

## A.I.S.E.'s contribution to the Global Sustainable Development Goals Learnings from the detergents EU Environmental Footprint pilot

**KEYWORDS:** UNSDGs, Sustainable development goals, industry voluntary initiative, environmental footprint, charter for sustainable cleaning.



### ABSTRACT

A.I.S.E., the International Association for Soaps, Detergents and Maintenance Products, has a long tradition over the last 20 years of proactive work towards sustainable production and consumption for the whole detergents and maintenance product industry sector. In the global perspective, this industry sector is positively contributing to the global Sustainable Development Goals (SDGs); focus in this article is put especially on Goals 12 (Responsible Production and Consumption), 13 (Climate Action) and 17 (Partnership for the Goals). In this context, the main learnings from A.I.S.E.'s EU pilot Product Environmental Footprint (PEF) project for household liquid laundry detergents for machine applications are summarised, and we demonstrate how the industry already pursues the main objective of this project and goes even further, enabling noticeable reductions of the overall environmental footprint.

### A ROLE MODEL INDUSTRY FOR SERVING SOCIETY IN AN INNOVATIVE AND SUSTAINABLE WAY

A.I.S.E., the International Association for Soaps, Detergents and Maintenance Products, is the official representative body of this industry in Europe. Its membership totals 29 national associations across Europe, 18 corporate members and 6 value chain partners. The A.I.S.E. network of members represents over 900 companies supplying both household and professional cleaning and maintenance products and services to consumers and professional users.

### CONTRIBUTING TO THE EU SUSTAINABILITY AND RESOURCE EFFICIENCY AGENDA

Sustainable development is enshrined in the EU Treaty as an 'overarching' principle of all EU policies and is also fundamental to the EU 2020 strategy on smart, sustainable and inclusive growth. In that spirit, A.I.S.E. has been closely involved in various EU efforts relating to the EU 2020 strategy. With the publication of the Single Market for Green Products (SMGP) Initiative in April 2013, the European Commission strived to facilitate a higher uptake of green products and of greener practices by companies in the EU market. The European Commission, working closely with the Joint Research Centre (JRC), developed a methodology for the calculation of Product Environmental Footprints (PEF), based on a harmonised methodology. This methodology is based on the life-cycle assessment (LCA) technique and the International Reference Life Cycle Data System (ILCD) handbook as well as other existing standards and guidance documents, including ISO 14040-44. In total, 16 different impact categories are covered.

Committed to the overall objective of this initiative, i.e. the reduction of the overall footprint of products, A.I.S.E. initiated in 2014 its PEF pilot on heavy duty liquid laundry detergents for machine applications jointly with the European Commission and various stakeholders. Partners participating in the project included the companies Dalli, Ecover, Henkel, McBride, P&G, Unilever, Vandeputte, the national industry associations AFISE (France) and DETIC (Belgium), the LCA consultant company Solinnen, and the external organisations CESIO, Global

**A.I.S.E.** **UN PRIORITIES**

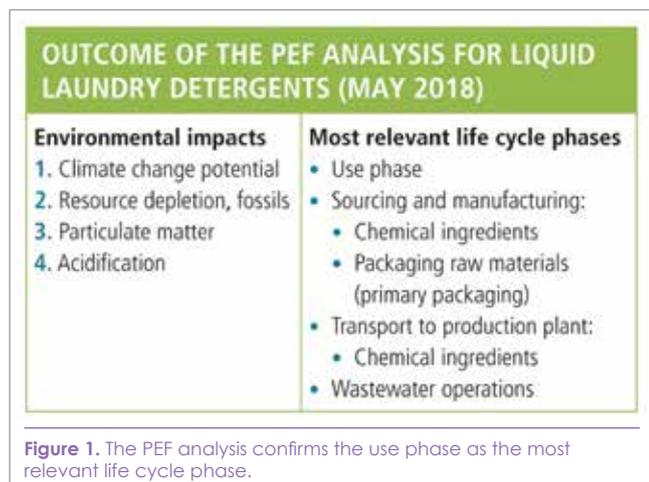
- 6 CLEAN WATER AND SANITATION**
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION**
- 13 CLIMATE ACTION**
- 17 PARTNERSHIPS FOR THE GOALS**

Cleaning and hygiene products and services are essential to society and our commitment is to deliver impactful projects in a responsible way, promoting sustainable production, design and consumption. By working together to tackle water quality through chemical safety, reducing our environmental footprint and embracing the circular economy, we steer best practices and aim to be a role model industry. Partnering, exchange of best practices and fostering capacity building are the DNA of A.I.S.E.'s work.

A.I.S.E. has over the last 20 years delivered impactful projects to drive sustainable production, design and consumption for the whole of the industry sector in a responsible way. Sustainable development is one of A.I.S.E.'s strategic priorities enshrined in the industry vision 'A prospering cleaning and hygiene industry which is a role model for serving society in an innovative and sustainable way'. The leadership and coordination of voluntary sustainability initiatives together with stakeholder partners is a key defining strength of this industry and one which builds the industry's credibility, reputation and influence on technical and regulatory matters.

Standards 1, SGS, the Sustainability Consortium, the Swiss Government Federal Department of the Environment and the Technical University in Berlin.

Outcome of the PEF analysis has confirmed the use phase as the most relevant life cycle phase; impact of other phases is considerably smaller. The pilot will formally end in autumn 2018 with the publication of the A.I.S.E. PEF Category Rules (PEFCR). These are product category-specific, life-cycle-based rules that complement general methodological guidance for PEF studies by providing further specification at the level of a specific product category. The purpose of the PEFCRs is to shift the focus towards those aspects and parameters that matter the most and should contribute to reproducibility and consistency based on comprehensive requirements defined by the European Commission.



A.I.S.E.'s main learnings from this pilot project are that the EF (Environmental Footprint) method is essentially moving in the right direction, since it is intended to evaluate and reduce the environmental footprint of products, based on a European-wide harmonised and transparent LCA-based approach. However, while it certainly has some potential mid-to long-term, it is in its present stage of development not yet sufficiently mature to enable accurate product comparisons, since LCA science is still evolving; consequently, some limitations (listed below) do apply. It is due to these limitations that A.I.S.E. is preparing to publish, together with its PEFCR, guidance for industry members on the most appropriate use of these category rules. Several impact assessment methods, including the proposed USEtox model to assess human toxicity and ecotoxicity are not yet ready for comparative, detailed assessment at product level or for in-market communication, but can be used to screen, prioritise and steer internal product ecodesign.

- Only a limited number of PEF impact methods are sufficiently mature to allow a detailed and comparative evaluation of actual impacts.
- As regards the 'Climate Change' impact category, the A.I.S.E. PEFCR appears technically ready for relatively broad product comparisons (e.g. equal to, better or worse than benchmark). However, it will not be recommended to use the quantitative PEF results for in-market communication; the reason for this is the absence of a robust method to properly and objectively measure the cleaning performance of a product related to specific wash temperatures, which is crucial given that the largest lifecycle impact is related to the heating of the washing water in the use phase.
- Issues with datasets:

- The chemical LCI datasets as centrally provided by the European Commission do not systematically represent the latest status.
- The most recent surfactant LCI datasets (ERASM, 2015) were not used since its data could not be disaggregated in line with the new PEF requirements, so outdated data from 1994 were used (which for instance underestimates the climate change potential for palm-derivatives).
- The Wastewater treatment (WWT) model that had to be introduced at a late stage in the PEFCR is a compromise, and it was not possible to test and recommend a better model in the timeframe of the final pilot phase. Future PEFCR will have to include a better WWT model that will predict the specific impact of a liquid laundry detergent formulation and will allow differentiation between products.
- Several EF impact assessment methods were centrally introduced at the end of the final pilot phase, without the possibility to assess these in detail due to lack of time; in addition, the level of robustness has rarely improved.
- As demonstrated on the representative product, the use phase of the detergent is the most relevant life-cycle phase. In fact, the A.I.S.E. pilot has shown that the PEF results are highly dependent on where and how the product is used. This means that the environmental footprint of the very same laundry detergent differs from country to country, depending on the variations of energy mixes in the specific countries of use.
- Challenges remain to turn technical findings into meaningful, succinct and intuitive B2B and B2C communication. So far, clearly harmonised guidance on EF communication is missing, and there is a risk of confusion with the forthcoming published PEFCRs which will become available to market players. Importantly, it will be critical to use consumer-friendly language and tools for any consumer-faced PEF scheme and to adopt European-wide harmonised practices. To engage consumers in more sustainable purchase and use practices, the most important guiding principle must be to provide them with meaningful information in a simple, intuitive, actionable and tailored way.

The four-year PEF pilot has enabled intense engagement between academic, official, NGO and industry stakeholders, to achieve major progress in terms of detergent LCA and PEF methodology, and it has helped to clarify the reported limitations. The limitations of the emerging PEF scheme can be overcome but it must be noted that addressing these will require a broad and diverse range of initiatives.

## THE A.I.S.E. CHARTER FOR SUSTAINABLE CLEANING

### An industry tailored system to foster sustainable production, design and consumption

The A.I.S.E. Charter for Sustainable Cleaning is A.I.S.E.'s flagship initiative driving best practice in sustainable development in our industry, in line with the global SDGs and EU policy objectives. The aim is to encourage the whole of the industry to undertake continuous improvement in terms of sustainability and to engage consumers and customers to adopt more sustainable ways of doing their washing, cleaning and household maintenance. From the outset, the Charter has been regarded as a living scheme, evolving over time through regular upgrades. This ensures that it continues to offer the most advanced sustainability assurance scheme for promoting best practice within the industry, using LCA and science as a basis.

A wide variety of activities and initiatives are covered, ranging from the human and environmental safety of chemicals and products, to eco-efficiency, occupational health and safety, resource use and consumer information. The A.I.S.E. Charter stipulates a set of Charter Sustainability Procedures (CSPs) which companies implement in their manufacturing management systems and which are verified by an independent external verifier. Companies must report each year on Key Performance Indicators (KPIs) linked to the

CSPs - the aggregated results are published in A.I.S.E.'s annual Activity and Sustainability Report. The product dimension of the Charter enables companies to give a sustainability assurance for products. Advanced Sustainability Profiles (ASPs) for individual product categories set sustainability criteria that are ambitious but reasonably achievable by all market players (see Figure 3) – the parameters are defined based on a life cycle analysis. The Environmental Safety Check (ESC) is a key component of ASPs, which all ingredients in a given formulation must successfully pass. The ESC is a risk-based and conservative tool that assesses the environmental safety in the aquatic compartment of ingredients aligned with REACH principles.

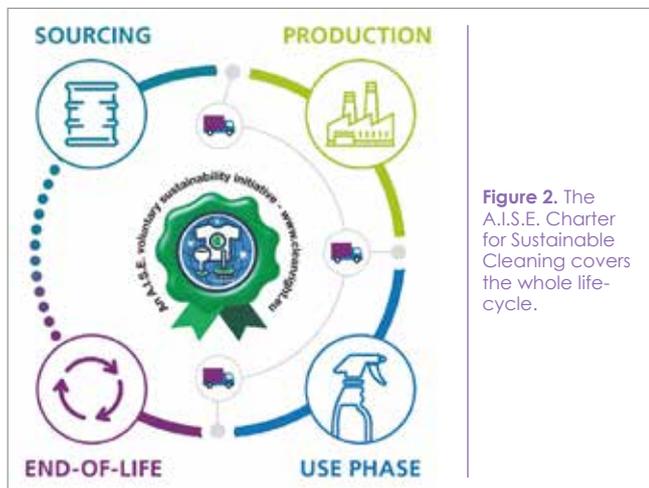


Figure 2. The A.I.S.E. Charter for Sustainable Cleaning covers the whole life-cycle.

### Independent Verification

Independent third-party verification by accredited auditing bodies guarantees that all applicant companies are individually assessed on the same basis. Before a manufacturing company can join the Charter, it must prove to the verifier that it has the required CSPs in place, under control, and adequately applied on minimum 75% of its production. In addition to the regular CSP checks, the appropriate implementation of the different ASP requirements and the annual reporting on KPIs are verified.

### Success to date

The membership of the Charter is continually growing: In August 2018, about 250 companies, including industry manufacturers and retailers placing products on the market under their own labels, have joined the A.I.S.E. Charter, representing more than

Product category	ASP CRITERIA				Activation date*	
	Product formulation Pass ESC	Dosage (g or ml/job)	Packaging weight per job	Packaging recycled content (primary and secondary packaging) End User information on pack		
<b>Household laundry products</b>						
Laundry detergent powders*	Yes	≤ 75g + ≤ 115ml	≤ 6.5g	Card board: ≥ 60% / ** 70% OR 100% of content in board packaging is certified made from fibre sourced from sustainable forests	Cleanright panel AND Ability to wash at ≤ 30°C indicated AND Safe use tips	1 July 2011 Updated 1 July 2013
Laundry detergent liquids**		≤ 55ml	≤ 6.5g			1 July 2011 Updated 1 April 2017
Fabric conditioners*		≤ 35ml	≤ 4.0g		Cleanright panel AND Safe use tips	1 July 2011
<b>Household automatic dishwashing detergents</b>						
Powders and unit doses with rinse function	Yes	≤ 25g	≤ 3.5g	Card board: ≥ 60% OR 100% of content in board packaging is certified made from fibre sourced from sustainable forests	idem	1 April 2013
Powders and unit doses without rinse function		≤ 20g	≤ 3.5g			
Liquids mono chamber style		≤ 35ml	≤ 4.5g			
Liquids multi chamber style		≤ 35ml	≤ 6.0g			
<b>Household dilutable all purpose and floor cleaners</b>						
	Yes	≤ 12ml/l of wash water	≤ 1.3g	idem	idem	1 October 2013
<b>Household trigger spray cleaners</b>						
	Yes	according to dosage instructions	≤ 1.4g per 50 ml of product dosage	idem	idem	1 October 2014
<b>Household manual dishwashing detergents</b>						
	Yes	≤ 5ml/l of wash water	≤ 0.7g	idem	idem	1 January 2015
<b>Household toilet cleaners</b>						
	Yes	according to dosage instructions	≤ 5.6g per 55ml of product dosage	idem	idem	1 July 2015
<b>Professional Building Care Products</b>						
	Yes	Minimum dilution ratio: 1:100 for use in buckets, machines (e.g. scrubber dryers), special equipment (e.g. foam equipment) / 1:50 for use in refillable spray bottles	Packaging weight: ≤ 0.7g/l for use in buckets, machines such as scrubber dryers, special equipment such as foam equipment / ≤ 1.4g/l for use in refillable spray bottles	Card board: ≥ 60% OR 100% of content in board packaging is certified made from fibre sourced from sustainable forests	<b>Dosing systems</b> Use of accurate and reliable dosing systems <b>Training</b> Offering training for customer personnel and customer specific advice by qualified staff <b>End User Information</b> A.I.S.E. PCBH application pictograms AND dosage information (optional on product, depending on available space on the label) AND use of colour codes AND provision of Product Information Sheets (PIS)	1 October 2015

Figure 3. Charter ASP criteria for different product categories. For more details related to the above ASP table please visit: [www.sustainable-cleaning.com/charter](http://www.sustainable-cleaning.com/charter)  
 1. Products complying with ASP requirements for the product category can start to appear on the market with an ASP logo from this date.  
 2. Packaging weight: (Packaging weight in g / amount of use solution in l) / number of use of primary packaging (i.e. used for same purpose through a return or refill system)

90% of the industry production output for Europe. Over the 11 years of operation since 2006, the verified returns from companies via the annual KPI reporting demonstrate how Charter members' efforts continue to yield positive results across all Europe, e.g. energy use per tonne of production is down by 35.7% and CO<sub>2</sub> is even reduced by 36.4% (to put this in perspective: the COP 21 EU targets for 2030 are a 40% GHG reduction vs. 1990). The graph below shows that production of Charter members is absolutely decoupled from their energy use and CO<sub>2</sub> emissions. In addition, packaging per consumer units has been reduced by 25%.

### REACHING OUT TO THE END-USERS – PROMOTING SUSTAINABLE CONSUMPTION

It has been shown above that most of the environmental impact for a laundry detergent occurs during the product use phase, when the consumers use the product to wash their laundry in domestic washing machines. Therefore, as well as working towards more sustainable production and design for advanced sustainability, A.I.S.E. and its members are continuously working on communications and information campaigns to promote the sustainable use of cleaning and detergent products. Consumer engagement is organised through education material for on-pack and online use. Starting in 2000, A.I.S.E. has made tips for the best use of laundry products, dishwashing detergents and cleaners available to its members.

These best use tips (see Figure 5) are a mandatory component of the updated Charter Advanced Sustainability Profile criteria but may be applied irrespectively of a commitment to the Charter.

Additional campaigns, such as Washright (2000-02), Cleanright (launched 2008) and 'I prefer 30°' (2013-14) have also been organised through A.I.S.E. and its members.

### THE A.I.S.E. CHARTER AND PEF

Both schemes, the A.I.S.E. Charter and PEF, aim to steer the market towards the same high level objective: to reduce the environmental footprint. Whereas PEF is a tool to measure the various environmental lifecycle impacts of specific products, the A.I.S.E. Charter applies a life cycle perspective not only for the sustainable design of products, but more broadly for sustainable production and consumption of detergent products, providing also purchase guidance to consumers through a simple, straightforward and easily recognisable logo. Last but not least, aggregated sustainability reporting on Charter KPIs demonstrates the positive contribution to the global SDGs of the whole industry sector – a feature which is not addressed by the product-focused PEF.

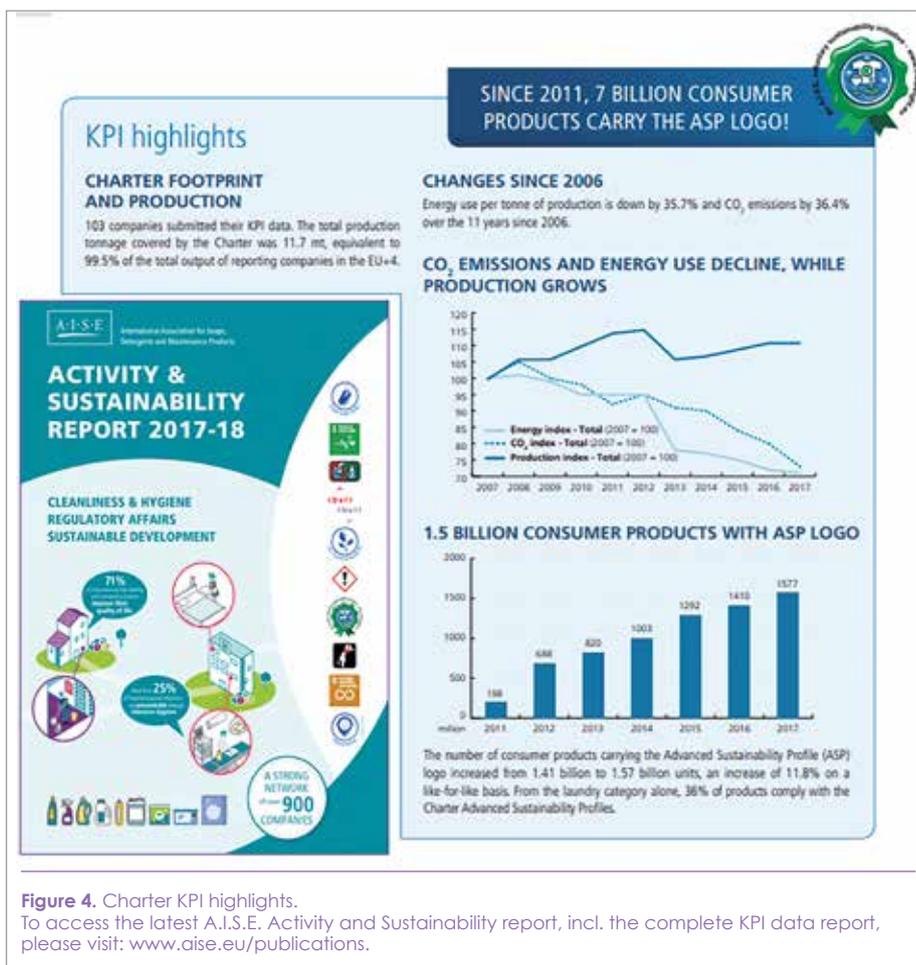


Figure 4. Charter KPI highlights. To access the latest A.I.S.E. Activity and Sustainability report, incl. the complete KPI data report, please visit: [www.aise.eu/publications](http://www.aise.eu/publications).



Figure 5. The industry provides best use tips for most product categories (in this example laundry).

### CONCLUSION

A.I.S.E. and its members will continue to contribute actively and constructively to the global SDGs via the development of impactful sustainability schemes. This will help to progress the sustainable development of the sector by achieving significant reductions of the lifecycle impacts of detergents and cleaning products. In this regard, the PEF pilot has been very useful and a good learning exercise for A.I.S.E., but many questions remain and the PEF scheme, while promising in the longer term, is not yet judged ready for broad scale deployment. Hence, the A.I.S.E. Charter for Sustainable Cleaning will continue to be the reference scheme for the detergent and maintenance products sector, aiming to drive meaningful progress for the whole sector across all lifecycle phases. It can be demonstrated that the overall footprint of both manufacturing and products has been decreased since the launch of the A.I.S.E. Charter. Based on the PEF learnings, A.I.S.E. will assess how to integrate these into the product component of the Charter, e.g. using the detergent PEF methods to improve the life cycle screening of product categories and the identification of the most relevant environmental impacts.

### REFERENCES

- [www.aise.eu](http://www.aise.eu)
- [www.sustainable-cleaning.com/charter](http://www.sustainable-cleaning.com/charter)
- [www.cleanright.eu](http://www.cleanright.eu)

### ABOUT THE AUTHORS

Leading A.I.S.E.'s sustainability department, **Sascha Nissen** is mainly involved in the development and implementation of the association's European voluntary initiatives on Sustainable Production and Consumption, including the 'A.I.S.E. Charter for Sustainable Cleaning'. He has also coordinated A.I.S.E.'s Product Environmental Footprint pilot on household liquid laundry detergents, a project in the context of the EU Environmental Footprint initiative.



With a marketing and communication background, **Valérie Séjourné** started her career with Unilever in the UK in 1994. After a couple of years with the French Energy and Environment Agency as Communications Manager, she joined A.I.S.E. (the International Association for Soaps, Detergents and Maintenance products) in 1997 in Brussels, where she has had various positions and is now in charge of Communications & Stakeholder Outreach. In addition to corporate communication activities, she is involved in several priority projects for the association notably related to sustainable production and consumption, circular economy, end-user engagement and labelling, and works in close interaction with members, value chain partners and external stakeholders.

