

# Preserve what matters



SUSTAINABILITY AT CORBION

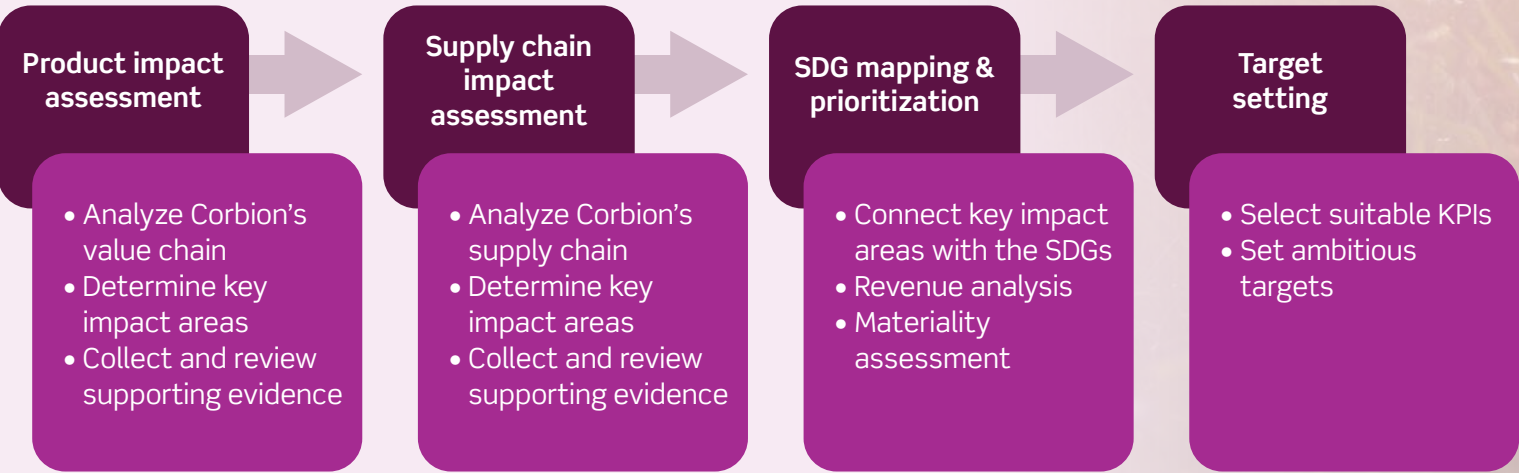
# Contents

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# 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	<div><div>2</div><div>ZERO HUNGER</div><div></div></div>	<div><div>3</div><div>GOOD HEALTH AND WELL-BEING</div><div></div></div>	<div><div>12</div><div>RESPONSIBLE CONSUMPTION AND PRODUCTION</div><div></div></div>
	Linking SDGs	<div><div>13</div><div>CLIMATE ACTION</div><div></div></div>	<div><div>14</div><div>LIFE BELOW WATER</div><div></div></div>	
Minimize negative impact	Material	<div><div>2</div><div>ZERO HUNGER</div><div></div></div>	<div><div>13</div><div>CLIMATE ACTION</div><div></div></div>	<div><div>15</div><div>LIFE ON LAND</div><div></div></div>
	Not material	<div><div>6</div><div>CLEAN WATER AND SANITATION</div><div></div></div>	<div><div>8</div><div>DECENT WORK AND ECONOMIC GROWTH</div><div></div></div>	<div><div>12</div><div>RESPONSIBLE CONSUMPTION AND PRODUCTION</div><div></div></div>

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



# Corbion's SDG contribution

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 >80% 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 2021, 100% of our innovation projects contributed to one or more of the SDGs.



KPI	2025 Target	2030 Target	2021	2020
% of products contributing to preserving food and food production, health and/or the planet <sup>1,2</sup>	>70%	>80%	60%	61%
% of innovation projects contributing to preserving food and food production, health and/or the planet <sup>1,3</sup>	100%	100%	100%	100%



% of products contributing to preserving food and food production<sup>1,2</sup>

2021

30%



% of products contributing to preserving health<sup>1,2</sup>

2021

34%



% of products contributing to preserving the planet<sup>1,2</sup>

2021

49%

<sup>1</sup> Products/innovation projects for which there is evidence that the product/innovation projects contributes to the identified impact categories.

<sup>2</sup> By revenues.

<sup>3</sup> By number of innovation projects.



# 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.





# Corbion's impact on the Sustainable Development Goals



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## SDG2 targets to which Corbion contributes

- ✓ **Target 2.1.** By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round
- ✓ **Target 2.4.** By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality



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## SDG3 targets to which Corbion contributes

- ✓ **Target 3.3.** By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
- ✓ **Target 3.4.** By 2030, reduce by one third premature mortality from noncommunicable diseases through prevention and treatment and promote mental health and well-being
- ✓ **Target 3.5.** Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
- ✓ **Target 3.7.** By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programs
- ✓ **Target 3.8.** Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- ✓ **Target 3.9.** By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination



# Corbion's impact on the Sustainable Development Goals

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## SDG12 targets to which Corbion contributes

- ✓ **Target 12.2.** By 2030, achieve the sustainable management and efficient use of natural resources
- ✓ **Target 12.3.** By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
- ✓ **Target 12.4.** By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment
- ✓ **Target 12.5.** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse



# Preserving what matters



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
% of raw materials covered by generic supplier code <sup>2</sup>	>90%	>90%	100%	99%
% of raw material/supplier combinations with high sustainability risk <sup>3</sup>	<10%	<10%	11%	10%
% of high-risk raw materials/supplier combinations with mitigation plan <sup>3</sup>	>90%	>90%	99%	96%
Code of Business Conduct training completion rate	100%	100%	99% (1,781)	100% (1,592)
Anti-corruption training completion rate (% and number)	100%	100%	100% (479)	n/a
Competition law training completion rate (% and number)	100%	100%	n/a	100% (476)
Number of Speak Up/whistleblowing contacts - internal / external			20/0	26/0
Number of Speak Up/whistleblowing contacts with merit - internal / external			12/0	16/0

<sup>1</sup> Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.  
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# Preserving what matters

Preserving human rights



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## 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. Our policies integrate principles from the United Nations Universal Declaration of Human Rights, the key conventions of the International Labour Organization, the OECD guidelines, 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](#).





# Preserving what matters

Preserving what matters through responsible sourcing



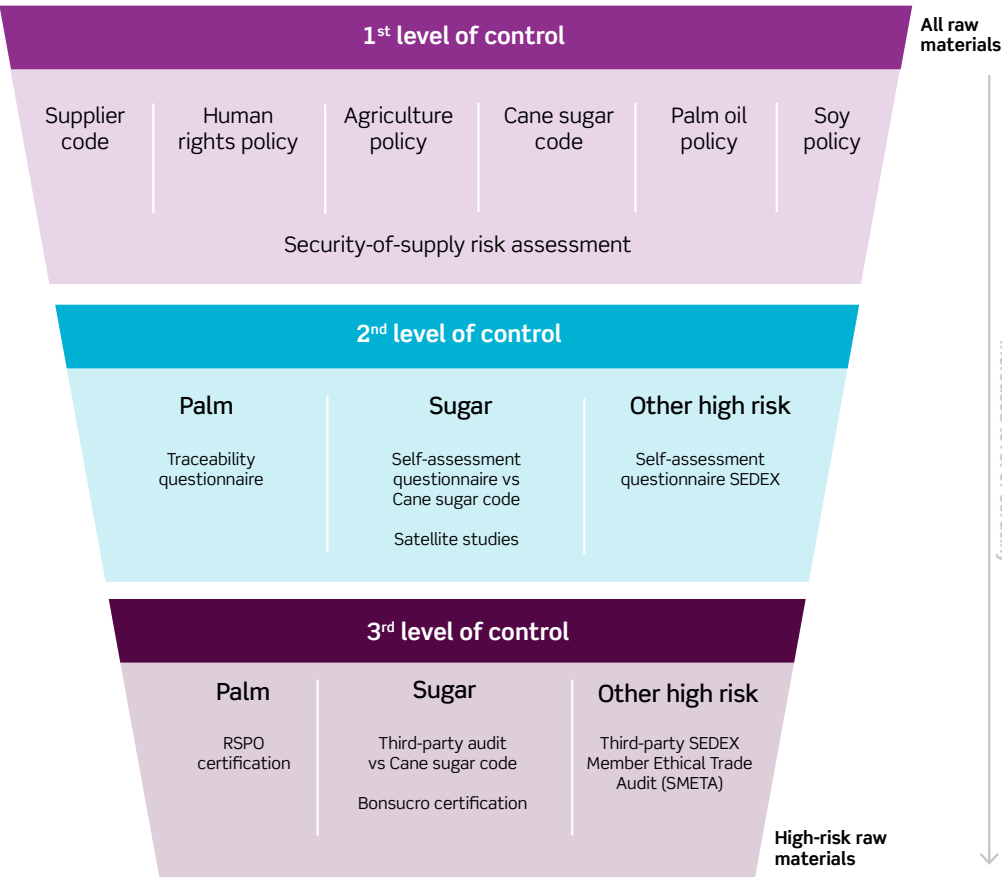
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## Preserving what matters through responsible sourcing





# 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



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
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## 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.





# Preserving what matters

Security of supply



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## Security of supply

We perform a security-of-supply assessment to evaluate our key raw materials in regards to procurement, quality and food safety, and sustainability. In each area, specific criteria are ranked in order to gauge the risk of supply issues. The business impact of any supply issue is considered in determining the overall score (high, medium, or low) for each aspect of supply for a given raw material.

For raw materials determined to be high-risk, mitigation plans are developed and implemented. Mitigation can involve actions ranging from the recruitment of new suppliers to conducting supplier visits to gain a more in-depth understanding of the risks. See our [website](#) for more details on this assessment.







# Preserving food & food production

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
	100%	100%	73%	66%
	100%	100%	82%	83%
	100%	50%	34%	1%

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

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

<sup>3</sup> 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.

<sup>4</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>5</sup> The Product 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 (outsourcing is excluded). By quantity.





# Preserving food & food p

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

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
	100%	100%	73%	66%
	100%	100%	82%	83%
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## 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 2021, Corbion products were used to preserve **5,400,000 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.**







# Preserving food & food p

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



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# Preserving natural resources by sustainable agriculture



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





# Preserving food & food p

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



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## Preserving natural resources by sustainable agriculture

A sustainable agricultural supply chain is crucial 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 negative consequences for people and the environment. The agriculture sector is the second-largest source of GHG emissions globally and farming of sugarcane and oil palm has been linked to issues such as forced and child labor. 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. Our [sustainable agriculture policy](#) describes our vision and key principles for sustainable agriculture, including protecting biodiversity, eliminating deforestation, stewardship of the air, soil and water, and mitigating climate change. Our [cane sugar code](#) defines the specific requirements for the production of sustainable cane sugar, based on the definitions for sustainable sugarcane and derived products as set out by Bonsucro. Our [palm-oil policy](#) describes our requirements for responsible sourcing of palm, including no deforestation, no peat, and no exploitation.

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 and RSPO. Globally some 6% of the sugar cane growing areas is certified and for our main sourcing area, Thailand, this is just over 2%. We therefore audit our cane sugar suppliers against the Corbion cane sugar code if they are not yet able to deliver Bonsucro-certified sugar.



# Verifying what matters: land use change assessment in Brazil

Deforestation continues to be one of our planet's urgent environmental challenges. In 2021 alone, 3.75 million hectares of tropical primary forest was lost – that is the same as losing [a football pitch of primary forest every six seconds](#). At Corbion, we recognize the importance of preserving forests. Our Advance 2025 strategy includes a target that focuses on sourcing our key agricultural raw materials as verified deforestation free by 2025.

Since 2017, Corbion has been active in projects together with [Global Risk Assessment Services](#) (GRAS), a multidisciplinary group that uses satellite imagery to assess, monitor and record deforestation-free agricultural production. High resolution satellite images are used to detect changes in vegetation on the earth's surface. GRAS analysts can differentiate between cropland and forests and with a series of images taken over time they are able to detect any changes.

By the end of 2019, Brazil had experienced its [highest deforestation rate since 2008](#), so some of our customers were understandably concerned. So we asked the GRAS team to analyze the sugarcane sourcing area for Corbion Orindiúva in Brazil, to understand whether deforestation had occurred in our sourcing area. Our sourcing area is surrounding the Orindiúva plant and approximately 2500km away from the Amazon region. We also wanted to determine if there were any other changes in land cover and land use (e.g. if grasslands had been converted to farmland).

Using satellite images, the GRAS team was able to conclude that no large-scale deforestation was identified in the sourcing area and zero deforestation has occurred since 2008. Confirming there has been zero deforestation, as defined by numerous certification bodies, is important to many of Corbion's customers. We are proud that our Orindiúva facility already meets the Advance 2025 deforestation free target for its sugar sourcing!

*We update the GRAS assessment annually to monitor for relevant land use changes.*



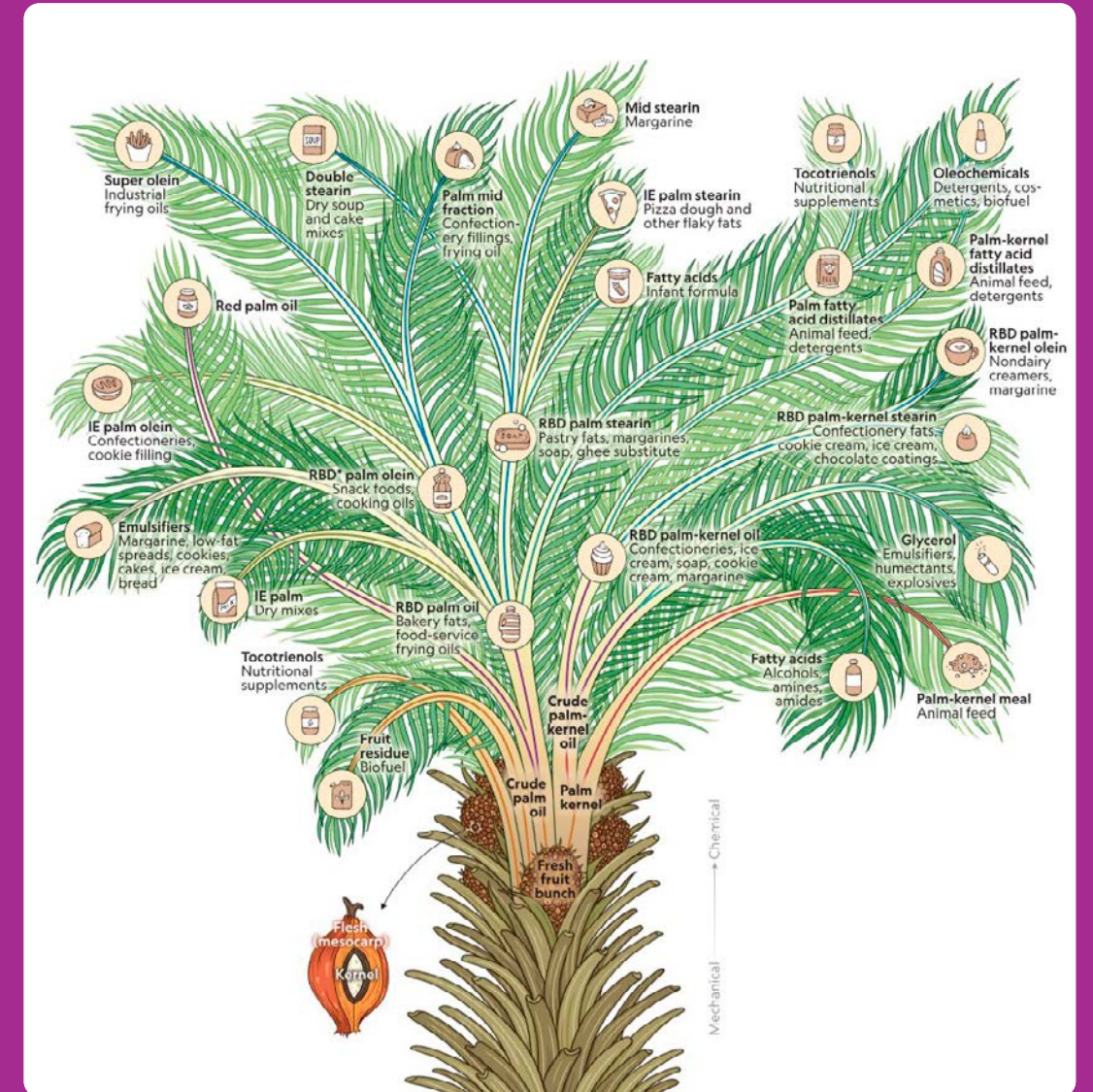
# Sustainable palm oil at Corbion



## What is palm oil?

Palm oil is an edible vegetable oil produced from the fruit of the oil palm tree (*Elaeis guineensis*). The oil palm is native to Africa but palm oil production is mostly associated with Indonesia and Malaysia. These two countries produce over 85% of the global supply.

The use of palm oil is widespread. It's used in toothpaste, lipstick, baked goods, cleaning products – you name it! About 50% of the packaged goods you find in your grocery store or supermarket contain palm oil. Palm oil is also a popular choice for companies like Corbion. It is versatile, has a long shelf life, and is relatively inexpensive to produce compared to other vegetable oils.





# Sustainable palm oil at Corbion



## What are the issues surrounding palm

- **Deforestation:** Expansion of palm oil plantations encroach on and destroy tropical forests.
- **Climate:** Deforestation releases greenhouse gas emissions. Carbon rich wetlands (also known as peatlands) are also at risk.  
Trivia: Peatlands store more carbon than forests
- **Species loss:** Deforestation leads to habitat loss for many species like tigers, orangutans and elephants
- **Human rights exploitation:** Development of palm oil plantations has led to conflicts between companies, governments, and communities in relation to land rights. There are also issues of child and forced labor.

## Shouldn't we boycott the use of palm oil?

So, you may be thinking – why don't we just avoid using palm oil? According to the World Wildlife Fund (WWF), a boycott of palm products could actually make the negative impacts much worse. The oil palm tree is a very efficient plant – it produces 4 to 10 times more oil per hectare than other vegetable oil crops. By avoiding palm, the industry would be forced to move to a crop that is more detrimental. Lastly, millions of people depend on the palm oil industry for their livelihoods. If we avoid palm oil, we offer no incentive for the industry to change. The best choice we can make is to support sustainably grown palm oil





# Sustainable palm oil at Corbion



## What is Corbion doing to ensure our palm oil is sourced responsibly?

Corbion is a member of the Roundtable on Sustainable Palm Oil (RSPO). RSPO is a not-for-profit multi-stakeholder initiative that unites the entire palm oil value chain. Members include the growers of oil palm, processors, consumer goods manufacturers, banks/investors, NGOs and retailers. RSPO's palm oil certification is the most well-known global standard for sustainable palm oil.

As of 2020, 100% of our palm oil and palm derived primary oleochemical raw materials are RSPO certified. We are now focused on converting the rest of our raw materials to 100% RSPO certification by 2024.

Both of these initiatives are being led by **Senior Scientist, Maggie Walsh**. We sat down with Maggie for and asked her a few questions.



## What do you see as the value of RSPO certification?

I see RSPO certification as related to the renewable nature of Corbion's emulsifier portfolio. Maintaining consistent raw material supplies requires being good stewards of our resources and supporting ethical work practices. Through our certification we can add our support to other RSPO members and affect positive change.

From a business perspective, some customers will only engage with raw material suppliers that have RSPO certification. Therefore, certifying our products allows us opportunities that wouldn't be available if we were not certified.



# Sustainable palm oil at Corbion



**You have also been involved with the North America Sustainable Palm Oil Network (NASPON), an organization that brings diverse stakeholders together to create transformative industry-wide change. What work have you contributed to NASPON?**

I would like to mention a few words about NASPON, before I explain how my work contributes to the network's efforts. The North American Sustainable Palm Oil Network (NASPON) aims to accelerate the shift to sustainable palm oil, and Corbion is on board, along with global industry leaders that include Dunkin' Brands, Grupo Bimbo, The Kellogg Company, PepsiCo, Kraft Heinz and Nestlé. In joining NASPON, members agree to "... work collaboratively to find industry-wide solutions to secure certified sustainable palm oil in our products and to ensure respect for human and labor rights, local communities and biodiversity throughout the palm oil supply chain."

"These major global brands in the food and personal care sectors clearly understand how important it is to address consumer concerns tied to palm oil farming and production," says Diana Visser, Senior Director of Sustainability. "NASPON is designed to support collaboration and education among the many players that touch the supply chain, and Corbion wants to have a voice in that conversation."

As part of the [Derivatives Working Group](#), I contributed to the "[Derivatives](#)" list that shows which raw materials could come from palm sources, since it is not always obvious, says Maggie. The list is now available on the NASPON website as a resource for anyone trying to identify potential items for RSPO certification. And I collaborated with our Sustainability team to compare carbon equivalents for a raw material made from petroleum vs soy and palm sources. These documents are shared on NASPON's website [here](#).



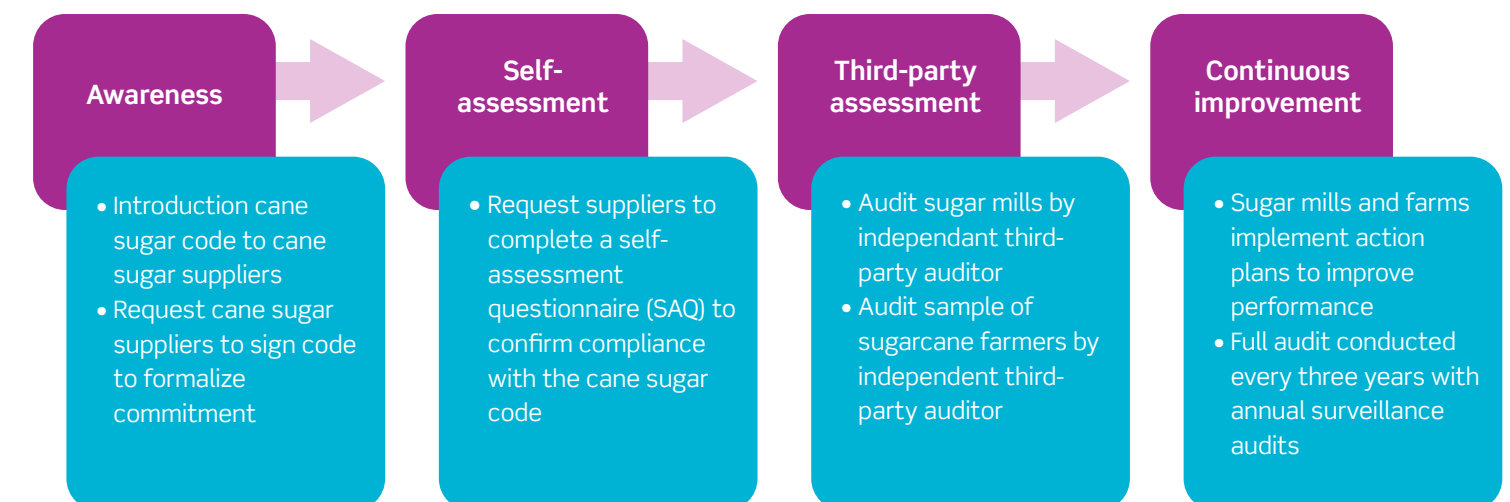


# Preserving food & food p

## 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 2021, we verified that 73% of our total cane sugar consumption meets the requirements of our code compared to 66% in 2020. This includes around 17% Bonsucro-certified sugar.



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

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

<sup>3</sup> 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.

<sup>4</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>5</sup> The Product 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 (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 <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
	100%	100%	73%	66%
% of verified deforestation-free key agricultural raw materials <sup>3</sup>	100%	100%	82%	83%
	100%	50%	34%	1%

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

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

<sup>3</sup> 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.

<sup>4</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>5</sup> The Product 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 (outsourcing is excluded). By quantity.



# Preserving food & food p

## Social Value Assessment

Corbion is committed to performing a Social Value Assessment for all products that contribute to preserving food and food production and/or preserving health by 2030. To positively impact people, we need to understand the social impact of business activities throughout our supply chain and how they affect our stakeholders. In 2017, Corbion joined the Social Value Initiative (previously known as the Roundtable for Product Social Metrics). Together with the other partners, we developed a methodology for measuring social impacts. 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. 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.

Read more about our first case study [here](#).

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021	2020
	100%	100%	73%	66%
	100%	100%	82%	83%
% of products sold contributing to preserving food and food production <sup>4</sup> covered by Product Social Value Assessment <sup>5</sup>	100%	50%	34%	1%

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

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

<sup>3</sup> 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.

<sup>4</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>5</sup> The Product 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 (outsourcing is excluded). By quantity.



# Preserving health

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
# of EU REACH Candidate List chemicals produced	0	0	0	0
# of EU REACH Authorizat on List chemicals produced	0	0	0	0
	100%	50%	35%	1%

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

<sup>2</sup> Our facility in Querétaro was not included in 2021.

<sup>3</sup> Based on OSHA guidelines. Including contractors; in 2020 excluding our facility in Araucária (Granotec do Brazil) which was acquired in 2019.

<sup>4</sup> Sites where food ingredients are produced.

<sup>5</sup> Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

<sup>6</sup> 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.

<sup>7</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>8</sup> 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 (outsourcing is excluded). By quantity.



# Preserving health

Preserving the safety of our people

▶

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
# of EU REACH Candidate List chemicals produced	0	0	0	0
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## 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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
# of EU REACH Candidate List chemicals produced	0	0	0	0
# of EU REACH Authorizat on List chemicals produced	0	0	0	0
	100%	50%	35%	1%

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## 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.





# Preserving health

Preserving heart health with algae solutions



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
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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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
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# of EU REACH Authorizat on List chemicals produced	0	0	0	0
	100%	50%	35%	1%

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

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<sup>4</sup> Sites where food ingredients are produced.

<sup>5</sup> Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

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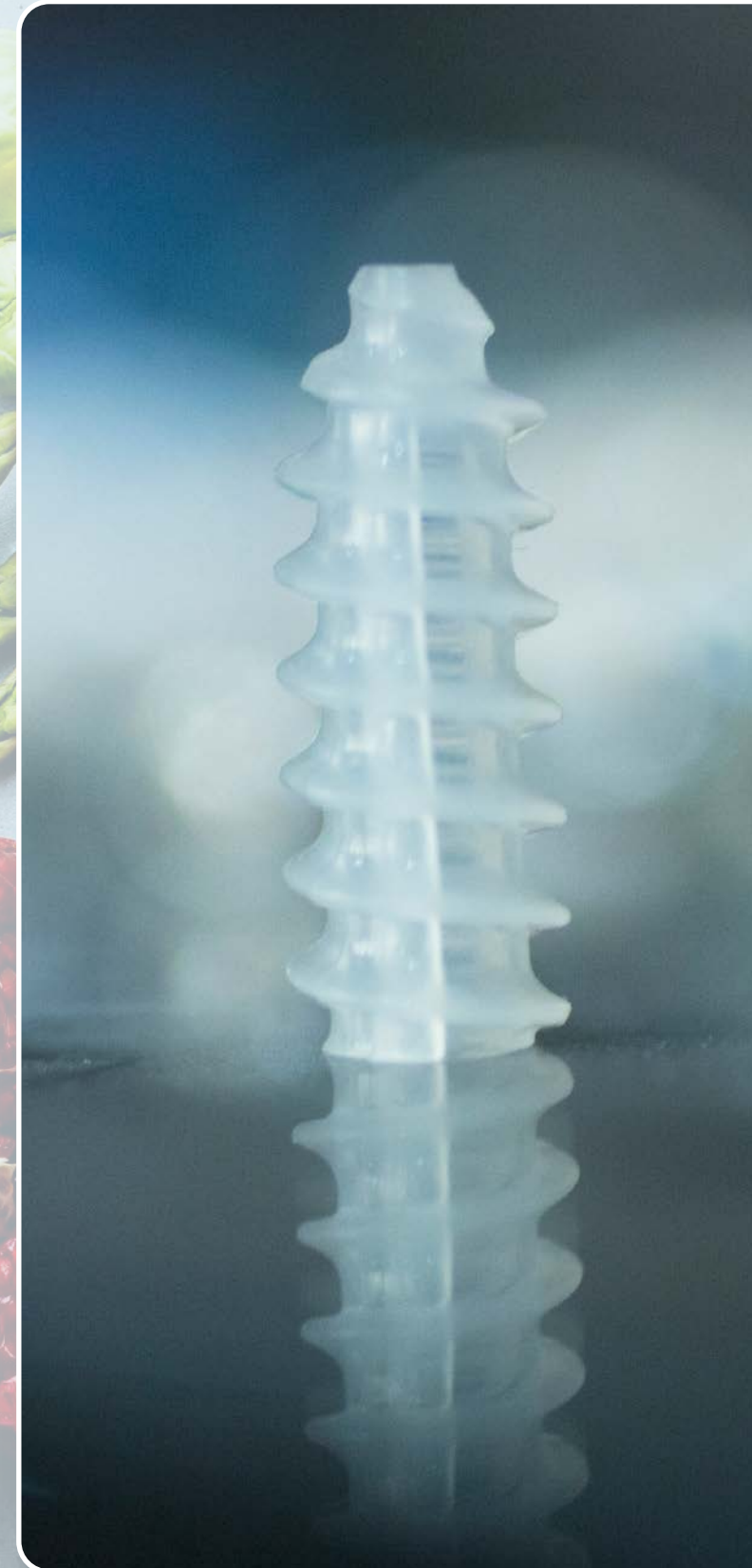
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## Preserving health and well-being with biomedical solutions

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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
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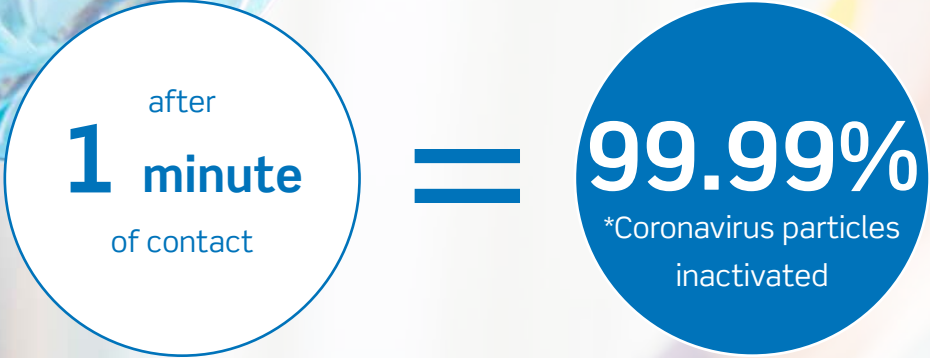


## Preserving hygiene and health with biochemical solutions

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



\* BluTest Laboratories EN 14476





# 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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
# of EU REACH Candidate List chemicals produced	0	0	0	0
# of EU REACH Authorizat on List chemicals produced	0	0	0	0
	100%	50%	35%	1%

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

<sup>2</sup> Our facility in Querétaro was not included in 2021.

<sup>3</sup> Based on OSHA guidelines. Including contractors; in 2020 excluding our facility in Araucária (Granotec do Brazil) which was acquired in 2019.

<sup>4</sup> Sites where food ingredients are produced.

<sup>5</sup> Standards recognized by the Global Food Safety Initiative (GFSI): BRC, FSCC22000, SQF.

<sup>6</sup> 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.

<sup>7</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>8</sup> 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 (outsourcing is excluded). By quantity.



# Preserving health

## Social Value Assessment

Corbion is committed to performing a Social Value Assessment for all products that contribute to preserving food and food production and/or preserving health by 2030. To positively impact people, we need to understand the social impact of business activities throughout our supply chain and how they affect our stakeholders. In 2017, Corbion joined the Social Value Initiative (previously known as the Roundtable for Product Social Metrics). Together with the other partners, we developed a methodology for measuring social impacts. 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. 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.

Read more about our first case study [here](#).

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020
	< 0.25	<0.5	0.66	0.84
% of sites <sup>4</sup> certified according to internationally recognized food safety management system standards <sup>5</sup>	100%	100%	100%	100%
# of SIN list <sup>6</sup> chemicals produced	0	0	0	0
# of EU REACH Candidate List chemicals produced	0	0	0	0
# of EU REACH Authorizaton List chemicals produced	0	0	0	0
% of products sold contributing to preserving health <sup>7</sup> covered by Social Value Assessment <sup>8</sup>	100%	50%	35%	1%

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

<sup>2</sup> Our facility in Querétaro was not included in 2021.

<sup>3</sup> Based on OSHA guidelines. Including contractors; in 2020 excluding our facility in Araucária (Granotec do Brazil) which was acquired in 2019.

<sup>4</sup> Sites where food ingredients are produced.

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<sup>8</sup> 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 (outsourcing is excluded). By quantity.





# Preserving the planet

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

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

<sup>2</sup> Our facility in Querétaro (acquired in 2021) was not included in 2021.

<sup>3</sup> By quantity.

<sup>4</sup> We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. Our Science Based Target 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. Our 2030 target is approved by the Science Based Targets initiative. Progress is reported compared to 2016 as base year.

<sup>5</sup> Products for which there is evidence that the product contributes to the identified impact categories.

<sup>6</sup> 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. Applies to products manufactured at Corbion sites (outsourcing is excluded). By quantity.



# Preserving the planet

Preserving natural resources with biodegradable alternatives



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%



## 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

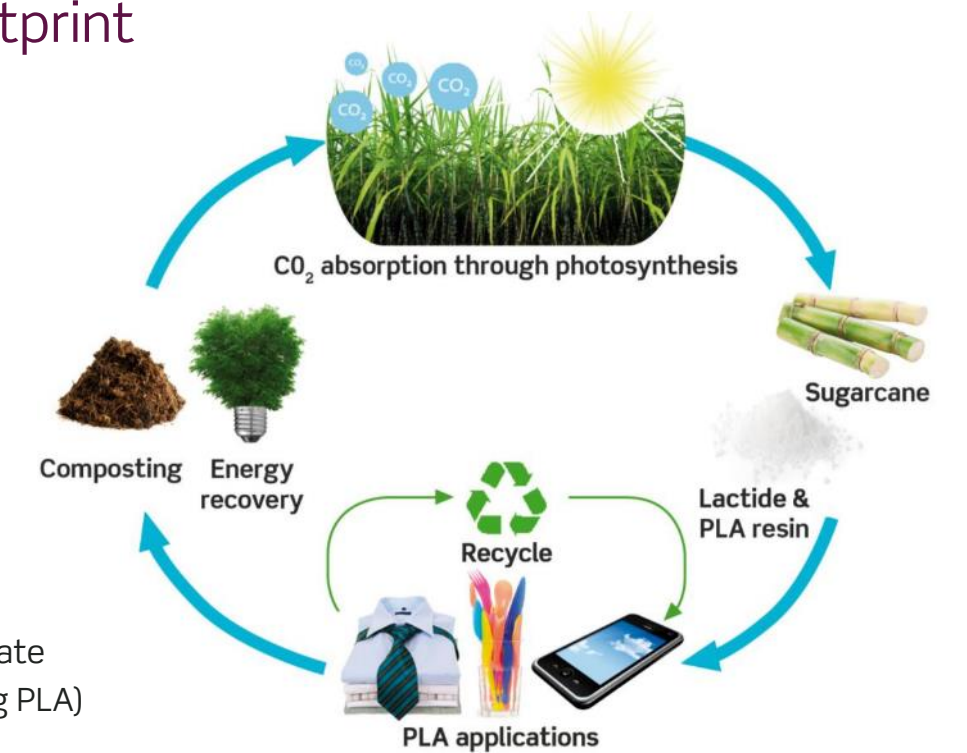
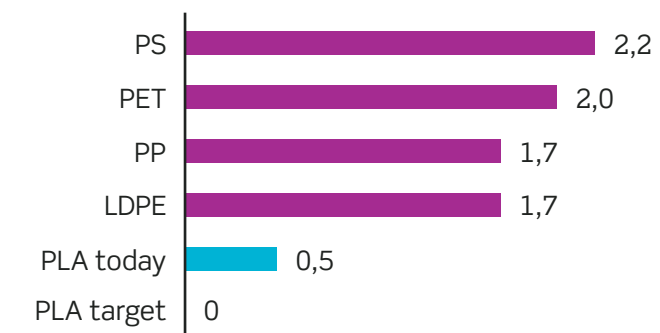


## Preserving the climate with biobased alternatives

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

### Carbon Footprint

(kg CO<sub>2</sub> eq / kg polymer. Cradle-to-gate including -1.83 kg CO<sub>2</sub> absorption/kg PLA)



\* Sources: [www.lca.plasticseurope.org](http://www.lca.plasticseurope.org), J Polym Environ 27, 2523–2539 (2019)



# Preserving the planet

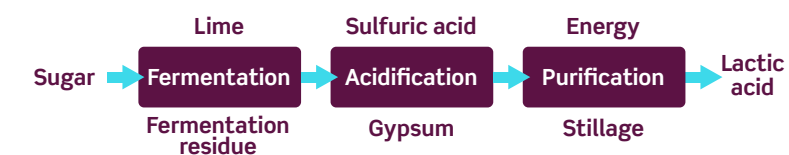
Preserving natural resources with gypsum-free technology for lactic acid



## Preserving natural resources with gypsum-free technology for lactic acid

Most by-products of the conventional lactic acid process are reused or recycled. But in order to be truly circular, Corbion has explored the development of a lactic acid production process in which nearly all chemicals are recycled, resource efficiency is optimized and by-products are eliminated. Over the past decade, we have scaled-up this process from the lab to pilot scale to demonstration scale, giving us confidence that this process will prove viable on an industrial scale.

### Lactic Acid Production (Today)



### Lactic Acid Production (Gypsum Free)





# Preserving the planet

Preserving natural resources with alternative feedstock technology



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

## 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.



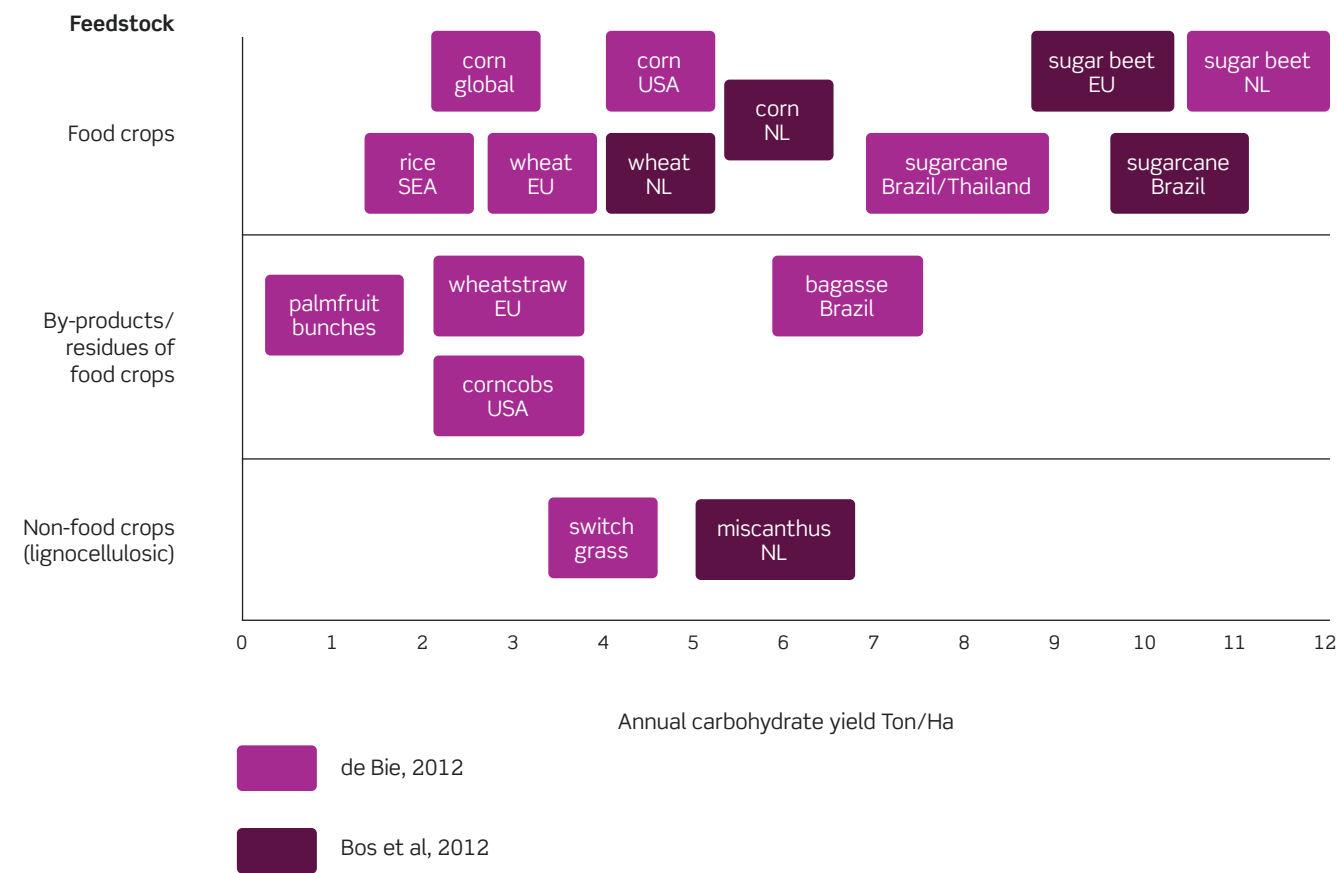
# Preserving the planet

Preserving natural resources with alternative feedstock technology



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

Figure 1: Annual carbohydrate yield per hectare for different feedstocks



Nova 2013, based on de Bie 2012 & Bos et al. 2012

Figure 1: Annual carbohydrate yield per hectare for different feedstocks





# Preserving the planet

Preserving natural resources with alternative feedstock technology

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

Figure 2: Converting alternative feedstocks into fermentable sugars

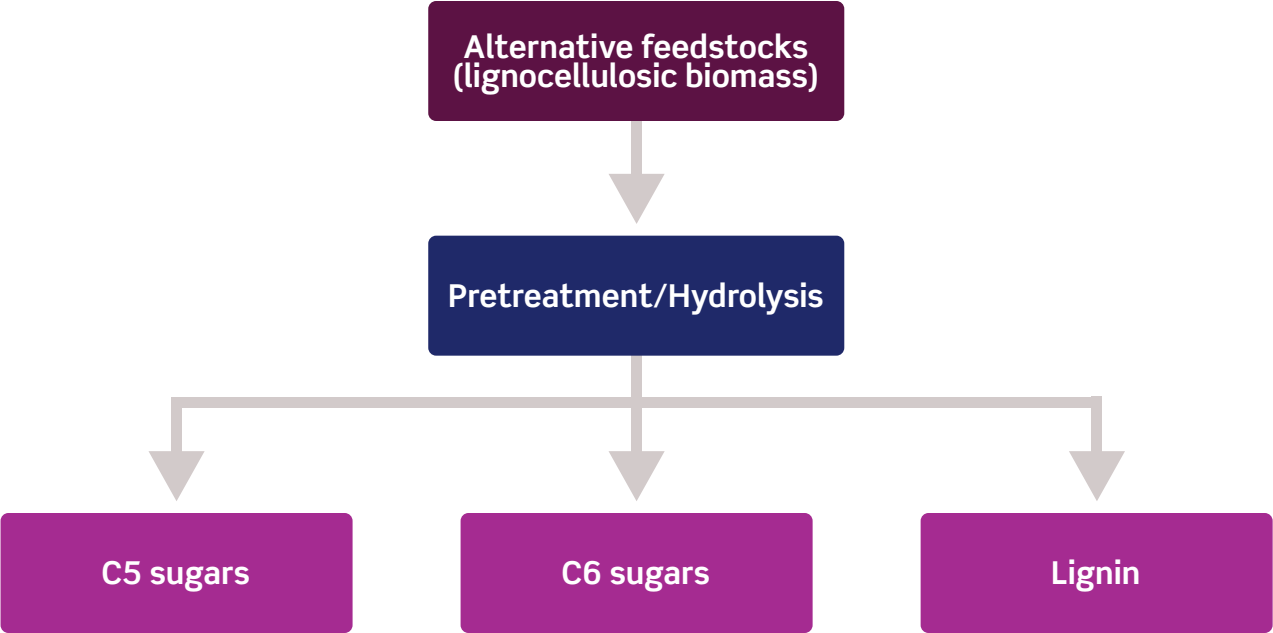


Figure 2: Converting alternative feedstocks into fermentable sugars





# Preserving the planet

Preserving the climate by working toward carbon neutral operations



KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

## Preserving the climate by working toward carbon-neutral operations



Corbion committed to reduce CO<sub>2</sub> emissions related to energy, key raw materials and transport by 33% per ton of product, by 2030 from a 2016 base year

*"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





# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

## Preserving the climate

Climate change might be gradual and, for many people, barely noticeable. Until recently. Now, it's unambiguous. Senior Director of Sustainability Diana Visser says, "The effects of climate change – and its acceleration – are evident all over the world. We need to act now."

More than ever, citizens are waking up to the consequences of the climate crisis. It threatens people, business operations and economies around the world.

To avoid the most significant effects of climate breakdown, companies need to halve greenhouse gas emissions before 2030, achieve net-zero emissions before 2050, and halt global temperature rise to 1.5°C. Corbion believes that we have a responsibility to preserve the climate, and we should be a part in the transition to the zero-carbon economy.

We are proud to announce that Corbion has submitted our updated science-based 1.5°C targets to the Science Based Targets initiative for validation. We have raised our ambition to align with 1.5°C, the most ambitious goal of the Paris Agreement. This target is what the latest climate science has told us is needed to prevent the most damaging effects of climate change.

## Where we began

In 2018, Corbion assembled a cross-functional team, comprising our ARTS community, procurement, operations, and engineering experts to set an ambitious emission-reduction target and plan for the next ten years, and together with many of our plants, we defined specific steps to reach them.



# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

In October 2019, Corbion publicly committed to climate change action, making science-based targets part of our standard business practice, and tying our incentives program to hitting those goals. We were the second Dutch chemical company with a SBTi-approved target, setting an important precedent for our peers and partners to transition to a low-carbon economy. Our targets were approved after a thorough, independent validation process by the Science Based Targets initiative (SBTi) – a partnership between CDP (formerly the Carbon Disclosure Project), the United Nations Global Compact, World Resources Institute, and Worldwide Fund for Nature.

## How are we doing?

Very well. In 2019, we committed to reducing our Scope I, II, and III greenhouse gas (GHG) emissions related to energy, key raw materials, and transport by 33% per metric ton of product by 2030 (with 2016 as the base year).

- Since 2016, we have reduced our absolute Scope I & II emissions by 2.5% per year
- In 2021, we achieved a 27% reduction of our Scope I, II and III emissions per ton of product compared to 2016
- Corbion achieved our 2025 reduction target already in 2020
- We expect to achieve our current 2030 target already in 2025

*Therefore, our current 2030 target is no longer ambitious.*





# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

## Raising the bar

The latest science has made it clear that more needs to be done - and faster - to avoid the worst impacts of climate change and secure a thriving, sustainable economy. The next few years are critical, and Corbion can play a role to achieve transformation at the pace and scale that is needed.

We are proud to announce that in June 2022, Corbion raised our commitment to 1.5°C and submitted those targets to SBTi for validation (formal approval comes later this year). By taking science-based climate action, Corbion benefits from greater opportunities for innovation, strengthened investor confidence, and improved competitiveness.

Corbion is leading the way and showing other companies that this level of ambition is attainable, and something all companies should all be aiming for.



*Who helps achieve our goals?  
Everyone!*

Every department contributed to reaching our targets. We take a quick trip around the world to see how Corbion staff are working towards achieving those targets. Here are just a few examples, explained in the words of the people who are making them happen.



# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

## R&D

MARIA PROENCA

Senior Specialist Technology Transfer Center



### What sustainability means to me:

Personally, I find real motivation by contributing to sustainability. After realizing that a vegetarian diet would not compensate for my frequent flights, it seemed of the utmost importance to drive big CO<sub>2</sub> savings via work!

“My department is called the Technology Transfer Center, and we are positioned between R&D and Operations. Ampere is one of our most important sustainability projects, that I am leading, and forms part of our Paris 2030 portfolio. The project is about finding opportunities at all our current sites to reduce CO<sub>2</sub> emissions in our operations and business activities - mostly those related to energy, typically natural gas, and sometimes electricity.”

“We have a global team and also a local site team. In this way, we can transfer our knowledge from one site to another, but then we also work closely with the local people as well. We conduct a scoping session, which takes about six months, in which we get to know the site, discover what they are doing, what their needs are, and what solutions could work through brainstorming with the local- and global teams. From there, we make a selection, and develop it further. That typically takes another six months. The ideas are then presented to Operations who develop, progress, and implement them in conjunction with local teams, at their own pace.”

“We don’t want to propose things that are not going to be feasible to have a return on investment.”



# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

“We started the project two years ago. We’ve assessed both the Netherlands and Spanish sites, and the project will move to Brazil next. In the future, we will also evaluate our sites in Thailand and the U.S.”

“Often sustainability goals are discussed in a very abstract way, but what I find really interesting about this project is that it is concrete and tangible. In addition to what we achieve for the planet, we also benefit from cost savings; it makes economic sense. It suddenly becomes real when we can measure our progress. When we understand how to reach our targets, identify what steps to take, and see them being implemented.”





# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

## Procurement

**SUVASA CHOPDEEPANICH**

Procurement Director



### What sustainability means to me:

I am happy that sustainable sourcing is a part of Procurement's selection process and that plays a part in protecting the environment.

"I have realized more and more that Procurement's responsibility is not only sourcing quality materials that meet our requirements at a competitive cost, but also that sustainable sourcing is a crucial factor in the selection process. The Procurement Team has identified a new energy supplier and since the start of 2021, 25% of the electricity used in Thailand is based on solar energy. Our new supplier reserved 18 solar farm projects for us, to be able to cover 100% of our electricity usage by 2023."

"Together with the Sustainability Team, we researched the market to investigate alternative energy suppliers. We selected one who could offer certified renewable electricity and reliability. We have signed a contract with them for 15 years."

"We have also been able to negotiate a solar panel on some of the building's rooftop with the same supplier that will reduce energy costs, help achieve our sustainability goals, and reduce CO<sub>2</sub> emissions."

"This is quite a pioneering project in Thailand in terms of certified renewable electricity. While many companies will be moving to renewables and energy saving, Corbion is leading the way at this stage and also driving Thailand to produce its first certified sustainable electricity."



# Corbion raises commitment to 1.5°C, the most ambitious goal of the Paris Agreement

## Finance

### MAURIZIO CARRUS

Senior Director Finance Algae Ingredients and CSSO



#### What sustainability means to me:

Sustainability for me is a significant transitional mindset in the way we consume on planet Earth and a gamechanger to existing business models.

“Finance plays a very key role in sustainability. We provide an objective mirror to the leadership teams on the cost-benefit implications of sustainability, which is essential.”

“The challenge for us as a company is that we are a growing, and our growth will increase emissions. What we want, of course, is to achieve a reduction in emissions versus a baseline. So, we need a very ambitious program (improvements in process and investment in assets) to achieve CO<sub>2</sub> reduction.”

“We developed a greenhouse gas model. R&D worked together with the Sustainability Team on it. It provides financial validation. We have set ambitious targets as an organization, but what will they cost? “We have a strong program for expanding our business growth, but we also need to make smart investments in reducing CO<sub>2</sub>.”

“This is a relatively new area for Finance. You could call it “Finance 2.0”! We are not trained in our education at university on this topic, but it is now a top priority. It is different in many elements, and we are modelling a 10+ years horizon, which goes beyond a normal strategic period. Sustainability will impact an organization’s competitive advance.”



# 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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
% biobased raw materials <sup>3</sup>	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%


<sup>1</sup> Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.  
<sup>2</sup> Our facility in Querétaro (acquired in 2021) was not included in 2021.  
<sup>3</sup> By quantity.  
<sup>4</sup> We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. Our Science Based Target 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. Our 2030 target is approved by the Science Based Targets initiative. Progress is reported compared to 2016 as base year.  
<sup>5</sup> Products for which there is evidence that the product contributes to the identified impact categories.  
<sup>6</sup> 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. Applies to products manufactured at Corbion sites (outsourcing is excluded). By quantity.



# Preserving the planet

## Renewable electricity

To demonstrate our commitment to renewables, and to further our transition to renewable electricity, Corbion has joined [RE100](#). RE100 is a collaborative, global initiative uniting more than 100 influential businesses committed to 100% renewable electricity and working to dramatically increase demand for—and delivery of—renewable energy. Corbion aims to be 100% powered by renewable electricity by 2025. To achieve this goal, we combine on-site generation with the purchase of renewable electricity from our suppliers.

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
Renewable electricity 	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

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

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<sup>4</sup> We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. Our Science Based Target 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. Our 2030 target is approved by the Science Based Targets initiative. Progress is reported compared to 2016 as base year.

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# Preserving the planet

## Corbion's carbon footprint reduction a science-based approach

Corbion has committed to reducing our CO<sub>2</sub> emissions related to energy, key raw materials, and transport by 33% per ton of product by 2030 from a 2016 base year.

This target has been approved by the Science Based Targets initiative. To fulfill this pledge, we have developed a roadmap, including the following actions, some of which are already in motion.

- 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
- establish an R&D program to identify opportunities for heat integration, electrification, and recycling
- partner with key raw material suppliers to jointly reduce CO<sub>2</sub> emissions

In 2021 we committed to boost the ambition level of our target and to reach net zero GHG emissions in our value chain by no later than 2050. We will announce our updated 2030 target in the course of 2022.

*"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

KPI	2030 Target <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
Reduction of Scope I, II emissions <sup>4</sup>	-	-	40%	32%
Reduction of Scope I, II, III emissions (SBTi approved target) <sup>5</sup>	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

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

<sup>2</sup> Our facility in Querétaro (acquired in 2021) was not included in 2021.

<sup>3</sup> By quantity.

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# 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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
% recycled by-products <sup>3</sup>	100%	100%	97%	98%
Landfill of waste	0	-	1.8 kT	1.8 kT
	100%	100%	86%	80%

<sup>1</sup> Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.  
<sup>2</sup> Our facility in Querétaro (acquired in 2021) was not included in 2021.  
<sup>3</sup> By quantity.  
<sup>4</sup> We report our emissions in accordance with the Greenhouse Gas Protocol per metric ton of product. Our Science Based Target 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. Our 2030 target is approved by the Science Based Targets initiative. Progress is reported compared to 2016 as base year.  
<sup>5</sup> Products for which there is evidence that the product contributes to the identified impact categories.  
<sup>6</sup> 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. Applies to products manufactured at Corbion sites (outsourcing is excluded). By quantity.



# 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 that can contribute to preserving the planet 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 <sup>1</sup>	2025 Target <sup>1</sup>	2021 <sup>2</sup>	2020 <sup>2</sup>
	> 95%	> 95%	98%	98%
	100%	100%	79%	71%
	-	-	40%	32%
	33%	20%	27%	20%
	100%	100%	97%	98%
	0	-	1.8 kT	1.8 kT
% of products sold contributing to preserving the planet <sup>5</sup> covered by LCA <sup>6</sup>	100%	100%	86%	80%

<sup>1</sup> Targets based on current manufacturing footprint; to be reviewed in case of acquisitions / major changes.  
<sup>2</sup> Our facility in Querétaro (acquired in 2021) was not included in 2021.  
<sup>3</sup> By quantity.  
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# Awards & ratings





# Awards & ratings

Ecovadis Platinum Sustainability Rating



## Ecovadis Platinum Sustainability Rating

Corbion in **top 1% 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."*

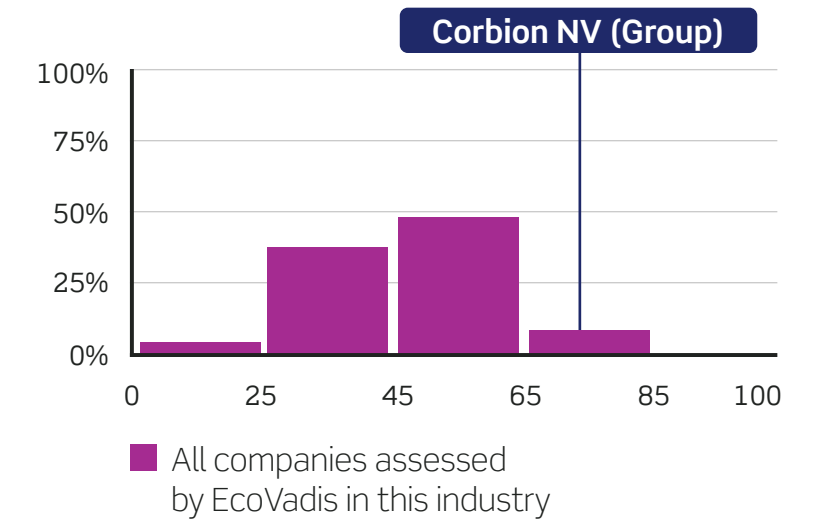
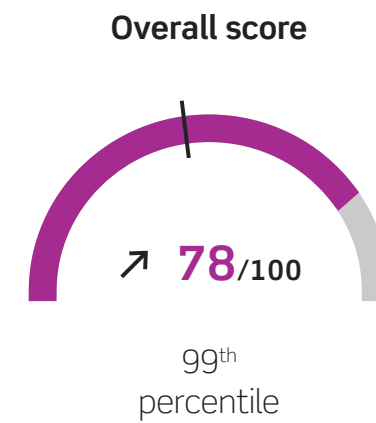
Marcel Wubbolts, CSSO

Independent review, by Ecovadis

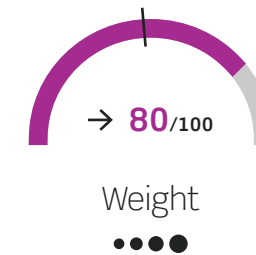


# Awards & ratings

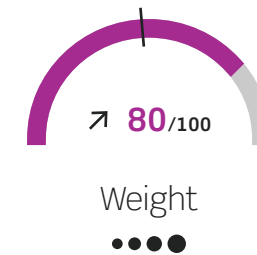
## Ecovadis performance overview



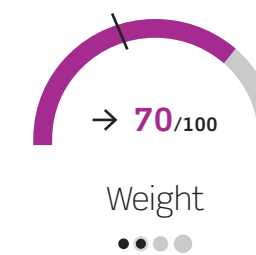
### Environment



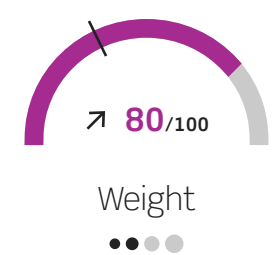
### Labor & human rights



### Ethics



### Sustainable procurement





# 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 improved our score and 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](#)

