BASF
We create chemistry

Transition Pathway & BASF

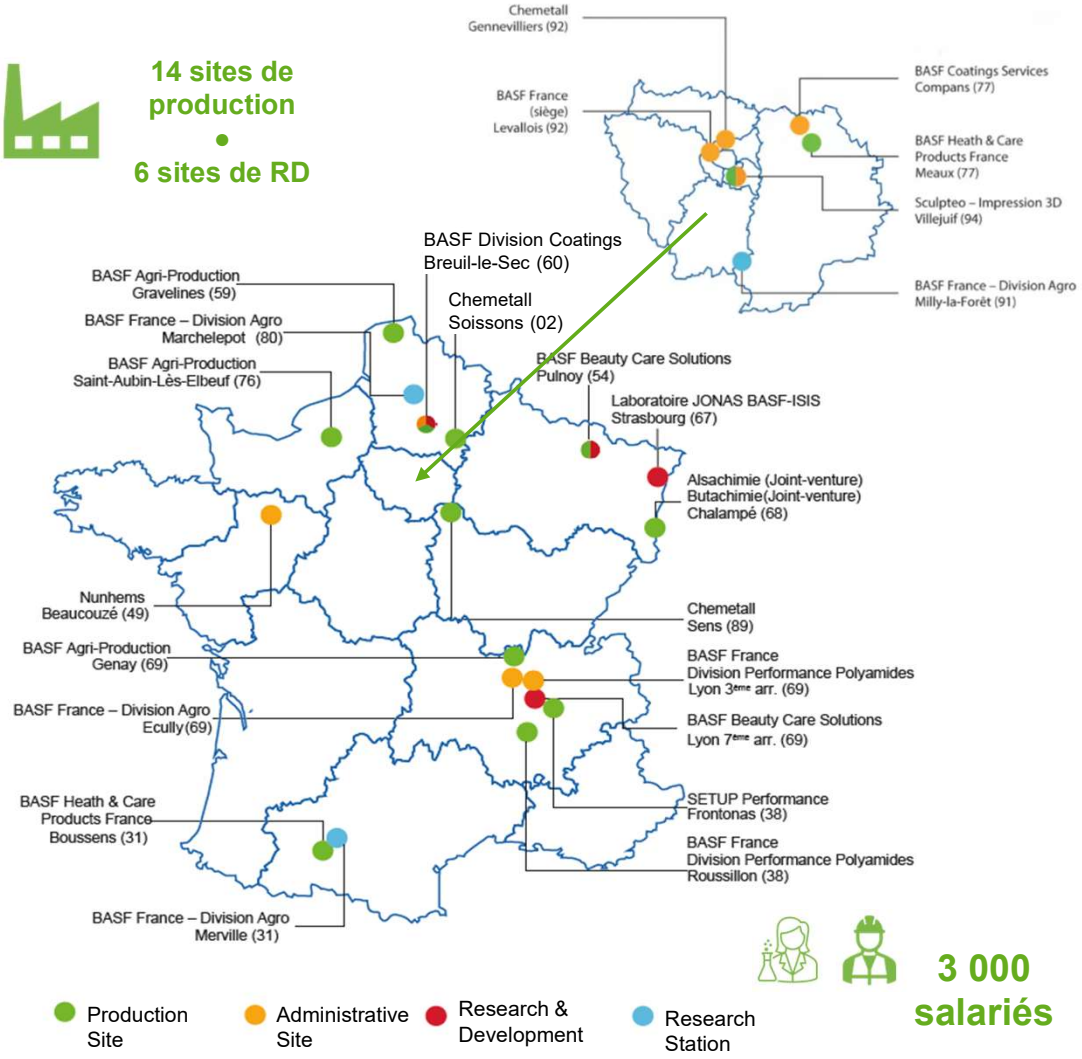
May 2025

BASF en France

14 sites de production

•

6 sites de RD



3 000 salariés

Carbone & Climat

BASF has made considerable efforts to decarbonize its production and reduce its greenhouse gas emissions.

1990 | **60%** reduction on CO_2 emissions
Production **x 2**

2030 | **25 %** reduction on CO_2 emissions (vs 2018)

2050 | **Net zero** CO_2 emissions

Electrification of production

- 90%

CO_2 emission via e-vapocraqueur

Investments in REn

1st

global offshore wind farm

New Technologies

H_2

via methane pyrolyse

BASF
We create chemistry

Our initiatives support the ChemTP across the entire value chain

Selected examples

New Sourcing

Circular feedstocks

- ChemCycling
- Bio-based portfolio
- Mass Balance
- Biomass Balance

New material cycles

- Battery recycling

New Technologies

- Electrically heated steam crackers
- Clean / CO_2-free hydrogen
  - Methane pyrolysis
  - Water electrolysis
- Carbon Capture & Storage
- Renewable Energy
- Battery materials

Operational Excellence

- Power-to-heat: CO_2-free steam generation
- Continous improvement of plants

New Solutions

Sustainability concept-driven solutions

- Safe & Sustainable by Design
- New concept development via cooperations: Research institutions, universities, industry partners
- New Approach Methodologies

Enablers

Quantifying Sustainability

- Triple S
- SEEbalance®
- Product Carbon Footprint
- ProScale

Digitalization

- Digital Product Passport
- Catena-X
- Digital Data Chain Consortium
- Battery Passport

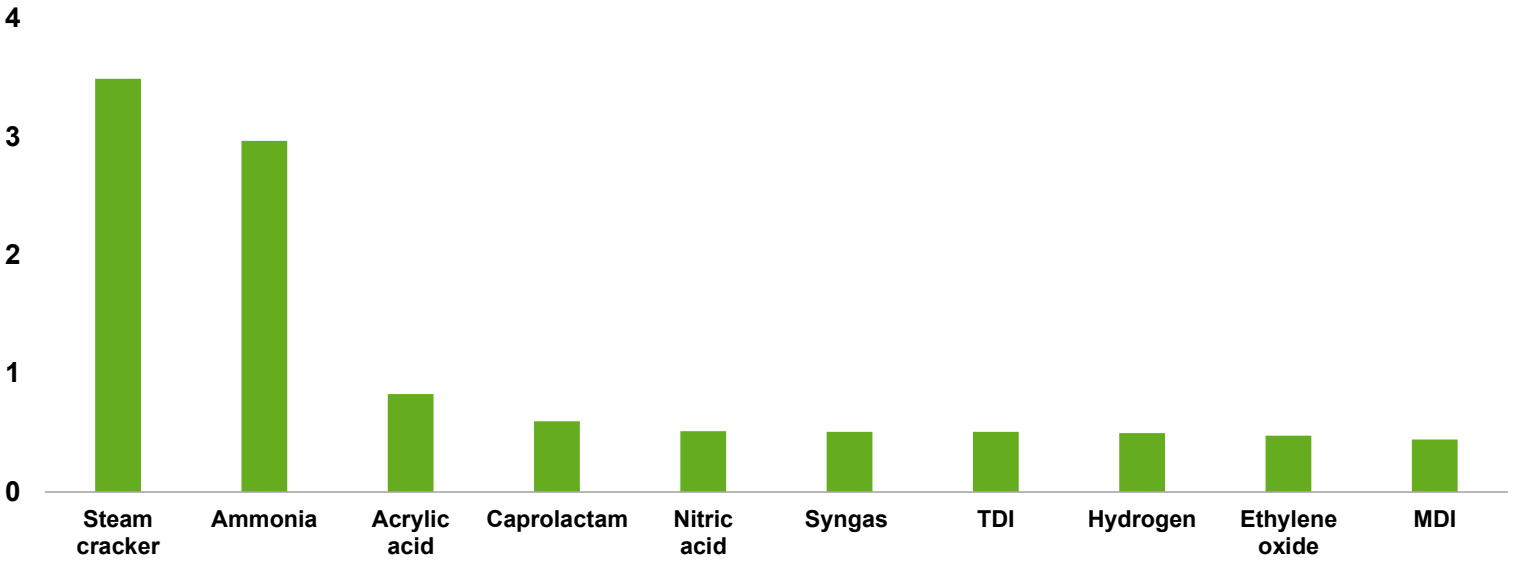
Society and our employees

- Responsible Care®
- Competition for talent
- Learning and development
- Diversity & inclusion

Ten base chemical production technologies cause the majority of BASF's CO_2 emissions

Greenhouse gas emission profile of BASF technologies

Energy and chemistry emissions, million metric tons per year[1]



BASF has identified its CO_2-intensive processes and is addressing them

[1] Based on nameplate capacities, March 2021, excluding at-equity consolidated companies

BASF
We create chemistry

We are making progress on technologies for CO_2 abatement

eFurnace

eFurnace[1] demonstration plant in Ludwigshafen inaugurated with SABIC and Linde; testing of material behavior and process on industrial scale ongoing

Supported by: Federal Ministry for Economic Affairs and Climate Action; on the basis of a decision by the German Bundestag; Funded by the European Union NextGenerationEU

Water electrolysis

Positive funding decision for 54 MW **water electrolysis**[2] plant in Ludwigshafen (Hy4Chem-EI) granted in November 2023; startup planned in 2025

Supported by: Federal Ministry for Economic Affairs and Climate Action; on the basis of a decision by the German Bundestag; RheinlandPfalz MINISTERIUM FÜR KLIMASCHUTZ, UMWELT, ENERGIE UND MOBILITÄT

CCS projects

BASF and Yara evaluating world-scale **blue ammonia** project using **CCS** in the United States[3]

CCS project to reduce BASF's CO_2 emissions in Antwerp by 1 million tons per year slated for startup in 2028

Co-funded by the European Union

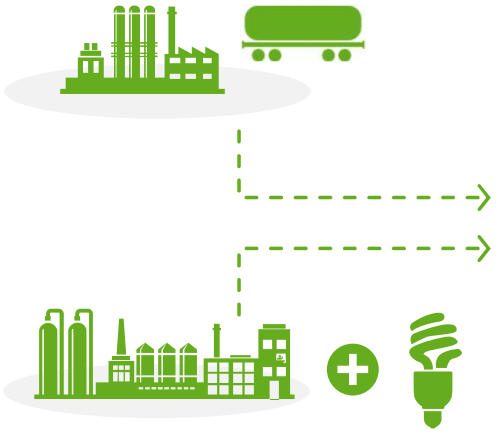
[1] Supported by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and funded by the European Union
[2] Supported by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and the State of Rhineland-Palatinate
[3] Total capacity 1.2 to 1.4 million tons p.a.

BASF We create chemistry

We have built an industry-leading system enabling us to provide product carbon footprints calculated with a certified digital solution

Scope 3

Emissions caused by suppliers and generation of raw materials



Scope 1 + 2

Emissions caused by own operations*

- TÜV-certified**
- Meets ISO standards***
- Calculates product carbon footprints cradle-to-gate

CO_2

Product carbon footprints of sales products

Customer benefits

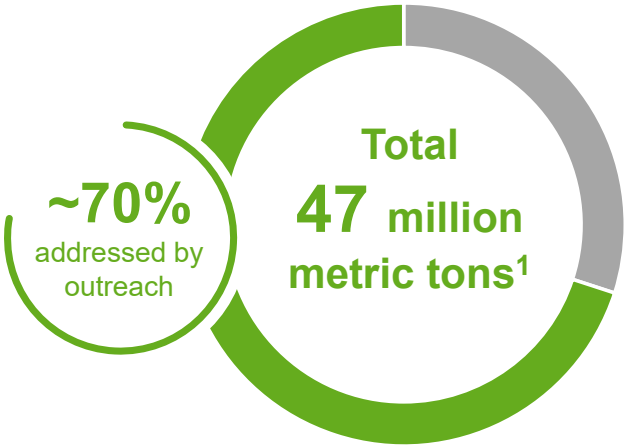
- Transparency on CO_2 emissions
- Identification of main reduction levers
- Certified software
- Transparent documentation

* Energy generation and chemical processes
** ISO 14067:2018
*** ISO 14040:2006, 14044:2006, 14067:2018, GHG Protocol Product Standard

BASF
We create chemistry

We have a solid foundation for primary Scope 3.1 emission data

BASF's CO_2e emissions from raw material purchase 2023



- **Supplier CO_2 Management Program started in 2021** to collect primary emission data for purchased raw materials
- Collaboration through **knowledge sharing on PCF calculation methodology** ongoing to ensure engagement and quality of data
- More than **1,600 suppliers** have been approached, accounting for **~70% of our raw-materials related Scope 3.1 emissions**[1]
- We now have more than **1,000 validated product carbon footprints** for our raw materials
- **We make product carbon footprints (PCFs) a buying criterion** to reduce our Scope 3.1 emissions and thus the PCFs of our sales products

[1] Greenhouse Gas Protocol Scope 3.1: Purchased goods and services: 47 million metric tons CO_2e, thereof 4 million metric tons not in scope of our Scope 3.1 target from battery materials, services and technical goods; excluding greenhouse gas emissions from BASF trading business

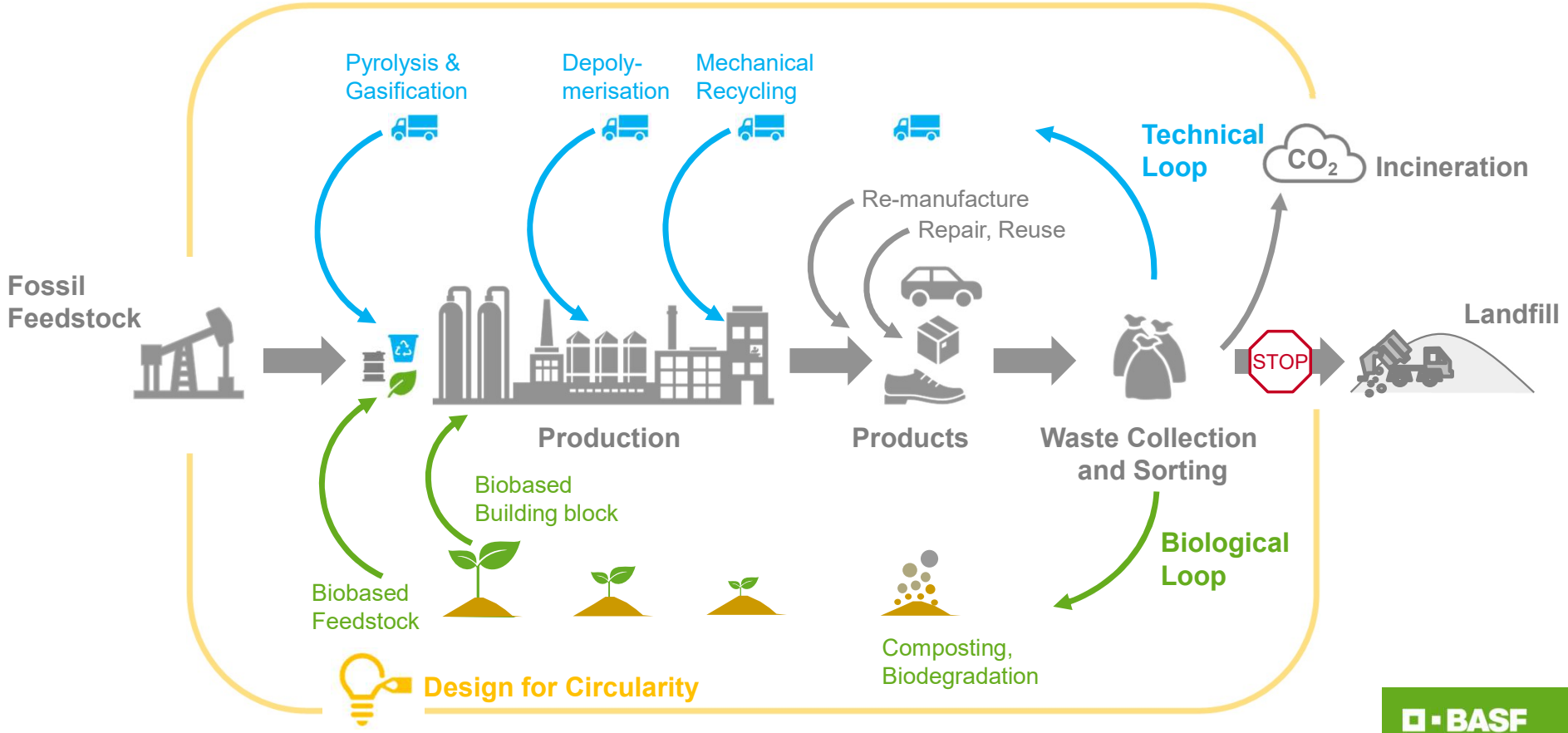
BASF
We create chemistry

TripleS method increases measurability and transparency on sustainability

- Methodology refined after **achieving 2025 Accelerator target ahead of schedule** in 2021
- Each product in its specific application and considering regional aspects is assigned to one of **five TripleS segments**
- Steer our product portfolio to transformation topics such as **climate change & energy, resource efficiency and circularity** with Pioneer and Contributor products
- TripleS is more **deeply integrated into our R&D** development processes, considering Safe and Sustainable by Design framework by the E.U. Commission
- **BASF's TripleS logic is in line with** the Portfolio Sustainability Assessment (PSA) from the World Business Council for Sustainable Development

We strive to close the loop and extend the loop

by transforming from fossil to renewables and recyclates; enabling circularity, higher durability and prolonged lifetime of products



BASF
We create chemistry

By using alternative raw materials, we can reduce fossil feedstock demand and contribute to a circular economy

Recycled feedstock

Dedicated mechanical recycling

e.g., mechanically recycled feedstock from expanded polystyrene (EPS) waste

Chemical recycling (e.g. ChemCycling®)

e.g., pyrolysis oil derived from plastic waste or end-of-life tires

Renewable feedstock

Biomass balance

e.g., biomethane or bio-naphtha derived from biomass (waste)

Dedicated bio-based production

Sustainably sourced bio-based resources, e.g., RSPO-certified palm oil

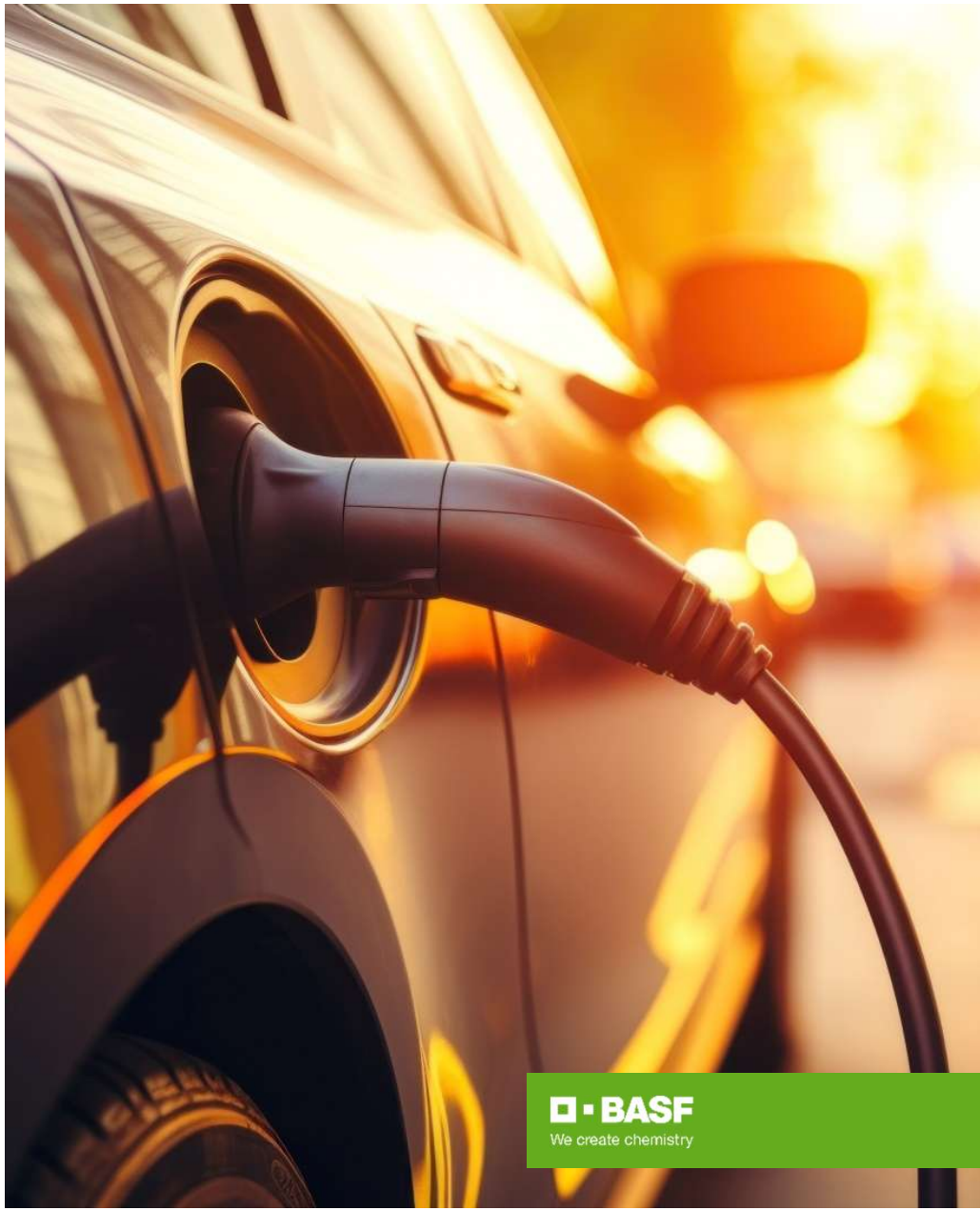
Mass balance approach

BASF
We create chemistry

Building a Circular Economy

Battery Recycling in Europe

- Using metals from recycled batteries to make new battery materials **offers significant CO_2 reduction potential** in the production of electric vehicles and supports the growing metals demand and ambitious requirements of the **circular economy policies**.
- In Schwarzheide, Germany, BASF operates **the first co-located center for battery materials and recycling in Europe.** The black mass plant is one of the largest commercial plants in Europe and BASF is able to process 15,000 tons of end-of-life batteries and production waste.
- Moreover, BASF operates a **prototype refining facility in Schwarzheide** for the extraction of lithium, nickel and cobalt.
- Thus, together with its strong partner network, BASF has taken important steps towards **a circular economy for battery materials in Europe.**




BASF
We create chemistry