



# THE GLOBAL GOALS

For Sustainable Development



## Partnering for Impact

### Our contribution to the 2030 agenda for Sustainable Development

At the UN General Assembly in New York in September 2015, Novozymes joined the rest of the world in welcoming the UN Sustainable Development Goals (SDGs) and the 2030 Agenda for sustainable development.

This agenda puts the world on a path toward a more sustainable, viable, low-carbon future, with the SDGs providing a partnership platform for governments, civil society and business to help tackle the world's challenges.

Novozymes was among the first to embrace and align with the SDGs at company purpose, strategy and long-term target levels,

- Our biotechnological solutions can provide answers to many global sustainable development challenges, for example in agriculture, food, energy and water.
- By leveraging our experience with sustainability, we are pioneering new concepts and tools to conduct SDG impact assessments to evaluate and prioritize our technology pipeline, business model innovations and partnership opportunities, to increase our positive world impact

*“Everyday, Novozymes is contributing to the SDGs. We are committed to increasing our positive impact on society in the coming decades as together we find biological answers for better lives in a growing world”.*

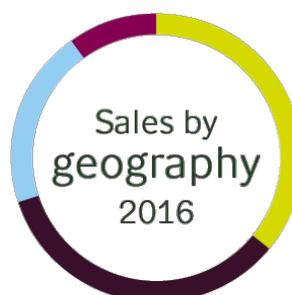
*Peder Holk Nielsen, CEO of Novozymes*

## About Novozymes

Novozymes produces a wide range of industrial enzymes and microorganisms. Our innovative biological solutions improve industrial products and manufacturing processes by saving energy, water and raw materials, while reducing waste and emissions.

### Key figures

- Sales: DKK 14.142 billion (2016)
- EBIT margin: 27.9% (2016)
- Market share in industrial enzymes: 48% (2016)
- R&D: We invest ~13% of our revenue in research and development. Novozymes holds over 6,500 granted or pending patents
- Workforce: 6,441 employees. Denmark (2,660), North America (1,304), Asia Pacific (1,827), Europe (284), Latin America (366) (January 2017)



- Europe/MEA 36%
- North America 34%
- Asia Pacific 20%
- Latin America 10%



- Household Care 33%
- Food & Beverages 26%
- Bioenergy 17%
- Agriculture & Feed 16%
- Technical Industries 8%



**Goal 2** End hunger, achieve food security and improved nutrition and promote sustainable agriculture

**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.

Together in Alliance with our partner DSM Nutritional Products, we enable the world's largest poultry and swine farmers to produce more with less in a sustainable and economical way by offering animal feed enzyme solutions:

- Phytases, that break chemical bonds in plant materials and make available natural minerals in the feed
- Proteases, to increase digestibility of essential protein rich feed ingredients (e.g. soy)
- Carbohydrases to help animals degrade starch and bran, thereby increasing the feed energy value

In 2016, the Alliance calculated that its feed enzyme solutions enabled the world's largest livestock producers to save 3.1 million tons of CO<sub>2</sub>e, which is equivalent to taking 1.2 million passenger cars off the road for a year.

To supplement the impact of its solutions, the Alliance also regularly engages its customers in trainings on animal nutrition and sustainability.



**Goal 4** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

**Target 4.7** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable

development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

To achieve our target to educate 1 million people by 2020, we have implemented specific programs and work with NGOs and educational institutes.

In Brazil, Novozymes EDUCATION project is a series of [3 app-books](#), elaborated with the aid of experienced teachers and scientists. The app-books aim to engage readers to reflect on the SDGs and how Biology can contribute to solving sustainability issues. The project has already engaged nearly 24,000 people and the app-books seeing over 1,700 hours of interaction.

With strong partnership between Novozymes and SESI-Pr (a local educational institution in Brazil) we have been able to promote the SDGs among students and motivate them to [take their learning about Biology out of the classroom](#), for example to help rebuild riparian forests.

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**Goal 5** Achieve gender equality and empower all women and girls

**Target 5.5** Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political,

economic and public life.

Novozymes has a long-term target to have 30% females in Senior Management positions by 2020.

To emphasize the importance of meeting its diversity target, a process has been established to ensure that diversity remains core to Novozymes recruitment. The company also has the objective of further promoting diversity among leaders and in 2016 continued to increase this focus via its global talent pool for management and succession planning processes.

In Denmark, Novozymes is a member of the [Gender Diversity Roundtable](#), an initiative that brings together the top leaders from 15 Danish Businesses to bring more women into leadership roles.



**Goal 6** Ensure availability and sustainable management of water and sanitation for all

**Target 6.3** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing

release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Many of Novozymes enzymatic solutions help customers and consumers save water during application compared with conventional methods.

For example, enzymes can be used in the textile industry to combine processes and save significant amounts of water. Other Novozymes solutions help customers in the pulp & paper industry to address lignin toxicity in effluents generated during the production process. We also offer solutions for [wastewater treatment](#) and [sludge reduction](#) for municipal and industrial applications.

In China, Novozymes is working to help to solve water challenges in the south-eastern industrialized area as well as in the less developed north-west. Our microbial wastewater treatment solutions have been applied in factories in Ningxia, Shanxi, Xinjiang and Inner Mongolia, ensuring the compliance discharge of wastewater and improved water availability. As part of the goals in China's Water 10 Plan, we are currently working together with partners to expand applications of bio-solutions into recovery and conservation of black-odour water bodies.



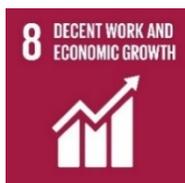
**Goal 7** Ensure access to affordable, reliable, sustainable and modern energy for all

**Target 7.2** By 2030, increase substantially the share of renewable energy in the global energy mix

**Target 7.a** By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology

In Italy, alongside its partner Beta Renewables, Novozymes helped establish the first biorefinery in the world to be designed and built to produce cellulosic bioethanol from agricultural residues and energy crops at commercial scale using enzymatic conversion. Situated in fields outside [Crescentino](#) and using waste residues from local agriculture, the biorefinery can produce up to 13MW of electricity and up to 50M litres of cellulosic bioethanol per year, with a GHG reduction potential of up to 90% compared with petroleum-based fuel. It is entirely self-sufficient in its energy consumption.

Novozymes is also heavily engaged with the [Sustainable Energy for All](#) initiative of the UN and World Bank.



**Goal 8** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

**Target 8.4** Improve progressively, through 2030, global resource

efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmers on sustainable consumption and production, with developed countries taking the lead

Novozymes emphasizes sustainable production internally by setting targets for operational eco-efficiency. Since 2009, we have successfully [decoupled absolute water and energy consumption](#) from business growth. At several of our production sites, we have installed [biogas reactors](#) to utilize wastewater, creating carbon and energy savings.

At Novozymes and within our supply chain, [human and labour rights](#) are respected and promoted. We generate direct value for the economies in which we operate through the purchase of goods and services from suppliers, the payment of wages and pensions to our employees, various types of taxes and duties to the community, and dividends and financial costs to our capital providers.



**Goal 9** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Target 9.5** Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in

particular developing countries, including, by 2030, encouraging innovation and substantially increasing the [www.novozymes.com](http://www.novozymes.com)

number of research and development workers per 1 million people and public and private research and development spending

Innovation, particularly product innovation, is a key driving force for Novozymes business and continues to be one of the most material issues for us. More than 20% of our global workforce works in R&D, and each year we spend around 13% of revenue on R&D.

Our Portfolio board which manages R&D pipeline across divisions, evaluates all the projects in the pipeline on several criteria, including strategic impact, financial impact and contribution to delivering on the UN SDGs.

As part of our international outreach, together with the Henning Holck Larsen Foundation, Novozymes and has an agreement to advance the relationship between Denmark and India and to develop scientists both scientifically and personally by giving them international work experience.



**Goal 11** Make cities and human settlements inclusive, safe, resilient and sustainable

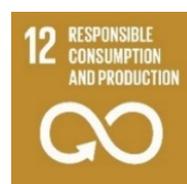
**Target 11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special

attention to air quality and municipal and other waste management

Novozymes offers solutions for municipal solid waste management and wastewater treatment with wide-ranging applications for cities.

In the United Kingdom, Novozymes is partnering with [DONG Energy](#) to deliver enzymes for its RENescience plant at Northwich in the North West of England. Today, a large part of UK waste ends up in landfill sites, which is expensive and harmful to the environment.

The plant in will ensure that as much of the waste as possible from almost 110,000 UK homes is recycled and converted into biogas, which can be converted into green power and used to generate around 5 MW of electricity which is enough to power around 9,500 typical households. The remaining parts of the waste include plastic and metal, which can be recycled, and an additional part that is converted into fuel.



**Goal 12** Ensure sustainable consumption and production patterns

**Target 12.2** By 2030, achieve the sustainable management and efficient use of natural resources

Our biosolutions enable our customers to produce more from less, and promote sustainable consumption and production patterns by reducing energy, raw material and chemical consumption, and CO<sub>2</sub> emissions. For example, [enzymes can be used in detergents](#) so that laundry can be washed at lower temperatures, saving energy without compromising wash performance.

We have conducted and published many [Life Cycle Assessments \(LCAs\)](#) to document the environmental

benefits of biological technologies over conventional technologies. For example, an [LCA conducted by Novozymes and Chinese Textiles company Esquel Group](#), showed Esquel achieved a saving of 30 cubic meters of water per ton of knitted fabric in just one single process (bleaching) by using enzymatic solution as compared to using conventional technology.

**Target 12.6** Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle

At Novozymes, our reporting ambition is to provide a report that connects the company's business model, strategy, targets and performance through integrated financial and sustainability data. We have been working with integrated reporting for many years as it [reflects the way we operate our business](#).



**Goal 13** Take urgent action to combat climate change and its impacts

**Target 3.2** Integrate climate change measures into national policies, strategies and planning

Climate change mitigation is well integrated into our business strategy. We have targets for CO<sub>2</sub> savings, both from our own operations and from customers' application of our products. [In 2016, Novozymes' customers avoided an estimated 69 million tons of CO<sub>2</sub> emissions](#) by applying Novozymes' products, equivalent to taking approximately 30 million cars off the road. Since 2009, Novozymes has decoupled absolute CO<sub>2</sub> emissions from business growth and has also committed to reducing dependence on conventional sources of energy by [investing in renewable power](#).

Working with the UN Global Compact Business Leadership Criteria for Carbon Pricing, in 2015, Novozymes set an internal carbon price to drive decarbonization in its operations. In 2016, Novozymes adopted a shadow price on its direct and indirect carbon emissions, used when evaluating its global portfolio of operational eco-efficiency projects.

Among other actions, Novozymes is part of [Below 50](#), which aims to increase the number of companies using transportation fuels that reduce carbon dioxide emissions by at least 50% relative to conventional fossil fuels whilst making both good business and environmental sense.



**Goal 15** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

**Target 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

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Our [Supplier program on responsible sourcing](#) seeks to ensure that our directly sourced agricultural raw materials do not come from locations that contribute to further deforestation.

**Target 15.6** Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed

Novozyzymes supports the United Nations Convention on Biological Diversity (CBD) in terms of the fair and equitable sharing of the benefits arising out of the utilization of genetic resources.

Novozyzymes acknowledges and respects the principles of both the CBD and the Nagoya protocol and the company has internal procedures to ensure that it lives up to its commitments. Novozymes promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed. We are regularly assessing outcomes of CBD meetings and with a view to undertake a broader strategic discussion on its management and reporting of biodiversity issues.



**Goal 16** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

**Target 16.5** Substantially reduce corruption and bribery in all their forms

Business integrity, anti-corruption, anti-trust and responsible policy engagements are critical issues for Novozymes from both a legal and business ethics perspective. As a [responsible global company](#), we are committed to fair business practices and upholding the values of transparency and accountability.



**Goal 17** Strengthen the means of implementation and revitalize the global partnership for sustainable

**Target 17.17** Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

Novozyzymes corporate strategy is called [Partnering for Impact](#) because we recognize the opportunity to drive transformational change and have a significant impact on society by partnering with customers, consumers, governments, suppliers and academia.

Novozyzymes is active within the UN Sustainable Energy For All (SE4All) initiative and started the [Sustainable Bioenergy Accelerator](#), with the UN Food and Agriculture Organization (FAO), Roundtable on Sustainable Biomaterials (RSB) and other international organizations. The group works to accelerate the use of sustainable bioenergy for power and fuel, whilst considering agricultural resources, sound environmental management, economic growth rates, energy and food security needs, financing mechanisms and policy frameworks.