



## AFSP Webinar Series: Q1 Round-up

In March 2022, the first general progress presentation of Afera's Flagship Sustainability Project (AFSP) took place in the form of a webinar series. Project coordinator, **Pablo Englebienne**, presented the [progress highlights](#) from all three project workstreams to Afera members over the course of two webinars, which also featured two guest speakers from FEICA – **Dr. Heinz Werner Lucas** and **Ms. Jana Cohrs**.

In the first webinar that covered the topics in the scope of workstreams 1 (calculation of environmental impact) and 2 (waste management), Dr. Heinz Werner Lucas, expert consultant at FEICA, presented a general overview of **Environmental Product Declarations (EPDs)** and spoke in detail regarding the model EPD system for Construction Products. He also shared a few ideas on how Afera and the tapes industry could potentially benefit from this approach.

Jana Cohrs, Executive Director of Regulatory Affairs at FEICA, participated in the follow-up webinar that focused on workstream 3 (advocacy) and shared the **Regulatory Priorities of 2022** for the adhesives and sealants industry.

Let's look at the important highlights from both presentations.

### The Effective Way to EPDs for Construction Products

Within the workstream 1 (WS1), which aims to develop harmonised calculation methods for estimating the environmental impact of adhesive tapes, the on-going discussions focus on the calculation of Product Carbon Footprint (PCF), while also keeping in mind the relevance of tools like Environmental Product Declarations (EPDs), lifecycle analysis, and Product Environmental Footprint (PEF).

To go deeper into the topic of EPDs, Afera invited an expert in this field to deliver a presentation as part of the AFSP webinar held on March 17<sup>th</sup>, 2022. Starting off with a general overview, Dr. Lucas noted that an EPD reports a product's lifecycle-based environment impact, is based on ISO (14040/44, 14025) and EU standards, and is publicly available. It has a defined format and must be verified by an independent third party. "But it's very important to note that only data is reported and there is no product assessment involved," Dr. Lucas said.



## Model EPDs – The effective Way to Environmental Product Declarations for Construction Products

Dr. Heinz Werner Lucas

AFERA, March 2022



The use of resources and emissions reported in the lifecycle analysis (input data) is converted via standardized characterization models into environmental indicators, for example, climate change, ozone depletion, and so on. The **EPDs for construction products** are based on the EN 15978A, which gives the standard for the environmental performance on a building level and in particular the EN 15804 (updated to EN 15804+A2), which provides the **product category rules (PCRs)** of construction products.

Dr. Lucas further explained the process involved in the technical development, verification, and publication of EPDs. He listed out the different players involved and their respective roles:

- **LCA consultant** (ex: Sphera) – Prepares and calculates LCA data (production, construction, use, and end-of-life)
- **Program operator** (ex: IBU) –
  - Administers the process with respect to preparing a guideline to clarify how exactly the EN 15804 has to be applied,
  - Develops product-specific rules (PCRs),
  - Selects the competent independent verifiers, and
  - Publishes the finalized EPDs
- **Manufacturer / Association** – Prepares input data (product, manufacture, and application)

An example of a typical EPD was also shared by Dr. Lucas, where he noted the requirement of LCA data for all stages while highlighting that for EN 15804, 'use' is not mandatory. There are a lot of different environmental impact indicators to be reported including the use of resources and output flow, and waste categories.

# EPDs according to EN 15804+A2



**LCA data for all stages of**

- Production
- Construction
- Use
- End-of-Life

Per functional or declared unit (,kg')

**Environmental impact**

- Global Warming Potential
- Ozone Depletion Potential
- Acidification Potential
- Eutrophication Potential
- Photochemical Ozone Creation Potential
- Abiotic Depletion Elements
- Abiotic Depletion Fossil Fuels

**Use of resources, e.g.**

- Renewable primary energy
- Non-renewable primary energy
- Use of secondary materials
- Use of fresh water resources

**Output flow and waste categories, e.g.**

- Hazardous & non-hazardous waste
- Materials for recycling
- Materials for energy recovery

Product Stage	CONSTRUCTION PROCESS STAGE				USE STAGE								END OF LIFE STAGE				Weighted sum of impact factors (EPD)
	Transport	Manufacturing	Transport from the plant to the site	Assembly	Use	Maintenance/Repair	Replacement	Replacement	Operational energy use	Operational water use	Disposal	Transport	Incineration	Landfill	Recycling		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	
X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	ND	X	X	

→ LCA expertise necessary  
→ Complex and expensive

“There is a lot of LCA expertise necessary and this endeavor can become really complex and expensive,” noted Dr. Lucas.

Taking into account the growing importance of EPDs, the high cost and effort involved in their calculation for a broad product portfolio, and the low environmental impact of adhesives and sealants in comparison to the whole building, the trade associations decided to develop an easy-to-use Model EPD.

The FEICA Model EPD was created as a first step based on a system developed by German associations (IVK, VdL, and DBC), which Dr. Lucas said is planned to be updated soon and replaced by the **European model EPD system**. In the new system, FEICA, EFCC, which is a European construction Association, IVK, and DBC, the German adhesive association, and the construction materials association will be involved.

Dr. Lucas further shared details of the methodology followed during the development phase:

- Formulation and manufacturing data of typical products (provided by manufacturers)
- Grouping of products with similar environmental impact (each group to be described by one specific model EPD)
- Calculation of ‘single score’ (per kg) for all substances
- Calculation of the lifecycle impact assessment data per kg for the highest scoring product (worst case) of the defined group of products
- Development of EPD (description of application, technical data, LCA data)
- Approval by an independent verifier
- Publication online ([FEICA Model EPDs](#))

“The model EPD system is relatively complex in the development phase but very easy for the manufacturer to use afterward,” highlighted Dr. Lucas as it is possible for the manufacturer to refer to the EPDs without contacting any consultant and without any external costs, provided the chemistry, formulation, and application are in scope of one of the EPDs and the manufacturer is a member of an association that contributed to the EPD system.

Sharing details of the **substance list** (which contains about 450 single substances or product groups), **single score** value per kg, and **application modules**, Dr. Lucas explained how the model EPD can be used by manufacturers for low volume construction products.

In his last two slides, Dr. Lucas shared some ideas to develop **Model EPDs for Tapes**. According to him, the already established model system can probably be extended to tapes for construction. However, for non-construction markets, standards, program operators, and PCRs are missing. "I think the question of acceptance is very important. Manufacturers and associations have to check if their customers and markets are really accepting the EPDs for construction and, in particular, for the non-construction areas," noted Dr. Lucas. He also touched upon the associated cost (LCA consultants, program operators, etc.) and highlighted the need for contributions from Afera and the manufacturers.

## Model EPDs for tapes / II



### Tentative approach for construction products

- **Co-operation with the ,consortium of European Model EPD', IBU and Sphera: Use of established system and substance list**
- **Amendment by applications and specific substances**
- **Definition of the scope of the system (AFERA)**
- **Cost to be calculated and approved**
- **Generic, typical formulations and applications to be collected**
- **Groups of products and worst-case formulations have to be defined**
- **Calculation of single scores of substances, LCA calculations, EPD texts,.....**

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This was followed by the **Q&A session with over 70 participants** in attendance. Regarding the query on cost-sharing during the development of the Model EPD System, Dr. Lucas mentioned that the cost was shared by all associations involved, with FEICA paying 25% of the total cost.

In answer to the question on the relevance of manufacturing technique in the system, Dr. Lucas highlighted that while there is more emphasis on the composition of the materials, the model also considers the manufacturing process in specific sectors along with packaging and transport. "The transportation at the end is not really decisive for the system. I think **90-95% depends on the composition of the substance**," said Dr. Lucas. In the context of tapes specifically, he noted, "the substances and the amount of material used will be the determining factor and so either the carrier or adhesive will have a higher impact v/s application and transport."

Regarding a query on the LCA database, Dr. Lucas confirmed that the Model EPD is based on the **GaBi database** and since all such databases are different, he noted that there could be differences seen in the data if other LCA software is used for calculations by manufacturers.

Commenting on the question on units (square metre v/s kg), Dr. Lucas suggested that for tapes, **EPD per declared unit kg** would be better than per square metre and that a conversion factor can be applied to make the necessary calculation. Talking about adhesives and sealants, he

said, “the consumption per square metre is completely different if you are looking at solvent-based, dispersion, or 100% solid system. The EPD is per kg and then conversion needs to be done based on the application because the grouping is done only by composition and not by application.”

In conclusion, Dr. Lucas reiterated that if the manufacturers are interested in fulfilling the market needs i.e. providing accepted EPDs for the construction area, then the model EPDs are suitable and accepted, particularly for those **products that are used in smaller quantities like adhesives and tapes** (<1% of the building). The usefulness of the EPD is not in improving processes but in calculating carbon footprint in a harmonised way.

### Adhesives and Sealants – Regulatory Priorities, 2022

Much of the work and discussions within regulatory affairs and advocacy today are driven by the **European Green Deal (EGD)**. This is echoed by both, Afera and FEICA. While workstream 3 (WS3) within AFSP is currently assessing the impact of various regulations and initiatives on the tapes industry and developing guidelines, FEICA has also chalked out its regulatory priorities for 2022. To provide a detailed update on this, Jana Cohrs from FEICA joined the AFSP webinar held on March 31<sup>st</sup>, 2022.



Setting the scene, Ms. Cohrs highlighted some of the concepts of the EGD with implications that overarch different pieces of upcoming EU regulations or existing EU regulations that might be updated. She listed out the following that FEICA is working on heavily in different working groups:

Initiatives	Impact
Mixture Assessment Factor (MAF)	Expected to have an influence on how many chemicals we will have available on the market

Safe and sustainable by design	Expected to have an influence on substances and how products are formulated
Essential use	
Generic risk approach	
One substance one assessment	Expected to simplify the assessment procedures and the access to data
Data requirements	Expected to increase

Explaining the process of defining priorities, Ms. Cohrs stated, “we distinguish between different levels – critical topics, topics of high importance, potential issues to monitor, and then topics that may become apparent in the future.” She highlighted that in addition to business importance, chances of success were also taken into account during the prioritisation to ensure focus on issues that are relevant and where change is possible.

## Regulatory Focus Areas

**Critical Topics:**

- Specific horizontal regulations (CLP, REACH (Mixture Assessment Factor, Polymers Requiring Registration), etc.)
- Specific substances issues (Diisocyanates restriction, substances in food contact materials, etc.)
- Identified priorities of the EU Green Deal (Circular Economy Action Plan, Chemicals Strategy for Sustainability)
- Review of Construction Products Regulation
- Review of Food Contact Legislation

**Topics of High Importance:**

- REACH (FEICA Use Map Packages and ENES tools)
- One-Component Foam
- Digitalisation (in Construction and other areas)
- Environmental Product Declarations
- Electronics (Eco-design)

**Potential Issues to Monitor:**

- Microplastics
- Endocrine Disruptors and nanos (with potential impacts, not only from supply-chain communication aspects!)

**Topics that may become a priority in the future but no current involvement unless prioritised**

- Substances – including vertical and environmental regulations
- New wastes on Circular economy such as waste and the non-toxic strategy

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Under **critical topics**, Ms. Cohrs talked about REACH (MAF, Polymer registrations) and the Classification, Packaging and Labelling (CLP) regulations, specific substances issues, Circular Economy Action Plan (CEAP) and the Chemicals Strategy for Sustainability (CSS), Construction Product Regulation (CPR), and the Food-contact Legislation. And within **topics of high importance**, FEICA plans to focus on REACH, one-component foam, digitalisation (QR codes instead of long labels/CE markings), EPDs, and the eco-design of electronics.

Aligning with the scope of the webinar, Ms. Cohrs focused on specific areas of interest i.e. electronics, paper & packaging, and construction.

With regards to **electronics**, FEICA is involved in the review of the commission's initiatives related to the right to repair, new design requirements for electronics, and the circular electronics initiative. “We are engaged in a dialogue with the EU Commission on the Repair Score study,” highlighted Ms. Cohrs.

In the area of recycling and recyclability of electronics, she noted that FEICA continues to engage with recyclers and other stakeholders to understand what's happening to adhesives and sealants, not only throughout the supply chain but also at end of life. Ms. Cohrs also highlighted the specific studies that FEICA has provided input to, including the **Eco-design study on and Reparability score for mobile phones and tablets**. “We're monitoring and responding also to NGOs' publications about the performance of adhesives and sealants in electronics and we have position papers for EuRIC (European Recycling Industries' Confederation and FEAD (European Waste Management Association) about the recyclability of electronics under Eco-design,” said Ms. Cohrs.

Moving on to the **paper and packaging** sector, Ms. Cohrs shared the two areas in focus, which include the safety issues related to food-contact packaging and the sustainability and recycling of packaging.

She noted that the Chemicals Strategy of Sustainability will have a strong influence on the revision of **food-contact legislation in Europe** and explained further with the example of ‘one substance one assessment’. While it exists already for plastics, a declaration of compliance is expected for all food-contact materials. “The guidance for a [food contact status declaration](#) for adhesives has been recently updated and available on FEICA's website,” informed Ms. Cohrs. The food contact legislation is also influenced by the recycling of packaging, owing to the possibility of critical substances, unwanted in the packaging, reappearing in the recycled material. Examples of substances shared by Ms. Cohrs included primary aromatic amines, mineral oil hydrocarbons, BPA, styrene cyclic esters, etc.

“On the whole, I think we're moving away from the traditional idea of risk assessment, where we have considered always the **migration of substances** into the food and how safe the adhesive and sealant is for the intended application, towards more pressure to look at individual ingredients in formulations simply because of the fear that it will come back in the recycles,” stated Ms. Cohrs

While talking about **recycling and sustainability of packaging**, Ms. Cohrs noted the review of the essential requirements of the Packaging and Packaging Waste Directive (PPWD). Specific collaborations are in place for both, the recycling of paper packaging (4evergreen alliance and European Recovered Paper Council) and of plastic packaging (RecyClass).

Shifting the focus to the **construction industry**, the big task as highlighted by Ms. Cohrs was related to the revision process for the Construction Products Regulations (CPR), which instead of being dealt via delegated acts is going to the Parliament. “The reviewed CPR will include a stronger aspect of sustainability,” she said. The other EU public consultations that are on-going were also listed – Transition Pathway for a digital, green and resilient construction ecosystem, Energy Performance of Buildings Directive, European Sustainable Built Environment Strategy, EU Industrial Strategy, Level(s), and the New Legislative Framework (NLF).

In conclusion, Ms. Cohrs drew attention to the availability of EPDs on the FEICA website and shared details of the recent webinars hosted by FEICA on the topic of CPR, where industry proposal was presented to the EU legislator and on digitalisation (blockchain models, smart CE markings, etc.).

## Recordings

- The recordings of the AFSP Webinars are available to Afera members upon request (contact [afsp@afera.com](mailto:afsp@afera.com))