



Sustainable Plastics Solutions – Key Pillars for the Transformation to Net-Zero

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BASF SE

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 **BASF**
We create chemistry

The Essentials for Sustainable Plastic Materials



Mercedes-Benz

Auf dem Weg zur Kreislaufwirtschaft



40% recycled Material in 2030



Reduction of GHG Emissions



Recycled Content

Recyclability End-of-Life



VOLKSWAGEN
AKTIENGESELLSCHAFT

VW 91102
Issue 2022-02

Group standard

Class No.: 97000, 07410
Descriptors: environmental standard, recyclability, recycling, recycling requirements, use of recycled material, vehicle

Environmental Standard for Vehicles
Recycling Requirements, Use of Recycled Material, Recyclability Type Approval



Carbon Neutrality 2045.

Hyundai is in progress to achieve carbon neutrality by 2045

By neutralising CO2 emissions at all stages of production and operation.



A net-zero automotive parts supply chain.

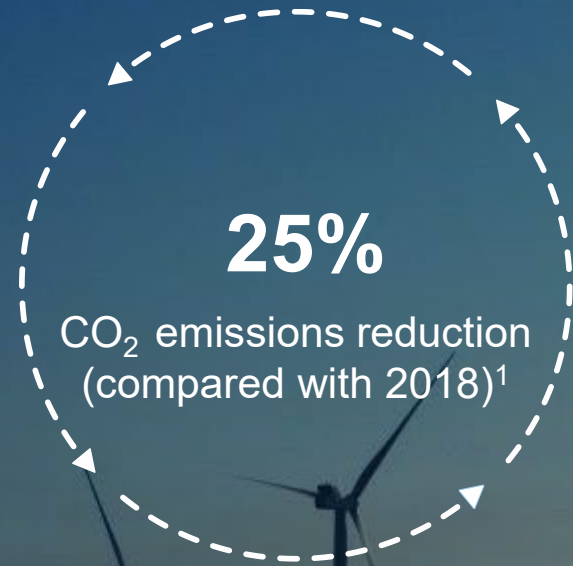
A key milestone of Hyundai's commitment to sustainable vehicle is our network of sustainable parts suppliers. Hyundai will continue to monitor and support all suppliers that meet carbon neutrality business, providing guidelines, education and training, a comprehensive program for our entire supply chain, including our suppliers.

Hyundai

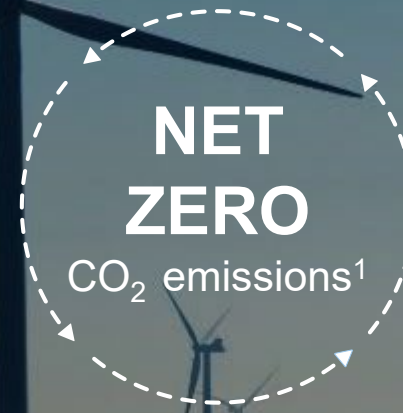


We reduce GHG Emissions

BASF: Our Commitments To Reaching The Paris Climate Agreement



2030

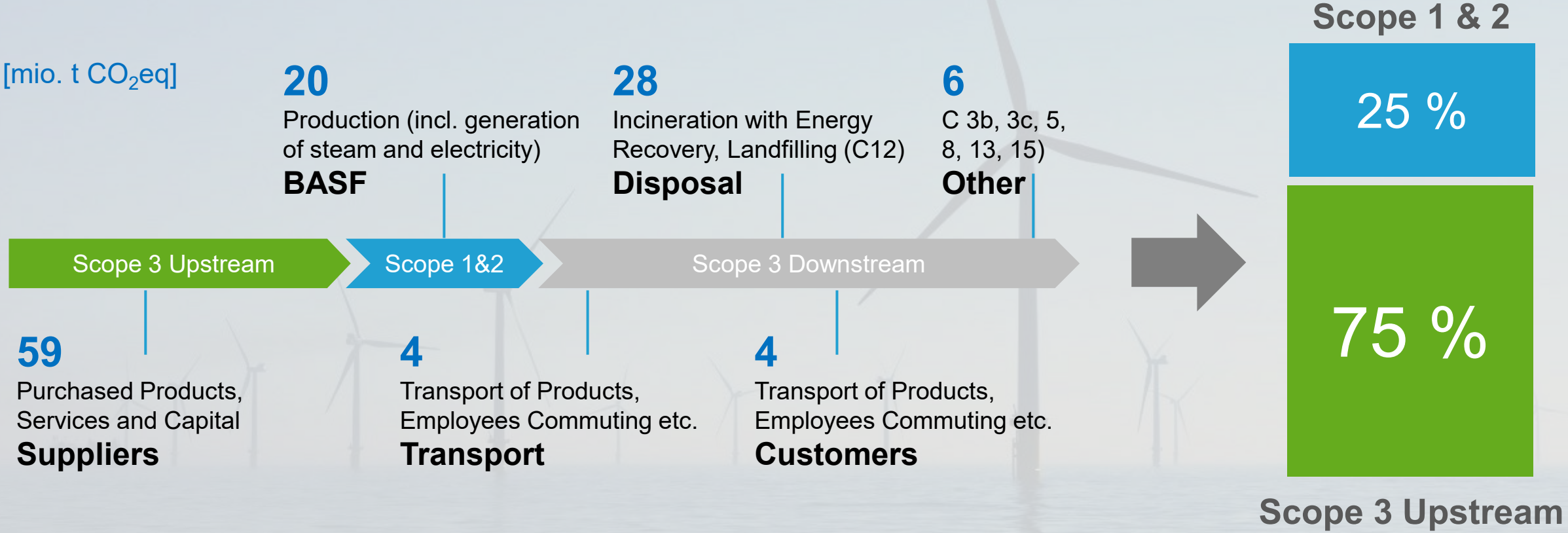


2050

Company Carbon Footprint BASF

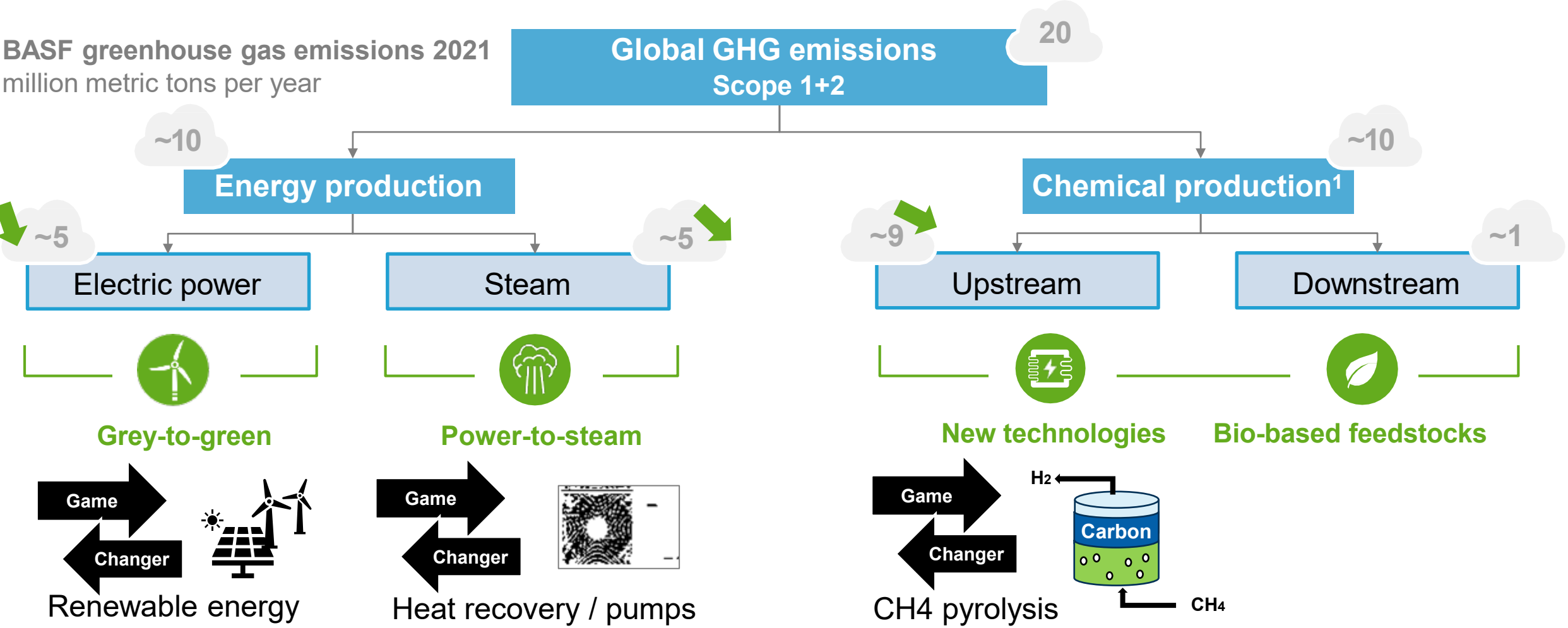
Reference year 2021

[mio. t CO₂eq]



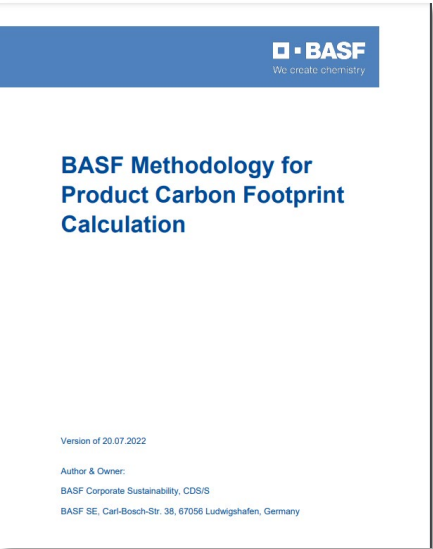
Reducing BASF Emissions with Electrification + Green Electricity

BASF greenhouse gas emissions 2021
million metric tons per year



CO₂ free electricity with heat recovery and new technologies reduce emissions

BASF driving towards a globally endorsed standard for PCF calculation in the chemical & plastic industry within Together for Sustainability (TfS)











We think Circular

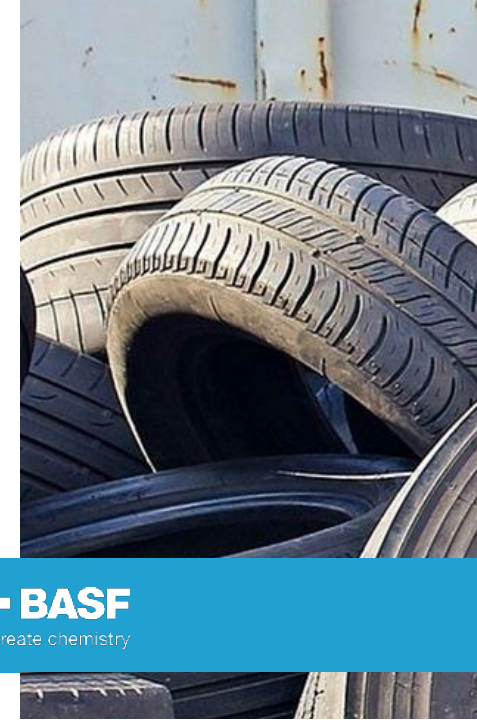


Picture: BASF, <https://unsplash.com/>

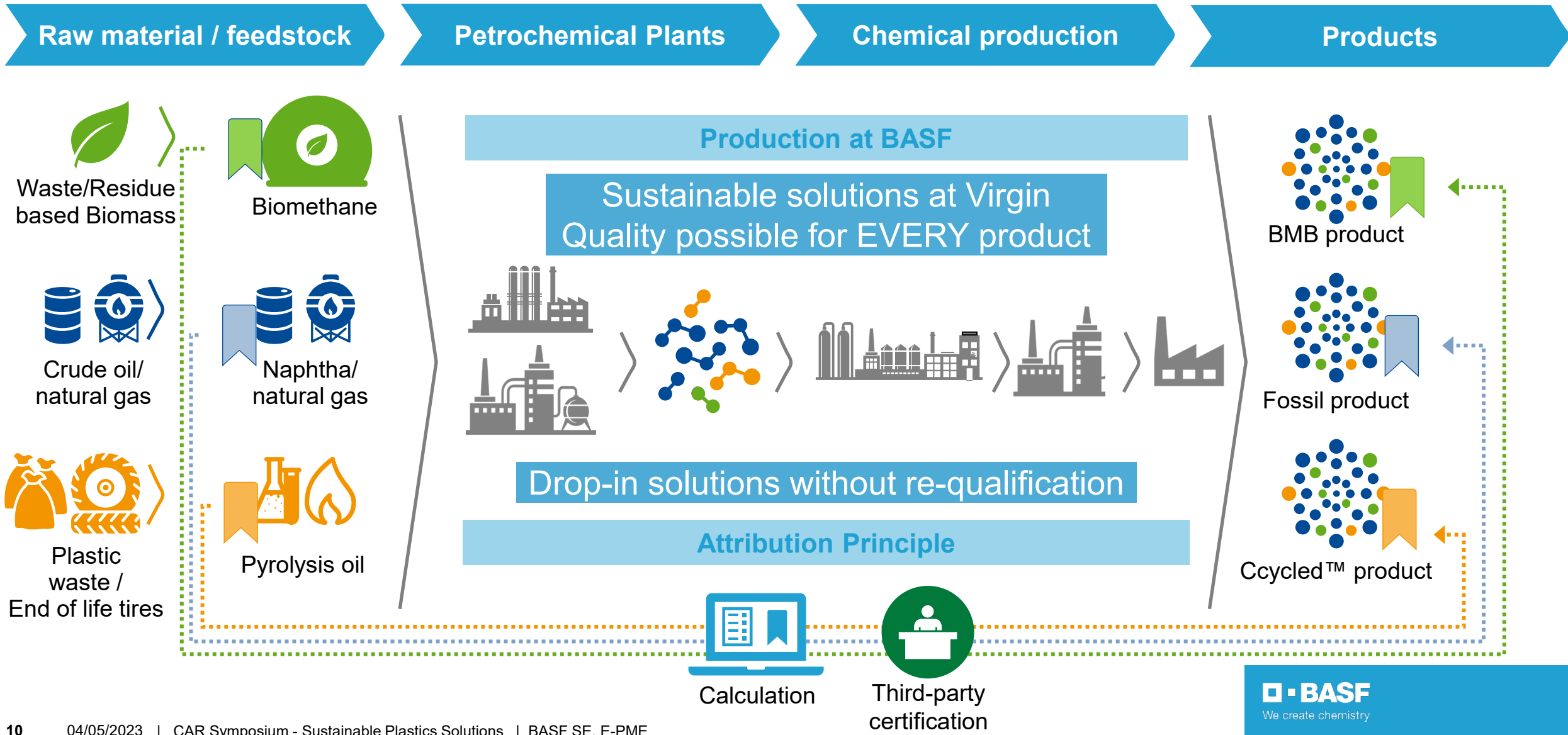


BASF sustainable plastics solutions use secondary raw materials to save fossil resources and help to reduce product CO₂ footprint

	 Biomass Balance	 ChemCycled
Maturity	Commercial	Pilot → Commercial
Available products	PA & PU & other chemical products	PA & other chemical products
Available area	EU & AP, NA soon	EU, NA soon
Product performance	Same as fossil base / virgin material	Same as fossil base / virgin material
Base material	Waste/Residue based Biomass 	End-of-Life Tires 
Conversion 		
Non-fossil cracker feedstock	Biomethane	Pyrolysis oil



Mass Balance Approach allowing sustainable drop-in solutions



From End-of-Life Car Tyre to Door Handle

FROM CAR TYRE TO DOOR HANDLE

Mercedes-Benz is achieving a closed-loop material cycle with chemical recycling

... to produce a virgin-quality
high-performance plastic*

Combined with **biomethane**
from agricultural waste ...

3

2

4

1

Door handle manufacturing

More components from chemical recycling to follow

Pyrolysis oil is created from
scrap tyres as a replacement
for fossil resources

*Based on biomass balance approach

Ultramid® PA6/GF30

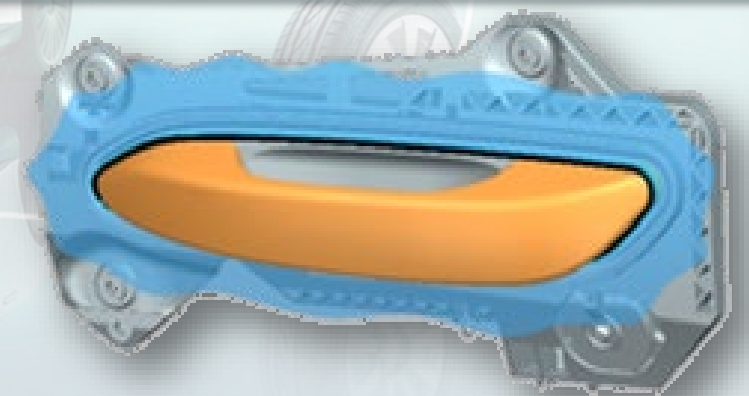
40% ChemCycling™

60% Biomass Balance



~18% PCF reduction

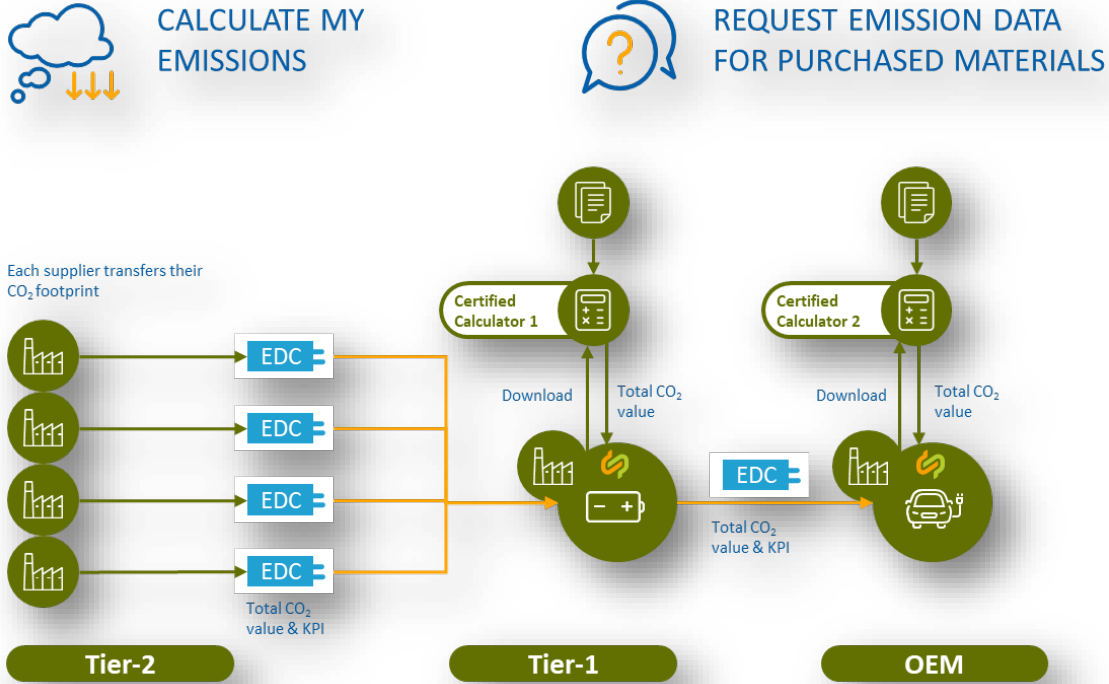
~28% attributed secondary raw material*)



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Digitalization of Sustainability Solutions with Catena-X



Tailor make your Mass Balance Product

Share sustainability attributes along the Chain of Custody



Sustainable Plastics Solutions



Renewable Energy and **New Technologies that drive Electrification** of chemical manufacturing processes are essential to **reduce GHG Emissions of Plastics Production**



We think Circular utilizing the mass balance approach to produce **Prime Quality Plastics** by means of **ChemCycling** and **Biomass Balance**, both saving fossil raw material resources and reducing CO₂ emissions



Catena-X as one shared global data space is strengthening the **Supply Chain Resilience** and enables **Decarbonization** by working with **Primary PCF Data** that put targets into action

We need (more)
pioneers!





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