We create chemistry for a sustainable future

BASF ESG Investment Story
November 2023
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 those discussed in Opportunities and Risks on pages 157 to 167 of the BASF Report 2022. 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.
Resource efficiency – BASF’s Verbund is ideal for CO₂ emission reduction

- Combined heat and power plants and integrated energy Verbund avoided 6.2 million metric tons of CO₂e emissions in 2022
- Synergies in logistics and infrastructure, minimization of waste
- European emissions trading benchmarks show that BASF’s chemical plants operate at above-average energy efficiency
Our commitments to reaching the Paris Climate Agreement

2030
- 25% CO₂ emissions reduction (compared with 2018)¹

2050
- net zero CO₂ emissions¹
We assume responsibility along the entire value chain

### Greenhouse gas emissions along the BASF value chain in 2022<sup>1</sup>
(in million metric tons of CO<sub>2</sub> equivalents)

<table>
<thead>
<tr>
<th>Source</th>
<th>Emissions (in million metric tons of CO&lt;sub&gt;2&lt;/sub&gt; equivalents)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
<td>54</td>
</tr>
<tr>
<td>Purchased products, services</td>
<td></td>
</tr>
<tr>
<td>and capital goods (Scope 3, C 1, 2, 3a)</td>
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</tr>
<tr>
<td>Transport</td>
<td>19</td>
</tr>
<tr>
<td>Transport of products, employees’ commuting and business travel (Scope 3, C 4, 6, 7, 9)</td>
<td></td>
</tr>
<tr>
<td>BASF</td>
<td>4</td>
</tr>
<tr>
<td>Production including generation of steam and electricity (Scope 1 and 2)</td>
<td></td>
</tr>
<tr>
<td>Customers</td>
<td>3</td>
</tr>
<tr>
<td>Emissions from the use of end products (Scope 3, C 11)</td>
<td></td>
</tr>
<tr>
<td>Other (Scope 3, C 3b, 3c, 5, 8, 13, 15)</td>
<td>26</td>
</tr>
<tr>
<td>Disposal</td>
<td>5</td>
</tr>
<tr>
<td>Incineration with energy recovery, landfilling (Scope 3, C 12)</td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> According to the Greenhouse Gas Protocol; Scope 1, 2 and 3; reported categories within Scope 3 are shown in parentheses. Scope 3 emissions in category 10 (“Processing of sold products”) are not reported according to the standard for the chemical sector. Only direct use phase emissions are reported in the customer category (Scope 3.11).
No downstream decarbonization without upstream decarbonization

BASF greenhouse gas emissions 2018
Million metric tons per year

Global GHG emissions
Scope 1+2

Energy production

- Electric power
  - Grey-to-green
  - Continuous opex

- Steam
  - Power-to-steam

Chemical production

- Upstream
  - New technologies
- Downstream
  - Bio-based feedstocks

1 Includes emissions from process energy
2 Operational excellence measures
Our path to reduce BASF emissions from 2018 to 2030

BASF greenhouse gas emissions (Scope 1 and Scope 2) 2018–2030
Million metric tons

CO₂ reduction in business as is 2018

21.9

Grey-to-green

Power-to-steam

New technologies

Bio-based feedstocks

Opex

CO₂ increase from growth

50%

25%

2018

2030 Business as is 2018

Temporary measures

Growth (organic, inorganic)

Verbund site South China

2030

BASF greenhouse gas emissions (Scope 1 and Scope 2) 2018–2030
Million metric tons
Our path to reduce BASF emissions from 1990 to 2050

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Business as is 2018</th>
<th>CO₂ increase from growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Grey-to-green</td>
<td>~75%</td>
</tr>
<tr>
<td>2018</td>
<td>Power-to-steam</td>
<td>~60%</td>
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<td></td>
<td>New technologies</td>
<td>100%</td>
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<td></td>
<td>Bio-based feedstocks</td>
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<td></td>
<td>Opex</td>
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<td>Temporary measures</td>
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<td>Growth (organic, inorganic)</td>
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<td></td>
<td>Verbund site South China</td>
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<th>Year</th>
<th>Grey-to-green</th>
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<th>Verbund site South China</th>
<th>2030 Business as is 2018</th>
<th>2030</th>
<th>2050</th>
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<tbody>
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<td>1990</td>
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<td>2018</td>
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CO₂ reduction in business as is 2018
Our roadmap is backed by robust calculations and solid planning

Projected BASF greenhouse gas emissions
Million metric tons CO₂ equivalents

Lower CO₂ emissions already materialized until 2020

Projected emissions without mitigation 2018

11 million tons of CO₂ avoided annually by 2030

Baseline 2018 21.9

Target 2030 16.4
Switching our power to renewable energy will be the main driver of emission reduction until 2025

BASF global power demand and renewable supply projection

- BASF aims to source more than 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
BASF drives forward renewable energy projects worldwide

- Hollandse Kust Zuid – world's largest wind park
- On-site solar park Schwarzheide, Germany
- 25 years onshore wind power from Spain
- 25 years offshore wind power from Germany
- Wind and solar power for sites across the United States
- Renewable power for several Chinese sites

Picture sources: BASF, American Public Power Association
High potential from changing to power-to-steam allows decoupling from electricity supply

Current situation

Gas-fired power plants
Gas-fired steam boilers
Fossil-based steam generation

Future situation

E-boilers
Heat pumps
E-drives
Electrification of steam generation and reduction of steam consumption
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 year

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

Based on nameplate capacities, March 2021, excluding at-equity consolidated companies
Construction started on world’s first demonstration plant for large-scale electrically heated steam cracker furnaces

- Construction of demonstration plant started at Ludwigshafen Verbund site in cooperation with SABIC and Linde
- Potential to reduce process-related emissions by at least 90%
- Supported by German Federal Ministry for Economic Affairs and Climate Action and funded by the European Union
- Startup of the demonstration plant planned for 2023
Water electrolysis plant will integrate internally produced green hydrogen into our Verbund

Seamless integration into BASF Verbund

- **Shortlisted for public funding** by German Federal Ministry for Economic Affairs and Climate Action
- **Startup** of water electrolysis **targeted for 2024**, investment of more than €90 million, capacity of 8,000 metric tons H₂
- Hydrogen to be used in **BASF Verbund** and for local community hydrogen mobility market

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1. PEM technology
Methane pyrolysis combines low emissions with low energy demand

- Methane pyrolysis requires around 80% less electricity than water electrolysis
- Funding for pilot reactor was granted by German Federal Ministry of Education and Research¹
- Milestone achieved: Pilot reactor at the Ludwigshafen site started successfully in Q2 2021
- Startup of first commercial plant projected before 2030

¹ Grant number 03SF0571A
Verbund site Antwerp: CCS is a mature drop-in solution for large-scale process emission abatement

Full cross-border CCS value chain

- Project consortium **Antwerp@C** has entered the FEED phase for CO₂ infrastructure in the port of Antwerp; BASF is one of the founding members
- Project **Kairos@C** – a consortium of BASF and Air Liquide – has entered the project engineering phase at BASF’s Antwerp Verbund site
- International **cross-border CCS value chain** aiming to reduce BASF’s CO₂ emissions in Antwerp by up to 1 million tons per year in a first step
- Planned to be **operational by 2027**
In the BASF Verbund, bio-based feedstocks can be used as a drop-in solution, in part using new, dedicated processes.
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 1.2 million tons from 2013 to 2022
- In 2022, more than 500 opex measures were realized that reduced CO₂ emissions
- Examples:
  - Modification to wastewater treatment process reduced heat demand and resulting CO₂ emissions by more than 2,500 tons per year
  - New residue incineration line allows more efficient steam production, avoiding more than 5,000 tons of CO₂ emissions per year
Structured approach to capex spending

Current project pipeline and projected capex

**Pilot scale**
- eFurnace
- Water electrolysis
- Methane pyrolysis

<table>
<thead>
<tr>
<th>Pilot scale</th>
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<tbody>
<tr>
<td><strong>eFurnace</strong></td>
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<td><strong>Water electrolysis</strong></td>
</tr>
<tr>
<td><strong>Methane pyrolysis</strong></td>
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</table>

**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: Global roll-out

*Depend 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

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

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

**Product carbon footprints of sales products**

**Customer benefits**
- Transparency on CO₂ emissions
- Identification of main reduction levers
- Certified software
- Transparent documentation

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1. Energy generation and chemical processes
2. ISO 14067:2018
We create transparency on the CO₂ emissions of our raw materials as an important step in reducing BASF’s Scope 3 emissions

- BASF is supporting various initiatives to develop and establish workable standards for the chemical industry
- Supplier CO₂ Management Program rolled-out in 2021 to collect specific PCFs and align on reduction targets
- More than 1,300 suppliers have been approached since starting the program, accounting for 60% of Scope 3 emissions¹
- Collaboration through knowledge sharing on PCF calculation methodology ongoing to ensure engagement and quality of data
- First suppliers have committed to reducing their emissions
- BASF will make PCFs a buying criterion to ensure PCF reduction of its sales products

BASF’s CO₂e emissions from raw material purchase 2022

60% addressed by outreach

Total 49 million metric tons¹

¹ GHG protocol Scope 3.1: purchased goods and services: 51 million tons CO₂e, thereof 49 million tons purchased raw materials
BASF’s Circular Economy Program: Targets

- 250,000 metric tons of circular feedstock by 2025
- Double circular sales to €17 billion by 2030
- Prioritize related capex, M&A, R&D
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

Mechanical recycling

¹ Compared to conventional plastic production and incineration of plastic waste
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 (2022: 85%), and have 80% of our suppliers improve their sustainability performance upon re-evaluation (2022: 76%)

- 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:
  - 8,386 online assessments and 378 audits carried out by an independent service provider for member companies in 2022
  - BASF itself is assessed and was ranked among the top 1% of companies in 2022

\(^1\) 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 2022, BASF achieved the top rating of A in CDP’s Water Security List (previous year: A-)

- Goal: Introduction of sustainable water management at our Verbund sites and at all production sites in water stress areas by 2030, covering 89% 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: 61.6%
Our sustainability commitments as a leader in agriculture

Climate Smart Farming

-30%
\( \text{CO}_2 \text{e per ton of crop produced by 2030} \)

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

Sustainable Solutions

7%
annual increase in our share\(^1\) 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+
\text{million hectares supported with digital technologies by 2030}\(^1\)

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

-30% CO\(_2\)e per ton of crop produced by 2030 in wheat, soy, rice, canola and corn

7% annual increase in our share\(^1\) of solutions with substantial sustainability contribution

400+ million hectares supported with digital technologies by 2030\(^1\)

1in terms of sales

1cumulative 2020-2030

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

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

Helping farmers to grow profitably and reduce their environmental footprint

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 2022: 81% of all participants agreed to 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
Identifying and assessing sustainability topics: Materiality analysis 2022

- Twelve 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>
<th>Impact materiality (impact by BASF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacts of our activities along the value chain(^1)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Financial materiality (impact on BASF)</th>
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</thead>
<tbody>
<tr>
<td>Financial impacts of ESG topics on our performance(^1)</td>
</tr>
</tbody>
</table>

Biodiversity
Business ethics
Circularity & resource efficiency
Climate change adaptation
Climate change mitigation
Diversity, inclusion & equal work

- Human rights & labor rights
- Occupational health & safety
- Plastic waste
- Product stewardship
- Waste
- Water & wastewater

\(^1\) Actual and potential as well as positive and negative impacts are considered.
We create chemistry for a sustainable future – overview of sustainability goals and KPIs¹

<table>
<thead>
<tr>
<th>Effective climate protection</th>
<th>Target</th>
<th>2022 status</th>
<th>SDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce our absolute CO₂ emissions² by 25% by 2030 (baseline 2018)</td>
<td>≤ 16.4 million metric tons</td>
<td>18.4 million metric tons</td>
<td>100%</td>
</tr>
<tr>
<td>Achieve net zero CO₂ emissions² by 2050</td>
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<table>
<thead>
<tr>
<th>Resource efficiency and safe production</th>
<th>Target</th>
<th>2022 status</th>
<th>SDG</th>
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</thead>
<tbody>
<tr>
<td>Reduce worldwide process safety incidents per 200,000 working hours to ≤ 0.1 by 2025³</td>
<td>≤ 0.1</td>
<td>0.3</td>
<td>81%</td>
</tr>
<tr>
<td>Reduce the worldwide lost-time injury rate per 200,000 working hours to ≤ 0.1 by 2025³</td>
<td>≤ 0.1</td>
<td>0.3</td>
<td>81%</td>
</tr>
<tr>
<td>Introduce sustainable water management at our production sites in water stress areas and at our Verbund sites by 2030</td>
<td>100%</td>
<td>61.6%</td>
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<table>
<thead>
<tr>
<th>Employee engagement and diversity</th>
<th>Target</th>
<th>2022 status</th>
<th>SDG</th>
</tr>
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<tbody>
<tr>
<td>Increase the proportion of women in leadership positions with disciplinary responsibility to 30% by 2030</td>
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<tr>
<td>More than 80% of our employees feel that at BASF, they can thrive and perform at their best</td>
<td>&gt; 80%</td>
<td>81%</td>
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<th>Responsible procurement</th>
<th>Target</th>
<th>2022 status</th>
<th>SDG</th>
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<tr>
<td>Cover 90% of our relevant spend with sustainability evaluations by 2025</td>
<td>90%</td>
<td>85%</td>
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<tr>
<td>Have 80% of our suppliers improve their sustainability performance upon re-evaluation</td>
<td>80%</td>
<td>76%</td>
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¹ Targets as presented in the BASF Report 2022
² Scope 1 and Scope 2 emissions (excluding the sale of energy to third parties, including offsetting). The target includes other greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO₂ equivalents (CO₂e). The baseline year is 2018.
³ We will update the safety targets and report according to a new system 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 2022, BASF achieved scores of A in “Water” and A- in “Climate” and “Forests,” thus attaining leadership status in all categories we are participating in.

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.