

# Carbon accounting & sustainable transformation

*The case of the chemical industry*

Berlin – Jun 18, 2024

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Emissions have impact – random examples from the web

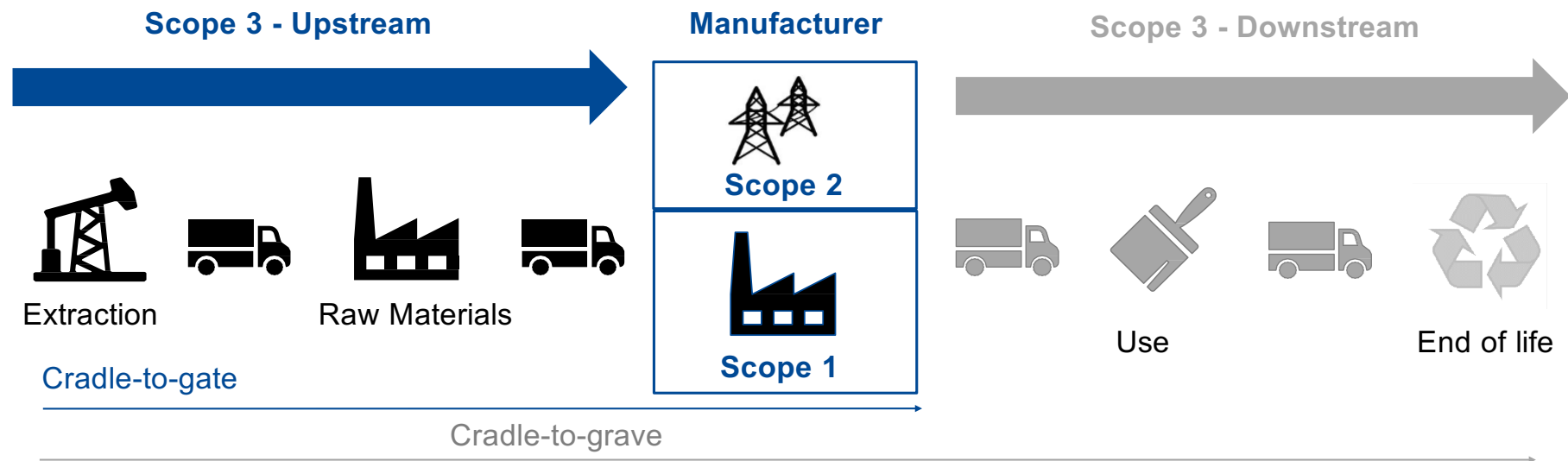


Sources:  
<https://the-ethos.co/big-oat-sustainable-ads/>  
<https://www.vogue.de/mode/artikel/adidasxallbirds-adidas-allbirds>

## A definition

# What is a Product Carbon Footprint (PCF)?

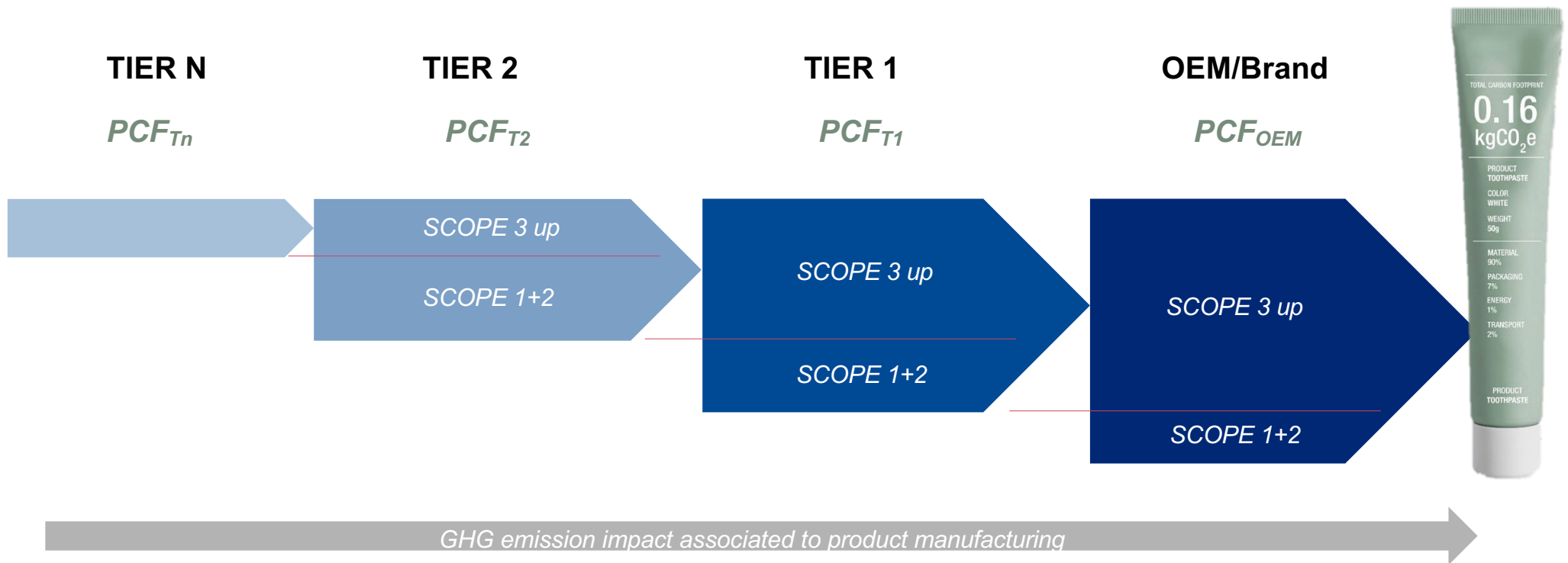
- a measure for the climate impact of a product
- total amount of greenhouse gas (GHG) emissions that is associated with a product throughout its life cycle, i.e., the product-related Scope 1, Scope 2 **and** Scope 3 emissions
- boundaries vary from **cradle-to-gate** (can be based on primary data) to cradle-to-grave



Note: Scope 1: direct emissions from owned or controlled sources  
Scope 2 : indirect emissions from the generation of purchased energy  
Scope 3: indirect emissions that occur in the value chain (not included in scope 2)

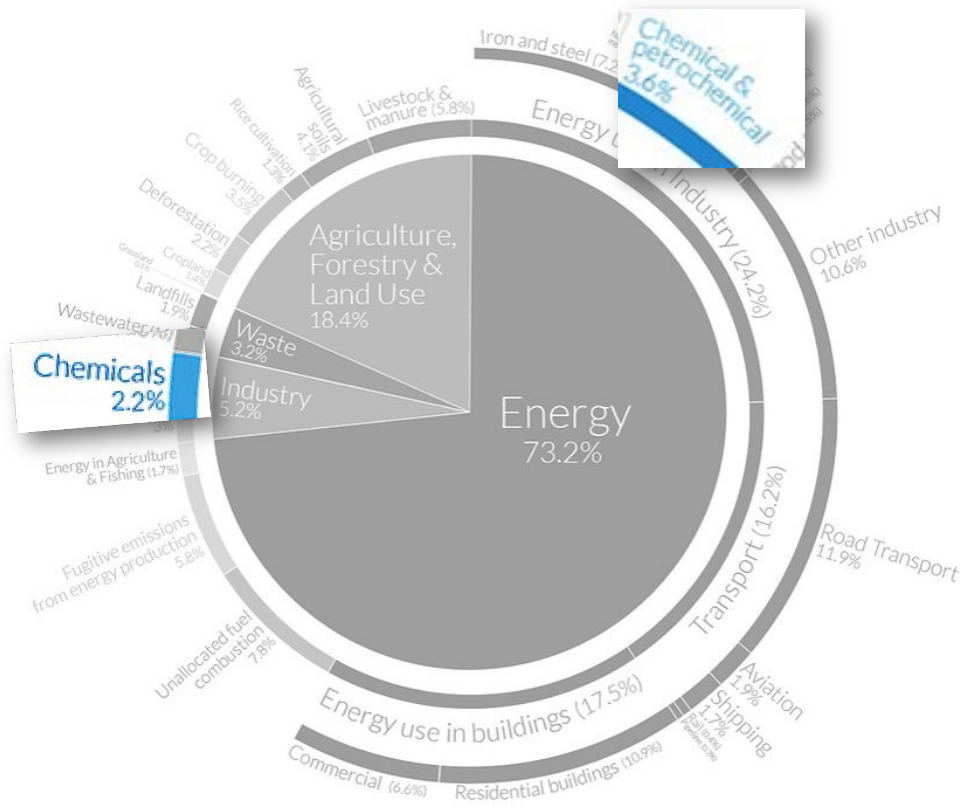
PCF transparency fundamental to drive behavior and stimulate transformation

# No emission impact of consumer goods without scope 3 transparency; No scope 3 transparency without Product Carbon Footprints



## Carbon footprint relevance of the Chemical Industry

**With 6% of total contribution, the chemical industry is a large GHG emitter. In addition, chemical products impact nearly all value chains**



“ Over **95%** of all manufactured goods rely on some form of industrial chemical process. Most industry sectors make use of chemical products, from energy generation and transportation, to information and communication technology (ICT) and construction.

”

Source: 1 Hanna Ritchie, 2020 - Sector by sector: where do global greenhouse gas emissions come from? Chemical sector highlighted; 2 ICCA, 2019,

5 The Global Chemical Industry: Catalyzing Growth and Addressing Our World's Sustainability Challenges

How to deal with carbon accounting at scale?

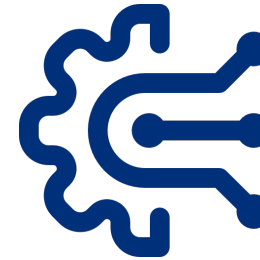
## Three key ingredients are required to execute product-level carbon accounting



*Practice-oriented,  
prescriptive carbon  
accounting  
**standards** to ensure  
PCF comparability*



***Digital data  
exchange  
platforms** to  
enhance PCF  
transparency for  
Scope 3*



***Digital Carbon  
accounting tools**  
to generate  
accurate &  
certifiable PCF  
data at scale*

A PCF standard for chemical and plastics materials

# With Together for Sustainability (TfS), the chemical industry joined forces to establish a global sectoral guidance & enhance PCF comparability



First-of-its-kind, industry-specific guidance on calculating chemical PCFs.

Empowers companies to produce higher quality carbon footprint data.

Allows comparison of chemical PCFs across companies.

Tailored to meet unique challenges when calculating chemical PCFs.

Compliant with ISO and GHG Protocol accounting standards.

Open source, “drop-in” solution available to other industries using chemical material.

**53**  
Global players

**€ 800m**  
Global turnover

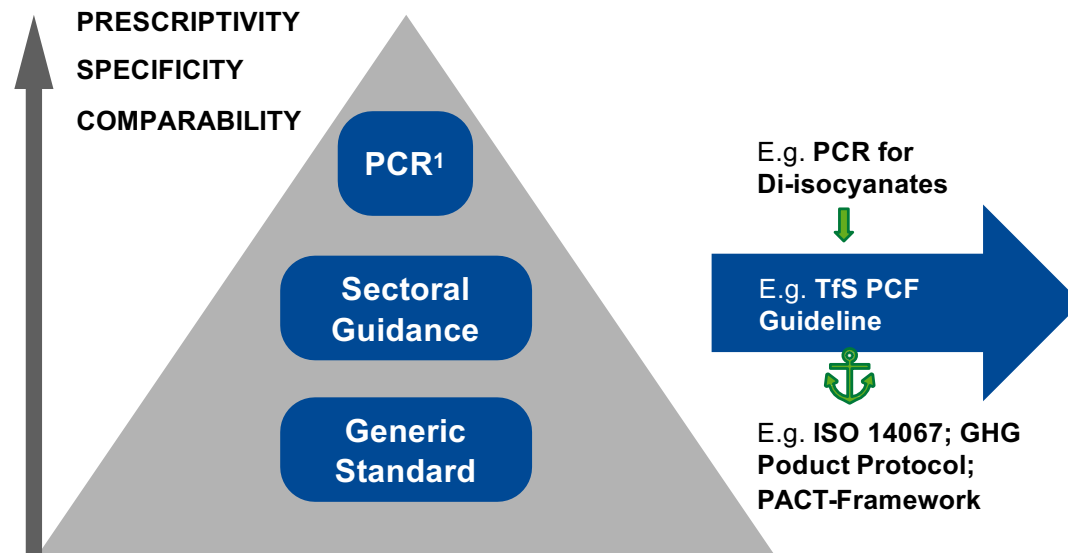
**€ 500m**  
Global spend



7 Note: 1. TFS PCF Guideline available at <https://www.tfs-initiative.com/how-we-do-it/scope-3-ghg-emissions>;

A PCF standard for chemical and plastics materials

# The TfS PCF Guideline is anchored on recognized generic standards and allows for better emission comparability of chemicals & polymers



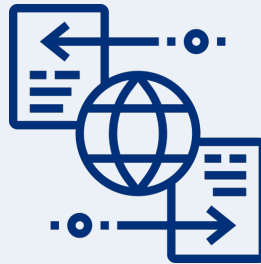


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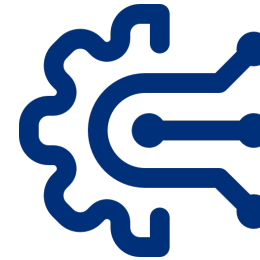
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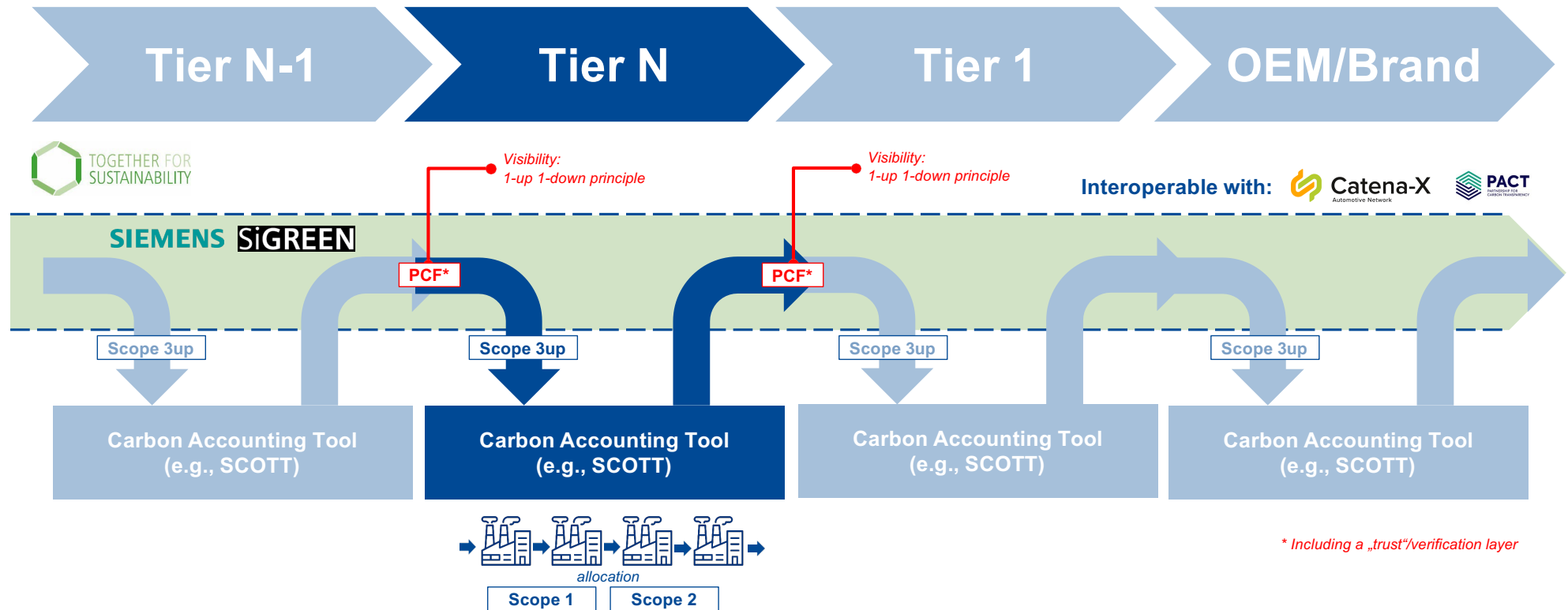
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An interoperable PCF data exchange platform

# TfS is launching a digital platform to standardize data exchange and to boost scope 3 transparency in value chains



How to deal with carbon accounting at scale?

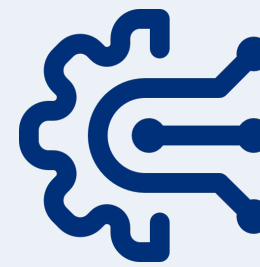
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A digital carbon accounting tool – example of BASF's Journey

## With the growing importance of PCF as a measure of the progress towards net-zero, scalable digital accounting solutions are a must



PCF is **no longer** the result of a “one-off”, mostly manual, expert assessment, **but** of an automated, consistent, reproducible and certifiable accounting process.



PCF is **no longer** an add-on item in a marketing toolkit, **but** a key procurement criteria and a strategic steering element of product portfolios in corporations.

A digital carbon accounting tool – example of BASF's Journey

# BASF has developed a digital carbon accounting solution to determine PCFs at scale



LCA methodology aligned<sup>1</sup> with **ISO, GHG Protocol Product Standard**, as well as the **TfS PCF Guideline**



Use of **primary data**<sup>1</sup> instead of industry averages and standard technology benchmarks



**Automated** LCA calculations to calculate PCF in an **efficient** and **consistent** fashion

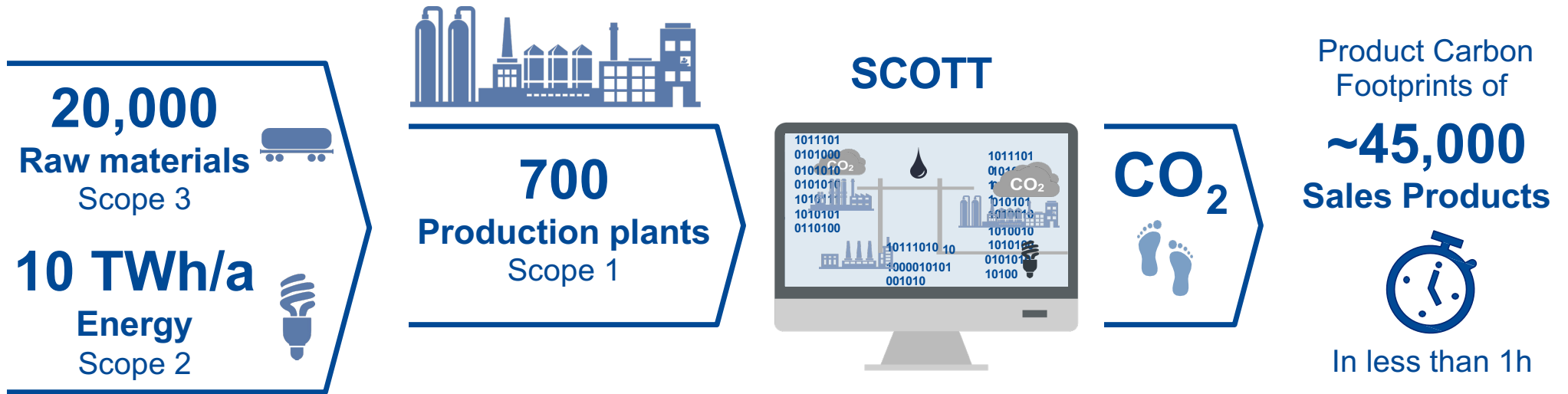
## Strategic CO<sub>2</sub> Transparency Tool (SCOTT)

- ✓ Calculate PCF quickly and cost-efficiently
- ✓ Std-compliant & consistent methodology
- ✓ Enable simulations for portfolio steering
- ✓ Enable carbon-related marketing claims

<sup>1</sup> primary data for SCOPE 1 & 2; primary data for SCOPE 3 upstream if available for raw materials; if not, fall back to secondary data

A digital carbon accounting tool – example of BASF's Journey

# With SCOTT, BASF can now efficiently assess and steer complex product portfolios from a carbon emission perspective



  
CEPIC  
Resp. Care Award

  
VCI  
Resp. Care Award

  
Peter-Horvat-Stiftung  
Green-Controlling-Prize

 **BASF**  
We create chemistry

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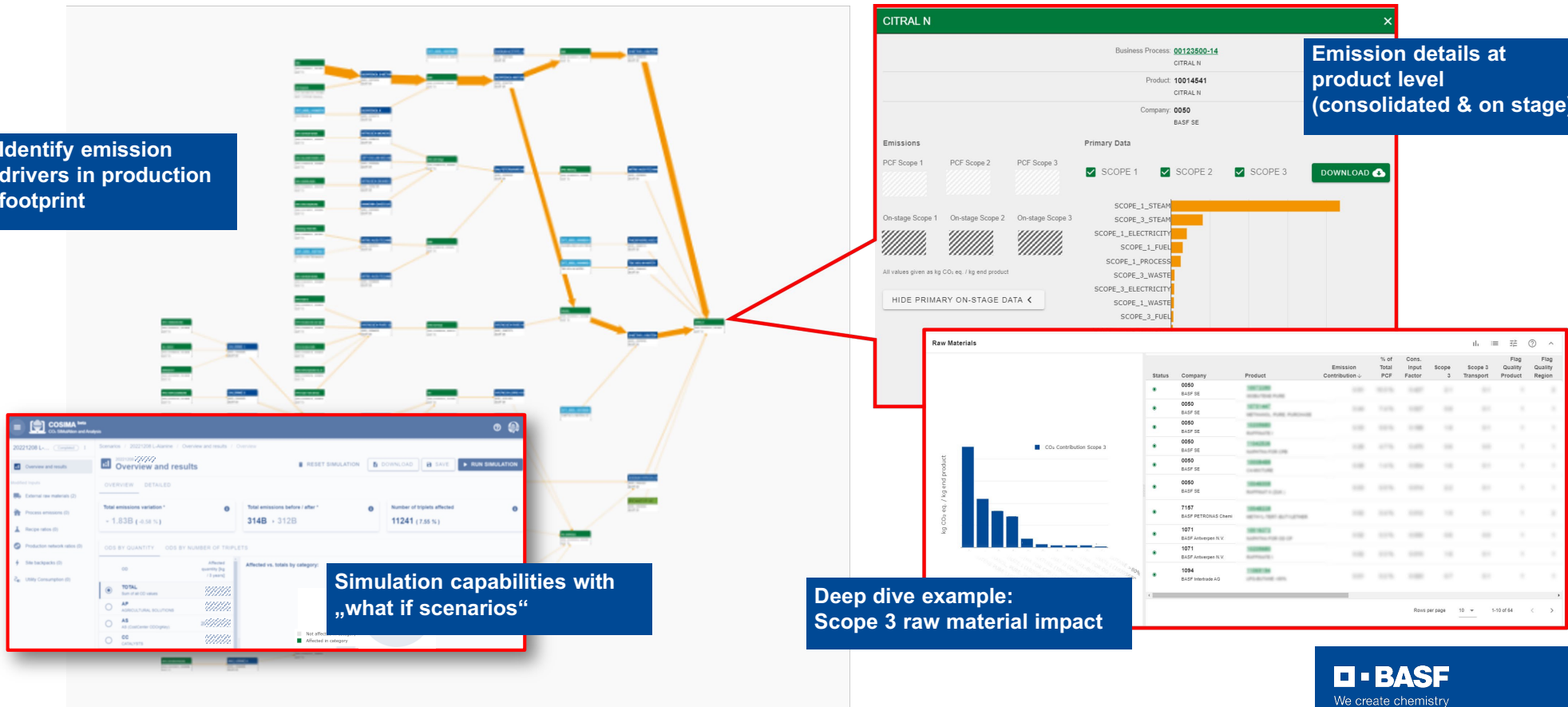
# With its SCOTT tool, PCFs are no longer a concept for specialists but a steering KPI for the entire organization

Identify emission drivers in production footprint

Emission details at product level (consolidated & on stage)

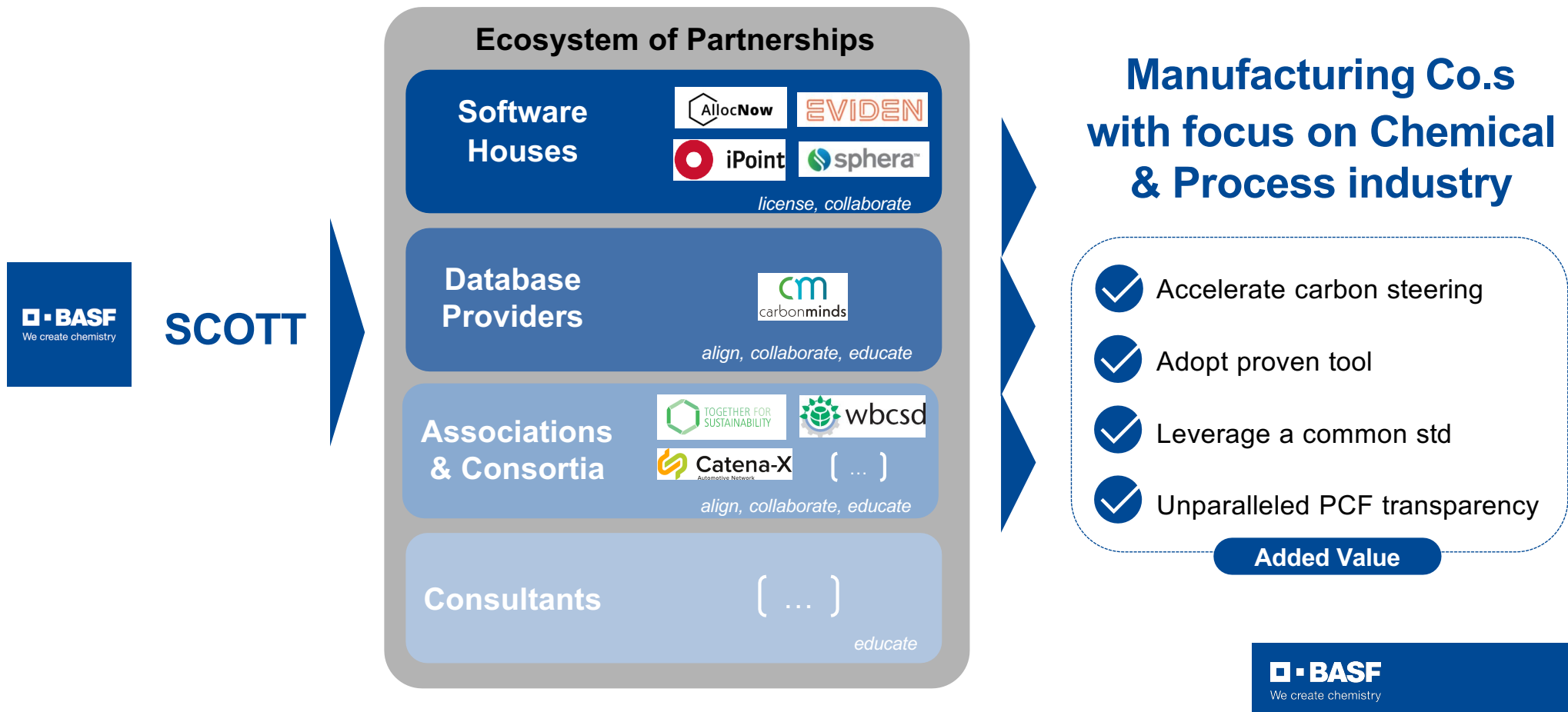
Simulation capabilities with „what if scenarios“

Deep dive example: Scope 3 raw material impact



A digital carbon accounting tool – example of BASF's Journey

# BASF has brought SCOTT into the market via an ecosystem of partners to foster a standard PCF calculation and boost primary data availability





# Someday soon, down the supermarket aisle...



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