



Biopharmaceutical Industry Actions to Tackle Climate Change

As part of the global health care system, the innovative biopharmaceutical industry is committed to minimizing our impact on the planet as well as to researching and developing new health products that manage and mitigate health risks from environmental challenges.

Global industry has led the way in [tackling COVID-19](#) and we are [fully committed](#) to partnering with governments and health systems across the world to take concerted action to address climate change. We are investing in research and development in greener products, as well as more sustainable production and distribution practices, that enable us to deliver medical innovation to patients in ways that protect and support the environment.

Our companies are already [working on initiatives](#) to reduce carbon emissions across our own operations and value chains, invest in renewable electricity and energy efficiency measures, recycle and cut water use and on bespoke projects which will impact positively on the environment.

The examples below provide a snapshot of the activities happening around the world to cut carbon emissions, save water, cut waste, sustainably design products.

Cutting carbon emissions

Novartis - Novartis has set a target for full carbon neutrality in its own operations by 2025, and net zero across its value chain by 2040. One project has consolidated medication shipments and saved emissions in more than 40 clinical trials. From 2021 Novartis will avoid an average of 18,000 shipments per year saving approximately 1,400 tons of CO2 annually.

Novartis 'Green Expectations from Suppliers Framework' and a Global Environmental Sustainability team are promoting ethical behaviours and fostering sustainability in their supply chain. [Read more.](#)

Orion - Orion corporation has worked to reduce its carbon footprint with numerous energy efficiency projects, and in 2019 moved to 100% renewable electricity in Finland. Orion has made a further commitment to achieve carbon neutrality in its own operations by 2030.

One strategic aim is to tackle the carbon impact of inhalers. Orion produces propellant-free powdered inhalers only, which have a carbon footprint 10-37 times lower than pressurised metered-dose inhalers. It has worked to minimise direct and indirect greenhouse gas emissions across its own operations, and that of its suppliers, within the products life cycle. Remaining unavoidable emissions have been offset through projects that protect the world's lungs, including reforestation in the UK. Read [Orion's latest sustainability report here.](#)

Roche - Roche now uses 100% renewable electricity in its UK operations and aims for all vehicles used for business purposes are to be greenhouse gas free by 2030. They are also working with E.ON to offer 100% renewable electricity to their UK supply chain partners.

Roche has reduced their global emissions by 57% since 2005 and are aiming for a 75% reduction by 2029. Read more about Roche's commitment to [minimise their environmental footprint here](#).

Takeda - By 2040, Takeda commits to being net zero and has already reduced its greenhouse gas emissions by 51% for Scope 1 and 2 since 2016.

Streamlining its supply chain and distribution networks, for example by reducing the number of distribution centres used, Takeda has saved enough energy to power 3,131 houses for a year. It also increased truck load fill from 60% to 85%, reducing the need for 250 trucks, the equivalent of enough energy to charge 3.1 million smartphones.

Read more about Takeda's commitment to [net zero here](#).

Lundbeck - At its chemical factory, Lundbeck switched from fossil fuels to biofuel and this reduced CO2 emissions by 3,000 tons per year, a 16% absolute reduction of total scope 1 and 2 emissions.

Since 2006 Lundbeck has reduced its energy consumption by 30% equal to a 72% absolute CO2 reduction in scope 1 and 2 emissions from our sites. This has been achieved by many different initiatives.

For example, a HQ cooling facility refurbishment in Denmark installed six new degassing units in 2019. This saves 300 MWh annually, equivalent to 60 tonnes of CO2. Read more in EFPIA's [Climate Change White Paper](#).

Lundbeck - Lundbeck has in 2020 signed a Power Purchase Agreement (PPA) with a solar plant developer. The agreement covers Lundbeck's entire electricity consumption for operations located in Denmark for the next seven years. And it will allow the developer to receive the necessary financing for building the solar power plant, which will come into operation in 2022.

The solar plant will reduce CO2 emissions from our Danish sites by 3,615 tons per year and make up a total reduction of CO2 emissions from their sites of 79% compared to 2006.

Saving water

Novartis - By 2025, Novartis aims to reduce water consumption in their operations by half versus 2016, with no water quality impacts from manufacturing waste, and aim to be water neutral by 2030.

They have built a new wastewater treatment plant in Romania, equipped with the latest carbon-filter technology to better purify water from active pharmaceutical ingredients. Read more about Novartis's work on [responsible use of water here](#).

Takeda - Takeda aims to achieve a 5% reduction in water consumption by FY2025 (relative to FY2019) levels. One example of their work has been the introduction of a project to recycle wastewater at their manufacturing site in Lessines, Belgium.

For this they have teamed up with Belgian company Ekopak, whose technology makes the treatment and re-use of rainwater and wastewater possible on a large scale. At Lessines, this means that 600,000 m3 of water could be recycled and returned for use in manufacturing, meeting all the strict quality requirements in the process. This is 90% of the site's entire freshwater consumption. [Read more](#).

Cutting waste

Novo Nordisk - Novo Nordisk is driving change to defeat diabetes, obesity and other chronic diseases. It also has the aim of reducing its environmental impact to zero by 2030 – from plastics to energy, water, and waste to CO₂ –the Circular for Zero strategy. Right now, Novo Nordisk runs all production on renewable energy and is talking to all its supply partners about switching to renewable energy by 2030.

It is also continually investigating new ways to tackle the industry-wide problem of how to stop millions of plastic injection pens ending up in landfill each year, with a project that sees these turned into chairs made from the plastic and other parts made into lamps from the glass. [Read more](#).

Lundbeck - At its pharmaceutical production in Denmark, Lundbeck introduced 'cyclic planning', which reduces the use of materials and the amount of waste generated in production.

In their liquid product production, they reduced packaging waste by 83%. This is equivalent to 1.4 million pieces less waste in the form of cartons, labels or leaflets. They are making preparations to introduce cyclic planning solid products too where the reduction potential is even greater.

Read more in EFPIA's '[Circular Economy](#)' White paper.

Chiesi - Chiesi has launched the Take AIR Postal Inhaler Recycling Scheme, a 12-month pilot supported by the University Hospitals of Leicester NHS Trust and Leicestershire and Rutland Local Pharmaceutical Committee (LPC). The scheme is intended to test an alternative method for the disposal of inhalers when the inhalers are empty, out-of-date, or no longer being used. Any inhaler brand or type is accepted.

The postal scheme differs to current community-based pharmaceutical waste collection services, as many of the components are recovered and recycled. Non-recyclable materials are destroyed through a process called energy-from-waste, using high-temperature incineration. Nearly 7,000 inhalers have been diverted from municipal waste and recycled in the first six months of the initiative.

Sustainability by design

Takeda - Takeda used green chemistry to create a more environmentally sustainable way to manufacture one of its molecules. The new manufacturing process results in 78% less waste, 93% less organic solvent used and 46% less water. Overall yield is increased from 35% to 56%. [Read more](#).

Novartis - The production of some types of medicine requires solvents and, in several cases, precious metal catalysts with very high greenhouse gas impact. In most of Novartis's manufacturing facilities they recover, recycle and re-use solvents and catalysts.

For two pilot compounds Novartis was able to demonstrate a recovery rate of 75-85% of two precious metals, with potential savings of 20,000 tons of CO₂ by 2030.

The company is also using cutting-edge technologies to reduce the volume of materials required to produce drug substances. These have the potential to save 5 million tons of CO₂ by 2030.

Boehringer Ingelheim - Boehringer Ingelheim developed a reusable asthma inhaler that can be used with up to 6 medication cartridges before needing replacement, resulting in large reductions of plastic waste and CO₂ emissions.

It is propellant-free, meaning its CO2 emissions are 20 times lower than those of commonly used pressurized metered-dose inhalers. By 2025, it is expected that 776 tons of plastic waste and 14,300 tons of CO2 emissions will be prevented as a result.

776 tons of plastic waste equals more than 77.6 million 0.5-liter PET plastic bottles.

Janssen - Janssen makes the active ingredients of some medicines at its chemical production site in Geel, Belgium. Their Plant on a Truck initiative recycles waste chemicals. This approach means Janssen saves around 500 tons of CO2 emissions and recycles around 100 tons of chemicals annually.

Plant on a Truck (working with InOpSys) treats process water locally in a mobile purification plant, which allows it to reuse useful materials, destroy toxic ingredients and purify the water. It is currently using this concept to recover zinc from the process water from a drug for type 2 diabetes, for example. The company then uses this zinc again in the production process. [Read more](#).

For further information, please contact: communications@ifpma.org.