



# Bayer's Offsetting Approach

Focusing on emission reduction  
while building up nature-based  
solutions

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## Introduction

In December 2019, Bayer announced a comprehensive climate strategy including the target to achieve climate neutrality by 2030. Reducing our own emissions is the central element in this strategy and is our top priority. The remaining emissions will be compensated by carbon offsets.

Carbon markets exist under both mandatory (compliance) schemes and voluntary programs. Compliance markets are created and regulated by mandatory national, regional or international carbon reduction regimes. Voluntary carbon markets (VCM) function outside of compliance markets and enable companies and individuals to purchase carbon offsets on a voluntary basis with no intended use for compliance purposes. This offsetting strategy only focuses on the voluntary program where Bayer is engaged. This document lays out our rationale for including offsetting in our strategy, our key criteria for selecting projects we support and details of the selected projects. Transparency in our actions has guided our way in drafting this paper.

We would be pleased if this document serves as a basis for other companies dealing with this topic and we look forward to having critical discussions on carbon offsetting.

## Bayer Climate Strategy

As a science-based company, Bayer has recognized the risks posed by global climate change. We aim to continuously reduce greenhouse gas (GHG) emissions within our company and along our entire value chain in accordance with the United Nations Sustainable Development Goals and the Paris Agreement to limit global warming to 1.5 degrees Celsius.

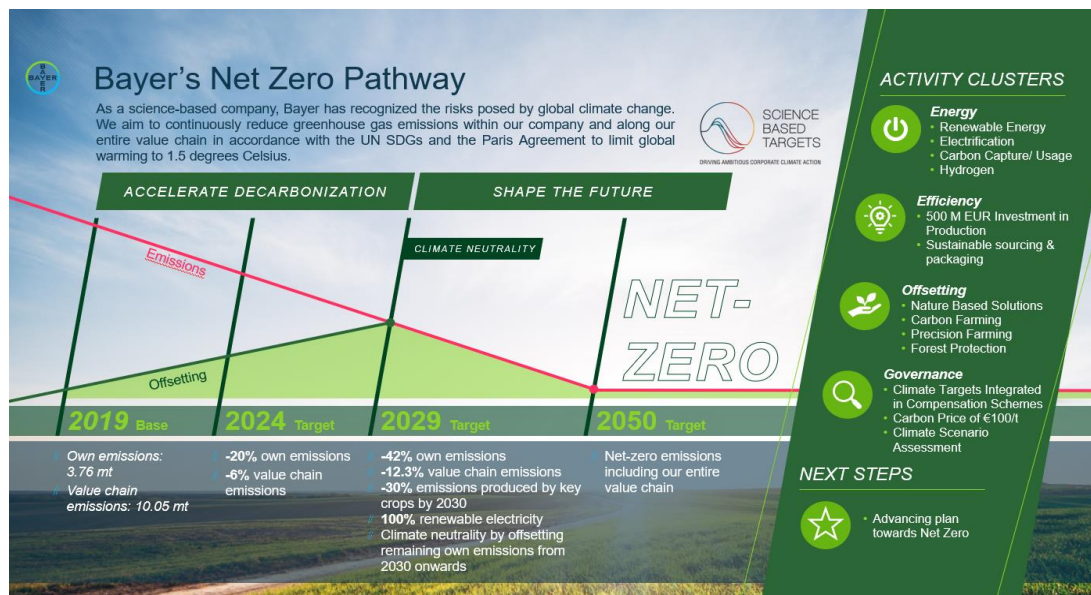
We have joined the world's leading Science Based Targets initiative, which reviews our reduction targets. This initiative was founded by the CDP, the UN Global Compact, the World Resources Institute (WRI) and the WorldWideFund For Nature (WWF). More than 2.200 companies have committed themselves to actively address the challenge of climate change and setting transparent targets for reducing their emissions in line with the Paris Agreement.



## Our Net Zero Target

We have set ourselves the target to achieve net zero GHG emissions including our entire value chain by 2050 or sooner and signed the Business Ambition for 1.5°C.

# Our Mid-Term Targets until 2030 and the Pathway to Net Zero

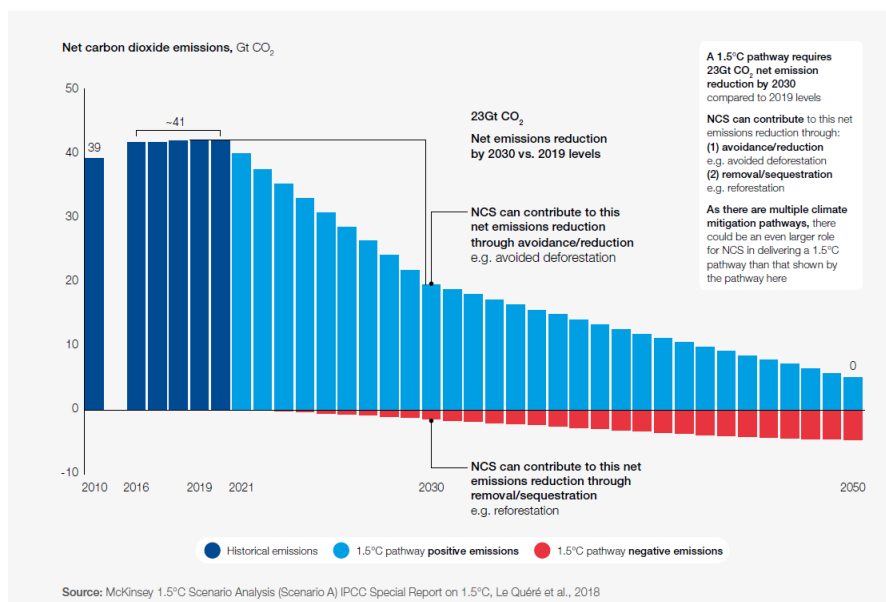


- We will reduce our Scope 1 & 2 emissions by 42% until end of 2029 compared to our 2019 baseline. This target has been approved by the Science Based Target initiative as aligned with a 1.5°C pathway. To accomplish this, we will combine measures, such as more efficient inward and outward ventilation systems, a move to climate-neutral technologies, such as geothermal energy for heating and cooling and a switch to 100% purchased electricity from renewable sources.
- Bayer is on a path to become climate neutral by 2030 in its own operations. The remaining emissions after reduction will be offset by purchasing certificates from climate protection projects with recognized quality standards. The offset projects are related to our business. Based on our business purpose we focus on nature-based solutions relating to forest and agriculture. Additionally, we invest in innovative projects and foster development of voluntary carbon markets.
- We aim to reduce greenhouse gas emissions along the up- and downstream value chain (Scope 3) through cooperation with suppliers and customers by at least 12.3% in 2029 compared to 2019. This target has been approved by the Science Based Target initiative. As such a target cannot be achieved by acting alone, Bayer has joined with other ambitious companies to drive progress as part of the chemical industry's "Together for Sustainability" initiative. We are also a member of the CDP Supply Chain Initiative and are in direct contact with key suppliers.
- In addition, Bayer is working with farmers to reduce the ecological footprint of agriculture, which currently accounts for about 25% of GHG emissions worldwide. We want to help reduce our customers' in-field GHG emissions in major agricultural markets – per kilogram of crop yield – by 30% by 2030. This applies to the most emitting cropping systems in regions Bayer operates. This includes Bayer helping farmers to use climate-friendly methods, such as reducing plowing and using digital solutions, to reduce carbon dioxide emissions.

Read more on our [ambition](#). Our current emission inventory and purchased offsets can be found in chapter 7 of the [Bayer Sustainability Report](#).

# The Need for Nature-Based Solutions to Fight Climate Change

Nature-based solutions sometimes also called natural climate solutions (NCS) are widely recognized alongside CO<sub>2</sub> emission reduction as a vital element of the global effort to curb damaging climate change. The Paris Agreement, a landmark agreement signed by all 197 member countries of the United Nations Framework Convention on Climate Change (UNFCCC), aims to combat climate change by keeping global temperatures well below 2°C above pre-industrial times, preferably below 1.5°C. In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a Special Report on Global Warming of 1.5°C. It found that “all analyzed pathways limiting warming to 1.5°C with no or limited overshoot use carbon dioxide removal (CDR) to some extent to neutralize emissions from sources for which no mitigation measures have been identified.” Likewise, the International Energy Agency (IEA) net zero scenario relies on the use of carbon capture and storage (CCS). The IPCC AR6 published in August 2021, is building on the potential to remove carbon dioxide from the atmosphere and durably store it in reservoirs. The IPCC has said ramping up CDR volumes – up to six metric gigatons of CO<sub>2</sub> per year is unavoidable if net zero emissions are to be achieved. We see our engagement as support on this journey. The graphic below shows the global emission reduction pathway with the contribution of NCS. With the current progress on emission reduction, the world will not stay below 1.5°C without carbon offsetting. Nature-based solutions can help address climate change by offsetting carbon emissions and improving the resilience of the ecosystems, human health as well as of socioeconomic development. Focusing on nature-based solutions will have additional co-benefits on food and water security, disaster risk reduction, biodiversity, smallholder farmers and local communities. When done right, nature-based solutions for climate mitigation are a genuine win-win.





Carbon offsetting is a process by which funds are directed to projects that help avoid or remove global emissions. Offsetting projects are mainly divided into two categories: Avoidance and removal projects.

- Carbon avoidance: is the most effective carbon management strategy over a multi-decadal timescale to achieve atmospheric carbon dioxide stabilization and a subsequent decline. This prevents in the first place stable underground carbon deposits or less stable carbon pools on land and in the oceans from entering the atmosphere. As the world's ecosystems are still under a huge pressure, this is an opportunity to save the existing natural ecosystems and not letting the carbon be released to the atmosphere.
- Carbon removal is the act of taking carbon dioxide out of the atmosphere and storing it permanently and sustainably. Scientists work hard to improve existing processes and find new carbon removal methods. At this point in time the areas of carbon removal are still developing.

Avoidance or removal of emissions can be achieved by different kind of projects. The methods described below display these projects Bayer mainly invests in.

These funds support selected projects with the goal of carbon offsetting emissions caused by communities and companies around the world. Each project is evaluated and different parameters are analyzed. Based on the selected parameters, credits (tradeable certificates) are created. One carbon credit is equal to one ton of carbon dioxide or in some markets, carbon dioxide equivalent gases. For us the quality of the carbon credits is of highest importance.





# Types of Nature-Based Solutions

There are various methods and technologies how offsets can be created. At Bayer, we have decided to mainly rely on nature-based offsets as these are crucial to avoiding the most catastrophic impacts of climate change and have various co-benefits (water, communities, etc.). Additionally, we are investing in selected lighthouse projects to support innovative technologies and fight the climate crisis. Here is a summary of our main offsets we are engaged.

## Forestry Projects

As trees grow, the photosynthesis process naturally converts carbon dioxide and water into oxygen and glucose in turn resulting in wood and fruit. According to the Arbor Day Foundation, one mature tree can absorb about 20 kilogram of carbon dioxide from the atmosphere each year and supply enough oxygen for up to four people per day. Forestry projects can also provide additional environmental benefits, such as cleaning our drinking water and helping to protect and enhance species through restored habitats. While forests are essential to carbon removal, it is a scientific reality that these projects are inherently dynamic and impermanent.



Forestry projects can be divided into different categories:

- // **Forest Protection (avoidance)** projects with the recognition that intact forests play an important role in removing carbon dioxide from the atmosphere.
- // **Reforestation** restocks existing forests that have been depleted, often through deforestation or logging.
- // **Afforestation** introduces native trees to create a new forest in an area that has not been forested previously (or in recent history) and where tree growth is beneficial.
- // **Agroforestry** intentionally integrates trees into agricultural areas.
- // **Improved forest management (IFM)** aims to increase the carbon stored in forests, including increasing the average age of native trees in timber harvesting areas by avoiding or delaying conversion to timber.
- // **Blue Carbon** projects focus on the afforestation or protection of forests that are located directly on the coast. This predominantly involves the plantation or conservation of mangrove forests. Mangroves generally have a very high carbon storage capacity, mainly since they increase soil carbon stocks.

**Criteria overview:**

- // Tech readiness: ready for large-scale deployment
- // Permanence: reversible

## Agriculture Projects

The threat of climate change calls for radical transformation. As a sector, agriculture employs 1bn people globally, secures global food supply and accounts for nearly 25% of all global GHG emissions. At the same time, farmers are suffering the consequences of global climate change as they combat extreme weather conditions, pest shift, water scarcity and market uncertainty. As a victim of, and contributor to climate change, agriculture has the potential to be cast in a third role: agriculture is a solution to help solve the climate crisis through the widespread adoption of climate-smart practices that not only reduce emissions, but also remove carbon from the atmosphere.



Carbon sequestration in soil is the process by which carbon dioxide is removed from the atmosphere and stored as soil organic matter, often in cropland and grazing lands. Through photosynthesis, plants assimilate carbon, which is then consumed by animals or added to the soil as residue when plants die and decompose. According to the Ecological Society of America, although oceans store most of the earth's carbon, soils contain approximately 75% of the carbon pool on land—three times more than the amount stored in living plants and animals.



Potential levers for agricultural carbon interventions are:

- // **Cover crops** to maximize soil carbon pool
- // **Plant Breeding** to increase yields / better nitrogen root capture / water use efficiency
- // **Precision irrigation systems** to improve energy and water use efficiency
- // **Dry seeded rice** to reduce methane emissions from flooded rice
- // **No-till farming / crop rotation** to avoid denitrification and reduce energy use
- // **Microorganisms/ soil biologicals** to improve soil health and increase nutrient use efficiency
- // **Digital/ precision farming** to enhance nutrient use efficiency and targeted crop protection sprays

**Criteria overview:**

- // Tech readiness: ready for large-scale deployment
- // Permanence: reversible in certain conditions

As Bayer we are very active realizing innovative methods to mitigate climate change. We have set up the Bayer Carbon Program to support farmers and the society on the journey. Further information: [Bayer Carbon Program: A New Revenue Stream for Farmers | Bayer United States](#)

## Biochar

Biochar has a high carbon content of up to 90 percent and binds carbon material reliably, for long-term and without negative side effects. Obtained by pyrolysis from biomass, it captures CO<sub>2</sub> from the atmosphere during its growth. Carbon is stored in plant material while oxygen is released into the atmosphere. A large part of the carbon can be captured in a gas, a liquid and a solid phase. While providing climate-neutral energy using the gas phase (Syngas) and the liquid phase (Bio-Oil), the material use of the solid phase (Biochar) allows for carbon capture and storage, thus leading to a net positive climate process. The broad application of biochar makes negative emissions possible at a large scale. Increased crop yields and improved soil carbon and nutrients, alongside reduced N<sub>2</sub>O emissions, are expected outcomes.

**Criteria overview:**

- // Tech readiness: limited pyrolysis capacity
- // Permanence: stable, depending on soil type

## Medium-Term and Long-Term Engineered Solutions

Carbon removal is far from mainstream. Standards and innovative solutions must be further developed to fight the climate crisis. We want to foster innovation and therefore support nature-based solutions on various levels by protecting what exists and explore new solutions. These new solutions can include Direct Air Capture & Storage (DACCS), Bioenergy Combined with Carbon Capture & Storage (BECCS), Enhanced Weathering on Land & In Oceans (EW).

**Criteria overview:**

- // Tech readiness: developing
- // Permanence: developing but stable and long term

## Today`s Challenges in Carbon Offsetting

Transparency is of utmost importance for us at Bayer. We understand the skepticism about offsetting models, given the difficulties and limitations of offsetting projects and the increasing number of corporate commitments on [climate neutrality](#). Nevertheless, we are convinced that we will not achieve the 1.5°C objective by reduction alone but we need to complement this pathway with fast solutions like carbon avoidance and long-term removal techniques. Thus, besides our overall reduction targets, Bayer is committed to invest into solutions that will reduce, avoid, and remove emissions in our supply chain and the industries we are operating in. Criticism is mainly regarding additionality of projects and permanence of carbon dioxide sequestration. Therefore, we have established clear criteria for our nature-based solutions projects as we describe in this document.

# Bayer's Offsetting Approach

At Bayer, our priority is emission reduction. Nevertheless, we have decided to go beyond and complement our emission reduction with an ambitious offsetting strategy relying mainly on nature-based offsets as these are crucial to avoiding the most catastrophic impacts of climate change and have various co-benefits (water, communities, etc.). Additionally, we are investing in selected lighthouse projects to support innovative technologies and fight the climate crisis.

Bayer follows the mitigation hierarchy, avoidance before minimization before restoration before offsetting; thus, the primary focus of our climate strategy is to avoid carbon emissions from getting into the atmosphere. Therefore, we believe in offsetting avoidance projects. On the other side, residual hard-to-eliminate emissions must be removed from the atmosphere. This is where removal projects come into play. Both kinds of offsetting projects are nature-based solutions and are protecting forests and restoring natural ecosystems which is vital both for wildlife and the climate.

As the carbon offsetting market evolves to meet increased corporate demand, important questions are surfacing about market design and integrity. We need to make decisions on what credits to buy without harmonized standards to ensure carbon integrity. Bayer has defined a clear set of rules for its projects to ensure high quality impacts, that we will constantly improve and further develop our approach.

## Nature Climate Solution Alliance

Together with 50+ corporations, NGOs and project developers, Bayer has joint forces to help meeting corporate climate commitments. Further information [here](#).

- // Transparency:** We commit to transparently disclose all activities to eliminate double counting concerns and engage with stakeholders to further advance sustainability in the areas we are operating.
- // Additionality:** Offset project and resulting emissions reductions would not have occurred in the absence of an offset project and the revenue generated by selling offsets.
- // Permanence:** Long-term removal of GHG is the goal, therefore, our projects focus on removal in the long-term. As we understand the current threats to the environment, we also include avoidance projects. A mitigation plan against the risk of reversals is in place (for example: wildfire, illegal logging, risk covenant for engineered carbon sequestration).
- // Measurability:** Offsetting projects will be monitored, reported, and verified by third-party accredited auditors to meet specified standards that are transparent and founded on sound science.
- // Quality/ Standards:** High quality projects which align to high, auditable standards have its price. We only purchase credits that have been registered following the stringent regulations of selected project standards with a high reputation in the market. This ensures that our carbon credits come from projects, that have been scientifically verified by trustworthy and independent third parties and have mitigation plans for risk of reversals. The primary role for the quality of offsets has the standard setting bodies. At this point in time, we only purchase credits which have been verified by Verra and Gold Standard to ensure that carbon credits are issued only from projects that implement their required range of safeguards to control these risks and that have been validated by a third party. However, these safeguards vary significantly across standards and even individual projects, leading to a wide range of outcomes.
- // Innovation:** We also include innovative lighthouse projects to foster removal techniques



and develop high quality standards and projects.

**// Impact:** Along with Bayer's unique product portfolio, we want to support projects along our value chain. Therefore, we are focusing on nature-based solutions.

**// Co-Benefits:** Following our vision "Health for all, hunger for none" we are connecting ecological and social benefits for the projects. Therefore, all projects should address various targets in line with the [UN Sustainable Development Goals](#).

**// No leakage:** CO2 emissions shouldn't be displaced outside the project boundary.

**// Baselines:** The counterfactual baseline is accurate and credible and it avoids overestimation to avoid over-crediting.

**// Counted only once:** There's no double counting of CO2 emissions reduction or CDR from double issuance, double sale, or double claiming.

**// No net harm:** There aren't any unintended negative impacts on biodiversity, local communities, or sustainable development more generally.

Today's carbon market poses inherent risks that translates to potential vulnerabilities in every carbon portfolio. To mitigate potential risks, we must ensure the quality of the credits. Bayer has decided to partner with highly qualified and experienced firms that develop and broker carbon offsetting projects and have a keen and close eye on market developments and potential risks.

Jointly with our partners we will continuously work on monitoring and addressing the risks in our carbon portfolio to increase our confidence and the quality of our selected projects. Therefore, we are using the above-mentioned quality criteria to ensure the quality of credits.

Despite our best efforts to mitigate all risks in our selected projects, we are still in an early phase regarding our carbon offsetting portfolio, and we are learning every day. It may not be possible to completely mitigate all risks in our portfolio, which may result in adaptations and an optimization of our due diligence process in parallel with the development of this growing and maturing market.

## Bayer Joins Coalitions to Conquer Deforestation and Preserve Biodiversity

The destruction of forests is a pressing global challenge, especially considering that forest conservation is one of the most important measures to protect biodiversity and the climate. Within the framework of its activities to protect the forests, Bayer is a participant in the LEAF (Lowering Emissions by Accelerating Forest finance) Coalition.

LEAF mobilized more than US\$1 billion in 2021 to initiate the biggest public-private effort to protect the rain forests. We clearly advocate asserting suitable laws to protect the Amazon rain forest. That also includes driving forward sustainable intensification of agriculture in Brazil to prevent further deforestation. Certificates from activities undertaken in connection with LEAF are expected to be part of our compensation portfolio beginning in 2023.

Further Information: [LEAF Coalition](#).



# Decarbonization Solutions for Agriculture

Our strategy in sustainability is to design and invest in sustainable solutions for a climate-smart agriculture. We commit to advance the carbon neutrality in agriculture by offering nature-based solutions consisting of physical and digital products (seed, crop protection, digital) and triggering adoption of climate smart practices that reduce emissions and/or sequester carbon. We are performing carbon life cycle assessments on new plant varieties like short-stature corn and implementing field trials so we can provide scientific support for claims of GHG emission reduction, potential sequestration, and co-benefits such as water conservation, soil health and biodiversity.

As we reach toward our 2030 commitment of 30% reduction of in-field GHG emissions of our farming customers, we will continue to innovate and develop new practices and technologies that will set the standard for tomorrow and make Bayer the leading force in climate smart agriculture.

Bayer has the capability to be the driving force in carbon-smart agriculture by embracing science and innovation as well as creating financial opportunities for farmers to make agriculture a major part of the solution to climate change through the process of carbon farming. Carbon farming is any activity at the farm level that is done in the interest of reducing agriculture-related greenhouse gas emissions or sequestering atmospheric carbon into the soil. Bayer's Carbon Initiative, launched in 2020, has over 5000 participating farmers and over 1.5 Mio acres in 10 countries.

Further Information on the agriculture's role in climate protection:

- Agriculture's role in addressing climate change: <https://www.cropscience.bayer.com/people-planet/climate-change>
- Carbon neutral farm: <https://www.cropscience.bayer.com/people-planet/climate-change/a/carbon-neutral-farming>

Furthermore, Bayer has carbon farming efforts driving business value in every region we serve:

## North America

In the U.S., the Bayer Carbon Program rewards farmers for adopting climate-smart practices, such as planting cover crops and practicing no-till or strip till in their fields, with the ambition to generate high-quality certified carbon assets. Growers can receive guaranteed payments based on the adoption of these practices and the number of acres enrolled per year.

More: <https://www.bayer.com/en/agriculture/carbon-program-united-states>

## Latin America

As part of the Bayer Carbon Program, farmers in Brazil who fulfill certain requirements, such as social and environmental compliance or adoption of climate smart practices, are eligible for soil collection and analyses with our partner, Embrapa.

More: <https://www.bayer.com/en/agriculture/article/keeping-carbon-in-check>

## Europe

In Europe, Bayer is engaging in open discussions with key regional, local and global food chain partners as we work to develop a carbon pilot with farmers in several countries across Europe

launched in June 2021. These projects are partly supported by the Bayer Forward Farming network.

More: <https://www.bayer.com/en/agriculture/our-goal-to-decarbonize-agriculture>

## Asia-Pacific

Flood-irrigated paddy rice has been identified as a significant contributor to methane emissions, a potent GHG, which is why Bayer is actively evaluating water saving potential and GHG emissions reduction as part of the broader integrated India Sustainable Rice project established in 2021. Bayer launched an initiative to train farmers in sustainable practices related to GHG emissions reduction, water efficiency and integrated weed management to improve environmental practices and harvests. Our projects improve farmer livelihoods through lower costs of production and additional income. Building on our pilot project experience, we are now engaging diverse organizations to scale-up the adoption of sustainable rice production.

More: [https://www.youtube.com/watch?v=YBtCZs\\_BtPc](https://www.youtube.com/watch?v=YBtCZs_BtPc)

## Partnerships

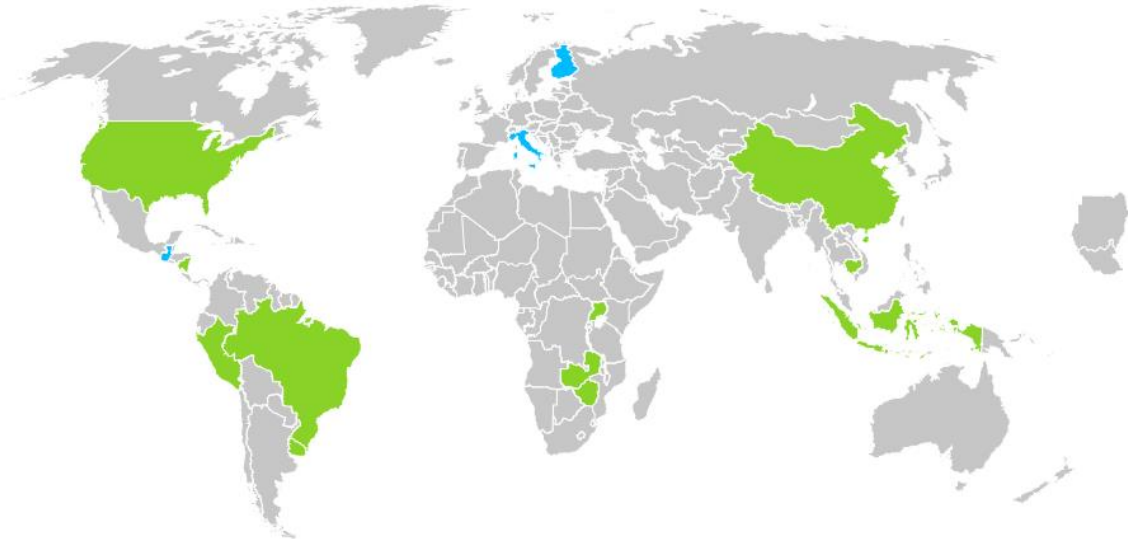
Bayer is an active partner in several partnerships and scientific coalitions looking at the development of science of soil management, agricultural ecosystem credit markets and ensuring that challenges faced by farmers in implementing climate smart practices can be overcome with technical, digital, and financial solutions.

- // Global Soil Health Program (University of Glasgow)
- // European Carbon+Farming Coalition - Decarbonization of the EU Food System
- // Inter-American Institute for Cooperation on Agriculture (IICA), Living Soils in the America's Initiative
- // Coalition of Action 4 Soil Health (CA4SH)
- // WBCSD's Regenerative Agriculture, Natural Climate Solutions Alliance, and Food and Agriculture Board
- // NCS Investment Accelerator
- // Private Sector Soil Health Coalition
- // MidWest Row Crop Collaborative
- // Keystone Policy Center Agricultural Climate Markets Collaborative
- // Sustainable Agriculture Initiative – SAI Platform
- // Sustainable Initiative Fruits and Vegetables- SIFAV
- // Food Collective
- // WEF's Food Action Alliance



# Nature-Based Offsetting Projects at Bayer

Bayer supports projects located in different regions of the world. Besides our voluntary compensation, our purchases of emission reductions contribute to [Nationally Determined Contributions \(NDCs\)](#) of relevant countries.



Map contains data until 2023

## Bayer's Nature-based Solution projects for carbon offsetting purchases:

### Group Carbon offsetting projects (part of our validated quantitative offsetting):

- |              |              |
|--------------|--------------|
| 2020:        | 2022:        |
| // Brazil    | // Nicaragua |
| // China     | // Indonesia |
| // Uruguay   | // Zambia    |
| 2021:        | // Brazil    |
| // Indonesia | // Peru      |
| // Peru      | // Zimbabwe  |
| // Nicaragua | // Uruguay   |
| // Uganda    | 2023:        |
| // Uruguay   | // USA       |
|              | // Brazil    |
|              | // Cambodia  |
|              | // Indonesia |
|              | // Uruguay   |
|              | // Peru      |

### Additional Regional Engagement projects:

- // Finland – Nordic Green Solutions
- // Guatemala – gifTree
- // Italy – Give tree as a gift
- // Brazil, Argentina, Mexico – Revita

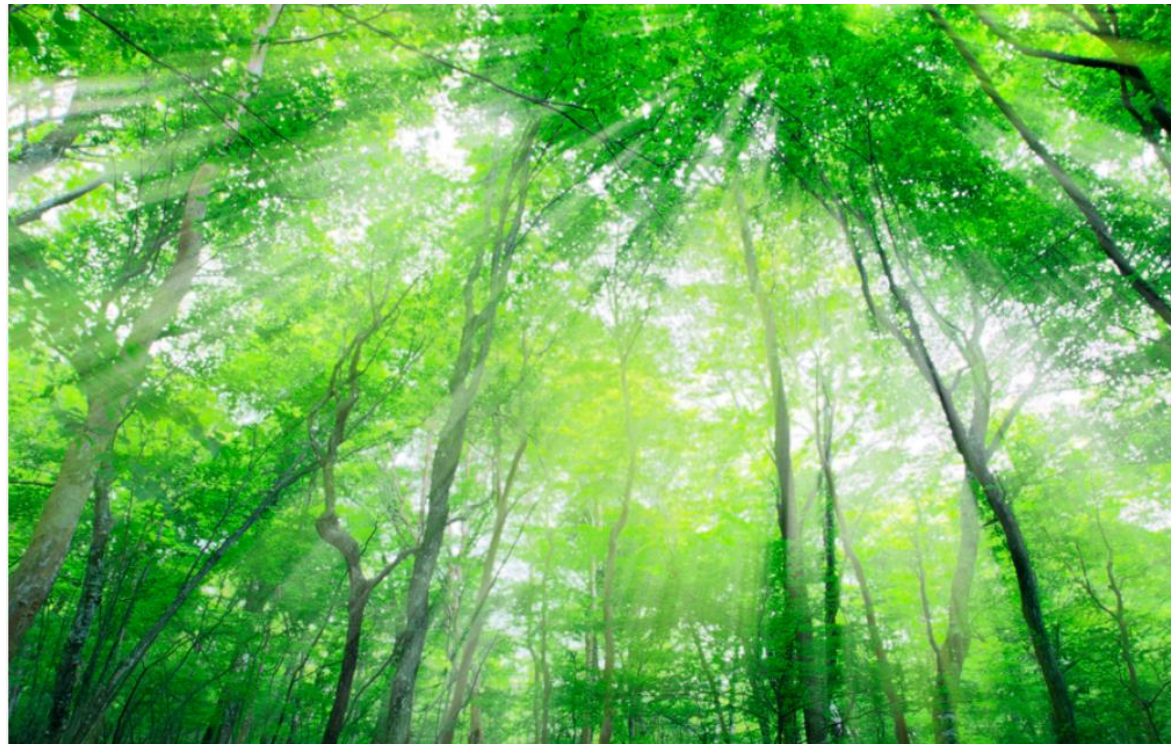
Additional to the regulated as well as audited carbon offsetting projects, Bayer engages in local projects. Within these initiatives we characterize especially projects on local level triggered by employees within the company. A list can be found in the table regarding engagement projects.

# Project Details

The following table describes our nature-based solutions portfolio which Bayer uses as carbon offsetting to become climate neutral in 2030.

Additionally, we are also compensating our GHG emissions deriving from air travel. These offsetting projects are not included here but follow the same stringent criteria. We compensated:

- 2020: 52,991 tons of GHG emissions
- 2021: 28,437 tons of GHG emissions
- 2022: 143,825 tons of GHG emissions
- 2023: 178.441 tons of GHG emissions from air travel.



Project Number	Project name	Country	Supplier Project(s)/ Partner	Region	Type	Certification/ Technology	SDG Relevance	Year of Offsetting	Contracted volume (Carbon credits)	Reference VERRA	Fact Sheet
18	Nori	USA	Bayer Ag-Crop Science	NA	AR			2023	100.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Bayer AG Crop Science Division has “enabled or supplied” a carbon removal offset project with the Seattle-based company Nori. This collaboration marks the introduction of Bayer-owned third party verified and quantified Nori Regenerative Tonnes into a public market through Nori's platform. Bayer supports farmers through the ForGround platform to adopt sustainable farming practices such as cover cropping and conservation tillage. Each Regenerative Tonne represents approximately 1 tonne of carbon removed from the atmosphere and stored in the soil for 10+ years, in addition to supporting soil restoration and climate-positive co-benefits.										
17	Rio Anapu-Pacaja	Brazil	Go2-Market	LATAM	Agriculture Forestry and Other Land Use	VCS, REDD+		2023	50.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Rio Anapu-Pacaja REDD Carbon Credit Project in Portel, Para is protecting 165,707 hectares in a highly critical region of the Brazilian Amazon. The high levels of land grabbing, land conflict and instability in the region has allowed the project to strongly focus on bringing stability to all the areas that surround the project area by paying for and helping the local residents known as Riverine people to gain land tenure documents and eventually full freehold title deeds. The project also provided cook stoves to 50 families with the goal to help further families as carbon credit sales take place.										
16	Southern Cardamom	Cambodia	Go2-Market	APAC	Agriculture Forestry and Other Land Use	VCS, REDD+	SDG: 1,2,3,4,6,8,9,10,11,12,13,15,16,17	2023	25.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Southern Cardamom REDD+ Project (SCRP) is an initiative designed to promote climate change mitigation and adaptation, maintain biodiversity and create alternative livelihoods under the United Nations scheme of Reducing Emissions from Deforestation and forest Degradation (REDD+). The 445,339 ha SCRCP encompasses parts of Southern Cardamom National Park and Tatai Wildlife Sanctuary and will protect a critical part of the Cardamom Mountains Rainforest Ecoregion – one of the 200 most important locations for biodiversity conservation on the planet. The Project will directly support the livelihoods of 21 villages in nine communes around the perimeter of the project area. Eight additional villages in 4 communes are eligible to receive educational scholarship. These communities represent approximately 3,957 families and 16,495 individuals. The Project’s climate benefits include the avoided emission of approximately 12 million t CO2e during this first monitoring period and over 115,000 million t CO2e over the lifetime of the Project. The Project will generate substantial community and biodiversity co-benefits. New and sustainable livelihood opportunities, such as direct employment, alternative income generating activities (IGAs) and initiatives to stimulate investment in businesses will be designed to reduce pressure on the environment while significantly increasing community well-being. Additional programs will address food security, improve health and education facilities, as well as raise environmental awareness. Biodiversity co-benefits will be achieved through greater protection of the ecosystem predominantly by means of increased security and improved monitoring. The Project will also be protecting critical habitat for significant populations of many IUCN listed species, including Asian elephant, Asiatic black bear, sun bear, large spotted civet, clouded leopard, and dhole, as well as the critically endangered reptiles Siamese crocodile and Southern river terrapin.										



15	Carbono La Puya y San Lorenzo	Colombia	Climate Partner	LATAM	Forestry	EcoRegistry	SDG: 8, 13, 16	2023	19.025	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	Establishment of 175.47 hectares of commercial forest plantation areas with <i>Tectona grandis</i> in the municipality of Los Córdoba (Córdoba)										
14	Carbono Paja Perdida	Colombia	Climate Partner	LATAM	Forestry	EcoRegistry	SDG: 8, 13, 15	2023	28.638	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	Establish 194.38 hectares of commercial forest plantations with <i>Tectona grandis</i> and <i>Gmelina arborea</i> in the municipality of San Juan de Urabá (Antioquia).										
13	Katingan Peatland	Indonesia	First climate	APAC	Agriculture Forestry and Other Land Use	VCS, REDD+		2023	157.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Katingan Restoration and Conservation Project ('The Katingan Project') protects and restores 149,800 hectares of peatland ecosystems, to offer local communities sustainable sources of income, and to tackle global climate change. The project lies within the districts of Katingan and Kotawaringin Timur in Central Kalimantan Province and covers one of the largest remaining intact peat swamp forests in Indonesia										
12	Lunagwa	Zambia	ACT	EMEA	Forestry	VCS		2022	15.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Luangwa Community Forests Project is a large-scale REDD+ project implemented in Eastern and Lusaka Province, Zambia with an initial project area of 943,676 ha. A second project instance was added in 2021, comprising 92,990 ha, bringing the total project area to 1,036,636 ha. It is being implemented on communal land in 12 chiefdoms falling within Game Management Areas (GMA) and two private ranches. Implementation is in partnership with the traditional authorities and the government of the Republic of Zambia. The project will generate emissions reductions through avoided deforestation, using the following mitigation activities: a combination of direct conservation support (forest monitoring and encroachment prevention) engagement and capacity building with key Government and community stakeholders, and conservation incentives for the area protected: including performance-based payments delivered to empowered community stakeholders, through local institutions, and support to deforestation mitigation activities, including sustainable, improved livelihoods activities.										
11	Jari Amapa	Brazil	ACT	LATAM	Forestry	VCS, REDD+		2022	50.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	The Jari Pará REDD+ Project is a partnership between Biofílica Investimentos Ambientais S.A. and Jari Celulose, belonging to the Jari Group, with the purpose of promoting forest conservation and reducing potential greenhouse gas emissions (GHG) based on a model of local economic development that values the "standing forest" through the integration of Sustainable Forest Management activities and the commercialization of environmental services. The Project is located in the municipality of Almeirim, in the State of Pará, and borders the State of Amapá to the North. There is a very important role in this region as it serves as a home for many rural families and as an ecological corridor, with several Conservation Units (CUs) in its vicinity. It has a very rich biodiversity; its vegetation includes ten forest and non-forest formations and species of extreme ecological and social importance.										

10	Kariba	Zimbabwe	Southpole	EMEA	Forestry	VCS, REDD+	SDG: 1,2,3,4,6,8,9,13,15,17	2022	150.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	<p>The Kariba REDD+ Project will generate approximately 196,500,000 carbon credits from reduced emissions associated with deforestation over 30 years. The reduction in deforestation “will be achieved through a series of activities that are designed to significantly improve the livelihoods of locals, such as improved agriculture, beekeeping, fuelwood plantations and fire management. In addition, a significant share of the project’s carbon income will be invested in general activities that promote and guarantee project sustainability. The project’s Community and Project Sustainability Fund is structured to benefit whole communities, specifically the poorest members of society. The fund will be used to improve health and education in the project area with its long-term activities.</p>										
9		Uruguay	Climate Partner	LATAM	Forestry	VCS		2021	100.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
								2022	20.000	-	-
								2023	210.000	-	-
<p>The project comprises a total of 5,377 ha of land previously under extensive grazing by beef cattle, on which afforestation for obtaining high-value, long-lived timber products and for sequestering large amounts of carbon dioxide from the atmosphere will be established.</p>											
8	Pacajai	Brazil	ACT	LATAM		VCS		2022	85.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	<p>Pacajai: REDD Project to stop deforestation within private parcels amounting to 135, 105 Ha at the edge of the deforestation frontier in Brazil. The project will generate multiple climate, social, and biodiversity benefits.</p>										
7	Restoration	Indonesia	ACT	APAC	Forestry	VCS, CCB Gold	SDG:	2021	50.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
							1,2,5,8,9,10,12,13,15,16,17	2022	100.000		
<p>The CCB Gold Sumatra Merang Peatland Project is restoring more than 22,900 hectares of peatland rainforest in the Merang region of Indonesia. Protecting an area more than 3.5 times the size of Manhattan, the project targets the Merang biodiversity corridor, one of the largest and deepest peat swamps in South Sumatra. Climate finance rehabilitates and protects this threatened ecosystem, reducing emissions, and creating a conservation area for hundreds of unique and endangered species. The project works with local communities from nearby villages to improve livelihoods which reduces pressure on the forest.</p>											

6	Bamboo for deforestation-free products	Nicaragua	Climate Partner	LATAM	Forestry	VCS	SDG:	2021	20.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
							3,6,10,12,13,15	2022	20.000		
	<p>The project in eastern Nicaragua has planted more than 1 million plants of a native species of giant clumping bamboo, covering 2,361 hectares while protecting an additional 1,000 hectares of old forest as a conservation zone. It has transformed a degraded landscape into a flourishing and biodiverse ecosystem. Bamboo is one of the most efficient biological tools for fighting climate change. The project contributes to mitigation by preventing deforestation and capturing CO2 as well as to adaptation by reducing temperatures, creating micro-climates, supporting a low-carbon economy and creating livelihoods for vulnerable communities. In contrast to cutting trees, harvesting giant clumping bamboo does not kill the plant. Once fully mature, selective poles are harvested from each bamboo clump annually, leaving enough time for other poles to regenerate. Thus, the carbon stored within the bamboo becomes a permanent sink, with the bamboo clumps having a lifetime of 80 years. The bamboo fiber from the plantations forms the base for a broad range of sustainable, deforestation-free products like fibers or building materials.</p>										
5	Brazil Nuts	Peru:	First climate	LATAM	Forestry	VCS	SDG:	2021	60.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
							6,8,12,13,15	2022	10.000	-	-
							6,8,12,13,16	2023	10.000	-	-
<p>The Rainforest Community Project brings together hundreds of local families and small-scale concession holders which harvest Brazil nuts in the Peruvian Amazon. Through investment from the project, these nuts can be sustainably harvested, processed and sold directly to international export markets for the first time. The project provides a viable alternative to deforestation in providing sustainably generated income for local communities. Experience in past decades shows that better access increases deforestation for agriculture and illegal logging. This project comprises of two forestry concessions that are managed in line with Forestry Stewardship Council (FSC) guidelines. The concessions stretch over 100,000 hectares covered by dense rainforest. Effective surveillance of this area to prevent illegal dwelling and destructive forest use is only possible with the support of carbon certificate revenues.</p>											
4	Bukaleba	Uganda:	Climate Partner	EMEA	Forestry	VCS	SDG: 3,5,6,8,9,11,12,13,15,17	2021	70.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	<p>Between 2000 and 2005 Uganda had one of the highest deforestation rates in the world, losing 2.2 percent of its forest cover every year. The country is still struggling to meet the growing demand for wood from responsible resources. Our project benefits the forestry sector through an increase in timber supply, sustainable management of the national resource base, and thus help reduce pressure on natural forests. The plantation sites are located in the Bukaleba Central Forest Reserve (BCFR) in the district of Mayuge in Eastern Uganda. It establishes and manages exotic and indigenous reforestation on 2,000 hectares of degraded shrub and grassland. The objective of the project is to help mitigate climate change while meeting the growing demand for quality wood products from well managed plantation forests, contribute to sustainable environmental management and poverty alleviation in Uganda. It supports the socio-economic development of local communities and infrastructure improvements.</p>										
3	Forest and climate protection in Inner Mongolia	China	First Climate	APAC	Forestry	VCS	SDG: 1, 6, 13, 15	2020	50.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
	<p>The project comprises approximately 20,000 ha of formerly logged forests which is a converted protected area. Prior to the project start, the forests have been used for timber harvesting according to a government-approved timber management plan which allows for regular clear-felling. The main object of the project is to improve the forest coverage rate, protect the local environment, reduce carbon emissions as well as enable carbon sequestration via enhanced forestry management. The implementation of the project will not only achieve reliable and measurable carbon sequestration by reducing commercial timber but will also contribute to sustainable development within the project region.</p>										

2	Locals protect their forest from illegal logging	Brazil	First Climate	LATAM	Forestry	VCS & CCB	SDG: 3, 6,8,12,15,16	2020	85.000	<a href="#">More details.</a>	<a href="#">Fact Sheet</a>
<p>This project focusses on the protection of accessible and inaccessible forest areas. This will allow for the forest to re- grow. Surveillance teams keep the area under rigorous monitoring to prevent illegal logging and squatters from claiming lands. To achieve permanent surveillance, the project employs local village members who live within the project region. To qualify them, they receive special training in forest management and monitoring. Regular reports will locate existing agricultural areas to identify areas that may have been newly deforested.</p>											
1	Afforestation of degraded grass-lands under extensive grazing	Uruguay:	First climate	LATAM	Forestry	VCS	SDG: 1,8,10,12,1	2020	65.000	<a href="#">More details</a>	<a href="#">Fact Sheet</a>
<p>Based in eastern Uruguay, the project covers various forest sites that were previously used for grazing by beef cattle, a form of land use which causes major soil erosion and land degradation. The areas were degraded beyond the point of natural regeneration, so the project involves replanting the area with native trees. Plant growth is supported with environmentally friendly herbicide, regular pruning, and thinning. The main plants used in the project will be eucalyptus and pine, which will support the commercial production of wood pulp and sawdust in a sustainable way. A continuous forest inventory will be established to monitor forest development, tree growth, forest health, fire risks and other common forest practices. A total area of 18,191 hectares is covered by the project, which promotes sustainable wood production, land restoration and carbon sequestration through afforestation.</p>											

Explanation: REDD+ = Reducing Emissions form Deforestation and Forest Degradation, VCS = Verified Carbon Standard, CCB = Climate, Community & Biodiversity



The following table describes our engagement projects which Bayer DOES NOT use as carbon offsetting for climate neutrality [Will be updated regularly]:

Project	Region	Type	Description	Volume	Reference
ReVita	Argentina, Brazil, Mexico	Tree-Planting VCS (Argentina)	ReVita Bayer is an initiative from Distribution team that started in 2012 with the purpose of reducing the environmental impact caused by our logistics operations. The program expanded in 2020 to a broader perspective and embraces actions to also reduce emissions by adopting good practices found energy efficiency in both transportation and warehousing, such as load and network optimization, eco-driving, warehouse eco-building, etc.	Since 2012: >22,000 k CO2 compensated >166,000 trees planted	
gifTree	Guatemala	Tree-Planting VCS-CCB	Offsetting remaining emissions of the Bayer Guatemala Sites Roosevelt, Amatitlán and Salamá	1,360 t/ year	
Give tree as a gift	Italy	Tree-Planting	Bayer Italy supported the “Treedom” project planting 1650 trees, one for each employee, in areas most prone to deforestation. Each employee could choose the tree that best represented him/her, give it a name, follow the various stages of its life, geolocate it and learn about all its features.	357 t	<a href="#">BAYER ITALIA ist auf Treedom</a>
Nordic Green Solutions	Finland	Protecting forests and Tree-Planting	In 2020, about 85 percent of the compensation was carried out by protecting forests that have reached the final felling age of 50 to 60 years. Landowners receive a payment to postpone the felling by ten years. This will help maintain carbonsinks in the Finnish forests. The rest, i.e., 15 percent of the compensation was achieved through tree planting. As part of the tree planting, Bayer is establishing its own small forest near the Turku site to be used for recreational purposes by Bayer personnel	2020: 4,200 t (30% of the carbon footprint of Bayer Oy), Percentage will increase gradually.	<a href="https://www.bayer.com/sites/default/files/Sustainability_publication.pdf">https://www.bayer.com/sites/default/files/Sustainability_publication.pdf</a>

# Editorial

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