



# Impact Report

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Green Bond, EUR 500 million, 4.75%; Notes issued  
November 2022 and due 2028, ISIN: XS2554997937

October 2023

# 1. Sustainability at Covestro

Covestro is one of the leading global suppliers of high-tech polymer materials and application solutions developed for these materials. Covestro AG, the parent company of the Covestro Group, is headquartered in Leverkusen (Germany). It is listed on the stock exchange in Germany and is included in the DAX, Germany's leading index. The main segments served are the automotive and transportation, construction, wood processing and furniture, electronics and household appliances industries. Other sectors include sports and leisure, cosmetics, health as well as the chemical industry itself.

Advancing climate change, the growing global population, increasing urbanization, and new forms of mobility are enormous global challenges. Covestro faces and wants to drive solutions for these challenges, thus bringing together economic success and sustainability. The goal is to realize Covestro's purpose: To make the world a brighter place. Our aim is to provide solutions to global challenges with our high-performance polymer materials. In pursuing it, we rely on technologies that reduce energy usage and emissions in our production processes. We are convinced that our long-term strategy of pursuing a circular economy will bring us closer to achieving our purpose.

Building on our purpose, the implementation of our vision of becoming fully circular forms the basis of our Group's Sustainable Future strategy. This vision sets a clear direction for our company's future sustainable development. Our corporate values and corporate culture as embodied by our employees are major factors in putting our purpose, vision, and strategy into action.

**Exhibit 1:** Covestro's Purpose, Vision, and Strategy.



Our overarching goals derived from our purpose and our vision set the course for our Group's Sustainable Future strategy. This incorporates the changing external and internal dynamics, such as shifts in policies, in markets, and in digital transformation, and reflects the influence of our vision. Our Group strategy comprises three strategic chapters: We want to "Become the best of who we are," while we "Drive sustainable growth," and "Become fully circular." Our strategy is based on a solid foundation; its implementation is being enabled by the acceleration of Covestro's digital transformation and expansion of our "We Are 1" culture.

We integrate sustainability into our business activities, while at the same time ensuring adequate focus on the issues of greatest relevance to us and our stakeholders. In addition to our responsibility for the environment, we also engage on our social responsibility within the society in accordance with our purpose. This is why we strive to add value equally at the social, environmental, and economic levels. Our decisions and our actions take into account the three dimensions of sustainability: people, planet, and profit. We are oriented towards a positive impact on at least two of the dimensions, while at the same time ensuring none of them is negatively impacted. Every decision, every action we take, and the resulting consequences are considered holistically, that is, throughout the entire value cycle<sup>1</sup>.

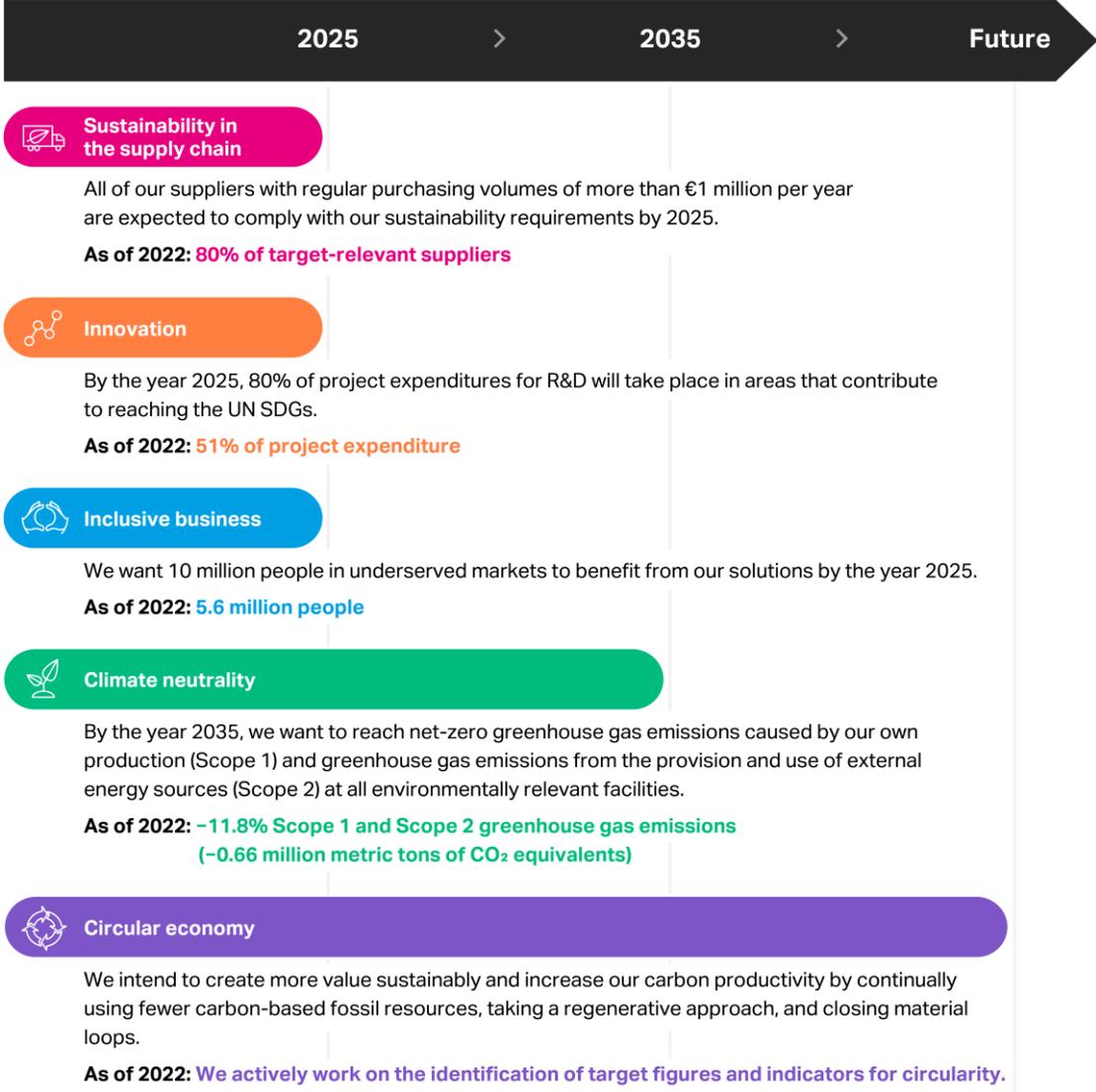
Sustainability criteria are also part of our short-term variable compensation program. Starting in 2022, these are applicable to the compensation of all employees including the Board of Management.

We apply a comprehensive approach to our sustainability goals, defined as early as 2016, which covers the entire product life cycle, including social, environmental, and economic aspects. Our sustainability goals contribute to achieving the United Nations' Sustainability Development Goals ("SDGs"). One of these sustainability goals was to cut specific greenhouse gas emissions by 50% compared to the 2005 benchmark by the year 2025. In 2021, we reached our 2025 reduction goal for specific greenhouse gas emissions by achieving a 53.9% cut four years ahead of plan. Given also the urgency to act more strongly as a company and as a society on climate change, we replaced this specific goal with a new one, which will be explained in greater detail in [section 1.2 Climate Neutrality and Climate Targets](#).

<sup>1</sup> Additional information on our Sustainability formula and What drives us can be found [here](#).

We continually observe developments outside the company, in our markets, on our planet and society, and develop our sustainability goals in line with our vision and corporate strategy. Our progress and potential updates of our sustainability goals are reported transparently, and thus verifiable<sup>2</sup>.

**Exhibit 2: Covestro’s current sustainability goals.**



We set high standards that are applicable globally. We are committed to the goals and provisions set out in the United Nations Global Compact (UNGC) and have signed the UNGC Charter. The ten principles of this charter in the areas of human rights, labor, the environment and anti-corruption are binding for all our employees. We are committed to fostering the same high level of commitment to sustainability that we apply when engaging with our business partners. To this end, we maintain a Supplier Code of Conduct which sets out key social, ecological and ethical standards that are mandatory for all our suppliers. Sustainability management is an integral part of all functions and positions at Covestro.

As a company we are committed to to operate in a sustainable manner, and take a clear stand on relevant issues. We have laid down important basic principles for our actions in six policies applicable throughout the Group. These [guidelines](#) are publicly available. Compliance with them is governed by the corresponding directives, which are valid throughout the Group.

While all of our business activities are covered by quality management system standards such as ISO 9001, we exhibit different certification scopes for environmental management system standards pursuant to ISO 14001 or, an EMAS validation, occupational health and safety management system standards according to ISO 45001 (previous OHSAS 18001) or energy management system standards following ISO 50001.

<sup>2</sup> Additional information on our Sustainability goals can be found [here](#).

## 1.1. Circular Economy

For Covestro, becoming fully circular also includes the transition to climate neutrality. Circularity and climate neutrality are two sides of the same coin in our endeavor to build a sustainable future and economy. Since 2005, we have been successful in consistently increasing our energy efficiency and subsequently lowering our specific Scope 1 and Scope 2 greenhouse gas emissions. The relevance we ascribe to climate change is further reflected in our Climate Roadmap which is to become our long-term plan toward climate neutrality. On March 1, 2022, Covestro published its mid and long-term targets and its roadmap towards climate neutrality, see also [section 1.2 Climate Neutrality and Climate Targets](#).

Efforts toward building a circular economy<sup>3</sup> in the company can be measured by verifying the degree to which we can replace fossil sources of carbon for production with renewable raw materials and create a closed loop for producing renewable compounds. We accomplish this for carbon sources by concentrating on products and processes that permit us to employ biomass (including via mass-balance), CO<sub>2</sub>, and raw materials recycled from waste or used materials. Synthetic raw materials manufactured using green electricity, such as hydrogen, are also becoming increasingly important. In particular, Covestro can leverage procurement on the one hand and the development of our own innovative process technologies such as biotechnology, and plastics recycling using chemical means, on the other hand. We are counting on new strategic partnerships to promote recycling within the value chain to make alternative raw material use transparent and to ensure used plastics are recycled at the end of their life cycle, for more details and examples of our joint solutions, please visit our [website](#).

**Exhibit 3:** Four pillars of the Circular Economy program.



In addition to Covestro's own production of products based on alternative raw materials, the strategic alignment of our raw material and energy procurement activities with our corporate vision is vitally important. We aim to continually increase the share of alternative raw materials used in production. As a first step, we have begun to have our production facilities audited and certified under the ISCC PLUS certification scheme to reflect the certification of these raw materials for further use along the entire value chain. Our sites in Krefeld-Uerdingen (Germany), Leverkusen (Germany), Dormagen (Germany), Antwerp (Belgium), and Shanghai (China) are already ISCC Plus certified, with more sites to follow. ISCC PLUS certification can be applied at all stages of the value chain, offering certified mass-balance products as drop-in solutions for our customers with constant product quality.

## 1.2. Climate Neutrality and Climate Targets

Covestro is committed to delivering on the 1.5 degree ambition of the Paris Agreement and the UN Sustainable Development Goals. Our corporate vision of becoming fully circular goes hand in hand with operating in a climate neutral way<sup>4</sup>.

In 2021, the global CO<sub>2</sub> roadmap was updated and will fundamentally be used to address and analyze direct and indirect sources of emissions in accordance with the Greenhouse Gas Protocol ("GHG Protocol"). Covestro already has a regular reporting system in place for Scope 1 and Scope 2 GHG

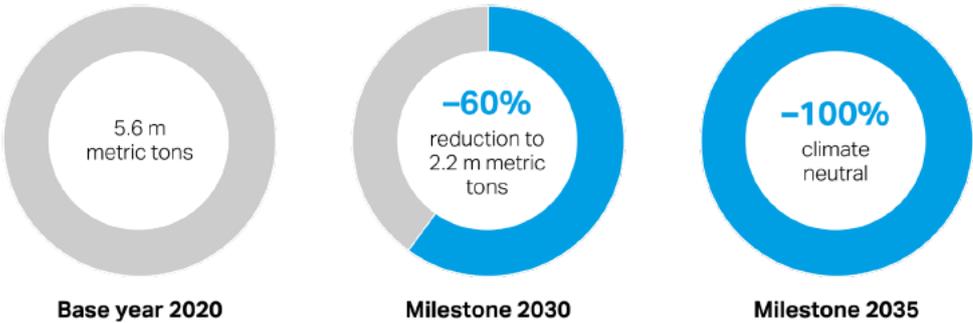
<sup>3</sup> Additional information on Circular Economy can be found [here](#).

<sup>4</sup> Additional information on Climate neutrality can be found [here](#).

emissions. In 2021, a system was established for reporting Scope 3 GHG emissions based on the GHG Protocol.

In the year 2022, we updated our global climate targets to align our goal of reducing greenhouse gas emissions with our new corporate vision, regulatory requirements as well as stakeholder expectations. In order to develop our new targets, we applied different scenarios, analyzed different methodologies, such as for setting science-based targets and incorporated the views of our stakeholders. In order to contribute in meeting with the 1.5 degree goal under the Paris Agreement ahead of the year 2050, we are determined to reach net zero Scope 1 and Scope 2 GHG emissions by the year 2035 at all environmentally relevant sites. As an intermediate goal we plan to deliver on a 60% emissions reduction for Scope 1 and 2 emissions by 2030, compared to 2020 levels.

**Exhibit 4: Covestro's targets\* toward climate neutrality\*\***



\*Million metric tons of greenhouse gas emissions comprise Scope 1 (emissions from own production) and Scope 2 (emissions from external energy sources) 2035 at all environmentally relevant sites.

\*\*Climate neutrality describes a state in which own activities do not affect the climate. Achieving Net zero greenhouse gas emissions is part of this and defined as a balance between anthropogenic greenhouse gas emissions (from own operations and energy procurement) and anthropogenic greenhouse gas removals.

Our goals are backed by a strong set of activities to ensure we meet them and we continuously look out for further actions in the process. We rely on technological measures to go beyond our previously successful and important energy efficiency projects. We are investigating options of nitric acid treatment as well as process technology measures in order to reduce our Scope 1 and Scope 2 emissions further. A number of procurement related activities complete the set of measures that will take us toward climate neutrality. We also intend to raise significantly the proportion of electricity from renewable sources we procure and will in future make greater use of steam as a renewable source of energy<sup>5</sup>. Steam is essential for our production, and we plan to elaborate further on possibilities to reduce the carbon footprint of steam use. Ultimately, technological approaches to carbon sinks will be explored. In the future, hydrogen is also expected to contribute substantially to the energy transition – for example, as part of CO<sub>2</sub> conversion for the generation of climate neutral sources of energy, for use as energy and as a raw material. We intend to deliver as far as technologically feasible absolute emission reductions. In terms of possible residual emissions in the future, i.e., those that are technically unavoidable, the use of technical and natural CO<sub>2</sub> sinks, or compensatory measures to potentially balance all GHG emissions (Scope 1, Scope 2, and Scope 3) are currently being evaluated.

The implementation of the activities specified above, and our continuous search for measures beyond those currently in use go hand in hand with a full transformation of our production sites. We are confident that our actions put us in a strong position to become fully circular and climate neutral. We are determined to achieve our goal of net zero Scope 1 and Scope 2 emissions at all environmentally relevant sites by 2035. In line with our vision to become fully circular, we will reduce greenhouse gas emissions across the full value chain stemming from purchased raw materials, logistics and other sources (scope 3) – with a more detailed commitment on this scope to be defined. Covestro intends to announce a reduction target for this by 2024. In addition, we have set the long-term goal that every product is to be offered in a climate neutral version in the future with major products already on offer today<sup>6</sup>.

<sup>5</sup> In the years 2021 and 2022, we signed different power purchase agreements (PPAs) for renewable electricity supply, e.g., for our sites in Belgium, China and Germany.

<sup>6</sup> For more information please see our announcements on climate neutral [MDI](#) and climate neutral [PCS](#).

## 2. Allocation and Impact report

We allocated our eligible CapEx and OpEx projects to 4 categories, which are summarized in the table below. The GHG emissions reduction potential is the key indicator of the main impact we are aiming for. In the selected categories, green bond funds contribute not only to the achievement of climate neutrality targets but also to the transition to a circular economy.

ICMA GBP categories	Eligible Project Volumes	% share of total allocations	KPIs	Values
Circular economy (CE) adapted products, production technologies and processes; and /or certified eco-efficient products	€45mn CE projects	8.0%	Potential % decrease in GHG emissions through the use of CE adapted Covestro products based on lifecycle assessment	20 - 70 % reduction
	€193mn alternative raw materials	34.4%	GHG emissions avoided/reduced through alternative raw materials in kilotons of CO2e	250 ktCO2e
Energy efficiency	€50mn	8.9%	GHG emissions avoided/reduced in kilotons of CO2e	100 ktCO2e
Pollution prevention and control	€248mn	44.2%	GHG emissions avoided/reduced in kilotons of CO2e: already realized / (planned total reduction after completion)	50 / (300) ktCO2e
Green Buildings	€25mn	4.5%	Availability of green building labels	1 LEED certification
<b>Total</b>	<b>€561mn</b> <i>thereof €350mn capex, €18mn opex and €193mn alternative raw materials</i>	<b>100%</b>		

In its Green Financing Framework, Covestro committed to publish annually an allocation and impact report until full allocation. The proceeds of Covestro's €500m November 2022 issuance are now fully allocated.

### 2.1. Circular economy adapted products:

Covestro focuses on bio and waste based raw materials/ intermediates and invests in own bio processes and recycling technologies starting from research in laboratory, scaling up via mini and pilot scales to finally commercial plants. CO2 footprints of the new products are estimated based on the comparison of life cycle assessments of conventional vs new production processes. Depending on the technology and product, the impact varies. Between 20% to 70% lifecycle CO2 reductions can be achieved by using recycled material e.g. for polycarbonate resins and flexible foam or biomass for rigid foam, coatings and adhesives. Here are some examples:

[Covestro expands its range of more sustainable polycarbonate](#)

[Covestro invests in the production of more sustainable polycarbonates in Asia Pacific](#)

[On the way to a closed loop for PU mattresses](#)

[White Biotechnology for sustainable plastics](#)

[Covestro and Genomatica produce important chemical raw material using biotechnology](#)

In addition, Covestro purchases alternative raw materials and reduces the CO2 footprints of its products via mass balance approach. Biobased and renewable raw materials have usually negative CO2 footprints, hence the impact on GHG emissions is considerable in comparison to the volumes. Covestro purchased in the years 2020 – 2022 ~80 kt alternative raw materials with an impact of ~250 kt CO2e reduction.

## **2.2. Energy efficiency:**

Covestro strives for continuous improvement in specific energy demand of the production plants. Covestro reduced its primary energy consumption in the years 2020-2022 ~87 MWh/GWh via process optimization, heat integration and new generation membranes in electrolysis with a total impact of ~100 kt CO<sub>2</sub>e reduction.

## **2.3. Pollution prevention and control:**

Covestro multiplies site specific state of the art technologies across the globe. More efficient catalyst already implemented in the nitric acid plant in Dormagen, Germany to capture nitrous oxide emissions is planned to be installed also in Baytown, USA and in Caojing, China. Early phases of investments are realized with an impact of ~ 250 kt CO<sub>2</sub> reduction in the near future. Covestro successfully implemented more efficient ODC technology for chlorine production in Krefeld-Uerdingen, Germany and in Tarragona, Spain. With this technology, ~30 kt CO<sub>2</sub> reduction is realized through less electricity consumption. Another ~20 kt CO<sub>2</sub> reduction is achieved by recovery of product from waste, thus less incineration at our site in Caojing, China.

## **2.4. Green buildings:**

Covestro's headquarter building was newly built in Leverkusen, Germany according to LEED standards and certified. Part of the investment was made in 2020 and is eligible for green bonds.

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