ENLIGHT

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ENLIGHT IMPACT CONFERENCE

GRONINGEN
27-28 MARCH 2025

27 MARCH 2025

The Novo Nordisk Foundation Societal Impact Narrative -

Maximizing Impact in Research – From Principles to Practice

Thomas Alslev Christensen
Senior Vice President, Impact
Novo Nordisk Foundation

Our history spans 102 years

The Promise (1922)

1922: Insulin was discovered in Canada.

August Krogh visited the discoverers of insulin in Canada.

He obtained permission from the Insulin Committee in Toronto to manufacture and sell insulin in Scandinavia.

In return, he promised to give the profits back to society.

novo nordisk **fonden**

Founders of Nordisk Insulin Laboratory

SCIENTIST
August Krogh

CLINICIAN
H.C. Hagedorn

INVESTOR
August Kongsted

PHARMACIST
Thorvald Pedersen

ENGINEER
Harald Pedersen

Founders of Novo

Nordisk

novo nordisk **foundation**
Benefitting people and society

Grants

100% ownership

novo **holdings**
Investing to benefit people and the planet

Investments

Majority shareholder

novo nordisk®

novonesis

Fulfilling the promise (1989-now)

- creating a modern enterprise foundation

1989: The Novo Nordisk Foundation was established through the merger of the ownership foundations.

The company Novo Nordisk was formed through the merger of Novo and Nordisk.

2000: Novozymes was created.

Novo Holdings was established as the Novo Nordisk Foundation's investment company and holding company for Novo Nordisk and Novozymes.

2024: Novonesis was formed through the merger of Novozymes and Chr. Hansen

novo nordisk
foundation
Benefitting people and society

Our **vision** is to
improve people's health
and the sustainability
of society
and the planet

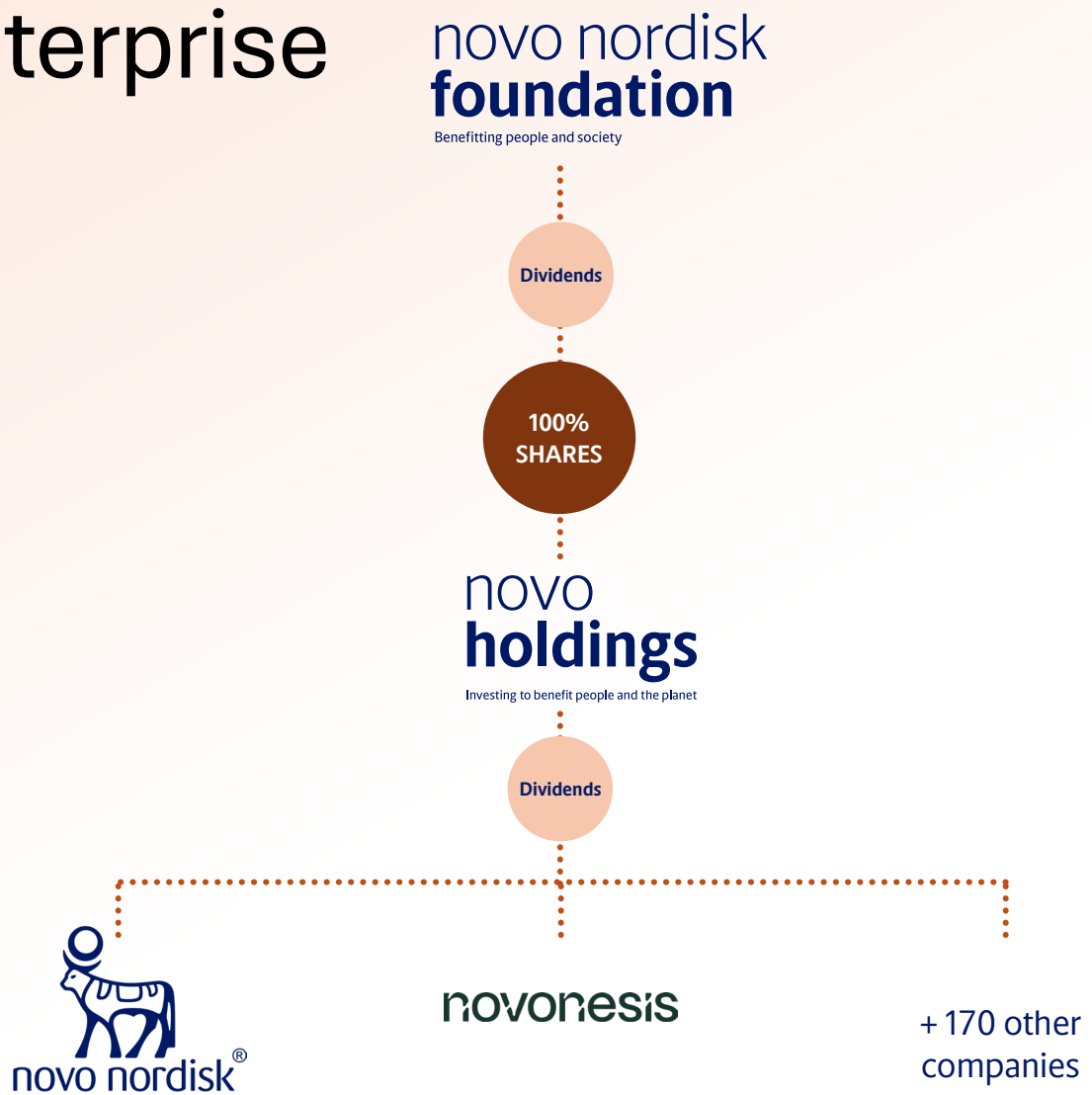
The Novo Nordisk Foundation is an independent Danish enterprise foundation with

two objectives:

1. A philanthropic purpose

2. A Corporate purpose

What is an Enterprise Foundation



We pay taxes (20% of all corporates taxes in Denmark in 2024), we invest in life-science companies and we give the dividends back to society. We are controlled by Danish legislation, and not a family.

How we award grants

Open competition

E.g. projects, fellowships, prizes, etc.

EXAMPLES

- Challenge programme
- Research leader programmes
- Hallas-Møller Fellowship
- RECRUIT
- Natural Science Education and Informal Learning Environments

Strategic and mission-driven

E.g. research centres, academies, own initiatives

EXAMPLES

- NNF centres for Biosustainability, Basic Metabolic Research, Protein Research, NGC
- BII, LIFE, Centre for Childhood Health
- ReNEW, CORC
- Data Science Academy, Danish Diabetes and Cardiovascular Academies

Partnerships

E.g. public-private, private-private, etc.

EXAMPLES

- Steno Diabetes Centres (SDCC, SDCS, SDCO, SDCA, SDCN, SDCG)
- Partnerships with: Danish Refugee Council, UNICEF, World Diabetes Foundation
- PAD partnership with Gates Foundation among others

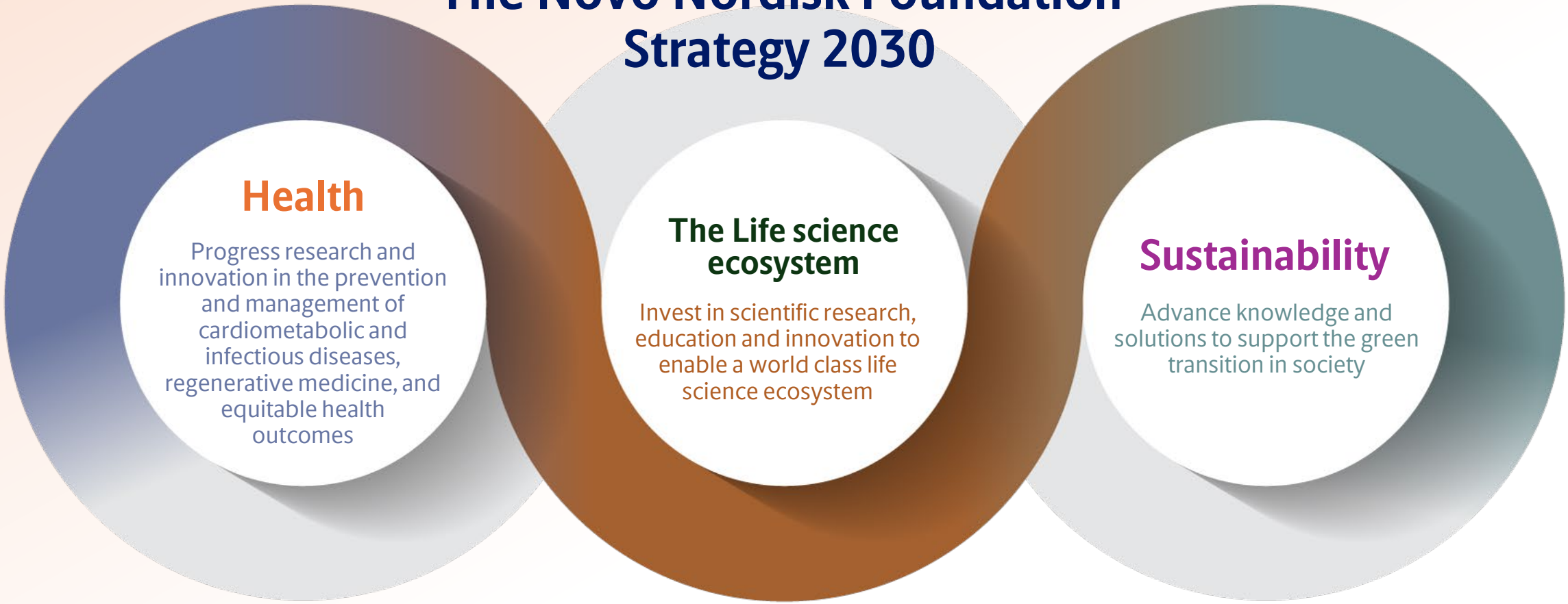
Impact and strategic investments

E.g. impact bond, equity loans, etc.

EXAMPLES

- Repair Impact Fund
- AMR Action Fund
- Den Sociale Kapitalfond Invest

The Novo Nordisk Foundation Strategy 2030



Health

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

1. Preventing and managing cardiometabolic diseases
2. Decreasing the burden and threat of infectious diseases
3. Advancing and applying regenerative medicine
4. Reducing inequity in health

The Life science ecosystem

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

1. Fundamental research
2. Enabling research infrastructures and technologies
3. Translational capacity and societal impact
4. Education and science capital

Sustainability

Advance knowledge and solutions to support the green transition in society

1. Sustainable and high-yield agriculture
2. Sustainable food for healthy diets
3. High-impact climate change mitigation technologies
4. Supporting society in the green transition

The impact narrative: impact is not abstract but real. Impact is however complex to assess!

1. Purpose/objective

- **Intended**: Effects align with the initial goals and objectives set forth by the research.
- **Unintended**: Results diverge from intentions, adding benefits or unintended effects.

2. Nature of results

- **Tangible**: Concrete and explicit results that can be directly observed and quantified.
- **Intangible**: Abstract results, such as theoretical advancements or shifts in understanding, which may not be physically measurable but hold significant value in science or society.

3. Temporal perspectives

- **Short-Term**: Immediate or near-future outcomes directly attributed to the research.
- **Long-Term**: Extended impacts that unfold over a protracted period post-research.

4. Consequential spectrum

- **Positive**: Beneficial outcomes/advancements, enhancing knowledge or societal conditions.
- **Negative**: Detrimental effects potentially hindering progress or causing setbacks.

5. Anticipated outcomes

- **Expected**: Predicted or hypothesized effects based on research parameters and objectives.
- **Unexpected**: Results that were not initially predicted but emerged during or post-research.

Societal effects depend on different perspectives on the purpose of the research

Philosophical
wisdom, existence and objective truth

Sociological
understanding social patterns, institutions, and cultural norms and their influence on human behavior

Psychological
need for purpose, control, freedom and understanding our surroundings

Humanistic
the individual's free will, creativity and striving for self-realization

Natural science
expanding the existing understanding of the world as a progressive foundation for development and application of knowledge

Biological
evolutionary advantage to adapt to the environment

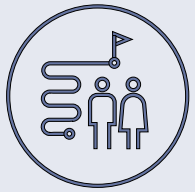
Medical
focus on health, happiness and well-being

Economic
promoting growth, innovation, welfare and competitiveness

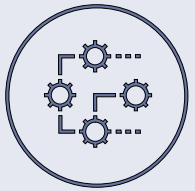
Political
essential for decision-making and democracy

What does success look like for NNF? Nine impact principles for society

Output



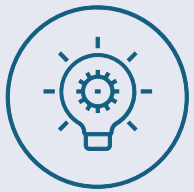
Fostering the development of talent across different gender, life ages and scientific fields



Supporting organisations, systems, and infrastructure to catalyse a knowledge-based societal development

Stimulating collaboration across international borders, scientific disciplines, and sectors in society

Outcome



Promoting excellent research and innovation

Developing innovative products and solutions supporting a sustainable development

Developing new technologies, therapies and patient-centred and research-based care and disease prevention

Impact

Creating jobs, sustainable growth, efficient use of resources and productivity in society

Support the development of world-class education at all levels and of a qualified and agile workforce

Supporting people in difficult health, social, environmental, and humanitarian settings

Who are affected by intervention? How can we document impact?

Individium

E.g. individual researchers, students, children, etc.

Examples of effects

- Research career
- Researcher collaborations
- Research output (journal articles, databases, methods, inventions, etc.)
- Engagement activities

Organisation/Institution

E.g. universities, companies, research institutions, etc.

Examples of effects

- Research teams and research community
- Institutional collaborations
- Research output (journal articles, databases, methods, interventions)
- Education and outreach activities
- Infrastructure development

Societal sector

E.g. research environment, public health, social, energy, agriculture, environment, etc.

Examples of effects

- Scientific production, progress and breakthrough
- Technology and methodology development
- Innovations and discoveries
- Products and services
- Paradigm shifts in functioning of a sector

Society/Wider society

E.g. development of populations, countries, democracy, etc.

Examples of effects

- Reach to people in humanitarian, social, health, economic, environmental and other societal settings
- Political, economic, social and environmental changes in society (employment, climate, social conditions, etc.)

Scientific impact

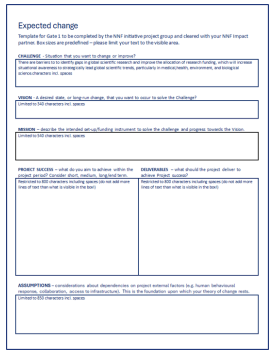
Sectoral and societal impact

Wider societal impact

The NNF way of impact management – four-step process for creating an **Impact Framework**

Grant agreement

1 — Develop Expected change


Expected change

Template for Gate 1 to be completed by the NNF initiative project group and cleared with your NNF Impact partner. Box sizes are predefined – please limit your text to the visible area.

CHALLENGE – Situation that you want to change or improve?
There are barriers to to identify gaps in global scientific research and improve the allocation of research funding, which will increase situational awareness to strategically read global scientific trends, particularly in medical health, environment, and biological science characters incl. spaces

VISION – A desired state, or long-run change, that you want to occur to solve the Challenge?
Limited to 540 characters incl. spaces

MISSION – describe the intended set-up/funding instrument to solve the challenge and progress towards the Vision.
Limited to 540 characters incl. spaces

PROJECT SUCCESS – what do you aim to achieve within the project period? Consider short, medium, long-term terms.
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DELIVERABLES – what should the project deliver to achieve Project success?
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ASSUMPTIONS – considerations about dependencies on project external factors (e.g. human behavioural response, collaboration, access to infrastructure). This is the foundation upon which your theory of change rests.
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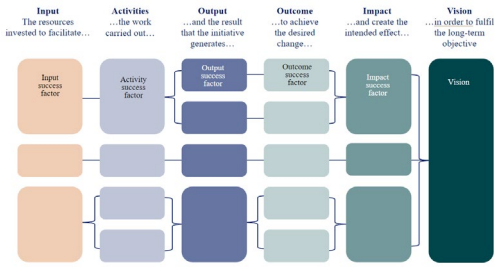
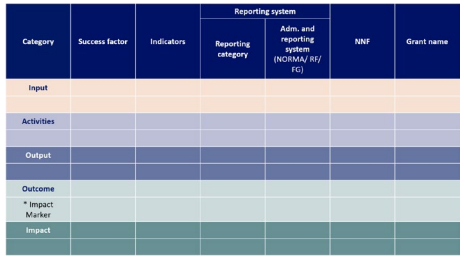
2 — Develop the Logic Model

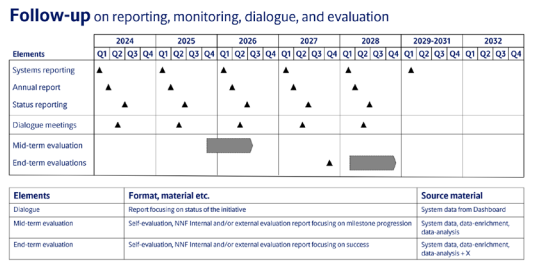


3 — Develop Data Model and Interaction plan



Category	Success factor	Indicators	Reporting system		NNF	Grant name
			Reporting category	Adm. and reporting system (NORMA/ RF/ FG)		
Input						
Activities						
Output						
Outcome						
* Impact Marker						
Impact						

4 — Follow-up


Follow-up on reporting, monitoring, dialogue, and evaluation

Elements	2024				2025				2026				2027				2028				2029-2031				2032			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Systems reporting	▲				▲				▲				▲				▲				▲							
Annual report		▲				▲				▲				▲				▲										
Status reporting			▲				▲				▲				▲				▲									
Dialogue meetings		▲				▲				▲				▲				▲										
Mid-term evaluation																												
End-term evaluations																												

Elements	Format, material etc.	Source material
Dialogue	Report focusing on status of the initiative	System data from Dashboard
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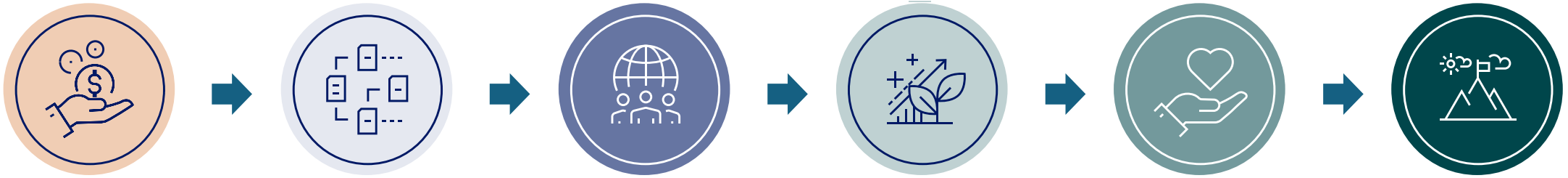
The Logic Model: **Identify success factors**

Derived from a set of **assumptions**, the Logic Model outlines the *intervention logic* of the initiative – from invested resources to intended outcome(s) and impact (in order to progress towards the vision).



Activities and outputs are expected to result directly from the NNF funding

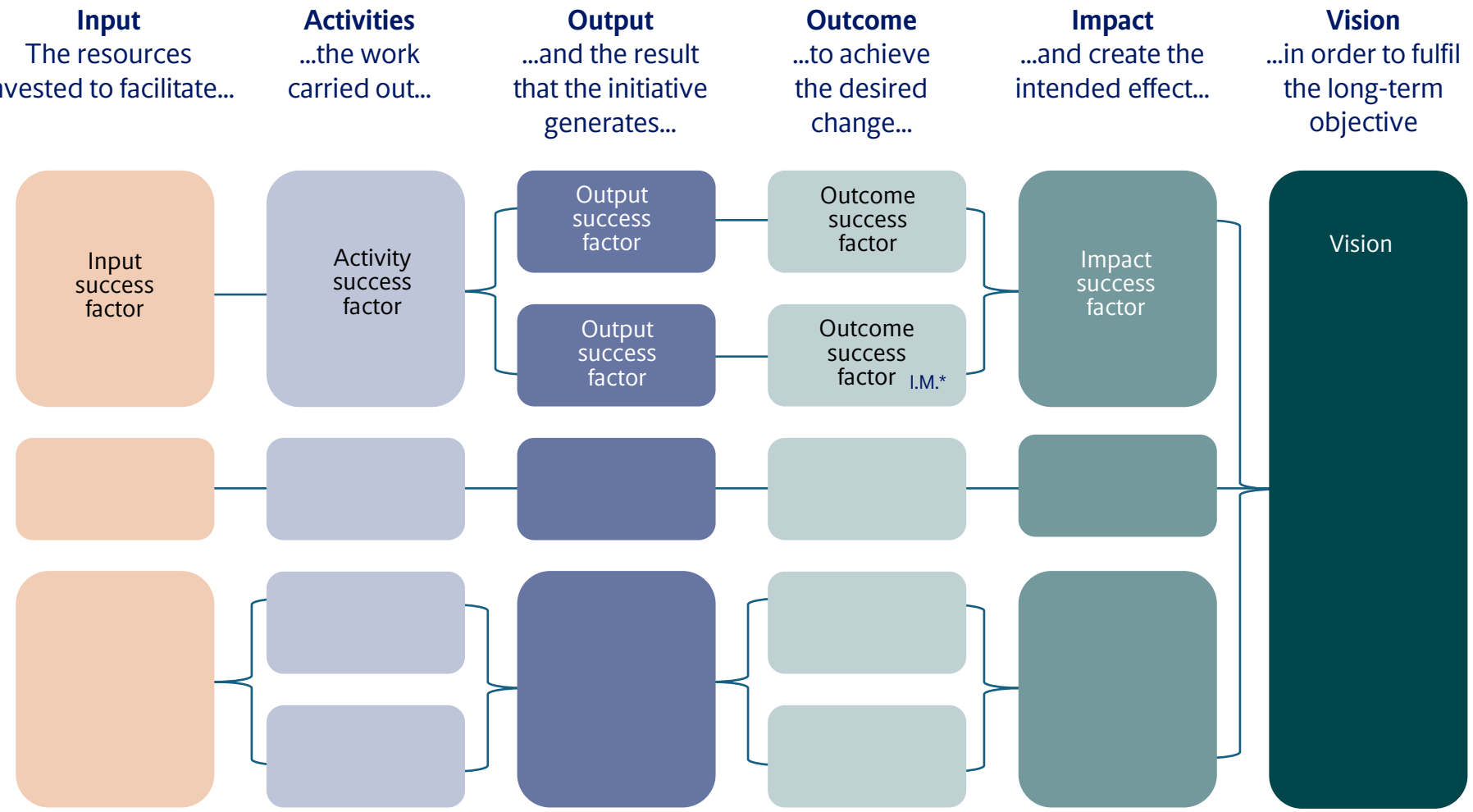
Outcomes and impact are desired results that can be harder to reach. They can also be dependent on external factors

Logic Model with a theory of change

When building the **Logic Model,** each box **(success factor)** should be self-explanatory.

Use a whole sentence when describing the product/result, state or action intended to be achieved.

Use Miro board templates for Logic Model



* As an example, an outcome success factor and/or indicator could be an impact marker if considered a necessary stepstone or early indicator of success.

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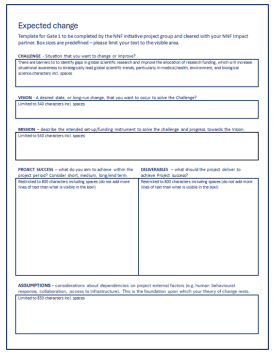
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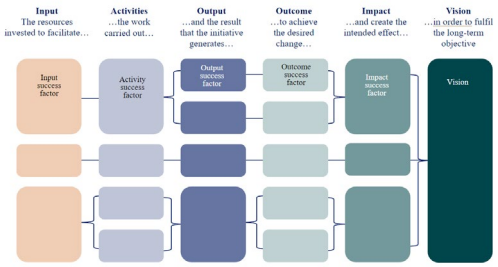

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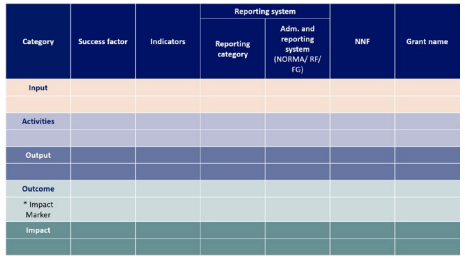

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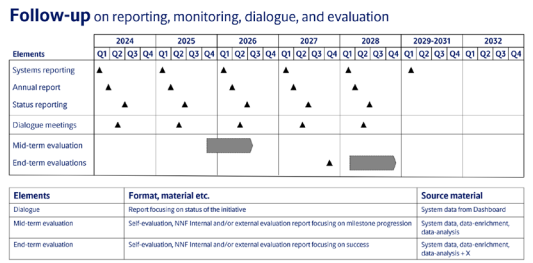
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Creating an impact culture

Impact culture among stakeholders and in the Novo Nordisk Foundation

- A structured approach should help to foster an impact culture internally and externally
- Co-creation of theory-of-change and data models implies shared responsibilities
- Continuous data collection and evaluation support monitoring and learnings

Challenges in assessing impact

Difficult to establish objective assessment

- Impacts are multifaceted and manifest in various forms.
- Stakeholders perceive and value impacts differently (high risk of subjectivity).

Bias, unknown effects and blind spots

- Assessments can be influenced by the biases of evaluators, data, or norms.
- Some impacts may only become apparent after a significant period or remain unrecognized or unattributed to specific research.
- Unintended or unanticipated impact might be overlooked.

Insufficient data and knowledge

- Comprehensive data on all potential impacts might not be available or measurable.
- Complex societal systems makes it difficult to trace impacts directly to research.

Methodological limitations

- Over-reliance on quantitative metrics or underappreciation of qualitative effects.
- Different methods might yield different results.

Importance of assessing societal impact

Informed decision-making

- Can help to make informed decisions about funding research.
- Can inform the direction of future research.

Demonstrating value

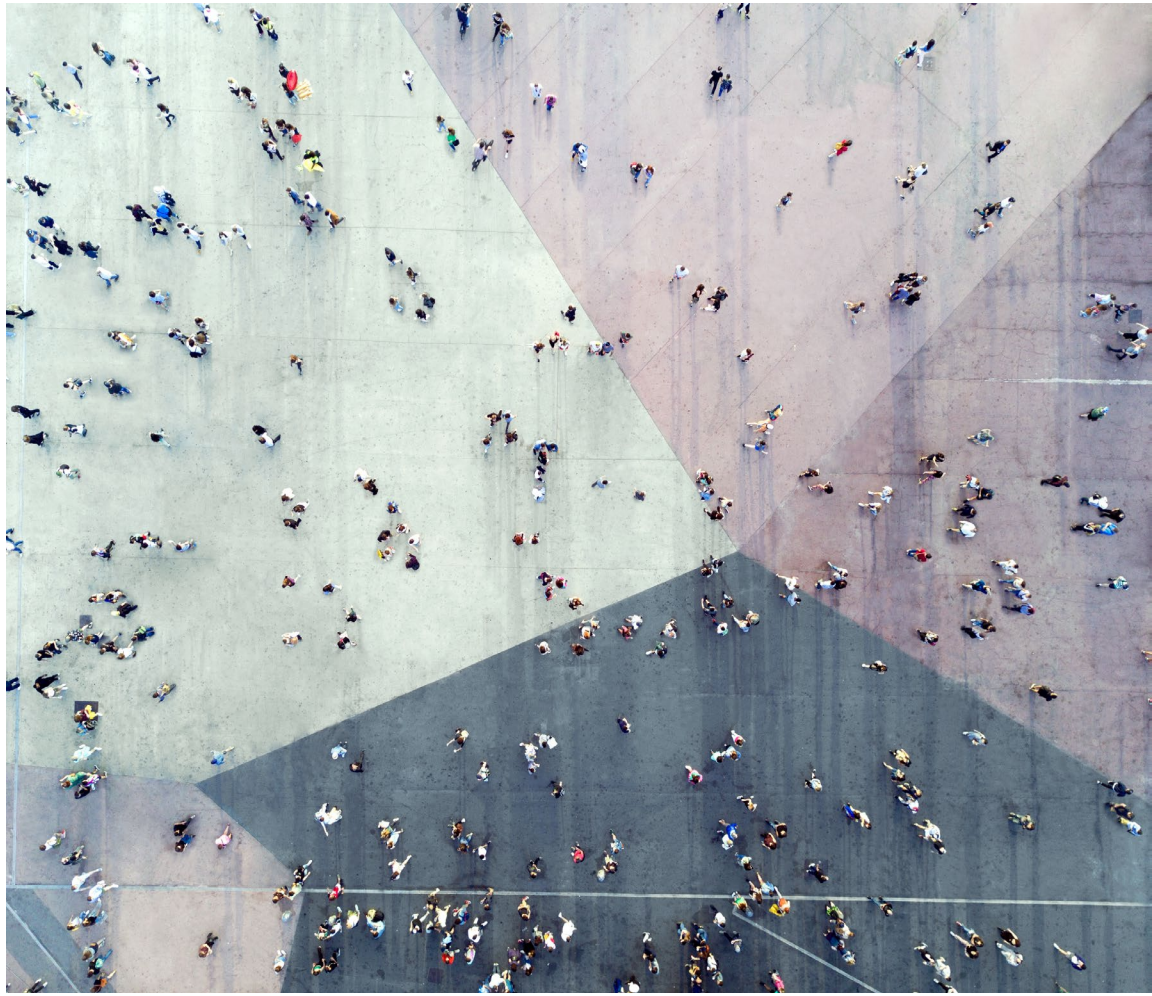
- Can highlight the scientific and societal importance of research, supporting investment in research.

Facilitating positive change, quality and relevance

- Can enhance the quality and societal relevance by encouraging researchers to consider the broader implications of their work.
- Can facilitate positive change by applying research findings to address societal challenges.

Accountability and transparency

- Can ensures accountability to funders, researchers, and the wider society.
- Can provide transparency regarding the utilization of resources and the outcomes achieved.



Scientific discoveries with significant long-term and wider societal impact

Discovery of Electricity (18th-19th centuries)
The work of many scientists, including Hans Christian Ørsted, Benjamin Franklin and Michael Faraday, led to the discovery and understanding of electricity. This has resulted in countless applications, from electric lighting to modern electronics and power systems.

Discovery of X-rays (1895)
Wilhelm Conrad Röntgen's discovery of X-rays revolutionized medical imaging, enabling non-invasive visualization of internal structures and aiding in medical diagnoses.

Development of Quantum Mechanics (early 20th century)
The development of quantum mechanics led to the development of many technologies we use today, including lasers, semiconductors, and MRI scanners.

Development of Insulin Therapy for Diabetes (1920s)
The discovery of insulin and its therapeutic use transformed the treatment of diabetes, greatly improving the quality of life for more than 150 million of individuals every year living with the disease.

Discovery of Penicillin (1928)
Alexander Fleming's accidental discovery of penicillin revolutionized medicine, leading to the development of antibiotics that have saved 100 millions of lives worldwide.

Development of Vaccines
The discovery and development of vaccines for diseases like smallpox, polio, measles, influenza, and COVID-19 have had a transformative impact on public health for the whole humanity, significantly reducing morbidity and mortality.

Discovery of the Polio Vaccine (1955)
Jonas Salk's development of the polio vaccine virtually eradicated polio that had caused paralysis in thousands of children.

Internet and World Wide Web (1960s-1990s)
Tim Berners-Lee's development of the World Wide Web made the internet accessible to the general public, revolutionizing the way we communicate, access information, and conduct business. It has significantly transformed aspects of society.

Development of the Microprocessor (1971)
The invention of the microprocessor by Intel paved the way for the development of personal computers and other digital devices.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Thank you

for your attention

Thomas Alslev Christensen
Senior Vice President, Impact