



A joined-up approach to sustainable packaging

Our series of web seminars covers every key topic you need to know about. Taking place from March 15 to 25.



BASF calculates the CO₂ footprint of its products

Webinar on March 22
with Dr. Martin Binder and Dr. Jan Schoeneboom



Your hosts for today



Dr. Martin Binder
BASF SE

AI Solutions - Digitalization of
Services & Core Systems
martin.binder@basf.com
[+49 621 60-78575](tel:+496216078575)



Dr. Jan Schoeneboom
BASF SE

Team Lead
LCA Corporate Sustainability
jan.schoeneboom@basf.com
[+49 621 60-22140](tel:+496216022140)






Nina Osten
BASF SE

Communications Polyamides
nina.a.osten@basf.com
[+49 152 54874615](tel:+4915254874615)

Welcome to our session!

Before we start... Webex housekeeping

- Please **provide your full name**: Do not appear as a “Dial-in User”
- We'll put you all on **mute** 
- Ask a question **via the chat or Q&A function (to everyone)** or “raise a hand”, so we can unmute you 
- All questions will be answered **after** the session
- Please **turn off** your video
- We recommend to use **VoIP** audio connection (“**call using computer function**”)
- Please note that this session is going to be **recorded** 
(Q&A will not be published)



BASF calculates CO₂ footprint of all sales products

Jan Schoeneboom, Martin Binder

Webinar March, 22 2021

 **BASF**
We create chemistry

Agenda

1. Climate Change and CO₂ target
2. Why will we provide PCFs for our portfolio?
3. How are PCFs calculated?
4. Project timeline and outlook

The challenge of climate change

Limiting global warming requires a significant reduction of greenhouse gas emissions

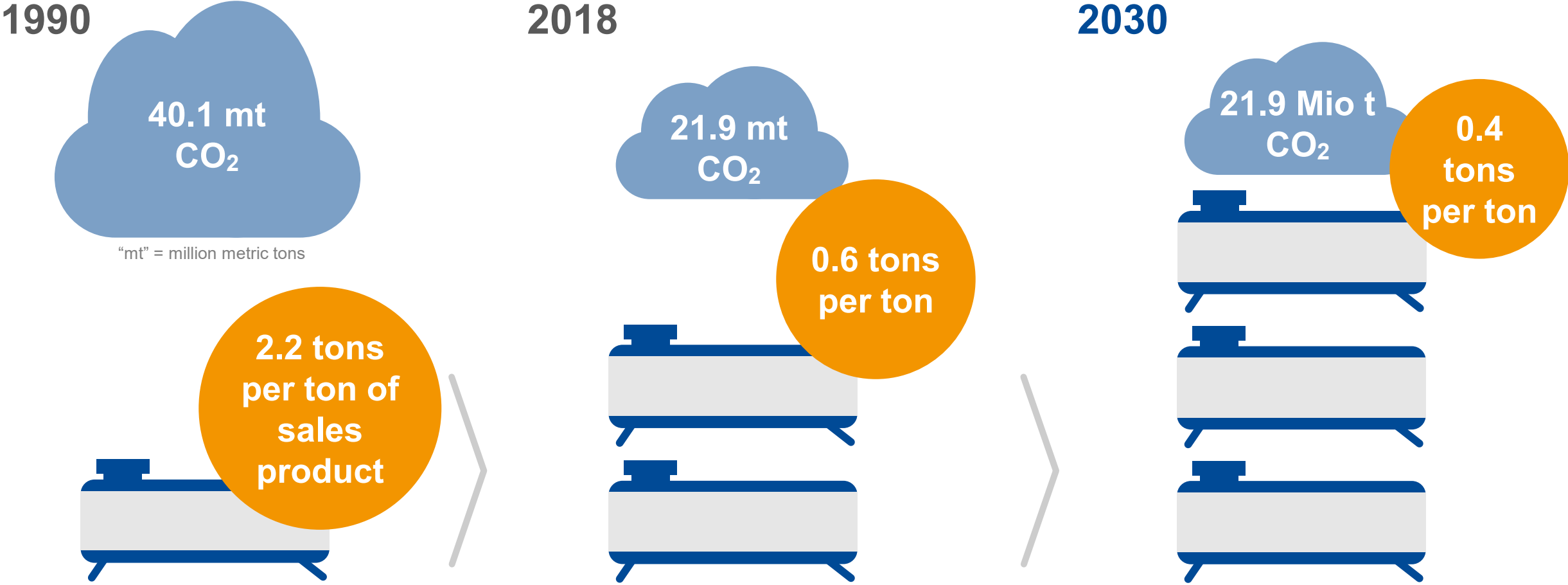
- Human activities are estimated to have already caused approximately 1.0°C of global warming above pre-industrial levels.
- Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system.
- Existing weather-related risks (e.g. extreme weather events, increasing droughts or rainfall, higher sea levels) will increase.



That's why BASF is working to protect the climate globally.

CO₂-neutral¹ growth until 2030

Maintain total greenhouse gas emissions at the 2018 level while increasing production



¹ The goal includes other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO₂ equivalents.

Carbon Management at BASF

Climate target 2030 and further reductions in the long term in scope



Reducing the CO₂ emissions from our production by improving energy and process efficiency



Increasing the share of renewable energies in our global power supply



Developing breakthrough technologies for low emission production in a research & development program

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Increasing demand by our industry for product carbon footprints

Examples

Bloomberg Green

Climate Adaptation
Unilever's New Climate Plan Puts Carbon Labels on 70,000 Products
 The consumer giant is committing to reduce a large portion of its emissions to zero by 2039.

By Akshat Datta
 June 16, 2020, 10:59 AM GMT+0 (Updated on June 16, 2020, 6:40 PM GMT+0)

3,006 articles published on this topic in the last 30 days

50,820 articles written about this topic in the last 30 days

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CO2 targets are becoming ever more demanding worldwide

Givaudan

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Download PDF
 A 2020 Call Sustainability Report
 A 2020 Integrated Annual Report Highlights

Our targets

Target	Progress 2017*	Progress 2020**
Cut our absolute scope 1 and 2 GHG emissions by 70% between 2015 and 2025	-17.0%	-38.0%
Cut our absolute scope 3 GHG emissions by 20% between 2015 and 2025	+17.7%	+11.0%
100% renewable electricity by 2025	75.0%	81.6%
10% waste per tonne of product by 2020 (includes incinerated and landfilled waste)	-18.0%	-14.0%
15% water per tonne of product by 2020 (use of municipal and groundwater, baseline 2005)*	-28.8%†	-12.0%

* Compared to baseline year 2015.
 ** We have not yet 2020 targets to assess and are in the process of assessing new targets in 2021.
 † 2019 record figure = 28%

READ MORE ABOUT HOW WE TAKE ACTION

DSM

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SUSTAINABILITY / CLIMATE & ENERGY / Improving our own carbon footprint

Climate & Energy
 Improving our own carbon footprint

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Press Releases

Aptar's Emission Reduction Goals Validated by Science Based Target Initiative (SBTi)

Aptar formalized its science-based targets setting an emissions reduction goal consistent with requirements to keep global warming well-below 2° Celsius by year 2030.

24 JULY 2020

The new ID.3: balance sheet CO2-neutral
 Emission values are reduced along the entire value chain

supply chain | production | use - phase | recycling

- 100% green energy in production of battery cell
- 100% green energy at the factory (Volkswagen)
- 100% Volkswagen Naturstrom® via ESI
- Second Life / Closed Loop Recycling

Unavoidable emissions are offset by investments in climate protection projects.

Environment LEADER

NEWS / ENERGY MANAGEMENT / COMPLIANCE & GOV. / PLANTS & BUILDINGS / SUPPLY CHAIN / CITIES

P&G Says Global Operations to Be Carbon Neutral within the Decade

JULY 17, 2020 BY ALYSSA DANIELSEN

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Henkel

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Home / Sustainability / Positions / Climate Protection Strategy and Targets

Climate Protection Strategy and Targets

Key Facts

- In light of the Paris agreement on climate change and the clear need to reduce CO₂ emissions, Henkel is pursuing the vision to become a climate-positive company by 2040 and to drive significant progress in other relevant areas of its value chain.
- We are aiming to reduce the carbon footprint of our operations by 65 percent by 2025 and by 75 percent by 2030. We intend to achieve this by continuously improving our energy efficiency and by using electricity exclusively from renewable sources. Our target for this is to source 100 percent electricity from renewable sources by 2030.
- We want to become climate-neutral by replacing the remaining fossil fuels used in our operations with CO₂-free alternatives.
- Our operations will become climate-positive when surplus carbon-free energy that Henkel does not need for its own purposes is supplied to third parties.

syngenta

Innovation in agriculture / Protecting crops / Seeds / Sustainability / Company / Careers / Country websites

Helping suppliers manage emissions

We have a long tradition of assessing and auditing our chemical suppliers' compliance with our health, safety and quality standards. In 2015, we joined the chemical industry's Together for Sustainability initiative, which pools the resources of its member companies to optimize the efficiency and frequency of supplier audits and assessments. These include evaluation of suppliers' action to track and reduce GHG emissions. GHGs associated with site processes and activities, transport fuel use both on and off-site, agricultural activities and other sources are expected to be monitored and routinely assessed.

We are also committed to long-term CO₂ intensity reduction for all our land, sea and air distribution logistics. We are currently implementing a global program with partners who integrate and co-ordinate all logistics operations across supply chains to optimize processes and gain economies of scale. This will improve energy and cost efficiency, compliance and CO₂ emissions.

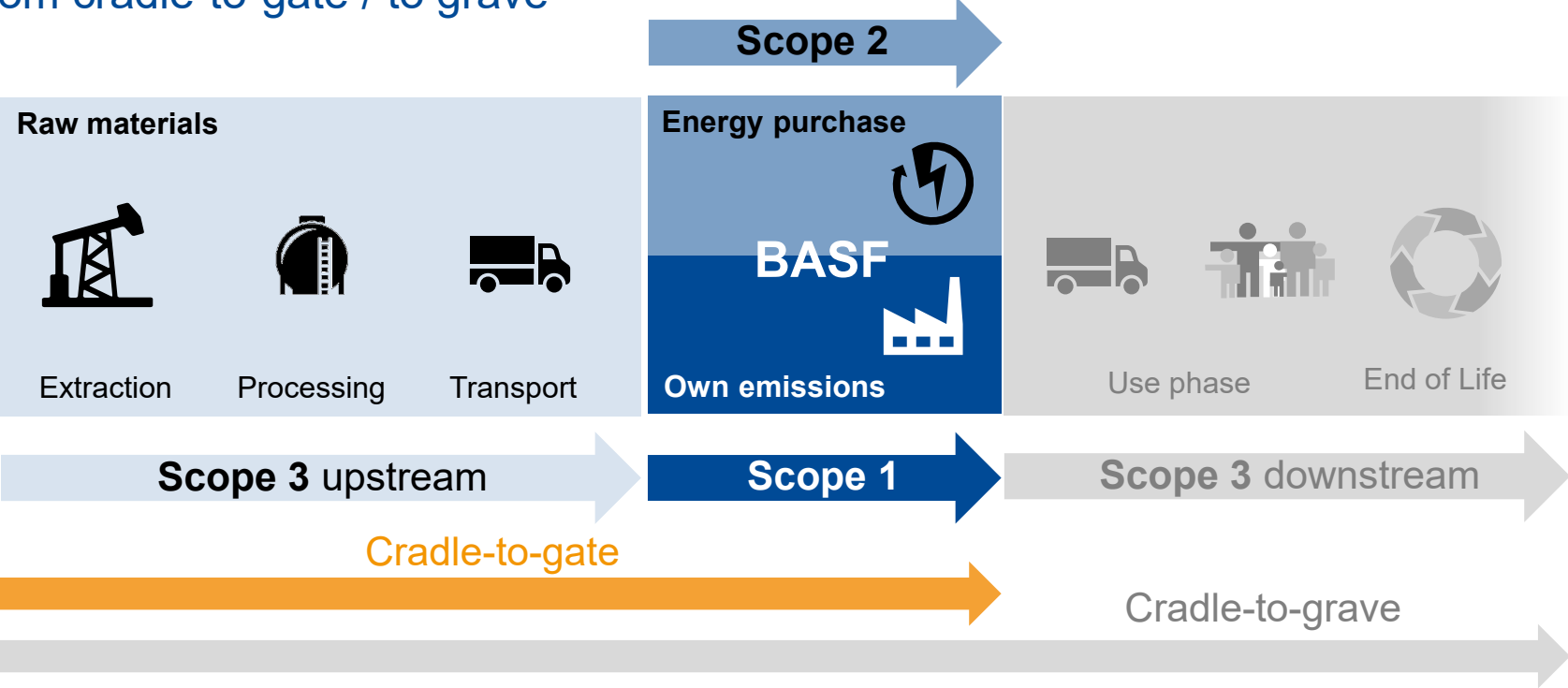
Partnering to tackle climate change

Collaboration is at the heart of what we do. Our ambition is to support a step change in collaboration



Product Carbon Footprint

PCFs summarize the specific amount of greenhouse gas (GHG) emissions that are associated with a product throughout its **life cycle** from **cradle-to-gate / to grave**



ISO 14067:2018 defines the Product Carbon Footprint as the life cycle GHG emissions of a product

Why?

Customers

- Scope 3 GHG reporting
- GHG target tracking
- Product Design & Labelling
- Offsetting



Investors



Authorities

- EU-Taxonomy



Our Biomass Balance portfolio

Sustainability benefits including lower GHG emissions

Feedstock

Fossil



Renewable

Use of renewable feed-stock in very first steps of chemical production (e.g., steam cracker)

BASF Production Verbund



Utilization of existing Production Verbund for all production steps

Products

Conventional product



Biomass Balance product



Allocation of renewable feedstock to selected products

Advantages

- Significant reduction of greenhouse gas emissions
- Approach can be applied to the majority of products in our broad portfolio
- Product performance stays identical to conventional products
- We can use our highly efficient Production Verbund
- More than 240 biomass balanced (BMB) products (“drop-in products“) in our portfolio

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What is YOUR Carbon Footprint?

START

FOOTPRINTCALCULATOR

Discover your personal footprint!

Take a few minutes to learn about how your personal choices influence your carbon footprint.

The calculator was developed by Henkel and the Wuppertal Institute (Germany). By using this calculator, you make a contribution to scientific research into sustainable lifestyles.

The data you provide will be kept anonymous.

Enjoy discovering your footprint!

→ Start calculator

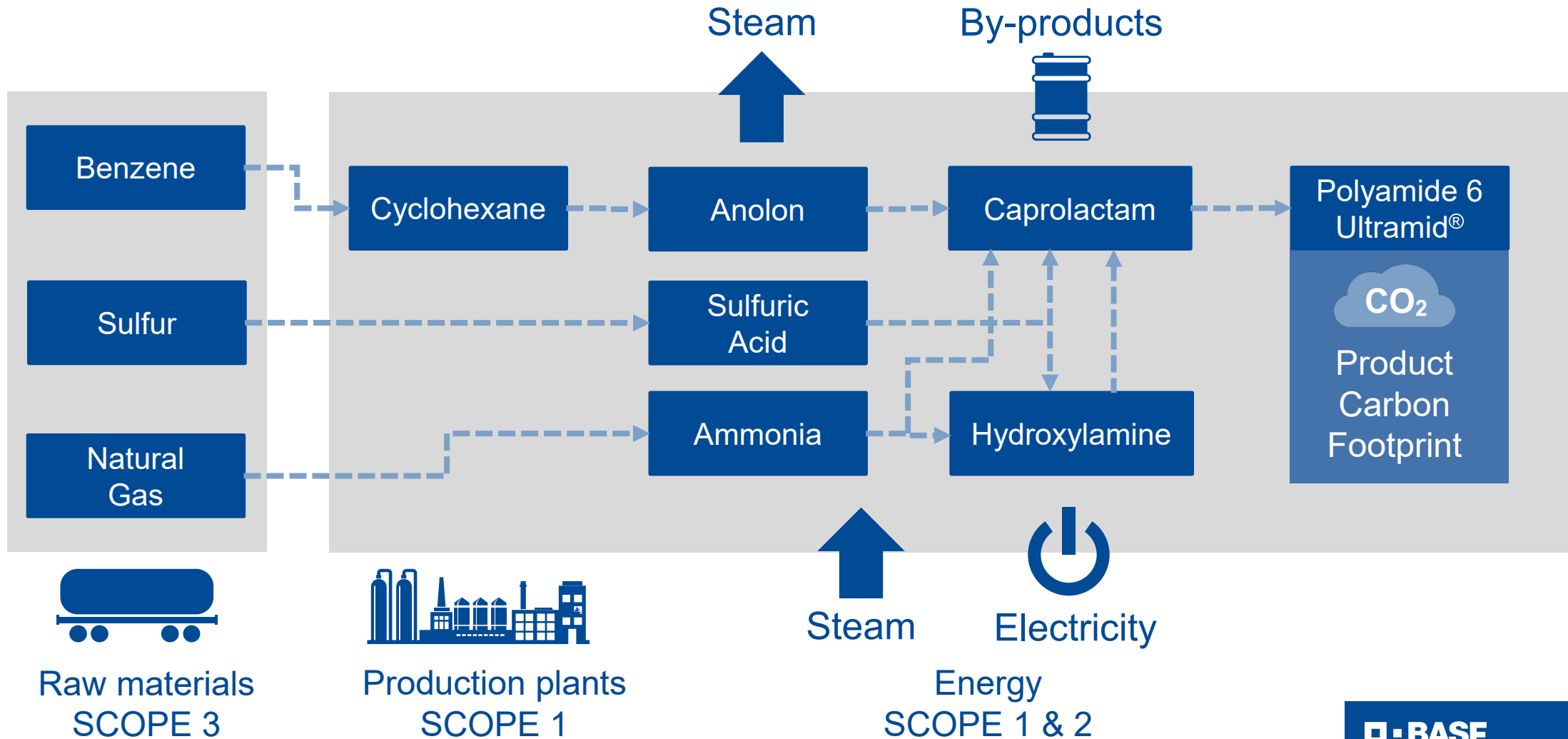
HOUSING	0.00 tons CO ₂
NUTRITION	0.00 tons CO ₂
MOBILITY	0.00 tons CO ₂
HOLIDAY & LEISURE	0.00 tons CO ₂
SOCIO-DEMOGRAPHIC DATA	
MY ANNUAL FOOTPRINT	0.00 tons CO ₂



<https://footprintcalculator.henkel.com/en>

Product Carbon Footprints – Example Ultramid® value chain

PCF calculation includes all steps of the Polyamide 6 value chain

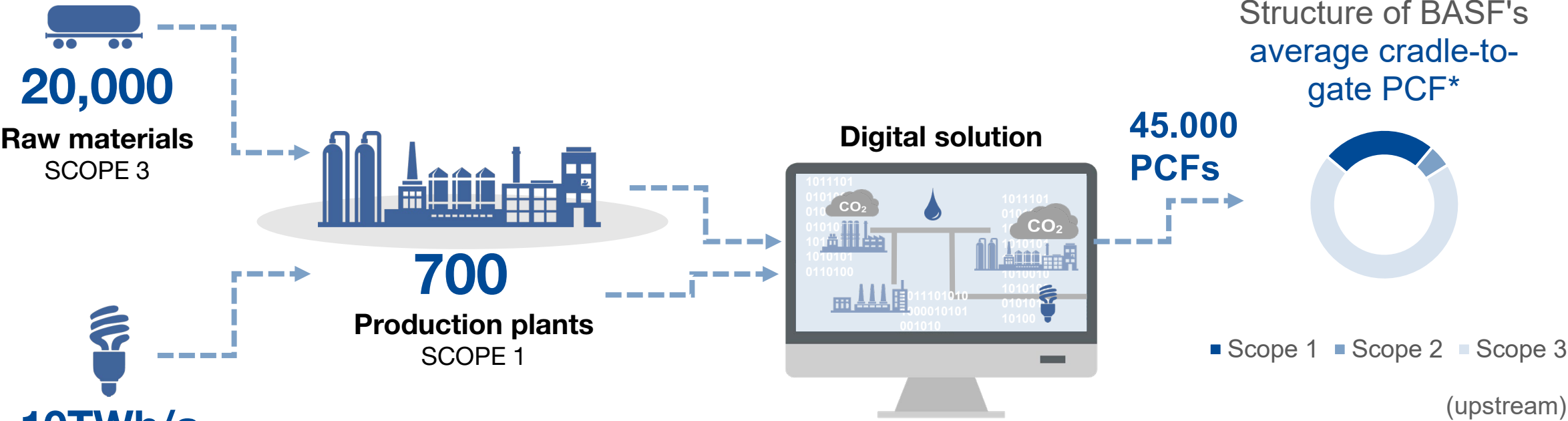


How is a Product Carbon Footprint calculated?

- **Primary data** and **high-quality average data** from databases or from third parties
- Bottom-up (“LCA approach”) calculation, data consolidated along the **specific** cradle-to-gate process-network of each product.
- Follows the **ISO standard** ISO14067:2018 for carbon footprint of products, which is based on ISO14040:2006 and 14044:2006 for life cycle assessment. Additionally, our calculation is aligned with the **GHG Protocol Product Standard** (WRI & WBCSD, 2011).
- **BASF builds on 25 years of experience in methodologies to quantify sustainability performance**



New digital solution calculates PCFs for BASFs 45.000 products



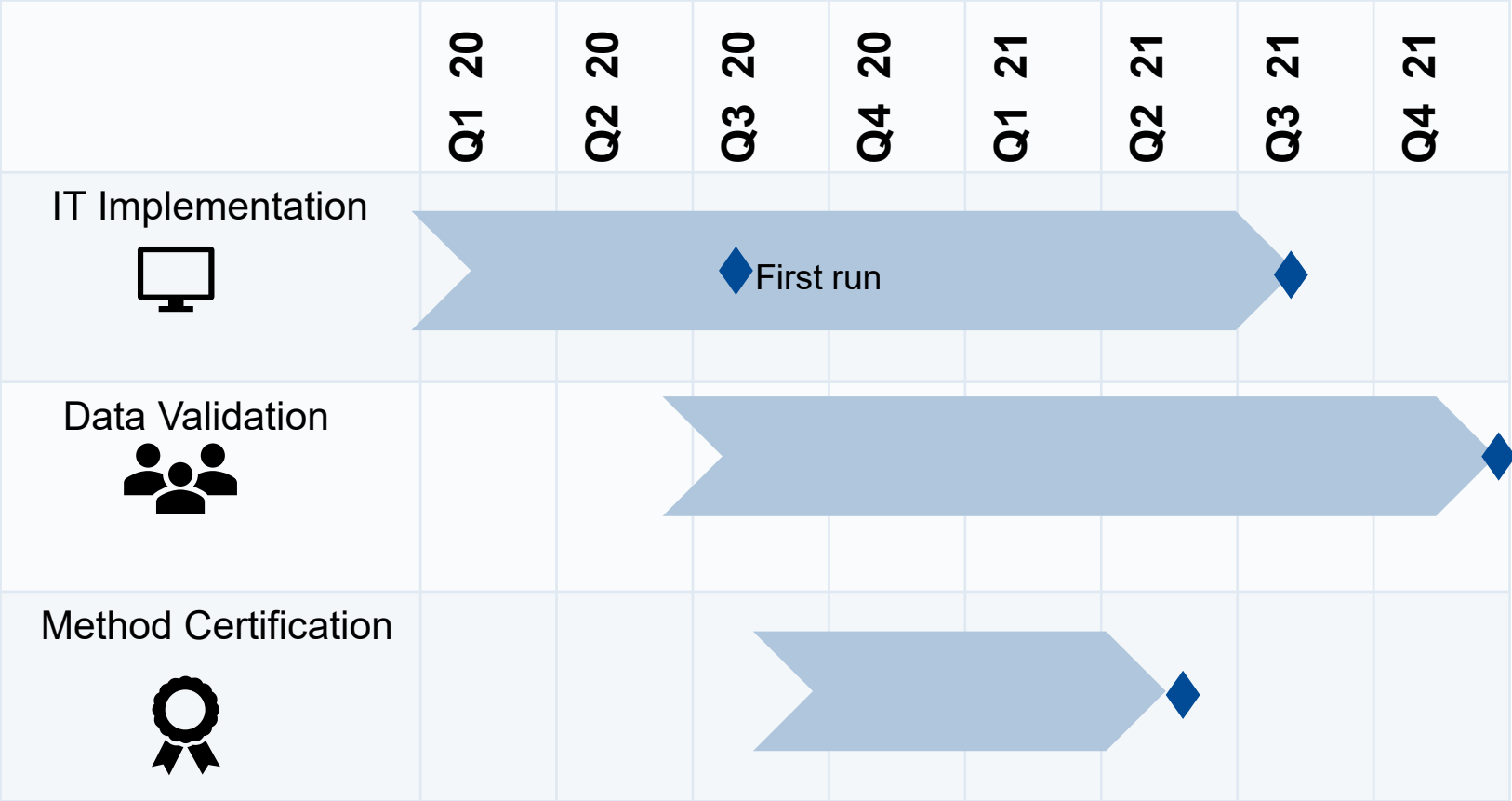
Automated cradle-to-gate Product Carbon Footprints calculation based on process emissions, energy demand and upstream emissions (raw material PCF from databases)

*in scope are BASF A-companies' emissions and sales volumes 2020. Individual PCFs may vary strongly in magnitude and scope distribution

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BASF Product Carbon Footprint Timeline



Finalization of **calculation tool** and **interfaces** to internal data sources

Direct communication of PCFs only **to customers after validation**

Independent 3rd party certification of PCF method

BASF supports establishing standards

Existing standards leave room for interpretation. Hence, PCFs provided by BASF may not be compared to competitors' data for the same product.

More detailed specifications for individual production processes, data bases and calculation assumptions needed.

Examples for BASF engagement in initiatives to advance PCF data consistency and data collection:



<https://www.wbcasd.org/Programs/Climate-and-Energy/Climate/SOS-1.5/>

Value Chain Carbon Transparency Pathfinder to enable Scope 3 emissions transparency



<https://tfs-initiative.com>

TfS extends its sustainability program to GHG Scope 3 Emissions

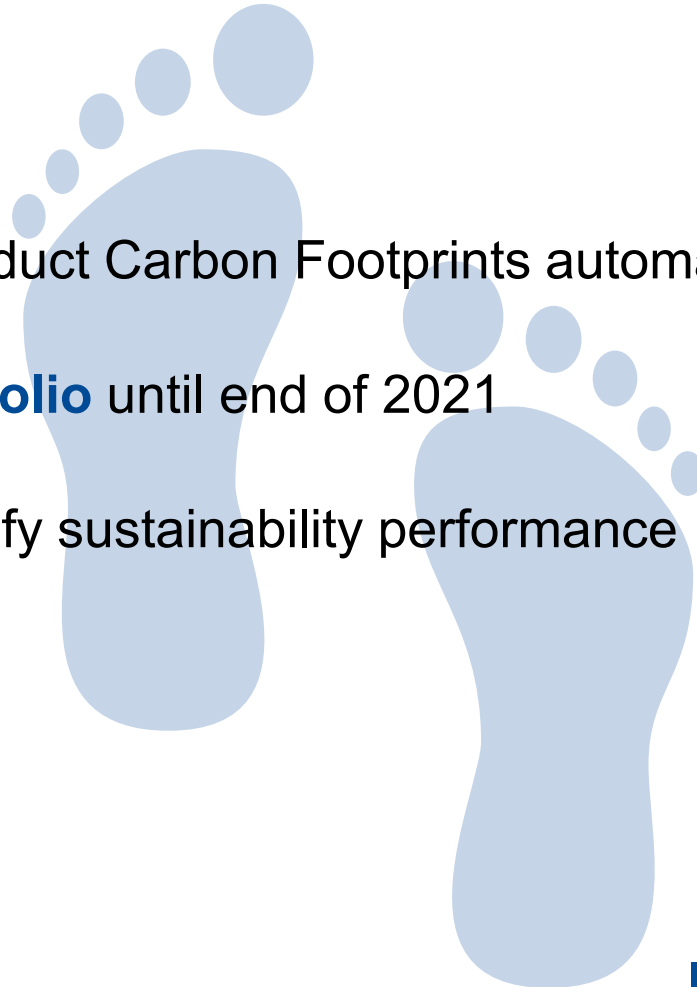


<https://www.linkedin.com/company/catena-x-automotive-network/>

Alliance to create a uniform standard for information and data-sharing throughout the entire automotive value chain.

Product Carbon Footprints for the BASF portfolio

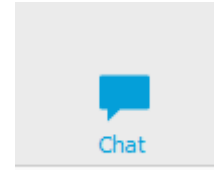
- **Transparency** for our customers
- **New digital solution** calculates cradle-to-gate Product Carbon Footprints automatically
- **Consistent carbon footprints** for the **global portfolio** until end of 2021
- **25 years of experience** in methodologies to quantify sustainability performance
- BASF supports **establishing global standards**



Thank you for listening!

Questions

- But please, feel free to ask questions using the **chat**
- Please **raise your hand**, we will call you, unmute yourself and ask your question



A JOINED-UP APPROACH TO SUSTAINABLE PACKAGING

Our series of web seminars continues!

- March 22 *BASF calculates the CO₂ footprint of its products*
- March 23 *New Ultradur® grades for thermoforming and injection-molding applications with tailor-made property profiles*
- March 24 *Water-based ink technology: a more sustainable solution for flexible packaging*
- March 25 *Pharmaboxes made from Styropor® Ccycled™ go around the world*

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We create chemistry