



The European Adhesive Tape Association

PCF calculation tool

The what, why, how and when



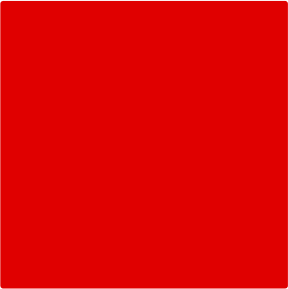
from natural affinity, or from sympathy and manifesting it


Carbon Footprint


/ˌkɑːbən ˈfʊtprɪnt/


The actions, feelings, ideas and tasks combined in a clear concept or a theme, with

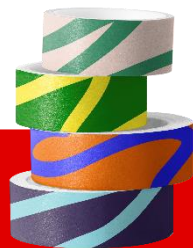
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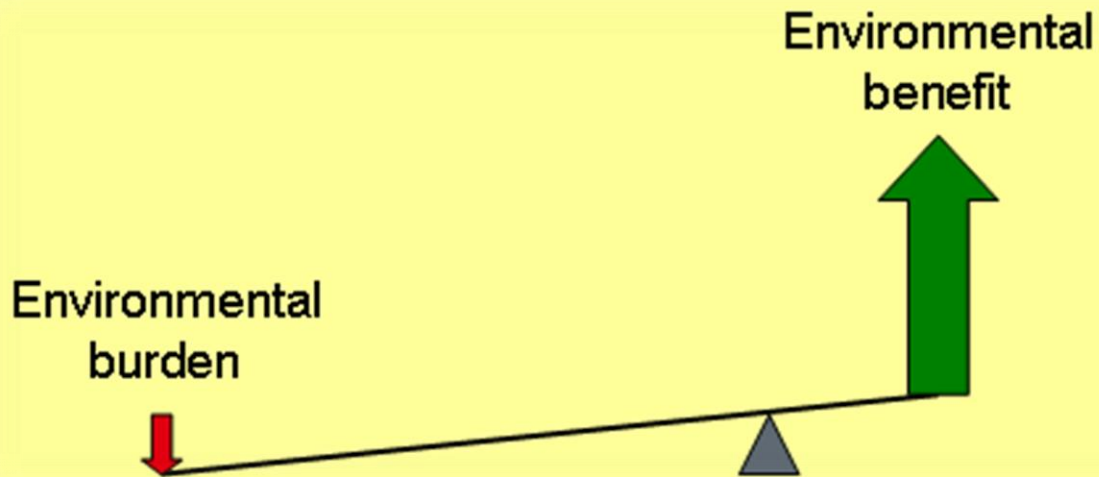
The idea

Tape is the unseen green partner, ensuring the continuity of entire industry value chains. Afera, as the European adhesive tape industry collective, is facilitating the drive for transparency and inclusion of the supply chain in encouraging open innovation, digital transformation, utilisation of green technologies, and implementation of sustainable and circular business models for our Member Companies.



The idea

On behalf of the European adhesive tape industry, Afera wants to **communicate tapes as enablers of sustainable solutions** to other industries, markets and value chains, especially Member Company partners and customers.



The idea

European adhesive tape manufacturers need a **uniform, recognised standard for measuring the sustainability of adhesive tapes** for product designers and engineers and everyone else in the adhesive tape value chain, as well as regulatory bodies.



The idea

The **Product Carbon Footprint (PCF)** sums up the **total greenhouse gas (GHG) emissions generated by a product over the various stages of its life cycle**. As enablers of material efficiency, durability, repairability, upgradability, recycling and CO₂ reduction, the products of the adhesives and adhesive tapes industries make an important contribution to achieving the goals of the European Green Deal and at the same time must show themselves to be CO₂-neutral by 2050 at the latest.

Against this background, PCF is also becoming increasingly important within our industry for estimating the environmental impact of all types of adhesive tapes—in particular, a **“cradle-to-gate” assessment of PCF based on the Life Cycle Assessment (LCA) approach including the raw materials, manufacturing and distribution stages for B2B reporting**.



What it is

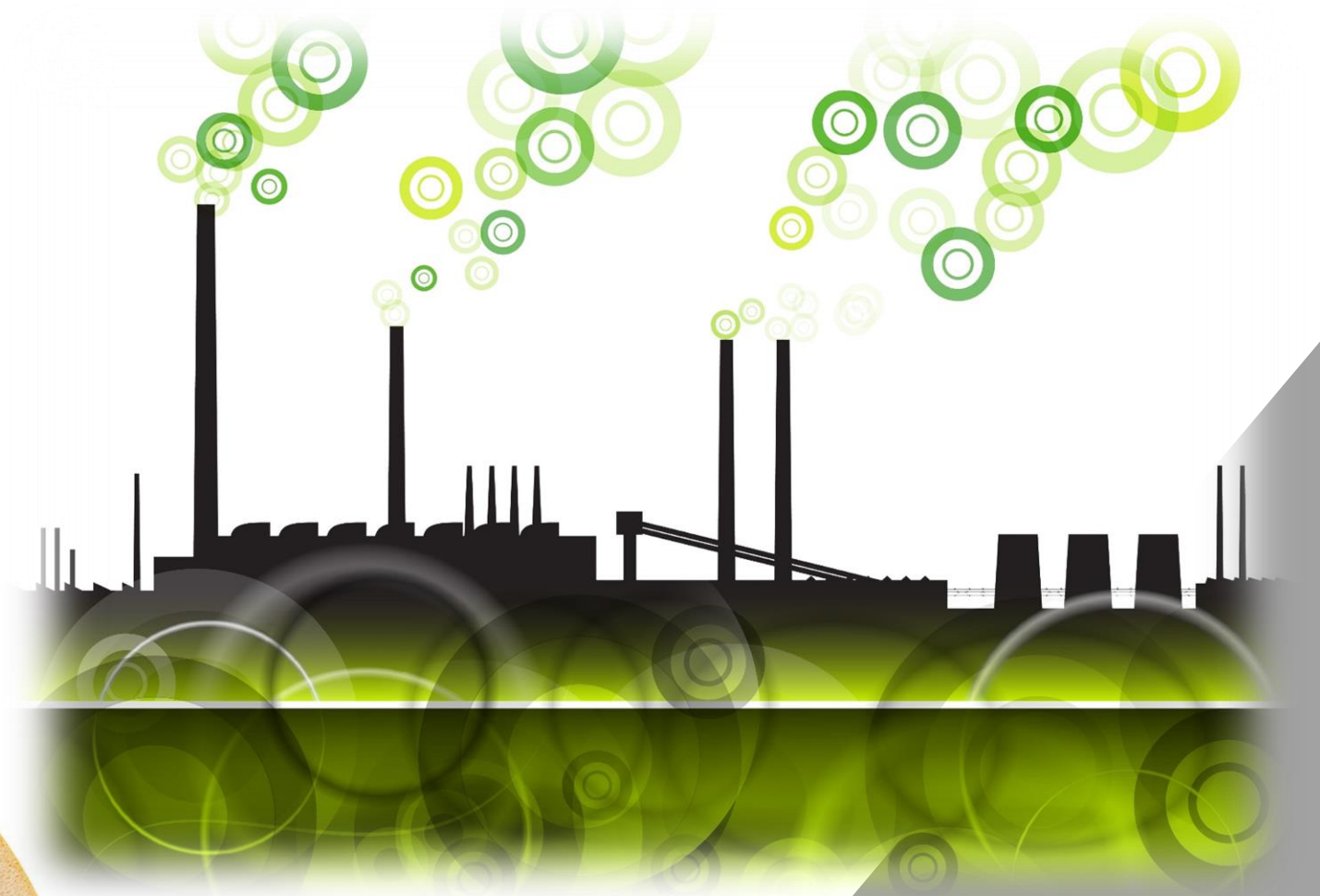
Afera and German Adhesives Association IVK are collaborating with Sphera, a specialised provider of sustainability consulting services, to develop a web-based, sector-wide **tool for PCF calculation of both adhesives and adhesive tapes** using a harmonised, straightforward, affordable method.

PCFs will be calculated according to **ISO standard 14067:2018: Greenhouse Gases – Carbon Footprint of Products** through an expansion of the **Together for Sustainability (Tfs) PCF Guideline**, and **ISO standard 14040:2006 Environmental Management – Life Cycle Assessment**, to be agreed upon *by* and *for* the tapes and adhesives sectors.



Who it is for

- Adhesive tape manufacturers



What it is not

The PCF calculation tool is

- **Not** intended for benchmarking products or technologies
- **Not** an environmental label
- **Not** a publication of PCF data for products manufactured by Afera Members
- **Not** a calculation service.



Why it is critically important: Don't miss out!



It will be required in the (near) future!

- Supporting environmental claims with hard data will be a necessity with upcoming European regulations
 - Currently under the Battery Regulation already
 - Upcoming under the ESPR (Ecodesign for Sustainable Products Regulation) in Digital Product Passports (DPPs)
- Customers are increasingly asking for PCF data.

Why it is critically important: Don't miss out!

It will become an Industry standard

- Compatible with existing Industry data and calculation methods for raw materials (e.g. the TfS methodology for chemicals)
- Broadly applicable to all kinds of adhesive tapes, surface protection films and analogous products
- Including the impact of tape manufacturing process operations
- Defining system boundaries (e.g., waste, logistics, energy, etc.).



Why it is critically important: Don't miss out!

It will ensure compliance with E.U. regulations

- Both the input and results will be certified, allowing businesses to meet future legal requirements as well as the demands of the supply chain. This is good for customers and authorities and ultimately makes the tape industry more credible and resilient
- The Tool also complies with European Union competition law.



Why it is critically important: Don't miss out!

It will help you become more sustainable

- The established methodology for calculation can be used to monitor a company's own progress towards reducing environmental impact
- With the availability of harmonised PCF data across the supply chain, companies will be able to track their Scope 3 emissions, aiding their efforts to reduce GHG emissions.



Why it is critically important: Don't miss out!

It will help you become more sustainable

- The calculation method can be used internally in R&D processes to develop novel products with reduced environmental impact
- The Tool does not require a high level of expertise for use. It will be accessible to non-LCA experts to produce PCF values confidently.



Why it is critically important: Don't miss out!



It will be updated and expanded

- Afera will have the possibility to develop a common methodology to validate data from upstream suppliers
- In the future, more sustainability aspects, such as Product Environmental Footprint (PEF), Life Cycle Assessment (LCA) and Environmental Product Declaration (EPD), may be incorporated into the Tool.

Why it is critically important: Don't miss out!



Afera makes it affordable for you

- The cost of calculating PCF for a tape manufacturer normally ranges from **€2K to €5K for a single product**
- Developing a PCF calculation tool for all products as a group is more cost-effective than doing it as individual companies.

Access to the PCF calculation tool requires contributions beyond the standard Afera Membership fee

✓ €5K one-time tool development fee

- This covers costs to Afera, incl. creating and managing the shared project with IVK, holding the awareness and scoping workshops, developing the methodology, and implementing the Tool and periodic updates. Any remaining budget will be applied to future updates and maintenance costs of the online platform. Most of the above costs will be split 50/50 with IVK.

✓ ~€2.5K yearly licensing fee for unlimited access to the system

- Not covered by the development fee, this will be payable directly by Members to the software developer.

- The above costs will also apply to new users of the Tool down the line, i.e. those who join Afera in the future
- Afera adhesive tape manufacturer Members are free to choose not to participate in the development process of the Tool or to utilise it, although this course of action is *not advisable*, as the Tool benefits all tape manufacturers.



Why not participating is *not* advisable!

The obligation of proving the PCF of your products will not go away!

- E.U. regulations will compel every company to demonstrate the environmental impact of their products in the near future anyway, and your customers will most likely want it even sooner!

A sustainable measurement tool developed by an individual company will not be trustworthy to customers

- It will not be considered an industry standard
- Your customers will compare like products on the market, and if there is a discrepancy, you will be questioned
- The more tape manufacturers who utilise the Tool, the more credible the tape industry will become as a whole.



Why not participating is *not* advisable!

Your business costs will not be manageable

- Developing your own sustainability tool will be much more expensive
- Changes in raw materials and manufacturing processes require re-calculation at potential additional cost.

The level of expertise required to use your own-developed calculation method may be too high

- This would limit its use within your organisation to fewer people.



Why not participating is *not* advisable!

Data exchange along the supply chain will be difficult

- In terms of input, using validated primary data from raw materials suppliers is complicated, potentially locking you into relationships with specific suppliers
- Properly calculating your PCFs requires support from suppliers, something which is easier to obtain as a consortium, because for suppliers the reach is farther and the effort relatively small
- The more tape manufacturers who participate in setting up the Tool, the more suppliers who will make their data available to the system
- In terms of output, providing validated data to tape users could be challenging.

Computing the impact of changes in R&D, procurement and strategy on PCF can be difficult on your own

- This means taking raw materials, manufacturing processes, energy use, transport, etc., into account.



Why not participating is *not* advisable!



Not participating in the scoping and building of Afera's tool now means that you will *not* be able to give your input into an E.U. industry standard affecting your business down the line, most importantly and urgently by upcoming regulations!

How it was developed

Afera aims to develop harmonised tools, concepts and materials for our Member Companies with which to create their own programmes, policies, technologies and products for compliance with current and upcoming European environmental legislation.



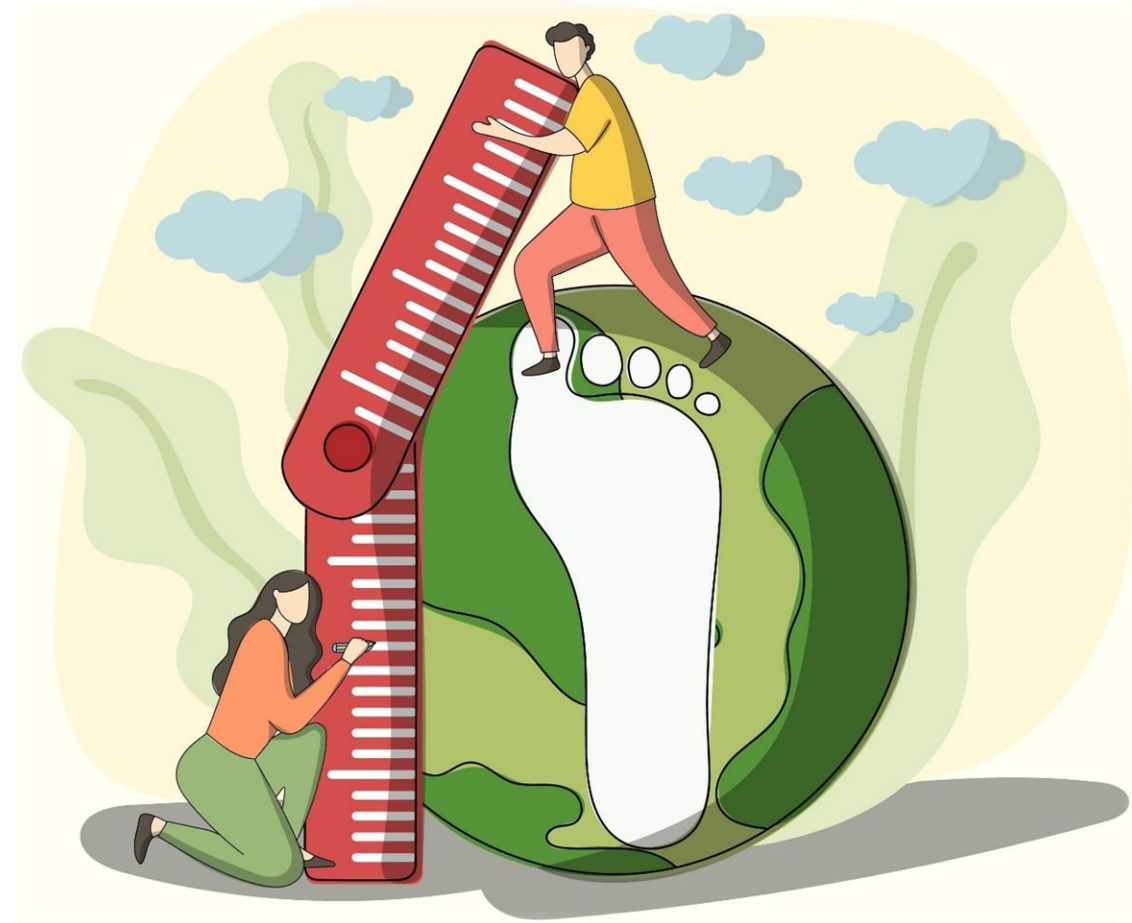
How it was developed

- After a lot of research, we established how best to support the adhesive tapes industry
- In 2021, we launched our Flagship Sustainability Project “**Translating the European Green Deal to Afera Members**”, focused on producing standardised calculation methods, actively establishing E.U. legislated best available techniques (BATs) for waste management reduction along the supply chain, and providing all relevant information about the Green Deal to Afera Member Companies.



How it was developed

- We created one of Afera's Sustainability Project workstreams with the goal of developing harmonised calculation methods for estimating the environmental impact of all types of adhesive tapes
- The Calculation Methods Workstream studied: how to calculate PCF, other worldwide standards, company initiatives, the breakdown of tape components (and each of their data), and the process landscape for tape manufacturing
- After running a survey and holding a meeting in August 2022, the Workstream received a strong mandate from Afera Members to develop a PCF calculation solution
- This was confirmed unanimously by Afera's Technical Committee and covered in the Afera General Assembly in November 2022.



How it was developed



- Afera met with German Adhesives Association IVK, which was already conducting a project based on customer/market demand to create an online calculation platform for adhesives through the software developer Sphera based on the TfS methodology
- We partnered with IVK to create the same Sphera tool for Afera in order to speed up the development process, share costs, learn efficiently from each other, and make the harmonisation initiative larger and stronger
- IVK is driving the creation of the adhesives part of the Tool, while Afera is responsible for tapes.

How it was developed



Afera's sustainability project (AFSP) was set up with co-operation at its heart to solve problems that are too big for one single company to tackle. Joining forces with the liquid adhesive industry to develop a common approach and solution to calculate the environmental impact of adhesives and adhesive tapes is one such example.

Reinhard Storbeck
Afera Technical Committee Chairman

Going forward: How it will be implemented

In the first stage of implementation, **a series of 4 sold-out workshops, free to Members, was held in order to scope and build the adhesive tapes tool**

- 6 June 2023 > familiarised 165 participants from 90+ companies with Afera's harmonisation project and the online platform which Sphera is developing exclusively for the 2 associations, including
 - Objectives
 - Concept
 - Calculation bases
 - Industry standards
 - Basics of the online tool
 - Q&A.

(Recorded for Members)



Going forward: How it will be implemented



- 21 September 2023 > 30 participants from 25+ Afera Member Companies worked in Düsseldorf on **advanced scoping the adhesive tapes tool**, including
 - Structure and calculation methodology
 - Goals and scope for both adhesives and tapes
 - Databases
 - Functional units
 - Open and fixed parameters
 - Substances, raw materials, precursors
 - Process breakdown
 - Additional expectations
 - Timeline.

Going forward: How it will be implemented

- November 2023 industry-specific scoping workshops in Düsseldorf >
 - On 7 November, a targeted group of 14 experts from Afera Member Companies held key discussions re: industry-specific
 - model processes
 - raw materials clusters
 - data requirements and collection process needed to develop the new PCF tool for adhesive tape manufacturers
 - The aim was for representatives of Member Companies who have prior knowledge of the subject to provide their input and support into the building of the harmonised tool.



Outcome of workshops

Important agreements coming out of the workshop series:

Calculation methodology

- ✓ To be based on 'ISO standard 14067:2018: Greenhouse Gases – Carbon Footprint of Products' through an expansion of the Together for Sustainability (TfS) PCF Guideline

Scope

- ✓ Cradle-to-gate
- ✓ For reporting within B2B for the time being

Functional unit

- ✓ CO2 eq. per sq. m of tape, with a conversion factor (surface area to mass)

Parameters

- ✓ 'Open parameters' [raw material, waste (including treatment), energy use, warehousing, packaging]
- ✓ 'Fixed parameters' [transportation, auxiliary materials]

Data

- ✓ Primary data from suppliers possible to be incorporated
- ✓ Secondary data sets to be compiled by Sphera with input from Afera

Timeline

- ✓ Raw materials clusters and model processes – Q4 2023
- ✓ Data collection – H1 2024
- ✓ Draft tool delivery (MVP) – Q3 2024

Next steps

- Afera will work in close co-operation with Sphera to finalise the raw materials clusters and build the database required to set up the Tool.
- In addition to the Tool, Sphera will also provide Afera Members with the following:
 - Manual on how to use the Tool
 - Detailed description of the methodology used for calculation of PCF, including the assumptions made and how the TfS guidelines apply to adhesive tapes.



When it will be launched



The web-based Afera PCF calculation tool is currently in the development pipeline:

- Data collection beginning in January 2024
- **Draft tool launch in Q3 2024.**

Questions?

For more information about Afera's PCF calculation tool, contact us

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