We create chemistry for a sustainable future

BASF ESG Investment Story
March 2024
Cautionary note regarding forward-looking statements

This presentation contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include in particular those discussed in Opportunities and Risks on pages 173 to 183 of the BASF Report 2023. BASF does not assume any obligation to update the forward-looking statements contained in this presentation above and beyond the legal requirements.
The chemical industry is the starting point of almost all value chains

- **Basic chemicals**
- **Specialty chemicals**
- **Processing industry**
- **Manufacturers of consumer and capital goods**
Resource efficiency – BASF’s Verbund is ideal for CO₂ emission reduction

- Combined heat and power plants and integrated energy Verbund avoided 5.7 million metric tons of CO₂e emissions in 2023

- Synergies in logistics and infrastructure, minimization of waste

- European emissions trading benchmarks show that BASF’s chemical plants operate at above-average energy efficiency
BASF targets for Scope 1 and Scope 2 emissions

- **2030**: 25% Scope 1 and Scope 2 CO₂ emission reduction (compared with 2018)
- **2050**: net zero Scope 1 and Scope 2 CO₂ emissions
BASF reports emissions along the entire value chain

Greenhouse gas emissions along the BASF value chain in 2023¹
Million metric tons of CO₂ equivalents

Scope 3 upstream

<table>
<thead>
<tr>
<th>Suppliers thereof Scope 3.1: 47</th>
<th>BASF Scope 1 and 2</th>
<th>Customers</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>18</td>
<td>3</td>
<td>24</td>
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<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

¹ See BASF Report 2023, page 108
No downstream decarbonization without upstream decarbonization

BASF greenhouse gas emissions 2018
Million metric tons per year

Global GHG emissions
Scope 1+2

Energy production

11

Electric power

5

Steam

6

Renewable energies

Chemical production\(^1\)

11

Upstream

9

Carbon abatement

Continuous operational excellence measures

Downstream

2

1 Includes emissions from process energy
Ten base chemical production technologies cause the majority of BASF’s CO₂ emissions

Greenhouse gas emission profile of BASF technologies
Energy and chemistry emissions, million metric tons per year¹

BASF has identified its CO₂-intensive processes and is addressing them

¹ Based on nameplate capacities, March 2021, excluding at-equity consolidated companies
Our path to reduce BASF emissions from 1990 to 2050

BASF greenhouse gas emissions (Scope 1 and Scope 2) 1990–2050
Million metric tons

- 1990: 21.9 million metric tons
- 2018: >45% reduction
  - Renewable energies
  - Carbon abatement
  - Opex

2030 Business as is 2018
- ~75% reduction
  - Verbund site South China
  - Other growth

2050
- 100% reduction

1 Operational excellence measures
We have a well-filled portfolio of projects to reach our 2030 target

Projected BASF greenhouse gas emissions
Million metric tons CO₂ equivalents

Lower CO₂ emissions already materialized until 2020

Baseline 2018
21.9

Target 2030
16.4

Projected emissions without mitigation 2018
11 million tons of CO₂ avoided annually by 2030

Operational excellence measures

1 Operational excellence measures
Switching our power to renewable energy will be the main driver of emission reduction until 2025

**BASF global** power demand and renewable supply projection

Terawatt hours

- BASF aims to source **at least 60% of its power needs from renewable sources** by 2030
- BASF **power consumption** expected to increase strongly due to electrification on our journey to net zero
- BASF pursues a **make-and-buy strategy** to secure access to renewable power
- Early investments in renewable power assets expected to offer **advantageous economics in the future**
On track to reaching at least 60% renewable electricity worldwide by 2030

Projected figures for 2026 by region, considering signed contracts and own production

North America: ~25%
South America: 100%
Europe: ~50%
China: ~65%
Asia Pacific: ~50%
We are making progress on technologies for carbon abatement

**eFurnace**

Demonstration plant built in Ludwigshafen with SABIC and Linde in final stage of completion; testing of heating concepts to start in Q1 2024

**Water electrolysis**

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

**CCS projects**

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

CCS project to reduce BASF’s CO₂ emissions in Antwerp by 1 million tons per year slated for startup in 2027

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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.
Operational excellence – a lever to continuously increase our energy efficiency and avoid CO₂ emissions

Reduction of CO₂ emissions through operational excellence measures
Kilo tons per year, cumulative

- Opex measures helped to reduce CO₂ emissions by more than 1.3 million tons from 2013 to 2023
- In 2023, more than 500 opex measures were realized that reduced CO₂ emissions
- Examples:
  - Ludwigshafen, Germany: Introduction of a digital tool for energy optimization in our steam cracker resulting in CO₂ emission reduction of more than 15,000 tons per year
  - Caojing, China: New absorption heat pump and process adjustments to harness reaction heat for steam generation, avoiding more than 25,000 tons of CO₂ emissions per year
Structured approach to capex spending

Current project pipeline and projected capex

Pilot scale
- eFurnace
- Water electrolysis
- Methane pyrolysis

Commercial scale
- CCS/CCU
- Power-to-heat projects (heat pumps, e-boilers and e-drives)

Operational excellence

2021 < €1 billion 2025 €2-3 billion 2030

1 Depending on public funding
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

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

**Scope 1 + 2**
Emissions caused by own operations

- Energy generation and chemical processes
- ISO 14067:2018

Customer benefits:
- Transparency on CO₂ emissions
- Identification of main reduction levers
- Certified software
- Transparent documentation
We have a solid foundation for primary Scope 3.1 emission data

BASF’s CO₂e emissions from raw material purchase 2023

- Supplier CO₂ 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
- We now have more than 800 validated product carbon footprints for our raw materials
- We will 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 CO₂e, 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
Our new targets: Reduce specific Scope 3.1 emissions by 15% by 2030 and achieve net-zero Scope 3.1 emissions by 2050

2030
15%
specific Scope 3.1
CO$_2$ emission reduction
(compared with 2022)$^1$

2050
net zero
Scope 3.1
CO$_2$ emissions

$^1$ Corresponds to a reduction from 1.58 to 1.34 kilograms of CO$_2$e per kilogram of raw material bought. Future adjustment of the baseline in line with the TfS guideline possible depending on the availability of further primary data.
Entry points for alternative feedstocks in BASF value chains

In the BASF Verbund, alternative feedstocks can be used as a drop-in solution, in part using new, dedicated processes.
From a linear to a more circular economy – BASF contribution: ChemCycling™

ChemCycling™
+ can handle mixed plastic waste
+ produces virgin-grade materials
+ replaces virgin fossil resources
+ CO₂ emissions prevented¹

Creating value from waste
- BASF works with technology partners specialized in converting mixed plastic waste and end-of-life tires into liquid feedstock (pyrolysis oil)
- The recycled raw material is fed into BASF’s value chains
- Pyrolysis oil is used to produce mass-balanced Cycled™ materials for industries like automotive, packaging and textiles

Linear economy
- Incineration
- Landfill
- Littering

¹ Compared to conventional plastic production and incineration of plastic waste
TripleS method increases measurability and transparency on sustainability – developed by BASF, adopted by the industry

- Methodology refined after achieving 2025 Accelerator target ahead of schedule in 2021
- Approximately 45,000 products are analyzed and classified worldwide
- Each product in its application is assigned to one of five TripleS segments
- Portfolio steered toward climate protection, resource efficiency and circular economy with Pioneer and Contributor products
- The World Business Council for Sustainable Development adopted BASF’s TripleS logic for its Portfolio Sustainability Assessment (PSA)
We aim to increase the sales share of Sustainable-Future Solutions from 41% to more than 50% by 2030

Provisional 2023 TripleS sales

Billion €

Not assessed
~€2.7bn
Challenged
~€1.2bn
Monitored
~€4.4bn

~€55.5 billion (~80% of 2023 sales)

Sustainable-Future Solutions

Resource Efficiency
Climate Change & Energy
Circularity
Other

Contributor
~€9.6bn
Pioneer
~€13.4bn
Standard
~€24.2bn

41% 2023

>50% 2030

1 Sales shares based on the analysis of the relevant portfolio carried out by the end of 2023; not included: platinum group metals within ECMS, strategically non-relevant businesses such as IT services, licenses, etc. The provisional segmentation has not been audited by KPMG. The allocation to the TripleS segments is provisional, as the reassessment of our portfolio has not yet been completed.

2 “Other” comprises Health & Safety, Pollution Reduction, Biodiversity, Water Protection and Zero Hunger.
We want to create additional value for our customers with low-carbon and zero-PCF products

Originally
Infinergy® 230 (AP) midsole

Today
Infinergy® 230 RC midsole

Future

500 g CO₂e¹

270 g CO₂e¹

0 g CO₂e¹

¹ CO₂e emissions (cradle-to-gate), calculated according to a method from McKinsey; only Infinergy® part of the sole
Identifying and assessing sustainability topics: Materiality analysis 2023

- Eleven topics are identified considering impact materiality as well as financial materiality.
- Results are integrated into our sustainability tools, processes, strategies and in our corporate reporting.

<table>
<thead>
<tr>
<th>Double materiality</th>
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</thead>
<tbody>
<tr>
<td><strong>Impact materiality</strong> (impact by BASF)</td>
</tr>
<tr>
<td>Impacts of our activities along the value chain¹</td>
</tr>
<tr>
<td><strong>Financial materiality</strong> (impact on BASF)</td>
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<tr>
<td>Financial impacts of ESG topics on our performance¹</td>
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| Biodiversity | Human rights & labor rights |
| Business ethics | Occupational health & safety |
| Circularity & resource efficiency | Product stewardship |
| Climate change adaptation | Waste |
| Climate change mitigation | Water & wastewater |
| Diversity, inclusion & equal work | |

¹ Actual and potential as well as positive and negative impacts are considered.
Protecting biodiversity is a key element of our commitment to sustainability

**Supply chain**
- We published our position on Forest Protection in June 2020
- We are working on increasing supply chain sustainability, for example through our Palm Sourcing Policy

**Sites and production**
- We take into consideration preservation of biodiversity in the management of our sites
- We systematically assess sustainability aspects for expansions or constructions of sites

**Products**
- We ensure our products are appropriately used by offering customer trainings
- We commit to the Responsible Care® charter of the International Council of Chemical Associations (ICCA)

**Initiatives**
- We are engaging in dialogs with a variety of stakeholders, for example:
  - the Roundtable on Sustainable Palm Oil (RSPO)
  - the Alliance to End Plastic Waste (AEPW)
  - the BASF FarmNetwork Sustainability
  - the MataViva® Initiative
We source responsibly and strive to improve sustainability performance in the supply chain

- Goal: Cover 90% of our relevant spend\(^1\) with sustainability evaluations by 2025 (2023: 89%), and have 80% of our suppliers improve their sustainability performance upon re-evaluation (2023: 82%)

- Supplier Code of Conduct rooted in internationally recognized standards such as the principles of the UN Global Compact and the International Labor Organization

- Engaged in numerous initiatives to improve sustainability performance and working conditions in the supply chain, e.g., Global Battery Alliance (GBA), Responsible Cobalt Initiative (RCI), Roundtable on Sustainable Palm Oil (RSPO)

- Founding member of the “Together for Sustainability” initiative for the joint evaluation of suppliers:
  - 11,421 online assessments and 492 audits carried out by an independent service provider for member companies in 2023
  - BASF itself is assessed and was ranked among the top 1% of companies in 2022

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\(^1\) We understand relevant spend as procurement volumes with relevant suppliers. We define relevant suppliers as Tier 1 suppliers showing an elevated sustainability risk potential as identified by our risk matrices and our purchasers’ assessments. We also use further sources of information to identify relevant suppliers such as evaluations from Together for Sustainability (TfS), a joint initiative of chemical companies for sustainable supply chains.
Global water stewardship – strong commitment to local water management

- Further increase of water stress areas expected worldwide (climate change, population growth and economic development)

- Growing competition among water users expected (e.g., households, agriculture, industry)

- In 2023, BASF again achieved leadership status with an A- rating in CDP’s water security assessment

- Goal: Introduction of sustainable water management at our Verbund sites and at all production sites in water stress areas by 2030, covering ~90% of BASF’s total water abstraction
  - Water stress areas are regions where more than 40% of available water is used by industry, households and agriculture
  - Status 2022: 70%
Our sustainability commitments as a leader in agriculture

Climate Smart Farming

-30% CO₂e per ton of crop produced by 2030 in wheat, soy, rice, canola and corn

Supporting farmers to become more carbon efficient and resilient to volatile weather conditions

Sustainable Solutions

7% annual increase in our share² of solutions with substantial sustainability contribution

Steering our portfolio systematically to increase the share of sustainable solutions we bring to farmers year by year

Digital Farming

400+ million hectares supported with digital technologies by 2030¹

Helping farmers to grow profitably and reduce their environmental footprint

Smart Stewardship

Safe use of our products with right stewardship

Striving for zero farming incidents that impact human health and the environment

Climate Smart Farming
Sustainable Solutions
Digital Farming
Smart Stewardship

²in terms of sales

¹cumulative 2020-2030

Climate Smart Farming Sustainable Solutions Digital Farming Smart Stewardship

30% CO₂e per ton of crop produced by 2030 in wheat, soy, rice, canola and corn

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Striving for zero farming incidents that impact human health and the environment
Engaged employees – proud ambassadors for what BASF stands for

- BASF’s employees and their engagement are key to enable our long-term business success
- Annual goal: More than 80% of our employees feel that at BASF, they can thrive and perform at their best
- To measure the engagement, we:
  - collect regular feedback of our employees
  - engage our employees in discussions on the results
  - identify improvement areas and drive follow-up activities
  - report on the current status in the BASF Report
- Global survey “Employee Voices” in 2023: 79% of all participants agreed with the statement that at BASF they can thrive and perform at their best
Corporate Governance – Two-tier management system of BASF SE

- Transparent and effective separation of company management and supervision
- Reasonable level of diversity, e.g., with respect to gender:
  - Board of Executive Directors: 17% female members
  - Supervisory Board: 33% female members
BASF Group: Overview of non-financial targets (I/II)

**Effective climate protection**
Million metric tons

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2023 Status</th>
<th>2030 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>21.9</td>
<td>16.9</td>
<td>16.4</td>
</tr>
</tbody>
</table>

Most important key performance indicator

 Reduce our absolute CO\textsubscript{2} emissions (Scope 1 and 2) by 25% by 2030 (baseline 2018)\textsuperscript{1}  

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2023 Status</th>
<th>2030 Target</th>
</tr>
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<tr>
<td>Ton</td>
<td>16.9</td>
<td>15.8\textsuperscript{3}</td>
<td>16.1</td>
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Reduce our specific CO\textsubscript{2} emissions (Scope 3.1) by 15% by 2030 (baseline 2022)\textsuperscript{2}

<table>
<thead>
<tr>
<th>Year</th>
<th>2022</th>
<th>2023 Status</th>
<th>2030 Target</th>
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<tr>
<td>Ton</td>
<td>1.58</td>
<td>1.61</td>
<td>1.34</td>
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</table>

**Resource efficiency and safe production**

<table>
<thead>
<tr>
<th>Year</th>
<th>2023 Status</th>
<th>2030 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2</td>
<td>0.05</td>
<td>≤0.10</td>
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</table>

Limited assurance

 Reduce our worldwide high-severity process safety incidents per 200,000 working hours to ≤0.10 by 2030\textsuperscript{4}

<table>
<thead>
<tr>
<th>Year</th>
<th>2023 Status</th>
<th>2030 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents</td>
<td>0.03</td>
<td>≤0.05</td>
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</table>

Limited assurance

 Reduce our worldwide high-severity work process-related injuries per 200,000 working hours to ≤0.05 by 2030\textsuperscript{4}

<table>
<thead>
<tr>
<th>Year</th>
<th>2023 Status</th>
<th>2030 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents</td>
<td>70</td>
<td>100</td>
</tr>
</tbody>
</table>

Limited assurance

 Introduce sustainable water management at our production sites in water stress areas and at our Verbund sites by 2030

\textsuperscript{1} Scope 1 and Scope 2 (excluding the sale of energy to third parties). The target includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO\textsubscript{2} equivalents (CO\textsubscript{2}e). The baseline year is 2018.

\textsuperscript{2} Scope 3.1, raw materials excluding battery materials, services and technical goods, excluding greenhouse gas emissions from BASF trading business. Future adjustment of the baseline in line with the TfS guideline possible depending on the availability of further primary data. The baseline year is 2022.

\textsuperscript{3} The figure for 2022 was adjusted due to increased data availability.

\textsuperscript{4} We updated the safety targets in 2023.
BASF Group: Overview of non-financial targets (II/II)

**Responsible procurement**

<table>
<thead>
<tr>
<th>%</th>
<th>2023 status</th>
<th>2025 target</th>
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<tr>
<td>89</td>
<td>90</td>
<td>SDG</td>
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</table>

**Limited assurance**

Cover 90% of our relevant spend with sustainability evaluations by 2025

**Committed employees and diversity**

<table>
<thead>
<tr>
<th>%</th>
<th>2023 status</th>
<th>2030 target</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.4</td>
<td>30</td>
<td>SDG</td>
</tr>
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</table>

**Limited assurance**

Increase the proportion of women in leadership positions with disciplinary responsibility to 30% by 2030

<table>
<thead>
<tr>
<th>%</th>
<th>2023 status</th>
<th>2025 target</th>
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<tbody>
<tr>
<td>79¹</td>
<td>&gt;80</td>
<td>SDG</td>
</tr>
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</table>

**Limited assurance**

More than 80% of our employees feel that at BASF, they can thrive and perform at their best

¹ We regularly calculate the employee engagement level. The most recent survey was conducted in 2023.
BASF in sustainability ratings and rankings

**MSCI ESG Research**
In 2023, BASF was rated A. The analysts highlighted that BASF is present in clean tech markets and has a robust carbon mitigation and water reduction strategy.

**CDP Disclosure Leadership**
In February 2024, CDP once again awarded BASF Leadership status (A-) in the categories of climate protection, water management and forest protection.

**Morningstar Sustainalytics**
BASF belongs to the best category for “diversified chemicals” with a medium ESG risk and was recognized for its strong risk management, e.g., in the areas of CO₂ emissions, wastewater and waste as well as occupational health and safety.

**FTSE4Good Global Index**
BASF was again included in the FTSE4Good Global Index in 2023.

**ISS ESG**
In 2023, BASF held its Prime Status (B-), being among the top decile rank of the companies assessed.
BASF
We create chemistry