We create chemistry

We create chemistry for a sustainable future

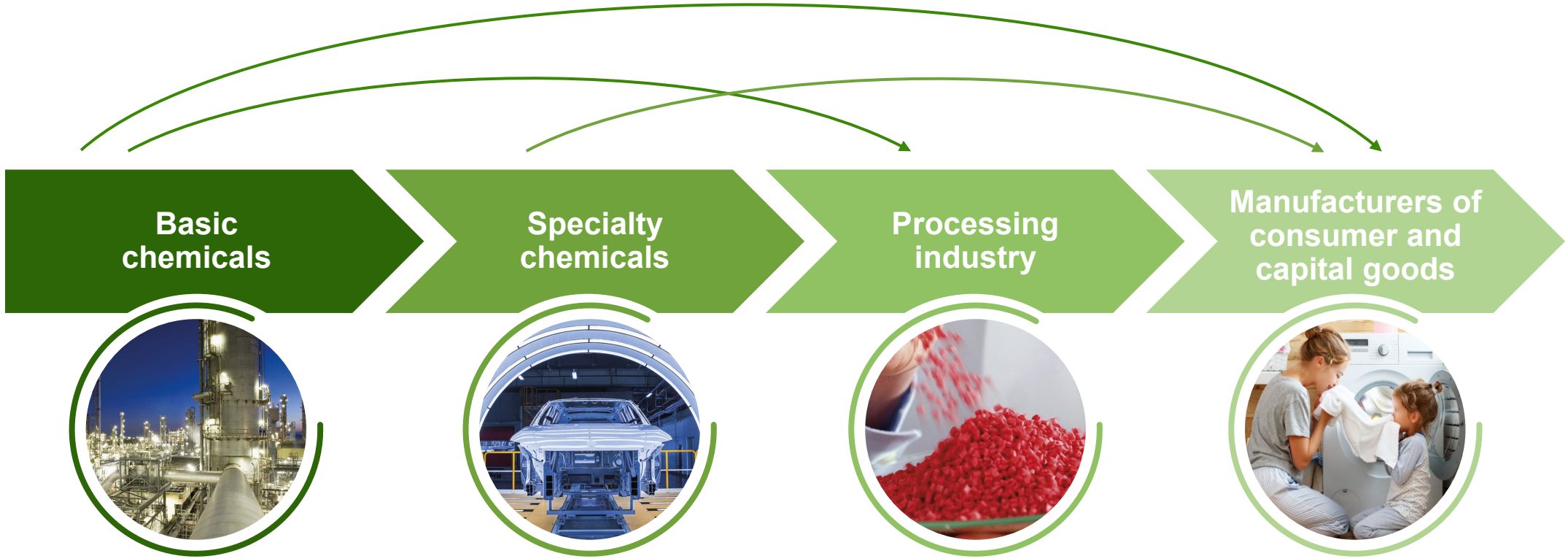
BASF ESG Investment Story
October 2024

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.

BASF
We create chemistry

The chemical industry is the starting point of almost all value chains



BASF
We create chemistry

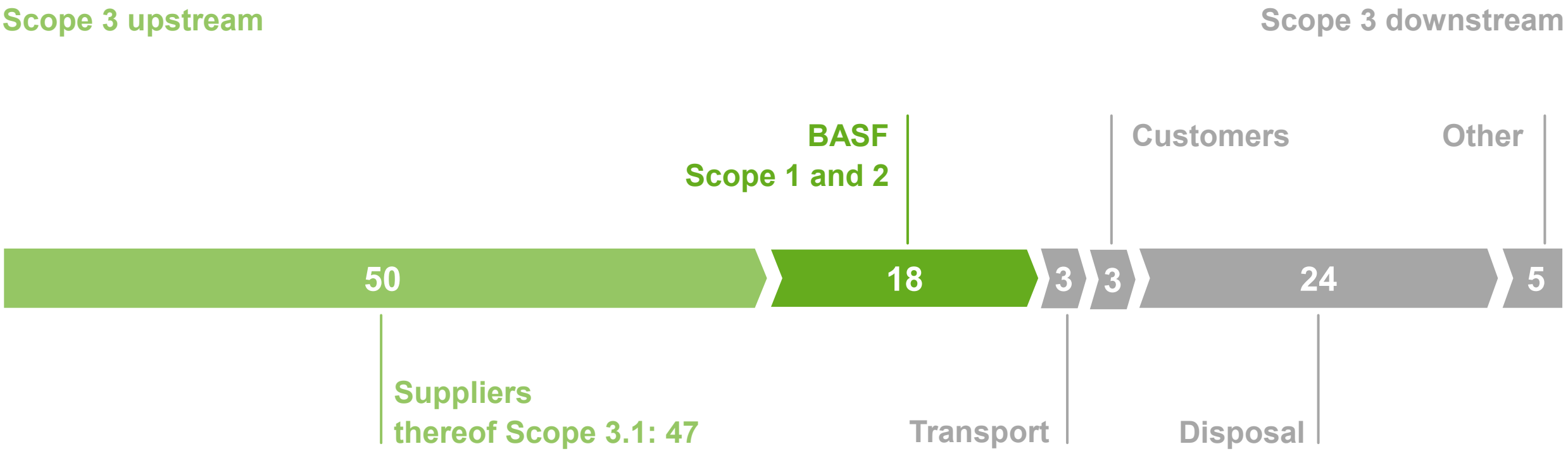
Resource efficiency – BASF's Verbund is ideal for CO_2 emission reduction

- Combined heat and power plants and integrated energy Verbund avoided 5.7 million metric tons of CO_2e 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
We create chemistry

BASF reports emissions along the entire value chain

Greenhouse gas emissions along the BASF value chain in 2023[1]
Million metric tons of CO_2 equivalents

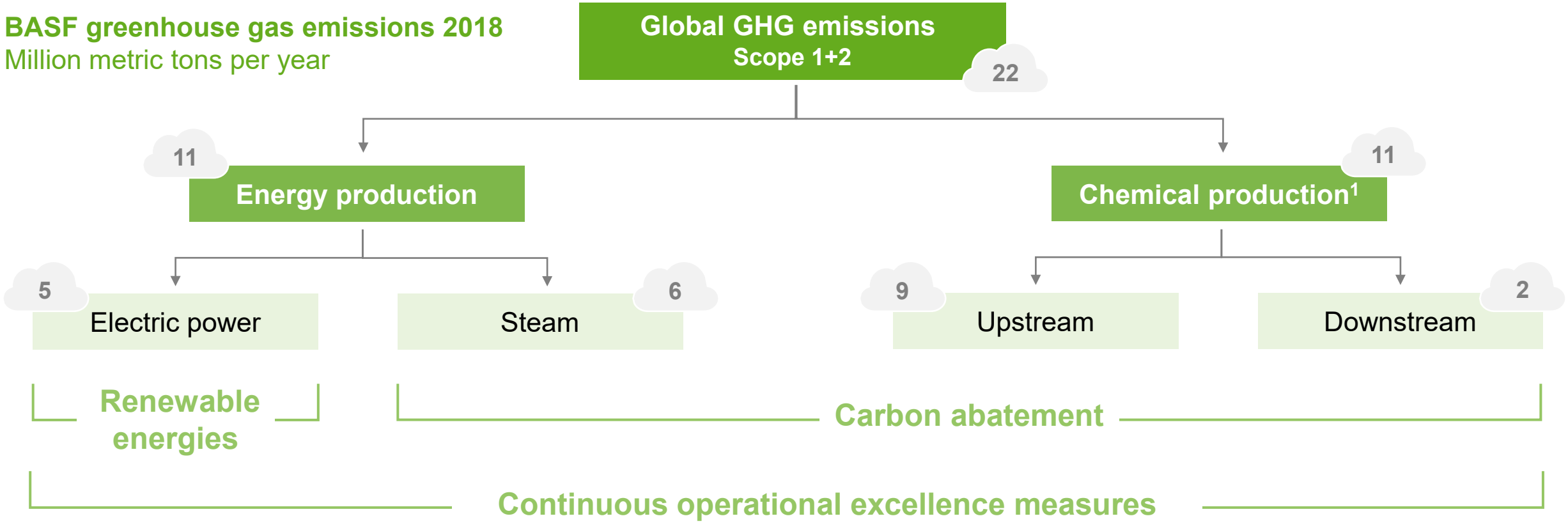


[1] See BASF Report 2023, page 108

BASF
We create chemistry

No downstream decarbonization without upstream decarbonization

BASF greenhouse gas emissions 2018
Million metric tons per year



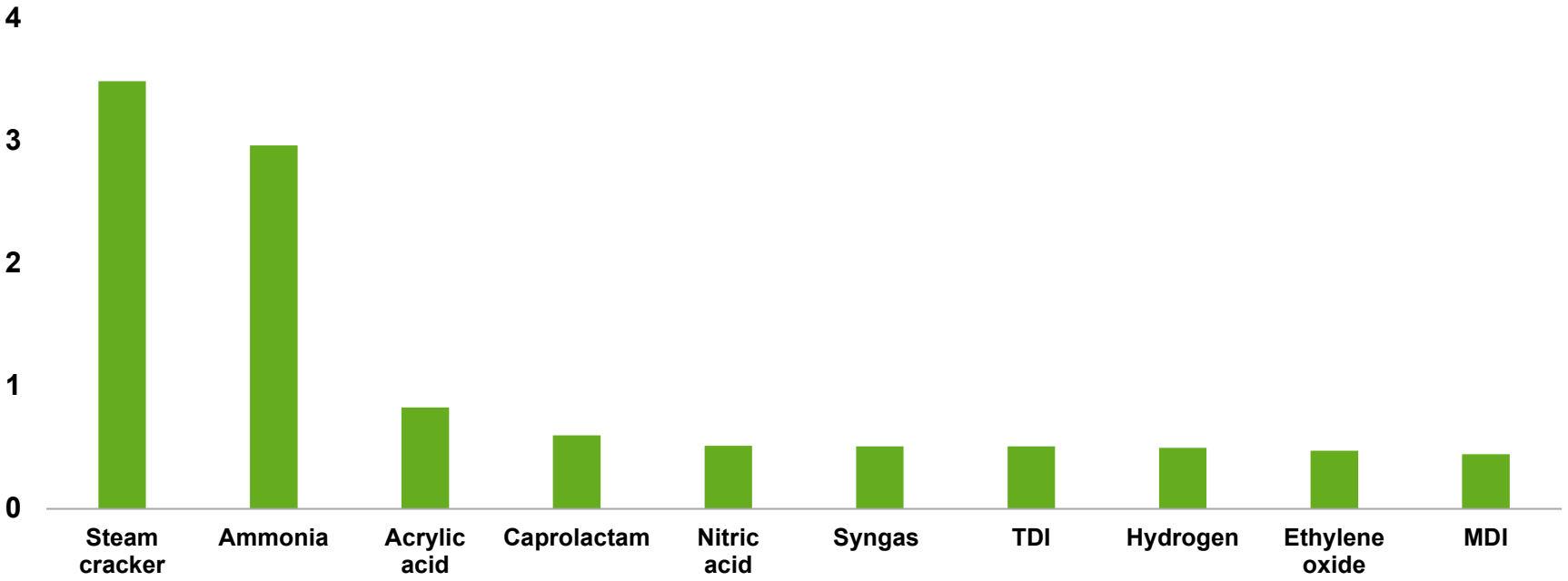
[1] Includes emissions from process energy

BASF
We create chemistry

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

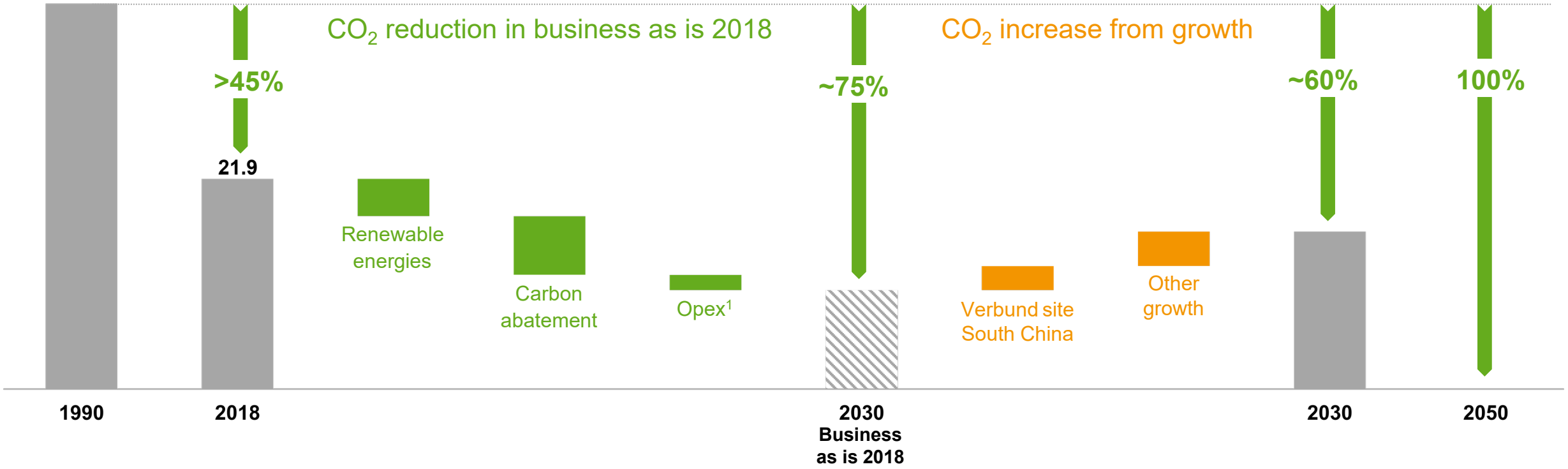
[1] Based on nameplate capacities, March 2021, excluding at-equity consolidated companies

BASF
We create chemistry

Our path to reduce BASF emissions from 1990 to 2050

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

Million metric tons

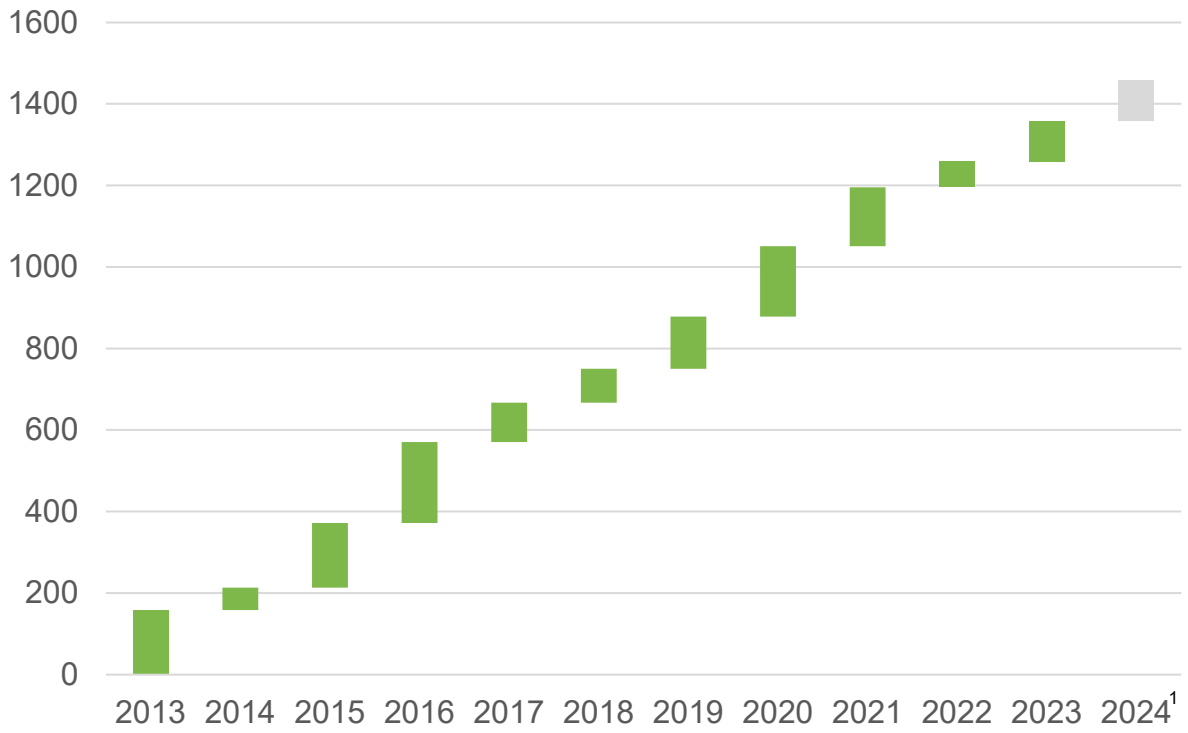


[1] Operational excellence measures

BASF
We create chemistry

Operational excellence – a lever to continuously increase our energy efficiency and avoid CO_2 emissions

Reduction of CO_2 emissions through operational excellence measures
Kilo tons per year, cumulative



- Opex measures helped to **reduce CO_2 emissions by more than 1.3 million tons** from 2013 to 2023
- In 2023, more than **500 opex measures** were realized that reduced CO_2 emissions
- Examples:
  - Ludwigshafen, Germany: Introduction of a digital tool for energy optimization in our steam cracker resulting in **CO_2 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 CO_2 emissions per year**

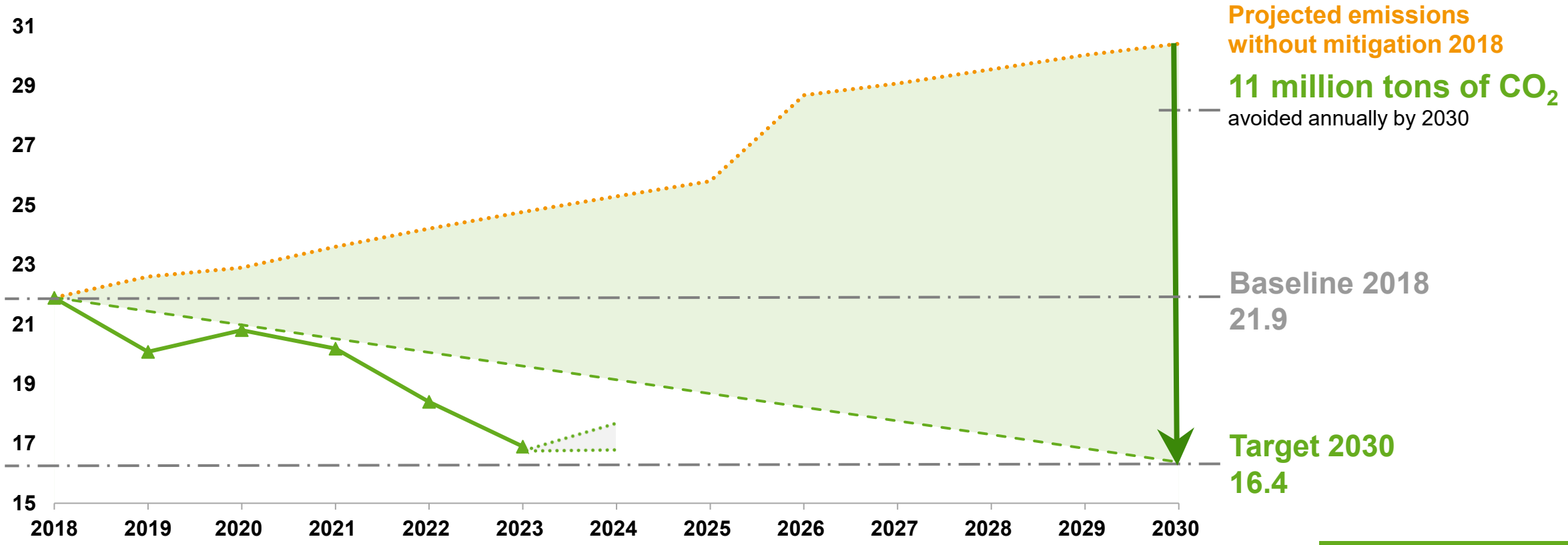
[1] Forecast

BASF
We create chemistry

We are making good progress toward our 2030 target for Scope 1 and 2 emissions

Projected BASF greenhouse gas emissions (Scope 1 and 2)

Million metric tons CO_2 equivalents



BASF
We create chemistry

We are fully committed to our climate protection targets and the transformation of the chemical industry

2030

25%

Scope 1 and **Scope 2**
CO_2 emission reduction
(compared with 2018)

15%

Specific **Scope 3.1**
CO_2 emission reduction
(compared with 2022)[1]

2050

Net zero

Scope 1, Scope 2 and **Scope 3.1**
CO_2 emissions

1 Corresponds to a reduction from 1.58 to 1.34 kilograms of CO_2 equivalents per kilogram of raw material bought; Scope 3.1, raw materials excluding battery materials, services and technical goods, excluding greenhouse gas emissions from BASF trading business

BASF
We create chemistry

We are shaping the transformation based on and catering to increasing customer demand

Phase 1 Explore and implement quick wins

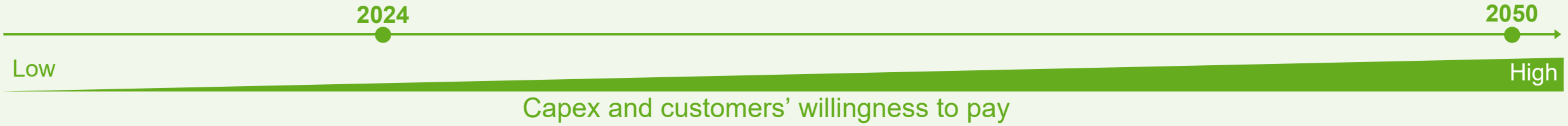
- Implement Scope 2 measures with clear business cases
- Pilot new technologies and launch sustainable products

Phase 2 Focus on market demand

- Secure increasing volumes of renewable feedstocks and ramp up volumes of products with sustainable attributes according to customer needs
- Execute Scope 1 measures with clear business cases

Phase 3 Transform asset base based on strategic relevance

- Decarbonize existing assets and invest in new competitive technologies in line with customer demand and our net zero target



BASF
We create chemistry

We are making progress on technologies for carbon abatement

eFurnace

eFurnace[1] demonstration plant built in Ludwigshafen with SABIC and Linde; testing of heating concepts to start in Q2 2024

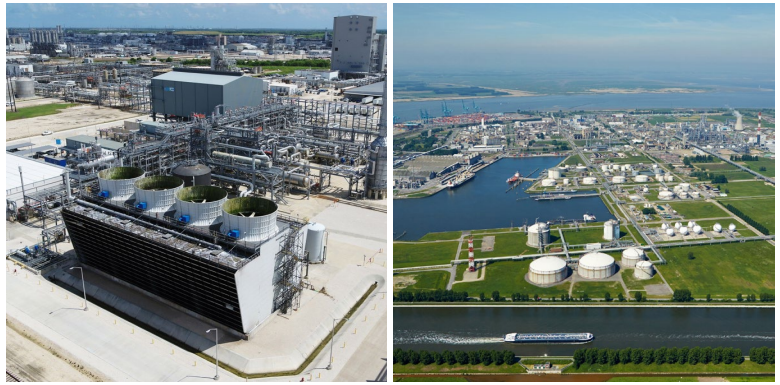
Supported by:
Federal Ministry for Economic Affairs and Climate Action
on the basis of a decision by the German Bundestag
Funded by the European Union
NextGenerationEU

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

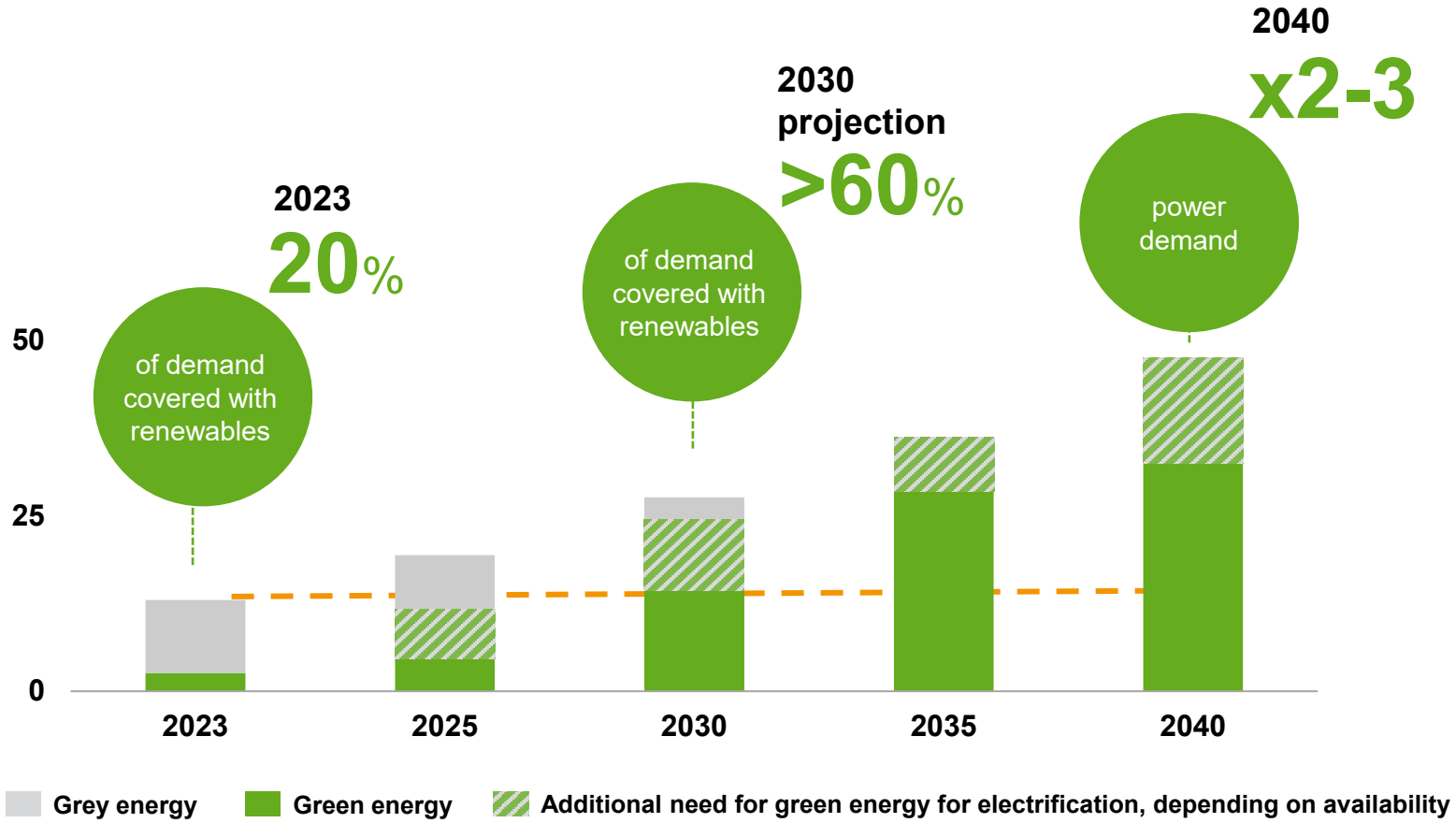
[1] Supported by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and funded by the European Union
[2] Supported by the Federal Ministry for Economic Affairs and Climate Action (BMWK) and the State of Rhineland-Palatinate
[3] Total capacity 1.2 to 1.4 million tons p.a.

BASF
We create chemistry

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**

BASF
We create chemistry

Well on track to gaining access to at least 60% renewable electricity worldwide by 2030

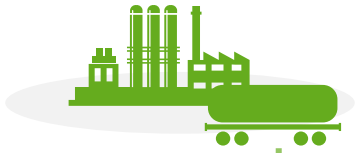
Share of renewable electricity in BASF Group:

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[1]

- TÜV-certified[2]
- Meets ISO standards[3]
- Calculates product carbon footprints cradle-to-gate

CO_2

Product carbon footprints of sales products

Customer benefits

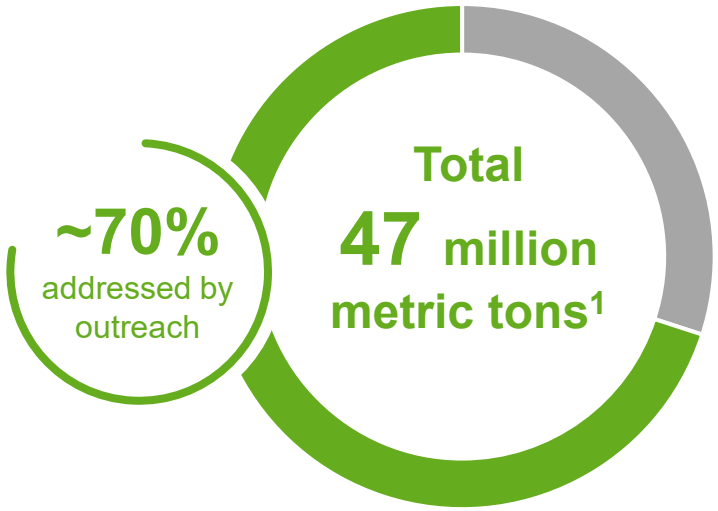
- Transparency on CO_2 emissions
- Identification of main reduction levers
- Certified software
- Transparent documentation

[1] Energy generation and chemical processes
[2] ISO 14067:2018
[3] 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

Our customers already benefit from product offerings with reduced carbon footprints

BASF

	Conventional	Reduced PCF[1]	Further reduced PCF[1]
Production approach	Highly efficient production setup in BASF Verbund Continuous process optimization and CO_2 reduction measures		
Utilities	Combined heat and power with natural gas as fuel	Alternative fuels (e.g., hydrogen, power-to-heat)	Renewable energy
Raw materials	Natural gas and naphtha	Raw materials with reduced PCF[1]	Bio-based feedstock

[1] Product carbon footprint

Non-BASF

Coal-based

BASF
We create chemistry

Based on our approach for renewable energy, we will set up a dedicated unit for renewable feedstocks

BASF Renewable Energy

Dedicated unit created in 2022 to:

- Procure and trade renewable energy
- Initiate new projects to generate renewable energy from own production
- Conclude long-term supply agreements with energy producers
- Provide expertise and advice on renewable energy within BASF worldwide

BASF Renewable Carbon

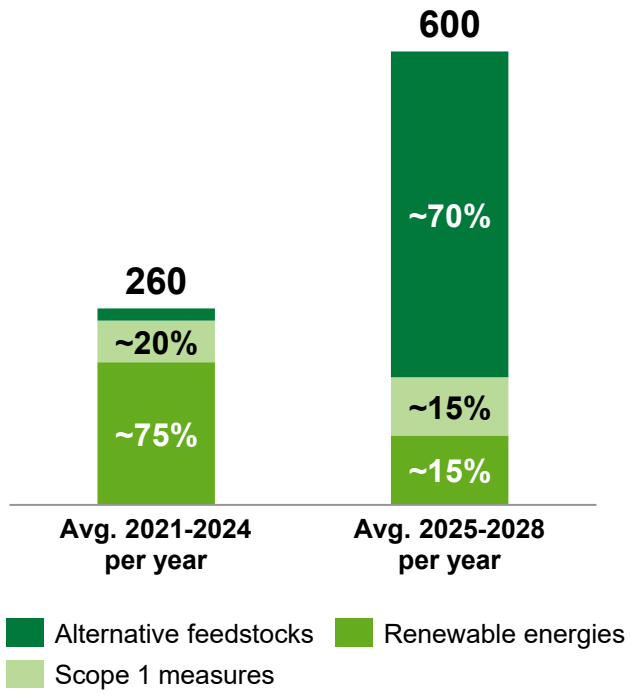
New dedicated unit will:

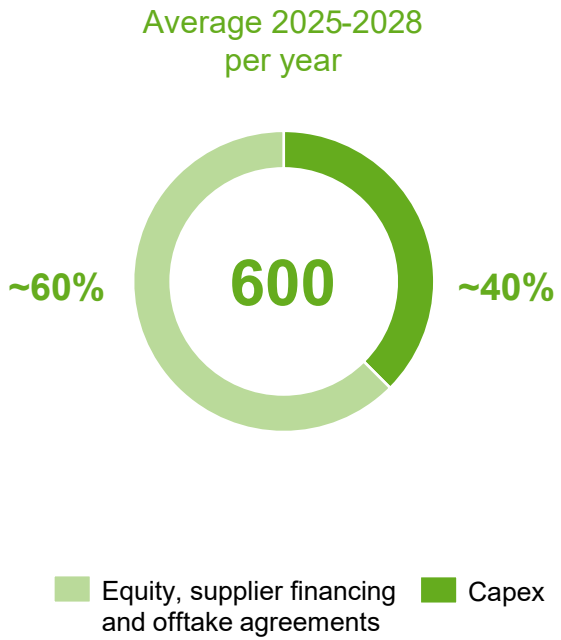
- Leverage existing expertise within BASF
- Oversee sourcing and trading of renewable feedstocks and biomass
- Define right entry points for the specific renewable value chains
- Pursue versatile cooperation models with suppliers, customers and partners

BASF
We create chemistry

Our phased transformation is also reflected in our spending

Transformation-related spending
Million €





- Transformation-related spending to **average €600 million per year from 2025 to 2028**
  - €225 million per year for capex
  - €375 million per year for equity participations, supplier financing and offtake agreements
- **Implementation of sourcing strategy** to manage price and volume volatility risks for renewable feedstocks
- **Capex on new technologies** at scale will follow **in line with market demand** and increasingly via partnerships

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

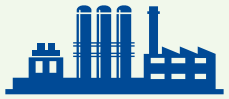
Sustainably sourced bio-based resources, e.g., RSPO certified palm oil

Mass balance approach

BASF
We create chemistry

Our Verbund provides a scalable and competitive pathway for a gradual transformation from gray to blue to green

Verbund



Bionaphtha

Biogas

Green H_2

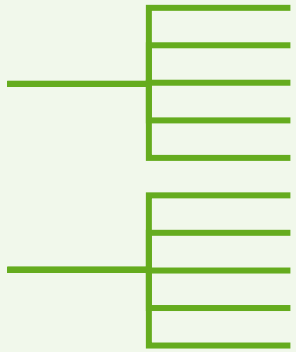
…

- Olefins
- Syngas
- Acetylene
- Ammonia

…

Downstream processes and applications

Product attributes



Bio-based/BMB

Low and zero PCF

Customer industries

- Agriculture
- Automotive
- Chemicals
- Construction
- Consumer goods
- Electronics
- Energy and resources
- Manufacturing
- Nutrition and health
- Plastics and rubber

Similar approach for recycled content

BASF
We create chemistry

We enable our customers' green transformation with an increasingly sustainable product portfolio

Sustainable-Future Solutions
TripleS sales share[1]

41% 2023 〉 **>50%** 2030

Sustainable-Future Solutions are products that offer sustainability benefits in terms of:

- Resource efficiency
- Climate change and energy
- Circularity
- Other[2]

[1] TripleS: Sustainable Solution Steering methodology for steering the product portfolio based on sustainability criteria; not included: platinum group metals within ECMS, strategically non-relevant businesses such as IT services, licenses, etc.
[2] "Other" comprises health and safety, pollution reduction, biodiversity, water protection and zero hunger

Loop Solutions sales
Billion €

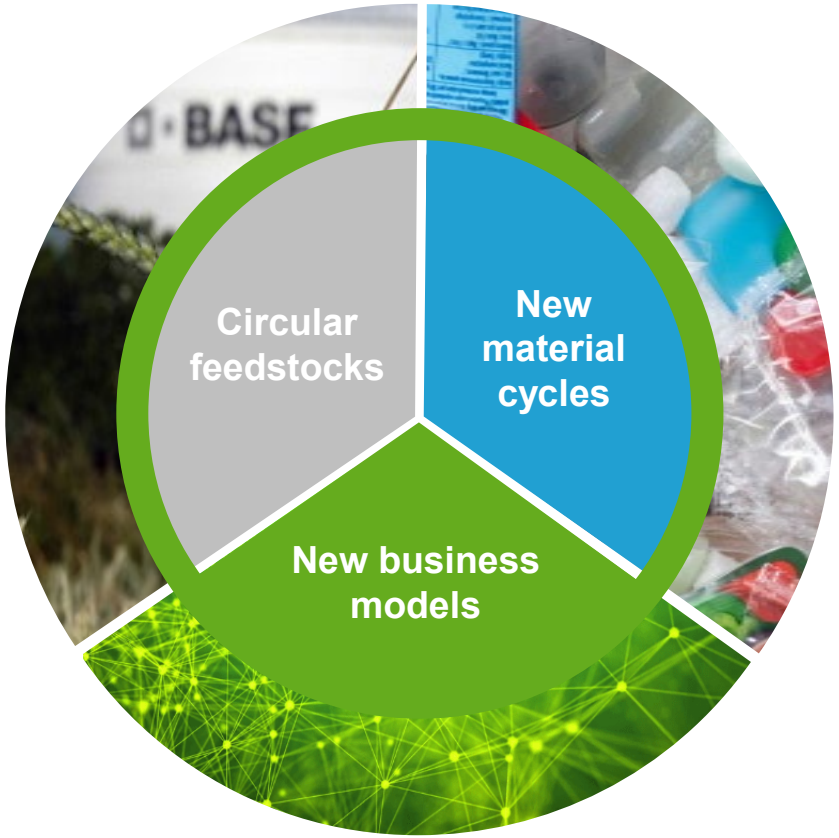
€5bn 2023 〉 **€10bn** 2030

Loop Solutions are products that:

- **close the loops** by being based on renewable or recycled feedstocks or enabling recyclability and/or biodegradability
- **extend the loops** by performing better with less and thus helping to decouple growth from material consumption

BASF
We create chemistry

We focus on three areas of circularity – enabling circular feedstocks, new material cycles and new business models



Circular feedstocks

We will increase the volume of renewable and recycled feedstocks from sustainable sources, also via the certified mass balance approach.

New material cycles

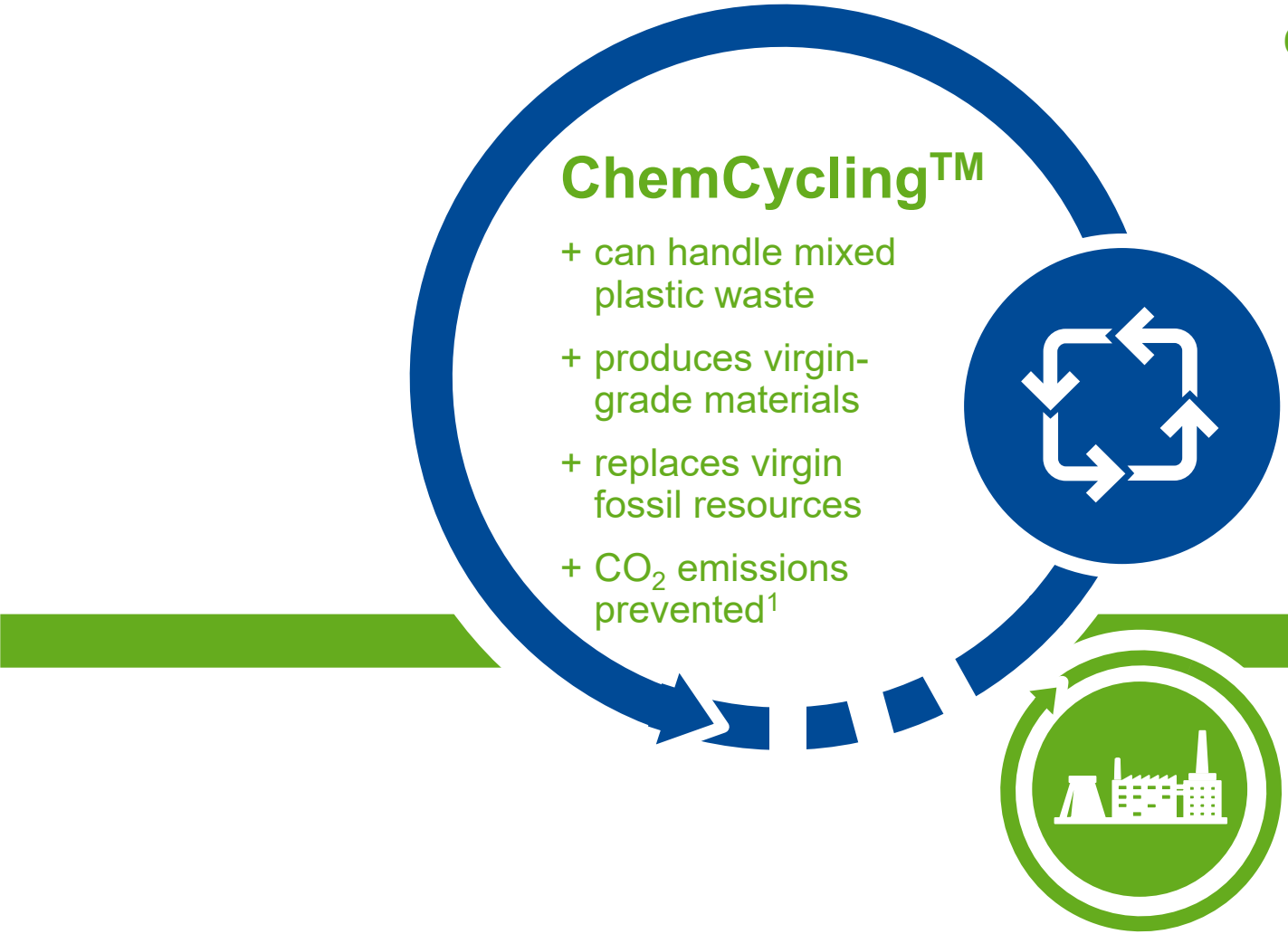
We design materials for circularity, develop solutions which improve or enable recycling, enable higher durability and prolonged lifetime/use phase of products, and establish product-specific recycling loops.

New business models

We enter new markets, create smart digital solutions and offer new services which allow a decoupling of growth from resource consumption.

BASF
We create chemistry

From a linear to a more circular economy – BASF contribution: ChemCycling™



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 Ccycled™ materials for industries like automotive, packaging and textiles

- Incineration
- Landfill
- Littering

[1] Compared to conventional plastic production and incineration of plastic waste

BASF
We create chemistry

Closing the loop with loopamid®

Breakthrough
Zara's capsule jacket made from loopamid® is entirely based on textile waste and demonstrates that textile-to-textile recycling is possible.

loopamid® is the first polyamide 6 entirely made from textile waste.

- BASF's unique recycling technology tackles one of the most pressing challenges the fashion industry is facing: textile waste.
- loopamid® realizes textile-to-textile recycling by overcoming limitations of other nylon recycling processes.
- From end-of-life textiles to virgin-like materials: Textiles are recycled at a molecular level ready to be transformed into brand new, premium fabrics.
- Collaboration with major players along the textile value chain ensures specific requirements of textile production are met.

BASF
We create chemistry

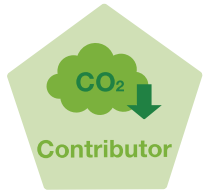
TripleS method increases measurability and transparency on sustainability – developed by BASF, adopted by the industry

- 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)

BASF
We create chemistry

We categorize our product portfolio into five TripleS segments, taking upcoming regulatory changes into account

Pioneer: Products with adequate profitability and a positive contribution to sustainability above the market standard with regard to the topics of Biodiversity, Water Protection, Pollution reduction, Zero Hunger & Poverty, Health and Safety, Climate Change & Energy, Circularity or Resource Efficiency



Contributor: Products with adequate profitability and a positive contribution to sustainability on market standard with regard to the topics of Climate Change & Energy, Circularity or Resource Efficiency

KPI: "Sustainable-Future Solutions"

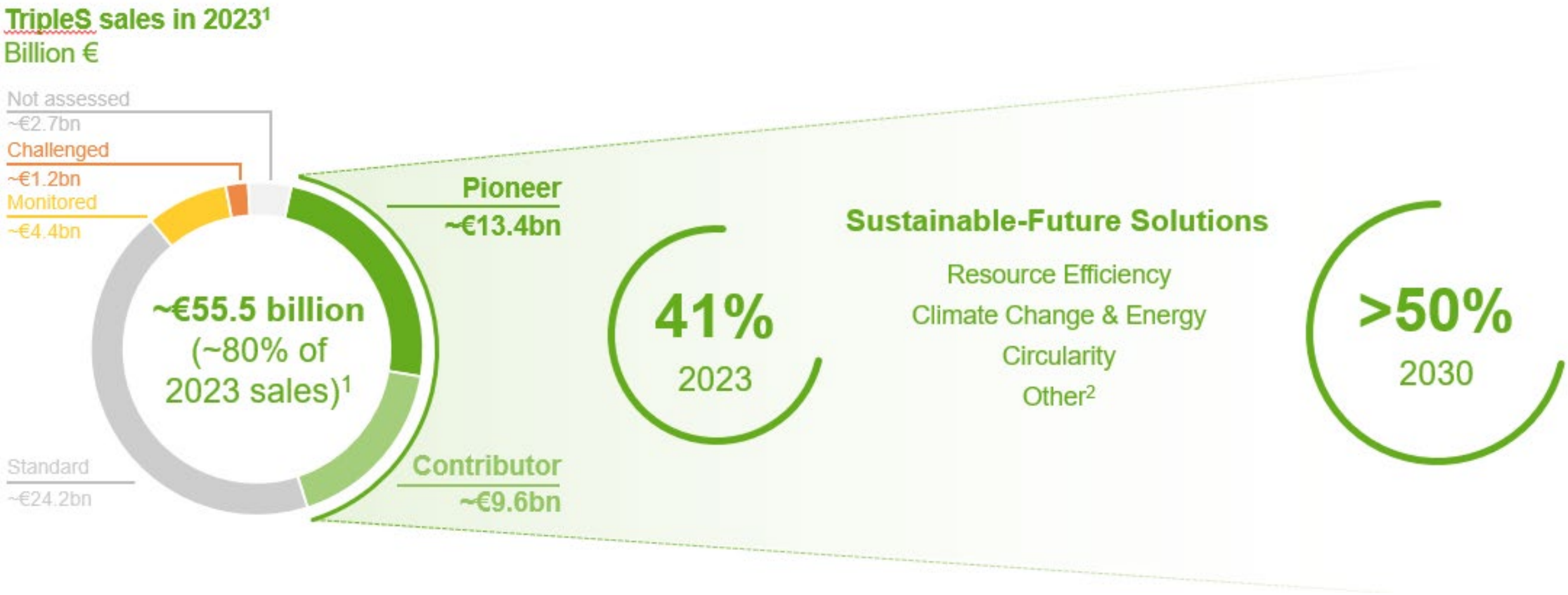
Standard: Products performing on market standard without a dedicated contribution to the topics of Climate Change & Energy, Circularity or Resource Efficiency

Monitored: Products with specific identified regulatory or customer concerns arising mid-term (2-5 years) or posing a regional reputational risk for BASF

Challenged: Products with identified strong regulatory or customer concerns arising short-term (≤2 years), with Substances of Very High Concern in applications with an intended consumer use, violating BASF's Code of Conduct or posing a strong global reputational risk

BASF
We create chemistry

We aim to increase the sales share of Sustainable-Future Solutions from 41% to more than 50% by 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.

BASF
We create chemistry

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

- Biodiversity
- Business ethics
- Circularity & resource efficiency
- Climate change adaptation
- Climate change mitigation
- Diversity, inclusion & equal work
- Human rights & labor rights
- Occupational health & safety
- Product stewardship
- Waste
- Water & wastewater

Double materiality

Impact materiality (impact by BASF)

Impacts of our activities along the value chain[1]

Financial materiality (impact on BASF)

Financial impacts of ESG topics on our performance[1]

[1] Actual and potential as well as positive and negative impacts are considered.

BASF
We create chemistry

Protecting biodiversity is a key element of BASF's commitment to sustainability

- Key biodiversity loss drivers[1] for BASF are habitat transformation, climate change, overexploitation and pollution. We evaluate BASF's impacts at our sites and along the value chain.
- Various methods are used to measure our sustainability performance, e.g., Eco-efficiency analysis, Sustainable Solution Steering (TripleS) and AgBalance®
- Quantifying biodiversity is tremendously complex and requires location-specific approaches
- BASF is taking action by applying the mitigation hierarchy:
  - We avoid and reduce negative impacts on nature, e.g., by reducing GHG emissions, applying water stewardship, integrating Responsible Care®
  - We strive to restore or regenerate nature, e.g., in local projects like Mata Viva in Brazil
  - We contribute to system-wide change by transforming our business models to renewable energy, renewable raw materials and more circularity

[1] IPBES models of drivers of biodiversity and ecosystem change

BASF
We create chemistry

Taking action to protect nature and biodiversity across the value chain

Supply chain

- Supplier Code of Conduct
- Responsible sourcing, e.g., Palm Sourcing Policy[1]
- Forest protection position[2]

Sites and production

- Measures to increase resource efficiency and reduce emissions
- Water stewardship
- Site-specific biodiversity projects
- Remediation

Products

- Commitment to the Responsible Care® charter
- Product innovation through TripleS
- Product stewardship

Initiatives

We are engaging in dialogs with a variety of stakeholders, for example:

- Forum of the Taskforce on Nature-related Financial Disclosures (TNFD)
- Roundtable on Sustainable Palm Oil (RSPO)
- Alliance to End Plastic Waste (AEPW)
- BASF Nature Advisory Council

[1] basf.com/palm-sourcing-policy
[2] basf.com/forest-protection-position

BASF
We create chemistry

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

[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.

BASF
We create chemistry

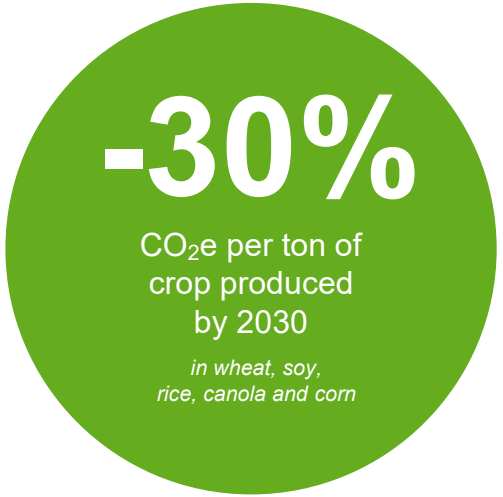
Global water stewardship – strong commitment to local water management

- 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%

BASF
We create chemistry

Our sustainability commitments as a leader in agriculture

Climate Smart Farming

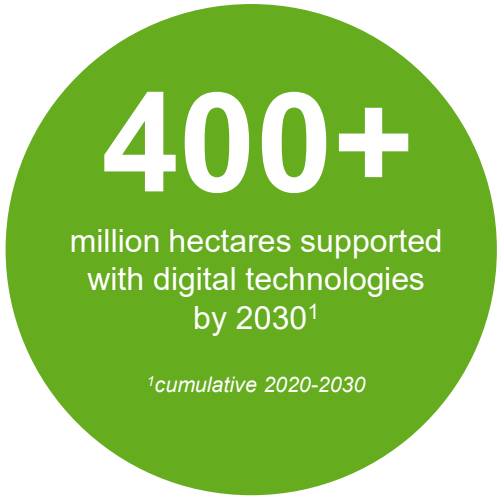


Supporting farmers to become more **carbon efficient** and **resilient** to volatile weather conditions

Sustainable Solutions

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

Digital Farming



Helping farmers to grow **profitably** and reduce their **environmental footprint**

Smart Stewardship

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

BASF
We create chemistry

Respect for human rights at BASF – longstanding self-commitment led to solid structures, proven processes and experience

Overall setup

CEO / Board of Directors

Human Rights Advisory Council

General Counsel & CCO
Chief Human Rights Officer

Overall Risk Monitoring, Annual Report to BoD

Human Rights Expert Working Group
Compliance, Procurement, Human Resources, EHS, Sustainability, Site Security, Legal, Communications, Investor Relations, Operating Divisions

WE SUPPORT UN GLOBAL COMPACT

GBI

Important building blocks

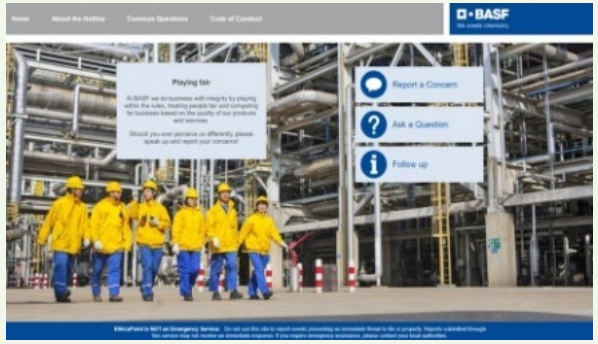
Backbone

TOGETHER FOR SUSTAINABILITY

ILO

Responsible Care
OUR COMMITMENT TO SUSTAINABILITY

Grievance mechanism



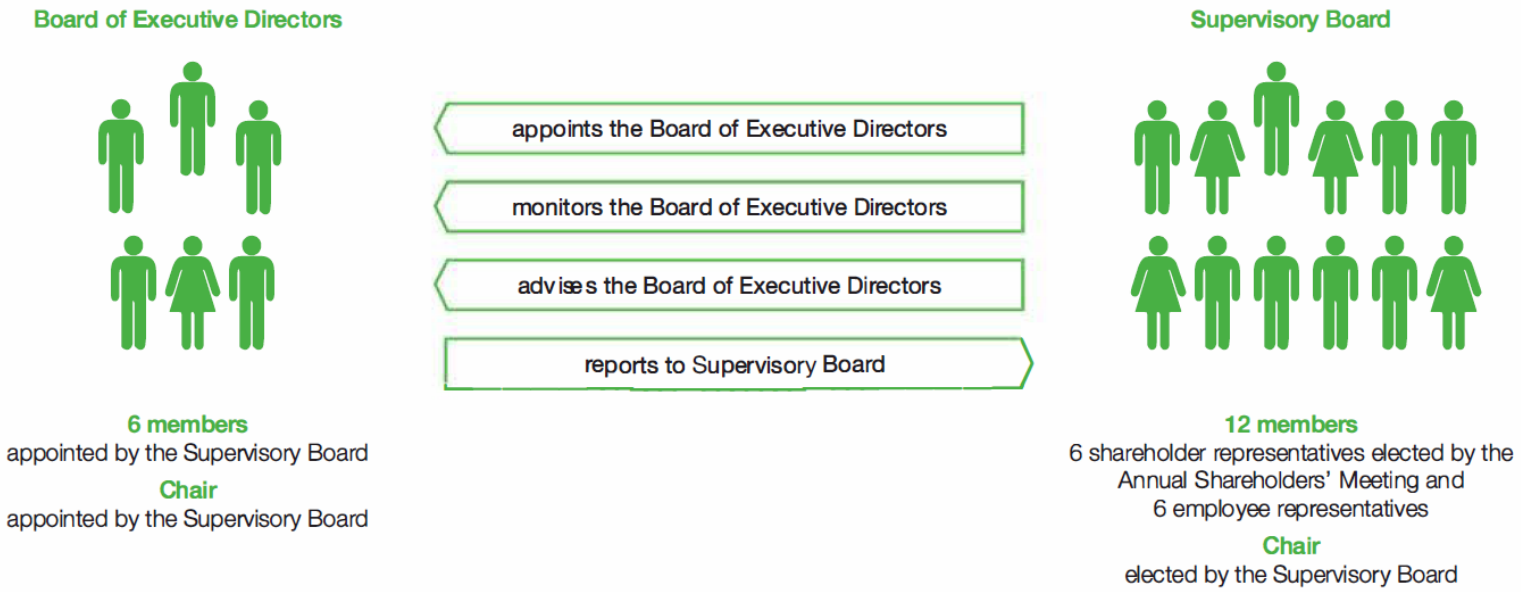
BASF
We create chemistry

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
- 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

BASF
We create chemistry

Corporate Governance – two-tier management system of BASF SE



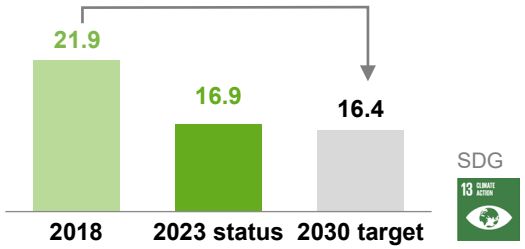
- Transparent and effective separation of company management and supervision
- Reasonable level of diversity, e.g., with respect to gender:
  - Board of Executive Directors: 17% female members
  - Supervisory Board: 33% female members

BASF
We create chemistry

BASF Group: Overview of non-financial targets (I/II)

Effective climate protection

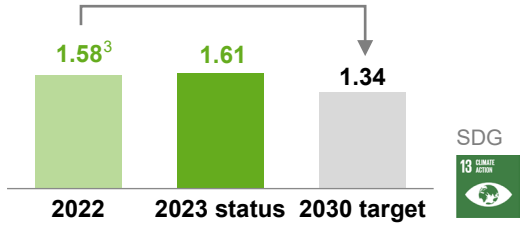
Million metric tons



Most important key performance indicator

Reduce our absolute **CO_2 emissions (Scope 1 and 2)** by 25% by 2030 (baseline 2018)[1]

Kg CO_2/kg raw materials

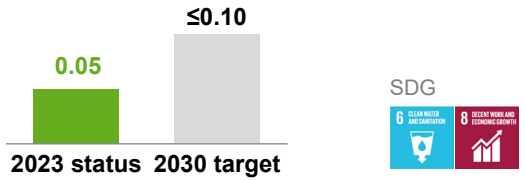


Reduce our specific **CO_2 emissions (Scope 3.1)** by 15% by 2030 (baseline 2022)[2]

Reduction target

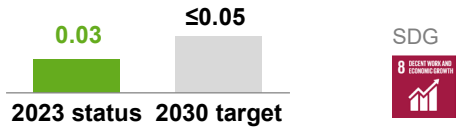
[1] Scope 1 and Scope 2 (excluding the sale of energy to third parties). The target includes greenhouse gases according to the Greenhouse Gas Protocol, which are converted into CO_2 equivalents (CO_2e). The baseline year is 2018.
[2] Scope 3.1, raw materials excluding battery materials, services and 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.
[3] The figure for 2022 was adjusted due to increased data availability.
[4] We updated the safety targets in 2023.

Resource efficiency and safe production



Limited assurance

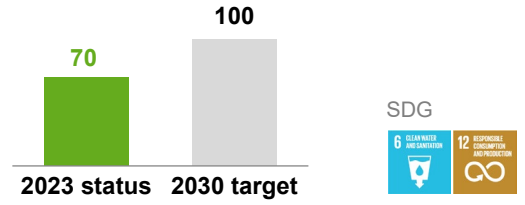
Reduce our worldwide **high-severity process safety incidents** per 200,000 working hours to ≤0.10 by 2030[4]



Limited assurance

Reduce our worldwide **high-severity work process-related injuries** per 200,000 working hours to ≤0.05 by 2030[4]

%



Limited assurance

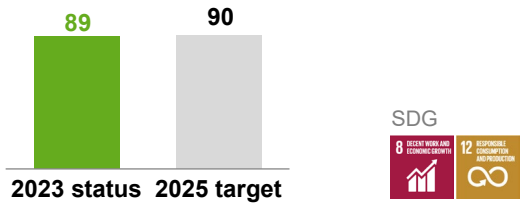
Introduce **sustainable water management** at our production sites in water stress areas and at our Verbund sites by 2030

BASF
We create chemistry

BASF Group: Overview of non-financial targets (II/II)

Responsible procurement

%

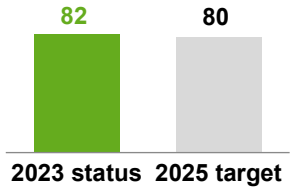


SDG

Limited assurance

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

%



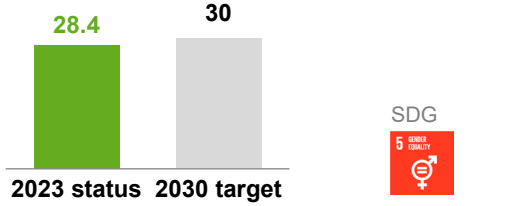
SDG

Limited assurance

Have 80% of our suppliers improve their **sustainability performance** upon reevaluation

Committed employees and diversity

%

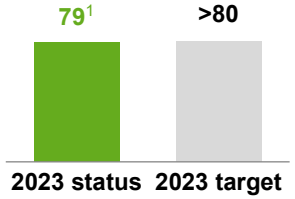


SDG

Limited assurance

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

%



SDG

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
We create chemistry

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 CO_2, emissions, wastewater and waste as well as occupational health and safety.

ISS ESG

In 2024, BASF held its Prime Status (B-), being among the top decile rank of the companies assessed.

BASF
We create chemistry

We create chemistry