay a higher price has not been investigated. Poor awareness of the manufacturer and consumers about the advantages of buying an "ecolabel" create an opportunity for the introduction of Life Cycle Approaches such as PEF into the market. The benefit of the methodology will be described in the final chapter below.

Renewable energy companies are also expanding their operations in Azerbaijan, creating additional opportunities for the application of LCA. For instance, ACWA Power of Saudi Arabia recently signed an implementation agreement with the Ministry of Energy of Azerbaijan for developing and

⁷ Goldin, A., Jongeward, A., Scammell, L., Wise, C., Autumn 2009. Architectural façades for the Heydar Aliyev cultural center: a life cycle assessment. CEE 226 - Term Proj.. <http://www.kreysler.com/wp-content/uploads/2013/08/CEE-226-Baku-Facade.pdf>.

⁸ GRI, 2016. Global Reporting Initiative, Sustainable development goals, SDG 12.6. Available online:<https://www.globalreporting.org/information/SDGs/Pages/SDGtarget-12.6-.aspx> (Accessed: 25 May 2020)

operating a 240 MW wind power project. Its diffusion technology would not only achieve sectoral productivity, but also the transfer of essential knowledge, innovation and key practices and procedures⁹. In addition, as these companies' value chain encompass direct operations in Azerbaijan, they create the possibility for future LCA and carbon/water footprint studies as part of the companies' efforts to assess their global environmental impacts/footprints. However, these processes must be aligned to the companies' internal policies and dynamics in relation to their suppliers, partners, customers, competitors and other relevant stakeholders. Hence, their decisions and actions are shaped by the macro-environment that also includes education and training systems, science and technology, sectoral dynamics, regulations and development targets.

Promoting life cycle approaches in Azerbaijan

PEF and LCA are relevant methodologies that can be adopted by promoting life cycle thinking as development of local capacity. This, in turn, can establish a collaborative environment among local and international experts and integrate life cycle approaches into national projects on climate change mitigation, renewable energy, and other key areas of sustainable development.

Recently, new potential drivers and application areas for these methodologies have been emerging (including national environmental and sustainable development commitments). They require holistic, life cycle-base approaches and transboundary partnership projects to incentivize the development of production processes. The widespread use of resource efficiency and life cycle approaches can only be possible through the development of local capacity and by integrating these subjects into the curricula of higher education institutions (that could potentially serve as partners in multilateral development projects and provide technical expertise for industry and government agencies). As well, the establishment of a national collaboration network could bring together relevant stakeholders and provide a discussion and networking environment.

Gaps in the application of PEF in Azerbaijan

PEF is a voluntary methodology

The PEF methodology is still in progress and in the so-called 'transition phase' (pilot phase). As this phase will be completed by the end of 2024, the use of PEF is currently voluntary.

The European Commission is still further developing the details for the PEF Product Category Rules (also PEF CR's or PCR's) in order to finalise the PEF methodology developments. These category rules will define footprint measurement rules specific to industries.

Institutional set up and legislation in Azerbaijan?

First of all, labelling should be integrated into the institutional system.

The main challenges in Azerbaijan's environmental labelling legislation include:

- The lack of a definition for the concept of ecologically appropriate (acceptable) products;

⁹ OECD, 1997. National Innovation Systems. OECD Publishing, Paris Available online: <https://www.oecd.org/science/inno/2101733.pdf>. Accessed: 04 July 2020.

- The lack of definition criteria for distinguishing the ecologically appropriate products from ordinary (conventional) products (except in the area of ecological agriculture);
- The lack of rules for informing consumers about the eco-signs or labels on imported products;
- The lack of a regulatory mechanism to assess and balance the emergence of non-certified or obscurely certified products in the country;

The absence of national certification and accreditation bodies in the country makes it necessary to carry out such certification and accreditation abroad. This leads to high costs related to international accreditation and certification, as local producers are spending more for international certification to mark their products as environmentally friendly.

Recommendations for the development of ecological certification or ecological labelling

In the field of standardization:

- Acceptance of national standards based on general ISO standards
- Adoption of ISO 14000 standards
- Preparation and adoption of standards in the field of national ecology, food safety, health and environmental protection, based on the ISO standards

In the field of accreditation:

- Creation of accreditation laboratories and organizations for determining the conformity of products and services, according to ISO 14000 standards
- Accreditation bodies from other countries (including TURKAK), until Azerbaijan's accreditation system is developed
- Creation of organizations and laboratories in the field of ecologically clean agriculture

In the field of certification:

- labelling should be integrated into the institutional system.
- Implementation of mandatory and voluntary certification for human health and environmental protection.

Consequences of the PEF requirements for national enterprises?

Currently, in the Eastern Partner (EaP) region, the PEF methodology is promoted as an activity led by the United Nations Industrial Development Organization (UNIDO), through the EU-funded programme, EU4Environment Action. Here, the planned work includes mapping existing practices and barriers to introducing PEF, raising awareness and understanding of the opportunities and benefits of the SMGP Initiative and PEF application, and leading the way to pilot and promote PEF in selected industries.

This will make the local stakeholders more aware of the potential benefits and impact of applying PEF; create local capacity in the EaP region; help the national industries be better prepared for potential policies involving PEF, and provide learning opportunities for local experts.

In addition, with the EU support, UNIDO conducts awareness and capacity building activities, which contribute to the broader support of the “green” efforts and policies. The learnings from this initiative are also used to formulate recommendations for enabling PEF-compliant studies in other Eastern Partnership countries. Currently, within the EU4Environment Action, manufacturing enterprises are invited to take part in the piloting of the PEF methodology in Georgia and Ukraine.

PEF enables enterprises to actively and strategically improve their production (e.g., by rethinking design, closing resource loops, or giving by-products a new purpose). This helps them make production more efficient, and transforms production patterns to prevent the generation of waste in the first place. Besides offering databases and calculations methods, PEF also gives general rules to product groups so companies can benchmark their progress on a product within their sector or category. In turn, they better understand their environmental performance against competitors. Benchmarking is also a powerful incentive to build reputation and to create sustainable and environmentally-friendly goods and services appreciated in the everyday life of consumers.

Hence, being a good environmental performer, especially in a market as dynamic and competitive as the EU Single Market, is in itself an added value that can ensure good business prospects and sound strategies of any company.¹⁰

On the consumers’ side, making informed purchasing decisions has become a staple practice, in Europe, and around the globe. Only by comparing the performance of similar products or services, can consumers learn to trust new brands and diversify their spending habits.

Next to a calculation method and a database, PEF also focuses on general rules for specific product groups. The PEF Product Category Rules entail specific rules related to different industries. These rules enable PEF studies which are more comparable and verifiable, if these studies have all been conducted based on the same PCR. Examples of PCRs has already been developed for Food and Textile.

About EU4Environment

The “European Union for Environment” (EU4Environment – Green Economy) Action helps the Eastern Partnership countries preserve their natural capital and increase people's environmental well-being, by supporting environment-related action, demonstrating and unlocking opportunities for greener growth, and setting mechanisms to better manage environmental risks and impacts.

It is funded by the European Union and implemented by five Partner organizations - OECD, UNECE, UNEP, UNIDO, and the World Bank – over the 2019-2024 period, with a budget of EUR 20 million.

For more information, please visit www.eu4environment.org

For more information about Resource Efficient and Cleaner Production (RECP) in Azerbaijan, please visit: www.recp.aceconsultants.az/en

¹⁰ <https://www.eu4environment.org/app/uploads/2022/05/Leaflet-advancing-product-environmental-footprint.pdf>