

Climate ^[1]

Novartis is committed to using resources efficiently and reducing greenhouse gas (GHG) emissions, which affect the global climate. Our ambition is to make the company both energy and climate resilient. We have therefore established targets to first become carbon neutral in our own operations (Scope 1 and 2) by 2025, and then reduce our carbon footprint, including that of our supply chain (Scope 1, 2 and 3), by half versus 2016 levels by 2030.

We have a longstanding, comprehensive energy and climate program, which aims to improve energy efficiency for all industrial and commercial operations and use renewable energy sources where available and feasible. In addition, we work to develop our own forestry projects as carbon sinks to compensate for parts of our operational GHG emissions, which we cannot avoid. To improve our climate resilience, we have started to assess how climate change will affect facilities and to take actions to make them less susceptible to extreme weather events.

Novartis has set an internal carbon price of USD 100 per ton (t) of carbon dioxide equivalents (CO₂e). This is used to determine the financial impact of GHG emissions from significant investments. Building a carbon price into investment decisions is important because it helps ensure that projects are selected which have the lowest overall climate impact. This is important as it is more effective to build in energy efficiency from the beginning than to redesign an existing system.

For further information, please see [the CDP Climate Change Information Request \(PDF 0.6 MB\)](#) ^[2]

Novartis has a comprehensive energy management program, which helps ensure energy saving opportunities are routinely included in all new projects. All major sites have been audited to identify energy efficiency improvements and options to increase their use of renewable energy. Novartis has a long-term view on capital investments associated with energy conservation, allowing prioritization of projects that save energy and reduce GHG emissions.

GHG emissions have also been reduced through the increased use of renewable energy. For example the East Hanover facility in the US was the company's first site to install a 135 kW photovoltaic (PV) panel in 2006 to produce renewable electricity. Since then, solar PV capacity has been expanded to over 500 kW. More recently, in 2018, we [announced a virtual power purchase agreement](#) ^[3] in the US to reduce GHG emissions. In collaboration with a renewable energy company, Invenergy, Novartis aims to add 100 megawatts of wind power to the electrical grid. The 12-year agreement is expected to reduce our greenhouse gas emissions by more than 220,000 metric tons per year through the issuance of renewable energy attributes.

Novartis also generates renewable energy from bio-fuels. As early as 2004, Sandoz India in Mahad was generating steam from bagasse, a renewable by-product from sugar cane. This site now obtains more than 90% of its fuel needs from this renewable source.

While our long-term goal is to lower GHG emissions through internal programs, we have taken additional measures to achieve our GHG emission targets. Our approach includes voluntary carbon-offset options, such as the United Nations Clean Development Mechanism (CDM), that enable companies or countries to compensate for exceeding emission limits through offsetting, particularly in developing countries or emerging markets.

We have established four carbon-offset projects:

- In Argentina, we are growing a forest of more than 3 million trees with the aim of 75% native species to sequester carbon and create sustainable wood products.
- In Mali, we are working in partnership with small landowners to cultivate jatropha, that is also used for the production of soap and bio-fuel, with a total of 12 000 hectares planned.
- Novartis launched a reforestation initiative in Sichuan, China, with 3,800 hectares and 9 million trees.
- Our fourth forestry project in Colombia involves the plantation of local tree species such as acacia, rubber and other native hardwoods.

For further information, please see:

- [Novartis carbon-sink forestry projects \(PDF 2.6 MB\)](#) [4]
- [Impact valuation of carbon-sink projects report \(PDF 2.4 MB\)](#) [5]

We are dedicated to minimizing the environmental impact of our product footprint.

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