

BACKGROUND  
PAPER

**CLIMATE**

LAST UPDATE: APRIL 2026

**LANXESS**  
Energizing Chemistry

## MANAGEMENT SUMMARY

Climate change is humanity's biggest global challenge. It threatens not only our planet but also humans and the environment. As a responsible specialty chemicals company, we are committed to protecting the climate and limiting global warming. This is why we have made it our mission to become climate-neutral by 2040, ahead of the EU's 2050 target. Furthermore, we aim to eliminate indirect emissions in the upstream and downstream supply chain by 2050. Our ambition is in line with the goals of the Paris Climate Agreement to limit global warming to 1.5°C, which was validated by the Science Based Target Initiative (SBTi).

- 🎯 **2030 target:** Reduction of Scope 1 and 2 emissions by 42% to 1.3 million metric tons (base year: 2021) and Scope 3 emissions by 25% to 11.0 million metric tons (base year: 2021)
- 🎯 **2040 target: Climate neutrality<sup>1</sup>** for Scope 1 and 2 emissions
- 🎯 **2050 target: Net-Zero<sup>2</sup>** for Scope 3 emissions

Our “Climate Neutral 2040” strategy is based on three key levers:

1. Process excellence
2. Carbon-neutral electricity
3. Sustainable steam supply

Our responsibility for climate protection also encompasses our Scope 3 emissions. To reduce these significantly, we are focusing on the two biggest contributors to these emissions: purchased goods and the end-of-life treatment of our products. Accordingly, we are currently developing a strategy for establishing climate-neutral and circular value chains.

In our sustainability reporting, we are also committed to providing transparent information on climate issues and are seeking to expand this on an ongoing basis. In 2021, for example, we published our first index in accordance with the Task Force on Climate-related Financial Disclosure (TCFD). We have been part of the CDP initiative for more than ten years now and were again awarded an “A” rating from the CDP for our climate strategy every single year since 2019, which is outstanding in the chemical industry.

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<sup>1</sup> Climate neutrality as per SBTi Corporate Net-Zero Standard (Maximum 10% residual emissions versus 2021 baseline will be reduced by compensation measures)

<sup>2</sup> “Net-Zero” is achieved by a combination of positive and negative emissions during the life cycle.


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# LANXESS CLIMATE STRATEGY

Climate change is endangering humans and our ecosystems and is the biggest societal challenge of our times. Global warming is leading to increased average temperatures, rising sea levels and more frequent extreme weather events such as heavy rain, drought and heat waves. Protecting the climate is a task for society as a whole and is also anchored in the United Nations' Sustainable Development Goals (SDGs).

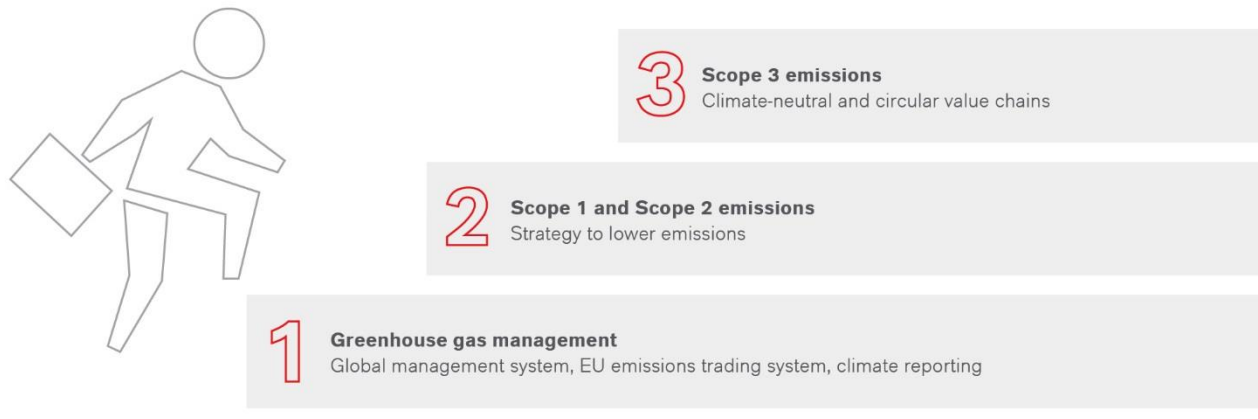
 Further information on LANXESS and the SDGs

Businesses have a responsibility to actively contribute toward mitigating the impact of climate change, helping to prevent negative consequences such as climate-induced property damage as well as disruptions to production and supply chains. This is why defossilization – avoiding the use of fossil sources and the associated CO<sub>2</sub>e emissions – has become a key element in a comprehensive structural change that will affect all industry sectors, the whole of society and almost all areas of our lives. This direction also decisively shapes the corporate activity of LANXESS.

As a responsible specialty chemicals company, we are committed to protecting the climate and limiting global warming through our business activities, our products and our dedication. This is why we have made it our mission to continuously reduce our greenhouse gas (GHG) emissions and become climate-neutral by 2040. This commitment is anchored in our Corporate Policy. It is in line with the goals of the Paris Climate Agreement of the United Nations Framework Convention on Climate Change to limit global warming to 1.5°C. In addition, it meets the requirements of the “Green Deal,” the EU’s central climate protection roadmap, as confirmed by the Science Based Target Initiative (SBTi).

 LANXESS Corporate Policy

## LANXESS Climate Strategy



Our climate strategy is based on the systematic and integrated management of our GHG emissions. This process also includes sustainability reporting based on national and international standards as well as the active management of climate-related opportunities and risks. The core of our climate strategy comprises a range of measures aimed primarily at reducing Scope 1 and 2 emissions. We are implementing a clear schedule for becoming climate-neutral by 2040, with specific projects based on available technologies. We are also scrutinizing our Scope 3 emissions in the supply chain and developing a strategy for establishing climate-neutral and circular value chains.

## 1. GREENHOUSE GAS MANAGEMENT

At LANXESS, GHG management takes place centrally and on a Group-wide scale. Our CEO and the Sustainability Committee, which he chairs, are responsible for monitoring and implementing the climate strategy. Two sub-committees – each headed by one member of the Board of Management – are tasked with taking a more detailed look at climate-related issues. The Climate & Energy sub-committee is responsible for our Scope 1 and 2 emissions and for energy efficiency. It tracks the progress of Group projects and continuously seeks to refine and enhance our climate strategy. The Sustainable Product Portfolio sub-committee is responsible for formulating the strategy for handling our Scope 3 emissions. We analyze and evaluate climate-related risks and opportunities as part of our risk management process. Our CFO heads the Corporate Risk Committee overseeing this process (see Annex: Climate-related Risks and Opportunities).

 [More information on our committees and functions](#)

Since January 2021, the long-term variable compensation of the Board of Management includes not only a share but also a sustainability component, which currently takes into account the development of our GHG emissions over a four-year period. The sustainability component accounts for 40% of the long-term variable compensation.

### Global management system

Our production sites employ management systems certified under ISO 9001 and ISO 14001 to ensure that our corporate activities are legally compliant and that our energy-relevant sites in Germany and Belgium are certified with ISO 50001 for energy management (this corresponds to 49% of global energy consumption). These production facilities must prove the implementation of quantitative energy targets in accordance with the nominal requirements.

Outside Germany and Belgium, we are pursuing a strategy of regional and local certifications. In Great Britain, for example, most of our production sites are certified to the ESOS (Energy Savings Opportunity Scheme).

 [More information on our certifications](#)

### EU emissions trading system

Eleven plants at our European sites are subject to the EU emissions trading system (EU-ETS). These plants are embedded in our Group-wide energy and environmental management system. With our strategy to achieve climate neutrality, we strive to always be one step ahead of regulatory requirements – including the management of ETS certificates. Our cost effect from the ETS is currently neutral. Our climate strategy helps us to not only achieve long-term cost reductions due to greater resource efficiency, but also secure a cost advantage in European emissions trading.

### Climate reporting

For many years, we have been collecting and publishing data concerning the emissions from our own production processes (Scope 1), external energy sources (Scope 2) and the value chain (Scope 3). The ESG Data Factsheet is a compact format outlining all our climate-related targets and Key Performance Indicators (KPIs).

According to the European Sustainability Reporting Standards (ESRS), the scope of consolidation can deviate from that of the financial reporting due to the operational control criterion. No cases were identified in which financial and operational control deviated from one another. This procedure covers all net sales.

 [ESG Data Factsheet](#)

More than a decade ago that we joined the international CDP initiative, which evaluates climate-related risks, opportunities, targets and strategies. Since 2019, we have been awarded the top rating A by CDP for climate protection every single year, which is outstanding in the chemical industry. The A-rating for 2025 puts LANXESS among the top 4% of more than 22,100 companies examined by the initiative in 2025. These gratifying results gave us encouragement to continue systematically pursuing our climate strategy.

 [CDP climate protection](#)

Our entire sustainability reporting concept is based on national and international standards – in particular, the principles of the UN Global Compact and GRI standards (option core). It also accords with our obligation to submit a non-financial Group report in accordance with the CSR Directive Implementation Act. In 2021, LANXESS also started reporting in accordance with the requirements of the Task Force on Climate-related Financial Disclosure (TCFD) and criteria of the Sustainability Accounting Standards Board (SASB).

 [2025 annual report](#)

 [SASB index](#)

 [TCFD index](#)

**Info box: Climate reporting**

**Report boundaries:** We record the GHG emissions defined in the Kyoto Protocol and calculate the greenhouse effect in carbon dioxide equivalents (CO<sub>2</sub>e). For 100% of our fully consolidated production plants where we have financial and/or operational control, we report on Scope 1 emissions and Scope 2 emissions (market-based) from external energy sources. Emissions from office spaces outside production areas or rented warehouses are comparatively low and therefore not included.

**Development of GHG emissions since foundation**

Since its founding, LANXESS has made significant progress toward climate neutrality. Between 2004 and 2018, we halved our GHG emissions – from around 6.5 million metric tons to around 3.2 million metric tons of carbon dioxide equivalents (CO<sub>2</sub>e).

We have launched a series of projects worldwide for reducing emissions and supporting local initiatives aimed at combating climate change. In 2009, a nitrous oxide reduction facility at our Krefeld-Uerdingen site was commissioned. This project is one of the main contributors to emission reductions. This has reduced CO<sub>2</sub>e emissions at the site by up to 1.5 million metric tons annually, which allowed us to achieve our reduction target for 2012 much earlier than expected. The project has received multiple awards, including the “VCI Responsible Care Award Nordrhein-Westfalen” and “365 Orte im Land der Ideen” competitions organized by the German federal government and German industry.

Since as long ago as 2007, we have constantly set new, specific reduction targets for the operational management of our CO<sub>2</sub>e emissions and energy efficiency. We achieved all our GHG emissions targets for S1+2 since 2012.

**2. SCOPE 1 AND 2 EMISSIONS**

We consider ourselves to be directly responsible for our Scope 1 and 2 emissions, which is why the climate strategy we announced in 2019 initially focuses on these emissions. To achieve our goal of climate neutrality reliably and on schedule, we have set milestones with reduction targets for 2030 formulated as absolute maximum emission limits. The Science Based Targets initiative (SBTi), a NGO that assesses corporate climate targets for alignment with the 1.5-degree pathway, has validated LANXESS’ mid-term targets for 2030 as well as the Net Zero targets for 2040.

Since it is not technically realistic to reduce our emissions to zero, we are instead aiming to reduce our annual CO<sub>2</sub>e emissions to less than 220,000 metric tons of CO<sub>2</sub>e by 2040 and neutralize residual emissions through appropriate measures.

**Info box: Absolute climate targets**

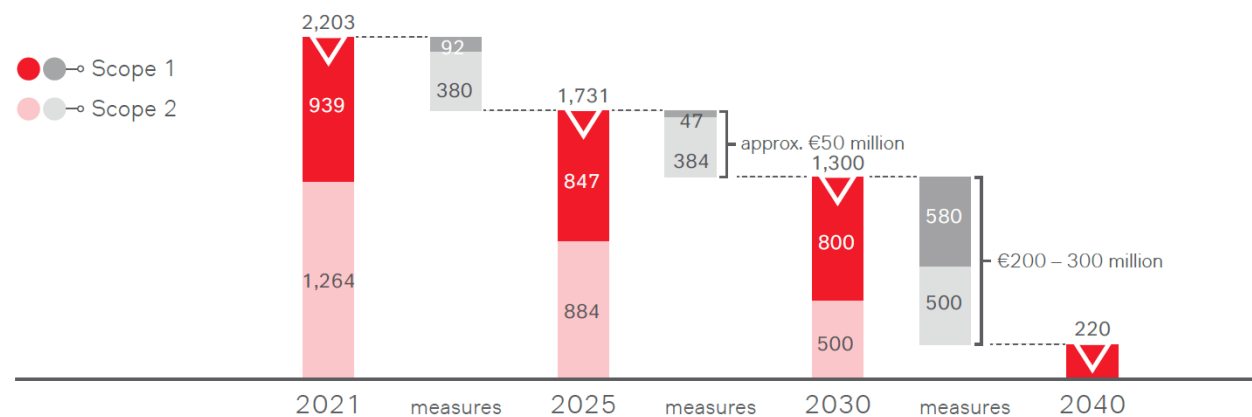
**2030 target:** Reduction of Scope 1 and 2 emissions by 42% to 1.3 million metric tons (base year: 2021)

**2040 target: Climate neutrality for Scope 1 and 2**

The implementation of reducing scope 2 emissions to zero depends on the availability of carbon-neutral energy at competitive prices in the respective countries of the LANXESS sites in 2040.

LANXESS is committed to reducing absolute Scope 1 and Scope 2 greenhouse gas emissions by at least 90% by 2040, from a base year of 2021. The remaining maximum 10% will be balanced by offsetting measures such as offsetting and investments in permanent carbon removal.

in kt CO<sub>2</sub>e



## Strategy to lower emissions

To achieve climate neutrality by 2040, we are working on three defossilization levers.

### 1. Process excellence

We invest continuously in the expansion of existing production capacities and the establishment of new capacities, emphasizing state-of-the-art, climate-friendly technologies for more sustainable production processes. The focus here is on both reducing energy consumption through improved efficiency and reducing production process emissions. Taxonomy-eligible economic activities accounted for €28.7 million of our capital expenditures. The carbon roadmap addresses a much broader spectrum of our economic activities than is currently covered by the Taxonomy Regulation, as less than 10% of our sales are subject to EU taxonomy.

LANXESS is continuously optimizing its energy consumption with targeted energy-efficiency programs and our operational excellence projects. That includes programs to implement investment in new energy-efficient plants, processes and technologies. We orient our global activities in this connection around ISO 50001, which we have also certified at all relevant production sites in Belgium and Germany. They help us to continuously identify and implement energy efficiency improvement potential. That not only reduces greenhouse gas emissions and conserves valuable energy resources, but also increases our competitiveness. This is integral to LANXESS's continuous improvement process. In 2025 we implemented more than 61 actions to reduce energy and resource consumption and thus increase our competitiveness that led to an emissions reduction of approximately 15 thousand metric tons of CO<sub>2</sub>. One example of an energy efficiency measure is the integration of a more efficient heat recovery system into a thermal oxidation furnace at a plant in Brunsbüttel, Germany. This system cools the exhaust air more effectively and uses the recovered heat to produce steam.

Energy consumption depends on several variables such as the production level, product mix and production technologies. LANXESS monitors absolute and relative energy consumption to assess the effectiveness of its energy conservation and greenhouse gas reduction measures. Since 2021, we have reduced total energy consumption – in other words primary and secondary energy consumption – by a considerable 17%. As energy consumption per metric ton of production varies considerably within LANXESS's diverse product portfolio, it is difficult to compare specific energy consumption from one year to the next. Due to the different energy requirements of the various product lines, changes in the product mix substantially impact this metric and limit its meaningfulness as an independent performance indicator. LANXESS is converting its energy supply at the Indian production sites to a mix of biomass and solar energy, which is expected to reduce CO<sub>2</sub>e emissions by around 150,000 metric tons annually. The degree of conversion for example at the site in Jhagadia, India, had reached 100% already by December 31, 2025. Direct land use change (LUC) and indirect land use change (iLUC) emissions currently are not taken into account. For more than five years, zero-emissions steam has been produced from renewable sources in Jhagadia, India, and Porto Feliz, Brazil. The replacement of coal with biomass and to a lesser extent natural gas for steam production is an important measure for LANXESS to reduce Scope 1 emissions. LANXESS has made considerable progress here since 2018, and replaced coal consumption completely in Jhagadia, India, and Porto Feliz, Brazil. LANXESS plans to also further reduce coal consumption in Nagda, India, the last site with coal consumption, and replace it with biomass by 2030.

To become climate-neutral by 2040, LANXESS is revising existing production processes and plans to further improve its network structures, e.g. when it comes to heat exchange between plants and air purification. Technological efficiency

measures – such as waste heat recovery, the replacement of machinery (such as motors) through more energy-efficient equipment or the insulation of plants and buildings – are aimed at achieving lower energy consumption and thus reducing the associated emissions. However, further procedures must first be developed on a large industrial scale. We therefore plan to focus our research activities more closely on climate-neutral process and technological innovation. The ability to implement the actions depends particularly on the availability of resources to fund product and process development. By 2025, we had already reduced Scope 1 emissions by 92 thousand metric tons compared with the 2021 baseline. We expect to be able to reduce the Scope 1 emissions to the maximum remaining volume of 220 thousand metric tons in 2040 with this defossilization lever.

### 2. Carbon-neutral electricity

More than 75% of our Scope 1 and Scope 2 emissions are attributable to energy demand in the form of electricity and steam at our production sites. A central component of our CTP is therefore the conversion of our energy supply from fossil to low-emission sources; this applies particularly to our electricity supply. The actions we have taken to achieve this objective include the development of new supply plans and the signing of purchase agreements for low-emissions energy, including especially electricity. The ratio of electricity consumption from low-emissions sources to total electricity consumption at LANXESS increased from 17% in the previous year to 22% in 2025. Our electricity consumption will increase considerably in the future due to the planned, gradual electrification of our steam production and the partial transition from natural-gas-based to electricity-based, low-emissions production processes. In the conversion of our energy supply, we pursue a make-and-buy approach in the short, medium and long term. In other words, LANXESS assesses at each site whether it makes sense economically and ecologically to produce our own energy. LANXESS al-

ready produces energy at its own renewable energy facilities in Jhagadia, India, and Porto Feliz, Brazil. We are also focusing on the purchase of low-emissions electricity in the market through long-term supply contracts with green electricity producers or certificates for low-emissions energy, depending on the region and market regulations. Cost effectiveness is an important criterion here.

The implementation of this defossilization lever depends on the availability of carbon-neutral electricity at competitive prices in the respective countries of the LANXESS sites in 2040.

In addition to the existing agreements to procure electricity from low-emissions sources in the United States, we concluded a further agreement in fiscal year 2025 to supply five German sites with 100% renewable energy from hydroelectric power. Here LANXESS made use of special electricity procurement agreements and electricity certificates (such as Guarantees of Origin in the United States). These measures should contribute to reducing the carbon footprint in LANXESS's production and products and in the applications of our customers.

The aim is to gradually replace these temporary measures with our own power plants or long-term supply agreements. LANXESS plans to reduce emissions especially in the United States by a total of about 100 thousand metric tons by 2030 through purchased electricity. The objective is for emissions from purchased electricity to be reduced to zero by 2040. The carbon footprint of purchased electricity was about 0.25 metric tons of CO<sub>2</sub> per MWh (market-based approach) in 2025. For fiscal year 2025, we reduced our greenhouse gas emissions through the procurement of electricity from low-emissions sources by around 10 thousand metric tons of CO<sub>2</sub>. By 2025, we had already reduced Scope 2 emissions from purchased electricity by 180 thousand metric tons compared with the 2021 baseline.

## 2. Sustainable steam supply

In addition to electricity, steam is a key component of our energy supply. In the medium to long term, new technologies should make a significant contribution to CO<sub>2</sub> reduction, for example through the recovery of waste heat in our production and infrastructure plants. In this connection, both we and our steam suppliers examine various concepts for electrifying our steam production, such as the use of electric heat pumps, vapor-compression evaporation and electric boilers.

The implementation of this defossilization lever depends on the availability of carbon-neutral steam at competitive prices in the respective countries of the LANXESS sites in 2040.

No major capital expenditures were undertaken in fiscal year 2025. In connection with the aforementioned measures, a reduction of around 85 thousand metric tons CO<sub>2</sub> is planned for this defossilization lever by 2030; the company intends to reduce emissions from steam to zero by 2040.

The reduction of Scope 2 emissions through purchased low-emissions steam will also help reduce greenhouse gas emissions. In this process, LANXESS cooperates closely with its suppliers to determine the best option for generating green (zero-emissions) steam.

## Status 2025: Road toward climate neutrality

Since 2019, we significantly reduced our emissions due to a range of efficiency measures, an improved product mix and a bigger share of renewables. In addition, our Group projects in Nagda in India, for example, are showing initial signs of success (see "Best Practice – Climate protection projects").

In 2025 the Scope 1 and 2 CO<sub>2</sub> emissions decreased compared to 2023 to 1,731 kilotons. This is mainly due to an improved economic situation and an increase in production volumes.

Our emissions of 1,731 kilotons of CO<sub>2e</sub> in 2024 represent a 21% reduction compared to 2021. We remain firmly on track to achieving our goal of reducing our emissions by 42% by 2030.

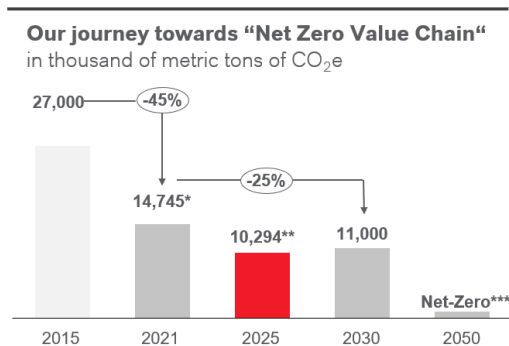
Based on our Group strategy, we are currently in the process of deriving a range of measures for the individual business units aimed at decoupling growth from GHG emissions. As part of this process, we are preparing the next series of Group projects aimed at ensuring the continued reduction of our GHG emissions beyond 2025.

### 3. SCOPE 3 EMISSIONS

#### Our journey towards climate-neutral and circular value chains

LANXESS is taking the next step in climate protection and has set a target for Scope 3 emissions: The Group aims to make its upstream and downstream supply chains climate-neutral by 2050. This includes indirect emissions, particularly from purchased raw materials, but also from logistics and end products. By 2030, Scope 3 emissions are to be reduced by 25 percent compared with the base year 2021, from approximately 15,000 to 11,000 kilotons of CO<sub>2</sub>e equivalents.

 **2050 target: Net-Zero for Scope 3**



\* Adjusted to present portfolio  
 \*\* 2025 distorted due to the low utilization  
 \*\*\* Climate neutrality as per SBTi Corporate Net-Zero Standard (10% residual emissions versus 2021 baseline will be reduced by compensation measures)

LANXESS' climate targets for Scope 1, 2 and 3 are in line with the Paris Climate Agreement. This has been confirmed by the renowned Science Based Targets Initiative (SBTi). The SBTi targets are based on an 2021 portfolio adjusted baseline exclusive of the BU HPM and inclusive of the acquisitions IFF and EKC (Scope 1+2: 2,203 kt CO<sub>2</sub>e; Scope 3: 14,745 kt CO<sub>2</sub>e). The joint initiative of the climate protection organization CDP, the UN Global Compact, the World Resources Institute and the World Wide Fund for Nature has validated the Group's targets for reducing its emissions and certified that we are contributing to limiting global warming to a maximum of 1.5 degrees Celsius.

LANXESS is committed to reducing absolute Scope 3 greenhouse gas emissions by 90% by 2050, from a base year of 2021. The remaining 10% will be balanced by offsetting measures such as offsetting and investments in permanent carbon removal.

To achieve its Scope 3 targets, LANXESS has launched the Net Zero Value Chain Program. This strategy towards climate neutrality along the entire value chains is based on three defossilization levers:

#### 3. Sustainable raw materials

LANXESS is adjusting its raw materials purchasing and is increasingly sourcing sustainable raw materials that are bio-based, originate from a recycling process or are produced with renewable energy. Current examples include BAYFERROX® iron oxide pigments, which are made of more than 90% recycled raw materials, or ion exchange resins made partly of sustainable raw materials in accordance with the mass balance approach. Implementation of the actions depends on whether we and our customers have adequate resources to bear the higher price level for environmentally friendly raw materials and promote partnerships for sustainable raw materials. We expect that with this defossilization

lever and defossilization lever 6, we can significantly reduce Scope 3 emissions in the categories 1 (Purchased Goods and Services), 5 (Waste Generated in Operations), 11 (Use of Sold Products) and 12 (End-of-Life Treatment of Sold Products) compared with the base year of the associated target, and thus attain our Scope 3 targets. We had already reduced CO<sub>2</sub>e emissions by 3,802 thousand metric tons (previous year: 3,726 thousand metric tons) in the affected categories by the reporting date compared with the base year 2021.

#### 4. Green logistics

LANXESS uses various modes of transport to ship its products. In this connection, LANXESS also strives to use innovative solutions such as “green” lake and ocean logistics with sustainable drive types. An additional aim is to improve freight capacity utilization, optimize cooperation between different carriers and reduce transport requirements through improved logistics planning. The ability to implement the actions depends particularly on the availability of “green” transportation modes, funding and manpower to pay the price premium for green transportation. We expect that with this defossilization lever, we can significantly reduce Scope 3 transportation emissions in the categories 4 (Upstream Transportation and Distribution) and 9 (Downstream Transportation and Distribution) compared with the base year of the associated target, and thus attain our Scope 3 targets. CO<sub>2</sub>e emissions have been reduced by 270 thousand metric tons here compared with 2021.

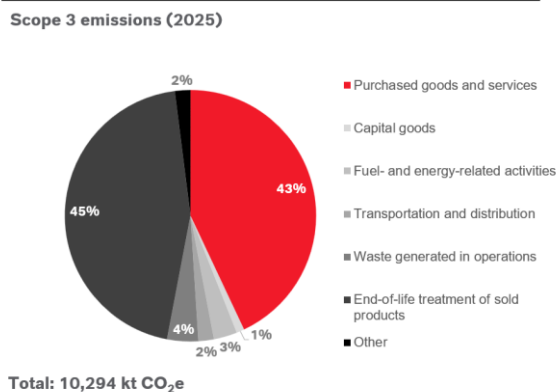
#### 5. Climate-neutral products

LANXESS is expanding its range of Scopeblue® products and solutions with a small carbon footprint. Our calculations here are based on the ISO 14067 standard and the IPCC AR6 Report. These products have featured the Scopeblue® brand label since the fall of 2021. In the medium term, LANXESS plans to offer lower-emissions and climate-neu-

tral variations of all its products. LANXESS aims to have exclusively climate-neutrally produced products in its portfolio by 2050. The ability to implement the actions depends particularly on the availability of climate-neutral raw materials, funding and manpower to pay the price premium and advance partnerships for climate-neutral products. We expect that with this defossilization lever and defossilization lever 4, we can significantly reduce Scope 3 emissions in the categories 1 (Purchased Goods and Services), 5 (Waste Generated in Operations), 11 (Use of Sold Products) and 12 (End-of-Life Treatment of Sold Products) compared with the base year of the associated target, and thus attain our Scope 3 targets. We had already reduced CO<sub>2</sub>e emissions by 3,802 thousand metric tons (previous year: 3,726 thousand metric tons) in the affected categories by the reporting date compared with the base year 2021.

When calculating our production-related Scope 3 emissions, we include only the carbon footprint of our products and not any CO<sub>2</sub> savings during their use – for example, CO<sub>2</sub> savings achieved in the transport sector thanks materials used in the field of electric mobility. Additives that increase the lifetime of wooden or plastic consumer goods also help to reduce CO<sub>2</sub>.

[For more information on our Scope 3 emissions, see our CDP report.](#)



The lion's share of our Scope 3 emissions are based on the goods that we purchase. Here, in particular, alternative raw materials – whether renewable, recycled or bio-based – have a much lower carbon footprint than non-renewable raw materials because they are not fossil-based but grow naturally and thereby bind CO<sub>2</sub> from the atmosphere. In addition, it is more CO<sub>2</sub>-efficient to recycle waste than to simply incinerate it. So, closing value chains by using alternative raw materials and recycling waste constitute key factors in the ability to reduce Scope 3 emissions over the long term. Despite their different priorities, climate neutrality and the circular economy go hand in hand.

As a leading specialty chemicals company, we understand the major challenges facing our suppliers in particular, but we also view the circular economy as an opportunity to transform the entire value creation system and create a resource-efficient, carbon-neutral economy. This encompasses the entire product lifecycle – starting with the use of raw materials, through the utilization phase of the products, to their resource-saving, environmentally friendly recycling.

The chemical industry is a pioneer of the circular economy. Of vital importance here is chemical recycling, a process whereby unsorted, mixed waste streams are transformed into raw material for the chemical industry. For our part, we are currently conducting research into different chemical recycling methods for our products. We have already made considerable progress here, for example in the recycling of polystyrene insulating foam formulated with flame retardants.

[More information on the circular economy at LANXESS](#)

### Cooperation along the value chains

To reduce Scope 3 emissions, cross-industry cooperation is essential. Only through the cooperation of partners along the entire value chain can solutions for low-carbon or carbon-neutral raw materials and end-of-life treatment methods become established.

Our suppliers play an especially important role here, which is why we collaborate with them very closely and, as part of our supplier management system, gather information on their energy efficiency and climate protection performance as well as on the improvement measures that they implement. The framework for this collaboration is the "Together for Sustainability" (TfS) initiative, of which we are a founding member.

[More information on the "Together for Sustainability" initiative](#)

To intensify our collaboration with key industry players, we participate in a number of multi-stakeholder initiatives including “Factor 10”, “International Sustainability and Carbon Certification” (ISCC) and “Circular Cars”.



**Info box: Multi-stakeholder initiatives**

**“Factor 10”:** This initiative, which was launched by the “World Business Council for Sustainable Development” (WBCSD), works on the basis that a sustainable future is possible if the eco-efficiency of materials is improved more than tenfold.



More information on “Factor 10”

**“International Sustainability and Carbon Certification” (ISCC):** The ISCC initiative aims to introduce and continuously develop a sustainability standard that covers the entire value chain – from the raw material to the OEMs and brand owners.



More information on the ISCC initiative

**“Circular Cars”:** The members of this initiative seek to eliminate or minimize emissions from the automotive industry across the entire lifecycle. The initiative was launched by the world economic forum, EIT Climate-KIC and numerous other partners.



More information on the “Circular Cars” initiative

Another key element in promoting partnerships is engaging in active dialog with our stakeholders. At our stakeholder roundtable in November 2020, we got together with a number of leading climate experts from business and society to discuss a range of central climate issues – including the reduction of GHG emissions not only in our own production facilities but also along the entire value chain. This strengthened our conviction that it will become ever more important in the future to take responsibility for our Scope 3 emissions.



More information on our stakeholder dialog

## ANNEX: CLIMATE-RELATED RISKS AND OPPORTUNITIES

### Management of risks and opportunities

At LANXESS, we take into account the physical and transitional risks associated with climate change and apply the TCFD framework in our efforts to manage them. Physical risks include acute and chronic risks. Transitional risks may be regulatory, reputation-based or market-based. Identifying, analyzing and evaluating climate-related risks and opportunities are all part of our Group-wide risk and opportunity management process. The Corporate Risk Committee, which is headed by our CFO, is responsible for managing this process and for monitoring and controlling climate-related risks and opportunities. The Group function Corporate Controlling coordinates the Group-wide risk management process for the Corporate Risk Committee and appoints a Group Risk Management Coordinator for this purpose. It is important for us to establish a strong and effective risk culture throughout the organization and to ensure that the importance of risks is understood by all employees. For this reason, the Group Risk Management Coordinator regularly conducts training sessions for new employees several times a year in which the internal risk management process is presented. In addition, annual workshops are held with all employees involved in the organizational units and country organizations to discuss current developments and changes in the company's risk management. You can read all about the process, the functions and committees responsible and examples of climate-related risks and opportunities in our CDP report.

 CDP climate change

### Scenario analysis

Climate change can result in consequences for the future business activities of a global company like LANXESS. We therefore conducted an opportunity and risk analysis based on various climate scenarios both for physical climate risks and transitional opportunities and risks. This analysis encompasses all production sites of LANXESS worldwide and generally assesses the climate-related risks that could materialize in the short, medium and long term. To identify and evaluate the risks regarding climate change, several scenarios are used.

For the transitional opportunities and risks the climate scenarios of the International Energy Agency (IEA) – Net Zero Emissions by 2050, Announced Pledges and Stated Policies – are applied. The Stated Policies Scenario is based on currently adopted political regulations. The Announced Pledges Scenario encompasses all climate protection pledges made to date by governments and industry worldwide. The Net Zero Emissions by 2050 Scenario of the IEA applies to the energy sector and corresponds to the targets of the Paris Agreement. By applying these scenarios, LANXESS concludes that all plausible risks and uncertainties are covered. The IEA NZE 2050 was taken into account as scenario for 2°C or below 2°C and the IEA STEPS Scenario was used as scenario above 2°C.

For the physical opportunities and risks the SSP5-8.5 scenario of the IPCC (Intergovernmental Panel on Climate Change) – a state-of-the-art scenario that forecasts a global temperature rise of more than 4°C by 2100, which would lead to substantial physical climate risks – was applied here. SSP5-8.5 thus represents the most serious potential climate impacts among the possible development paths.

### Risks

#### Acute physical risks

LANXESS pursues an integrative approach according to which physical climate risks are recorded and processed both centrally and locally at the sites. In this connection, we commissioned a natural hazards portfolio analysis with an international insurance company. The analysis focused on acute climate-related hazards that can be allocated to the following categories according to the E.U. taxonomy classification system (Delegated Regulation (EU) 2021/2139 of the European Commission): temperature-related (heat waves, cold waves), wind-related (strong winds, hail and thunderstorms, tornadoes), water-related (flooding, storm surges, heavy precipitation). The analysis of the physical climate risks for the long-term period until 2050 found that we regard flooding and heavy precipitation as material risks for our operations.

Within the scope of our risk management, we continuously monitor potential risks and implement targeted actions to minimize them where needed. To counter the financial risks climate change presents for the company, LANXESS focuses on financial hedging measures such as the conclusion of suitable insurance coverage to safeguard against damage through climate-related events. Furthermore, we manage physical climate risks through site-specific assessments and structural safeguards, including flood-resilient design, elevated critical infrastructure, and reduced exposure of key assets. These measures are complemented by early warning systems, preventive shutdown procedures, and flexible emergency responses.

Relevant corporate functions are informed immediately in the case of an acute physical, climate-related event. Stage-1 events of this kind trigger a range of emergency plans and communication measures, which are coordinated by an Emergency Response Officer.

### Chronic physical risks

Extreme weather events are among the key features of climate change. Potential negative consequences include disruptions to supply chains, for example due to drought or flooding or key waterways becoming impassable to shipping. Our production sites in Leverkusen, Dormagen and Krefeld-Uerdingen lie on the banks of the Rhine, which is expected to suffer in the future from prolonged periods of low water levels. If shipping needs to be stopped due to low water levels, we need to find alternative distribution ways for transporting our high-volume products and for the delivery of raw materials. Our supply chain management system monitors the water level of the Rhine continuously and assesses the situation. In the event of delivery problems, the supply chain structure is immediately adjusted and, for example, intermodal transport systems are used.

### Regulatory risks

Every year, we assess the currently applicable country-specific, regulatory requirements and specifications that we might be confronted with. We analyze their direct and indirect financial impact on our sites, production processes, supply chains and products and implement the necessary measures. The Corporate Development department then applies the findings of these analyses to the strategic evaluations of investment decisions. One example here is the CO<sub>2</sub> pricing system, which has yet to be standardized globally. If facilities operated by LANXESS are subject to these requirements and regulations, for example, while sites run by our competitors are not, the comparatively higher costs could potentially put us at a competitive disadvantage.

### Reputation-related risks

For every risk we identify, we have to determine the reputational risk in our risk management system. The risk is classified qualitatively and includes, for example, the impact on the trust of our stakeholders. As a global specialty chemicals

company, LANXESS is for instance expected to proactively reduce its carbon footprint. Failure to consistently align our business activities with sustainability and climate neutrality could jeopardize our reputation—potentially leading to declining sales and reduced market valuations.

### Market-based risks

As a chemicals company, we participate in long value chains and produce starting materials for downstream production processes. We constantly identify, analyze, evaluate and manage future trends in sustainability and low-carbon technologies in downstream markets. The introduction of the European Green Deal in particular could significantly alter our sales markets, for example, as regards recycling.

### Opportunities

All market-related risks simultaneously entail a range of opportunities – for example, our high-performance plastics are already suitable for all recycling routes. Some of our products are already manufactured from recycled raw materials. In this way, the market risk associated with the “Green Deal” also becomes a market opportunity.

As a specialty chemicals company, we are in a position to drive forward innovation and offer new solutions. Thanks to our technological knowhow, we are in a position to employ climate-friendly methods to manufacture materials that help to mitigate the impact of climate change and are needed in the response to changing circumstances.

“Sustainable chemistry” is a key to limiting climate change. It encompasses various aspects such as reducing the use of hazardous chemicals or lowering the carbon footprint of chemical products. A rising demand for sustainable chemicals with a smaller carbon footprint than conventional alternatives could be an opportunity for us. LANXESS develops sustainable product alternatives under the label Scopeblue®. With climate-friendly and circular products from our Scopeblue® series, we are steadily evolving our

portfolio and will also do so in the future to reduce raw material input and the size of our product carbon footprint (PCF). The Scopeblue® product range clearly shows how our own production activities and those in the value chain go hand in hand to improve the carbon footprint of our products. LANXESS has identified a time horizon of six to ten years for the realization of this opportunity and the increase in sales of Scopeblue® products.



#### Info box: Best practice – Fighting climate change

##### Products that help in the fight against climate change:

Electric mobility and batteries play a key role in defossilization. Our specialty thermoplastics are used in the manufacture of battery housings in, for example, electric vehicles. We also manufacture the basic components for the electrolyte in the battery. We believe that lithium batteries will penetrate the market quickly, enabling not only zero-emissions mobility but also decentralized energy production and storage



[More information on electric mobility](#)

##### Products that facilitate the response to climate change:

Increasing water scarcity is among the negative consequences of climate change. Our water treatment technology is one example of a product that helps to mitigate the impact of climate change. Thanks to our LewaPlus® software, we enable our customers to optimize their water treatment plants. This minimizes the use of chemicals and water and thus the CO<sub>2</sub> footprint of the water treatment.



[More information on our LewaPlus® software](#)

# GLOSSARY

**Carbon dioxide equivalents (CO<sub>2</sub>e):** A metric measure for standardizing the climate impact of various GHGs based on their global warming potential (GWP). This measure indicates how much a specific mass of a GHG contributes to global warming compared with the same mass of CO<sub>2</sub>. So the GWP of methane (CH<sub>4</sub>), for example, is 30 and that of nitrous oxide (N<sub>2</sub>O) is 273, which means that 1 million metric tons of N<sub>2</sub>O causes as much climate damage as 273 million metric tons of CO<sub>2</sub>.

**Carbon Disclosure Project (CDP):** The aim of the non-profit organization CDP is to create global transparency in terms of GHG emissions and the management of water resources and forests. In 2024, more than 24,000 companies submitted their data to the CDP. The CDP platform is one of the world's most detailed sources of environmentally relevant information.

**CSR Directive Implementation Act (CSR-RUG):** In 2017, the Act transposed the Corporate Social Responsibility EU Directive into German law. It defines reporting requirements in particular for large listed companies with more than 500 employees. These companies are required to disclose important non-financial aspects of their corporate activities. The Act requires information on environmental, social and employee-related matters as well as on the observation of human rights and the fight against corruption and bribery.

**Defossilization:** This term refers to the balance of the carbon footprint (CO<sub>2</sub> input and removal from the atmosphere) primarily by preventing the use and combustion of fossil fuels.

**EU emissions trading system (EU-ETS)<sup>1</sup>:** This covers the emissions of around 11,000 plants in the energy sector and energy-intensive industrial sector throughout Europe, which are together responsible for emitting around 40% of Europe's GHGs. In 2018, the 1,870 plants in Germany that have signed up to the EU-ETS emitted almost 422 million metric tons of CO<sub>2</sub>e, with around 70% of this figure originating from power plants. With 124 million metric tons of CO<sub>2</sub>e, the iron and steel industry accounts for the lion's share (30%) of industrial emissions, followed by the mineral processing industry (29%), refineries (20%) and the chemical industry (14%).

**European Green Deal:** This outlines a comprehensive EU growth strategy for a climate-neutral and resource-conserving economy. The primary aim is to achieve EU-wide climate neutrality by 2050 through measures such as climate, environmental and biodiversity protection, mobility, industrial policy and requirements relating to energy, agricultural and consumer protection policy.

**Global Reporting Initiative (GRI):** A non-profit multi-stakeholder foundation, founded in 1997, that offers guidelines for sustainability reporting. Depending on the scope of information contained in a report, two options – “core” and “comprehensive” – are available for preparing a sustainability report in accordance with the GRI standards.

**Greenhouse gases (GHGs):** GHGs are gases that contribute to the greenhouse effect through the absorption of infrared radiation. GHGs include carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), fluorinated hydrocarbons (HFCs), perfluorocarbons (PFC) and sulfur hexafluoride (SF<sub>6</sub>).

**Paris Climate Agreement:** The legally binding Paris Agreement sets a global framework for limiting global warming to well below 2 °C – though preferably below 1.5 °C – compared with pre-industrial levels. The Agreement was reached in 2015 at the Paris Climate Conference (COP21) and is a continuation of the 2005 **Kyoto Protocol**, which expired in 2020 and defined for the first time a set of binding targets for the emission of GHGs. The Paris Climate Conference was the 12<sup>th</sup> “Conference of the Parties” (COP) since the targets defined at the United Nations Framework Convention on Climate Change entered into force in 1994.

<sup>1</sup> Sources: European Commission, EU emissions trading system, German Emissions Trading Authority, GHG emissions in 2018

**Science Based Targets Initiative (SBTi)**

The Science Based Targets Initiative is a collaboration between CDP, the United Nations Global Compact, the World Resources Institute, and the World Wide Fund for Nature. It was established to help companies set emissions reduction targets consistent with climate science and the goals of the Paris Agreement. Since 2015, more than 6,000 companies have joined the initiative to set a science-based climate target.

**Scope 1 emissions:** These are all direct GHG emissions from sources owned or controlled by the company. These are above all process emissions and emissions from self-generated energy. Our Scope 1 emissions include carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and fluorinated hydrocarbons (HFC) emissions, which are calculated in the form of CO<sub>2</sub> equivalents (CO<sub>2</sub>e). Perfluorocarbon (PFC) and sulfur hexafluoride (SF<sub>6</sub>) emissions are also counted as GHG emissions, but are not relevant to LANXESS.

**Scope 2 emissions:** These are all indirect GHG emissions resulting from the generation of purchased electricity and steam as well as from purchased heating and cooling energy that is used by a company. Our Scope 2 emissions mainly comprise CO<sub>2</sub> emissions. Since 2016, in accordance with the guidelines set out in the Greenhouse Gas Protocol, companies have been required to be more explicit in how they indicate their Scope 2 emissions. A distinction is made between two different recording methods:

- > **Market-based:** Market-based figures relate to the emission factors of the energy supplier or an individual energy product.
- > **Location-based:** Location-based figures relate to the average emission factors of the region in which the energy is consumed. The nationwide average is usually used as a basis here.

**Scope 3 emissions:** These are all indirect GHG emissions from activities along the value chain, originating from sources that are not owned or controlled by the company. These generally account for the majority of the carbon footprint and include emissions generated during purchasing, transportation, waste disposal and business trips.

**Supplier Engagement Rating (SER):** To reflect the importance of engaging suppliers, companies that respond to the full version of the CDP questionnaire are awarded – in addition to their general rating – a Supplier Engagement Rating (SER). The SER indicates how effectively companies engage their suppliers in the fight against climate change.

**Sustainability Accounting Standards Board (SASB):** This non-profit organization was founded in 2011 and develops industry-specific standards relating to key environmental, social and governance issues.

**Task Force on Climate-related Financial Disclosure (TCFD):** The Financial Stability Board founded the TCFD as a way of helping companies to integrate the risks and opportunities associated with climate change in their business activities and to report on climate-related financial information.

**United Nations Global Compact:** The world's biggest and most important initiative for responsible corporate governance. Based on 10 universal principles, it pursues the vision of an inclusive and sustainable global economy for the benefit of all people, communities and markets. Signatories are obligated to submit an annual progress report.

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