novo nordisk
foundation

Benefitting **people** and **society**

Strategy towards 2030

The ***vision*** of the Novo Nordisk Foundation is to improve people's health and the sustainability of society and the planet

Photo: Mads Krogsgaard Thomsen,
CEO, Novo Nordisk Foundation

Focus areas

The Foundation has defined three focus areas for its philanthropic activities towards 2030:

Health, **Sustainability** and the **Life Science Ecosystem**, each of which contains four strategic themes.

Health

Mission:
Progress research and innovation in the prevention and management of cardiometabolic and infectious diseases, regenerative medicine, and equitable health outcomes

Theme 1:
Preventing and managing cardiometabolic disease

Theme 2:
Decreasing the burden and threat of infectious diseases

Theme 3:
Advancing and applying regenerative medicine

Theme 4:
Reducing inequity in health

Sustainability

Mission:
Advance knowledge and solutions to support the green transition in society

Theme 1:
Sustainable and high-yield agriculture

Theme 2:
Sustainable food for healthy diets

Theme 3:
High-impact climate change mitigation technologies

Theme 4:
Supporting society in the green transition

The Life Science Ecosystem

Mission:
Invest in scientific research, education and innovation to enable a world class life science ecosystem

Theme 1:
Fundamental research

Theme 2:
Enabling research infrastructures and technologies

Theme 3:
Translational capacity and societal impact

Theme 4:
Education and science capital

Health

Mission: Progress research and innovation in the prevention and management of cardiometabolic and infectious diseases, regenerative medicine, and equitable health outcomes

Cardiometabolic and infectious diseases are major and growing global challenges associated with excess but preventable mortality. The two morbidities interact, and this is exasperated by climate change. In addition, current medical practices often do not result in equitable health outcomes for people living with these diseases.

Supporting biomedical and clinical science with a particular focus on diabetes and its comorbidities has been part of the Novo Nordisk Foundation's mission for the last century. Building on this legacy, the Foundation will in the coming decade expand its scope and increase its support for research concerning the prevention and treatment of cardiometabolic diseases (CMDs): obesity, diabetes and cardiovascular disease, and the consequences of this cluster of common and complex diseases.

Even though considerable progress has been made in understanding the aetiology and treatment effects of these conditions in recent years, there is still more to do to improve patient-centricity and the effectiveness of novel interventions. For many of them, preventing them from developing in the first place is the best way of dealing with them. The Foundation will support new ways of understanding, diagnosing, preventing, and treating these diseases in a translational network between basic and clinical scientists, involving a wide range of competencies, methodologies, and technologies. The evolving discipline of precision medicine is an approach that holds great promise in promoting safer and more efficacious, equitable and cost-effective solutions for the individual and society. This will require collaboration across a broad range of stakeholders, including e.g. universities, the public health system, private sector, and people living with disease.

The rapid spread of Covid-19 across the globe highlighted the consequences of insufficient preparedness for dealing with emerging new pathogens capable of causing significant morbidity and mortality. The risk of future pandemics is high and, at the same time, the looming crisis of antimicrobial resistance points to the pressing need for the development of novel diagnostics, preventatives, and therapeutics. The Foundation will seek to strengthen and deepen the analytical, technological, and pharmacological armamentarium against pathogens, and work together with key stakeholders to support research and development within the prevention and treatment of infectious diseases to help ensure we are better prepared for tackling future pandemics. In addition, there are important interactions between cardiometabolic and infectious diseases, both regarding susceptibility and severity, not least in the face of climate change and global warming, and thus an urgent need to address these issues from a scientific point of view.

Alongside cardiometabolic and infectious diseases, novel innovative medicines, treatments, and technologies such as artificial intelligence and quantum computing are emerging. One such area with major advancements and a broad potential, ranging from disease understanding and cure for chronic conditions to drug development, is regenerative medicine: e.g. stem cell-based science and therapies. The Foundation will continue supporting this area to create a seamless and productive value chain from basic discoveries to clinical implementation.

Inequity in health is a persisting global problem that exacerbates existing disease burdens, posing a threat not only to individuals and healthcare systems, but also to the social cohesion of societies. Addressing inequity in health will be a cross-cutting theme for the Foundation in our support of health-promoting interventions and both intended and unintended consequences will be considered. Working to reduce inequities is multi-facetted and the Foundation will support both targeted interventions towards groups at risk and universal improvements. It is our ambition to fight inequity in health in Denmark as well as globally, where the focus will be on low- and middle-income countries. A growing ability to leverage data, drive the development of disruptive technologies and connect with patients and consumers will spur the development and implementation of more prepared, evidence-based, and equitable healthcare systems.

Sustainability

Mission: Advance knowledge and solutions to support the green transition in society

Combatting climate change and producing healthy and nutritious food to a growing world population without exhausting our planet's resources are two of the biggest challenges for society today. We need sustainable technologies and methods to improve our current food systems and use of land for agriculture.

Over the next decade, the Foundation will support the green transition in society by advancing research and innovation within sustainable agriculture, development of better food systems and climate change mitigation with a focus on carbon capture, utilisation and storage.

A central approach is to better understand and utilise the complex biological systems making up agro-ecosystems in agriculture. This entails supporting relevant research disciplines, e.g. crop genetics, data science, ecosystem biology, microbiology and robotics, as well as the development of new technologies and management practises. Crops and fields may in the future provide both climate change mitigation and meet demands for plant-based food as well as better land use that benefits biodiversity.

To feed a growing global population in a sustainable way, livestock-based proteins must increasingly be replaced by proteins from, e.g. plants and fermentation processes. A large and focused research and development effort is required, covering both basic food science and -production as well as a better understanding of what guides behavioural changes and dietary preferences. A dietary shift also includes focus on a healthy diet improving human health and preventing non-communicable diseases.

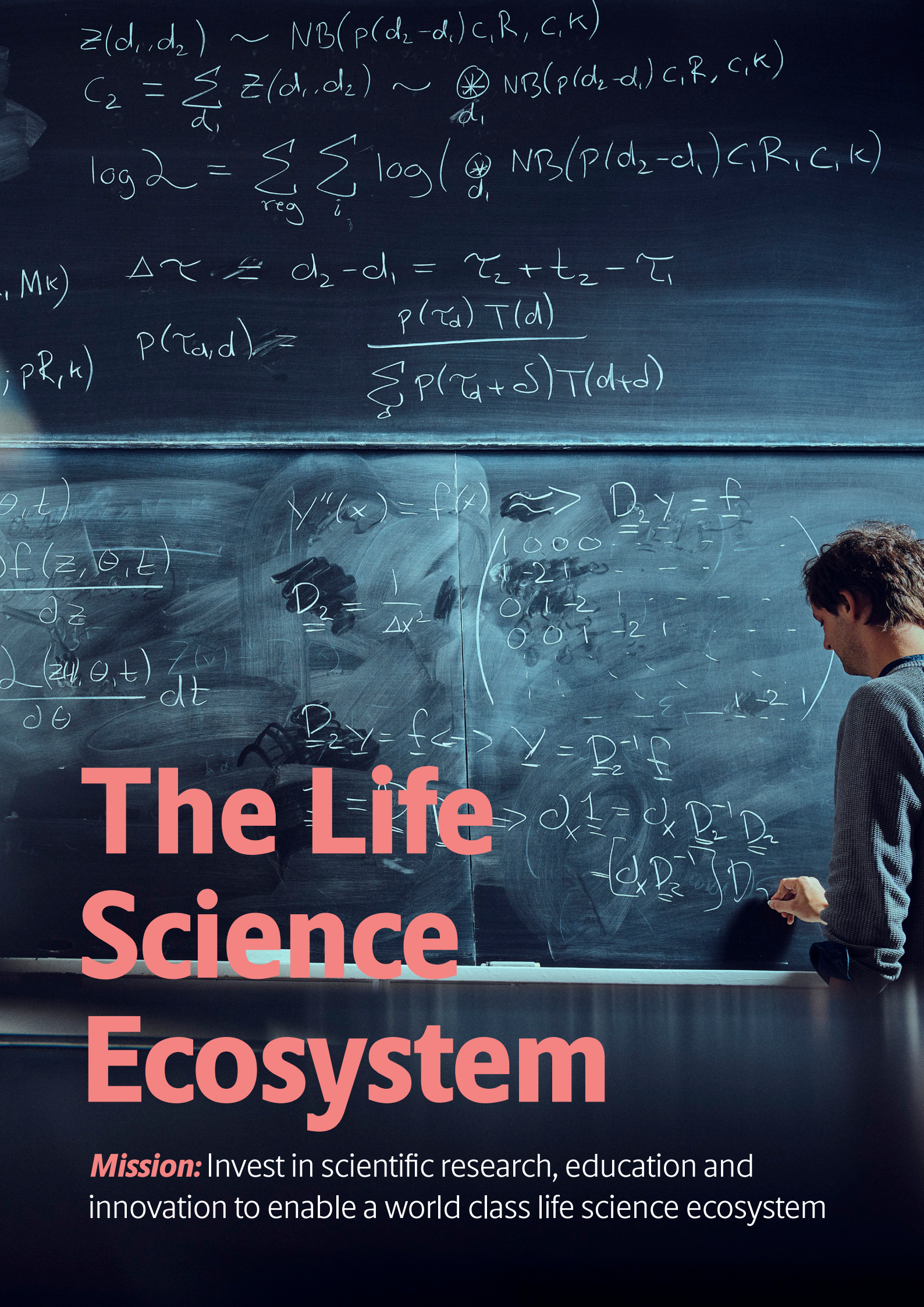
Up to one third of all food is lost post-harvest. Reducing this waste will have a huge impact on the sustainability of food systems and ultimately planetary health. Research and activities aiming at reducing food production loss will be part of the Foundation's initiatives.

Reducing greenhouse gas concentrations in the atmosphere is key to mitigating global climate change. This is a formidable challenge which is unlikely to be solved by a single technology but requires a concerted effort combining several technologies, ranging from capturing CO_2 or methane at concentrated point sources to developing low-carbon alternatives to high-emitting industrial processes such as cement production. Many of these technologies, spanning biology, chemistry and physics, hold large potential but are still at an experimental level and will require significant research and translational efforts to mature.

The green transition requires a global effort from many stakeholders. The challenges are among the biggest ever faced by human society, yet they can be met. A successful outcome will not only require research in core scientific disciplines, but also includes the social sciences and humanities, as well as involving participation in the public debate, dialogue with the political system and supporting societal competencies through training and education.

For the Foundation, many initiatives will be mission-driven, focusing on a specific goal of knowledge or technology spanning various scientific disciplines and methodologies. A better fundamental understanding and use of biology will be key in many of the Foundation's future research initiatives.

The Foundation's initiatives within sustainability will connect research and innovation across academia and industry, seeking a close and deep collaboration. By combining research outcomes with the investment activities of Novo Holdings when technologies are ready to scale and the markets are prepared, the Foundation has a unique opportunity to create an unparalleled impact.



The Life Science Ecosystem

Mission: Invest in scientific research, education and innovation to enable a world class life science ecosystem

It has been a part of the heritage of the Novo Nordisk Foundation for almost a century to support fundamental research and the development of novel technologies that have the potential to benefit people and society. Building on this legacy, the Foundation aims to increase its support for building an ecosystem that is needed for excelling within the life science and sustainability areas, and to help solve some of the major challenges facing us in the future.

We see a life science ecosystem as a dynamic entity consisting of many different interdependent components. It covers fundamental research and innovation within medical sciences, life sciences and natural and technical sciences. It includes technological advancements and infrastructure that can be used by researchers to advance discoveries. It covers education of people from basic school to university level in a society that values science. It also involves the development of systems that can help innovative research and ideas to be brought into market, creating new start-ups and economic growth. Diversity and creativity will be prioritised as crucial components in a well-functioning ecosystem; both are essential for creating a vivid and robust ecosystem capable of offering solutions to societal challenges. Fundamental research can provide the basis of knowledge that drives societal progress. It fosters ideas, which generates new insights, discoveries, innovation and technological development, which in turn may lead to solutions, products and further insights, providing value for society.

The Foundation will over the next decade support both curiosity-driven research and research that is translational or mission-driven, often with an interdisciplinary approach. This can be in areas such as data and material sciences, AI, genomics, robotics, quantum technologies, microbiome and systems biology to mention a few. And we will help establish collaborations between Danish and international research groups at universities to foster a world class scientific environment supporting the life science ecosystem.

High quality education is instrumental for training the workforce of tomorrow, for educating the next generation of researchers and for raising the awareness of science. In the coming years, the Foundation will continue to support the advancement of the science capital in Denmark by strengthening formal, as well as informal education at all levels.

It is our ambition to help create a world-leading innovation environment in Denmark to drive transformation of science-based discoveries within life science and the green transition into solutions benefitting the health of people and sustainability of society.

This will require collaboration with a broad range of stakeholders, national and international, in the public sector, policy making, the funding and investment sectors, as well as industry.

About the Novo Nordisk Foundation
The Novo Nordisk Foundation is an enterprise foundation with philanthropic objectives established in Denmark in 1924. The Foundation's mission is to progress research and innovation in the prevention and treatment of cardiometabolic and infectious diseases as well as to advance knowledge and solutions to support a green transformation of society.

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