

Preserve what matters



SUSTAINABILITY AT CORBION

Contents

Corbion's impact on the Sustainable Development Goals



To monitor our current impact on our three focus SDGs (2, 3, and 13), we started to track the overall contribution to each of these SDGs as percentage of Corbion's total revenues. In 2021, 60% of Corbion's net sales contributed to preserving food and food production, health, and/or the planet. We aim to increase this percentage to >85% by 2030, by growing our business in food preservation, PLA, and algae-based ingredients. To ensure that our innovations contribute to this target, we also assess our innovation projects on their SDG contribution, as part of the innovation stage gate process. At the end of 2022, 100% of our innovation projects contributed to one or more of the SDGs.

KPI	2025 Target	2030 Target	2022	2021
Net sales contributing to the SDGs (SDG 2, 3, 12, 13,14) ¹	>75%	>85%	65%	60%
Innovation projects contributing to preserving food and food production, health, and/or the planet ²	100%	100%	100%	100%

¹ Net sales of products for which there is evidence that the product contributes to the SDGs.
² Innovation projects targeting the development of products that contribute to the SDGs, by number of projects.

2022

2 ZERO HUNGER

Net sales contributing to preserving food and food production (SDG 2)¹

32%

2022

3 GOOD HEALTH AND WELL-BEING

Net sales contributing to preserving health (SDG 3)¹

37%

2022

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Net sales contributing to preserving the planet (SDG 12, 13, 14)¹

53%

[Read the story](#)

Doing well by doing good in Morocco



To do

Increase sales of products positively contributing to the SDGs to 85%

#CorbionsToDoList 

Why are we doing it?

“This project isn’t just about producing an abstract PowerPoint slide on sustainability. We are doing the meticulous, back-end work needed to contribute solutions to the big societal challenges related to climate change and global economic equity.”

Amber Beckett – Sr Product Manager & Business Development Manager

What are we doing?

When it comes to societal benefit, it’s hard to look past Corbion’s portfolio of natural preservation solutions that reduce food waste (SDG 12) and increase food safety (SDG 3). Now, we’re taking this contribution to the next level through a family of next-generation antioxidant solutions, including a rosemary-based ingredient.

“Rosemary is an ideal antioxidant because of the powerful natural mechanisms it has evolved to survive the harsh desert conditions where it grows in Morocco,” says Amber. “We can harness these natural rosemary extracts to protect against flavour degradation in foods caused by oxidation of fats and oils, ensuring the final product stays fresh and delicious throughout its shelf life.”

Frequently, Moroccan rosemary collectors have exported the plant’s leaves to their customers globally for processing. The problem is that these leaves contain just 2-3% of the active antioxidant ingredient (carnosic acid). “Our solution was to identify and work with a supplier partner to produce and extract the carnosic acid locally,” says Amber. “As a result, our new antioxidant solutions contain 15 times the standard amount of carnosic acid as exported rosemary leaves, decreasing the carbon footprint and reducing excess shipments.”

How are we doing?

These new antioxidants are taking a bigger bite out of food waste by safeguarding products for longer; and there’s also one further benefit, says Amber. “They help move the native growing region of Morocco further up the value chain, retaining more monetary value in the local economy. It’s a true case of doing well by doing good as Corbion continues to increase the percentage of products that positively contribute to SDGs.”

Corbion's impact on the Sustainable Development Goals

Preserving food and food production (SDG2 Zero hunger) is about creating a sustainable food system capable of feeding a growing population, given the boundaries of our planet. Corbion's solutions for shelf life extension, food safety, animal health and aquaculture support this ambition. We also collaborate with our agriculture-derived raw material suppliers to promote sustainable agriculture and ensure deforestation-free sourcing.

Preserving health (SDG3 Good health and well-being) is about supporting healthy lives and promoting well-being at all ages. Corbion's solutions for health care, pharma, nutrition and hygiene contribute to some of the underlying targets defined for SDG3. We also care for the health and well-being of our own employees and supply chain partners.

Preserving our planet (SDG12 Responsible production and consumption) is about moving toward a circular economy. Biobased chemicals and materials from Corbion play an essential role in promoting SDG12 and helping to create a circular economy. SDG12 also includes food waste reduction as a sub-target, and our work to create zero waste, improve energy efficiency, reduce greenhouse gas emissions, and implement our new circular production technology in our manufacturing plants also contributes to this goal.


*watch this video to learn more
about Corbion's SDG ToDo list*



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SDG2 targets to which Corbion contributes

- ✓ Corbion's Opti.Form and Verdad products are used for Listeria control; this supports access to safe food **(SDG 2.1)**.
- ✓ By promoting gut health, ALOAPUR® provides an effective solution for achieving superior animal performance, without the use of antibiotics. This contributes to sustainable food production systems **(SDG 2.4)**.


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SDG3 targets to which Corbion contributes

- ✓ In Biomaterials, we focus on resorbable polymers for medical applications, such as orthopedic devices. The biodegradability of the orthopedic devices reduces the need for follow-up surgeries. Surgery always includes a health (infection) risk for the patient, so these products also contribute to **SDG 3.3**.
- ✓ Corbion's PURASAL S/PF solutions for pharma are used for dialysis and IV fluids, and therefore contribute to preventing mortality from non-communicable diseases (**SDG 3.4**).
- ✓ In Biomaterials, we focus on resorbable polymers for medical applications, such as controlled release pharmaceutical products. PURASORB can be used in opium free post operation pain management, which prevents substance abuse (**SDG 3.5**).
- ✓ In Biomaterials, our focus on resorbable polymers for medical applications enables development of controlled release pharmaceutical products, patient-friendly orthopedic devices, and more. Our polymers are used in the development of a 6-month, long-acting injectable and bioresorbable contraceptive supported by a grant from the Bill and Melinda Gates Foundation (**SDG 3.7**).
- ✓ Corbion's products also allow for home treatment such as dialysis or other pharmaceutical purposes, which is more cost-efficient and increases accessibility to the treatment (**SDG 3.8**).

Corbion's impact on the Sustainable Development Goals

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SDG12 targets to which Corbion contributes

- ✓ Corbion's products can replace synthetic chemicals with fermentation-based products derived from agricultural raw materials. This contributes to the sustainable management of natural resources (**SDG 12.2**) due to the reduced use of fossil-based raw materials.
- ✓ Corbion's food ingredient solutions support the sustainable production of safe, healthy and affordable food and the prevention of food waste (**SDG 12.3**) along the value chain.
- ✓ Corbion's PURASOLV solvents are not included in the SVHC (substances of very high concern) list from ECHA (European Chemicals Agency), nor are they in the SIN (Substitute it now) list from ChemSec (International Chemical Secretariat). PURASOLV can be used as non-toxic replacements for potentially unsafe solvents, such as NMP, DMAc, DMF, xylene, toluene, isophorone and chlorinated solvents (solvents that are restricted substances under REACH but can be used in agrochemical applications outside the EU). This contributes to **SDG 3.9** and **SDG 12.4**.
- ✓ Sanilac is used in home and personal care products as a registered preservative. This contributes to waste reduction by preventing spoilage (**SDG 12.5**).

Preserving what matters



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Raw materials covered by generic supplier code ²	>90%	>90%	99%	100%
Raw material/supplier combinations with high sustainability risk ³	<10%	<10%	4%	11%
High-risk raw material/supplier combinations with mitigation plan ³	>90%	>90%	99%	100%
Code of Business Conduct training completion rate	100%	100%	94% (2,061)	99% (1,781)
Anti-corruption training completion rate (% and number)	100%	100%	n/a	100% (479)
Competition law training completion rate (% and number)	100%	100%	100% (467)	n/a
Number of Speak Up/whistleblowing contacts - internal / external			25/1	20/0
Number of Speak Up/whistleblowing contacts with merit - internal / external			14/1	12/0

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ By number, based on Corbion's security-of-supply risk assessment methodology.

Preserving what matters

Preserving human rights



Preserving human rights

Corbion is committed to respecting and upholding human rights and labor standards. We act in accordance with internationally declared human rights and adhere to applicable laws within the framework of our business activities. We have implemented procedures to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the key conventions of the International Labour Organisation and the International Bill of Human Rights, and we are a signatory to the United Nations Global Compact.

Our Code of Business Conduct covers amongst others health and safety; inclusion, diversity, and equal employment opportunity; harassment; child and forced labor; working hours and compensation; and freedom of association. All Corbion employees are paid a living wage.

Corbion utilizes the Supplier Ethical Data Exchange (SEDEX) platform and the SEDEX Members Ethical Trade Audit (SMETA) to monitor the social performance and compliance of its manufacturing sites. SMETA assesses each site on four pillars: labor, health and safety, environment, and business ethics. Audits are conducted by an external third-party auditor at least every three years. Findings are monitored by global and site coordinators, and corrective actions are implemented in case of noncompliance with our standards.

Through our supplier code and our cane sugar code, we expect our suppliers to respect human rights in their operations.

To understand Corbion's impact on human rights in our own operations and our supply chain, we conduct Social Value Assessments.

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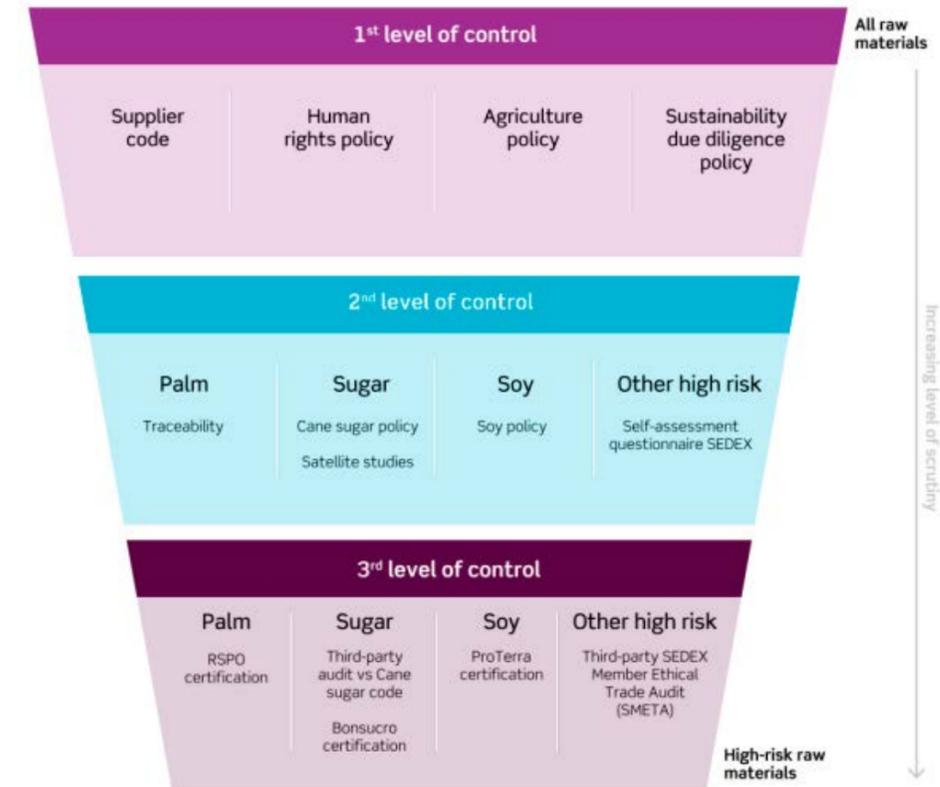
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Preserving what matters

Preserving what matters through responsible sourcing



Preserving what matters through responsible sourcing



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Preserving what matters

Preserving what matters through ethical business practices



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Preserving what matters through ethical business practices

Corbion's Business Conduct Program combines the legal requirements of the countries where we operate and international standards, resulting in a framework that regulates how all Corbion employees interact with colleagues, business partners, governments, and communities. We translate these legal requirements and standards into our [Code of Business Conduct](#), internal policies, and procedures to make this information accessible to everyone. Often we go beyond what is required by local legislation to create a single global integrity approach within Corbion. Every year, all Corbion employees need to follow a mandatory training on our Code of Business Conduct, which is available in six languages. Employees receive training through an online course or a classroom session. Course materials are updated yearly, based on the most relevant risks at the time of the release, and touching on the topics which were brought up in Speak Up reports in the previous year. In addition, selected groups of employees must follow every two years mandatory e-learning trainings with respect to anti-corruption and competition law.

Under the Corbion Speak Up Policy, Corbion employees can report misconduct and (potential) violations of the Code of Business Conduct and underlying policies to their manager, their local HR contact, the regional Business Conduct Coordinator, or, anonymously, to the Corbion Speak Up Line. We also invite our external stakeholders (customers, suppliers, communities, distributors, and agents) to raise concerns about (suspected) violations of the Corbion Code of Business Conduct, Corbion's Supplier Code, Corbion's Cane Sugar Code, or any applicable laws through our External Speak Up platform.

Preserving what matters

Supplier code

Corbion's [supplier code](#) defines what we expect of our suppliers in regards to our responsible sourcing commitment. The code outlines principles and criteria concerning business ethics, human rights, acceptable labor conditions and environmental practices. It also includes core principles from the OECD Guidelines for Multinational Enterprises and the eight fundamental Conventions defined by the International Labour Organisation, including freedom of association and the effective recognition of the right to collective bargaining, the elimination of all forms of forced or compulsory labor, the effective abolition of child labor, and the elimination of discrimination in respect to employment and occupation. We require our suppliers to sign our supplier code as a pledge of compliance. Suspected non-compliance with any of the codes will be investigated and discussed with the supplier. If deemed necessary, the supplier is expected to implement a corrective action plan that will effectively and promptly resolve the issue, according to an agreed timeline. Should issues persist, Corbion may ultimately decide to terminate the relationship with the supplier.

Supplier code



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Preserving what matters

Responsible Sourcing Risk Assessment

We assess all of our raw materials and suppliers on potential risks related to human rights and environmental impacts. This risk assessment is based on RepRisk, a tool that systematically identifies material ESG risks by analyzing information from public sources and stakeholders. Next to this, specific risk elements such as the use of SIN-listed raw materials and potential conflict minerals are considered. The risk assessment results in a high, medium, or low score for each raw material/supplier combination. For all high-risk items, mitigation actions will be taken. The risk assessment is updated annually and also conducted for new raw materials or new suppliers.

In our 2022 assessment, 4% of the raw material/supplier combinations were classified as high risk, a reduction compared to 2021. This reduction is primarily the result of lower risks scores in RepRisk, in addition to our own mitigation actions. For 100% of the high-risk raw material/supplier combinations, mitigation plans have been drawn up. Mitigation actions include supplier engagement, additional traceability investigation, SEDEX registration, SMETA audits, or identification of alternative raw materials or suppliers. Through these actions, we aim to reduce the number of high-risk raw material/supplier combinations, although we also realize that it is not feasible to eliminate these risks entirely. Therefore, we update the assessment and mitigation plans annually to ensure constant attention and preparedness for potential issues.

Responsible Sourcing Risk Assessment



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Preserving food & food production

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	100%	100%	91%	73%
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² Bonsucro-certified or meeting the requirements of Corbion's cane sugar code verified by third-party audits, by quantity.

³ Through Bonsucro certification, RSPO certification, or other certification covering deforestation; or demonstrated to be deforestation-free based on satellite data, third-party audits (e.g. Corbion cane sugar code audit), and/or country of origin statements, by quantity. Key agricultural raw materials include cane sugar, dextrose derived from corn, palm oil and derivatives, soy-bean oil and derivatives, and wheat, by quantity.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.



Preserving food & food p

Preserving food safety, shelf-life, texture, and nutritional benefits with food solutions



Preserving food safety and shelf life

Of the 263 million tonnes of meat produced globally over 20% is lost or wasted.

Corbion's solutions for meat preservation provide extended shelf life and food safety, which can help to reduce food waste.

In 2022, Corbion products were used to preserve **5,800,000 tons** of meat globally

Corbion helps preserve
>5 million
tons of meat globally

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Preserving food & food p



Preserving ecosystems by offering alternative aquaculture feed to prevent overfishing 

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Preserving ecosystems by offering alternative aquaculture feed

Aquaculture's share of global fishmeal and fish oil consumption has expanded phenomenally over the past decades, increasing the risk of overfishing.

AlgaPrime™ DHA can help reduce depletion of small marine fish.

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Preserving food & food p

Preserving natural resources by sustainable agriculture

Preserving natural resources by partnering with our suppliers to promote sustainable agriculture



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● Corbion Production Location



We partner with our suppliers and sector initiatives to promote sustainable agriculture.



Preserving food & food p

Preserving natural resources by sustainable agriculture

A sustainable agricultural supply chain is of material importance to our business as we rely on agriculture for our biobased raw materials. It is also vital to the communities in which we operate and to our planet's resources. We recognize that intensive agriculture can have an adverse impact on people and the environment. The agricultural sector is the second-largest source of greenhouse gas (GHG) emissions globally, and farming of sugarcane, palm oil, and soybean oil has been linked to forced and child labor issues. Sustainable agriculture, however, has the potential to protect the planet, enhance the economic viability of the agricultural sector, and support the livelihoods and well-being of farmers and the communities they work in.

Corbion is not directly involved with the growing, harvesting, and processing of the crops used to make our raw materials. We partner with our direct suppliers, conservation solution providers, and engage with other stakeholders involved in our agricultural supply chains to promote our vision for sustainable agriculture. We also implement relevant certification schemes, including Bonsucro, RSPO, and ProTerra. Our Sustainable Agriculture Policy describes our vision and fundamental principles, including respecting human rights, protecting biodiversity, eliminating deforestation, stewardship of the air, soil and water, and mitigating climate change.

Preserving natural resources by partnering with our suppliers to promote sustainable agriculture



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Preserving natural resources by sustainable agriculture

Our Cane Sugar Code defines the specific requirements for producing sustainable cane sugar, based on the definitions for sustainable sugarcane and derived products as set out by Bonsucro. Globally, some 6% of the sugarcane growing areas are Bonsucro-certified, and for our main sourcing area, Thailand, this is just over 2%. Consequently, we audit our cane sugar suppliers against the Corbion Cane Sugar Code if they are not yet able to supply Bonsucro-certified sugar.

Our Palm Oil Policy describes our requirements for responsible sourcing of palm oil, including no deforestation, no peat, and no exploitation. Since 2020, 100% of our palm oil and primary oleochemicals have been RSPO-certified. In 2022, we continued the implementation of RSPO for our secondary oleochemicals and achieved 90% RSPO certification for our total use of palm oil and derivatives.

Preserving natural resources by partnering with our suppliers to promote sustainable agriculture



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	100%	100%	91%	73%
	100%	100%	93%	82%
	-	-	32%	30%
	100%	50%	40%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Bonsucro-certified or meeting the requirements of Corbion's cane sugar code verified by third-party audits, by quantity.

³ Through Bonsucro certification, RSPO certification, or other certification covering deforestation; or demonstrated to be deforestation-free based on satellite data, third-party audits (e.g. Corbion cane sugar code audit), and/or country of origin statements, by quantity. Key agricultural raw materials include cane sugar, dextrose derived from corn, palm oil and derivatives, soy-bean oil and derivatives, and wheat, by quantity.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Putting deforestation 'in the picture'

To do

Eliminate deforestation in our supply chain

#CorbionsToDoList 

Why are we doing it?

“Where I grew up in southern Brazil, I saw the negative effects of agriculture expanding into the natural environment and the pre-harvest burning of sugar. Now I’m helping to stop it.”

Cristine Kayser – Sustainability Specialist

What are we doing?

The Atlantic Forest runs across the eastern coast of Brazil. It’s one of the richest natural areas on the planet but only 12% percent of the original forest remains according to the WWF*. Protecting this forest is especially important to Corbion because, sitting in its shadow in São Paulo State, lies our Orindiúva facility - which relies on local sugar cane as its major feedstock for AlgaPrime™ DHA, our sustainable algae-based omega-3 ingredient.

“The goal is to source 100% deforestation-free sugar and currently we are at 93% in Brazil,” says Cristine. “We are working closer than ever with local sugar mills to ensure that sugar cane is grown on existing arable land and/or farmed using more efficient, modern farming methods that enable sugar producers to get more from the same land.”

To monitor deforestation in the region, Corbion works with an organization called Global Risk Assessment Services (GRAS) which uses high-definition satellite technology to monitor land-use changes in the area. “We are able to compare images year-on-year to see if any deforestation has happened,” says Cristine. “The good news is that no deforestation has occurred in the land we source our raw materials from in Brazil since 2000.”

How are we doing?

Through collaboration with organizations like GRAS, Corbion is well on target to reaching its goal of sourcing all key agricultural raw materials as verified deforestation-free by 2025. Says Cristine: “It has been wonderful to work on this project and help my home country in some small way.”

* [What is the Atlantic Forest and why do we need to save it? | Stories | WWF \(worldwildlife.org\)](#)

More sustainable oil is in the palm of our hands



To do

Implement RSPO certification for all palm-derived raw materials

#CorbionsToDoList 

Why are we doing it?

“Palm plantations are found in tropical peatlands that act as natural ‘carbon sinks’ for absorbing carbon dioxide. It’s one of many reasons why we have a duty to preserve this precious environment.”

Margaret E Walsh – Senior Scientist

What are we doing?

Versatile, trans-fat free, and efficient, palm trees can produce at least twice the amount of oil per hectare than other vegetable crops, hence palm oil has become an essential ingredient in some of the products that Corbion provides to customers. The challenge? Farming this product in a way that preserves the planet and respects people. Hence Corbion’s work with the [Roundtable on Sustainable Palm Oil \(RSPO\)](#).

“Traditionally, palm oil was farmed in a way that was disruptive to animals, plants - and the peatlands themselves,” explains Margaret. “But it is possible with more modern and efficient farming methods to prevent this.”

Hence, Corbion now purchases 100% of its palm oil from RSPO-certified plantations in Indonesia and Malaysia that are regularly audited by independent, third-party auditors to ensure that their rich biodiversity is maintained. Apart from preserving the planet there’s a real human aspect to this too, according to Margaret. “The certification also ensures that workers on these plantations receive a living wage and are treated with respect that all humans deserve.”

How are we doing?

To achieve RSPO certification, Margaret and the Corbion team have established comprehensive internal systems that provide full traceability of palm oil: from the supplier, to the Corbion facility, to the customer. In fact, Sarah Haddox, Senior Account Manager, is already seeing the results with customers. “We are now using all this data to set new standards in palm oil traceability for one of the world’s largest food brands,” she says. “We both share the same sustainability ambitions – and we are now sharing the knowledge to jointly achieve them.”

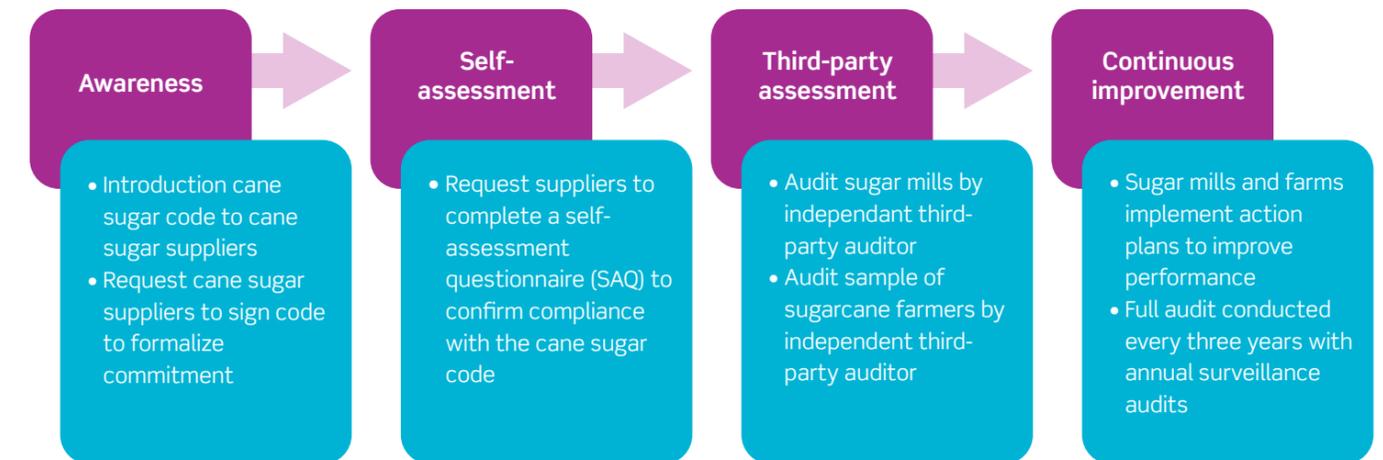


Preserving food & food p

Cane sugar

Cane sugar is our largest agriculture-derived raw material by quantity and is used at our manufacturing sites in Thailand and Brazil. Our [cane sugar code](#) defines what we expect of our cane sugar suppliers in regards to our responsible sourcing commitment. It is an extension of the Corbion supplier code that includes additional principles and criteria concerning land rights, good agricultural practices and biodiversity. It is based on the definitions of sustainable sugarcane and derived products as set forth by [Bonsucro](#), an international not-for-profit, multi-stakeholder organization established to promote sustainable sugar cane. To validate that our supplier meet these requirements, we have implemented a formal auditing process, which includes a full audit of the sugar mills and supply farms every three years and an annual re-assessment.

See our [Cane Sugar Policy](#) for more detail on our audit program. In 2022, we verified that 91% of our total cane sugar consumption meets the requirements of our code compared to 73% in 2021. This includes around 21% Bonsucro-certified sugar.



KPI	2030 Target ¹	2025 Target ¹	2022	2021
Verified responsibly sourced cane sugar ²	100%	100%	91%	73%
	100%	100%	93%	82%
	-	-	32%	30%
	100%	50%	40%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Bonsucro-certified or meeting the requirements of Corbion's cane sugar code verified by third-party audits, by quantity.

³ Through Bonsucro certification, RSPO certification, or other certification covering deforestation; or demonstrated to be deforestation-free based on satellite data, third-party audits (e.g. Corbion cane sugar code audit), and/or country of origin statements, by quantity. Key agricultural raw materials include cane sugar, dextrose derived from corn, palm oil and derivatives, soy-bean oil and derivatives, and wheat, by quantity.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.



Preserving food & food p

Forests & biodiversity

Humans depend on healthy ecosystems as these stabilize the climate, provide food, clean water and air, and raw materials, and protect coastlines. Deforestation and biodiversity loss are threatening earth’s capacity to maintain healthy ecosystems. Business activities can contribute to deforestation and biodiversity loss. As we source raw materials from sectors that are at risk of contributing to these issues we are committed to do as much as possible to limit our negative impacts and contribute to regenerative projects. To provide more transparency on the risk of deforestation in our agriculture supply chains, we track the percentage of key agricultural raw materials purchased verified deforestation-free. About 50% of our key agricultural raw materials is sourced in North America, where deforestation is not an issue. According to the [Agri-footprint database](#), which is based on FAO statistics, no land transformation from forest has occurred in the sourcing areas of Corbion’s dextrose, soy bean oil, and wheat suppliers in the US. For sugar and palm oil, the absence of deforestation is verified through audits, satellite studies, and Bonsucro or RSPO certification.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	100%	100%	91%	73%
Verified deforestation-free key agricultural raw materials ³ ▶	100%	100%	93%	82%
	-	-	32%	30%
	100%	50%	40%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Bonsucro-certified or meeting the requirements of Corbion’s cane sugar code verified by third-party audits, by quantity.

³ Through Bonsucro certification, RSPO certification, or other certification covering deforestation; or demonstrated to be deforestation-free based on satellite data, third-party audits (e.g. Corbion cane sugar code audit), and/or country of origin statements, by quantity. Key agricultural raw materials include cane sugar, dextrose derived from corn, palm oil and derivatives, soy-bean oil and derivatives, and wheat, by quantity.

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Preserving food & food p

Social Value Assessment

Corbion uses Social Value Assessment (SVA) to understand the social impact of our business activities on our stakeholders throughout our supply chain. In 2017, Corbion joined the Social Value Initiative (formerly the Partnership for Product Social Impact Assessment). Together with the other partners, we developed a methodology for measuring social impacts, available in the Roundtable's handbook. The handbook provides a framework, an overview of data collection tools, and a scoring approach to assess social impacts. In 2021, we applied the methodology to our manufacturing facility in Blair, US and in 2022, we performed the assessment for our manufacturing facility in Rayong, Thailand. We assessed the impact of Corbion's own operations and our supply chain on employees and local communities. For our preserving food and food production and/or health products, we also assessed the impact of our solutions on the end-user. The results of these assessments can be found on our website.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	100%	100%	91%	73%
	100%	100%	93%	82%
	-	-	32%	30%
Social Value Assessment coverage for products contributing to preserving food and food production (SDG 2) ⁵	100%	50%	40%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Bonsucro-certified or meeting the requirements of Corbion's cane sugar code verified by third-party audits, by quantity.

³ Through Bonsucro certification, RSPO certification, or other certification covering deforestation; or demonstrated to be deforestation-free based on satellite data, third-party audits (e.g. Corbion cane sugar code audit), and/or country of origin statements, by quantity. Key agricultural raw materials include cane sugar, dextrose derived from corn, palm oil and derivatives, soy-bean oil and derivatives, and wheat, by quantity.

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Preserving health

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

⁴ The Substitute It Now (SIN) list is a list of hazardous chemicals that have been identified as being Substances of Very High Concern, based on the criteria defined within REACH, the EU chemicals legislation. The SIN list is developed by the nonprofit ChemSec.

⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁶ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.





Preserving health

Preserving the safety of our people



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

⁴ The Substitute It Now (SIN) list is a list of hazardous chemicals that have been identified as being Substances of Very High Concern, based on the criteria defined within REACH, the EU chemicals legislation. The SIN list is developed by the nonprofit ChemSec.

⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁶ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving the safety of our people

Corbion's goal is to create a healthy, safe and environmentally friendly workplace. No job is so important that it cannot be done safely or without adverse environmental or communal impact.

Our leadership fosters an open and transparent culture in order to continuously improve our safety and environmental performance.

Aiming for a
Zero-incident
workplace





Preserving health

Preserving nutritional value with sustainable food solutions



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

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⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁶ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving nutritional value

Worldwide, osteoporosis causes more than 8.9 million fractures annually, resulting in an osteoporotic fracture every 3 seconds.

Corbion offers solutions for calcium fortification in beverages.

Studies in children and adolescents have shown that supplementation with calcium, dairy calcium-enriched foods or milk enhances the rate of bone mineral acquisition.

8.9
million fractures
annually



1 fracture every
3
seconds





Preserving health

Preserving heart health with algae solutions

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

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⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

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Preserving heart health with algae solutions

AlgaPrime™ DHA is a clean and sustainable source of long chain omega-3s from algae, high in omega-3 DHA, that helps to enhance the nutritional value of seafood. This ingredient is a key source of omega-3 fatty acids fed to Kvarøy Arctic™ Atlantic salmon, contributing to the salmon's official certification by the American Heart Association's® Heart-Check Food Certification Program.

One 3.5-ounce serving of Kvarøy Arctic's Atlantic salmon has **over 2,000mg of long-chain omega-3s** helping to exceed the weekly intake recommendation set by the U.S. Dietary Guidelines and American Heart Association.

one

3.5 oz

serving of Kvarøy Arctic salmon

=

Helping to exceed the

weekly

U.S. recommendation for omega-3s



Preserving health

Preserving health and well-being with biomedical solutions



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

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⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁶ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving health and well-being with biomedical solutions

Resorbable orthopedic implants containing our biobased materials are today treating a wide range of injuries to the musculoskeletal system in areas like sports medicine, trauma and spinal surgery.

The biodegradability of the orthopedic devices leads to a reduced need for follow-up surgery. This benefits the patient and improves affordability of health care.





Preserving health

Preserving hygiene and health with biochemical solutions 

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

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Preserving hygiene and health with biochemical solutions

Our antimicrobial solutions for home and personal care are ideal for the development of safe, environmentally-friendly human hygiene products such as hand soaps, hand sanitizers and body washes.

Sanitizing hand gel and hand soap containing **PURAC® Sanilac inactivated 99.99% of Coronavirus** after 1 minute of contact time.*

Benefits of our solutions:

- Antiviral
- Non-toxic to humans and the environment
- Non-sensitizing to skin

after **1 minute** of contact = **99.99%** *Coronavirus particles inactivated

* BluTest Laboratories EN 14476

Creating a safe workplace is our priority

To do

Create a zero-incident culture

#CorbionsToDoList 

Why are we doing it?

“In a previous company I saw someone get seriously injured and I will never forget how I felt - and how that person’s colleagues felt. I don’t ever want to experience that feeling again.”

Jason Chu – Senior Engineer for Global Operations

What are we doing?

What does creating a safe and healthy working environment really mean in practice? “I will say without hesitation that at Corbion we put safety over production,” says Jason – who is currently leading a major expansion project. “I can take criticism for being late on a project, or for being over budget. But I can never, ever give a justifiable reason for someone getting hurt.”

Jason recently won Corbion’s quarterly Values Showcase award, which recognizes colleagues who have demonstrated the company values of Care, Courage, Collaboration, and Commitment. Having spotted a project supervisor, that has been previously coached on safety practices, acting in an unsafe manner, the project team decided to remove the individual from the site and project. “It was a tough decision, but it was the right decision – because it was made for the good of everyone on our site,” says Jason. “This is the key point: safety is not about one individual. It’s up to every one of us to protect the people we work with, care about and spend time with every day.”

How are we doing?

Corbion is ultimately aiming for a zero-incident culture. Is it achievable? “Absolutely. It needs to be driven by culture and example – not just with Corbion colleagues but also the third-party contractor colleagues who help us every day,” says Jason. “Bottom line: I would never ask a colleague to perform a task on-site that I would not be willing to perform myself.”



Care-driven innovation

Corbion employees truly care about the impact of their work in people's lives. That drives them to keep finding new ways to leverage our highly specialized core competencies.

Since the 1960s, Corbion has steadily grown its expertise in polymerization and purification, applying it in the production of patient-friendly biomedical applications. As our knowledge has deepened over time, the benefits we deliver to patients and health care systems have taken on entirely new dimensions.

It began with sutures. Creating resorbable polymers delivered as mono- or multi-filaments enabled surgeons to close wounds with material that would gradually be absorbed by the body without the added step of suture removal after healing. That business has grown increasingly sophisticated in terms of product offerings and processing technique options.

In the 1980s, our ability to fine-tune the building blocks of various PURASORB® polymers led to the creation of controlled release drug delivery systems that enable consistent, appropriate dosage over days, weeks, or months through an implant or a single injection.

Over time, the medical industry has come to recognize and value our degree of expertise in this area and Corbion is known as a trusted collaborator committed to delivering the highest quality products.

New capabilities

For years now, Corbion has produced the resorbable polymers to make biodegradable screws, pins, and plates used by surgeons to immobilize bone fractures. While the implants stay in place long enough for bone tissue regeneration to take place and healing to occur, they slowly break down and are absorbed by the body, eliminating a second surgical procedure to remove the devices.



Care-driven innovation

Such Corbion products have helped countless patients heal with fewer invasive procedures and reduced trauma. But their relatively low inherent strength and minimal load-bearing capacity has limited the scope of their use to small bone fractures and special cases where patients could go for an extended period of time without standing.

The application scope will soon become largely extended, when we bring to market FiberLive®, a patented composite material combining resorbable glass fibers with resorbable polymers and a coupling agent to form the strongest fully resorbable material ever made. Like our other resorbable implant materials, the FiberLive® composite degrades as new bone tissue develops, but initially, it provides load-bearing strength up to six times greater than cortical bone, which is comparable to the strength of metal. Patients will not only avoid secondary surgeries to remove implants, they will also be back on their feet much sooner.

Benefits all around

Faster healing, consistently delivered medication, fewer complications, less trauma – all contribute to a better health care experience for medical patients, thanks to Corbion expertise. But patients aren't the only ones who benefit from our technology.

The overall health care system realizes cost savings by reducing the number of surgical procedures required. Prescription drugs are used more efficiently and accurately. Patient outcomes are improved by enabling precision care. Our customers – medical device manufacturers – are able to deliver greater, cost-saving value, and improved results to their customers. All of these benefits grew out of a single area of expertise and a shared desire to make a difference.

It is amazing how far caring and a really strong core competency can take you when you keep using it to invent, create, and discover new value.



Preserving health

Environment, Health and Safety

Corbion strives to create a safe and healthy workplace with the goal of having zero incidents; we believe no job is so important that it cannot be done safely and without adverse environmental impact. We operate with the greatest care for safety, health and the environment – for our employees and our communities. Our management system includes policies, procedures, training and feedback designed to foster compliance with laws and regulations applicable to our operations, and with our own corporate standards and codes. Corbion leadership and employees are working to achieve a “zero incident culture” characterized by openness, transparency and a shared sense of obligation to report all near misses, events, etc., in order to continuously improve our safety and environmental performance.

Our global [Environmental Health and Safety \(EHS\) policy](#) describes our overall approach and commitment. We are implementing ISO 45001 and our 10 Corbion Safety Rules on all sites.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
Total Recordable Injury Rate ²	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

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Preserving health

Social Value Assessment

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KPI	2030 Target ¹	2025 Target ¹	2022	2021
	< 0.25	<0.5	0.68	0.66
Sites certified according to internationally recognized food safety management system standards ³	100%	100%	100%	100%
SIN list ⁴ chemicals produced	0	0	0	0
EU REACH Candidate List chemicals produced	0	0	0	0
EU REACH Authorization List chemicals produced	0	0	0	0
	100%	50%	37%	35%
Net sales contributing to preserving health (SDG 3) ⁵	-	-	37%	34%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² Based on OSHA guidelines. Including contractors.

³ Applies to sites where food ingredients are produced, by number. Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

⁴ The Substitute It Now (SIN) list is a list of hazardous chemicals that have been identified as being Substances of Very High Concern, based on the criteria defined within REACH, the EU chemicals legislation. The SIN list is developed by the nonprofit ChemSec.

⁵ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁶ The Social Value Assessment is done according to the methodology described in the Handbook for Product Social Impact Assessment, published by the Social Value Initiative and applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving the planet

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. This KPI refers to our 2019 Science Based Target which was aligned with 2°C. We have recently increased the ambition level of our target and will report on this starting next year. This KPI includes Scope I emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Progress is reported against 2016 as the base year. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ Life Cycle Assessment (LCA) is peer reviewed according to ISO 14040/44 standards for Corbion's core products (such as lactic acid) or done according to the "LCA Approach for Corbion's Product Portfolio: Lactic acid derivative plants, Corbion 2017," which has been externally reviewed against and is considered to be in line with the principles of the ISO 14040/44 standards. This KPI applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.



Preserving the planet

Preserving natural resources with biodegradable alternatives 

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%



Preserving natural resources with biodegradable alternatives

Contaminants of emerging concern, including personal care products, are increasingly detected in surface water, and there is concern about the impact on aquatic life.

Corbion's solutions for home and personal care are **biodegradable and safe for the user and for the environment.**

17 million ktons
of cleaning products end up in the drain

Preserving the planet

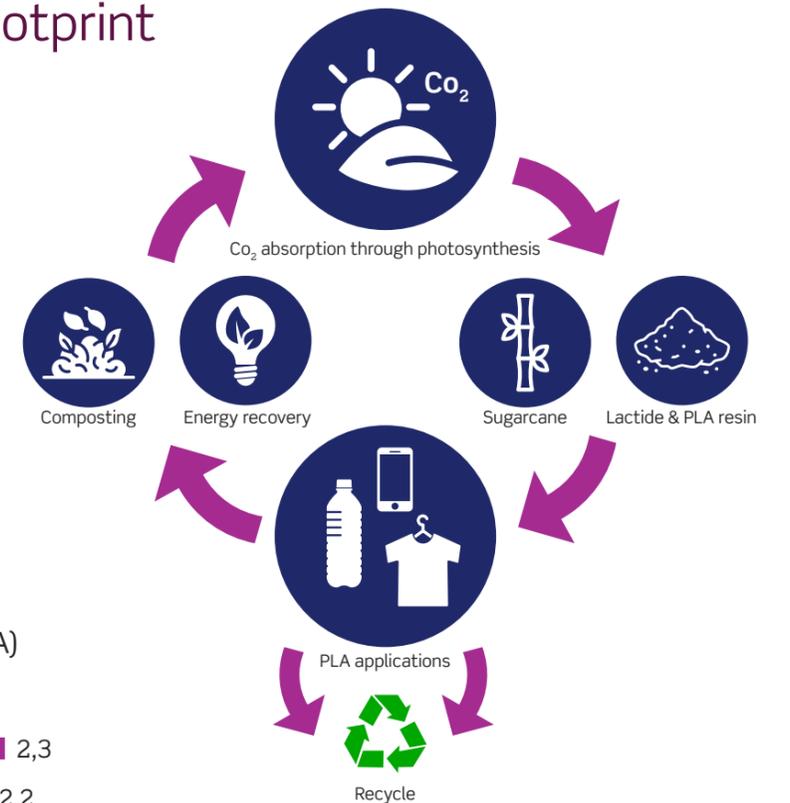
Preserving the climate with biobased alternatives



Preserving the climate with biobased alternatives

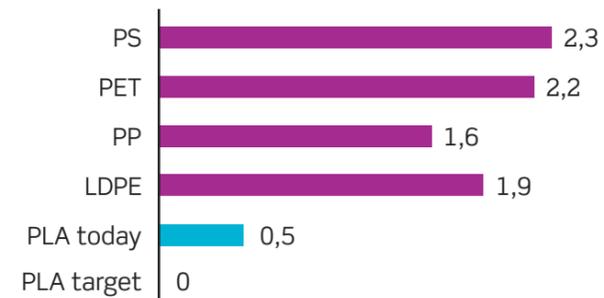
PLA bioplastics are 100% biobased and have a low carbon footprint

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%



Carbon Footprint

(kg CO₂ eq / kg polymer. Cradle-to-gate including -1.83 kg CO₂ absorption/kg PLA)



* Sources: www.lca.plasticseurope.org, J Polym Environ 27, 2523-2539 (2019)



Preserving the planet

Preserving natural resources with circular technology for lactic acid

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

Preserving natural resources with circular technology for lactic acid

Our new circular lactic acid manufacturing process eliminates both the need for lime as input material and avoids the generation of gypsum as a by-product. Our new factory in Rayong, Thailand, that is currently under construction and will be completed by the end of 2023 will utilize this process, expanding our production with as little impact on our footprint as currently technologically feasible.

Lactic Acid Production (Today)



Lactic Acid Production (circular technology)



Preserving the planet

Preserving natural resources with alternative feedstock technology

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

Preserving natural resources with alternative feedstock technology

Over the next few decades, world population growth will increase global demand for biomass to power food and industrial applications. Currently, sugar-based feedstocks are among the most efficient and sustainable crops. However, Corbion R&D continues to develop new processes to enable the production of biochemicals and bioplastics using alternative feedstocks.



Potential alternative feedstocks include non-food biomass crops, agricultural by-products and waste streams, such as miscanthus, wheat straw, bagasse, corn stover and wood chips. These feedstocks are often referred to as 'lignocellulosic' or 'second-generation' feedstocks. Converting these feedstocks into fermentable sugars requires a pre-treatment process to extract cellulose, hemicellulose and lignin. The cellulose and hemicellulose fractions are then hydrolyzed using enzymes to obtain C5 and C6 sugars. If C6 sugars are isolated and purified, they can be converted into lactic acid in an existing Corbion facility. Conversion of a C5/C6 sugar mixture, however, requires a new fermentation strain, a new production process and a new production plant.

Corbion has invested significantly in both technology routes. In 2015, Corbion became the first company to successfully produce the bioplastic Poly-Lactic Acid (PLA) from alternative feedstocks on lab scale.

Preserving the planet

Preserving natural resources with alternative feedstock technology



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

Figure 1: Annual carbohydrate yield per hectare for different feedstocks

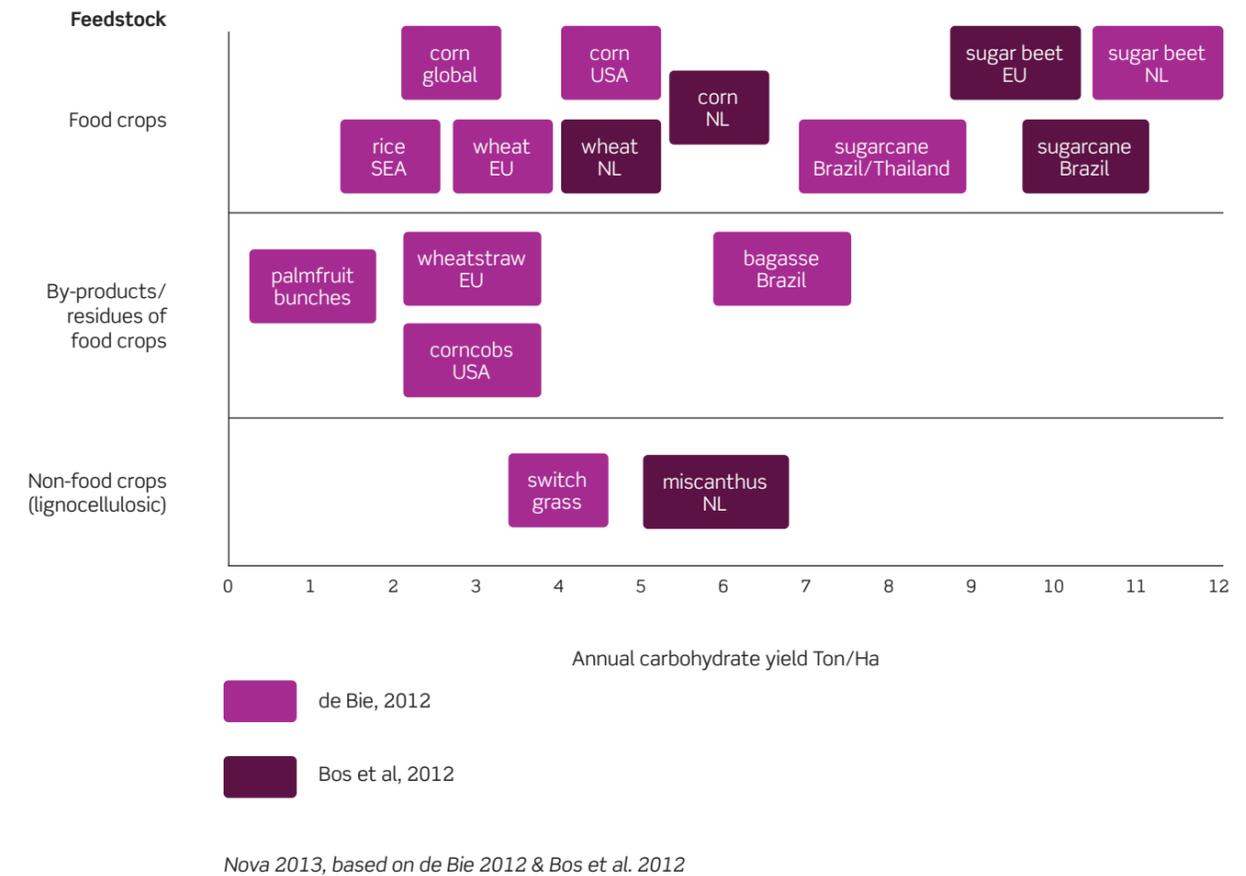


Figure 1: Annual carbohydrate yield per hectare for different feedstocks



Preserving the planet

Preserving natural resources with alternative feedstock technology



KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

Figure 2: Converting alternative feedstocks into fermentable sugars

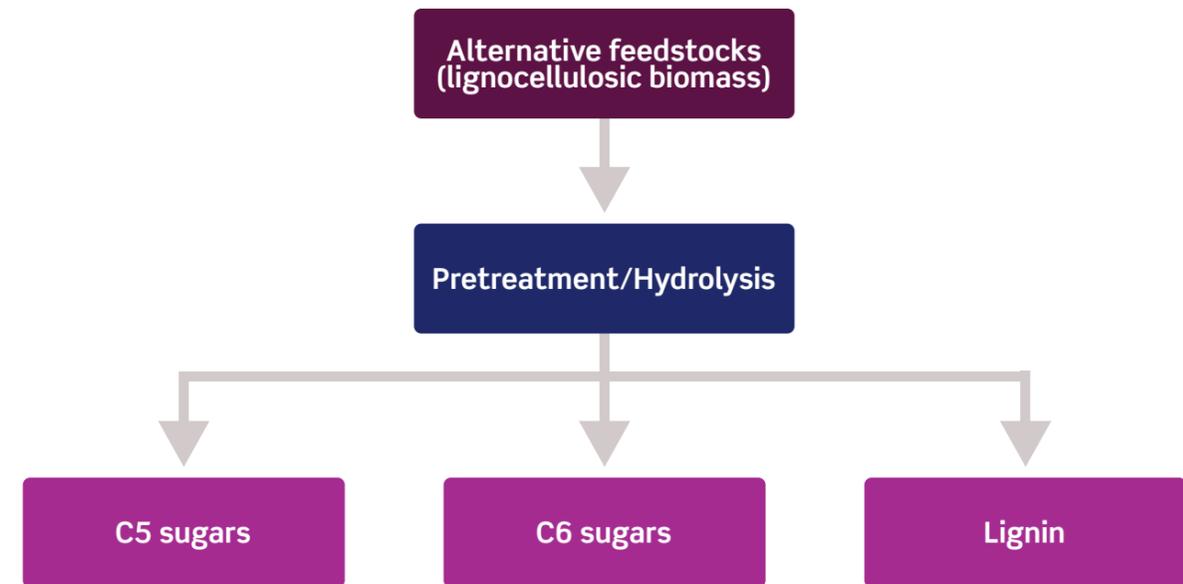


Figure 2: Converting alternative feedstocks into fermentable sugars



Preserving the planet

Preserving the climate by reducing our carbon footprint

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%



Preserving the climate by reducing our carbon footprint

We aim to reduce our absolute Scope I and II emissions by 38% and our Scope III emissions by 24% per metric ton of product by 2030, compared to 2021.

“To be a true leader in the circular economy, we need to lead by example and do our part to achieve the Paris Agreement.”
 Olivier Rigaud, CEO



Taking giant steps to minimize our carbon footprint

To do

Reduce our carbon footprint in line with 1.5°C

#CorbionsToDoList 

Why are we doing it?

“I am a project manager with a passion for sustainability, but also a mum with kids, and I live at sea level. I don’t want to lose our home – and I don’t want the children of the world to lose their home either due to various climate change issues.”

Suzanne Verhoef – Senior Project Manager, R&D

What are we doing?

Perhaps the greatest outcome of the Paris Agreement was providing future direction that we should limit global warming to below 1.5°C by 2030 to avoid the worst climate impacts. It’s an ambitious goal – and one that Corbion is now fully aligned with, having recently decided to raise our ambition level regarding our own emission reduction target. The Paris Agreement, however, has provided little guidance on how to get there. So, how will Corbion reach this goal?

“We have collected the relevant information on our production processes and the products we make,” explains Suzanne. “This includes the energy usage and raw materials used – and the projected growth ambitions.” By doing so, we know our footprint of today, and more importantly, our projected emissions over the coming eight years.

To identify opportunities to reduce our carbon footprint, Corbion is conducting ‘deep dives’ at various facilities. For example, by reducing the use of steam in the manufacturing process – and then sharing that knowledge organization-wide. “Longer term, we are also heavily investing in improving our lactic acid production process to lower our footprint even further,” says Suzanne. Corbion is building a new circular lactic plant at our existing site in Rayong Province, Thailand. It will use state-of-the-art circular technology to reduce cradle-to-gate CO₂ emissions per metric ton of lactic acid by 19% compared to conventional technology. “And besides that, Corbion is working on low-carbon powder production processes and also more sustainable solvent manufacturing.”

How are we doing?

Achieving these ambitious targets won’t happen overnight, but another way of accelerating progress is to look beyond Corbion. “We’re also working even closer with our value chain partners to reduce their own emissions – which of course represent part of Corbion’s overall footprint,” says Suzanne. “Just one example is the soil health program, in which we team up with Cargill and other players across the food industry supply chain to promote adoption of regenerative agriculture practices that lower CO₂ emissions, preserve agricultural productivity, and enable long-term food security.

Making waste to zero waste



To do

Eliminate waste disposal in landfills

#CorbionsToDoList

Why are we doing it?

“At Araucária, everyone constantly thinks about how we can contribute to a better future. By reducing and reusing the waste we create, we can make a huge impact on our daily lives.”

Flávio Ribeiro – ESH Manager

What are we doing?

Our Araucária facility in Brazil produces functional blends that deliver all kinds of benefits in dairy, bakery, and meat applications – especially by extending shelf life and preventing food waste. So, what a ‘delicious’ coincidence that in 2022, all our 142 colleagues in Araucária accepted the huge challenge of becoming the first Corbion site to achieve Zero Waste Certification.

“The goal was to find better ways of recycling and reusing our industrial waste instead of sending it to landfill. However, this was easier said than done – because it’s around 400 tonnes annually,” explains Flávio. “Raw materials, sanitary waste, wooden pallets, food waste, grease and oil...each of these waste streams requires its own license and needs to be tackled separately.”

Furthermore, the team couldn’t do this alone. For example, due to local regulations, Corbion isn’t allowed to compost waste on its own site and therefore had to find reliable partners to help handle our waste streams.

How are we doing?

In 2020, Corbion Araucária sent 87% of its waste to landfill. Today, it reuses or recycles more than 90% of its waste, and this is managed by Corbion continuously and audited annually. Not only is Araucária the first Corbion site to achieve the Zero Waste Certification, it’s also the first food company in the entire Paraná state of Brazil to do so. “Next, we want to reduce landfill waste even more to ultimately completely eliminate our waste disposal in landfills,” says Flávio. Ultimately, this great achievement is proof that Araucária is not only fully aligned with the Zero Waste International Alliance Guidelines, but also with the wider commitment that Corbion has made to contribute to the UN sustainability goals.

Putting our energy into a renewable future



To do

Implement renewable electricity at all locations

#CorbionsToDoList 

Why are we doing it?

“The temperature is rising every year and we’re seeing more and more rain now in Thailand - even outside of our rainy season. Just last month, floods damaged the home of a few colleagues here.”

Suvasa Chokdeepanich – Procurement Director

What are we doing?

As our manufacturing capacity grows in Rayong, Thailand, we aim to produce more bio-based products, like lactic acid, while demanding less of the planet in the process. Two years ago, Rayong began sourcing 25% of all its electricity used at the site from renewable sources. By 2022, that number had already doubled to 50%. In 2023? We reached 100%.

“Making a change like this is a huge undertaking of course, but as we continue to see the effects of climate change in Thailand, everyone here is deeply committed to this,” says Suvasa. After a long search and negotiating process, Suvasa and her team chose a local supplier that will deliver electricity to the site and have reserved 18 solar farms as renewable sources from January 2023.

But it doesn’t end there. As part of the agreement, the new supplier will also efficiently provide steam for the Rayong boilers – further reducing on-site emissions. “We have also signed an agreement with our supplier, TotalEnergies Solar, to install solar panels on the roof of some buildings and car park – which will generate a further one megawatt of renewable electricity,” adds Suvasa.

How are we doing?

Corbion’s Rayong site now has an official certificate for renewable electricity provision that guarantees both the renewable source and the volume of electricity supplied, for the next 15 years. “We are proud to set the example as one of the first manufacturing facilities in Thailand to use 100% renewable electricity,” says Suvasa, “and excited that by 2025, every Corbion site will join us in being 100% powered by renewable electricity.”

Preserving the planet

Biobased raw materials

The majority of our raw materials are biobased, derived from renewable, agricultural sources such as sugar cane, corn, soy, wheat, and palm oil. The use of biobased raw materials instead of fossilbased resources for the production of specialty chemicals supports the transition to a circular economy, because biobased raw materials are renewable by nature, in so long as its production is sustainably managed. According to the [Bioplastic feedstock alliance](#), a sustainable biobased feedstock is legally sourced, conforms to Universal Declaration of Human Rights (UDHR), does not adversely impact food security, and does not result in deforestation. Corbion's sustainable agriculture policy describes our key principles for the production of biobased raw materials.

Our biobased raw materials KPI measures the % of our raw materials that is biobased (based on biobased carbon content) excluding inorganic raw materials.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
Biobased raw materials ²	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. This KPI refers to our 2019 Science Based Target which was aligned with 2°C. We have recently increased the ambition level of our target and will report on this starting next year. This KPI includes Scope I emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Progress is reported against 2016 as the base year. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ Life Cycle Assessment (LCA) is peer reviewed according to ISO 14040/44 standards for Corbion's core products (such as lactic acid) or done according to the "LCA Approach for Corbion's Product Portfolio: Lactic acid derivative plants, Corbion 2017," which has been externally reviewed against and is considered to be in line with the principles of the ISO 14040/44 standards. This KPI applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving the planet

Renewable electricity

As a member of [RE100](#), a global initiative to accelerate change toward zero-carbon grids at scale, Corbion is committed to achieving 100% renewable electricity by 2025.

We use a variety of sourcing tools, based on regional availability. At our manufacturing sites in Gorinchem (the Netherlands), Montmeló, (Spain), Rayong (Thailand) and Orindiúva (Brazil), we use Green electricity supply contracts. At other locations, we use unbundled Energy Attribute Certificates. We have installed solar panels at several locations, but currently these only cover a fraction of our electricity needs.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
Renewable electricity	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. This KPI refers to our 2019 Science Based Target which was aligned with 2°C. We have recently increased the ambition level of our target and will report on this starting next year. This KPI includes Scope I emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Progress is reported against 2016 as the base year. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ Life Cycle Assessment (LCA) is peer reviewed according to ISO 14040/44 standards for Corbion's core products (such as lactic acid) or done according to the "LCA Approach for Corbion's Product Portfolio: Lactic acid derivative plants, Corbion 2017," which has been externally reviewed against and is considered to be in line with the principles of the ISO 14040/44 standards. This KPI applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Preserving the planet

Climate action through a science-based approach

In 2022, we already achieved our 2030 target by realizing a 39% reduction compared to our 2016 baseline. Building on this progress, we raised our climate ambition in 2022 to align with 1.5°C, the most ambitious goal of the Paris Agreement. To reach this ambition we have committed to reduce our absolute scope 1 and 2 GHG emissions 38% by 2030 from a 2021 base year. Next to that, we commit to reducing our scope 3 GHG emissions from purchased goods and services, upstream transportation and distribution, waste generated in operations, and downstream transportation and distribution 24% per ton of sold product within the same timeframe. This target is what the latest climate science has told us is needed to prevent the most damaging effects of climate change. Our new targets have been validated by the Science Based Targets initiative.

To fulfill this pledge, we have developed a roadmap, including the following actions, which we are currently implementing:

- transition to 100% renewable electricity by 2025
- implement energy-saving projects in our manufacturing sites
- select the most energy-efficient technology available when equipment is replaced
- established an R&D program to identify new technologies to implement in our manufacturing facilities, including electrification, low-carbon energy sources, and recycling
- partner with key raw material suppliers to jointly reduce CO₂ emissions
- use internal carbon pricing to manage and understand the financial impact of GHG emissions on our business
- implement our new circular lactic acid manufacturing process, eliminating both the need for lime as an input material as well as the generation of gypsum as a by-product

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
Scope I, II emissions reduction ³	-	-	54%	40%
Scope I, II, III emissions reduction (SBTi-approved target) ³	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

“To be a true leader in the circular economy, we need to lead by example and do our part to achieve the Paris Agreement.”

Olivier Rigaud, CEO

Preserving the planet

Zero waste

Our “zero waste” ambition focuses on the reduction of waste by valorizing all Corbion by-products by 2025 and eliminating landfill contributions altogether by 2030. In this way, we maximize the value generated from the resources we consume and take steps away from a linear economy based on a “take-make-dispose” system toward a circular economy.

Through lactic acid production, Corbion generates significant quantities of valuable by-products such as gypsum. Every ton of lactic acid produced is accompanied by almost 2 tons of by-product. While most of these by-products are valorized, some quantity does occasionally go to a landfill. To eliminate this waste, we are developing new outlets and implementing a gypsum-free production process in our future lactic acid plants.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
Recycling of by-products ²	100%	100%	97%	97%
Landfill of waste	0	-	1.0 kT	1.8 kT
	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. This KPI refers to our 2019 Science Based Target which was aligned with 2°C. We have recently increased the ambition level of our target and will report on this starting next year. This KPI includes Scope I emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Progress is reported against 2016 as the base year. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

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Preserving the planet

Life Cycle Assessment

Corbion uses [Life Cycle Assessments \(LCA\)](#) as a tool for understanding the environmental impacts associated with a product, from the extraction of resources, through processing and manufacturing, distribution, use and end of life. To enable our customers to make conscious choices, we will conduct cradle-to-gate LCAs for all products by 2025. Using this data, we can work side-by-side with customers on improving their environmental footprint and on substantiating their sustainability claims.

KPI	2030 Target ¹	2025 Target ¹	2022	2021
	> 95%	> 95%	98%	98%
	100%	100%	93%	79%
	-	-	54%	40%
	33%	20%	39%	27%
	100%	100%	97%	97%
	0	-	1.0 kT	1.8 kT
Life Cycle Assessment ⁵ coverage for products contributing to preserving the planet ²	100%	100%	94%	86%
Net sales contributing to preserving the planet (SDG 12, 13, 14) ⁴	-	-	53%	49%

¹ Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.

² By quantity.

³ We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. This KPI refers to our 2019 Science Based Target which was aligned with 2°C. We have recently increased the ambition level of our target and will report on this starting next year. This KPI includes Scope I emissions from direct production (from natural gas), Scope II emissions from purchased energy (electricity and purchased steam, market-based), and Scope III emissions related to key raw materials and transport. Progress is reported against 2016 as the base year. Our full Scope III emissions and biogenic emissions are reported in the Sustainability statements.

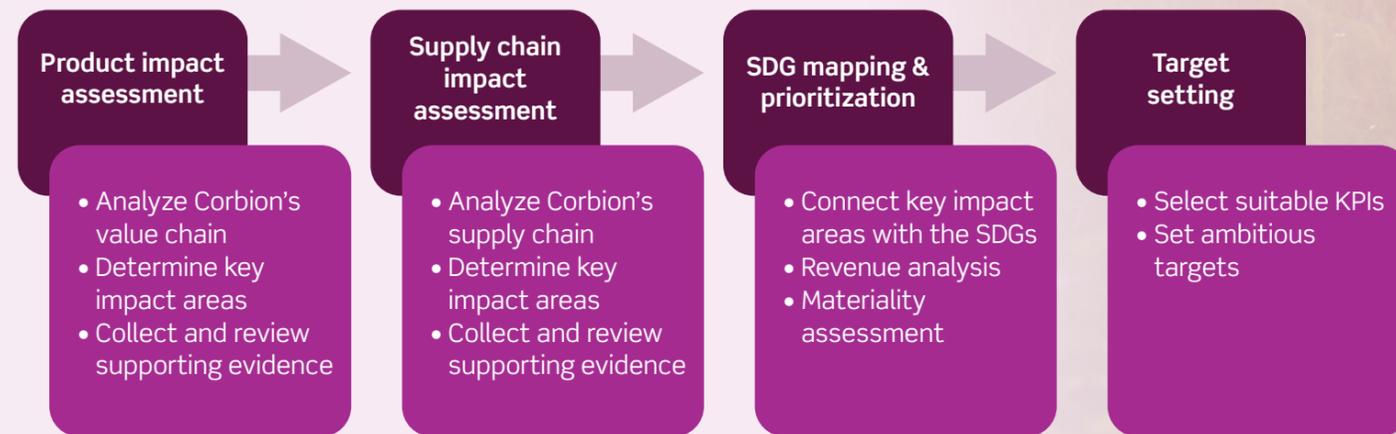
⁴ Net sales of products for which there is evidence that the product contributes to the SDGs.

⁵ Life Cycle Assessment (LCA) is peer reviewed according to ISO 14040/44 standards for Corbion's core products (such as lactic acid) or done according to the "LCA Approach for Corbion's Product Portfolio: Lactic acid derivative plants, Corbion 2017," which has been externally reviewed against and is considered to be in line with the principles of the ISO 14040/44 standards. This KPI applies to products manufactured at Corbion sites for which there is evidence that the product contributes to the specified SDGs. Outsourcing is excluded. By quantity.

Measuring what matters

Measuring our impact

The 17 sustainable development goals clearly cannot be accomplished by any government or company on its own; their achievement is possible only if we all do our part. At Corbion, we believe companies should focus where they can make the greatest impact. To determine our own strategic focus, we performed an SDG impact assessment, consisting of four steps:



Based on these assessments, Corbion has chosen to focus on SDG 2, SDG 3 and SDG 12 as the goals on which it believes it can make the most significant positive impact, given our business activities. To make a credible and meaningful impact on the Sustainable Development Goals, Corbion aims to minimize any negative impacts while maximizing positive impact. For example, specific Corbion products (e.g., products that replace an alternative with a higher carbon footprint) have a net positive impact on SDG13, but this does not relieve Corbion of the responsibility to reduce its GHG emissions.

		Impacted SDGs		
Maximize positive impact	Focus SDGs			
	Linking SDGs			
Minimize negative impact	Material			
	Not material			

More information on Corbion's SDG assessment, read our white paper ['Measuring what matters'](#)

Awards & ratings



Awards & ratings

Ecovadis Gold Sustainability Rating



Ecovadis Gold Sustainability Rating

Corbion in **top 2% of all suppliers** in our sector assessed worldwide!

Aware for continuing improvements across all assessed themes:

- ✓ Fair business practices
- ✓ Sustainable procurement
- ✓ Labor practices
- ✓ The environment

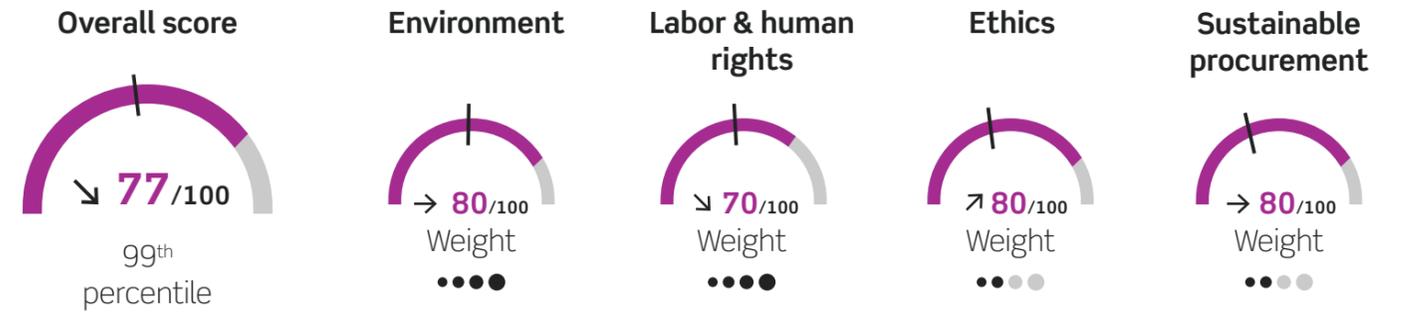
"The Ecovadis recognition supports our entire business strategy to preserve what matters."

Olivier Rigaud, CSSO

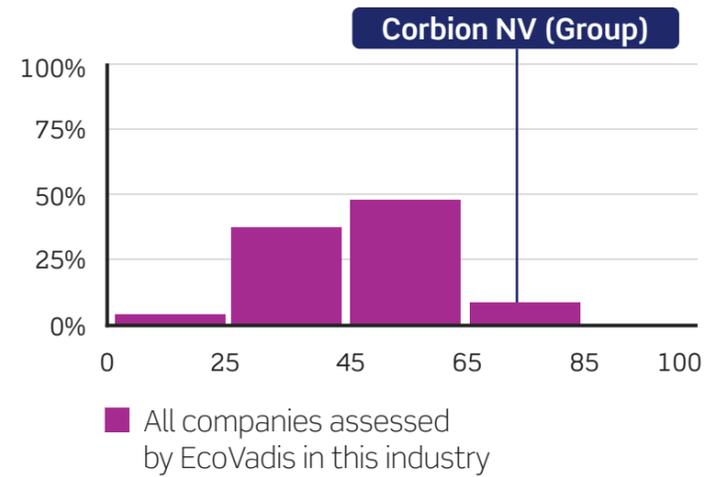
Independent review, by Ecovadis

Awards & ratings

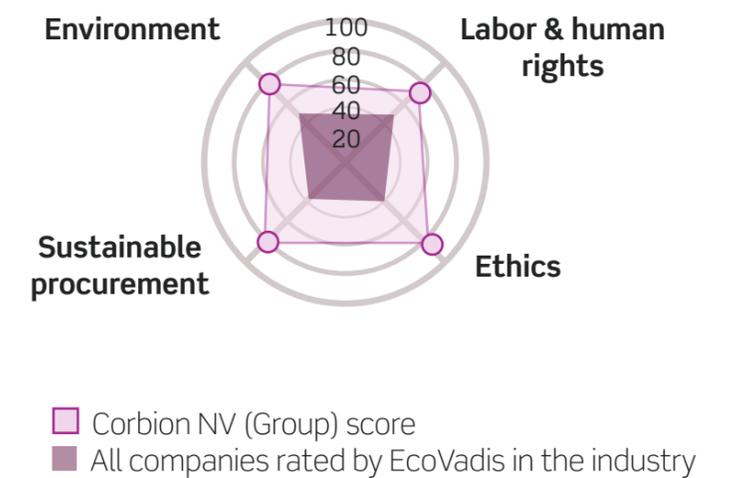
Ecovadis performance overview



Overall score distribution



Theme score comparison



Ecovadis performance overview



Awards & ratings



CDP Climate Change & Supplier Engagement Rating 

Climate Change & Supplier Engagement Rating

We report our climate actions to the Carbon Disclosure Project (CDP)

Corbion has been recognized for leadership in corporate sustainability by global environmental non-profit CDP.

- ✓ Climate change: **A- score**
- ✓ Supplier engagement: **A score**

“We are proud our efforts are recognized by CDP as it underpins our commitment to preserve what matters. With our biobased products, we enable the transition to a low carbon circular economy and we are committed to work toward carbon neutral operations through our Science Based Target.”

Olivier Rigaud, CEO



Awards & ratings



Forests Rating



Forests Rating

We report our actions to protect Forests to the Carbon Disclosure Project (CDP)

We achieved above average ratings for palm oil and for soy in our sector:

- ✓ Palm oil: **B score**
- ✓ Soy: **B score**

“A sustainable agricultural supply chain is essential for our business. At Corbion we partner with our suppliers to promote sustainable agriculture and protect forests.”

Belinda Roberts, VP Procurement Corbion



Awards & ratings



Water Rating



Water Rating

We report our actions on Water management to the Carbon Disclosure Project (CDP)

We are recognized for taking coordinated action on water issues:

✓ Water: **B score**

“Water is an essential resource for all of us. Corbion is committed to preserve water resources, today and for future generations.”

Jacqueline van Lemmen, COO Corbion



For more information, visit our [Website](#) or read our [Annual Report](#)

