

# The Novozymes Report 2019

**Where we make a difference**  
In 2019, an estimated 5.9 billion people used products made with our solutions on a weekly basis

Rethink tomorrow

novozymes 

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## Sustainability

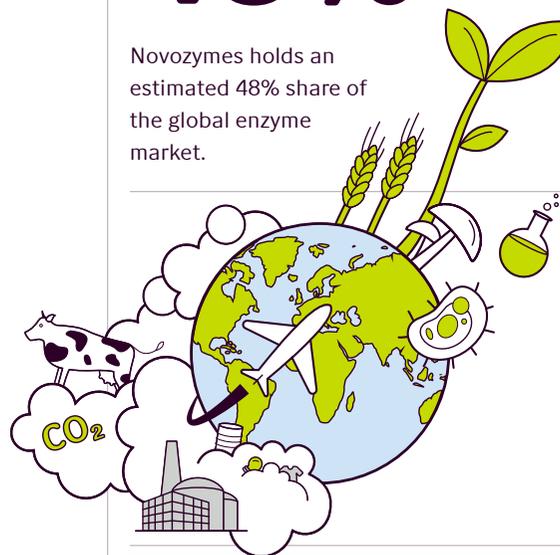
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## Our purpose

Together we find biological answers for better lives in a growing world  
– Let's rethink tomorrow

# 48%

Novozymes holds an estimated 48% share of the global enzyme market.



## 2019 in brief

2019 was a challenging year for Novozymes. Several industries experienced strong headwinds but there were signs of recovery in Household Care.



## Strategy

Novozymes' updated strategy Better business with biology was launched in June 2019. It will help us capture the right opportunities at the right time together with our customers.



## Explore

the highlights of the  
**Novozymes Report 2019**  
at [report2019.novozymes.com](http://report2019.novozymes.com)



**Where we make a difference**  
Novozymes' solutions contributed  
to an estimated saving of 87 million  
tons CO<sub>2</sub> for our customers  
in 2019

# The big picture



# Financial highlights



## 28.1%

**EBIT margin**

(2018: 28.3%)

The EBIT margin ended at 28.1%, down from 28.3% in 2018. Excluding the one-time costs incurred in 2019 relating to organizational changes, and the net gain from the termination of The BioAg Alliance and from the divestment of the pharma-related royalty, the EBIT margin in 2019 was around 26%.



## -1%

**Organic sales growth**

(2018: 4%)

Total sales in 2019 were DKK 14,374 million, a decline of 1% organically and flat in DKK.

Overall unsatisfactory sales growth in 2019 mainly due to challenging agricultural markets.



## -2%

**Net profit growth**

(2018: 3%)

Net profit declined by 2% to DKK 3,155 million in 2019, down from DKK 3,227 million in 2018.

Key figures	2019 realized	2019 outlook <sup>1</sup>
Sales growth, organic	(1)%	(2)-0%
EBIT margin	28.1%	27-28%
Net profit growth	(2)%	(5)-0%
Net investments excl. acquisitions, DKKbn	1.0	0.8-1.0
Free cash flow before acquisitions, DKKbn	2.2	1.9-2.3
ROIC (including goodwill)	21.1%	~21%
Avg. USD/DKK	667	667

1. Outlook guided as of October 23, 2019.



## 21.1%

**ROIC** (2018: 24.2%)



Return on invested capital (ROIC), including goodwill, was 21.1%, down 3.1 percentage points from 24.2% in 2018. The decrease was mainly a result of higher net invested capital. ROIC was impacted negatively by 0.8 percentage point by the implementation of IFRS 16.



**Outlook 2020**



**See more details on performance in Accounts and performance**

# Sustainability highlights



## 0.9

**Lost time injuries/million working hours**  
(2018: 2.4%)

Novozymes achieved its 2020 safety target one year ahead of time with just 0.9 lost time injuries per million working hours in 2019. This is the best result ever to be achieved across the organization.



## 31%

**Women in senior management**  
(2018: 30%)

In 2019, we exceeded our target of 29% for women in senior management (directors or higher). This is a result of our continued focus on improving diversity.



## 30%

**Renewable energy**  
(2018: 23%)

Energy from renewable sources accounted for 30% of our total energy consumption in 2019. In Denmark, Brazil and Tianjin, we purchase our electricity from renewable resources.

## 1.5°C

Better business  
with **biology**  
2020-2022

We are committed to providing the world with biological solutions that can help limit global warming increase to 1.5°C. This commitment has been validated by the Science Based Targets Initiative.

## 87,000,000

**Tons of CO<sub>2</sub> emissions saved**

In 2019, our customers saved an estimated 87 million tons of CO<sub>2</sub> emissions by applying Novozymes' products. The savings achieved are equivalent to taking approximately 36 million 🚗 off the road.

Key figures	2019 realized	2019 target
Estimated reduction in CO <sub>2</sub> emissions through our customers' application of our products, in million tons	87	≥ 94
Growth in absolute water consumption	(4)%	< organic sales growth
Growth in absolute energy consumption	(5)%	< organic sales growth
Growth in absolute CO <sub>2</sub> emissions	(24)%	≤ organic sales growth
Renewable energy	30%	28%
Occupational accidents <sup>1</sup>	0.9	≤ 1.5
Employee absence	1.9%	≤ 2.0%
Women in senior management	31%	≥ 29%
Enabling employee development	77	≥ 75
Customer satisfaction <sup>2</sup>	54	≥ 50

1. Per million working hours.  
2. Defined as Net Promoter Score.

➤ See more details in  
Accounts and performance

# Sales by geography

## North America



**33%**  
of sales

**-6%** Organic sales growth

Organic sales declined 6% in 2019 compared with 2018. Difficult market conditions for Bioenergy and Agriculture & Feed had a negative impact on the overall sales performance. Sales in Household Care, Food & Beverages and Technical & Pharma grew in 2019.

## Europe, the Middle East & Africa



**37%**  
of sales

**3%** Organic sales growth

Organic sales grew 3% in 2019 compared with 2018. Moderate growth in Household Care and Food & Beverages, paired with strong growth in Agriculture & Feed, shaped the good performance in 2019 overall. Bioenergy and Technical & Pharma were slightly down.

## Latin America



**10%**  
of sales

**5%** Organic sales growth

Organic sales in Latin America grew 5% in 2019 compared with 2018. While Agriculture & Feed was negative, the very good performance was primarily driven by Bioenergy as more corn-based ethanol capacity came online during the year.

## Asia Pacific



**20%**  
of sales

**-3%** Organic sales growth

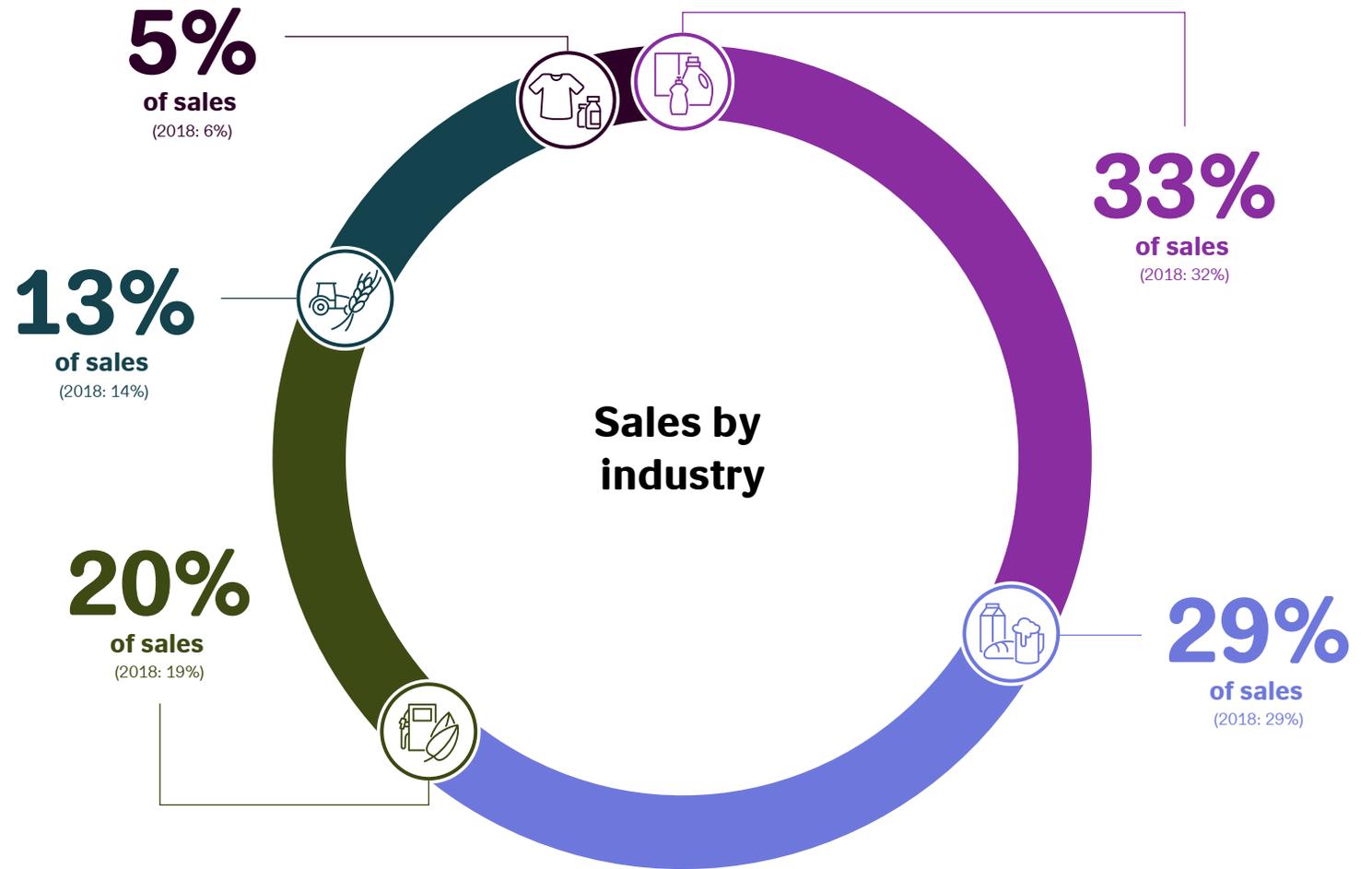
Organic sales in Asia Pacific declined 3% in 2019 compared with 2018, as performance in Food & Beverages was curbed by weakness in starch processing and the negative effects from the Middle East.

# Sales by industry

## Industries

-  **Household Care**
-  **Food & Beverages**
-  **Bioenergy**
-  **Agriculture & Feed**
-  **Technical & Pharma**

Novozymes holds an estimated 48% share of the global enzyme market. One out of five of Novozymes' industries grew in 2019. Household Care delivered according to expectations set out at the beginning of the year. Bioenergy, BioAg, and Food & Beverages were negatively impacted by weak agricultural markets.



## Organic sales growth



# Household Care



Organic sales growth

## 2019 results

Sales in Household Care grew 1% for the year. Sales reported in DKK grew 3% for the full-year.

The sales performance in 2019 benefitted from solid growth with local customers and the negative trend in business with large global customers subsiding. The commercial rollout of the Freshness platform progressed as planned and key innovation milestones were achieved. Freshness was predominately a second half sales growth contributor.

Growth with local customers primarily came from increased enzyme penetration and sales in developed markets grew moderately in 2019. Sales in emerging markets declined, as strong growth in India throughout the year was offset by the weaker Chinese market early in the year and the annualization of negative impact from the Middle East.

The negative impact from the Middle East was another reason for the shifting sales performance from a slight decline in the first six months to solid growth in the back half of the year.

## Product launches

- ✓ **Medley® 3.0** – Next generation of liquid blends upgraded with the latest technology to meet consumer needs and the latest product formats
- ✓ **Achieve Advance** – New enzyme for low temperature automatic dishwashing

## 2020 outlook

Organic sales growth is expected to be supported by the continued rollout of the Freshness platform and increased penetration in emerging markets.

Some of our larger customers are expected to further stabilize their performance, whereas medium and small laundry detergent producers are expected to continue improving their formulations with further inclusion of enzymatic solutions.



Read more about our Household Care solutions at [Novozymes.com](https://www.novozymes.com)

## Key industry trends

- Consumers are willing to pay more for natural products
- Compaction of laundry detergents remains a strong trend, driven by increased sales through online retailers and the desire to reduce the use of plastics
- Strong interest in freshness solutions for the removal of malodor and grime, including in synthetics
- Growing interest in microbial cleaning and bio-based solutions for softeners and dishwashing by hand

### SDG impact



Our solutions contribute to reducing aquatic pollution, among other things.



Read more about our contributions to the SDGs

# Food & Beverages



29%  
of total sales

-1%

Organic sales  
growth

## 2019 results

Organic sales in Food & Beverages declined 1% for the year. Sales reported in DKK grew 1% for the full-year.

Growth in the second half of the year was not enough to offset the weak start to the year. 2019 was a difficult year in the starch processing business due to adverse commodity prices in China and severe weather conditions in the US Midwest.

However, there was strong demand for Frontia®, the recently launched grain milling solution, in 2019.

Food & nutrition contributed positively to growth with strong demand for protein ingredients and plant extraction solutions as well as for Saphera® in dairy. Baking ended the year flat, while sales in beverages grew moderately.

## Product launches

- ✓ **Frontia® Jade** – New addition to our Grain milling platform for the Chinese market, extracting extra value from corn by releasing more starch, fibers and protein

## 2020 outlook

Organic sales growth is expected to be broad-based with all regions contributing to growth. Emerging markets are expected to outgrow developed markets.

The ramp-up of Frontia® for grain milling will continue across regions and hence will be an important growth contributor, while growth in the starch business is expected to be more muted.

Beverages are projected to grow in line with the industry average. Food & nutrition is expected to continue its good momentum, supported by accelerating health awareness trends.



Read more about our Food & Beverages solutions at [Novozymes.com](https://www.novozymes.com)

## Key industry trends

- Growing consumer demand for high-quality, healthy and sustainable foods
- Consumers focus on brands using local and clean label ingredients catering to local tastes, traditions and cultures
- Continued focus on yield enhancement solutions in agro-processing industries
- Strong interest from emerging markets in production optimization solutions

## SDG impact



Our solutions contribute to making food production systems more sustainable.



Read more about our contributions to the SDGs

# Bioenergy



Organic sales  
growth

## 2019 results

In 2019, sales in Bioenergy declined 3% organically and was flat in reported DKK.

The business was negatively impacted by severe weather conditions in the US Midwest, with Novozymes' ethanol customers pulling back more than the industry average as reported by the EIA (US Energy Information Administration).

Further, the North American market was impacted by low ethanol production margins, elevated inventories and fewer export opportunities.

The continued capacity expansion of starch-based ethanol production in Latin America and the penetration of Novozymes' new yeast platform contributed positively to the performance.

## Product launches

- ✓ **Innova® Force** – New yeast for the ethanol industry that, in combination with our enzymes, delivers the most reliable and flexible solution available on the market
- ✓ **Innova® Fit** – Dry version of our yeast for the ethanol industry that enables penetration of markets in Latin America and Europe, as well as markets in the US
- ✓ **Fortiva®** – Unique new offering in ethanol liquefaction to meet demand for increased yield even in high-temperature conditions

## 2020 outlook

Organic sales developments are expected to be driven by continued penetration of the Innova® yeast technology for first-generation biofuels, starch-based production capacity expansion in Latin America, and innovation targeting the North American business.

Uncertainty remains about the volume of US ethanol production in 2020 given continued low ethanol producer margins and elevated inventories. Currently, we estimate a flat year-on-year development in US ethanol production.



Read more about our Bioenergy solutions at [Novozymes.com](https://www.novozymes.com)

## Key industry trends

- Growing demand for clean energy as climate change and sustainability are high on public agendas
- Increase in global biofuel mandates continues, driven by key emerging markets
- Strong pressure on US ethanol industry due to low producer margins and high inventories

## SDG impact



We promote the development and deployment of low-carbon transportation fuels.



Read more about our contributions to the SDGs

# Agriculture & Feed



Organic sales growth

## 2019 results

In 2019, sales in Agricultural & Feed declined 5% organically and by 8% in reported DKK.

Weak US farm economics impacted the business negatively in 2019, and the effect was further amplified by severe weather conditions in the US Midwest. In April, the negotiations with Bayer were concluded and the new BioAg setup was announced. BioRise, the new inoculant for upstream corn launched in partnership with Bayer, has been well received by the market and contributed positively to growth.

Our solutions for other crops, mainly soy, were more challenged. Feed sales were flat and was supported by Balancius™ for improved gut health in poultry, while performance in animal nutrition was soft.

Novozymes recognized DKK 24 million of deferred income as revenue in 2019, compared with DKK 169 million in 2018. The remaining balance of DKK 287 million was recognized as Other operating income in the second quarter, and there is no longer any deferred income related to The BioAg Alliance on the balance sheet.

## Product launches

- ✓ **CTS500** – A new industrial biological soybean inoculant developed in collaboration with Bayer for the Brazilian market, bringing together biological inoculants of selected bacteria with high efficiency and nitrogen fixation
- ✓ **Optimize 500** – Robust inoculant with improved performance and on-seed stability for soy

## 2020 outlook

Organic sales developments are subject to uncertainty, primarily due to global farm economics and trade-related concerns. Further, 2020 will be the first full year with the agricultural business operating under the new partnership structure.

Performance in Feed is predominately expected to be driven by the continued commercialization of Balancius™ for poultry. Sales to the agricultural industry is expected to benefit from continued penetration of corn inoculants for the North American market.



Read more about our Agriculture & Feed solutions at [Novozymes.com](https://www.novozymes.com)

## Key industry trends

- Agriculture affected by more frequent extreme weather conditions
- Sustainable yield enhancement still in high demand as world population grows, putting pressure on agricultural sector to produce more and better products while minimizing negative environmental impact
- Increasing focus on feed efficiency and animal health with less use of antibiotics
- Farmer sensitivity to fluctuations in commodity prices

### SDG impact



Our solutions support sustainable food production and resilient agricultural practices.



Read more about our contributions to the SDGs

# Technical & Pharma



Organic sales growth

**Where we make a difference**  
Our solutions improve processes across industries such as textiles, leather, wastewater, forest and pharma.

## 2019 results

Sales in Technical & Pharma declined 3% for the year. Sales reported in DKK declined 6% for the full-year.

Sales in the textile business declined as production in the industry shifted from China, where enzyme utilization is higher, to areas with lower enzyme usage.

## 2020 outlook

The industry was impacted by shifting textile markets in China, especially during the second half of 2019, which is expected to continue in 2020.



Read more about our Technical & Pharma solutions at [Novozymes.com](https://www.novozymes.com)

## Key industry trends

- ⑦ Water scarcity and water pollution driving legislation and demand for solutions that reduce water consumption and improve water quality
- ⑦ Major apparel companies are rethinking their supply chains to accommodate increased public interest for sustainability in fashion. Regulatory changes might follow, leading to renewed interest for biological alternatives to the harsh chemicals currently used
- ⑦ Focus on cost reduction and process optimization continues

### SDG impact

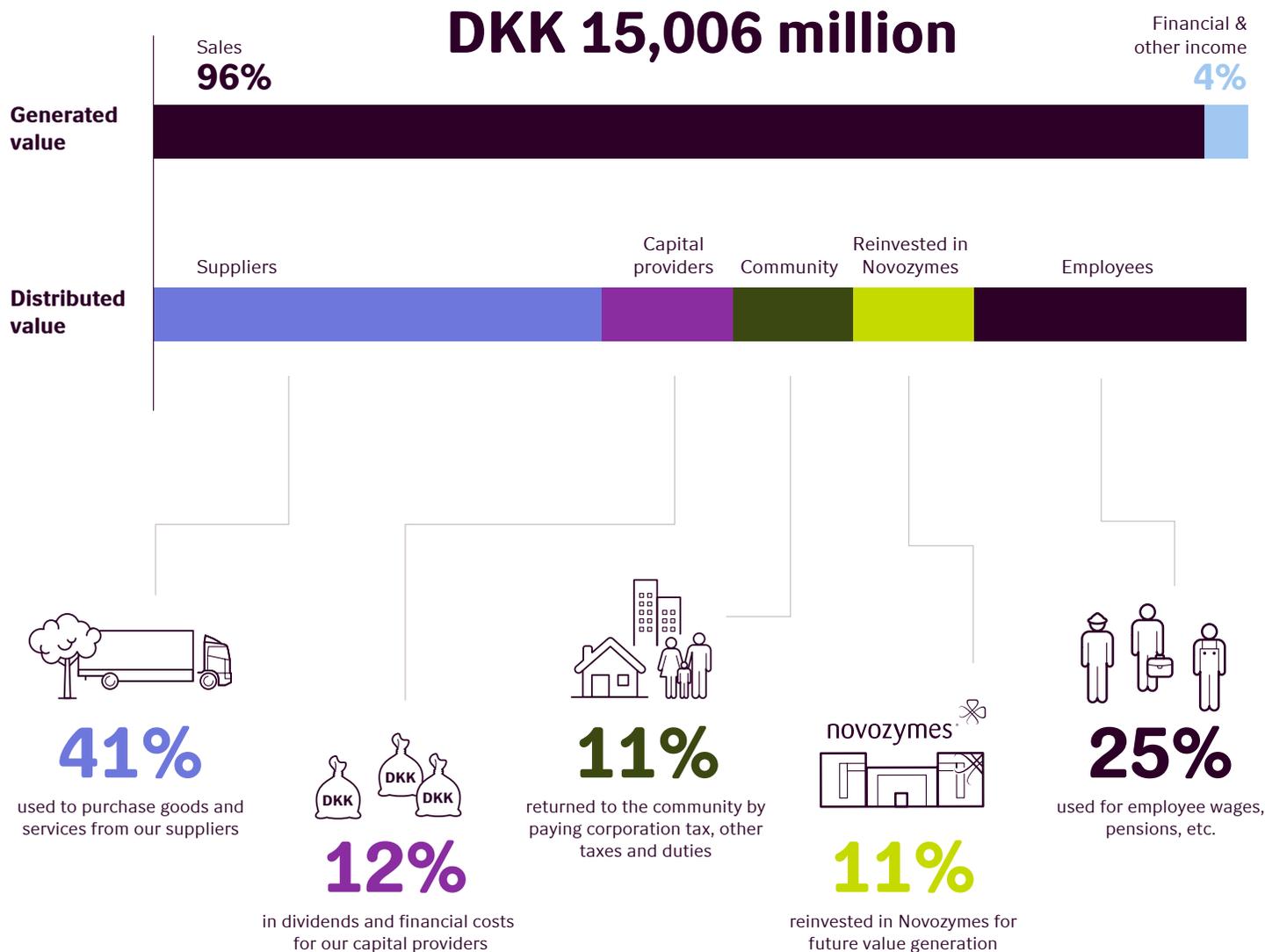


Our solutions contribute to reducing aquatic pollution and improving wastewater treatment.



Read more about our contributions to the SDGs

# Economic contribution



In 2019, Novozymes generated value of DKK 15,006 million. 89% of this amount was returned to society. The remaining 11% was reinvested in Novozymes to develop the company and ensure competitiveness and future value generation for distribution among key stakeholders.

In addition to the 12% returned to capital providers, Novozymes bought back shares worth DKK 2 billion in 2019.

### A positive tax contribution

Novozyymes' overall tax strategy and transfer-pricing policy support a positive tax contribution to society and governments, and the company continuously works to fulfill its tax obligations in the countries in which it operates. We seek to obtain a competitive tax level in a fair and responsible way, and with full regard to national and international laws and regulations. Besides taxes, our economic contributions include duties, VAT, employee taxes, employee pension and benefit programs, procurement from local vendors and job creation.

In 2019, Novozymes incurred corporate income taxes and other taxes and duties that amounted to approximately DKK 1,675 million. In addition, Novozymes collected and withheld tax contributions on dividends and wages totaling approximately DKK 1,325 million. Novozymes' total tax contribution therefore amounted to approximately DKK 3,000 million, compared with approximately DKK 2,500 million in 2018.

# Five-year summary

DKK million	2015	2016	2017	2018	2019
<b>Income statement</b>					
Revenue	14,002	14,142	14,531	14,390	14,374
Gross profit	8,129	8,126	8,413	8,255	7,954
EBITDA	5,011	4,960	5,114	5,158	5,292
Operating profit / EBIT	3,884	3,946	4,047	4,070	4,039
Financial items, net	(257)	(34)	(157)	(117)	(235)
Net profit	2,825	3,050	3,120	3,227	3,155
<b>Balance sheet</b>					
Total assets	17,791	18,659	18,373	19,697	20,437
Shareholders' equity	11,593	11,745	11,267	11,438	11,480
Invested capital	11,891	12,584	12,880	13,953	15,507
Net interest-bearing debt	437	990	1,642	2,535	4,049
<b>Investments and cash flows</b>					
Cash flow from operating activities	3,339	3,840	4,063	3,679	3,196
Purchases of property, plant and equipment	968	1,076	1,593	1,332	862
Net investments excluding acquisitions	1,015	1,188	1,665	1,388	991
Free cash flow before net acquisitions and securities	2,324	2,652	2,398	2,291	2,205
Business acquisitions, divestments and purchase of financial assets	(242)	(161)	(3)	(4)	430
Free cash flow	2,082	2,491	2,395	2,287	2,635

		2015	2016	2017	2018	2019
<b>Key ratios</b>						
Revenue growth, DKK	%	12	1	3	(1)	-
Revenue growth, organic	%	4	2	4	4	(1)
R&D costs (% of revenue)	%	13.5	13.2	13.2	13.0	13.7
Gross margin	%	58.1	57.5	57.9	57.4	55.3
EBITDA margin	%	35.8	35.1	35.2	35.8	36.8
EBIT margin	%	27.7	27.9	27.9	28.3	28.1
Effective tax rate	%	22.0	21.4	19.5	18.0	17.0
Equity ratio	%	65.2	62.9	61.3	58.1	56.2
NIBD/EBITDA	x	0.1	0.2	0.3	0.5	0.8
Return on equity	%	24.7	26.1	27.1	28.4	27.5
ROIC including goodwill	%	25.9	25.1	25.6	24.2	21.1
WACC after tax	%	5.3	6.5	6.5	6.6	6.6
Earnings per share (EPS), diluted	DKK	9.12	10.06	10.49	11.03	11.01
Dividend per share (2019 proposed)	DKK	3.50	4.00	4.50	5.00	5.25

Key ratios have been prepared in accordance with The Danish Finance Society's "Recommendations & Financial Ratios 2015 Nordic Edition" while certain key figures for the Novozymes Group were prepared as described in the Glossary.

IFRS 16 was implemented using the modified retrospective approach, and comparative figures for 2015-2018 have not been restated.

## Environmental and social data

Total number of employees	No.	6,485	6,441	6,245	6,427	6,125
Rate of employee turnover	%	9.1	10.4	11.9	8.8	12.7
Frequency of accidents with absence per million working hours		2.5	2.2	1.6	2.4	0.9
Women in senior management	%	24	25	26	30	31
Estimated CO <sub>2</sub> reductions from customers' application of Novozymes' products	Mill. tons	60	69	76	88	87

# Better business with biology

**“Novozymes is uniquely positioned to make a lasting and positive impact on the world. In terms of performance, 2019 was a difficult year, but it was also a year in which we made significant changes to prepare for the future and ensure we have long-lasting impact.”**

**Jørgen Buhl Rasmussen**  
Chairman

## Letter from the Board of Directors

Sustainability and climate change were once more on the political agenda in 2019. We must find sustainable solutions now to some of the greatest challenges humanity has ever faced. Every product Novozymes sells makes the world more sustainable. However, the potential of our products did not reflect in our performance in 2019. We can do so much more and, with the changes we made in 2019, we are headed in the right direction.

### A new step in our strategic journey

Together with the Executive Leadership Team, the Board of Directors spent significant time in the first part of 2019 on developing an updated strategy and a set of ambitious financial and nonfinancial targets for Novozymes. The strategy, Better business with biology, reflects our need to rebalance the organization to ensure we can invest in growth and our desire to better meet the needs of customers, consumers and the world by providing sustainable biological solutions.

I am inspired and excited about how we are able to tap into global trends to support not only growth in our innovative core businesses, but also the new Strategic Opportunity Areas we have identified. To align our innovation efforts with the need to get more out of our core business, we have also focused our innovation pipeline. We are now spending more resources on fewer projects. The Board believes this will help us to restore growth both short and long term.

### Making commitments to sustainability

As front runners within sustainable business development, it is important that we commit to doing whatever we can to reduce the

potential impact of climate change. Our new nonfinancial targets are a testament to this commitment. We have ensured that we have targets for the impact of our solutions when applied by our customers and for our own operations.

One of our operational targets is to help limit global warming to 1.5°C, and we were among the first companies in the world to have this commitment verified by the Science Based Targets Initiative. It makes me proud that we once again have taken the lead in driving sustainable business development.

### Changes to our leadership and the Board

In 2019, the Board appointed Lars Green as new Chief Financial Officer. He joined us from a position on the Executive Management at Novo Nordisk and had been serving on Novozymes' Board since 2014 and as Chairman of our Audit Committee. His ability to set the Chief Financial Officer agenda and engage with the organization will help us deliver on our strategy. Following his appointment, the Board of Directors elected Ms. Agnete Raaschou-Nielsen as new chair of the Audit Committee.

In October 2019, we appointed Ester Baiget as new Chief Executive Officer of Novozymes effective from February 1, 2020. Ester is an experienced international leader with a very strong track record of driving profitable growth. Her passion for the sustainability agenda also makes her a great fit for Novozymes.

During 2019, the Nomination and Remuneration Committee worked on a proposal for a new remuneration policy and a new remuneration structure. Furthermore, the

committee worked diligently on the changes to the Executive Leadership Team and the Board of Directors, to ensure the right leadership for Novozymes.

For the Annual Shareholders' Meeting on February 26, 2020, the Board of Directors proposes the re-election of four current members and the election of three new members, all for a one-year term. The three new members are:

- Cees de Jong as new Vice Chairman of the Board
- Sharon James as new member of the Board
- Heine Dalsgaard as new member of the Board

Cees de Jong is a highly regarded business leader and we expect him to make a significant contribution to the further development of Novozymes' performance and strategy. Sharon James has more than 25 years' experience as a strong R&D leader and the Board believes she will be able to contribute significantly to Novozymes' focus on prioritization and strategic opportunities. Heine Dalsgaard has many years' experience across a range of industries, and we believe Novozymes will benefit from his leadership skills and business acumen.

Agnete Raaschou-Nielsen (currently Vice Chairman) will resign as part of the succession plan for the Board of Directors. The Board wishes to express its appreciation for Agnete's dedication and long-standing contribution.

### Thank you

The Board would like to thank all of Novozymes' employees for their achievements and dedication in what was a challenging year. A special heartfelt thank you goes to Peder Holk Nielsen for his 35 years of dedicated service.

It has been a great journey. In his six years as Chief Executive Officer, Peder has positioned Novozymes to capture stronger growth and we have expanded our global footprint, especially in emerging markets. Under his leadership we have delivered a number of transformational innovations that will impact the business of our customers and the world for years to come. Here I would like to mention Balancius™, our first gut-health enzyme for chickens, as well as our game-changing freshness solution for laundry to name but a few. In addition, Peder has pushed Novozymes towards operational excellence.

Soon we will welcome Ester as the new Chief Executive Officer and the Board and I look forward to working together with her and the rest of the Executive Leadership Team to unfold the updated strategy. The world needs Better business with biology.

On behalf of the Board of Directors,



Jørgen Buhl Rasmussen  
Chairman

# A year of change

**“2019 was a challenging year for Novozymes. Some of our businesses were impacted more severely than we had anticipated, leading us to adjust our guidance. But we also brought significant innovation to the market and re-focused our efforts and investments where they matter most. We believe Novozymes is well-positioned to deliver stronger performance in the years to come.”**

**Peder Holk Nielsen**  
President & CEO

## Letter from the CEO

Novozymes did not deliver a satisfactory performance in 2019. While we launched significant innovations across industries and began to see improved sales performance in the second half of 2019, our sales growth came in below the expectations we had at the outset of the year.

Bioenergy and Agriculture experienced strong headwinds due to flooding and wet weather in the US Midwest. At the same time, unstable markets in the Middle East compounded the negative impact. We were hit by several external factors, but we also looked inwards and had to acknowledge that external factors were not solely to blame. This insight influenced our strategy, Better business with biology.

We had organic sales of -1%, EBIT came in at 28.1% and we experienced a net profit decline of -2%. Throughout the year, we adjusted our outlook to reflect the challenges we faced. While several industries did poorly, we did see signs of recovery in Household Care. It is in times like these that we become even more appreciative of the benefits of a diversified business like Novozymes, and the fact that we do not rely on only one industry for our success.

In 2019, we remained focused on delivering on our sustainability targets. We managed to reach our 2020 safety target one year ahead of time and achieved the best safety result to date with just 0.9 lost time injuries per million working hours. Every Zymer should feel safe going to work every day, and we will continue to prioritize safety.

### Better business with biology

In the first half of 2019, the Board of Directors and the Executive Leadership Team co-developed an updated strategy to help us fulfill our potential and at the same time reflect our obligation to our customers and to the world. In June 2019, we presented the strategy, Better business with biology.

With this strategy, we will differentiate our approach to customers based on their needs and we will invest in emerging markets and strategic opportunity areas to ensure we grow our business and enhance our impact. While we see strength in our diversified business, it also obligates us to gain a deeper understanding of the diverse industries we operate in, so we can capitalize on opportunities when they arise. The work related to the strategy is already progressing well.

In August 2019, we said goodbye to many good colleagues to free up the resources to reinvest in high growth areas. This was a tough time at Novozymes, and we have worked hard to ensure that both the employees who left us and those who stayed have the right support.

### Innovation at the core of what we do

Biology remains at the core of what we do, and we remain the world leader in biological solutions. In 2019, we delivered several strong new innovations, and I would like to mention a few of them here.

In Food & Beverages, we expanded our Grain milling platform with Frontia® Jade, a solution tailor-made for the Chinese market. In Bioenergy, we launched Innova® Force, which

complements the current range of yeasts from our Innova platform and enables ethanol producers to choose a yeast that is an exact fit for their operating conditions. Since we launched our Innova platform in early 2018, more than 25% of North American ethanol plants have begun to use our yeasts.

In 2019, we opened our first Customer Experience Center for Household Care in Beijing where we showcase what our technology can do for our customers and for end-consumers. The detergent market in emerging markets is expected to grow, and we want to ensure we are meeting local customers' needs even better and faster. 2019 was also the year when many Zymers in Denmark could move in to our new Innovation Campus in Lyngby. Years ago, we had a vision to create a workplace where a variety of functions in Novozymes, from back office to laboratories, would work side by side in the same building. That vision has now come to life, and I can tell you that it is very exciting to walk through the campus and see our innovation in Denmark at work.

### Changes to our leadership

In September, we welcomed Lars Green as our new Chief Financial Officer. He brings extensive experience and a good cultural match to Novozymes from his previous position with Novo Nordisk. As a member of our Board of Directors, he was already a strong contributor to our strategy work and since starting as Chief Financial Officer he has been instrumental in ensuring that the strategy takes root in the organization.

2019 marks my last year with Novozymes, as I will be stepping down as Chief Executive Officer and handing over the reins to Ester Baiget as of February 1, 2020. I know that our purpose resonates with Ester and I am sure she will quickly feel like a true Zymer.

### Looking ahead

In 2020, we may see a continuation of the unstable agricultural markets which could continue to impact the ag-exposed parts of our business. Therefore, we have set a rather wide sales growth expectation of 1-5%. Growth will be supported by the continued development and commercialization of the Freshness platform, Balancius™, Palmora and Frontia® and different yeast solutions for biofuels.

### Thank you

Finally, I would like to thank all our stakeholders, especially my fellow Zymers, for 35 great years with the company. The enthusiasm and drive of Zymers has made it a pleasure to go to work every day. I feel very privileged to have been a part of Novozymes' journey. A new chapter is starting now, both for Novozymes and for me. I know there is a lot of excitement in the company around Better business with biology and I wish the company a bright, green and growing future.

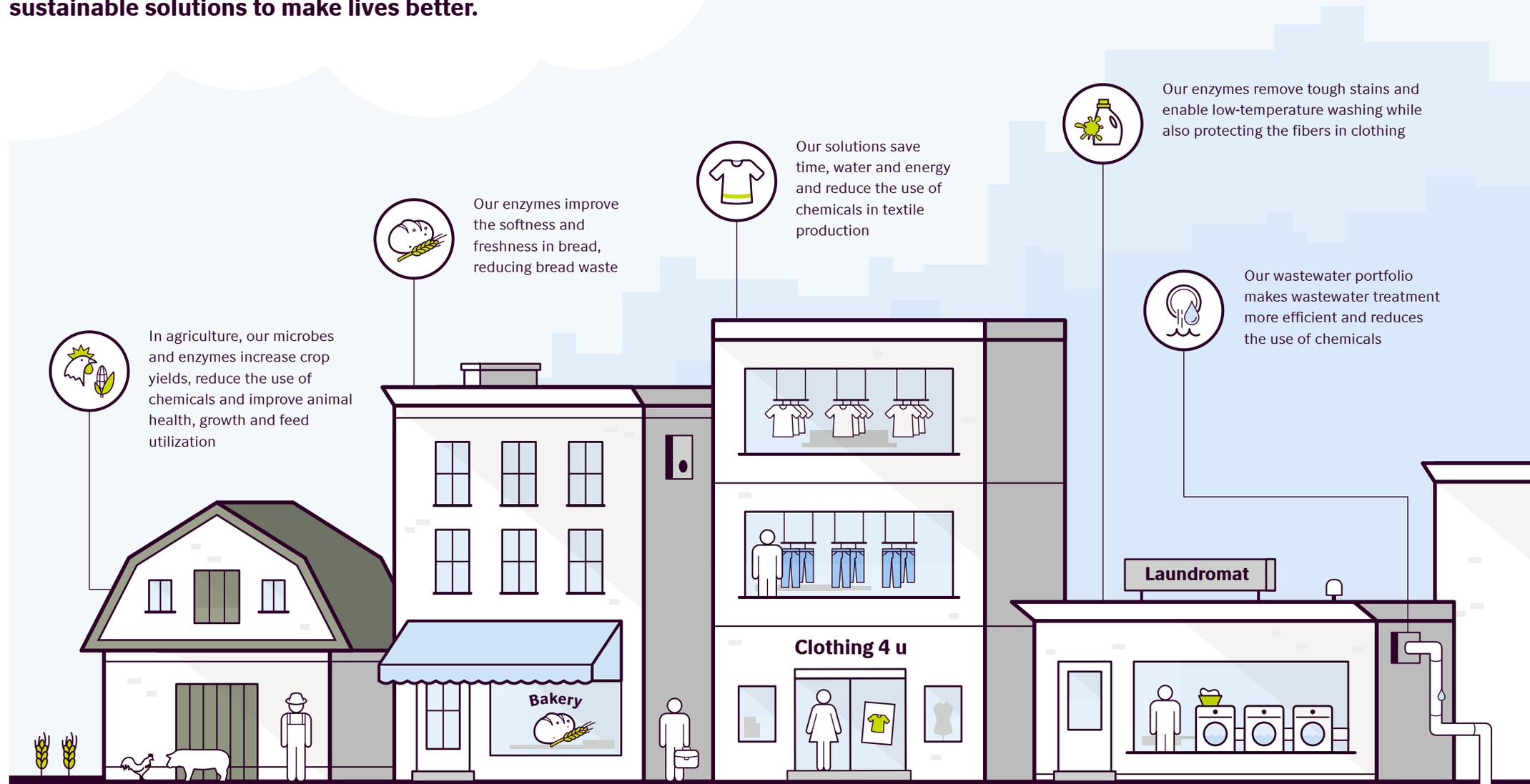


Peder Holk Nielsen  
President & CEO

# This is Novozymes

Where is Novozymes? We are everywhere – with natural, sustainable solutions to make lives better.

As a global market leader in biological solutions, Novozymes is everywhere, delivering natural, sustainable solutions that make a positive contribution to our environment – be it the air we breathe, the water we use or in reducing the waste we produce. In fact, an estimated 5.9 billion people around the globe use products made with our solutions on a weekly basis. From the clothes you wear to the food you eat and the ethanol that powers your car, Novozymes is there. Here are some examples of how Novozymes' solutions make an impact.





Our enzymes help create lactose-free and other “free-from” foods that are becoming increasingly popular around the world



Our solutions improve the filtration and flavor of beer while also optimizing the brewing process



Our enzymes make the process of preparing, degreasing and tanning leather more efficient and sustainable



Our enzymes improve efficiency in paper mills and help reduce the use of chemicals



Our bioenergy solutions are used to make biofuels from renewable sources helping to reduce your car’s carbon emissions relative to ordinary gasoline

**Novozymes produces industrial enzymes and microorganisms for a broad range of industries. We are more than 6,100 employees on six continents. This is our purpose that guides us in everything we do: Together we find biological answers for better lives in a growing world – let’s rethink tomorrow.**



To know more about our business model, please visit [www.novozymes.com/en/businessmodel](http://www.novozymes.com/en/businessmodel)



# Novozymes and the Sustainable Development Goals

**Novozymes is the global market leader in biological solutions, producing a wide range of industrial enzymes and microorganisms. The intrinsically sustainable nature of Novozymes' products enables us to contribute to many of the Sustainable Development Goals (SDGs) adopted by the UN General Assembly.**

Novozymes' purpose, business strategy and targets are inspired by the SDGs because our solutions enable us to contribute to one or more of the SDGs every single day. All projects in our innovation pipeline are assessed in relation to their potential impact on the SDGs. This enables us to advance solutions that could have a highly positive impact on the SDGs.

In 2019, as part of our strategy review process, we identified new business areas that directly address the societal needs outlined in the SDGs. We believe in the power of partnerships and most of our contributions are driven through collaboration. SDG 17 (Partnership for the goals) is therefore a guiding principle for our company and the way we do business. In addition, we believe Novozymes' technologies and actions can contribute significantly to six of the seventeen SDGs:



See also [Novozymes and the global goals](#) for more details about how we contribute to the SDGs



## GLOBAL GOAL 2: ZERO HUNGER

The world needs to provide enough healthy, affordable and sustainably produced food for a growing population. Many of our products help farmers around the world increase their crop productivity using products containing naturally occurring microbes. Many of our Food & Beverages solutions contribute to reducing food waste and making food production systems more sustainable. Novozymes is an active partner of the Sustainable Food Platform, an initiative under the P4G partnership that aims to rethink market-based solutions for food and nutrition security in Africa.

In 2019, the partnership developed its first product idea for a healthy, nutritious and affordable biscuit, in which Novozymes' enzymes enable the addition of protein-rich flours.



## GLOBAL GOAL 7: AFFORDABLE AND CLEAN ENERGY

Novozymes actively promotes the development and increased use of renewable energy. Our solutions enable the development of low-carbon fuels in transportation, which represents a significant share of the global energy mix and related GHG emissions. Novozymes is an active member of the UN Sustainable Energy for All (SE4All) initiative. In collaboration with the World Business Council for Sustainable Development and other partners, we helped launch below50 – a partnership to promote the use of more sustainable low-carbon transportation fuels.

In 2019, Novozymes launched Fortiva®, an alpha-amylase product that converts more starch to useable sugars, resulting in 1% higher ethanol yields for sustainable biofuels.



## GLOBAL GOAL 4: QUALITY EDUCATION

Education is a high priority for Novozymes. We believe that raising awareness about biology, biotechnology and the environment will lead to more people adopting and developing sustainable solutions in the future. Since 2015, Novozymes has helped more than 941,000 people learn about biology and how it enables a sustainable future, by engaging with local schools, universities and communities.

In 2019, we conducted several educational activities aimed at external audiences. One example is “The Little Biologists” program in China, which is run by Novozymes in partnership with DoItTogether. The program engages with communities and schools to teach people about biobased solutions in everyday life.



## GLOBAL GOAL 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Unsustainable consumption and production behaviors are pushing the planet's ecological systems beyond its limits. Food systems, in particular, are linked to global environmental, social and economic challenges. Many of Novozymes' solutions, for example in BioAg, baking, and animal health and nutrition, enable more efficient production, reduce the use of resources, and minimize losses across food systems.

In 2019, Novozymes launched Frontia® Jade, a new enzymatic solution for the corn milling industry that enables an increase in starch output by 2% and corn gluten meal by 3%, resulting in increased food production while also enabling energy savings.



## GLOBAL GOAL 6: CLEAN WATER AND SANITATION

Over two billion people live in countries experiencing high water stress caused by water scarcity or pollution. There is a growing need for solutions to ensure clean and efficient water use.

Novozymes' water platform provides solutions that can prevent pollution by replacing chemicals and make wastewater treatment more efficient. We are also exploring ways to remove nitrogen from both drinking water and wastewater. Many of Novozymes' solutions help our customers reduce their consumption of water and reduce wastewater. In addition, we enable more innovation in water through our open innovation platform HelloScience.



## GLOBAL GOAL 13: CLIMATE ACTION

Climate change has always been an important topic for Novozymes. We are committed to helping the world limit global warming increase to 1.5°C by 2030 and achieve the goal of the Paris Agreement. For many years, we have enabled our customers to reduce their CO<sub>2</sub> emissions by applying our solutions. In 2019, Novozymes supported the implementation of the Renewable Energy Directive (RED II) in Europe. In partnership with industry organizations, Novozymes focused on maintaining direct dialogue with influencers and policy makers to advocate for the use of renewable fuels.

We focus on helping reduce emissions in the transport sector by enabling the production of low-carbon fuels. We also work towards reducing the impact of our own operations. In 2019, we supported the campaign "Business Ambition for 1.5°C – Our Only Future" as one of its first signatories.

**Where we make a difference**  
We enable the production of bio-based, low-carbon fuels for the transportation sector, which accounts for about 25% of total energy-related global CO<sub>2</sub> emissions

# Our business

# Strategy

**Our strategy Better business with biology was launched in 2019. Shaped by the promise of biology, we step into a future of better business – for our customers, for Novozymes and for the world.**

**It is impossible to ignore. Across the world, people are demanding solutions to the most important challenge facing mankind:**

How to ensure good standards of living for a growing population without depleting the world's resources and accelerating climate change.

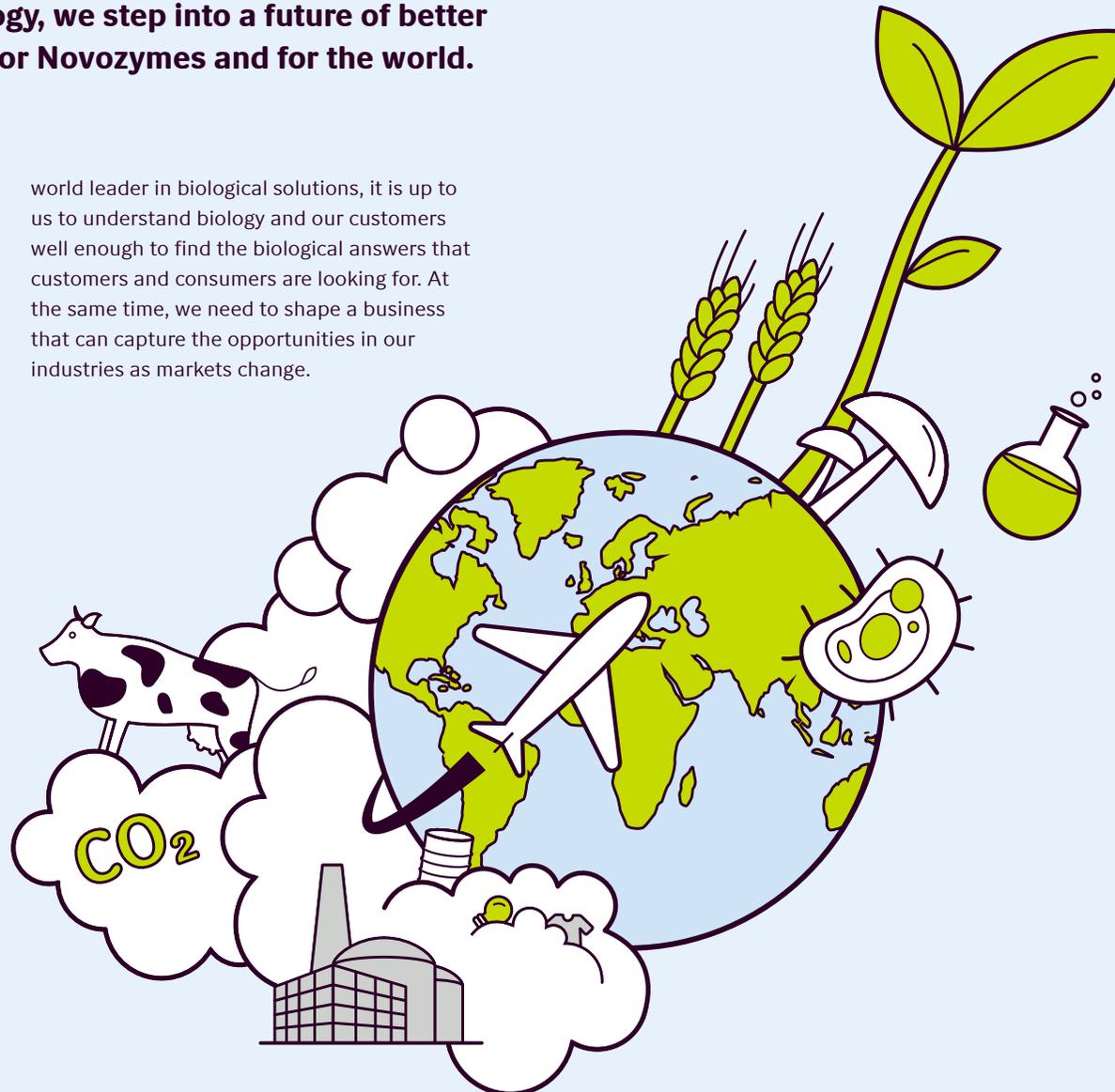
At Novozymes, we know that as part of solving this challenge, we must be accountable too. While we have delivered great innovations for many years, we can do even more – for our customers and for the world.

Our business is about turning science into sustainable biological answers. And our purpose – "Together we find biological answers for better lives in a growing world – Let's rethink tomorrow" – is engrained in the way we work and innovate, serving as the foundation for our collaboration with customers, governments, academia and other institutions.

## **Better business with biology**

In 2019, we updated our strategy and introduced targets for the period 2020-2022. We call the strategy Better business with biology and it is our response to the changes taking place in the world around us. As the

world leader in biological solutions, it is up to us to understand biology and our customers well enough to find the biological answers that customers and consumers are looking for. At the same time, we need to shape a business that can capture the opportunities in our industries as markets change.



Better  
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# A dual transformation

**Our strategy consists of three focus areas and four enablers that, together, allow us to create a dual transformation that will yield more growth and value from our existing business - while at the same time enabling us to invest more in new opportunities that support sustainable development.**



## Differentiate to succeed

*Adapt our approach to fit industry potential and concentrate on significant opportunities across markets and segments.*

At Novozymes, all industries play an important role in ensuring future success and value creation. To unlock the potential across industries, we need to constantly better our understanding of our customers' expectations and adapt our approach in each industry accordingly.

This means, investing the right resources, be that innovation, commercial support or product optimization, to deliver value to our customers, while at the same time reinvesting a significant share of our profit to develop new impactful biological solutions.



## Invest in impact

*Show up for our customers with strong commercial teams, capable of guiding innovation and services to deliver on customer goals.*

We will enable investment in impact in two ways. Firstly, we will focus our R&D resources on fewer innovation projects, concentrating on the most impactful innovations.

In addition to creating a more focused pipeline, we have implemented ongoing efficiency and resource reallocation programs. These changes allow us to invest in commercial teams and capabilities closer to our customers, particularly in emerging markets.



## Spearhead new business

*Unfold high-potential impact areas in a dynamic, efficient process, building tomorrow's business and responding to global needs.*

We will spearhead new business and work with strategic opportunity areas that are closely linked to the UN Sustainable Development Goals. The longer-term nature of these opportunity areas requires us to be explorative and pursue partnerships which can complement our existing knowledge and skills. We aim to explore these areas in a dynamic process where we remain ready to re-assess and pivot towards the opportunity areas showing the most promise.

Currently, we are exploring how to better feed the world with the help of alternative speciality proteins and how to increase health and well-being by finding solutions for human oral and gut health.

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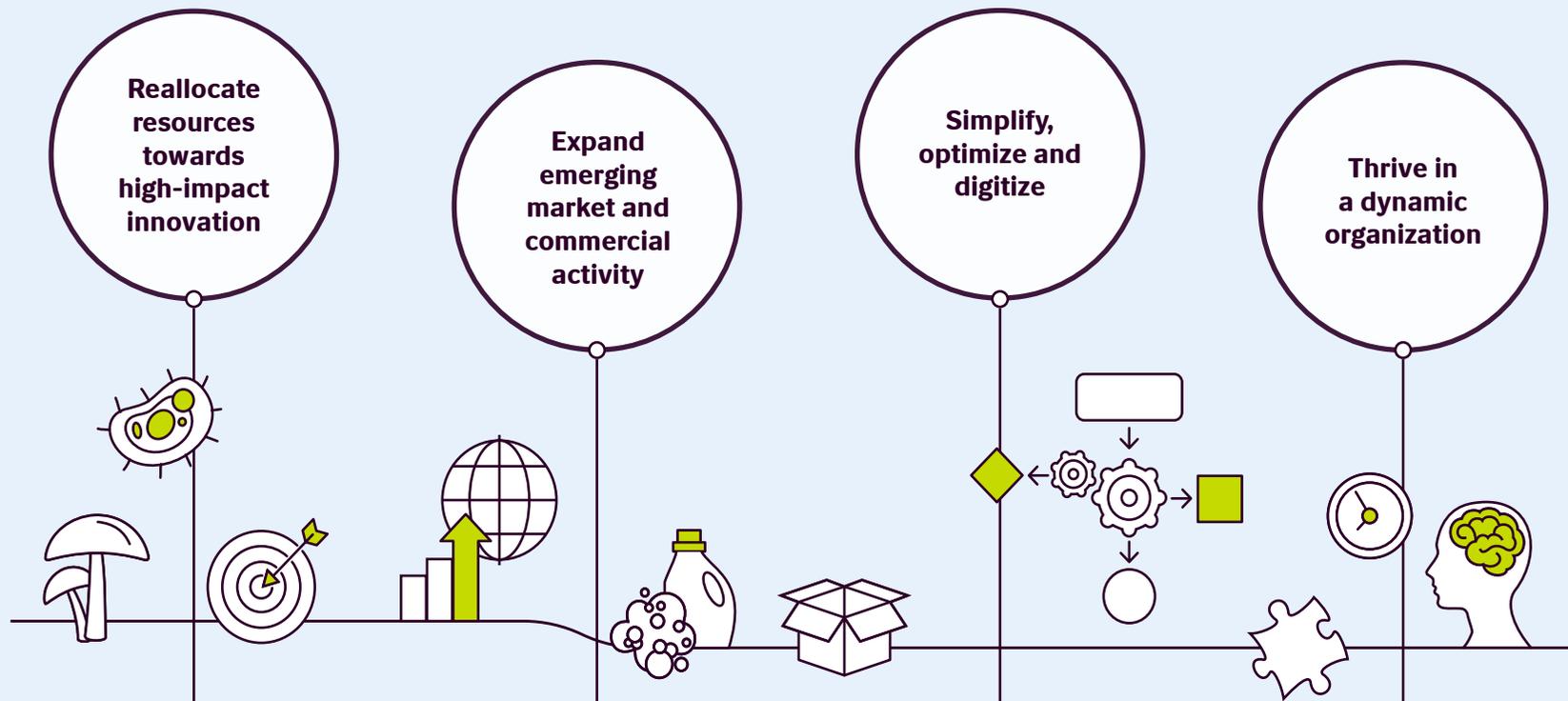
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# Enabling success

Our strategy's three focus areas are supported by four enablers that represent behaviors and ways of working that will help us succeed.



We innovate with a more focused R&D pipeline, targeting high-impact projects in growth areas. By focusing the pipeline and adding more resources to fewer projects, we increase the impact of innovation and get it to market faster.

We continue to invest in commercial capabilities across our business, with a strong commitment to winning in emerging markets.

We move to simpler mandates and structures, sharper resource allocation and more transparent processes. We also support our commercial push through the enhanced use of digital tools to improve the customer experience.

We enhance the potential of each employee to learn and contribute in an agile workplace. We work together in a diverse organization that creates and sustains energy and wellbeing and keeps safety front and center.

# Measuring our impact

**We will measure the impact of our updated strategy by setting ambitious targets for a mid-term period, while also aiming for long-term commitments.**

We have set three-year targets to measure our progress. Our 2022 targets focus on the world, our business and employees and our own operations.

These targets reflect our focus on a healthy business, engaged employees and the reduction of our own environmental footprint while enabling our customers to be more sustainable.

Achieving our 2022 targets would bring us on track to accomplishing our 2030 commitments. We have made commitments to help limit global warming increase to 1.5°C (Climate), ensure clean and efficient use of water (Water) and produce more and better products with less impact (Production & Consumption). We are guided by the UN's Sustainable Development Goals and we have carefully considered how we can make a positive and tangible impact.

Here, we explain how we see our contribution to the challenges of Climate, Water and Production & Consumption.

**See the overview of our 2022 targets and 2030 commitments on the following page, and get full details of our nonfinancial targets in Sustainability**

*Where we make a difference  
Novozymes' 2030 commitments  
and our 2022 targets are  
guided by the UN's Sustainable  
Development Goals*



## Climate

We can have the most significant impact on mitigating climate change by enabling low-carbon fuels for the transport sector, as this sector accounts for about 25% of global energy-related CO<sub>2</sub> emissions.

Climate change is also considered in our own operations, as industrial production processes are energy-intensive. Therefore, we have set a verified science-based target for reducing our absolute CO<sub>2</sub> emissions in line with the most ambitious decarbonization pathway.



## Water

We will work to ensure clean and efficient water use by providing solutions that replace chemicals, particularly in laundry.

Water is also a fundamental resource for our production processes. We are committed to pioneering a context-based approach to water management across all sites and have therefore set a target to have all our sites manage water in balance with local conditions.



## Production & Consumption

While most of our solutions enable improved production efficiency, we are highlighting solutions that let us enable sustainable food production as part of our Production & Consumption target.

We also aim to drive our business towards more circularity. Therefore, all our key materials and waste will be managed in circular systems by 2030.

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### Climate



### Water



### Production & Consumption

<b>World</b>	<b>Save 60 million tons of CO<sub>2</sub></b> by enabling low-carbon fuels in the transport sector in 2022	<b>Reach &gt;4 billion people</b> by providing laundry solutions in 2022 that replace chemicals	<b>Gain 500,000 tons of food</b> by improving efficiency from farm to table in 2022
<b>Operations</b>	<b>By 2022:</b> reduce absolute CO <sub>2</sub> emissions from operations by 40%*  <b>By 2030:</b> achieve a 50%* reduction in absolute CO <sub>2</sub> emissions from operations on our way to becoming carbon neutral in 2050	<b>By 2022:</b> develop context-based water management programs at 100% of our sites  <b>By 2030:</b> manage water in balance with local conditions at 100% of our sites	<b>By 2022:</b> achieve 100% circular management of our biomass, develop plans for circular management of 100% of key packaging materials and develop programs to reach zero waste by 2030 at 100% of our sites  <b>By 2030:</b> manage 100% of key materials and waste in circular systems

\*Compared to a 2018 baseline.

**To achieve our ambitions, we need to have a healthy, growing business. We have set targets for organic sales growth, EBIT margin and ROIC (incl. goodwill).**



### Business

<b>Organic sales growth</b> 5+% per year*	<b>EBIT margin</b> 28% or above by 2022	<b>ROIC (incl. goodwill)</b> 23% or above by 2022
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\*2020 is the first year of a three-year strategy period and is expected to be impacted to some extent by portfolio changes.

**To continue to grow and contribute to a better world, we must enable our employees to thrive, grow and perform. This will ensure that we have the skills needed to deliver on our purpose.**



### Employees

<b>Enable learning</b> Achieve a score of 80 on learning in our annual employee survey by 2022	<b>Nurture diversity</b> Achieve a score of 86 on our diversity index by 2022	<b>Ensure safety and wellbeing</b> Occupational injuries* ≤ 1.5	<b>Inspire the world</b> Pledge 1% of our time to local outreach activities by 2022	<b>Excite employees</b> Achieve a score of 81 on our Zymer Spirit index by 2022
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\*Defined as a three-year rolling average of occupational injuries with absence per million working hours.

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# Risk management

**Being a diverse business, Novozymes faces a diverse set of risks and uncertainties. Some may materialize within a short space of time, whereas others could emerge more gradually. We continuously strengthen our work on risk management to secure Novozymes' operations and plans for profitable growth.**

Novozyymes' risk management process reduces uncertainty as much as possible and aims to keep us on track to achieve our commitments and deliver value to our stakeholders. We identify and mitigate risks as early as possible to reduce their likelihood and impact.

The Board of Directors has the overall responsibility for overseeing risk and for maintaining a robust risk management and internal control system. The Board recognizes the importance of identifying and actively monitoring all of the most pressing risks as well as any longer-term threats, trends or challenges facing our business.

## Risk management framework

Novozyymes operates an Enterprise Risk Management (ERM) process whereby the key risks facing the company are identified, assessed and mitigated at different levels of the organization. We monitor most risks by means of half-yearly reviews. However, some risks may at times require more frequent updates.

Risks are assessed based on a two-dimensional heat map rating system that estimates the potential impact of a given risk on financials

and reputation, and the likelihood of that risk materializing. The most significant risks are reviewed and assessed by the Executive Leadership Team and the Board of Directors, who are also responsible for reviewing the effectiveness of the risk management and internal control processes throughout the year. In 2019, the Audit Committee, on behalf of the Board of Directors, made deep dives into selected risks and risk processes. Novozymes' Risk Management & Controls department is responsible for identifying risks. The department also ensures that the senior management promotes risk awareness, engagement and ownership across the organization. Our vice presidents are responsible for mitigating all risks relevant to their respective areas of responsibility.

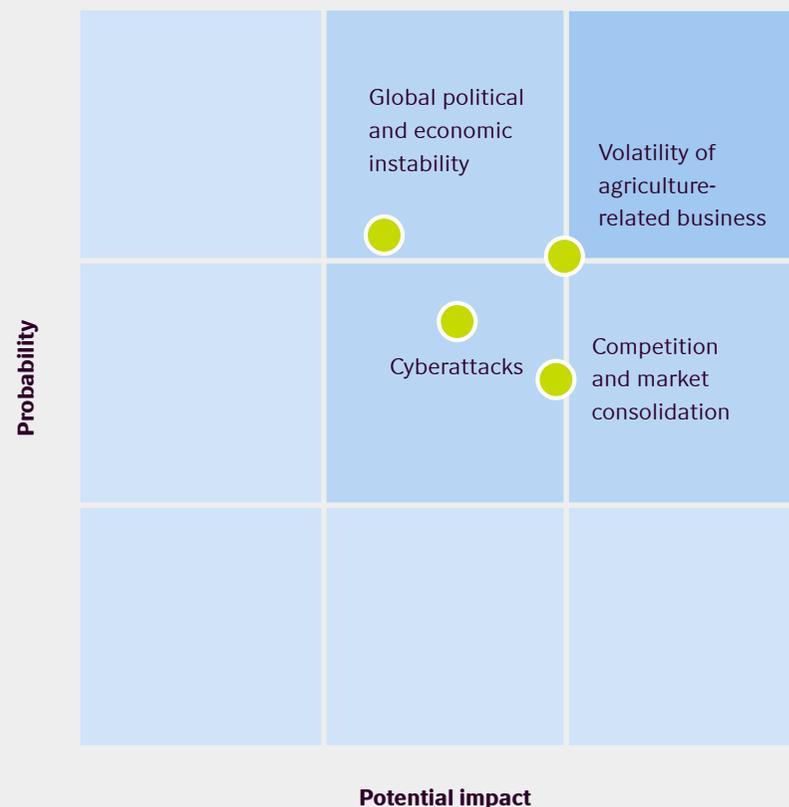
## Risk assessment

The four key enterprise risks that have been identified for 2020 are the same as for 2019, except for Disruption of The BioAg Alliance, a 2019 risk, which no longer applies as the BioAg Alliance was replaced by a multi-partner set-up in BioAg in April 2019.

## Key risks 2020

There are four key risks that may impact Novozymes in 2020. The risks are: Competition and market consolidation; Volatility of agriculture-related business; Cyberattacks and Global political and economic instability.

## Risk assessment heat map



See Note 5.1 for information on financial risk factors and risk management

# Key enterprise risks for 2020

## Competition and market consolidation

Novozymes' market-leading position could be challenged by competition from both existing and potential new competitors. There is also a risk of competitors operating under less-regulated market conditions. Consolidation can create large-scale players or new types of competitors, like the merger of IFF and Dupont's Nutrition & Bioscience division.

### Potential impact

Increased competition could come from enzyme manufacturers offering new solutions or from new players with broader technology platforms. With increased digitalization, competition could also relate to how solutions are implemented in customer production. Although consolidation can make the market more stable, it could also increase a competitor's financial strength and bargaining power.

### Mitigation

We continuously revisit and improve our go-to-market strategies to retain a competitive advantage. Across industries, Novozymes strengthens partnerships with key accounts for a strong innovation pipeline. We are accelerating regional innovations to ensure we deliver the solutions our customers are looking for - and we have local commercial teams to support acceleration. By driving digitalization from our Digital Transformation unit, linking areas such as R&D, production, sales and finance, we aim to further strengthen our competitive profile.

## Volatility of agriculture-related business

Agriculture-related markets are inherently volatile due to weather conditions, harvest quality, commodity prices, political mandates for ethanol blends etc. In addition, the ongoing geopolitical uncertainty adds to the volatility of the industry.

### Potential impact

Global agricultural markets remained weak in 2019 and bioenergy markets in the US were challenged. If the volatility of the agricultural markets and poor global farm economics persist, it could challenge our value proposition and profitability in the industry.

### Mitigation

We are mindful of the ongoing geopolitical uncertainty and, as we move through 2020, we will keep a close watch on US ethanol inventories and prices as well as on certain crop prices. We will further strengthen the partnerships in the new set-up for BioAg.

## Cyberattacks

Intelligence services report the general threat of cyberattacks on large companies as high. This is partly due to rapid advances in digitalization, an unstable geo-political situation and a lack of regulations and laws. It is extremely important to Novozymes to preserve business continuity and safeguard sensitive business information and critical assets against the global threat of theft.

### Potential impact

Business opportunities with new or existing customers could suffer greatly if information about Novozymes' unique technologies or production strains is stolen. Cybercrime and hacker attacks could also negatively impact Novozymes if systems are inaccessible for an extended period of time.

### Mitigation

Novozymes will continue efforts to mitigate cyber risks through our global security roadmap. It particularly focuses on strengthening IT Enterprise Architecture, IT Governance and compliance. Our Cyber Defense Center (CDC) continuously enhanced our ability to rapidly detect and respond to cyber security incidents. We will continue to expand the capabilities of the CDC with new data sources and intelligence. We actively seek to learn from other companies' experiences. Also, our more than 6,500 granted or pending patents are a strong defense against infringement by competitors.

## Global political and economic instability

There continues to be significant instability in the global economy and in the political landscape. Trade conditions are changing frequently, making it more difficult to mitigate risk.

### Potential impact

Political instability may lead to difficulty in optimizing decision-making beyond the short term for Novozymes and our customers. Polarization and trade protectionism can make it more difficult for leaders to agree and work to strengthen global and regional institutions. Adverse economic conditions, such as those the Middle East still faced in 2019, may result in lower consumer demand and higher price sensitivity among customers and consumers, while political changes may disrupt our operations and, ultimately, our sales. There is also a risk of exchange rate fluctuations and of customers, partners and suppliers risking or facing insolvency.

### Mitigation

Novozymes closely follows political and economic developments, keeping in mind that changes must be expected to occur rapidly. Our focus is on ensuring our ability to respond to such changes just as quickly as they arise. We actively engage in global forums on sustainability, staying focused on the benefits of globalization and shared commitments, and we continuously remind the world of the importance of working for a sustainable future.

# Mitigating actions taken related to the key risks identified for 2019

## Competition and market consolidation

As in previous years, we defended our market-leading position by launching new innovations, strengthening our value propositions and jointly developing tailor-made products with customers. In addition, we continued to focus our efforts on optimizing our legal track for potential infringements of our intellectual property rights, particularly in emerging markets.

In Household Care, our Freshness platform continued to gain traction with customers. We also increased our focus on differentiated service and value offerings.

In June 2019, we launched our updated strategy, Better business with biology. The strategy has been shaped by the challenges we see in competitive markets and it will form the roadmap for how we differentiate ourselves going forward.

## Volatility of agriculture-related business

We continued the R&D investments that enable us to develop new and even better solutions for improving yield and profitability, aimed at the agriculture-related businesses.

In April 2019, we announced a new partnership set-up to replace The BioAg Alliance. While we continue our core partnership with Bayer, the new, more flexible, multi-partner set-up allows Novozymes to bring biological solutions to even more partners and additional crops.

In Bioenergy, we launched three new products to the bioethanol industry in 2019: Fortiva®, Innova® Fit and Innova® Force. These products are a direct response to customers' needs to maximize profits under changing market conditions. Innova® Force is the third product launch from our yeast platform.

In animal health, we launched our Balancius™ solution together with DSM in Europe, the Middle East and Africa. After introducing the product in the North and South American markets in 2018, we are now ready to help customers in other regions with the challenges of improving animal performance and meeting regulations on the use of antibiotics.

## Cyberattacks

In 2019, safeguarding knowledge and the ability to operate, especially against cyberattacks, remained critical across the Novozymes organization.

We continued our efforts to mitigate cyber risks through our updated security roadmap, a strengthened IT enterprise architecture, cyber-threat quick fixes and stronger IT governance. Planned initiatives for IT emergency responses were implemented and tested in 2019.

In addition, we focused on optimizing our IP strategy to prevent infringements by the competition.

## Global political and economic instability

In 2019, we closely monitored the changing political environment, including – but not limited to – the threat of a hard Brexit and tariff negotiations between the US and China.

We continued our involvement in global forums, such as the UN General Assembly and the UN Global Summit in September. Here, our CEO, Peder Holk Nielsen, spoke of our commitment to help limit global warming to an increase of 1.5°C. Our commitment has been validated by the Science Based Targets Initiative, comprised of the CDP, UN Global Compact, World Resources Institute and WWF.

## Emerging risks

Novozymes identifies emerging risks that have the potential to impact our business in the longer term (three years and beyond). Such risks are determined and evaluated through our enterprise risk management process and integrated trendspotting exercise.

We evaluate and monitor long-term risks and assess their potential to impact our business and growth. We engage with relevant key stakeholders to develop strategies and ensure that we are prepared to address such risks for the long term.

We closely monitor a number of emerging risks, among which the following two have been identified to be of the greatest relevance to Novozymes. They are the same as reported in the Novozymes Report 2018.

### Concerns about new technology

There is growing consumer demand for health, wellness and natural products and, conversely, tighter regulatory controls in the biotechnology and chemical sectors. Over the coming years, we expect to see an acceleration of technology and further significant innovation in these areas.

Consumers are more health conscious and are expressing growing concerns about the consequences to society of biotechnology and genetic engineering. Governments are increasingly scrutinizing issues related to environmental and human health risks, bioethics, gene technology and intellectual property rights.

Novozymes recognizes the need to improve the general level of knowledge about biotechnology and genetic engineering. Through these technologies, we find safe and sustainable answers to some of the planet's most pressing challenges – and as we explore the increased use of biotechnology, we will continue to engage in and push for open dialogue about the benefits of and develop best practices together with stakeholders to mitigate the potential risks from biotechnology.

### Water-constrained future

Global demand for water is expected to outstrip supply by 2030. Rising demand, combined with the decline in the availability of clean water, is exacerbating the water situation. Many parts of the world are experiencing, or expecting, extreme water crises in the form of severe droughts, floods and declining water quality caused by pollution. Governments are responding with stricter regulations, and companies are driving action through various corporate-led initiatives (e.g. the CEO Water Mandate and AgWater Challenge).

Novozymes is committed to sustainable water management across our value chain, including in our own operations. In 2019, we conducted site-specific water-risk assessments to identify water-stressed sites and regions and included analysis of upcoming regulation related to water.

In our recent strategy update, water is a key pillar under which we have designed our new targets. Our mission is to ensure clean and efficient water use. We are investing to improve our water efficiency and will look to pioneer a context-based approach to water management at all our sites. Besides the risk that this issue poses to our operations, increasing demand for clean water solutions also serves as an opportunity for our business as some of our solutions can contribute to solving several water-related issues.



# Targets

Read more about our 2022 targets and 2030 commitments in Strategy

In 2019, we measured our progress on nine long-term financial and nonfinancial targets. We report our progress on our six long-term nonfinancial targets below. From 2020, these targets will be replaced by our new targets, introduced with our updated strategy Better business with biology.

## REACH 6 billion people with our solutions by 2020

In 2019, an estimated 5.9 billion consumers used at least one of our solutions on a weekly basis – up from 5.6 billion in 2018.

Gains were primarily made by laundry in Africa and India and by brewery in Africa and China.

## EDUCATE 1 million people about the potential of biology from 2015 to 2020

In 2019, Novozymes helped around 330,000 people learn about biology. One initiative involved creating and distributing experiment sets to 3,500 Danish schoolchildren to enable them to test how stains can be cleaned with biological solutions.

This brings our total to more than 941,000 people since 2015.

## CATALYZE 5 global partnerships for change from 2015 to 2020

In 2019, Novozymes signed a partnership agreement with Carbios and Carbiolice to improve the biodegradability and performance of bioplastics.

We also signed partnerships with Climate-KIC, Kromann Reumert, Jaaga, UNLEASH, DTU Skylab and HHL Foundation within our HelloScience partnership ecosystem. The partnerships will be instrumental to our efforts in solving water-related sustainability challenges.

Since 2015, Novozymes has catalyzed four global partnerships for change.

## SAVE 100 million tons of CO<sub>2</sub> in 2020

Novozymes helped customers to reduce their CO<sub>2</sub> emissions by a total of 87 million tons in 2019. This is below our target of ≥ 94 million tons CO<sub>2</sub> for 2019, mainly due to declining sales in several industries.

## DELIVER 10 transformative innovations from 2015 to 2020

In 2019, we launched Innova® Force, a transformative innovation for the ethanol industry.

Since 2015, Novozymes has launched six transformative innovations, including Balancier™ in 2018, Frontia® and our freshness solution in 2017, Acceleron® B-300 SAT in 2016 and Alterion® in 2015.

## ENABLE Novozymes' employees to develop by 2020

In 2019, the enrollment of leaders in our Lead the Way leadership program increased to ~57%, up from ~30% in 2018. Participants rated the program 4.6 out of a possible 5.

TunedIn, our employee survey and dialogue tool, showed an employee development score of 77, meeting our target of 75 or above.

# Outlook for 2020

## Sales outlook

Novozymes expects to grow sales by 1-5% organically in 2020. This includes the impact from previously announced portfolio changes to align with the updated strategy.

The guidance range indicates uncertainty especially for the agriculturally-exposed businesses. The growth ranges of Household Care and Food & Beverages are expected to be narrower, around the mid-point of the 1-5% overall corporate range, while wider ranges than the 1-5% are applied for both Bioenergy and Agriculture & Feed. Organic sales growth in Technical & Pharma is expected to be slightly below the mid-point of the corporate range. Overall, both developed and emerging markets are expected to grow, with the latter outgrowing the former.

Anchored in our strategy – Better business with biology – innovation, broader commercial presence and a stronger focus on execution and follow-up will drive performance. This will be supported primarily by the continued development and commercialization of freshness in Household Care, Balancius™ in animal health, Palmora® and Frontia® for Food & Beverages and yeast solutions for first-generation biofuels. Inoculant sales to the North American market are expected to grow relative to the weak 2019 performance. US ethanol production volumes are likely to remain volatile and are assumed to be in line with 2019.

Using the current spot rate as full-year estimates for the major currencies, Novozymes expects to see ~0% impact for growth in reported Danish kroner. No sales from deferred income will be recognized in 2020 compared with DKK 24 million in 2019. Further, no sales related to the pharma-related royalty divested in the second quarter of 2019 will be recognized in 2020. In 2019, this figure was DKK 15 million (Q2).



**Household Care** organic sales growth is expected to be supported by the continued rollout of the Freshness platform and increased penetration in emerging markets.

Some of our larger customers are expected to further stabilize their performance, whereas medium and small laundry detergent producers are expected to continue improving their formulations with further inclusion of enzymatic solutions.



**Food & Beverages** organic sales growth is expected to be broad-based with all regions contributing to growth. Emerging markets are expected to outgrow developed markets.

The ramp-up of Frontia® for grain milling will continue across regions and hence will be an important growth contributor, while growth in the starch business is expected to be more muted. Beverages are projected to grow in line with the industry average. Food & nutrition is expected to continue its good momentum, supported by accelerating health awareness trends.



**Bioenergy** organic sales developments are expected to be driven by continued penetration of the Innova® yeast technology for first-generation biofuels, starch-based production-capacity expansion in Latin America, and innovation targeting the North American business.

Uncertainty remains about the volume of US ethanol production in 2020 given continued low ethanol producer margins and elevated inventories. Currently, we estimate a flat year-on-year development in US ethanol production



**Agriculture & Feed** organic sales developments are subject to uncertainty, due primarily to global farming economics and trade-related concerns. Further, 2020 will be the first full year with the agricultural business operating

under the new partnership structure. Performance in Feed is predominately expected to be driven by the continued commercialization of Balancius™ for poultry. Sales to the agricultural industry is expected to benefit from continued penetration of corn inoculants for the North American market.



**Technical & Pharma** was impacted by shifting textile markets in China, especially during the second half of 2019, which is expected to continue in 2020.

## Profit outlook

For 2020, we expect an EBIT margin of ~27%, including a ~0% impact from currencies. This will be an improvement compared to the 2019 underlying EBIT margin of ~26%.

The reported 2019 EBIT margin of 28.1% was supported by a total of ~2 percentage points from the termination of The BioAg Alliance, the divestment of the pharma-related royalty, but offset by the net restructuring costs related to the updated strategy.

The savings from the Q3 2019 restructuring will be reinvested in 2020 and onwards. Sales growth and productivity improvements are expected to be supportive of margins along with tailwinds from lower input costs.

Return on invested capital (ROIC) including goodwill is expected at 20-21% (2019: 21.1%). The calculation of average invested capital includes a higher opening and end-of-year balance compared with 2019. Free cash flow (FCF) before acquisitions is expected to be in the DKK 2.5-2.9 billion range (2019: DKK 2.2 billion), supported by higher sales and an improved operating cashflow.

For modelling purposes, the following is provided: Novozymes expects an effective tax rate of 19-21% for 2020. Net finance costs are expected to be DKK ~200 million, with roughly 50% relating to interest expenses and bank fees and the remainder relating to currency hedging (two thirds of the currency hedge amount relate to the USD/DKK). Net investments in 2020 are expected to be DKK 0.8-1.0 billion (2019: DKK 1.0 billion). This reflects both maintenance as well as expansion and optimization investments.

A stock buyback program worth up to DKK 1.5 billion has been decided on for 2020.

### Currency exposure

Other things being equal, a 5% movement in USD/DKK is expected to have an annual positive/negative impact on EBIT of DKK 130-160 million, and a 5% movement in EUR/DKK is expected to have an annual positive/negative impact on EBIT of DKK ~200 million.

The currency exposure was hedged at an average of USD/DKK 6.21 in 2019. For 2020, the exposure is 75% hedged at an average of USD/DKK 6.53. The 2020 outlook is based on exchange rates for the company's key currencies remaining at the closing rates on January 22 for the full year.

### Sustainability outlook

Sustainability is at the core of the Novozymes business and as a part of the updated strategy, the company has strengthened its commitment further via the launch of a set of ambitious new sustainability targets.

The new targets reflect the opportunity of having a positive impact through commercial solutions as well as our responsibility to minimize the negative impact of our operations. Novozymes will focus on people as well as on three global environmental challenges: Climate, Water and Production & Consumption. For each global environmental challenge, Novozymes has defined long-term 2030 commitments to set the direction and mid-term 2022 targets to drive performance. Based on this, Novozymes will define a set of annual internal targets to prioritize and guide implementation in a given year.

### Key sustainability targets

		2022 targets
<b>World</b>	Save CO <sub>2</sub> emissions by enabling low-carbon fuels in the transport sector	60 million tons of CO <sub>2</sub>
	Reach people by providing laundry solutions that replace chemicals	>4 billion people
	Gain food by improving efficiency from farm to table	500,000 tons of food
<b>Operations</b>	Reduce absolute CO <sub>2</sub> emissions from operations <sup>1</sup>	40%
	Develop context-based water management programs	100% of sites
	Develop zero waste programs	100% of sites
	Manage biomass in circular systems	100%
	Develop circular management plans for key packaging materials	100%
<b>Employees</b>	Enable learning <sup>2</sup>	80
	Nurture diversity <sup>3</sup>	86
	Occupational injuries <sup>4</sup>	≤ 1.5
	Pledge employee time to local outreach <sup>5</sup>	~ 1% of time
	Excite employees <sup>2</sup>	81

1. Compared to 2018 baseline. 2. Measured by score to relevant questions in annual survey. 3. Index calculated based on gender and national representation at various professional levels. 4. Defined as the three-year rolling average of occupational injuries with absence per million working hours. 5. Qualitative reporting only.

In 2020, Novozymes will continue to focus on climate change in its operations and intends to invest further in energy-efficiency projects, increase its share of renewable electricity and explore opportunities to generate energy from waste streams. Novozymes will also start developing programs to achieve zero waste and manage water in balance with local conditions in the long term at its production sites.

Novozymes will continue to have a strong focus on safety and wellbeing in the workplace and will strive to maintain a low number of occupational injuries. On the people side, Novozymes will enable learning and growth for employees and nurture diversity within the organization. Novozymes will also focus on employee engagement and motivation to ensure the employee spirit remains high.

### 2020 outlook

	2020 outlook* January 23
Sales growth, organic	1-5%
EBIT margin	~27%
ROIC (including goodwill)	20-21%
Free cash flow before acquisitions, DKKbn	2.5-2.9
For modelling purposes:	
Effective tax rate	19-21%
Net financials, DKKm	~ -200
Net investments, DKKbn	0.8-1.0
Stock buyback program	up to DKK 1.5 bn

\*Assumes that the exchange rates for the company's key currencies remain at the rates prevailing on January 22 for the rest of 2020.

**Where we make a difference**  
Our enzymes improve the softness and freshness of breads, reducing food waste from stale bread

# Governance



# Corporate governance

A proactive and transparent corporate governance structure promotes responsible sustainable business behavior and long-term value creation.

## Board composition and responsibilities

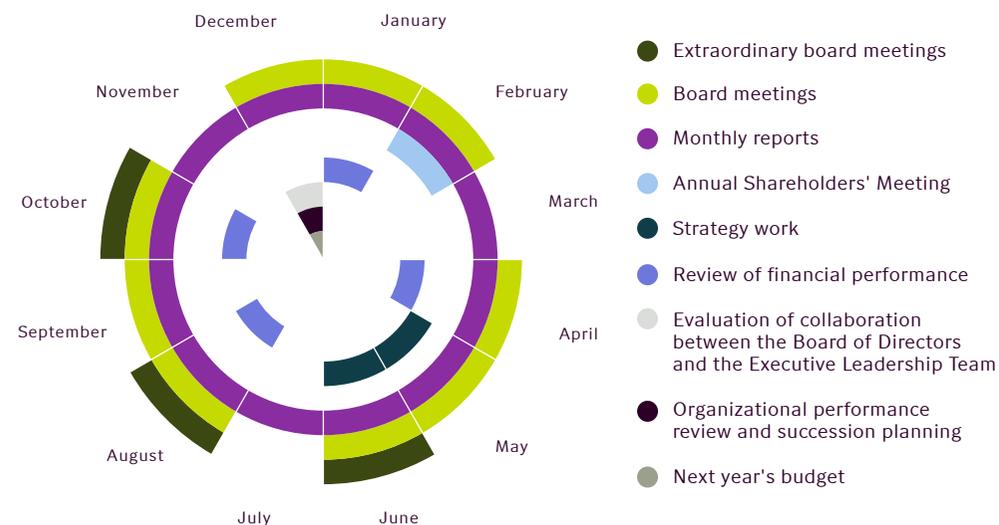
In accordance with Danish legislation, Novozymes has a two-tier management system comprising the Board of Directors and the Executive Leadership Team, with no individual being a member of both. The division of responsibilities between the Board of Directors and the Executive Leadership Team is clearly outlined and described in the Rules of Procedure for the Board of Directors and the Rules of Procedure for the Executive Leadership Team, both available at Novozymes.com.

The Board's main responsibilities are to:

- Ensure the right management and organizational structure
- Supervise financial, social and environmental performance, and the Executive Leadership Team's operational management of the company
- Supervise the overall management and strategic development of the company

Novozyymes' Articles of Association require the Board of Directors to have from four to eight members elected at the Annual Shareholders' Meeting. The Board currently has five shareholder-elected members. Individuals are elected for terms of one year and cannot be elected or re-elected after reaching the age of 70.

## 2019 with the Board of Directors



## Audit Committee meetings

Committee member	Meetings attended
Lars Green	● ● ●
Agnete Raaschou-Nielsen	● ● ● ●
Jørgen Buhl Rasmussen	● ● ● ●

## Nomination and Remuneration Committee meetings

Committee member	Meetings attended
Jørgen Buhl Rasmussen	● ● ● ● ● ● ● ●
Agnete Raaschou-Nielsen	● ● ● ● ● ● ● ●
Kim Stratton	● ● ● ● ● ● ● ●

Nominations are based on an evaluation of factors such as competencies, diversity, independence and performance.

In accordance with Danish law, the Board of Directors also has three employee-elected members, who serve four-year terms. The Board of Directors is accountable to the company's shareholders for the management of the company. The composition of the Board of Directors must therefore be such that the combined competencies of the Board enable it to inspire, guide and oversee the company's development, and diligently address and resolve the issues and challenges facing the company at any time.

To ensure the right competencies and promote diversity, the following targets have been set for the composition of the Board of Directors:

1. At least half of the shareholder-elected board members shall be independent as defined in the Danish Recommendations on Corporate Governance
2. At least 40% of the shareholder-elected board members shall have substantial international experience from the management of large corporations or institutions headquartered outside Denmark
3. One-third or more of the shareholder-elected board members shall be female, and one-third or more of the shareholder-elected board members shall be male

All three targets were met in 2019. The competencies are defined in a competency profile that specifies the requirements for personal characteristics, skills and experience. The individual competencies of the members of the Board of Directors are shown in the presentation of the Board of Directors.

## Governance structure

In accordance with the Articles of Association and the Rules of Procedure for the Board of Directors, the Board has a Chairmanship consisting of two members – the Chairman and the Vice Chairman – who are responsible for assisting the Board of Directors in matters concerning the Executive Leadership Team’s operational management of the company and for reporting back to the Board of Directors. The Chairmanship is also responsible for planning and preparing the meetings of the Board of Directors.

The Board of Directors has two committees: the Nomination and Remuneration Committee and the Audit Committee. The Nomination and Remuneration Committee assists the Board of Directors with the nomination of candidates for the Board of Directors, board committees and the Executive Leadership Team as well as with the remuneration of board members, board committee members and members of the Executive Leadership Team. The Audit Committee assists the Board of Directors with monitoring aspects relating to accounting, auditing, risks, internal controls and financial, environmental and social reporting. Further information about both committees can be found at [Novozymes.com](http://Novozymes.com).

As part of the internal control system, all cases of identified fraud and all concerns raised are investigated and reported to the Audit Committee and the Board of Directors. A total of 42 cases were investigated and reported in 2019. None of the investigated fraud cases had a material financial impact on Novozymes. Further information on fraud can be found in Note 8.3 to consolidated social and governance data.

## Charters and recommendations

In laying down the management principles for Novozymes, the Board of Directors has followed the Recommendations on Corporate Governance that form part of the disclosure requirements applicable to companies listed on Nasdaq Copenhagen.

These recommendations are available at [corporategovernance.dk](http://corporategovernance.dk). A detailed review of Novozymes’ position on each of the recommendations and a description of the internal control and risk management system relating to financial reporting can be found in the statutory report on corporate governance prepared pursuant to section 107b of the Danish Financial Statements Act at <https://investors.novozymes.com/investors/corporate-governance/articles-of-association-and-reports-on-corporate-governance/default.aspx>. These recommendations require companies to explain any exceptions. Novozymes follows 45 of the 47 recommendations, the two exceptions being:

- The remuneration policy for the Executive Leadership Team does not contain a specific clause pertaining to the repayment of variable remuneration components paid on the basis of misstated information, as Novozymes considers the rules under Danish law to be sufficient in such cases (Recommendation 4.1.2)
- Due to the limitations imposed by the Novo Nordisk Foundation’s Articles of Association and Novozymes’ ownership structure, the Board of Directors reserves the right in certain circumstances to reject takeover bids without consulting shareholders (Recommendation 1.3.1)

## Nationality – board members elected by the shareholders

- Danish **40%**
- Swedish **20%**
- British **20%**
- Australian **20%**



## Tenure – board members elected by the shareholders

- 3-4 years **40%**
- +4 years **60%**



## Gender – board members elected by the shareholders

- Men **60%**
- Women **40%**

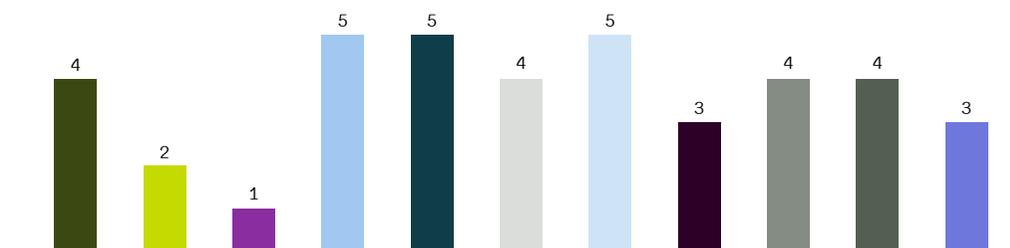


## Board governance structure (elected by shareholders)

- Independent board members **60%**
- Nonindependent board members **40%**



## Primary experience – board members elected by shareholders (number of board members)



- General board and/or executive management<sup>1</sup>
- R&D executive management<sup>2</sup>
- B2B and industry marketing and sales
- Governance and risk management<sup>3</sup>
- Stakeholder relations management (beyond customers and investors)<sup>3</sup>
- Financial management and investor relations<sup>3</sup>
- Alliance strategy and acquisitions<sup>3</sup>
- Total value and supply chain management<sup>3</sup>
- Innovation and pipeline management<sup>3</sup>
- Emerging market strategy<sup>3</sup>
- Digitalization strategy and/or management<sup>3</sup>

1. From industrial biotechnology or related industries (but not pharma)  
 2. From industrial biotechnology, pharma or related industries  
 3. Within or outside industrial biotechnology



# Board of Directors

Novozymes' Board of Directors currently has five members who are elected at the Annual Shareholders' Meeting and three employee-elected members. The Board represents many years of global management experience, and the members' competencies combine to ensure expert management of the company.



## **Jørgen Buhl Rasmussen**

Born 1955. Chairman of the Board since 2017. Adjunct Professor at Copenhagen Business School, Denmark. Member of the Audit Committee and chairman of the Nomination and Remuneration Committee. Member of the Board since 2011. Elected for a term of one year.

### **Board positions**

**Chairman:** F. Uhrenholt Holding A/S  
Advisory Board of Blazar Capital

**Member:** Smurfit Kappa Group

### **Special competencies**

International business and management expertise, specifically within sales, marketing, branding and acquisitions, and financial and accounting expertise.



## **Agnete Raaschou-Nielsen**

Born 1957. Vice Chairman of the Board since 2017. Chairman of the Audit Committee and member of the Nomination and Remuneration Committee. Member of the Board since 2011. Elected for a term of one year.

### **Board positions**

**Chairman:** Arkil Holding A/S  
Brdr. Hartmann A/S  
Danske Invest, three other UCITS funds and two AIF funds

**Member:** Aktieselskabet Schouw & Co.  
Danske Invest Management A/S

### **Member of the audit committee:**

Aktieselskabet Schouw & Co.

### **Special competencies**

Expertise within business development and acquisitions, macroeconomics and intellectual property rights, and financial and accounting expertise.



## **Kasim Kutay\***

Born 1965. CEO, Novo Holdings A/S. Member of the Board since 2017. Elected for a term of one year.

### **Board positions**

**Member:** Novo Nordisk A/S

### **Special competencies**

Broad international experience within biotechnology, mergers and acquisitions, strategy, and financial and accounting expertise.

*\*This board member is not regarded as independent in the sense of the definition in the Danish Recommendations on Corporate Governance that apply to Danish listed companies.*



## **Kim Stratton**

Born 1962. CEO, Orphazyme A/S. Member of the Nomination and Remuneration Committee. Member of the Board since 2017. Elected for a term of one year.

### **Board positions**

**Member:** Vifor Pharma Ltd.

### **Special competencies**

Broad international commercial experience within sales and marketing, emerging markets, innovation pipeline management and sustainability.

# Board of Directors



## **Mathias Uhlén\***

Born 1954. Professor at the Royal Institute of Technology (Sweden) and at the Technical University of Denmark (DTU). Member of the Board since 2007. Elected for a term of one year.

### **Board positions**

**Chairman:** Antibodypedia AB  
ScandiBio Therapeutics AB

**Member:** Atlas Antibodies  
Affibody Medical AB  
Swedish Research Council

### **Special competencies**

Broad experience within research and biotechnology.

*\*This board member is not regarded as independent in the sense of the definition in the Danish Recommendations on Corporate Governance that apply to Danish listed companies.*



## **Lena Bech Holskov\***

Born 1967. Employee representative. Safety Adviser. Member of the Board since 2013. Elected for a term of four years.

*\*In accordance with Danish law, the Board of Directors includes three employee-elected members, who serve four-year terms.*



## **Anders Hentze Knudsen\***

Born 1959. Employee representative. Senior Operator. Member of the Board since 2013. Elected for a term of four years.

*\*In accordance with Danish law, the Board of Directors includes three employee-elected members, who serve four-year terms.*



## **Lars Bo Køppler\***

Born 1962. Employee representative. Technician. Member of the Board since 2010. Elected for a term of four years.

Employee-elected member of the Board of the Novo Nordisk Foundation.

*\*In accordance with Danish law, the Board of Directors includes three employee-elected members, who serve four-year terms.*

For the Annual Shareholders' Meeting on 26 February 2020, the Board of Directors has proposed the re-election of four members and the election of three new members. Read more in Letter from the Board of Directors

# Executive Leadership Team

Our six-member Executive Leadership Team comprises broad and global management experience, comprehensive biotechnology expertise and in-depth knowledge of Novozymes' business.



## **Peder Holk Nielsen\***

Born 1956. President & CEO.

### **Education**

Holds a PhD and an MSc in Chemical Engineering from the Technical University of Denmark (DTU) and a B.Com in International Business Management from Copenhagen Business School, Denmark.

### **Special competencies**

Novozymes CEO since 2013. Peder Holk Nielsen is responsible for developing our organization and processes to effectively turn market insights into product ideas and solutions that excite Novozymes' customers. With a background in engineering and business management, he drives an agenda that combines market insights with research capabilities to deliver innovation and growth.

*\*Peder Holk Nielsen will leave Novozymes on January 31, 2020 and will be succeeded by Ester Baiget, as announced on October 15, 2019.*



## **Tina Sejersgård Fanø**

Born 1969. Executive Vice President, Agriculture & Bioenergy.

### **Board positions**

**Chairman:** Innovation Fund Denmark

**Member:** DLF A/S

### **Education**

Holds an MSc in Chemical Engineering from the Technical University of Denmark (DTU) and a diploma degree in Innovation, Strategy and Marketing in Food & Beverage industry from SIMI (CBS executive, Copenhagen).

### **Special competencies**

Tina Sejersgård Fanø is responsible for application research, technical service, sales and marketing in the Agriculture & Bioenergy division. She has extensive experience in developing and managing global partnerships and has been instrumental in negotiating several major business deals for Novozymes over the years.



## **Andrew Fordyce**

Born 1963. Executive Vice President, Food & Beverages.

### **Board positions**

**Member:** CP Kelco

### **Education**

Holds a PhD in Chemical Engineering from the University of Texas at Austin, US.

### **Special competencies**

Andrew Fordyce is responsible for application research, technical service, sales and marketing in the Food & Beverages division. His career has moved from engineering to a strong focus on value generation for customers. Previous responsibilities include global sales and marketing, strategic account management and technical service strategy.

# Executive Leadership Team



## **Lars Green\***

Born 1967. CFO & Executive Vice President, Finance, IT & Legal.

### **Education**

Holds an M.Sc. in Business Administration from Aarhus University, Denmark

### **Special competencies**

Lars Green is responsible for the Finance, IT & Legal functions. He has extensive experience from international and global leadership roles in the biotechnology and pharma industry and leverages his financial expertise to drive business value across the company.

*\*Lars Green joined the Executive Leadership Team on September 1, 2019, replacing Prisca Havranek-Kosicek.*



## **Anders Lund**

Born 1973. Executive Vice President, Household Care & Technical Industries.

### **Education**

Holds an MSc in Economics from Aarhus University, Denmark.

### **Special competencies**

Anders Lund is responsible for application research, technical services, sales and marketing in the Household Care & Technical division. He has a strong commercial and strategic background as well as extensive experience in building and maintaining global customer relationships.



## **Thomas Videbæk**

Born 1960. COO & Executive Vice President, Research, Innovation & Supply.

### **Board positions**

**Member:** Evolva SA

### **Education**

Holds a PhD and an MSc in Chemical Engineering from the Technical University of Denmark (DTU) and a B.Com in International Business from Copenhagen Business School, Denmark.

### **Special competencies**

Thomas Videbæk is responsible for Novozymes' Research, Innovation & Operations unit which embraces the entire chain from scouting and exploration to big scale manufacturing. Thomas has extensive experience within research and technology and substantial knowledge about production and supply. He ensures that quality, safety and sustainability are cornerstones of how Novozymes does business. The unit also covers communications and digital transformation at Novozymes.

# Remuneration report

**Our results for 2019 were disappointing, which is reflected in the remuneration to the Executive Leadership Team. The short-term cash-based incentive decreased 70% compared to 2018, as members of the Executive Leadership Team received on average 22% of their maximum payout. The allocation of awards related to the long-term incentive program covering the period 2017-2019 ended at 61% of the maximum, which reflects a disappointing 2019 and 2017-2018 results closer to target level.**

## General remuneration policy

Novozymes' remuneration policy for managers and other employees is designed to both encourage strong individual performance and support Novozymes' overall value creation.

Remuneration consists of a base salary, pension contributions, a cash bonus and stock-based incentive programs. These components are linked to the employee's individual performance and to the level of achievement of Novozymes' financial, social and environmental targets.

The remuneration policy aims to provide managers and other employees with a competitive financial package, which we review regularly against external benchmarks.

## Remuneration of the Board of Directors

The remuneration of the Board of Directors comprises a fixed fee and is not based on incentives.

The Board of Directors assesses annually the fees paid to the Board, based on the

## Remuneration paid to individual members of the Board of Directors

DKK '000	2019			2018			2017		
	Board of Directors	Committees	Total	Board of Directors	Committees	Total	Board of Directors	Committees	Total
Jørgen Buhl Rasmussen	1,500	250	1,750	1,500	250	1,750	1,417	250	1,667
Agnete Raaschou-Nielsen	1,000	349	1,349	1,000	250	1,250	917	250	1,167
Mathias Uhlén	500	-	500	500	-	500	500	-	500
Anders Hentze Knudsen	500	-	500	500	-	500	500	-	500
Patricia Malarkey <sup>1</sup>	42	-	42	401	-	401	-	-	-
Lars Bo Køppler	500	-	500	500	-	500	500	-	500
Lena Bech Holskov	500	-	500	500	-	500	500	-	500
Lars Green <sup>2</sup>	301	301	602	500	500	1,000	500	500	1,000
Kasim Kutay <sup>3</sup>	500	-	500	500	-	500	417	-	417
Kim Stratton <sup>3</sup>	500	250	750	500	250	750	417	208	625
Henrik Gürtler <sup>4</sup>	-	-	-	-	-	-	250	-	250
Heinz-Jürgen Bertram <sup>5</sup>	-	-	-	-	-	-	219	-	219
<b>Remuneration</b>	<b>5,843</b>	<b>1,150</b>	<b>6,993</b>	<b>6,401</b>	<b>1,250</b>	<b>7,651</b>	<b>6,137</b>	<b>1,208</b>	<b>7,345</b>

1. Joined on March 12, 2018 / Resigned on January 31, 2019. 2. Resigned on September 1, 2019 to join the Executive Leadership Team.

3. Joined on February 22, 2017. 4. Resigned on February 22, 2017. 5. Resigned on June 8, 2017.

The disclosed remuneration for board members excludes minor mandatory social security contributions paid by Novozymes. It also excludes reimbursed expenses that board members have incurred in connection with board meetings, such as travel and accommodation.

recommendations of the Nomination and Remuneration Committee. In making its recommendations, the Committee is guided by relevant benchmarks, including Novozymes' peers in Denmark and the rest of Europe.

The Board of Directors' remuneration for the year is approved at the Annual Shareholders' Meeting.

Board members receive a fixed base fee. This was DKK 500,000 in 2019, the same as it has been since 2015. The Chairman and the Vice Chairman receive a fee that is three times and two times the base fee respectively.

For committee work on the Audit Committee and the Nomination and Remuneration Committee, the committee chairman and other committee members receive a further base fee

and half a base fee respectively. However, the Chairman and the Vice Chairman of the Board do not receive such additional fee if appointed to the Nomination and Remuneration Committee.

In January 2019, Patricia Malarkey resigned from the Board to avoid a conflict of interest. Lars Green resigned from the Board in September 2019 following his appointment as Chief Financial Officer of Novozymes. The number of board members thereby decreased, which resulted in a reduction of the total fee paid to the Board of Directors from DKK 7.7 million in 2018 to DKK 7.0 million in 2019.

The Board of Directors has the option to grant an additional fee to individual board members for extraordinary board work. No board members were granted such fees in 2019.

#### The following members of the current Board of Directors hold shares of stock in Novozymes A/S

Shares of stock	Shares of stock at Jan. 1, 2019	Purchased during the year	Sold during the year	Shares of stock at Dec. 31, 2019	Market value DKK million
Jørgen Buhl Rasmussen	2,000	-	-	2,000	0.7
Agnete Raaschou-Nielsen	430	-	-	430	0.1
Mathias Uhlén	650	-	-	650	0.2
Anders Hentze Knudsen	356	-	-	356	0.1
Lena Bech Holskov	1,100	-	-	1,100	0.4
Lars Bo Kjøppler	360	-	-	360	0.1
<b>Board of Directors</b>	<b>4,896</b>	-	-	<b>4,896</b>	<b>1.6</b>

Members of the Board of Directors are not granted stock options or stock awards. However, employee-elected members hold a limited number of stock options in Novozymes A/S due to Group-wide employee stock option programs.

#### Remuneration of the Executive Leadership Team

The Board of Directors seeks to incentivize the Executive Leadership Team to consistently work for the positive development of Novozymes and, as a result, solid value creation for Novozymes' shareholders. The Board believes that the best results are achieved when a relatively high proportion of an executive's total remuneration is subject to the achievement of individual targets and to Novozymes' financial, social and environmental targets being met.

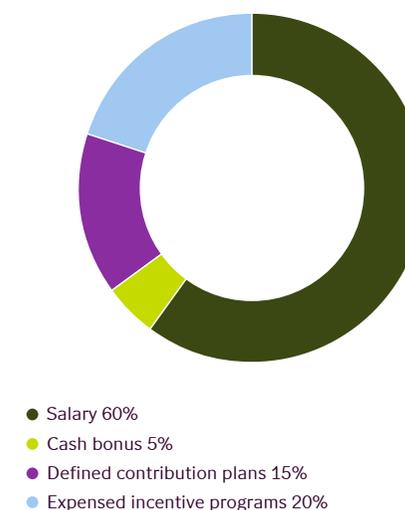
The Executive Leadership Team's remuneration comprises a base salary, pension contribution, a cash bonus (short-term incentive program), stock-based incentive programs (long-term incentive) and benefits (car, phone, etc.).

In 2019, the ratio of the Chief Executive Officer's total remuneration to the average remuneration for employees was 28, down from 55 in 2018.

In October 2019, Novozymes announced the appointment of a new Chief Executive Officer, Ester Baiget, who will join Novozymes on February 1, 2020. Ester Baiget replaces CEO Peder Holk Nielsen, who will leave Novozymes at the end of January 2020. Peder Holk Nielsen's severance package, totaling DKK 32 million, was fully expensed in 2019. The severance package consists of salary and bonuses during the notice period (12 months) as well as termination compensation (11 months) and compensation for not being part of a stock-based incentive program in 2020. Furthermore, the remaining value of awarded stock and stock options has been expensed, DKK 6 million.

In August 2019, Novozymes appointed a new Chief Financial Officer, Lars Green, who joined the Executive Leadership Team on September 1, 2019. Lars Green replaced the former CFO, Prisca Havranek-Kosicek, who left Novozymes in August 2019. Prisca Havranek-Kosicek's severance package, totaling DKK 16 million, was fully expensed in 2019. The severance package consists of salary and bonuses during the notice period (12 months) as well as termination compensation (12 months) and compensation for not being part of a stock-based incentive program in 2020. Furthermore, the remaining value of awarded stock and stock options has been expensed, DKK 4 million.

#### Composition of Executive Leadership Team remuneration 2019



## Remuneration paid to individual members of the current Executive Leadership Team

DKK million	Salary	Cash bonus	Contribution based pension	Expensed incentive programs	Total remuneration
Peder Holk Nielsen <sup>1</sup>	8.8	0.7	2.4	2.8	14.7
Anders Lund	4.8	0.4	1.1	1.4	7.7
Andrew Fordyce	4.6	0.2	1.1	1.6	7.5
Tina Sejersgård Fanø	4.8	0.3	1.1	1.4	7.6
Lars Green <sup>1,2</sup>	1.8	0.4	0.5	0.9	3.6
Prisca Havranek-Kosicek <sup>3</sup>	3.0	-	0.7	1.0	4.7
Thomas Videbæk <sup>1</sup>	6.4	0.6	1.6	1.9	10.5
<b>Total remuneration 2019</b>	<b>34.2</b>	<b>2.6</b>	<b>8.5</b>	<b>11.0</b>	<b>56.3</b>
Peder Holk Nielsen	8.5	2.3	2.8	12.5	26.1
Anders Lund	4.6	0.9	1.2	5.7	12.4
Andrew Fordyce	4.5	1.2	1.3	6.8	13.8
Tina Sejersgård Fanø	4.6	1.2	1.3	5.7	12.8
Prisca Havranek-Kosicek <sup>3</sup>	4.7	1.1	1.2	3.9	10.9
Thomas Videbæk	6.3	1.8	1.9	8.4	18.4
<b>Total remuneration 2018</b>	<b>33.2</b>	<b>8.5</b>	<b>9.7</b>	<b>43.0</b>	<b>94.4</b>
Peder Holk Nielsen	8.3	2.3	2.8	12.0	25.4
Anders Lund	4.3	1.0	1.2	4.9	11.4
Andrew Fordyce	4.4	1.2	1.3	6.7	13.6
Benny D. Loft <sup>4</sup>	2.4	-	0.5	3.2	6.1
Tina Sejersgård Fanø	4.4	1.0	1.2	4.9	11.5
Thomas Videbæk	6.0	1.7	1.8	8.0	17.5
<b>Total remuneration 2017</b>	<b>29.8</b>	<b>7.2</b>	<b>8.8</b>	<b>39.7</b>	<b>85.5</b>

1. Registered Executive Management.

2. Joined on September 1, 2019. Over the period 2020 - 2023 Lars Green will in addition to his ordinary salary receive in total DKK 14.5 million as compensation for lost incentives from previous employer. The compensation is subject to certain conditions.

3. Joined February 1, 2018 / Resigned on August 8, 2019. Severance pay not included in the remuneration figures.

4. Resigned on June 15, 2017. Severance pay not included in the remuneration figures.

In 2019, the members of the Executive Leadership Team received a 2.5% increase in their base salary. The Executive Leadership Team has a defined contribution pension scheme, with the pension contribution representing between 25% and 30% of the base salary and the cash bonus.

The maximum annual cash bonus is equivalent to five months' fixed base salary plus pension contributions. The amount of the cash bonus is subject to the degree of fulfillment of:

- Individual targets agreed with the Nomination and Remuneration Committee, not exceeding three months' salary.
- The company's annual EBIT target. If this fundamental condition is met, the bonus, which cannot exceed two months' salary, is adjusted for the achievement of targets set for social and environmental performance.

The Executive Leadership Team received on average 22% of their maximum bonus for 2019. The bonus paid out was related to their individual targets. No cash bonus was paid out in relation to Novozymes' social and environmental performance as the 2019 EBIT target was not met.

An incentive program covering the period 2017-2019 was established for the Executive Leadership Team in 2017. The program complies with the general guidelines for remuneration of the Board of Directors and the Executive Leadership Team of Novozymes A/S approved at Novozymes' Annual Shareholders' Meeting. See the full guidelines at Novozymes.com. The new members of the Executive Leadership Team became eligible for the program as of the date of their appointment.

The program was an equal stock and stock option program. Awards were subject to accumulated economic profit generated and the average organic sales growth achieved during the period:

- A total of up to 75% of the program will be allocated if economic profit accumulated over the three years reaches DKK 7.5 billion. If economic profit of DKK 5.5 billion is generated over the period, 50% of the stock and stock options allocated to the economic profit pool will be awarded. For amounts generated between these two points, a proportional number of stock and stock options will be awarded. If the accumulated economic profit is below DKK 5.5 billion, no stock or stock options will be awarded under the economic profit pool.

### Economic profit definition

Economic profit is defined as: adjusted operating profit (NOPAT) less (average invested capital \* WACC).

To calculate economic profit in the long-term incentive program, operating profit is adjusted for hedging results to eliminate the impact of currency fluctuations as well as for any impacts from major acquisitions and divestments. A fixed WACC of 6% is used throughout the program period.

For 2019, the economic profit generated was DKK 1.7 billion. The accumulated economic profit generated under the program is DKK 6.8 billion resulting in 61% of the total program being awarded.

- A total of up to 25% of the program will be allocated if Novozymes delivers 6% organic sales growth on average over the three-year period. If average organic sales growth of 3% is delivered, 50% of the stock and stock options allocated to the sales growth pool will be awarded. For percentages generated between these two points, a proportional number of stock and stock options will be awarded. If the average sales growth is below 3%, no stock or stock options will be awarded under the sales growth pool.

In 2019, organic sales growth reached -1%. The average organic sales growth in the period 2017-2019 is below 3%, resulting in 0% of the total program being awarded.

Consequently, a total of 61% of the maximum under the program has been awarded, and a total of 174,260 shares will be released in January 2020. The number of shares set out above does not include shares that will be released to Prisca Havranek-Kosicek.

Furthermore, the net number of stock options allocated in 2019 was 11,284. In total 924,799 stock options has been awarded to the current Executive Leadership Team for the three-year period. The granted stock options in 2019, 2018 and 2017 has been reduced by 591,251 stock options in 2019 to reflect the realized target achievement of 61% for the period.

The stock options awarded have a vesting period of three years, after which follows a five-year exercise period. The fair value of the stock options will be expensed over a four-year period for each of the three years (2017-2019). The recognition of the program expense is based on expected target achievement, so DKK 40 million and DKK 43 million were expensed in 2017 and 2018. In 2019, the

recognized expense of DKK 11 million includes an adjustment to 2017 and 2018, so the total expense of the program reflects the 61% target achievement and an average of DKK 31 million for the three years.

The incentive program includes a maximum value clause that gives the Board of Directors the option of reducing the number of stock and

stock options allocated. The intrinsic value, DKK 101 million, does not trigger the maximum value clause.

The members of the Executive Leadership Team have contracts of employment containing standard conditions for executive officers of Danish listed companies, including the periods of notice that both parties are required

#### The Executive Leadership Team's share ownership in Novozymes A/S

Shares of stock	Shares of stock at Jan. 1, 2019	Change in management	Purchased during the year	Sold during the year	Shares of stock at Dec. 31, 2019	Market value DKK million
Peder Holk Nielsen	209,269	-	-	-	209,269	68.2
Anders Lund	146	-	-	-	146	0.1
Andrew Fordyce	3,500	-	-	-	3,500	1.1
Lars Green	-	1,000	-	-	1,000	0.3
Tina Sejersgård Fanø	10,178	-	-	-	10,178	3.3
Thomas Videbæk	-	-	-	-	-	-
<b>Executive Leadership Team</b>	<b>223,093</b>	<b>1,000</b>	-	-	<b>224,093</b>	<b>73.0</b>

#### The Executive Leadership Team's holding of stock options in Novozymes A/S

Stock options	Options at Jan. 1, 2019	Change in management	Additions during the year	Allocation adjustment	Options at Dec. 31, 2019	Market value DKK million
Peder Holk Nielsen	660,648	-	177,632	(180,904)	657,376	43.1
Anders Lund	241,049	-	90,281	(91,949)	239,381	16.7
Andrew Fordyce	400,595	-	90,281	(91,949)	398,927	26.6
Lars Green	-	-	35,638	(13,898)	21,740	1.3
Prisca Havranek-Kosicek	62,626	(62,626)	-	-	-	-
Tina Sejersgård Fanø	227,597	-	90,281	(91,949)	225,929	14.9
Thomas Videbæk	341,734	-	118,422	(120,602)	339,554	20.1
<b>Executive Leadership Team</b>	<b>1,934,249</b>	<b>(62,626)</b>	<b>602,535</b>	<b>(591,251)</b>	<b>1,882,907</b>	<b>122.7</b>

to give and noncompetition clauses. If an executive officer's contract of employment is terminated by the company without any misconduct on the part of the executive officer, the executive officer has a notice period of 12 months. In addition to the notice period, the executive officer has a right to termination compensation of 12 months' base salary and pension contributions. However, executive officers appointed before 2016 have a right to compensation of up to two year's base salary and pension contributions.

#### **Remuneration of senior leadership**

The remuneration of Novozymes' senior leadership (183 vice presidents and directors) is consistent with the general remuneration policy.

Incentive programs for vice presidents and directors have been established for the 2017-2019 period.

The program for vice presidents largely follows the same mechanisms as the program for the Executive Leadership Team.

The program for the directors was a stock option program that included the same targets for organic sales growth and economic profit as the other programs. Furthermore, awards were linked to the achievement of annual EBIT and sustainability targets set for social and environmental performance.

Further information on the incentive programs for these employee groups can be found in Note 6.2 to the consolidated financial statements, which also includes an overview of outstanding stock options.

#### **New remuneration policy for the Executive Leadership Team**

A new remuneration policy will be presented for approval at Novozymes' Annual Shareholders' Meeting in 2020. In designing the new remuneration policy, the Remuneration and Nomination Committee reviewed the magnitude and structure of the remuneration package of the Executive Leadership Team and compared it to external benchmarks.

The Board of Directors also continued to seek to incentivize the Executive Leadership Team to consistently work for the positive development of Novozymes and, as a result, solid value creation for Novozymes' shareholders, both in the short and the long term. Thus, the Board believes that the best results and value generation are achieved when a relatively high proportion of the total remuneration is subject to the achievement of both individual targets and to Novozymes' financial, social, environmental and governance targets being met. As such the variable components of the total remuneration (short and long term incentive programs) are relatively high.

The proposed new remuneration policy will be included in the invitation to attend the Annual Shareholders' Meeting 2020. Subject to the approval of the new remuneration policy details of the future long-term incentive program for the Executive Leadership Team will be released, including a description of such programs for the vice presidents and directors.



# The Novozymes stock

**The Novozymes stock gained 12% in 2019. The overall shareholder payout of DKK 3.4 billion consisted of DKK 2.0 billion in stock buybacks and DKK 1.4 billion in dividends. A new stock buyback program of up to DKK 1.5 billion has been decided for 2020.**

## Share and ownership structure

Novozyymes' common stock consists of A shares and B shares, both with a nominal value of DKK 2 per share. A shares carry 20 votes each whilst B shares carry 2 vote each.

At the end of 2019, Novozymes had more than 52,000 shareholders, of whom 95% were private shareholders in Denmark.

Novozyymes held 4.1% of the B shares, equivalent to 3.3% of the total common stock. Roughly 70% of the B shares were held outside Denmark. Fifty institutional investors, including Novo Holdings A/S, owned approximately 50% of the B shares. Novo Holdings A/S held 25.5% of the total common stock in Novozymes and controlled 72.0% of the votes. Novo Holdings A/S is wholly owned by the Novo Nordisk Foundation, an independent Danish foundation whose objective is to provide a stable base for the companies within the Novo Group and to support scientific and humanitarian purposes.

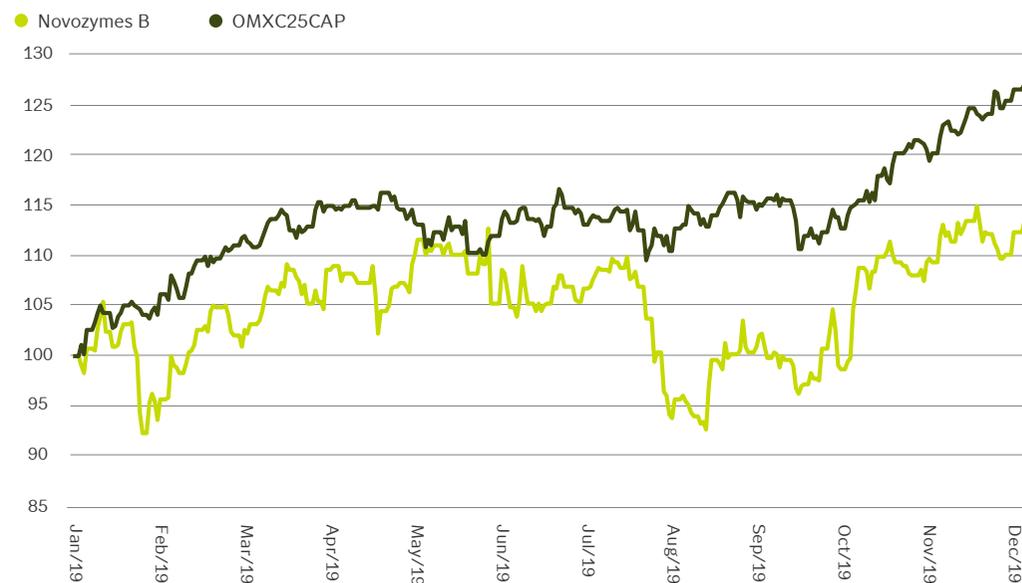
## Stock performance

Novozyymes' share price rose 12% during 2019, resulting in a total market cap of DKK 94.9 billion at year-end. The increase was 14 percentage points less than the 26% increase of the OMXC25CAP index of Nasdaq Copenhagen, where Novozymes is listed.

The average daily trading volume of the stock was 509,597 shares or DKK 154 million, making it the 12th most actively traded company on Nasdaq Copenhagen, down from 11th place in 2018. Total shareholder return in 2019 was 14%, adjusted for dividends. Over the past five years, the stock has generated an average annual return (compounded) to shareholders of 10%.

	A stock	B stock	Total
Share capital (DKK)	107,487,200	474,512,800	582,000,000
Number of shares	53,743,600	237,256,400	291,000,000
Held by Novo Holdings A/S (%)	100.0%	8.6%	25.5%
Number of votes	1,074,872,000	474,512,800	1,549,384,800
Voting rights (%)	69.4%	30.6%	100.0%
Held by Novo Holdings A/S (%)	69.4%	2.6%	72.0%

## Share price development



## Dividends

The Board of Directors proposes that the Annual Shareholders' Meeting approve a dividend of DKK 5.25 per share for a total payout of DKK 1,478 million for the 2019 financial year and a payout ratio of 46.8% which would be an increase from 44.6% in 2018.

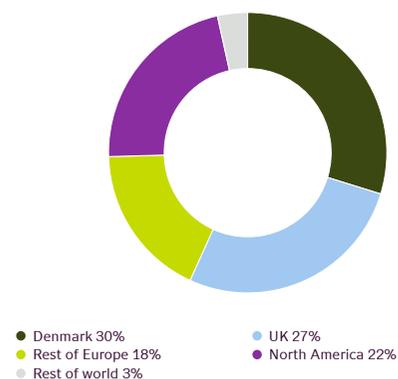
The proposal is in line with the plan to increase the payout ratio to ~50% over the coming years.

The 2019 dividend will be disbursed on March 2, 2020, with February 26, 2020, as the last trading day with right to dividend for 2019.

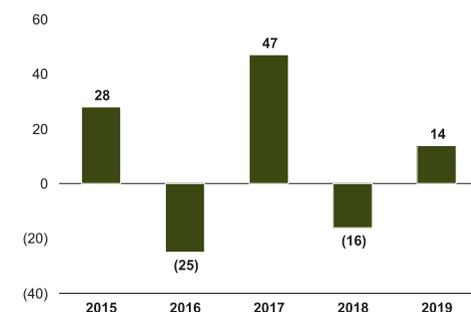
## Stock buyback programs

6,591,413 shares were repurchased and added to treasury stock from April 25 to November 15, 2019, as part of the DKK 2 billion stock buyback program. A new stock buyback program worth up to a total of DKK 1.5 billion or a maximum of 15 million shares will be initiated in 2020.

Ownership by geography (B shares)

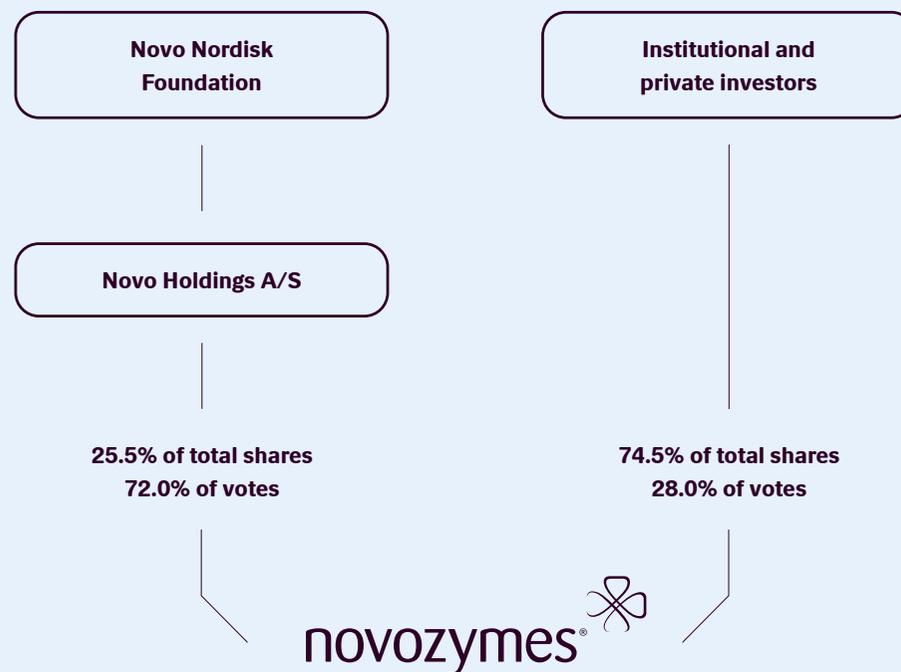


Total shareholder return adjusted for dividends, %



## Ownership structure

The Novo Nordisk Foundation is an independent Danish foundation with corporate interests. The objective of the Novo Nordisk Foundation is twofold: to provide a stable base for the commercial and research activities conducted by the companies within the Novo Group and to support scientific and humanitarian purposes.



## Investor Relations

Novozymes' Investor Relations maintains an ongoing dialogue with sell-side equity analysts as well as major institutional and retail shareholders. A list of the current analysts covering Novozymes can be found at [Investors.novozymes.com](http://Investors.novozymes.com).



Visit our website for financial reports, current presentations, factsheets, tools and other downloads, and information for private and institutional shareholders



# Accounts and performance

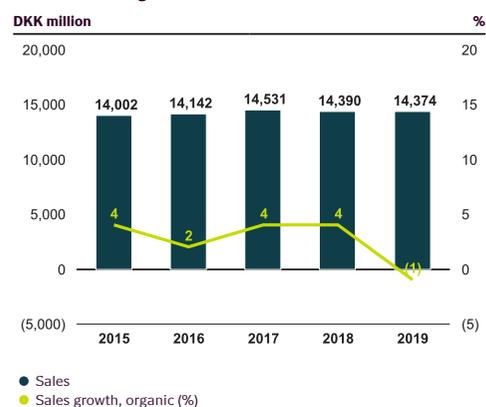
# Sales and earnings

## Sales

Total sales in 2019 were DKK 14,374 million, a decline of 1% organically and flat in DKK.

**“Overall unsatisfactory sales growth in 2019 mainly due to challenging agricultural markets.”**

Sales and sales growth



## Gross profit and margin

Gross profit decreased by 4% to DKK 7,954 million from DKK 8,255 million in 2018. The gross margin was 55.3%, down from 57.4% in 2018. The decrease was mainly due to lower organic sales growth, lower deferred income as well as one-off restructuring costs related to the updated strategy.

## Operating costs

Operating costs increased by 5% to DKK 4,435 million. Operating costs as a percentage of sales were 31%.

- Sales and distribution costs increased by 4%, accounting for 11.3% of sales
- Research and development costs increased by 5%, accounting for 13.7% of sales
- Administrative costs increased by 6%, accounting for 5.8% of sales

Restructuring costs were the main reason for the increase in operating costs in 2019.

## Other operating income

Other operating income was a net income of DKK 520 million, compared with DKK 43 million in 2018. The increase in 2019 was caused by a net gain of DKK 300 million relating to the termination of The BioAg Alliance in April 2019, and a net gain of DKK 194 million relating to the divestment of the pharma-related royalty.

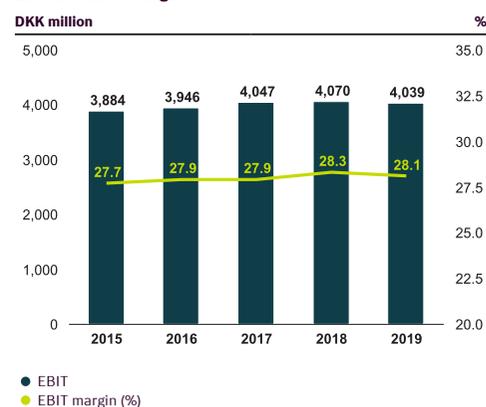
## EBITDA

EBITDA increased by 3% to DKK 5,292 million, up from DKK 5,158 million in 2018. Depreciation, amortization and impairment losses were DKK 1,182 million in 2019, up 9% from DKK 1,088 million in 2018. The implementation of IFRS 16 has resulted in recognition of depreciation charges related to lease assets of DKK 124 million.

## EBIT and EBIT margin

EBIT decreased by 1% to DKK 4,039 million, down from DKK 4,070 million in 2018. The EBIT margin ended at 28.1%, down from 28.3% in 2018. Excluding the one-off restructuring costs related to the updated strategy, the net gain from the termination of The BioAg Alliance and from the divestment of the pharma-related royalty, the underlying EBIT margin in 2019 was ~26%.

EBIT and EBIT margin



## Net finance

Net financial costs were DKK 235 million in 2019, compared with DKK 117 million in 2018. In 2019, Novozymes realized a DKK 205 million currency hedging/revaluation net loss, compared with a net loss of DKK 89 million in 2018.

## Tax

The effective tax rate was 17%, down from 18% in 2018, due to a positive impact from reduced uncertain tax positions related to bilateral advance pricing agreements (APAs).

## Net profit

Net profit declined by 2% to DKK 3,155 million in 2019, down from DKK 3,227 million in 2018.

## Earnings per share (diluted)

Earnings per share (diluted) were DKK 11.01, compared with DKK 11.03 in 2018.

[Read more about the Novozymes stock in The Novozymes stock](#)

# Consolidated statements of income

## Income statement

DKK million	Note	2019	2018
Revenue	2.1, 2.2	14,374	14,390
Cost of goods sold	2.3, 3.1, 3.2, 4.1	(6,420)	(6,135)
<b>Gross profit</b>		<b>7,954</b>	<b>8,255</b>
Sales and distribution costs	2.3, 3.1, 3.2	(1,631)	(1,571)
Research and development costs	2.3, 2.4, 3.1, 3.2	(1,966)	(1,865)
Administrative costs	2.3, 3.1, 3.2	(838)	(792)
Other operating income, net	2.5	520	43
<b>Operating profit / EBIT</b>		<b>4,039</b>	<b>4,070</b>
Share of result in associates		(5)	(17)
Financial income	5.2	112	47
Financial costs	5.2	(347)	(164)
<b>Profit before tax</b>		<b>3,799</b>	<b>3,936</b>
Tax	2.6	(644)	(709)
<b>Net profit</b>		<b>3,155</b>	<b>3,227</b>
<b>Attributable to</b>			
Shareholders in Novozymes A/S		3,154	3,226
Non-controlling interests		1	1
		3,155	3,227
Proposed dividend per share		DKK 5.25	DKK 5.00
Earnings per share	2.7	DKK 11.06	DKK 11.11
Earnings per share, diluted	2.7	DKK 11.01	DKK 11.03

## Statement of comprehensive income

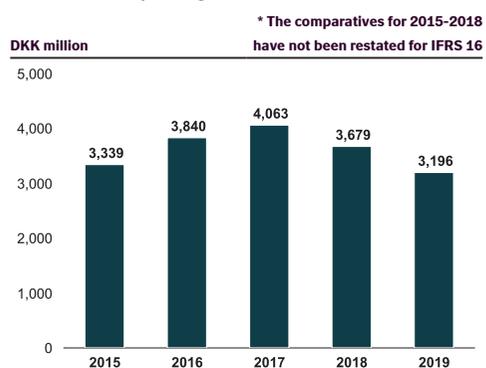
DKK million	Note	2019	2018
<b>Net profit</b>		<b>3,155</b>	<b>3,227</b>
Items that may subsequently be reclassified to the income statement:			
<b>Currency translation adjustments</b>			
Subsidiaries and non-controlling interests		143	181
Tax on currency translation adjustments		(1)	(5)
<b>Currency translation adjustments</b>		<b>142</b>	<b>176</b>
<b>Cash flow hedges</b>			
Fair value adjustments		(107)	(133)
Tax on fair value adjustments		24	29
Cash flow hedges reclassified to financial costs	5.2	164	42
Tax on reclassified fair value adjustments		(36)	(9)
<b>Cash flow hedges</b>		<b>45</b>	<b>(71)</b>
<b>Other comprehensive income</b>		<b>187</b>	<b>105</b>
<b>Comprehensive income</b>		<b>3,342</b>	<b>3,332</b>
<b>Attributable to</b>			
Shareholders in Novozymes A/S		3,342	3,331
Non-controlling interests		-	1
		3,342	3,332

# Cash flow

## Cash flow from operating activities

The cash flow from operating activities was DKK 3,196 million, down from DKK 3,679 million in 2018, a decrease of DKK 483 million. The negative development was mainly driven by an increase in corporate taxes paid and lower operating profits when excluding non-cash elements in other operating income, partly offset by repayment of lease liabilities now recognized under financing activities due to the implementation of IFRS 16.

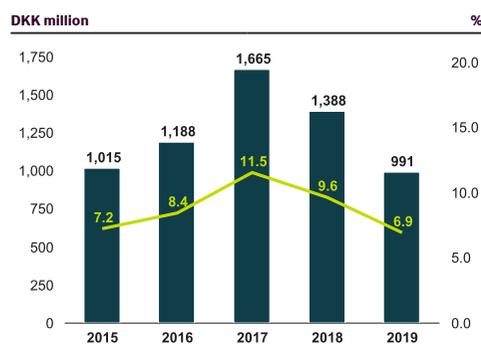
### Cash flow from operating activities



## Net investments

Net investments excluding acquisitions were DKK 991 million, down from DKK 1,388 million in 2018. Net investments in property, plant and equipment amounted to DKK 856 million, compared with DKK 1,328 million in 2018. The level was lower compared with 2018 as the investments in the Innovation Campus in Lyngby as well as in the production facilities in India and the US were to a large extent finalized in 2018.

### Net investments



- Net investments
- Net investments (% of sales)

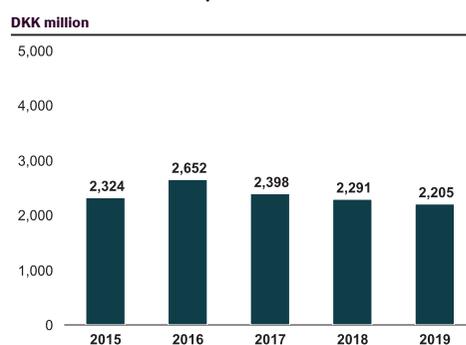
## Free cash flow before acquisitions and divestments

The free cash flow before acquisitions and divestments amounted to DKK 2,205 million, compared with DKK 2,291 million in 2018. The decrease of 4% was mainly due to the lower cash flow from operations partly offset by lower net investments.

### Free cash flow

The free cash flow was DKK 2,635 million in 2019, compared with DKK 2,287 million in 2018. Free cash flow was positively impacted by the divestment of the pharma-related royalty.

### Free cash flow before acquisitions



## Financing activities

The cash flow from financing activities was negative at DKK 2,644 million, compared with a negative cash flow of DKK 2,167 million in 2018. The negative cash flow from financing activities was mainly due to the 2019 stock buyback program (DKK 2,000 million) and dividend payments (DKK 1,439 million).

### Cash position

Cash and cash equivalents at December 31, 2019, amounted to DKK 711 million, down from DKK 723 million at December 31, 2018. Undrawn committed credit facilities were DKK 3,758 million at December 31, 2019.

# Consolidated statement of cash flows

DKK million	Note	2019	2018	DKK million	Note	2019	2018
<b>Net profit</b>		<b>3,155</b>	<b>3,227</b>	<b>Financing</b>			
Reversal of non-cash items	6.6	1,321	2,062	Borrowings		2,003	2,093
Income tax paid	2.6	(1,116)	(761)	Repayment of borrowings		(1,175)	(1,115)
Interest received		64	9	Repayment of lease liabilities		(108)	-
Interest paid		(88)	(11)	Shareholders:			
<b>Cash flow before change in working capital</b>		<b>3,336</b>	<b>4,526</b>	Purchase of treasury stock		(2,000)	(2,000)
<b>Change in working capital</b>				Sale of treasury stock		75	172
(Increase)/decrease in receivables		(238)	(361)	Dividend paid		(1,439)	(1,317)
(Increase)/decrease in inventories		218	(234)	<b>Cash flow from financing activities</b>		<b>(2,644)</b>	<b>(2,167)</b>
Increase/(decrease) in payables, deferred income and contract liabilities		(124)	(265)	<b>Net cash flow</b>		<b>(9)</b>	<b>120</b>
Currency translation adjustments		4	13	Unrealized gain/(loss) on currencies and financial assets included in cash and cash equivalents		(3)	(29)
<b>Cash flow from operating activities</b>		<b>3,196</b>	<b>3,679</b>	<b>Net change in cash and cash equivalents</b>		<b>(12)</b>	<b>91</b>
<b>Investments</b>				Cash and cash equivalents at January 1		723	632
Purchase of intangible assets	6.6	(135)	(60)	<b>Cash and cash equivalents at December 31</b>		<b>711</b>	<b>723</b>
Purchase of property, plant and equipment	6.6	(862)	(1,332)				
Sale of property, plant and equipment		6	4				
Business acquisitions, divestments and purchase of financial assets	6.6	430	(4)				
<b>Cash flow from investing activities</b>		<b>(561)</b>	<b>(1,392)</b>				
<b>Free cash flow</b>		<b>2,635</b>	<b>2,287</b>				

# Balance sheet and financial position

## Total assets

Total assets increased from DKK 19,697 million at December 31, 2018, to DKK 20,437 million at December 31, 2019. The increase were mainly driven by the implementation of IFRS 16, and an increase in net working capital.

## ROIC

Return on invested capital (ROIC), including goodwill, was 21.1%, down 3.1 percentage points from 24.2% in 2018. The decrease was mainly a result of higher net invested capital. ROIC was impacted negatively by 0.8 percentage point from the implementation of IFRS 16.

## Invested capital

Invested capital increased from DKK 13,953 million in 2018 to DKK 15,507 million in 2019. This was a result of higher net working capital and the implementation of IFRS 16.

## Net working capital

Novozymes' net working capital increased to DKK 3,478 million, up from DKK 2,768 million in 2018, due to higher trade receivables, lower trade payables and a reduction of contract liabilities related to The BioAg Alliance termination, partly offset by lower inventories.

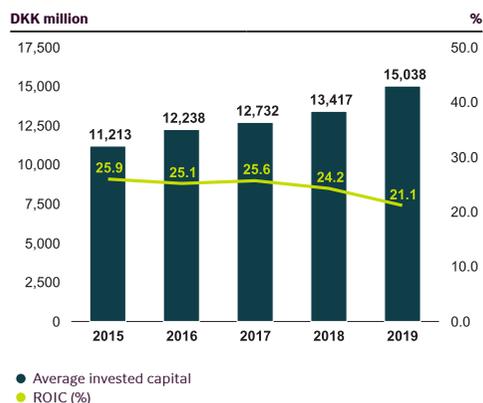
## Net interest-bearing debt

Novozymes had net interest-bearing debt of DKK 4,049 million at December 31, 2019, compared with DKK 2,535 million at December 31, 2018. Net interest-bearing debt was impacted by cash outflows from dividend payments of DKK 1,439 million and stock buybacks of DKK 2,000 million, which exceeded cash inflows from operating activities and net borrowings. Furthermore, net interest-bearing debt was impacted by DKK 616 million from the implementation of IFRS 16.

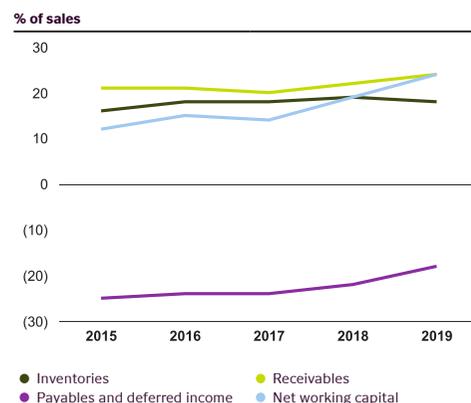
## Net interest-bearing debt-to-EBITDA

Net interest-bearing debt-to-EBITDA was 0.8x at December 31, 2019, compared with 0.5x at December 31, 2018. The increase was impacted by 0.1 percentage points from the implementation of IFRS 16.

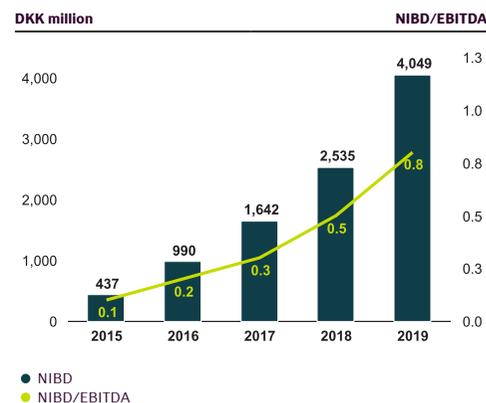
ROIC and average invested capital



Net working capital



Net interest-bearing debt (NIBD) and net interest-bearing debt-to-EBITDA



# Consolidated balance sheet

## Assets

DKK million	Note	Dec. 31, 2019	Dec. 31, 2018
Intangible assets	3.1	1,926	2,130
Land and buildings	3.2	4,056	2,779
Plant and machinery	3.2	4,501	4,452
Other equipment	3.2	993	619
Assets under construction and prepayments	3.2	662	1,848
Deferred tax assets	2.6	1,161	938
Other financial assets		22	20
Investments in associates		37	42
Other receivables	4.3	29	34
<b>Non-current assets</b>		<b>13,387</b>	<b>12,862</b>
Inventories	4.1	2,613	2,820
Trade receivables	4.2	2,864	2,606
Contract assets	4.2	243	279
Tax receivables	2.6	273	174
Other receivables	4.3	269	219
Other financial assets		15	14
Cash and cash equivalents		711	723
		<b>6,988</b>	<b>6,835</b>
Assets held for sale	4.6	62	-
<b>Current assets</b>		<b>7,050</b>	<b>6,835</b>
<b>Assets</b>		<b>20,437</b>	<b>19,697</b>

## Liabilities and shareholders' equity

DKK million	Note	Dec. 31, 2019	Dec. 31, 2018
Common stock	5.5	582	594
Currency translation adjustments		57	(86)
Cash flow hedges		19	(26)
Retained earnings		10,810	10,943
<b>Equity attributable to shareholders in Novozymes A/S</b>		<b>11,468</b>	<b>11,425</b>
Non-controlling interests		12	13
<b>Shareholders' equity</b>		<b>11,480</b>	<b>11,438</b>
Deferred tax liabilities	2.6	879	892
Provisions	3.4	115	132
Contract liabilities	4.4	-	199
Lease liabilities		453	-
Other financial liabilities	5.3	2,775	1,474
Other liabilities	4.5	-	37
<b>Non-current liabilities</b>		<b>4,222</b>	<b>2,734</b>
Lease liabilities		163	-
Provisions	3.4	128	97
Other financial liabilities	5.3	1,411	1,899
Trade payables		1,117	1,418
Contract liabilities	4.4	74	175
Tax payables	2.6	431	575
Other liabilities	4.5	1,411	1,361
<b>Current liabilities</b>		<b>4,735</b>	<b>5,525</b>
<b>Liabilities</b>		<b>8,957</b>	<b>8,259</b>
<b>Liabilities and shareholders' equity</b>		<b>20,437</b>	<b>19,697</b>

# Equity and shareholder return

## Shareholders' equity

At December 31, 2019, shareholders' equity was DKK 11,480 million, up from DKK 11,438 million at December 31, 2018, as dividend payments and net stock buybacks almost equaled comprehensive income in 2019.

## Equity ratio

Shareholders' equity represented 56% of the balance sheet total at December 31, 2019, down from 58% at December 31, 2018, driven by the increase in total assets related to the implementation of IFRS 16.

## Return on equity

Return on equity was 27.5%, down 0.9 percentage points from 28.4% in 2018. The decrease was a result of lower net profit.

## Treasury stock

At December 31, 2019, the holding of treasury stock was 9.7 million B shares, equivalent to 3.3% of the common stock.

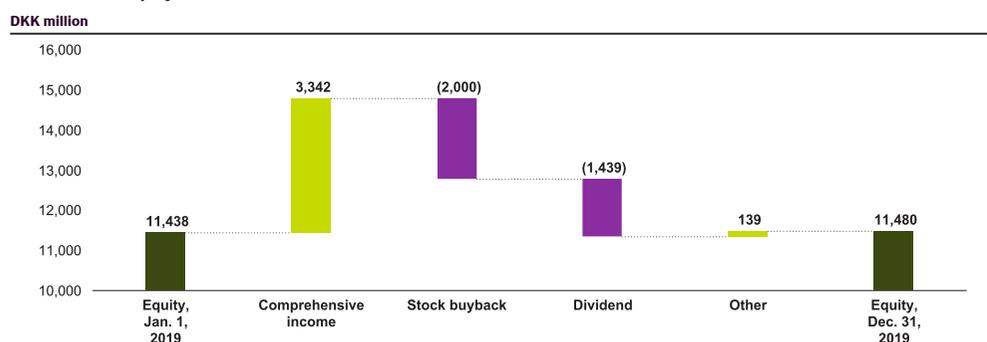
## Dividend

The Board of Directors proposes that the Annual Shareholders' Meeting approve a dividend of DKK 5.25 per share for the 2019 financial year, corresponding to an increase of 5% compared with 2018. This will result in an expected total dividend payment of approximately DKK 1,478 million, corresponding to a payout ratio of 46.8%.

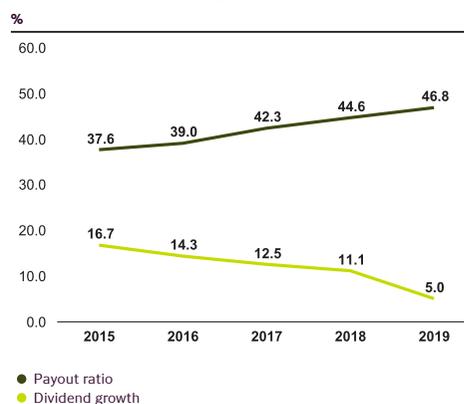
## Stock buyback program

In 2019, Novozymes bought back 6.6 million B shares at an aggregate transaction value of DKK 2,000 million under the stock buyback program initiated on April 25, 2019, and completed on November 18, 2019. The shares acquired under the program will be used to reduce the common stock and to meet obligations arising from employee stock-based incentive programs.

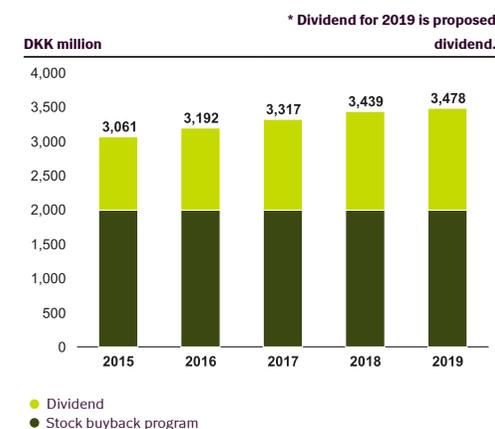
### Movements in equity 2019



### Payout ratio and dividend growth



### Shareholder return



[Read more about the Novozymes stock in The Novozymes stock](#)

# Consolidated statement of shareholders' equity

DKK million	Attributable to shareholders in Novozymes A/S						Non-controlling interests	Total equity
	Common stock	Currency translation adjustments	Cash flow hedges	Retained earnings	Total			
<b>Shareholders' equity at January 1, 2019</b>	<b>594</b>	<b>(86)</b>	<b>(26)</b>	<b>10,943</b>	<b>11,425</b>	<b>13</b>	<b>11,438</b>	
Net profit for the year				3,154	3,154	1	3,155	
Other comprehensive income for the year		143	45		188	(1)	187	
<b>Total comprehensive income for the year</b>		<b>143</b>	<b>45</b>	<b>3,154</b>	<b>3,342</b>	<b>-</b>	<b>3,342</b>	
Purchase of treasury stock				(2,000)	(2,000)		(2,000)	
Sale of treasury stock				75	75		75	
Write-down of common stock	(12)			12	-		-	
Dividend				(1,438)	(1,438)	(1)	(1,439)	
Stock-based payment				45	45		45	
Tax related to equity items				19	19		19	
<b>Changes in shareholders' equity</b>	<b>(12)</b>	<b>143</b>	<b>45</b>	<b>(133)</b>	<b>43</b>	<b>(1)</b>	<b>42</b>	
<b>Shareholders' equity at December 31, 2019</b>	<b>582</b>	<b>57</b>	<b>19</b>	<b>10,810</b>	<b>11,468</b>	<b>12</b>	<b>11,480</b>	
<b>Shareholders' equity at January 1, 2018</b>	<b>610</b>	<b>(262)</b>	<b>45</b>	<b>10,861</b>	<b>11,254</b>	<b>13</b>	<b>11,267</b>	
Net profit for the year				3,226	3,226	1	3,227	
Other comprehensive income for the year		176	(71)		105	-	105	
<b>Total comprehensive income for the year</b>		<b>176</b>	<b>(71)</b>	<b>3,226</b>	<b>3,331</b>	<b>1</b>	<b>3,332</b>	
Purchase of treasury stock				(2,000)	(2,000)		(2,000)	
Sale of treasury stock				172	172		172	
Write-down of common stock	(16)			16	-		-	
Dividend				(1,316)	(1,316)	(1)	(1,317)	
Stock-based payment				97	97		97	
Tax related to equity items				(113)	(113)		(113)	
<b>Changes in shareholders' equity</b>	<b>(16)</b>	<b>176</b>	<b>(71)</b>	<b>82</b>	<b>171</b>	<b>-</b>	<b>171</b>	
<b>Shareholders' equity at December 31, 2018</b>	<b>594</b>	<b>(86)</b>	<b>(26)</b>	<b>10,943</b>	<b>11,425</b>	<b>13</b>	<b>11,438</b>	

The proposed dividend of approximately DKK 1,478 million for 2019 is included in Retained earnings.

# Environmental performance

## Operational efficiency

Novozymes strives to decouple environmental impact from business growth, and aims to define targets and metrics that measure and drive our sustainability performance.

In 2018 we introduced new annual targets for energy and water consumption and CO<sub>2</sub> emissions, aiming to keep growth in resource consumption and CO<sub>2</sub> emissions lower than our organic sales growth. In 2019, we managed to reduce water consumption by 4%, energy consumption by 5% and CO<sub>2</sub> emissions by 24% compared with 2018.

## Climate change

Novozymes' total CO<sub>2</sub> emissions were 365,000 tons in 2019, a decrease from 472,000 tons in 2018. Our target measures the increase in part of the total CO<sub>2</sub> emissions (scope 1+2 only), which decreased by 24% from 437,000 tons in 2018 to 330,000 tons in 2019.

## Energy

In 2019, Novozymes' energy consumption was 4,574,000 GJ, a decrease of 5% compared with 2018.

Renewable sources accounted for 30% of the energy consumption in 2019, up from 23% in 2018. In 2019, Novozymes started procuring renewable electricity for our production site in Tianjin, China. In addition all our electricity in Denmark and Brazil comes from offshore windfarms and hydropower.

Energy by source 2019 (2018)



- Electricity - conventional **29%** (38%)
- Electricity - renewable **29%** (22%)
- Steam **21%** (21%)
- Fuels - conventional **15%** (14%)
- Heat - conventional **4%** (4%)
- Fuel and heat - renewable **2%** (1%)

## Water

In 2019, Novozymes' water consumption decreased by 4% from 8,205,000 m<sup>3</sup> in 2018 to 7,845,000 m<sup>3</sup>.

The total volume of wastewater generated in 2019 decreased by 3%.

In 2019, Novozymes implemented a reverse osmosis system at one of our plants in China, which purifies our process water and enables reuse in our cooling towers.

## Waste

Novozymes recovered 97% of biomass generated in 2019 from landfill, on par with 2018.

For solid waste, the rate of recycling across our global production sites increased to 52%, compared with 44% in 2018.

## Environmental compliance

The number of breaches of regulatory limits recorded worldwide decreased to 17 in 2019 from 27 in 2018. Most of these breaches related to wastewater treatment. Novozymes is addressing these incidents. In addition, we received seven neighbor complaints in 2019, compared with 11 in 2018, mostly related to air pollution and waste management.

# Consolidated environmental data

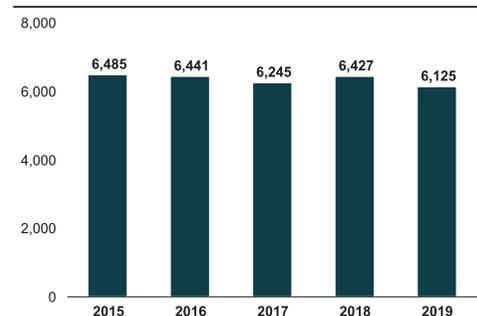
	Note		2019	2018
<b>Climate change</b>				
Greenhouse gas emissions	7.1	1,000 tons CO <sub>2</sub> -eqv.	365	472
<b>Energy</b>				
Energy consumption	7.2	1,000 GJ	4,574	4,831
Renewable energy	7.2	%	30	23
<b>Water</b>				
Water consumption	7.3	1,000 m <sup>3</sup>	7,845	8,205
Volume of wastewater	7.3	1,000 m <sup>3</sup>	6,147	6,306
<b>Waste</b>				
Solid waste	7.4	1,000 tons	13	14
Recycling rate for solid and hazardous waste	7.4	%	52	44
Biomass volume	7.4	1,000 tons	513	509
Recycling rate for biomass	7.4	%	97	97
<b>Environmental compliance, etc.</b>				
Breaches of regulatory limits	7.5	No.	17	27
Neighbor complaints	7.5	No.	7	11
<b>References to notes without data</b>				
Bioethics & biodiversity	7.6		n.a.	n.a.
Product stewardship	7.7		n.a.	n.a.

# Social and governance performance

## Labor practices & human rights

At December 31, 2019, the total number of employees was 6,125, compared with 6,427 in 2018. The decrease is a consequence of the organizational change announced in August 2019, when around 300 employees were laid off globally across the organization.

Number of employees



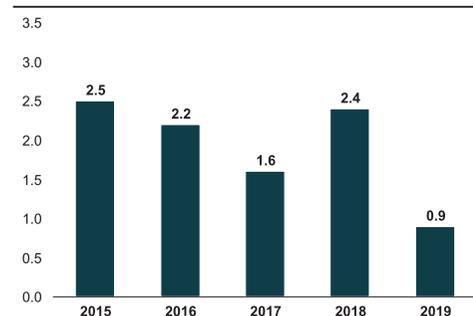
The employee absence rate was 1.9% compared with 2.1% in 2018.

Novozymes promotes equal opportunities and strengthens diversity in the global workplace. At December 31, 2019, 31% of senior management (directors and higher) were women, up from 30% in 2018.

## Occupational health & safety

As a consequence of our continuous focus on building awareness and keeping employees safe and healthy, the frequency of occupational accidents fell to an alltime low 0.9 per million working hours in 2019, compared with 2.4 in 2018.

Frequency of accidents (per million working hours)



## Innovation

Novozymes is committed to delivering bioinnovation and launched nine new products in 2019.

In 2019, Novozymes had 951 active patent families, which comprise the number of inventions that have active patent applications or active patents. The number of active patent families has been reduced from 1,041 in 2018, as we have abandoned patent families that are no longer needed, in order to free up resources for focusing on the updated strategy Better business with biology. See more details about our new products in 'This is Novozymes'.

## Business ethics

In 2019, Novozymes reinforced its business integrity principle commitment. 99% of Novozymes' employees in scope completed business integrity training in 2019, on par with 2018.

As in 2018, there were no breaches of competition law in 2019.

The number of investigated fraud cases increased to 42 in 2019, compared with 34 in 2018. None of the investigated fraud cases had a material financial impact.

## Community engagement

In 2019, Novozymes engaged approximately 329,000 learners, compared with approximately 302,000 in 2018. The increase was due to expansion of our 2018 projects across regions and addition of new projects.

## Customer engagement

Novozymes conducts an annual customer satisfaction survey and tracks progress on its Net Promoter Score (NPS), which is assessed on a scale from -100 to +100. In 2019, we received an NPS of +54, compared with +50 in 2018, which confirms our solid relationships with our customers.

# Consolidated social and governance data

	Note		2019	2018
<b>Labor practices &amp; human rights</b>				
Employees, total	2.3	No.	6,125	6,427
Women	2.3	%	37.6	37.7
Rate of absence	8.1	%	1.9	2.1
Women in senior management	8.1	%	31	30
<b>Occupational health &amp; safety</b>				
Fatalities		No.	-	-
Frequency of occupational accidents	8.2	Per million working hours	0.9	2.4
Frequency of occupational diseases	8.2	Per million working hours	0.1	0.4
<b>Innovation</b>				
New products	2.4	No.	9	8
Active patent families	2.4	No.	951	1,041
<b>Business ethics</b>				
Completion of business integrity training for employees in scope	8.3	%	99	99
Breaches of competition law	8.3	No.	-	-
Investigated fraud cases	8.3	No.	42	34
<b>Community engagement</b>				
Estimated number of learners reached	8.4	No.	329,000	302,000
<b>Customer engagement</b>				
Customer satisfaction, Net Promoter Score (NPS)	8.5	No.	54	50
<b>Reference to notes without data</b>				
Responsible sourcing	8.6		n.a.	n.a.

# Notes

## **Basis of reporting**

- 1.1** Significant changes and events
- 1.2** Basis of reporting

## **Net operating profit after tax**

- 2.1** Segment
- 2.2** Revenue
- 2.3** Employees
- 2.4** Research and development costs
- 2.5** Other operating income, net
- 2.6** Tax
- 2.7** Earnings per share

## **Invested capital**

- 3.1** Intangible assets and impairment test of goodwill
- 3.2** Property, plant and equipment
- 3.3** Leases
- 3.4** Provisions

## **Net working capital**

- 4.1** Inventories
- 4.2** Trade receivables and contract assets
- 4.3** Other receivables
- 4.4** Contract liabilities
- 4.5** Other liabilities
- 4.6** Assets held for sale

## **Capital structure and financing**

- 5.1** Financial risk factors and risk management
- 5.2** Financial income and Financial costs
- 5.3** Other financial liabilities
- 5.4** Derivatives – hedge accounting
- 5.5** Common stock and treasury stock
- 5.6** Financial assets and liabilities by category

## **Other financial notes**

- 6.1** Management remuneration
- 6.2** Stock-based payment
- 6.3** Commitments and contingencies
- 6.4** Related party transactions

- 6.5** Fees to statutory auditors
- 6.6** Cash flow
- 6.7** Group companies

## **Environmental data**

- 7.1** Climate change
- 7.2** Energy
- 7.3** Water
- 7.4** Waste
- 7.5** Environmental compliance, etc.
- 7.6** Bioethics & biodiversity
- 7.7** Product stewardship

## **Social and governance data**

- 8.1** Labor practices & human rights
- 8.2** Occupational health & safety
- 8.3** Business ethics
- 8.4** Community engagement
- 8.5** Customer engagement
- 8.6** Responsible sourcing

## Basis of reporting

# 1.1 Significant changes and events



### Implementation of IFRS 16 Leases

Novozymes implemented IFRS 16 on leases as of January 1, 2019. The standard has a significant impact on the balance sheet, as leases are recognized in the balance sheet as lease assets and lease liabilities.

In the income statement, the lease cost is replaced by depreciation of the leased asset and an interest expense for the financial liability, but the impact is insignificant. ROIC is impacted negatively, while free cash flow is impacted positively.

The impact on the Group's consolidated financial statements is described in Note 1.2 under Impact of new accounting standards.

The implementation has resulted in additional disclosures; see Note 3.3.



### Termination of The BioAg Alliance

In February 2014, Novozymes and Monsanto formed The BioAg Alliance to discover, develop, and commercialize microbial solutions to increase crop yields and enhance sustainability.

As a consequence of Bayer's acquisition of Monsanto, Novozymes and Bayer negotiated the future setup of The BioAg Alliance. In April 2019, The BioAg Alliance was terminated, and replaced by a multi-partner setup in BioAg. Novozymes is continuing a close innovation and commercial partnership with Bayer. Reference is made to Note 2.5 for a description of the impact of The BioAg Alliance termination.



### Divestment of the pharma-related royalty

In April 2019, Novozymes divested the pharma-related royalty. The transaction is classified as a divestment of assets. Reference is made to Note 2.5 and Note 3.1 for more details.



## 1.2 Basis of reporting

This section provides an overview of Novozymes' principal accounting policies, the critical accounting estimates and judgments applied, a definition of materiality as well as the impact of new or amended IFRS standards and interpretations.

The symbols **I/S**, **B/S** and **ESG** show which amounts in the notes can be found in the income statement, the balance sheet, and in environmental data and social and governance data respectively.

The accounting policies described below apply to the consolidated financial statements as a whole. Accounting policies and critical accounting estimates and judgments are described in the notes to which they relate to enhance understanding. The descriptions of accounting policies in the notes form part of the overall description of accounting policies.

### ACCOUNTING POLICIES

#### Consolidation

The consolidated financial statements comprise the financial statements of Novozymes A/S (the Parent Company) and subsidiaries controlled by Novozymes A/S, prepared in accordance with Group accounting policies. The consolidated financial statements are prepared by combining items of a uniform nature and subsequently eliminating intercompany transactions, internal stockholdings and balances, and unrealized intercompany profits and losses.

Consolidation of the environmental data and social and governance data follows the same principles as the financial reporting.

#### Translation of foreign currencies

The consolidated financial statements are presented in Danish kroner (DKK).

Exchange rate differences arising between the exchange rate at the transaction date and the reporting date are recognized as Financial income or Financial costs.

Foreign currency transactions are translated into the functional currency defined for each company using the exchange rates prevailing at the transaction date. Monetary items denominated in foreign currencies are translated into the functional currency at the exchange rates prevailing at the reporting date.

Financial statements of foreign subsidiaries are translated into DKK at the exchange rates prevailing at the reporting date for assets and liabilities, and at average exchange rates for income statement items.

The following exchange rate differences, arising from translation using the exchange rate prevailing at the reporting date, are recognized in Other comprehensive income:

- Translation of foreign subsidiaries' net assets at the beginning of the year

- Translation of foreign subsidiaries' income statements from average exchange rates

#### Non-IFRS financial measures

Novozymes uses certain financial measures that are not defined in IFRS to describe the Group's financial performance, financial position and cash flows. These financial measures may therefore be defined and calculated differently from similar measures in other companies, and may thus not be comparable.

The non-IFRS financial measures presented in the annual report are:

- Organic sales growth
- Economic profit
- ROIC
- Free cash flow before acquisitions

Definitions of non-IFRS financial measures are provided in the Glossary.

#### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

The preparation of the consolidated financial statements and the environmental data and social and governance data requires Management to make estimates and assumptions that can have a significant effect on the application of policies and reported amounts of assets, liabilities, income, expenses and related disclosures. The estimates and underlying assumptions are based on historical

experience and various other factors. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Changes in estimates may be necessary if there are changes in the circumstances on which the estimate was based, or more detailed information becomes available. Such changes are recognized in the period in which the estimate is revised.

The application of the Group's accounting policies may require Management to make judgments that can have a significant effect on the amounts recognized in the consolidated financial statements. Management judgment is required in particular when assessing the substance of transactions that have a complicated structure or legal form.

The critical accounting estimates and judgments can potentially significantly impact the consolidated financial statements.

## Basis of reporting

# 1.2 Basis of reporting (continued)

The table below shows the critical accounting estimates and judgments and their level of potential impact on the consolidated financial statements:

Note	Critical accounting estimates and judgments	Estimate/ judgment	Potential impact from estimates and judgments
2.2 Revenue	Profit-sharing in partnerships	Estimate	● ● ●
2.6 Tax	Group tax charge	Estimate	● ● ●
3.1 Intangible assets and impairment test of goodwill	Impairment of intangible assets and goodwill	Estimate	● ● ●
3.1 Intangible assets and impairment test of goodwill	Intangible assets recognized at fair value	Estimate	● ● ●
4.1 Inventories	Cost of work in progress and finished goods	Estimate	● ● ●
4.2 Trade receivables and contract assets	Allowances for doubtful trade receivables	Estimate	● ● ●
4.4 Contract liabilities	Deferred income	Estimate	● ● ●
8.4 Community engagement	Learners reached	Estimate	● ● ●

### Basis of reporting

The consolidated financial statements of the Group have been prepared in accordance with IFRS as adopted by the EU and further requirements in the Danish Financial Statements Act. Novozymes has prepared the consolidated financial statements in accordance with all the IFRS standards effective at December 31, 2019. The fiscal year for the Group is January 1 – December 31.

The consolidated financial statements have been prepared on a going concern basis and under the historical cost convention, with the exception of derivatives and securities, which are measured at fair value. The accounting policies are unchanged from last year except for the implementation of IFRS 16 Leases.

The consolidated environmental data and social and governance data have been

prepared in accordance with principles that adhere to the following internationally recognized voluntary reporting standards and principles:

- AA1000(2008) framework for accountability. The framework states that reporting must provide a complete, accurate, relevant and balanced picture of the organization's approach to and impact on society
- UN Global Compact. Novozymes is a signatory to the UN Global Compact, a voluntary policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption. Read Novozymes' UNGC Communication on Progress in the Sustainability section
- GRI Sustainability Reporting Standards 2016 (GRI Standards). Novozymes refers

to GRI 101: Foundation 2016 to inspire its materiality assessment process and to GRI 102: General Disclosures 2016 to report contextual information about itself. Information is presented on Novozymes' management approach to material issues, taking inspiration from GRI 103: Management Approach 2016

The principles are unchanged from last year.

### Defining materiality

Novozyymes' annual report is based on the concept of materiality, to ensure that the content is material and relevant.

If items are individually immaterial, they are aggregated with other items of a similar nature in the statements or in the notes. Novozymes provides the specific disclosures required by IFRS unless the information is considered

immaterial to the economic decision-making of the readers of the annual report. The disclosures on environmental, social and governance (ESG) issues include information on our management approach, targets, initiatives and related progress.

Novozyymes' materiality assessment is a systematic and rigorous process that integrates inputs from external stakeholders, trend analyses and internal engagement with relevant departments including Investor Relations, Risk Management & Controls, Quality and Sustainability and leadership from our commercial divisions. This process results in a materiality matrix ([www.novozymes.com/en/about-us/sustainability/materiality](http://www.novozymes.com/en/about-us/sustainability/materiality)) of financial and ESG issues and reflects importance of those issues to stakeholders versus impact on Novozymes. We use our materiality matrix to define our priorities and focus areas for the coming period.

In 2019, no new issues were added to or deleted from the matrix and we further integrated it into our business strategy by using it as critical input for the strategy update in 2019. In the following we highlight some of our material issues, for which, we have external targets/flagship initiatives and make a direct contribution to an SDG target(s).

## 1.2 Basis of reporting (continued)

Material issues with external targets or flagship initiatives	External target(s)/flagship initiative	SDGs
<b>Innovation</b>	<ul style="list-style-type: none"> <li>HelloScience - open innovation platform</li> </ul>	
<b>Profitable growth</b>	<ul style="list-style-type: none"> <li>Organic sales growth 5+% per year*</li> <li>EBIT margin 28% or above by 2022</li> <li>ROIC incl. goodwill 23% or above by 2022</li> </ul>	
<b>Climate change and energy</b>	<ul style="list-style-type: none"> <li>50% reduction in absolute emissions from operations by 2030</li> <li>100% renewable electricity by 2030</li> <li>15% reduction in absolute emissions from purchased goods and services by 2030</li> </ul>	 
<b>Water</b>	<ul style="list-style-type: none"> <li>100% sites manage water in balance with local conditions by 2030</li> </ul>	 
<b>Responsible sourcing</b>	<ul style="list-style-type: none"> <li>100% of key materials and waste managed in circular systems by 2030</li> </ul>	
<b>Community engagement and social investment</b>	<ul style="list-style-type: none"> <li>Pledge 1% of our time to local outreach activities by 2022</li> </ul>	
<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>Maintain occupational injuries <math>\leq</math> 1.5</li> </ul>	
<b>Labor practices and human rights</b>	<ul style="list-style-type: none"> <li>86 on our diversity index by 2022</li> <li>80 on learning in employee survey in 2022</li> </ul>	 
<b>Waste</b>	<ul style="list-style-type: none"> <li>Develop programs to reach zero waste by 2030 at 100% of sites</li> </ul>	

Get a full list of our nonfinancial targets in the Sustainability section.

\*2020 is the first year of a three-year strategy period and is expected to be impacted to some extent by portfolio changes.

For a full list of our material issues and details on the materiality assessment, please see our materiality matrix and value chain assessment at [novozymes.com](http://novozymes.com).

### Limited reporting scope

The environmental data cover those activities that could have a significant impact on the environment. Sites with activities considered not to have a significant environmental impact are not included. Such sites comprise sales offices, R&D labs, and sites with limited blending and storage of products. However, measures are taken to ensure that at least 97% of the total Novozymes quantity of the measured environmental parameter is included in the reported numbers.

### Impact of new accounting standards

Novozymes has adopted the following new or amended standards and interpretations from January 1, 2019:

- IFRS 16 – Leases introduces a single lessee accounting model, requiring lessees to recognize leases in the balance sheet as a lease asset and a lease liability. In the income statement, the lease cost is replaced by depreciation of the lease asset and an interest expense for the financial liability.

The standard was implemented on January 1, 2019 using the modified retrospective approach, and comparative figures have not been restated. At initial recognition, lease assets are measured at an amount equal to the lease liability, which is measured at the

present value of future lease payments.

Novozymes does not apply IFRS 16 to short-term leases, low-value leases or leases expiring before December 31, 2019.

Novozymes applies a single discount rate to portfolios of leases with similar characteristics.

The lease liability is measured using the marginal borrowing rate in the countries in which Novozymes operates. The weighted average incremental borrowing rate for lease liabilities initially recognized at January 1, 2019 was 5.2%.

Lease costs are not split into service components and rental costs but accounted for as a single lease component. Variable service components invoiced separately are expensed as operating costs.

The following table shows the line items that are significantly impacted by the implementation of IFRS 16. Line items that are not affected are not included in the table. The implementation of IFRS 16 has had an insignificant impact on the income statement, and hence is not included in the table.

## 1.2 Basis of reporting (continued)

DKK million	December 31, 2019	January 1, 2019
Net book value of lease assets recognized in:		
Land and buildings <sup>1</sup>	397	468
Plant and machinery <sup>1</sup>	102	104
Other equipment	155	192
Non-current lease liabilities <sup>2</sup>	453	571
Current lease liabilities <sup>2</sup>	163	137

1. As of January 1, 2019 DKK 56 million and DKK 92 million respectively was transferred from previously capitalized finance leases.

2. As of January 1, 2019 a total of DKK 92 million was transferred from previous finance lease liabilities, included in other payables.

Consequently, as of December 31, 2019, ROIC was impacted negatively by 0.8 percentage point, and Free cash flow was impacted positively by DKK 108 million, as repayments of lease liabilities are now included under Financing activities. Depreciation of lease assets amounted to DKK 124 million in 2019.

The following table shows a reconciliation from operating lease commitments as of December 31, 2018 to lease liabilities as of January 1, 2019.

The implementation has resulted in additional disclosures; see Note 3.3.

DKK million	
<b>Operating lease commitments at December 31, 2018</b>	506
Discounted using the Group incremental borrowing rate as of January 1, 2019	(108)
Finance lease liabilities recognized at December 31, 2018	92
Short-term leases and contracts assessed as service agreements	(12)
Adjustment for useful life changes	230
Lease liabilities recognized at January 1, 2019	708

- IFRIC 23 – Uncertainty over Income Tax Treatments clarifies the accounting for uncertainties in income taxes
- Annual Improvements to IFRSs (2015-2017) contains minor changes to four standards
- Amendments to IAS 28 – Long-term interests in Associates and Joint Ventures clarifies that an entity applies IFRS 9 including its impairment requirements, to long-term interests in an associate or joint venture that form part of the net investment in the associate or joint venture but to which the equity method is not applied
- Amendments to IAS 19 – Plan amendments, Curtailment or Settlement requires an entity to use updated actuarial assumptions to determine current service cost and net interest for the remainder of the annual reporting period after the plan amendment, curtailment or settlement
- Amendment to IFRS 9 – Prepayment Features with Negative Compensations clarifies how to classify particular prepayable financial assets, as well as clarifying an aspect of the accounting for financial liabilities following a modification

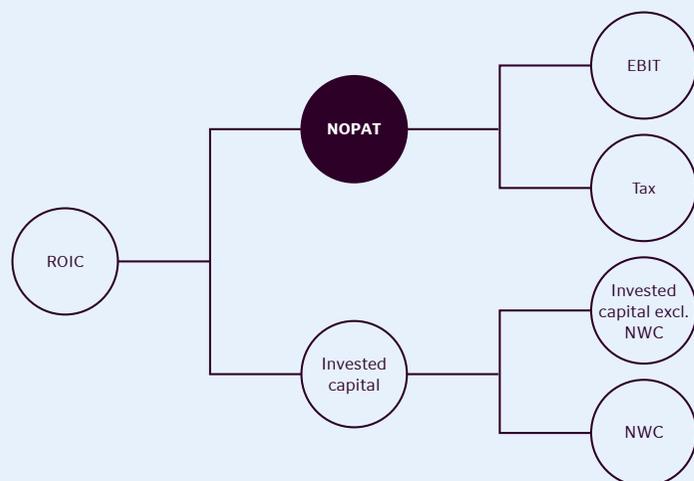
Other than the impact from IFRS 16, the adoption of the new and amended standards and interpretations has not had a significant impact on recognition, measurement or disclosures in the consolidated financial statements for 2019 and is not anticipated to have an impact on future periods.

### New standards and interpretations not yet adopted

IASB has issued new or amended accounting standards and interpretations that have not yet become effective and have consequently not been implemented in the consolidated financial statements for 2019. Novozymes expects to adopt the accounting standards and interpretations when they become mandatory. None of the new or amended standards or interpretations are expected to have an impact on the consolidated financial statements.

## Net operating profit after tax

# Net operating profit after tax



DKK million	Note	2019	2018
Revenue	2.2	14,374	14,390
Cost of goods sold		(6,420)	(6,135)
<b>Gross profit</b>		<b>7,954</b>	<b>8,255</b>
Sales and distribution costs		(1,631)	(1,571)
Research and development costs	2.4	(1,966)	(1,865)
Administrative costs		(838)	(792)
Other operating income, net	2.5	520	43
<b>Operating profit (EBIT)</b>		<b>4,039</b>	<b>4,070</b>
Exchange gains/(losses)		(205)	(89)
Tax on adjusted operating profit		(650)	(717)
Share of loss in associates		(5)	(17)
<b>Adjusted operating profit (NOPAT)</b>		<b>3,179</b>	<b>3,247</b>
<b>Average invested capital (see Invested capital section)</b>		<b>15,038</b>	<b>13,417</b>
<b>ROIC</b>		<b>21.1%</b>	<b>24.2%</b>

## Organic sales growth

(1)%

## Net profit growth

(2)%

## EBIT margin at

28.1%



## 2.1 Segment

### Segment reporting

The internal reporting framework used for reporting on revenue and expenses to the Executive Leadership Team and the Board of Directors has been established to reflect and report on the global functional responsibility setup at Novozymes. This setup consolidates functions by type, and Management reviews the results of the Group as a whole to assess performance. Thus, there is only one operating segment.

### Worldwide operations

The Group operates in four geographical regions: Europe, Middle East & Africa (including Denmark), North America, Asia Pacific and Latin America. From a revenue perspective, the US is the largest single market, contributing ~31% of the Group's revenue (2018: ~32%).

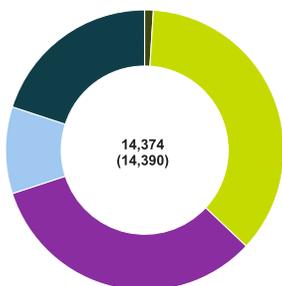
The geographical distribution of revenue is based on the country in which the goods are delivered. With a number of customers, central deliveries are made to specified locations and the final destination is unknown. The stated

geographical distribution of revenue may therefore vary from year to year if the delivery destination for these customers changes.

Most of the Group's intangible assets and property, plant and equipment are located in Denmark, the US and China at ~50%, ~30% and ~13% respectively (2018: ~50%, ~30% and ~13%).

Revenue 2019 (2018)

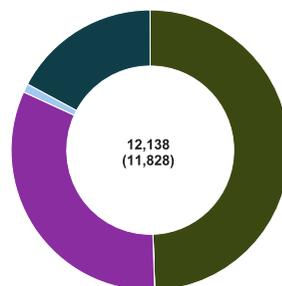
DKK million



- Denmark **166** (204)
- Rest of Europe, Middle East & Africa **5,174** (5,010)
- North America **4,750** (4,893)
- Latin America **1,407** (1,381)
- Asia Pacific **2,877** (2,902)

Intangible assets and property, plant and equipment 2019 (2018)

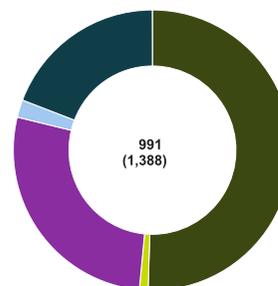
DKK million



- Denmark **6,007** (5,871)
- Rest of Europe, Middle East & Africa **51** (49)
- North America **3,935** (3,738)
- Latin America **142** (160)
- Asia Pacific **2,003** (2,010)

Net investments 2019 (2018)

DKK million



- Denmark **495** (713)
- Rest of Europe, Middle East & Africa **13** (9)
- North America **271** (309)
- Latin America **12** (19)
- Asia Pacific **191** (338)

## Net operating profit after tax

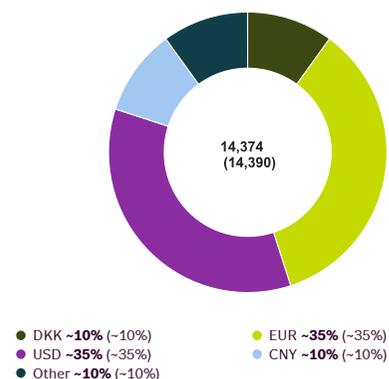
# 2.2 Revenue

DKK million	2019	2018
Household Care	4,758	4,625
Food & Beverages	4,171	4,122
Bioenergy	2,820	2,806
Agriculture & Feed	1,881	2,045
Technical & Pharma	744	792
<b>Revenue</b>	<b>14,374</b>	<b>14,390</b>
Emerging markets	4,938	4,980
Developed markets	9,436	9,410
<b>Revenue</b>	<b>14,374</b>	<b>14,390</b>
Sales to the five largest customers as a percentage of revenue	27%	28%

At the beginning of 2019, contract liabilities amounted to DKK 374 million (2018: DKK 573 million), of which DKK 26 million was recognized as revenue in 2019 (2018: DKK 224 million).

### Sales by currency 2019 (2018)

DKK million



The majority of Novozymes' revenue is derived from the sale of goods to customers, where revenue is recognized when goods are delivered. Less than 1% of Novozymes' total revenue arises from royalties.

### Sales growth 2019

DKK million



## CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Novozymes has entered into partnerships where Novozymes manufactures and sells products to a partner, who undertakes the sales to end customers, and where the profit on products sold to end customers is shared between the partner and Novozymes based on predetermined profit-sharing mechanisms. Revenue related to this type of partnership comprises approximately 11%

of Novozymes' total annual revenue (2018: approximately 13%).

A minor part of the revenue, related to the expected profit-share on products sold to the partner, requires significant judgment and estimates by Management. This involves estimating future selling prices to end customers, along with their impact on rebate schemes, and estimating product returns from end customers.

## ACCOUNTING POLICIES

Novozymes produces a wide range of industrial enzymes and microorganisms. Revenue includes the sale of goods and related services and royalties, and is recognized at an amount that reflects the consideration to which Novozymes expects to be entitled. Revenue from the straightforward sale of goods to customers is recognized when control of the goods is transferred to the customer, i.e. when goods are delivered. Variable considerations are included in revenue to the extent that they are not subject to significant uncertainty.

microorganisms to customers, and each batch delivered is considered a separate performance obligation, as each batch is distinct.

### Discounts

Enzymes and microorganisms are sometimes sold at a rebate. A rebate agreement can be set up in various ways, but common to all agreements is that revenue is recognized based on the price specified in the contract, net of the estimated rebate. The rebates are estimated based on experience, as well as information related to expected orders 3-12 months in advance. The estimated rebates are reassessed at the end of each reporting period.

The performance obligations in the contracts are to deliver enzymes and

## 2.2 Revenue (continued)

### § ACCOUNTING POLICIES

#### Returns

A few of Novozymes' partnerships are granted a right of return. No revenue is recognized for the goods expected to be returned, as a refund liability is recognized. Estimates of the expected level of returns are based on analysis of historical returns and knowledge of the relevant markets/products. These estimates are updated at the end of each reporting period. As the goods returned are usually scrapped, no inventory asset is recognized.

#### Profit split

Novozymes has entered into partnerships where Novozymes manufactures and sells products to a partner, who undertakes the sales to end customers. The profit on products sold to end customers is shared between the partner and Novozymes based on predetermined profit-sharing mechanisms.

Revenue from these arrangements consists of sales of products to the partner and the shared profit, and is recognized in full when the goods are delivered to the other contracting party. This is done by calculating the expected profit based on insights, experience and other input factors. The calculated profit is recognized as a contract asset or contract liability until an invoice is issued. The realized profit is settled periodically.

#### Commission

Novozymes has entered into commission agreements where agents undertake sales to third parties in return for commission on realized sales. Revenue from such agreements is recognized when the goods are delivered, as the nature of the performance obligation is to provide the specified goods.

#### Other

Revenue collected on behalf of third parties is not recognized as revenue.

Novozymes' obligation to provide a refund for products that are not of the agreed quality or according to agreed specifications under the standard warranty terms is recognized as contract liabilities. Reference is made to Note 4.4.

A trade receivable is recognized when the customer obtains control of the goods and an invoice is issued, as this is the point in time when the consideration is unconditional and only the passage of time is required before payment is due. Typical payment terms are around 60 days.

Contract liabilities consist of advance payments, deferred revenue and liabilities for refund goods. The contract liabilities are recognized as revenue as the performance obligations under the contracts are fulfilled.

## Net operating profit after tax

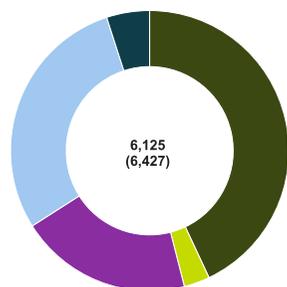
# 2.3 Employees

DKK million	2019	2018
Wages and salaries	3,195	2,960
Pensions – defined contribution plans	292	306
Other social security costs	284	232
Other employee costs	117	114
Stock-based payment	46	100
<b>Employee costs</b>	<b>3,934</b>	<b>3,712</b>
Recognized in the income statement under the following items:		
Cost of goods sold	1,447	1,350
Sales and distribution costs	869	778
Research and development costs	1,122	1,057
Administrative costs	504	492
	<b>3,942</b>	<b>3,677</b>
Change in employee costs recognized in Inventories	(8)	35
<b>Employee costs</b>	<b>3,934</b>	<b>3,712</b>

In August 2019, Novozymes announced organizational changes related to the updated strategy. As a consequence of the changes, around 300 employees were laid off globally across the organization. The employee cost in 2019 include restructuring costs related to this of around DKK 200 million. The one-off impact is partly offset by reduced employee cost in the remainder of the year. In addition, the announced changes in the Executive Leadership Team during 2019 has resulted in severance cost of DKK 58 million.

Number of employees end of year 2019 (2018)

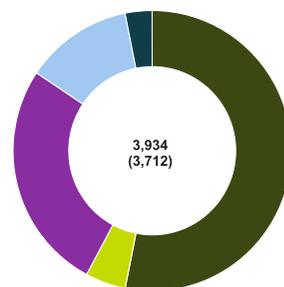
No. of employees



- Denmark **2,640** (2,687)
- Rest of Europe, Middle East & Africa **191** (191)
- North America **1,195** (1,301)
- Asia Pacific **1,792** (1,892)
- Latin America **307** (356)

Employee costs 2019 (2018)

DKK million



- Denmark **2,084** (2,004)
- Rest of Europe, Middle East & Africa **171** (145)
- North America **1,065** (981)
- Asia Pacific **500** (470)
- Latin America **114** (112)

## 2.3 Employees (continued)

	2019	2018
Average number of employees in the Group	6,341	6,351
Average number of employees who work with R&D	1,522	1,522
Number of employees outside Denmark as a percentage of total number of employees	57%	58%
Part-time employees	292	296
Full-time employees	5,833	6,131
<b>Employees at December 31</b>	<b>6,125</b>	<b>6,427</b>
Senior management	189	188
Management	1,136	1,207
Professional	1,711	1,820
Administrative	579	602
Skilled workers, laboratory technicians and other technicians	1,294	1,364
Process operators	1,216	1,246
<b>Employees by category</b>	<b>6,125</b>	<b>6,427</b>

Employee gender distribution 2019 (2018)



● Women **37.6%** (37.7%)  
 ● Men **62.4%** (62.3%)

### ACCOUNTING POLICIES

The number of employees is derived from contractual obligations, but does not include employees on unpaid leave, temporary replacements, student interns, agency employees, consultants or PhD students. In calculating the number of full-time employees, employees with a working-time ratio of 95% or more are counted as full-time employees.

The average number of employees is calculated as the average of the number of permanent employees at the end of each month.

Job categories are defined as follows: Senior management comprises the CEO, executive vice presidents, senior vice presidents, vice presidents and directors. Management comprises middle managers and specialists. Professional comprises employees with academic backgrounds as well as team leaders. Process operators comprises operators and unskilled workers.

## 2.4 Research and development costs

DKK million	Note	2019	2018
Internal and external research and development costs		519	564
Employee costs	2.3	1,122	1,057
Amortization and impairment losses, intangible assets	3.1	170	120
Depreciation and impairment losses, property, plant and equipment	3.2	155	124
<b>Total research and development costs</b>	I/S	<b>1,966</b>	<b>1,865</b>
As a percentage of revenue		13.7%	13.0%

In 2019, Novozymes launched nine new products (2018: eight new products). New products comprise products with new or improved characteristics.

In 2019, Novozymes had 951 active patent families (2018: 1,041). Active patent families comprise the number of inventions for which Novozymes has one or more active patent applications or active patents at December 31.



### ACCOUNTING POLICIES

Research and development costs primarily comprise employee costs, internal and external costs related to the development of new products and to the ongoing optimization of production processes for existing products, and amortization, depreciation and impairment losses related to intangible assets and property, plant and equipment used in the research and development activities.

Research and development costs are expensed as incurred unless the criteria for capitalization are deemed to have been met. Due to significant uncertainty associated with the development of new products, research and development costs are not capitalized.

Income received from research and collaboration agreements is recognized in Other operating income.

## Net operating profit after tax

# 2.5 Other operating income, net

DKK million	2019	2018
Income and grants concerning research projects/ collaborations	11	33
Other secondary income, net	15	10
Net gain from termination of The BioAg Alliance	300	-
Net gain from divestment of the pharma-related royalty	194	-
<b>Other operating income, net</b>	<b>520</b>	<b>43</b>

Other operating income was significantly impacted by the termination of The BioAg Alliance at a net gain of DKK 300 million. The net gain mainly comprises the release of the remaining deferred revenue of DKK 287 million originating from the formation of the Alliance. Furthermore, the net gain comprises the income related to assets recognized at fair value offset by impairment losses and transaction costs.

A net gain of DKK 194 million related to the divestment of the pharma-related royalty was recognized in 2019. The net gain comprises the selling price less contingent consideration, transaction costs and the disposed goodwill.

## § ACCOUNTING POLICIES

Other operating income comprises income that is not product-related. This includes income from research and collaboration agreements, government grants, sale of

licenses, patents, etc., and other income of a secondary nature in relation to the main activities of the Group. This item also includes non-recurring income items in respect of damages, outlicensing, etc., and gains and losses on divestments.

## Net operating profit after tax

# 2.6 Tax

### Tax risk

Novozymes operates in many markets via sales companies and distributors, while production takes place in a small number of countries. This leads to transactions between group companies. Novozymes follows the OECD principles in setting internal transfer prices for these transactions, but this is a complicated area and entails a tax risk, partly because the area is subject to political judgment in every country. Novozymes regularly enters into dialogue with tax authorities to reduce this risk, and has entered into advance pricing

agreements (APAs) with the tax authorities in the countries where internal transactions are the most significant.

A majority of intercompany transactions within Novozymes are covered by bilateral APAs. The APAs provide certainty that transactions are carried out on arm's length terms. Please also refer to Novozymes' Position on Tax at [Novozymes.com](http://Novozymes.com).

### Joint taxation

Novozymes A/S and its Danish subsidiaries are jointly taxed with the Danish companies of the Novo Holdings A/S Group. Joint taxation also covers withholding taxes in the form of dividend tax, royalty tax and interest tax. The Danish companies are jointly and individually liable for the joint taxation liability. Any subsequent adjustments to income taxes and withholding taxes may lead to a larger liability. Tax for the individual companies is allocated in full on the basis of the expected taxable income.

### Tax in the income statement

DKK million	2019	2018
Tax payable on net profit	(894)	(890)
Change in deferred tax	262	150
Adjustment for previous years	(12)	31
<b>Tax in the income statement</b>	<b>(644)</b>	<b>(709)</b>
Calculation of effective tax rate:		
Corporate tax rate in Denmark	(22.0)%	(22.0)%
Non-taxable income less non-deductible expenses	0.6%	(0.1)%
Difference in foreign tax rates	2.6%	3.3%
Other adjustments	1.8%	0.8%
<b>Effective tax rate</b>	<b>(17.0)%</b>	<b>(18.0)%</b>



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

As the Group operates across many different countries, the calculation of the Group's total tax charge in the income statement inherently involves a degree of estimation and judgment. Tax and transfer-pricing disputes with authorities in various countries may occur, and Management judgment is applied to assess the possible outcome of such disputes.

Payments in respect of tax liabilities for an accounting period result from payments on account and on the final resolution of open items. As a result, there may be substantial differences between the tax charge in the consolidated income statement and actual tax payments.

Transfer of intellectual property from Switzerland to Denmark had a positive impact on the effective tax rate of 2.9% in 2019 (2018: 3.1%). This is recognized in Difference in foreign tax rates.

In 2019, Novozymes had a positive impact from uncertain tax positions related to APAs, recognized in Other adjustments.

## Net operating profit after tax

# 2.6 Tax (continued)

### Deferred tax

DKK million	Deferred tax assets		Deferred tax liabilities	
	2019	2018	2019	2018
Intangible assets and property, plant and equipment	947	742	(1,265)	(1,193)
Inventories	427	471	(197)	(188)
Tax loss carry-forwards	42	34	-	-
Stock options	109	75	-	-
Other	274	266	(55)	(161)
	<b>1,799</b>	<b>1,588</b>	<b>(1,517)</b>	<b>(1,542)</b>
Offsetting items	(638)	(650)	638	650
<b>Deferred tax at December 31</b>	<b>1,161</b>	<b>938</b>	<b>(879)</b>	<b>(892)</b>

The tax value of the unrecognized share of tax loss carry-forwards, tax credits, etc. that do not expire amounted to DKK 20 million (2018: DKK 23 million).

DKK million		2019	2018
Deferred tax at January 1		46	34
Currency translation adjustments		2	1
Tax related to the income statement		229	123
Tax on shareholders' equity items		5	(112)
<b>Deferred tax at December 31</b>		<b>282</b>	<b>46</b>
Deferred tax assets	B/S	1,161	938
Deferred tax liabilities	B/S	(879)	(892)
<b>Deferred tax at December 31</b>		<b>282</b>	<b>46</b>

### § ACCOUNTING POLICIES

Corporation tax, comprising the current tax liability, change in deferred tax for the year and possible adjustments relating to prior years, is recognized in the income statement, unless it relates to items recognized either in Other comprehensive income or directly in Shareholders' equity. Uncertain tax positions are assessed individually and recognized if it is probable that an amount will be paid or received. Deferred tax is measured using the balance sheet liability method and comprises all temporary differences between the carrying amount and the tax base of assets and liabilities. No deferred tax is recognized for goodwill, unless amortization of goodwill for tax purposes is allowed. The tax value of tax loss carry-forwards is included in the calculation of deferred tax to the extent that the tax losses can be expected to be utilized in the future.

Deferred tax is measured according to current tax rules and at the tax rate expected to be in force on elimination of temporary differences. Changes in deferred tax due to tax rate changes are recognized in the income statement, unless they relate to items recognized either in Other comprehensive income or directly in Shareholders' equity.

## Net operating profit after tax

# 2.6 Tax (continued)

### Tax receivables and payables

DKK million		2019	2018
Tax payables, net, at January 1		(401)	(348)
Currency translation adjustments		(2)	3
Tax related to the income statement		(872)	(832)
Tax on shareholders' equity items		1	15
Tax paid for the current year, net		1,116	761
<b>Tax payables, net, at December 31</b>		<b>(158)</b>	<b>(401)</b>
Tax receivables	B/S	273	174
Tax payables	B/S	(431)	(575)
<b>Tax payables, net, at December 31</b>		<b>(158)</b>	<b>(401)</b>
Of which due within 12 months		(32)	(80)
Of which due after more than 12 months		(126)	(321)
<b>Tax payables, net, at December 31</b>		<b>(158)</b>	<b>(401)</b>
Corporate income taxes paid are specified as follows:			
Income taxes paid in Denmark		701	546
Income taxes paid outside Denmark		415	215
<b>Total income taxes paid</b>		<b>1,116</b>	<b>761</b>

## Net operating profit after tax

# 2.7 Earnings per share

DKK million	2019	2018
Net profit for the year	3,155	3,227
Less net profit attributable to non-controlling interests	(1)	(1)
<b>Net profit attributable to the shareholders in Novozymes A/S</b>	<b>3,154</b>	<b>3,226</b>
<b>Average number of shares</b>		
Weighted average number of shares in circulation	285,110,290	290,422,325
Average dilutive effect of outstanding stock options and stock awards	1,441,008	1,940,030
<b>Average number of diluted shares</b>	<b>286,551,298</b>	<b>292,362,355</b>
Earnings per share	DKK 11.06	DKK 11.11
Earnings per share, diluted	DKK 11.01	DKK 11.03



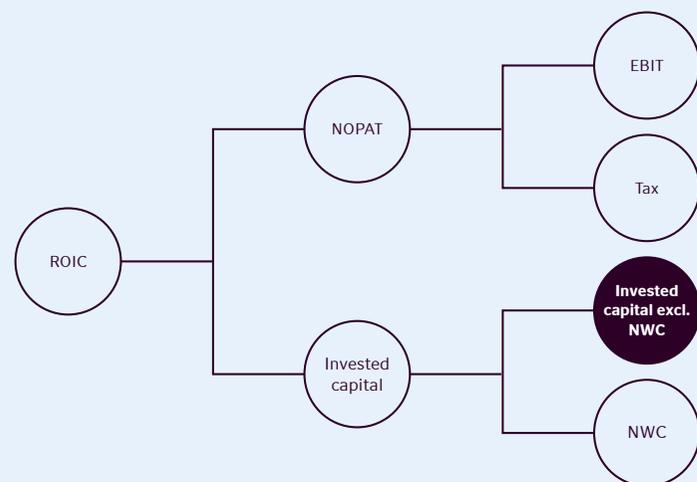
### ACCOUNTING POLICIES

Earnings per share is calculated as net profit attributable to shareholders in Novozymes A/S divided by the average number of shares in circulation.

Diluted earnings per share is calculated as net profit attributable to shareholders in Novozymes A/S divided by the average number of shares in circulation, including the dilutive effect of stock options “in the money”.

## Invested capital

# Invested capital



DKK million	Note	2019	2018
Intangible assets	3.1	1,926	2,130
Property, plant and equipment	3.2	10,212	9,698
Investments in associates		37	42
Net working capital (see Net working capital section)		3,478	2,768
Financial assets, non-interest-bearing		15	14
Provisions	3.4	(243)	(229)
Other non-current financial liabilities, non-interest-bearing		(11)	(5)
Other financial liabilities, non-interest-bearing		(31)	(110)
Tax, net		124	(355)
<b>Invested capital</b>		<b>15,507</b>	<b>13,953</b>
<b>Average invested capital*</b>		<b>15,038</b>	<b>13,417</b>

\*Average invested capital for 2019 includes an impact of DKK 563 million from the implementation of IFRS 16 at January 1, 2019 and December 31, 2019.

ROIC down from 24.2% in 2018 to

# 21.1%

Increase in average invested capital of DKK million

# 1,621

Net investments excl. acquisitions down from DKK 1,388 million in 2018 to DKK million

# 991



## 3.1 Intangible assets and impairment test of goodwill

DKK million	Goodwill	Acquired patents, trademarks, licenses and know-how, etc.	Completed IT development projects	IT development projects in progress	Total
Cost at January 1, 2019	1,086	2,942	533	59	4,620
Currency translation adjustments	2	2	-	-	4
Additions during the year	-	129	47	54	230
Disposals during the year	(123)	(425)	-	-	(548)
Transfers to/(from) other items	-	-	84	(84)	-
<b>Cost at December 31, 2019</b>	<b>965</b>	<b>2,648</b>	<b>664</b>	<b>29</b>	<b>4,306</b>
Amortization and impairment losses at January 1, 2019		(2,062)	(428)		(2,490)
Currency translation adjustments		(1)	-		(1)
Amortization during the year		(163)	(47)		(210)
Impairment losses		(71)	-		(71)
Disposals during the year		392	-		392
<b>Amortization and impairment losses at December 31, 2019</b>		<b>(1,905)</b>	<b>(475)</b>		<b>(2,380)</b>
<b>Carrying amount at December 31, 2019</b>	<b>965</b>	<b>743</b>	<b>189</b>	<b>29</b>	<b>1,926</b>

Due to the termination of The BioAg Alliance, Intellectual property from The BioAg Alliance has been transferred to Novozymes free of charge. These assets have been recognized at fair value amounting to DKK 95 million and the corresponding income is recognized in Other operating income.

The goodwill disposal is related to the divestment of the pharma-related royalty.

### Impairment

In 2019, impairment losses of DKK 71 million on two specific assets were recognized. As these are related to the termination of

The BioAg Alliance, the impairment losses are recognized and included in Other operating income.

The impairment losses were the result of impairment tests performed on assets where the termination of The BioAg Alliance has resulted in reduced sales projections for the assets in question. The cash flow used to test one of the assets for impairment was based on business plans for the period 2019-2025, and the terminal value used was based on the expected lifetime and cash flow over that period. For the other impaired asset, the cash flow ceased in 2019 with the termination of The BioAg Alliance.

A pre-tax WACC of 7% was used to calculate the discounted cash flows.

### Impairment test of goodwill

Since 2016, Management has identified two cash-generating units (CGUs): Novozymes' main activities and the Biopharma CGU. With the divestment of the pharma-related royalty, and thereby the remaining activity within the Biopharma CGU in April 2019, only one CGU remains.

As the market value of Novozymes is significantly higher than its equity, no further key assumptions are used to determine whether impairment of goodwill exists (2018: no impairment).



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Management assesses the risk of impairment of the Group's intangible assets. This requires judgment in relation to the identification of cash-generating units (CGUs) and the underlying assumptions in the Group's impairment model.

If there is any indication of impairment, value in use is estimated and compared with the carrying amount. The calculation of value in use is based on the discounted cash flow method using estimates of future cash flows from the continuing use. The key parameters are the expected revenue streams and the rate used to discount the cash flows.

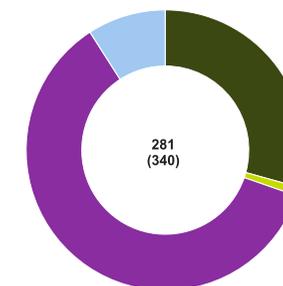
As a consequence of the termination of The BioAg Alliance, intellectual property from The BioAg Alliance has been recognized at fair value. Measuring the fair value of these assets requires Management assessment of business plans for the individual assets. The key parameters are expected cash flows and the WACC used to discount the cash flows.

## 3.1 Intangible assets and impairment test of goodwill (continued)

DKK million	Goodwill	Acquired patents, trademarks, licenses and know-how, etc.	Completed IT development projects	IT development projects in progress	Total
Cost at January 1, 2018	1,108	2,923	492	61	4,584
Currency translation adjustments	(22)	(2)	-	-	(24)
Additions during the year	-	21	14	25	60
Transfers to/(from) other items	-	-	27	(27)	-
<b>Cost at December 31, 2018</b>	<b>1,086</b>	<b>2,942</b>	<b>533</b>	<b>59</b>	<b>4,620</b>
Amortization and impairment losses at January 1, 2018		(1,793)	(359)		(2,152)
Currency translation adjustments		3	(1)		2
Amortization during the year		(213)	(68)		(281)
Impairment losses		(59)	-		(59)
<b>Amortization and impairment losses at December 31, 2018</b>		<b>(2,062)</b>	<b>(428)</b>		<b>(2,490)</b>
<b>Carrying amount at December 31, 2018</b>	<b>1,086</b>	<b>880</b>	<b>105</b>	<b>59</b>	<b>2,130</b>

Recognition of amortization and impairment losses by function 2019 (2018)

DKK million



- Cost of goods sold **82** (179)
- Sales and distribution **3** (7)
- Research and development **170** (120)
- Administration **26** (34)

### Impairment

In 2018, impairment losses of DKK 59 million on two specific assets were recognized and included in Cost of goods sold and Research and development costs at DKK 46 million and DKK 13 million respectively.

The impairment losses were the result of impairment tests performed on assets where indications of impairment had been identified due to reduced sales projections for the assets in question. The cash flow used for the impairment test of one of the assets was based on business plans for the period 2019-2023,

and the terminal value used was based on the expected lifetime and cash flow over that period. For the other impaired asset, the cash flow was expected to cease in 2019.

A pre-tax WACC of 7% was used to calculate the discounted cash flows.

## 3.1 Intangible assets and impairment test of goodwill (continued)

### § ACCOUNTING POLICIES

Intangible assets other than goodwill are measured at cost less accumulated amortization and impairment losses. Goodwill and IT development projects in progress are not subject to amortization.

Costs associated with large IT projects for the development of software for internal use are capitalized if incurred with a view to developing new and improved systems.

Amortization is based on the straight-line method over the expected useful lives of the finite-lived assets, as follows:

- Completed IT development projects are amortized over the useful life. IT development assets are amortized over a period of 3-5 years
- Acquired patents, trademarks, licenses and know-how are amortized over their useful lives. The useful lives of patents and trademarks are normally identical to the patent period. Licenses are amortized over the agreement period. Recognized patents, trademarks, licenses and know-how are amortized over a period of 7-15 years

Expected useful lives are reassessed regularly.

The Group regularly reviews the carrying amounts of its finite-lived intangible assets to determine whether there is an indication of an impairment loss. An impairment loss is recognized to the extent that the asset's carrying amount exceeds its estimated recoverable amount. Impairment losses are reversed only to the extent of changes in the assumptions and estimates underlying the impairment calculation.

Goodwill is tested for impairment annually or whenever there is an indication that the asset may be impaired.

## Invested capital

# 3.2 Property, plant and equipment

DKK million	Land and buildings	Plant and machinery	Other equipment	Assets under construction and prepayments	Total
Cost at January 1, 2019	5,694	10,645	1,846	1,848	20,033
Lease assets at January 1, 2019	412	12	192	-	616
Currency translation adjustments	59	99	19	8	185
Additions during the year	127	184	215	383	909
Disposals during the year	(41)	(71)	(61)	(33)	(206)
Transfer to assets held for sale	(273)	-	-	-	(273)
Transfers to/(from) other items	1,068	307	169	(1,544)	-
<b>Cost at December 31, 2019</b>	<b>7,046</b>	<b>11,176</b>	<b>2,380</b>	<b>662</b>	<b>21,264</b>
Depreciation and impairment losses at January 1, 2019	(2,915)	(6,193)	(1,227)	-	(10,335)
Currency translation adjustments	(22)	(44)	(9)	-	(75)
Depreciation for the year	(264)	(504)	(189)	-	(957)
Impairment losses	(15)	-	-	-	(15)
Disposals during the year	15	64	40	-	119
Transfer to assets held for sale	211	-	-	-	211
Transfers to/(from) other items	-	2	(2)	-	-
<b>Depreciation and impairment losses at December 31, 2019</b>	<b>(2,990)</b>	<b>(6,675)</b>	<b>(1,387)</b>	<b>-</b>	<b>(11,052)</b>
<b>Carrying amount at December 31, 2019</b>	<b>4,056</b>	<b>4,501</b>	<b>993</b>	<b>662</b>	<b>10,212</b>

The implementation of IFRS 16 as of January 1, 2019, resulted in an increase in Property, plant and equipment of DKK 616 million. Refer to Note 1.2 for a description of the impact of the implementation of IFRS 16, and Note 3.3 for additional disclosures relating to leases.

Depreciation relating to leases in 2019 amounted to DKK 124 million.

### Capitalized interest and pledges

Interest of DKK 2 million (2018: DKK 29 million) was capitalized under Additions during the year and included as Investing activities in the statement of cash flows. Capitalization rate: 0.9% (2018: 2.98%).

Land and buildings with a carrying amount of DKK 1,526 million (2018: DKK 355 million) has been pledged as security to credit institutions. The mortgage loans expire in 2029 and 2039.

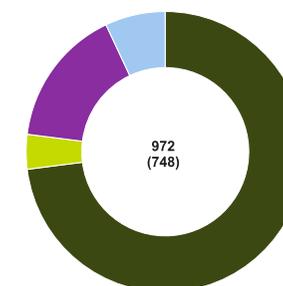
### Impairment

An ongoing production related construction project was abandoned in 2019. This led to an expense of DKK 33 million, which was recognized in Cost of goods sold.

Buildings expected to be sold within 12 months, were written down to the expected selling price less transaction costs before being transferred to Assets held for sale. Buildings amounting to DKK 62 million was transferred

Recognition of depreciation and impairment losses by function 2019 (2018)

DKK million



- Cost of goods sold **713** (556)
- Sales and distribution **39** (35)
- Research and development **155** (124)
- Administration **65** (33)

to Assets held for sale. An impairment loss of DKK 15 million was recognized in Sales and distribution cost and Administrative cost at DKK 4 million and DKK 11 million respectively.

In 2018, an impairment loss of DKK 18 million on a building was recognized and included in Sales and distribution costs.

## Invested capital

# 3.2 Property, plant and equipment (continued)

DKK million	Land and buildings	Plant and machinery	Other equipment	Assets under construction and prepayments	Total
Cost at January 1, 2018	5,415	9,808	1,679	1,648	18,550
Currency translation adjustments	51	107	18	5	181
Additions during the year	121	326	87	890	1,424
Disposals during the year	(8)	(90)	(24)	-	(122)
Transfers to/(from) other items	115	494	86	(695)	-
<b>Cost at December 31, 2018</b>	<b>5,694</b>	<b>10,645</b>	<b>1,846</b>	<b>1,848</b>	<b>20,033</b>
Depreciation and impairment losses at January 1, 2018	(2,718)	(5,789)	(1,117)	-	(9,624)
Currency translation adjustments	(15)	(45)	(10)	-	(70)
Depreciation for the year	(168)	(442)	(120)	-	(730)
Impairment losses	(18)	-	-	-	(18)
Disposals during the year	4	83	20	-	107
<b>Depreciation and impairment losses at December 31, 2018</b>	<b>(2,915)</b>	<b>(6,193)</b>	<b>(1,227)</b>	<b>-</b>	<b>(10,335)</b>
<b>Carrying amount at December 31, 2018</b>	<b>2,779</b>	<b>4,452</b>	<b>619</b>	<b>1,848</b>	<b>9,698</b>
Of which assets held under finance leases	56	92	-	-	148



## ACCOUNTING POLICIES

Property, plant and equipment is measured at cost less accumulated depreciation and impairment losses. Borrowing costs in respect of construction of major assets are capitalized.

Depreciation is based on the straight-line method over the expected useful lives of the assets, as follows:

- Buildings: 12-50 years
- Plant and machinery: 5-25 years
- Other equipment: 3-18 years

The residual values and useful lives of the assets are reviewed on an annual basis and adjusted if necessary at each reporting date.

The Group regularly reviews the carrying amounts of its property, plant and equipment to determine whether there is any indication of impairment in those assets. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of any impairment loss. If the recoverable amount of an asset is estimated to be lower than its carrying amount, the carrying amount is reduced to the recoverable amount. Impairment losses are reversed only to the extent of changes in the assumptions and estimates underlying the impairment calculation.

## Invested capital

# 3.3 Leases

IFRS 16 was implemented as of January 1, 2019. Refer to Note 1.2 for further description.

DKK million	2019	2018
Land and buildings	397	56
Plant and machinery	102	92
Other equipment	155	-
<b>Carrying amount of lease assets</b>	<b>654</b>	<b>148</b>

In 2018, DKK 148 million was recognized as finance leases.

Additions to the lease assets during 2019 was DKK 47 million.

DKK million	2019	2018
<b>Lease liabilities</b>		
Less than 1 year	165	3
Between 1 and 5 years	307	15
More than 5 years	238	74
<b>Undiscounted lease liabilities at December 31</b>	<b>710</b>	<b>92</b>

In 2018, DKK 92 million was recognized as finance lease liabilities.

DKK million	2019
<b>Amounts recognized in the income statement</b>	
Interest on lease liabilities	28
Variable lease payments not included in the lease liabilities	3
Expenses relating to short-term leases	11
Expenses relating to low-value leases	1
<b>Depreciation of lease assets per asset class</b>	
Land and buildings	68
Plant and machinery	5
Other equipment	51
<b>Depreciation of lease assets</b>	<b>124</b>
<b>Amounts recognized in the statement of cash flows</b>	
Total cash outflow for leases	136

## § ACCOUNTING POLICIES

### Lease assets

Lease assets are 'right-of-use assets' from lease agreements. If, at inception, it is assessed that a contract contains a lease, a lease asset is recognized. Lease assets are initially measured at the present value of future lease payments, plus the cost of obligations to refurbish the asset. Payments include fixed payments, variable lease payments depending on an index or a rate and the exercise price of purchase options that are reasonably certain to be exercised.

The lease assets are depreciated using the straight-line method over the shorter of the expected lease term and the useful life of the underlying asset. The lease assets are tested for impairment whenever there is an indication that the assets may be impaired.

Lease assets are depreciated as follows:

- Buildings: 1-12 years
- Land: 10-90 years
- Plant and machinery: 1-10 years
- Equipment and company cars: 1-10 years

Short-term leases and leases of low value are recognized as expenses in the income statement on a straight-line basis over the lease term.

Novozymes' portfolio of leases covers leases of land, buildings and other equipment such

as cars and transportation containers.

### Lease liabilities

Lease liabilities are initially recognized at the present value of future lease payments including payments from extension or purchase options that are considered reasonably certain to be exercised.

The lease liability is measured using the implicit borrowing rate in the contracts or, where this is not available, the marginal borrowing rate in the countries in which Novozymes operates. Novozymes applies a single discount rate to portfolios of leases in the countries in which Novozymes operates based on contract currency and loan periods.

If a lease contract is modified, the lease liability is remeasured. For building leases, lease terms are estimated taking the size of the building and its strategic importance into consideration. Novozymes has entered into several open-ended building leases and building leases with extension options. Lease terms of such agreements are estimated based on the strategic importance of the buildings and the estimated time frame necessary to vacate the premises. The estimated lease term is reassessed at each reporting date. The estimated lease terms for such contracts do not exceed 12 years.

## Invested capital

# 3.4 Provisions

DKK million	2019			2018		
	Dismantling and restoration	Legal and other obligations	Total	Dismantling and restoration	Legal and other obligations	Total
Provisions at January 1	82	147	229	74	171	245
Reclassification to Contract liabilities				-	(20)	(20)
Currency translation adjustments	1	1	2	3	(1)	2
Additions during the year	-	168	168	5	42	47
Reversals during the year	-	(19)	(19)	-	(41)	(41)
Utilization during the year	-	(137)	(137)	-	(4)	(4)
<b>Provisions at December 31</b>	<b>83</b>	<b>160</b>	<b>243</b>	<b>82</b>	<b>147</b>	<b>229</b>
Recognized in the balance sheet as follows:						
Non-current	B/S 25	90	115	72	60	132
Current	B/S 58	70	128	10	87	97
<b>Provisions at December 31</b>	<b>83</b>	<b>160</b>	<b>243</b>	<b>82</b>	<b>147</b>	<b>229</b>

### Dismantling and restoration

Dismantling and restoration relates to estimated future costs of environmental restoration. Novozymes aims for its production sites not to have a negative environmental impact. These liabilities relate to established circumstances, and the costs are expected to be incurred either when concrete measures are implemented or when a site is vacated. The expected costs and timing are by nature uncertain.

### Legal and other obligations

Novozyymes is involved in a number of ongoing legal disputes, and provisions are made for the estimated costs of these based on a current evaluation of the outcomes. In 2019, Novozymes settled a long-standing patent dispute, and as a result Novozymes has paid DKK 65 million to the counterpart, of which DKK 31 million was provided for in previous years. The remaining ongoing cases are expected to be finalized in 2020-2021.

In Management's opinion, the outcomes of these cases are not expected to give rise to any significant losses beyond the amounts provided for at December 31, 2019.

Other obligations include contingent consideration, other long-term employee benefits and other contractual obligations.

The contingent consideration mainly relates to the divestment of the pharma-related royalty



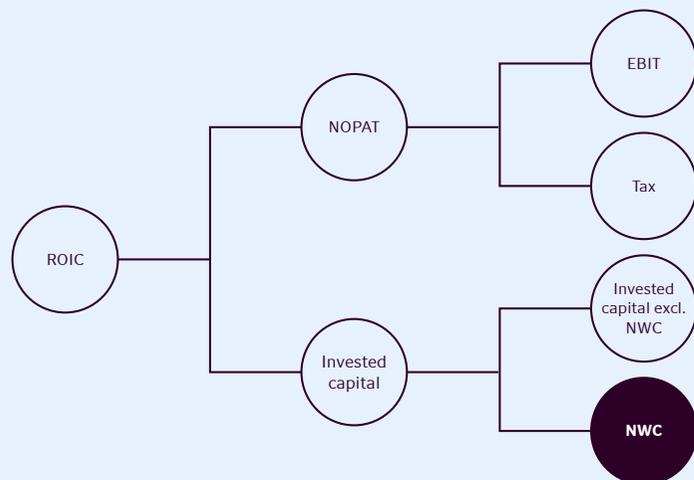
### ACCOUNTING POLICIES

Provisions are recognized where a legal or constructive obligation has been incurred as a result of past events and it is probable that it will lead to an outflow of financial resources. Provisions are measured at the present value of the expected expenditure required to settle the obligation.

where part of the selling price received has to be repaid if certain patent registrations are not obtained by 2021. In other obligations, DKK 40 million has been utilized as a consequence of the termination of The BioAg Alliance. Other long-term employee benefits account for only a minor amount, as the majority of Novozymes' pension plans are defined contribution plans, covering approximately 99% of employees. These obligations are mainly expected to be incurred over a relatively long period of time.

## Net working capital

# Net working capital



DKK million	Note	2019	2018
Inventories	4.1	2,613	2,820
Trade receivables	4.2	2,864	2,606
Contract assets	4.2	243	279
Other receivables	4.3	298	253
Assets held for sale	4.6	62	-
Trade payables		(1,117)	(1,418)
Contract liabilities	4.4	(74)	(374)
Other liabilities	4.5	(1,411)	(1,398)
<b>Net working capital</b>		<b>3,478</b>	<b>2,768</b>
<b>Average net working capital</b>		<b>3,123</b>	<b>2,396</b>

Average net working capital in DKK million

# 3,123

Net working capital as % of sales

# 24.2%



## 4.1 Inventories

DKK million	2019	2018
Raw materials and consumables	365	372
Work in progress	821	828
Finished goods	1,427	1,620
<b>Inventories at December 31</b>	<b>2,613</b>	<b>2,820</b>
Cost of materials, included under Cost of goods sold	3,510	3,411
Write-downs expensed during the year	110	117
Reversal of write-downs during the year*	63	33

\*Part of the reversal of write-downs is attributable to written-down inventory being reused in production.



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Work in progress and Finished goods are measured at cost, including indirect production costs. The indirect production costs capitalized under inventories amounted to DKK 907 million at the end

of 2019 (2018: DKK 938 million). Indirect production costs are assessed on an ongoing basis to ensure reliable measurement of employee costs, capacity utilization, cost drivers and other relevant factors. Changes in these parameters may have an impact on the gross margin and the overall valuation of Work in progress and Finished goods.



### ACCOUNTING POLICIES

Inventories are measured at the lower of cost determined on a first-in first-out basis and net realizable value.

If the expected selling price less any completion costs and costs to execute the sale (net realizable value) of inventories is lower than the carrying amount, inventories are written down to net realizable value.

The cost of Work in progress and Finished goods comprises direct production costs such as raw materials and consumables, energy and labor directly attributable to production as well as indirect production costs such as employee costs, maintenance and depreciation of plants, etc.

Novozymes has entered into a few agreements where Novozymes supplies goods to a customer's premises but retains title to the inventory until the goods are consumed in the customer's production. Such goods are derecognized from inventories in the period when they are consumed in the customer's production.

## 4.2 Trade receivables and contract assets

DKK million	2019	2018
Trade receivables, gross	3,022	2,768
Allowances	(158)	(162)
<b>Trade receivables at December 31</b>	<b>2,864</b>	<b>2,606</b>
Aging of trade receivables, gross:		
Up to 30 days	2,807	2,613
Between 30 and 90 days	43	35
More than 90 days	172	120
<b>Trade receivables, gross, at December 31</b>	<b>3,022</b>	<b>2,768</b>
Changes in allowances for trade receivables:		
At January 1	162	226
Allowances during the year	15	48
Write-offs during the year	(4)	(90)
Reversed allowances	(15)	(22)
<b>Allowances at December 31</b>	<b>158</b>	<b>162</b>

### Trade receivables

In 2018, the change in allowances for trade receivables included a write-off related to the unrecoverable part of our receivable related to Beta Renewables S.p.A. The write-off was a consequence of the financial restructuring of part of the M&G Group.

Novozymes has collateral held as security for trade receivables in selected countries of DKK 32 million (2018: DKK 68 million).

### Contract assets

Contract assets amounted to DKK 243 million at the end of 2019 (2018: DKK 279 million), and mainly related to the estimated profit split arising from partnerships that Novozymes has entered into.

The contract assets are initially recognized as revenue when goods are delivered to the other contracting party. When the realized profit split is invoiced, the contract assets are reclassified to trade receivables.

No allowance for expected credit losses had been made for contract assets at the end of 2019 (2018: no allowance).



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

The allowance for expected credit losses for trade receivables and contract assets is based on historical credit loss experience combined with forward-looking information on macroeconomic factors affecting the credit risk. The expected loss rates are updated at each reporting date.



### ACCOUNTING POLICIES

Trade receivables and contract assets are measured at amortized cost less allowance for lifetime expected credit losses.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and days past due. Furthermore, an allowance for lifetime expected credit losses for trade receivables is recognized on initial recognition.

As the contract assets relate to the partnerships, the credit risk is based on an individual assessment.

Trade receivables and contract assets are written off when all possible options have been exhausted and there is no reasonable expectation of recovery.

The cost of allowances for expected credit losses and write-offs for trade receivables and contract assets are recognized in Sales and distribution costs.

## Net working capital

### 4.3 Other receivables

DKK million		2019	2018
Deposits		26	24
Prepaid expenses		102	100
Other		170	129
<b>Other receivables at December 31</b>		<b>298</b>	<b>253</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	29	34
Current	B/S	269	219
<b>Other receivables at December 31</b>		<b>298</b>	<b>253</b>

### 4.4 Contract liabilities

DKK million		2019	2018
The BioAg Alliance, deferred revenue		-	311
Other contract liabilities		74	63
<b>Contract liabilities at December 31</b>		<b>74</b>	<b>374</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	-	199
Current	B/S	74	175
<b>Contract liabilities at December 31</b>		<b>74</b>	<b>374</b>
Expected to be recognized in the income statement:			
Within 1 year		74	175
Between 1 and 5 years		-	199
After 5 years		-	-
<b>Contract liabilities at December 31</b>		<b>74</b>	<b>374</b>

Up until April 4, 2019, Novozymes recognized DKK 24 million of the deferred revenue from The BioAg Alliance as planned. Due to the termination of The BioAg Alliance, the outstanding DKK 287 million has been recognized in Other operating income.



#### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Assessing the earnings process and the underlying deliverables for The BioAg Alliance requires judgment and is based on estimates of the future. These estimates are by nature subject to a high degree of uncertainty, and changes in such estimates may impact the timing of revenue recognition in future periods. Due to the termination of The BioAg Alliance, the estimate related to The BioAg Alliance will not be relevant going forward.

## Net working capital

# 4.5 Other liabilities

DKK million		2019	2018
Employee costs payable		732	712
Stock-based payment settled in cash		16	11
Deferred income		30	50
Other payables		633	625
<b>Other liabilities at December 31</b>	B/S	<b>1,411</b>	<b>1,398</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	-	37
Current	B/S	1,411	1,361
<b>Other liabilities at December 31</b>		<b>1,411</b>	<b>1,398</b>

# 4.6 Assets held for sale

DKK million		2019	2018
Carrying amount of non-current assets held for sale:			
Land and buildings		62	-
<b>Total</b>	B/S	<b>62</b>	<b>-</b>

Assets held for sale comprises buildings that are expected to be sold within the next 12 months. The sale of buildings is a consequence of the organizational changes announced in August 2019, and the relocation to the new Innovation Campus in Lyngby.

## § ACCOUNTING POLICIES

Non-current assets are classified as assets held for sale when their carrying amounts are to be recovered principally through a sale transaction and a sale is considered highly probable.

Such assets are stated at the lower of carrying amount and fair value less costs to sell.

# Capital structure and financing



## Net interest-bearing debt

DKK million	Note	2019	2018
Cash and cash equivalents		(711)	(723)
Credit institutions	5.3	4,086	3,258
Transitional holiday accrual	5.3	58	-
Non-current lease liabilities		453	-
Current lease liabilities		163	-
<b>Net interest-bearing debt (NIBD) at December 31</b>		<b>4,049</b>	<b>2,535</b>

## NIBD/EBITDA

**0.8x**

Return on equity down from 28.4%  
to

**27.5%**

Novozymes bought back 6.6  
million B shares under the stock  
buyback program at an aggregate  
transaction value of DKK million

**2,000**

## 5.1 Financial risk factors and risk management

Due to the international nature of Novozymes' operations, our earnings and financial position are exposed to a number of financial risk factors. Financial risks are managed centrally for the entire Group. The Treasury Policy is approved by the Board of Directors, and sets the limits for the various financial risks and the derivatives used to hedge risk. The Treasury Policy is adjusted on an ongoing basis to adapt to the market situation, and contains rules on which derivatives can be used for hedging, which counterparties can be used and the risk profile that is to be applied.

### Currency risk

Currency risk arises due to imbalances between income and costs in each individual currency and because Novozymes has more assets than liabilities in foreign currencies in connection with global operations.

Hedging of currency risk is carried out in the currencies in which Novozymes has the largest exposure. The hedging is managed by entering into derivatives such as forward contracts, currency options and swaps. Loans and deposits in foreign currencies are also utilized for hedging purposes. Hedge effectiveness is assessed on a regular basis by comparing changes in the timing and value of the expected exposure in the relevant currencies with the timing and value changes for the designated cash flow-hedging transaction.

Where deemed appropriate, currency risk related to net investments in foreign subsidiaries is hedged by taking out loans and entering into swaps. Currently, there are no open transactions used to hedge equity investments.

### Foreign exchange sensitivity – 2019

The sensitivity analysis below shows the impact on net profit and other comprehensive income of a 5% change in DKK versus the key currencies to which Novozymes was exposed on December 31, 2019. For other comprehensive income, the analysis shows the impact on currency translation of net investments and does not include the impact of cash flow hedges, as these relate to future commercial transactions.

The sensitivity analysis reflects the transaction and translation risk, and assumes that the exchange rates change on December 31, 2019, while all other variables remain constant. The table shows the effect of an increase in exchange rates. A decrease in the exchange rate would have the opposite effect.

### Foreign exchange sensitivity – 2020 estimate

Operating profit (EBIT) is exposed to currency changes, as the effect of hedges is included in financial income/costs. EBIT is mainly exposed to the USD and EUR. A movement of 5% in the USD/DKK exchange rate would result in a change in the expected EBIT for 2020 of around DKK 130-160 million (2019: DKK 130-160 million). A 5% movement in the EUR/DKK exchange rate would result in a change in expected EBIT for 2020 of around DKK 200 million (2019: DKK 200 million). Of the expected USD cash flows for 2020, 75% has been hedged by forward contracts at an average rate of DKK 6.53. As a result, the impact on net profit from changes in the USD/DKK exchange rate has been reduced significantly compared with the impact on EBIT.

### Foreign exchange analysis

DKK million	Increase in exchange rates	2019		2018	
		Change in net profit	Change in other comprehensive income	Change in net profit	Change in other comprehensive income
CHF	5.0%	-	54	(1)	59
CNY	5.0%	(4)	112	(2)	116
USD	5.0%	(1)	250	2	236
Other	5.0%	7	70	(1)	90
<b>Total</b>		<b>2</b>	<b>486</b>	<b>(2)</b>	<b>501</b>

## 5.1 Financial risk factors and risk management (continued)

### Interest rate risk

Interest rate risk arises in relation to interest-bearing assets and liabilities. In accordance with Novozymes' Treasury Policy, a minimum of 30% of loans must be at fixed interest rates. Hedging of the interest rate risk is managed by entering into fixed-rate loans and interest rate swaps.

With the current hedging of interest rate risk, an increase of 1 percentage point in the average interest rate on Novozymes' net interest-bearing debt would have a negative effect on net profit of DKK 10 million (2018: negative effect of DKK 8 million). At December 31, 2019, 59% (2018: 62%) of the loan portfolio was at fixed interest rates.

### Credit risk

Credit risk arises especially on cash and cash equivalents, derivatives, trade receivables and contract assets. The credit risk on trade receivables and contract assets is countered by thorough, regular analysis based on customer type, country and specific conditions. The credit risk on cash and cash equivalents as well as derivatives is mitigated by the Treasury Policy, which limits exposure solely to counterparties that have an investment-grade credit rating. The credit risk is calculated on the basis of net market values and is governed by the Treasury Policy. Novozymes has entered into netting agreements (ISDA or similar) with all the banks used for trading in financial instruments, which means that Novozymes' credit risk is limited to net assets.

At December 31, 2019, the Group considered its maximum credit risk to be DKK 4,051 million (2018: DKK 3,795 million), which is the total of the Group's financial assets. At December 31, 2019, the maximum credit risk related to a single counterparty was DKK 279 million (2018: DKK 308 million).

### Liquidity risk

In connection with the Group's ongoing financing of operations, including refinancing, efforts are made to ensure adequate and flexible liquidity. This is guaranteed by using committed credit facilities and placing free funds in deposits, government bonds or ultra-liquid mortgage bonds in accordance with the Treasury Policy.

At December 31, 2019, Novozymes' financial resources amounted to DKK 4,174 million (2018: DKK 4,023 million), consisting of net cash and cash equivalents, overdraft facilities and undrawn committed credit facilities of DKK 3,758 million, which expire in 2020-2023.

With the exception of debt to credit institutions, the maturity dates are primarily within one year.

## 5.2 Financial income and Financial costs

DKK million	2019	2018
Interest income	90	10
Gains on fair value hedges	22	26
Fair value adjustments of cash-settled stock options	-	11
<b>Financial income</b>	<b>112</b>	<b>47</b>
Interest costs	(58)	(13)
Interest on lease liabilities	(28)	-
Losses on cash flow hedges	(164)	(42)
Other financial costs	(29)	(22)
Other foreign exchange losses, net	(63)	(73)
Write-down of financial asset	-	(14)
Fair value adjustments of cash-settled stock options	(5)	-
<b>Financial costs</b>	<b>(347)</b>	<b>(164)</b>
<b>Financial income/(costs), net</b>	<b>(235)</b>	<b>(117)</b>



### ACCOUNTING POLICIES

Financial income and Financial costs comprise interest income and interest costs, realized and unrealized foreign exchange gains and losses, as well as fair value adjustments of cash-settled stock-based incentive programs, which are offset against Other liabilities and fair value adjustments of Other financial assets.

Financial income and Financial costs also include fair value adjustments of derivatives used to hedge assets and liabilities, and income and costs relating to cash flow hedges that are transferred from Other comprehensive income on realization of the hedged item.

## Capital structure and financing

# 5.3 Other financial liabilities

DKK million		2019	2018
Credit institutions		4,086	3,258
Derivatives		42	115
Transitional holiday accrual		58	-
<b>Other financial liabilities at December 31</b>		<b>4,186</b>	<b>3,373</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	2,775	1,474
Current	B/S	1,411	1,899
<b>Other financial liabilities at December 31</b>		<b>4,186</b>	<b>3,373</b>

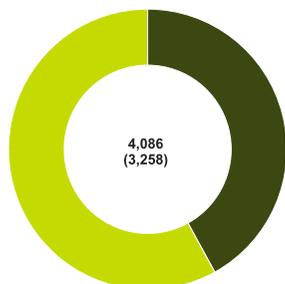
### Liabilities arising from financing activities

DKK million	2019			2018	
	Credit institutions	Lease liabilities	Total	Credit institutions	Total
Liabilities from financing activities at January 1	3,258	-	3,258	2,274	2,274
Lease liabilities at January 1, 2019	-	708	708	-	-
Financing cash flows	828	(108)	720	978	978
Foreign exchange adjustments	-	9	9	6	6
Other changes*	-	7	7	-	-
<b>Total liabilities from financing activities at December 31</b>	<b>4,086</b>	<b>616</b>	<b>4,702</b>	<b>3,258</b>	<b>3,258</b>

\*Other changes include changes in lease liabilities from new or terminated leases and accrued interest expenses which will be presented as operating cash flows in the statement of cash flows when paid.

#### Credit institutions – currency 2019 (2018)

DKK million

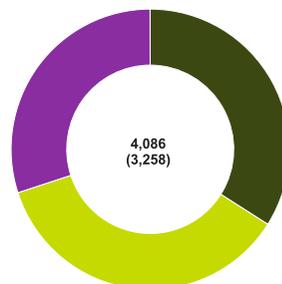


● EUR 1,719 (1,477)  
● Other 2,367 (1,781)

Novozymes A/S

#### Credit institutions – time to maturity 2019 (2018)

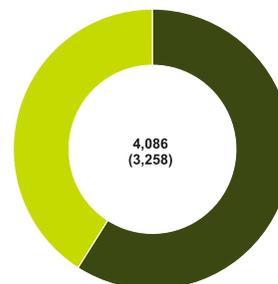
DKK million



● Less than 1 year 1,380 (1,789)  
● Between 1 and 5 years 1,477 (996)  
● More than 5 years 1,229 (473)

#### Loan portfolio – fixed or floating interest rate 2019 (2018)

DKK million



● Fixed interest rate 2,396 (1,808)  
● Floating interest rate 1,690 (1,450)

## 5.4 Derivatives – hedge accounting

### Fair value hedges

The table below shows the derivatives the Group has contracted in order to hedge currency exposure on financial assets and liabilities that give rise to currency adjustments in the income statement.

DKK million	2019		2018	
	Contract amount based on agreed rates*	Fair value Dec. 31	Contract amount based on agreed rates*	Fair value Dec. 31
<b>Forward exchange contracts</b>				
CAD	(25)	-	(343)	(9)
CHF	(1,153)	9	(1,351)	12
USD	(333)	-	182	-
INR	371	-	262	(14)
Other	(21)	(2)	(26)	1
<b>Fair value hedges at December 31</b>	<b>(1,161)</b>	<b>7</b>	<b>(1,276)</b>	<b>(10)</b>

\* Positive contract amounts represent a sale of the respective currency, and negative amounts represent a purchase.

The forward exchange contracts fall due in the period January 2020 to June 2020 (2018: January 2019 to June 2019).

The fair value hedges were 100% effective, as the gain on forward exchange contracts was DKK 22 million (2018: gain of DKK 26 million),

compared with a loss on hedged items of DKK 22 million (2018: loss of DKK 26 million).



### ACCOUNTING POLICIES

Hedge accounting consists of positive and negative fair values of derivatives, which are recognized in the balance sheet under Other financial assets and Other financial liabilities respectively.

Derivatives used for fair value hedges are measured at fair value on the reporting date, and value adjustments are recognized as Financial income or Financial costs.

Derivatives used for cash flow hedges and hedges of net investments in subsidiaries are measured at fair value on the reporting date, and value adjustments are recognized in Other comprehensive income.

Income and costs relating to cash flow hedges and hedges of net investments in subsidiaries are transferred from Other comprehensive income on realization of the hedged item and are recognized as Financial income or Financial costs.

Derivatives are recognized at the transaction date.

## 5.4 Derivatives – hedge accounting (continued)

### Cash flow hedges

The table below shows the derivatives that the Group has contracted to hedge currency and interest rate exposure in future cash flows.

DKK million	2019		2018	
	Contract amount based on agreed rates*	Fair value Dec. 31	Contract amount based on agreed rates*	Fair value Dec. 31
<b>Forward exchange contracts</b>				
USD	1,764	(24)	2,235	(82)
	<b>1,764</b>	<b>(24)</b>	<b>2,235</b>	<b>(82)</b>
<b>Interest rate swaps</b>				
EUR/EUR – (2018: Pays fixed rate of 3.58% / earns variable rate of (0.271%))	-	-	112	(4)
DKK/DKK – pays fixed rate of (0.1075%) / earns variable rate of (0.3933%)	400	1	-	-
DKK/DKK – pays fixed rate of 0.595% / earns variable rate of (0.27%) (2018: (0.15%))	451	(11)	521	(5)
	<b>851</b>	<b>(10)</b>	<b>633</b>	<b>(9)</b>
<b>Cash flow hedges at December 31</b>	<b>2,615</b>	<b>(34)</b>	<b>2,868</b>	<b>(91)</b>

\* Positive contract amounts represent a sale of the respective currency, and negative amounts represent a purchase.

The forward exchange contracts fall due in the period January 2020 to December 2020 (2018: January 2019 to December 2019), and the swaps fall due in May 2026 and December 2026 (2018: July 2019 and May 2026).

At the end of 2019, the Group had hedged 75% of expected future cash flows in USD for 2020 at an average rate of DKK 6.53 (2018: 100% of expected future cash flows in USD for 2019 at an average rate of DKK 6.21).

## 5.5 Common stock and treasury stock

	2019		2018	
	No.	Nominal value DKK million	No.	Nominal value DKK million
<b>Common stock</b>				
A common stock (shares of DKK 2)	53,743,600	107	53,743,600	107
B common stock (shares of DKK 2)	237,256,400	475	243,256,400	487
<b>Common stock at December 31</b>	<b>291,000,000</b>	<b>582</b>	<b>297,000,000</b>	<b>594</b>
<b>Treasury stock - B stock</b>				
Treasury stock at January 1	9,405,806	19	12,051,096	24
Additions during the year	6,591,413	13	6,167,092	13
Disposals during the year	(333,902)	(1)	(812,382)	(2)
Cancellation of common stock	(6,000,000)	(12)	(8,000,000)	(16)
<b>Treasury stock at December 31</b>	<b>9,663,317</b>	<b>19</b>	<b>9,405,806</b>	<b>19</b>

No.	2019	2018
<b>Shares of common stock in circulation</b>		
Shares of stock at January 1	287,594,194	292,948,904
Purchase of treasury stock	(6,591,413)	(6,167,092)
Sale of treasury stock	333,902	812,382
<b>Shares of common stock in circulation at December 31</b>	<b>281,336,683</b>	<b>287,594,194</b>

Each A share entitles the holder to 20 votes, while each B share entitles the holder to two votes.

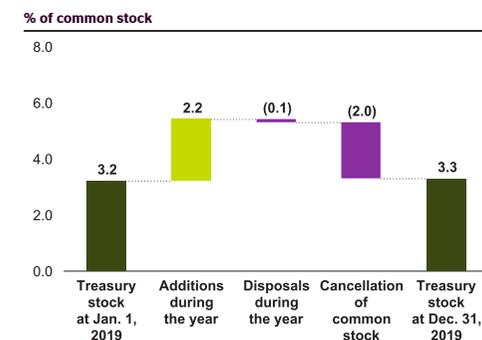
Each year, the Board of Directors assesses whether the ownership structure with A and B common stock is optimal. The Board of Directors maintains that this is the best way to

safeguard Novozymes' long-term development to the benefit of the company's shareholders and other stakeholders.

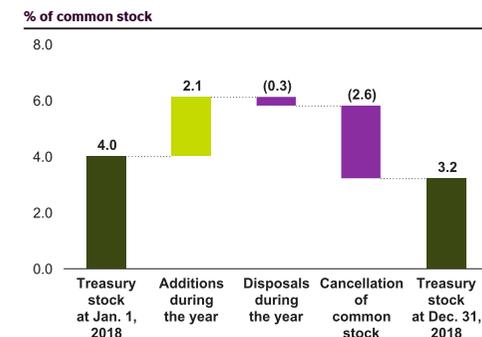
Treasury stock is used to reduce the common stock and to hedge employees' exercise of granted stock awards and stock options.

In 2019, Novozymes canceled 6 million treasury shares, reducing the common stock to 291 million shares.

Treasury stock 2019



Treasury stock 2018



## 5.6 Financial assets and liabilities by category

The table below shows the Group's financial assets and financial liabilities at December 31 by category.

DKK million	Note	2019	2018
Trade receivables	4.2	2,864	2,606
Contract assets	4.2	243	279
Other receivables, excl. prepaid expenses	4.3	196	153
Cash and cash equivalents		711	723
<b>Financial assets at amortized cost</b>		<b>4,014</b>	<b>3,761</b>
Other financial assets		22	20
<b>Fair value through profit and loss</b>		<b>22</b>	<b>20</b>
Derivatives		15	14
<b>Fair value through other comprehensive income</b>		<b>15</b>	<b>14</b>
<b>Financial assets</b>		<b>4,051</b>	<b>3,795</b>
Lease liabilities	5.3	(616)	-
Credit institutions	5.3	(4,086)	(3,258)
Trade payables		(1,117)	(1,418)
Transitional holiday accrual	5.3	(58)	-
Other payables	4.5	(633)	(625)
<b>Financial liabilities at amortized cost</b>		<b>(6,510)</b>	<b>(5,301)</b>
Derivatives	5.3	(42)	(115)
<b>Fair value through other comprehensive income</b>		<b>(42)</b>	<b>(115)</b>
<b>Financial liabilities</b>		<b>(6,552)</b>	<b>(5,416)</b>

### Measurement and fair value hierarchy

All financial assets and liabilities, except for derivatives and other financial assets, are measured at amortized cost. The carrying amounts for these approximate fair value. Derivatives are measured at fair value based on observable data (level 2 input) according to the fair value hierarchy. The derivatives are not traded on an active market based on quoted prices, but are individual contracts. The fair value of these assets is determined using valuation techniques that utilize market-based data such as exchange rates, interest rates, credit risk and volatilities. Other financial assets are measured at fair value based on non-observable data (level 3 input). There are no financial instruments measured at fair value on the basis of quoted prices (level 1 input).

# Other financial notes

This section contains other statutory disclosures not related to the previous sections.



Realized target achievement  
under the three-year Executive  
Leadership Team incentive  
program

**61%**

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Realized Group audit fee ratio  
during 2019

**0.63**

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No. of Danish and foreign  
subsidiaries in the Group

**44**

## Other financial notes

# 6.1 Management remuneration

DKK million	2019			2018		
	Executive Leadership Team	Board of Directors	Total	Executive Leadership Team	Board of Directors	Total
Salaries and other short-term benefits	37	7	44	41	8	49
Defined contribution plans	8	-	8	10	-	10
Expensed stock-based incentive programs	11	-	11	43	-	43
Severance cost	58	-	58	-	-	-
<b>Remuneration</b>	<b>114</b>	<b>7</b>	<b>121</b>	<b>94</b>	<b>8</b>	<b>102</b>
Total remuneration for registered Executive Management excluding severance cost*	29		29	55		55

\* Registered as of December 31.

General guidelines for the remuneration of the Board of Directors and the Executive Leadership Team of Novozymes A/S, assessed by the Board of Directors according to the recommendations of the Nomination and Remuneration Committee, are approved at the Annual Shareholders' Meeting. Detailed information on Management remuneration is available in the Remuneration report found in the Governance section.

### Executive Leadership Team

Remuneration of the Executive Leadership Team comprises a base salary, pension contribution, a cash bonus (short-term incentive program), stock-based incentive programs (long-term incentive programs) and other benefits (car, telephone, etc.). The variable components of the total remuneration (cash bonus and stock-based incentive programs) are relatively high compared with the base salary and is subject to the achievement

of individual targets and Novozymes' targets for financial, social and environmental performance. The maximum annual cash bonus is equivalent to five months' fixed base salary plus pension contributions. The stock-based incentive programs are described in Note 6.2.

Members of the Executive Leadership Team have contracts of employment containing standard conditions for executive officers of Danish listed companies, including the periods of notice that both parties are required to give and noncompetition clauses. If an executive officer's contract of employment is terminated by the company without any misconduct on the part of the executive officer, the executive officer has a notice period of 12 months. In addition to the notice period, the executive officer has a right to termination compensation of 12 months' base salary and pension contributions. However executive officers appointed before 2016 have a right to

compensation of up to two year's base salary and pension contributions.

### Board of Directors

The remuneration of the Board of Directors comprises a fixed fee and is not based on incentives.

### Changes to the Executive Leadership Team

In August 2019, Novozymes appointed a new Chief Financial Officer, Lars Green, who joined the Executive Leadership Team on September 1, 2019. Lars Green replaced former CFO Prisca Havranek-Kosicek, who left Novozymes in August 2019. Prisca Havranek-Kosicek's severance package totalling DKK 16 million was fully expensed in 2019. The severance package consists of salary and bonuses during the notice period (12 months) as well as termination compensation (12 months), and compensation for not being part of a stock-based incentive program in 2020. Furthermore,

the remaining value of awarded stock and stock options has been expensed, DKK 4 million.

In November 2019, Novozymes announced the appointment of a new Chief Executive Officer, Ester Baiget, who will join Novozymes on February 1, 2020. Ester Baiget replaces CEO Peder Holk Nielsen, who will leave Novozymes at the end of January 2020. Peder Holk Nielsen's severance package totaling DKK 32 million was fully expensed in 2019. The severance package consists of salary and bonuses during the notice period (12 months) as well as termination compensation (11 months), and compensation for not being part of a stock-based incentive program in 2020. Furthermore, the remaining value of awarded stock and stock options has been expensed, DKK 6 million.

## 6.2 Stock-based payment

Novozymes has established stock-based incentive programs for the Executive Leadership Team, vice presidents and directors, and other employees. The purpose of these programs is to ensure common goals for Management, employees and shareholders. Allocation of programs has been, and remains, dependent on profit, value-creation and, in some cases, sustainability targets being achieved. The exercise price and the share price of a stock option are identical at the date of grant.

In 2017, a three-year incentive program for the Executive Leadership Team was established, covering the period 2017-2019. The program was a combination of stock options and stock, with half of the incentive program allocated in stock and half in stock options. The stock options were awarded annually in 2017, 2018 and 2019, while the stock was allocated in 2017 and will be released in 2020. The accumulated economic profit generated in the three-year period was DKK 6.8 billion, resulting in 81% of the economic profit pool (75% of the total program) being awarded. Average organic sales growth during the three-year period was less than 3%. Hence no stock or stock options were awarded under the sales growth pool (25% of the total program). In total 61% of the program is being awarded, which means that a total of 174,260 shares will be released in January 2020 including shares purchased using dividends accumulated during the three-year period.

The number of stock options granted over the three-year period has been reduced by 591,251 stock options to reflect the realized target achievement of 61%.

The program contains a maximum-value clause, allowing the Board of Directors to choose to limit the total allocation of stock and stock options if the intrinsic value of the program exceeds DKK 280 million at the end of the program. The maximum-value clause has been adjusted to reflect the change of CFO. However, there will be no limitation on the total allocation, as the intrinsic value is DKK 101 million for the current Executive Leadership Team.

The total fair value of the program at grant date was DKK 162 million. Based on the lower realized level of target achievement, the value of the program has been reduced to DKK 85 million. The value of the stock has been expensed over the three-year qualifying period (2017-2019). The stock options have a vesting period of four years, followed by an exercise period of five years. The fair value of the stock options will be expensed over a four-year period for each of the qualifying years (2017-2019).

Furthermore, three-year programs were established in 2017 for vice presidents and directors covering the period 2017-2019 (182 vice presidents and directors). The total fair value at grant date was DKK 175 million. The value of the stock has been expensed over the

three-year qualifying period (2017-2019). The stock options have a vesting period of four years, followed by an exercise period of five years. The program for the vice presidents followed the same mechanisms as the program for the Executive Leadership Team. 61% of the program was awarded to vice presidents. The program for directors is a stock option program with the same targets for sales and economic profit as the incentive program for the Executive Leadership Team. Furthermore, there were awards linked to EBIT and sustainability targets. 55% of the program was awarded to directors. The total awards under the programs have an intrinsic value of DKK 117 million, thereby less than the maximum value clause of DKK 350 million. The final number of stocks allocated under these programs to be released in January 2020 is 133,002.

In previous years, stock option programs were established for all or selected groups of employees, conferring the right to purchase one share per stock option. Allocations were made on the basis of the individual employee's base salary and achievement of a series of business targets – both financial and nonfinancial – set by the Board of Directors for each year. The stock options have a vesting period of three to four years, followed by an exercise period of five years. In order to exercise the options, the employee must still be employed on the exercise date. This does not apply to persons who have retired, taken voluntary early retirement or been given notice.



### ACCOUNTING POLICIES

The Group has established stock-based incentive programs comprising equity-settled and cash-settled programs.

The fair value of the employee services received in exchange for the grant of stock options and stock awards is measured with reference to the fair value of the stock options and stock awards granted. The fair value is measured using the Black-Scholes option-pricing model.

The fair value of stock-based payment at the grant date is recognized as an employee cost over the period in which the stock options vest. In measuring the fair value, account is taken of the number of employees expected to gain entitlement to the options as well as the number of options the employees are expected to gain. This estimate is adjusted at the end of each period such that only the number of options to which employees are entitled or expected to be entitled is recognized.

The value of equity-settled programs is recognized in Shareholders' equity. The value of cash-settled programs, which are recognized as Other liabilities, is adjusted to fair value at the end of each period, and the subsequent adjustment in fair value is recognized in the income statement under Financial income or Financial costs.

## Other financial notes

# 6.2 Stock-based payment (continued)

### Stock options

The number of outstanding options (excl. stock awards) has developed as follows:

	Number of options				DKK		DKK million
	Executive Leadership Team	Vice presidents and directors	Other employees	Total	Avg. exercise price per option	Grant date fair value per option	Grant date fair value total
Outstanding at January 1, 2019	1,934,249	4,165,211	1,871,253	7,970,713	266		
Change in Management	(62,626)	62,626	-	-			
Granted	602,535	1,102,730	-	1,705,265	275	40	69
Allocation adjustment <sup>1</sup>	(591,251)	(1,131,136)	-	(1,722,387)	275		
Exercised <sup>2</sup>	-	(269,842)	(78,703)	(348,545)	227		
Forfeited	-	(27,287)	(35,731)	(63,018)	277		
<b>Outstanding at December 31, 2019</b>	<b>1,882,907</b>	<b>3,902,302</b>	<b>1,756,819</b>	<b>7,542,028</b>	<b>267</b>		
Outstanding at January 1, 2018	1,535,250	4,096,296	2,161,945	7,793,491	253		
Granted	497,697	745,908	-	1,243,605	301	51	64
Allocation adjustment	-	(501)	-	(501)	293		
Exercised	(98,698)	(579,856)	(199,713)	(878,267)	209		
Forfeited	-	(96,241)	(76,325)	(172,566)	264		
Expired	-	(395)	(14,654)	(15,049)	89		
<b>Outstanding at December 31, 2018</b>	<b>1,934,249</b>	<b>4,165,211</b>	<b>1,871,253</b>	<b>7,970,713</b>	<b>266</b>		
Number of exercisable options at December 31, 2019				3,215,513	258		
Number of exercisable options at December 31, 2018				1,990,159	218		

1. The allocation of stock options for 2017-2019 has been reduced based on the realized level of target achievement for the period (Executive Leadership Team and vice presidents: 61% and Directors: 55%).

2. The weighted average share price for stock options exercised during 2019 was DKK 316 (2018: DKK 340).

		2019			2018		
		Remaining term to maturity of up to five years	Remaining term to maturity of over five years	Total	Remaining term to maturity of up to five years	Remaining term to maturity of over five years	Total
Stock options outstanding	No.	5,015,210	2,526,818	7,542,028	3,573,318	4,397,395	7,970,713
Weighted average term to maturity	Years	4	7	5	4	7	6
Range of exercise prices	DKK	160-317	249-335	160-335	157-317	249-335	157-335
Average exercise price	DKK	264	275	267	255	274	266

## 6.2 Stock-based payment (continued)

During 2019, DKK 46 million arising from stock-based payment was recognized in the income statement (2018: DKK 100 million), DKK 45 million of which was from equity-settled programs (2018: DKK 97 million) and DKK 1 million was from cash-settled programs (2018: DKK 3 million). The amount includes DKK 10 million related to the remaining total costs from outstanding programs, which was recognized in connection with the announced change of CEO and CFO. The amount recognized in 2019 is impacted by an adjustment to the lower realized target achievement.

Most programs are equity settled, and no liability is recognized for these. If allocations under the programs are made in countries where ownership of foreign stock is not permitted, the value of stock options is settled in cash instead, and a liability of DKK 16 million was recognized for this in 2019 (2018: DKK 11 million). The intrinsic value of exercisable cash-settled programs in 2019 was DKK 14 million (2018: DKK 6 million).

The fair value of employee services received is measured with reference to the fair value of the equity instruments granted. Fair value at grant date is measured in accordance with the Black-Scholes model, using the average exercise price, the option term and the following significant assumptions:

		2019	2018
Expected future dividends per share	DKK	37.4	34.1
Volatility	%	23.2	23.9
Annual risk-free interest rate	%	0.0	0.3
Weighted average share price at grant date	DKK	275	301

Furthermore, the options are assumed to be exercised two years after the vesting period, on average, or at the option's expiry date if this is within one year. Volatility is estimated using the historical volatility over the last three years. The risk-free interest rate is based on Danish government bonds with a maturity equivalent to the option's term to maturity.

### Stock awards

The stock allocated under the three-year programs is stock awards. The majority of the stocks was allocated in 2017. In 2019, 11,428 stock awards with a fair value of DKK 3 million were granted to new employees enrolled in the programs (2018: DKK 12 million).

The total number of outstanding stock awards at December 31, 2019 was 307,262 (2018: 495,005). The number has been reduced in 2019, as a consequence of the lower level of realized target achievement. The fair value of these at December 31, 2019 was DKK 100 million (2018: DKK 144 million), which was expensed over the three-year period (2017-2019).

## Other financial notes

# 6.3 Commitments and contingencies

DKK million	2018
Recognized in the income statement in respect of rentals	127
Rental commitments expiring within the following periods from the reporting date:	
Less than 1 year	119
Between 1 and 2 years	89
Between 2 and 3 years	62
Between 3 and 4 years	49
Between 4 and 5 years	43
After 5 years	144
<b>Rental commitments at December 31, 2018</b>	<b>506</b>

As of January 1, 2019, DKK 506 million from operating lease commitments was recognized as Lease liabilities. Refer to Note 1.2 and Note 3.3 for a description of the impact of the implementation of IFRS 16.

The above rental commitments relate to noncancelable operating leases, primarily for buildings and offices.

DKK million	2019	2018
<b>Other commitments</b>		
Contractual obligations to third parties relating to property, plant and equipment	200	171
<b>Other guarantees</b>		
Other guarantees and commitments to related companies	27	26
Other guarantees and commitments	242	332

### Pending litigation and arbitration

Novozymes is engaged in certain legal cases. In the opinion of the Board of Directors and the Executive Leadership Team, settlement or continuation of these cases will not have a significant effect on the Group's financial position. A liability is recognized under Provisions where the risk of a loss on a legal case is considered more likely than not.

### Contract conditions

Several of the partnership contracts to which Novozymes is a party may be terminated by the other party in the event of significant changes concerning ownership or control of Novozymes. Furthermore, a few contracts contain provisions that restrict Novozymes' licenses to use specific forms of technology in such situations.

Novozymes is committed to increasing production capacity in Latin America if a specific customer reaches certain milestones. The amount required to meet this commitment cannot be estimated reliably at the moment.

## Other financial notes

# 6.4 Related party transactions

Novozymes A/S is controlled by Novo Holdings A/S, domiciled in Hellerup, Denmark, which holds 72.0% of the votes in Novozymes A/S. The remaining stock is widely held. The ultimate parent of the Group is the Novo Nordisk Foundation (incorporated in Denmark).

Related parties are considered to be Novo Holdings A/S and the Novo Nordisk Foundation, and the Board of Directors and Executive Management of these entities together with their immediate families. Other related parties are considered to be the Novo Nordisk Foundation's subsidiaries and associates, such as the Novo Nordisk Group,

the NNIT Group and the Chr. Hansen Group, associates of Novozymes A/S, as well as the Board of Directors and Executive Leadership Team of Novozymes A/S together with their immediate families. Related parties also include companies where the above persons have control or joint control.

All agreements relating to these transactions are based on market price (arm's length). The majority of the agreements are renegotiated regularly. The Group had the following transactions with related parties:

### Transactions

DKK million	2019	2018
<b>The Novo Nordisk Group</b>		
Sale of goods and materials	26	36
Sale of services	77	85
Purchase of goods and materials	(64)	(64)
Purchase of services	(68)	(51)
<b>The NNIT Group</b>		
Purchase of services	(27)	(32)
<b>The Chr. Hansen Group</b>		
Sale of goods and materials	53	82
Purchase of services	(9)	(26)

In 2019, Novozymes purchased from Novo Holding 1,530,000 of its own B shares with the approval of the Board of Directors, at a price of DKK 475 million. The transaction was based on the market price.

There were no transactions with related parties other than the transactions described and normal remuneration of the Board of Directors and Executive Leadership Team, which is presented in Note 6.1.

### Outstanding balances

DKK million	2019	2018
<b>The Novo Nordisk Group</b>		
Receivables	9	35
Payables	(98)	(109)
<b>The NNIT Group</b>		
Payables	(7)	(5)
<b>The Chr. Hansen Group</b>		
Receivables	11	18
Payables	-	(3)

Rental commitments to related parties at December 31, 2019 amounted to DKK 14 million, compared with DKK 15 million at December 31, 2018.

## Other financial notes

# 6.5 Fees to statutory auditors

DKK million	2019	2018
Statutory audit	8	8
Other assurance engagements	-	-
Tax assurance services	4	5
Other services	1	1
<b>Fees to statutory auditors</b>	<b>13</b>	<b>14</b>
Group audit fee ratio	0.63	0.75

### Audit fee policy

It is Novozymes' policy that the annual fee for nonaudit services provided by the statutory auditors should not exceed the annual fee for statutory audit services measured at Group level. The Group audit fee ratio may only exceed 1 with the approval of the Audit Committee.

In 2019 and 2018 no such approvals were given.

Implementation of the EU audit reform has led to restrictions on the nonaudit services that the auditors elected at the Annual Shareholders' Meeting may perform. The fee for nonaudit services performed for Novozymes by PricewaterhouseCoopers Statsautoriseret Revisionspartnerselskab is DKK 2 million (2018: DKK 2 million) and comprises audit of project accounts, tax advisory services

concerning transfer pricing, and other general financial reporting and tax consultancy. None of the nonaudit services performed are prohibited.

## Other financial notes

# 6.6 Cash flow

DKK million	Note	2019	2018
<b>Non-cash items</b>			
Accrued interest income and interest costs		(3)	3
(Gain)/loss on financial assets, etc., net		5	10
Depreciation, amortization and impairment losses	3.1, 3.2	1,182	1,088
Realized loss and allowances for doubtful trade receivables		(1)	23
Financial (gain)/loss on sale and disposal of assets		50	3
Unrealized foreign exchange (gain)/loss		10	125
Tax	2.6	644	709
Stock-based payment	6.2	46	100
Change in provisions		(88)	(16)
Termination of The BioAg Alliance		(335)	-
Divestment of the pharma-related royalty		(194)	-
Profit/loss in associates		5	17
<b>Non-cash items</b>		<b>1,321</b>	<b>2,062</b>
<b>Business acquisitions, divestments and purchases of financial assets</b>			
Divestment of the pharma-related royalty		430	-
Other acquisitions and purchase of financial assets		-	(4)
<b>Cash flow from acquisitions, net</b>		<b>430</b>	<b>(4)</b>
Additions of intangible assets	3.1	230	60
Intellectual property transferred from The BioAg Alliance	3.1	(95)	-
<b>Purchase of intangible assets</b>		<b>135</b>	<b>60</b>
Additions of property, plant and equipment	3.2	909	1,424
Additions to lease assets	3.3	(47)	(92)
<b>Purchase of property, plant and equipment</b>		<b>862</b>	<b>1,332</b>

Undrawn committed credit facilities were DKK 3,758 million at December 31, 2019 (2018: DKK 3,646 million), all of which expire in 2020-2023.

## § ACCOUNTING POLICIES

The consolidated statement of cash flows, which is compiled using the indirect method, shows cash flows from operating, investing and financing activities, and the Group's cash and cash equivalents at the beginning and end of the year.

Cash flow from operating activities comprises net profit adjusted for non-cash items, paid financial items, corporate income tax paid and change in working capital.

Cash flow from investing activities comprises payments relating to the acquisition and sale of companies and non-controlling interests, intangible assets, and property, plant and equipment.

Cash flow from financing activities comprises proceeds from borrowings, repayment of principal on interest-bearing debt, repayment of lease liabilities, payment of dividends, proceeds from stock issues, and the sale of treasury stock and other securities.

Cash and cash equivalents comprises cash at bank and in hand less current bank loans due on demand.

## Other financial notes

# 6.7 Group companies

ISO 14001-certified sites. All major companies are also ISO 9001 certified.

Production	■
Sales & Marketing	□
Research & Development	●
Holding companies, etc.	◆
	○

Parent company	Activity	Percentage of shares owned	Parent company	Activity	Percentage of shares owned
Novozymes A/S, Denmark	■ □ ● ◆ ○		Novozymes Deutschland GmbH*, Germany	● ○	100
<b>Subsidiaries</b>			Novozymes Hong Kong Ltd., Hong Kong	○	100
Novozymes BioAg S.A., Argentina	■ □ ● ◆	100	Novozymes South Asia Pvt. Ltd., India	■ □ ● ◆	100
Novozymes Australia Pty. Ltd.*, Australia	●	100	Novozymes Italia S.r.l.*, Italy	●	100
Novozymes Belgium BVBA*, Belgium	●	100	Novozymes Japan Ltd.*, Japan	● ◆	100
Novozymes Latin America Ltda.*, Brazil	■ □ ● ◆	100	Novozymes (Kenya) Limited*, Kenya	●	100
Novozymes BioAg Productos Para Agricultura Ltda., Brazil	□ ●	100	Novozymes Malaysia Sdn. Bhd.*, Malaysia	●	100
Novozymes BioAg Limited, Canada	■ □ ● ◆ ○	100	Novozymes Mexicana, S.A. de C.V.*, Mexico	●	100
Novozymes Canada Limited, Canada	■ □ ●	100	Novozymes Mexico, S.A. de C.V., Mexico	●	100
Novozymes (China) Biotechnology Co. Ltd., China	■ □ ●	100	Novozymes Nederland B.V.*, Netherlands	●	100
Novozymes (China) Investment Co. Ltd., China	● ◆ ○	100	Novozymes RUS LLC*, Russia	●	100
Novozymes (Shenyang) Biologicals Co. Ltd., China	■ □ ●	100	Novozymes Singapore Pte. Ltd.*, Singapore	○	100
Suzhou Hongda Enzyme Co. Ltd., China	■ □ ●	96	Novozymes South Africa (Pty) Ltd.*, South Africa	●	100
Novozymes Bioindustrial A/S*, Denmark	○	100	Novozymes Korea Limited*, South Korea	●	100
Novozymes Bioindustrial China A/S*, Denmark	○	100	Novozymes Spain S.A.*, Spain	●	100
Novozymes Biopharma DK A/S*, Denmark	○	100	Novozymes Sweden AB*, Sweden	●	100
Novozymes BioAg A/S*, Denmark	○	100	Novozymes Switzerland AG, Switzerland	■ ●	100
Novozymes France S.A.S.*, France	● ◆	100	Novozymes Switzerland Holding AG*, Switzerland	○	100
Novozymes Berlin, Germany	□ ● ◆	100	Novozymes (Thailand) Limited*, Thailand	●	100
			Novozymes Enzim Dis Ticaret Ltd. Sirketi*, Turkey	●	100
			Novozymes UK Ltd.*,** , UK	● ◆	100

Other financial notes

## 6.7 Group companies (continued)

	Activity	Percentage of shares owned		Activity	Percentage of shares owned
Novozymes BioAg, Inc., USA	■ □ ●	100	<b>Joint operations/associates</b>		
Novozymes Biologicals, Inc., USA	■ □ ● ◆	100	Grundejerforeningen Smørmosen*, Denmark		
Novozymes Blair, Inc., USA	■ □	100	Grundejerforeningen Hallas Park*, Denmark		
Novozymes, Inc., USA		100	Microbiogen PTY Ltd.*, Australia		23.10
Novozymes North America, Inc., USA	■ □ ● ◆	100	Beta Renewables S.p.A.*, Italy		9.95
Novozymes US, Inc.*, USA		100	MagnaBioAnalytics LLC, USA		19.35

\* Owned directly by Novozymes A/S.

\*\* Novozymes A/S has guaranteed the liabilities of Novozymes UK Limited (company number: 1328873) in order that it qualify for the exemption from preparing individual financial statements under Section 479A of the Companies Act 2006 in respect of the year ended December 31, 2019.

# Environmental data

We measure our performance in areas where we believe we have significant impact on the environment. Monitoring our environmental data is key to measuring progress against the ambitious goals we have adopted. We have a high focus on reducing Greenhouse Gas (GHG) emissions from our own operations and on being more circular in the use of natural resources by reducing our footprint in other environmental areas like water, energy, waste and biodiversity.



Renewable energy share of total energy consumption

**30%**

m<sup>3</sup> of water saved

**262,000**

Percentage of biomass waste handled in a circular set-up

**97%**

## 7.1 Climate change

Mitigating climate change impacts is material to Novozymes within its operations and throughout the value chain. Climate change action is an integral part of our business strategy, as the transition towards a low-carbon economy offers many opportunities to support the growth of Novozymes' biological solutions. At the same time, issues associated with climate change (regulatory action, physical or reputational damage, etc.) pose multiple risks to Novozymes' supply chain and operations and it is important that we address these risks through appropriate measures.

### Our approach

Novozymes' Sustainability Policy and position statement on climate change outlines the company's approach to managing climate-change-related impacts. The Supply Operations and Quality and Sustainability departments are responsible for driving the climate change action agenda, both inside and outside the organization. Within its own operations, Novozymes' efforts to reduce greenhouse gas (GHG) emissions are driven by corporate targets on GHG emissions and energy. In 2019, Novozymes had a target of limiting the annual increase in absolute GHG emissions to levels lower than organic sales growth. The energy-related targets are reported on in note 7.2.

In June 2019, Novozymes launched its updated strategy and released its 2030 climate ambition along with long-term targets to help realize

this ambition. Novozymes has committed to help the world limit global warming increase to 1.5° C by saving 60 million tonnes of CO<sub>2</sub> by enabling low-carbon fuels in the transport sector in 2022. To reduce the negative impact from our operations, we have committed to reduce our absolute Scope 1 & 2 GHG emissions by 50% by 2030 (relative to a 2018 base year) on our way to becoming carbon neutral by 2050. We have also committed to reduce our absolute Scope 3 GHG emissions from purchased goods and services category by 15% by 2030 from a 2018 baseline. To know more about our new climate targets, please refer to the Strategy section and the spotlight article 'The heat is on: Novozymes' ambitious climate commitments' in the Sustainability section.

Since 2004, Novozymes has been conducting peer-reviewed cradle-to-grave life cycle assessment (LCA) studies to document the environmental impact of its biosolutions. The studies are used to inform our stakeholders and to demonstrate to our customers ways to reduce their CO<sub>2</sub> emissions and leverage the positive impact on climate change made possible by Novozymes' solutions. The calculation tools and environmental databases that we use are updated on a regular basis to take into account recent developments in supplying industries as well as process-related efficiency improvements in our own production.

Recent examples of this include the LCA case studies for our JumpStart® and Optimize® products, both of which are Novozymes BioAg solutions that enhance agricultural productivity and reduce environmental footprint. To know more, refer to the spotlight article 'Microbial inoculants support Climate-Smart Agriculture' in the Sustainability section.

In addition, Novozymes continues to support global climate action through transparent climate disclosures, responsible public advocacy and partnerships. Read more about these efforts in the Sustainability section.



### ACCOUNTING POLICIES

Reported CO<sub>2</sub> emissions comprise scope 1, scope 2 and emissions from outbound transport of products.

CO<sub>2</sub> from internally generated energy (scope 1) is calculated based on the amount of fuel consumed, using local emission factors.

CO<sub>2</sub> from externally generated energy (scope 2) is reported in accordance with both the market-based and the location-based methods, as defined by the Greenhouse Gas (GHG) Protocol. The location-based method uses annually determined local emission factors from power plants or their organizations. If emission factors are not available, annually determined emission factors from Danish authorities are used.

Transport-related CO<sub>2</sub> emissions (scope 3) are calculated based on principles described in the GHG Protocol. Reported quantities comprise CO<sub>2</sub> emissions related to transport from all primary enzyme production sites to the customer where Novozymes pays for the freight. Transport between production sites is also included. Transport of raw materials to a production site is not included. CO<sub>2</sub> emissions generated at external warehouses are not included. Emissions data are calculated based on distance and emission factors from the GHG Protocol.

The environmental impact potentials for global warming and ozone layer depletion are calculated on the basis of data published by the US Environmental Protection Agency (EPA) and the Montreal Protocol published by the United Nations Environment Programme (UNEP).

## 7.1 Climate change (continued)

### 2019 highlights

Novozymes' commitment to make its operations less carbon intensive is based on two levers: implementing various energy efficiency projects and increasing the share of renewable energy in its energy consumption

mix; see Note 7.2 for further details. In 2019, CO<sub>2</sub> emissions (scope 1+2 only) from our operations decreased by 24% to 330,000 tons from 437,000 tons in 2018. Novozymes met its annual target to limit the rise in operational CO<sub>2</sub> emissions to levels lower than organic

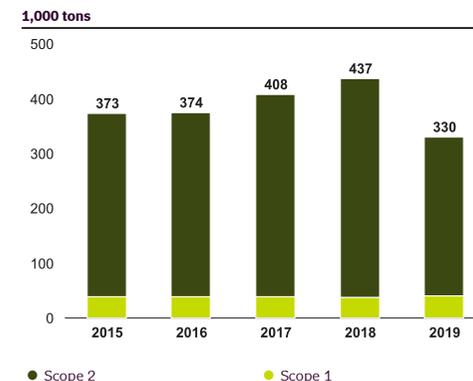
sales growth in 2019. This was mainly due to the transition to green electricity at one of our plants in China.

A breakdown of the operational emissions is provided in the table.

In 2019, Novozymes joined the growing list of supporters of the Task Force on Climate Related Financial Disclosures (TCFD) and we are currently investigating its implementation. We are inspired by the TCFD framework and in the coming years we will work towards initiating key activities for managing climate-related issues and improved climate-related disclosures.

We are excited to embark on the journey towards our new climate ambition. Between now and 2030, Novozymes will reduce GHG emissions through improved energy efficiency at its production sites and sourcing 100% renewable electricity. We will also explore opportunities to generate energy from waste streams for use in our operations and to share with our communities. As part of our 1.5° C commitment, we will monitor emissions across the value chain and work with our suppliers to reduce our Scope 3 emissions.

Five-year operational emissions (CO<sub>2</sub>-eqv)



### CO<sub>2</sub>-equivalent emissions

1,000 tons	2019	2018
Natural gas	35	34
Gas oil, light fuel oil and diesel oil	4	3
HCFCs	1	1
<b>Scope 1</b>	<b>40</b>	<b>38</b>
District heat	11	9
Electricity	203	307
Steam	76	83
<b>Scope 2 (market-based)</b>	<b>290</b>	<b>399</b>
Ship	6	5
Truck	17	15
Air freight	12	15
<b>Scope 3</b>	<b>35</b>	<b>35</b>
<b>Emissions, total</b>	<b>365</b>	<b>472</b>

### Market-based vs. location-based scope 2 emissions

1,000 tons	2019	2018
Scope 2 CO <sub>2</sub> emissions (market-based)	290	399
Scope 2 CO <sub>2</sub> emissions (location-based)	415	452

## 7.2 Energy

Energy is material to Novozymes across the value chain, as its operations depend on steam and electricity, while many of its biosolutions enable downstream users to save energy in certain applications (e.g. in laundry and dishwashing detergents and textile applications) compared with conventional methods.

### Our approach

Novozymes manages energy in its operations through a two-pronged approach: reducing energy use in production by implementing energy-saving projects, and increasing the sourcing of energy from renewables. Relevant targets drive our performance in these areas.

Novozymes' Supply Operations and Sourcing departments manage and monitor all energy efficiency and renewable energy-sourcing efforts.

In the recent strategy update, Novozymes introduced a new target on renewable electricity. Novozymes commits to increase annual sourcing of renewable electricity to 100% by 2030. Read more about our targets in the Strategy section.

### Energy consumption by primary source

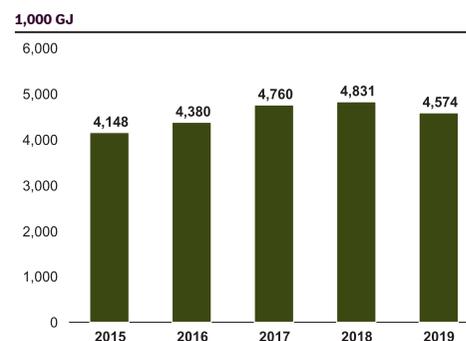
1,000 GJ	2019	2018
Natural gas	656	645
Biogas	70	69
Gas oil, light fuel oil and diesel oil	46	24
<b>Internally generated energy, total</b>	<b>772</b>	<b>738</b>
Electricity – conventional	1,347	1,825
Electricity – renewable	1,315	1,062
District heat	187	175
Steam	953	1,031
<b>Externally purchased energy, total</b>	<b>3,802</b>	<b>4,093</b>
<b>Energy consumption, total</b> <span style="background-color: #d9d9d9; padding: 2px;">ESG</span>	<b>4,574</b>	<b>4,831</b>
Energy production from waste	86	72

### 2019 highlights

In 2019, Novozymes achieved its annual target of maintaining the increase in energy consumption at a level lower than organic sales growth. Projects driving process optimization and energy efficiency undertaken at our sites throughout the year resulted in energy savings of 20,000 GJ. The savings originated from many projects including the replacement of inefficient pumps, the installation of new and optimized ventilation systems etc.

The table provides details of energy consumed by primary source.

### Five-year energy consumption



Energy from renewable sources accounted for 30% (target 28%) of the total energy consumed in 2019, up from 23% in 2018. This was possible as we started procuring renewable energy for our production site in Tianjin, China. We already procure renewable energy for our Danish and Brazilian facilities. Novozymes will continue to seek renewable energy opportunities for all other sites in order to reduce its operational CO<sub>2</sub> footprint and deliver on the 100% renewable electricity commitment.

Going forward, Novozymes plans to replicate the best energy-saving projects at other sites. In regions with fewer opportunities for renewable energy procurement, Novozymes will continue to prioritize investment in energy efficiency projects.

## 7.2 Energy (continued)

### § ACCOUNTING POLICIES

Net energy consumption includes quantities consumed both in the production process and in other areas, less energy production from Novozymes' waste.

Internally generated energy is measured as fuel consumption converted to energy based on the lower combustion value and weight by volume, except in the US, where legal requirements for reporting of CO<sub>2</sub> state that the higher combustion value is to be applied. Fuel consumption comprises all types of fuels used to produce electricity,

heat and steam on site and is converted to energy using factors supplied by utility providers or local authorities. Fuel for transportation is not included.

Externally generated energy is the input to Novozymes of externally generated electricity, heat and steam.

Energy produced from waste or wastewater is renewable and corresponds to the total energy (heat, electricity or steam) produced by an internal or external utility provider. An example is energy produced from biomass waste or biogas.

Reported quantities are based on meter readings, with the exception of steam, which may be subject to calculation.

The renewable energy percentage is calculated by dividing renewable energy consumed by total energy consumption. Renewable energy used at Novozymes sites comprises energy generated from natural processes and continuously replenished. Sources include solar, wind and hydropower-based electricity and energy from biogas.

## Environmental data

# 7.3 Water

The production of Novozymes' solutions is a water-intensive process and generates a considerable amount of wastewater. Many of the raw materials required in our operations are agriculture-based and water-intensive to produce. In certain product applications such as laundry detergents and textile processing, Novozymes' solutions can enable customers to achieve water savings compared with conventional methods.

In addition, our wastewater treatment solutions can improve processes and the quality of treated water. Therefore, water is material for Novozymes across the entire value chain.

### Our approach

Novozyymes' approach to water management is anchored in its Sustainability Policy. We manage water-related risks within our operations by improving water efficiency and ensuring compliance with wastewater discharge regulations at all our sites. Further, wastewater and biomass treatment at our production sites is given high priority. The wastewater is treated internally or externally in biological wastewater treatment systems

before being discharged to a final destination point or used in agriculture for irrigation. All water efficiency and wastewater management efforts are managed by Novozymes' Supply Operations, Quality and Sustainability departments.

Demonstrating a continuing focus on water, Novozymes concluded a third-party water risk assessment for five of its major production sites (covering 87% of production) in 2019. The findings of the assessment gave input to Novozymes' 2030 ambition and strategy on water. Under our updated strategy, we will take a context-based approach to water management in our operations and collaborate more with local communities to manage water as per the local basin conditions. We also have an external target on water which is to reach more than 4 billion people by 2022 through our solutions in laundry that replace chemicals in detergents. Learn more about our new strategy and targets in the Strategy section.

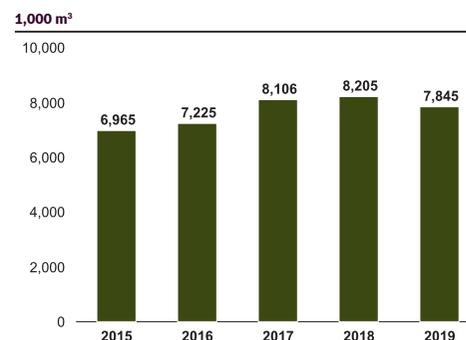
### 2019 highlights

In 2019, Novozymes implemented various water-related projects across our production sites that resulted in 262,000 m<sup>3</sup> of water

savings. One of those projects was the installation of a reverse osmosis system at one of our plants in China, which purifies our process water and enables reuse in our cooling towers. Novozymes met its annual target of restricting the increase in water consumption to a level lower than the organic sales growth in 2019.

The table provides a breakdown of total water consumed.

Five-year water consumption



### Water by primary source

1,000 m <sup>3</sup>	2019	2018
Drinking water	5,288	5,578
Industrial water	2,214	2,256
Steam	343	371
<b>Water, total</b>	<b>7,845</b>	<b>8,205</b>



### ACCOUNTING POLICIES

Water includes drinking water, industrial water and externally supplied steam. Drinking water is water of drinking-water quality. Industrial water is not of drinking-water quality, but is suitable for certain industrial processes, for example for use in cooling towers. Industrial water may come from lakes or wells.

The reported quantities are stated based on the metered intake of water to Novozymes and include quantities consumed both in the production process and in other areas. The reported quantities of steam are converted to volume of running water and are therefore subject to calculation.

Wastewater is measured as the volume discharged by Novozymes or calculated based on water consumption.

## Environmental data

# 7.3 Water (continued)

In 2019, as part of its water stewardship efforts, Novozymes helped build a water over-head tank near our production site in Patalganga, near Mumbai, which is in a water scarce region. When operational, this water tank will give neighboring villages access to clean water.

The table provides details of wastewater generated in 2019.

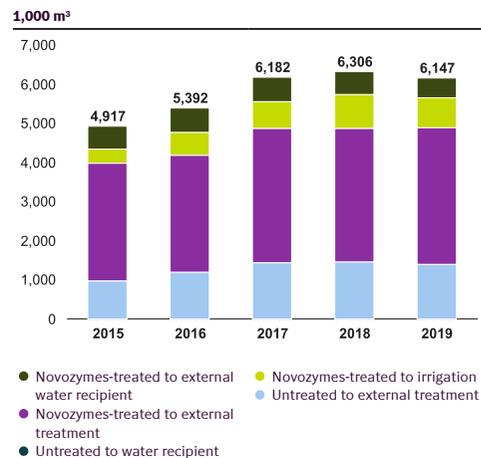
### Wastewater treatment

1,000 m <sup>3</sup>	2019	2018
Wastewater used for irrigation	774	866
Wastewater discharged	5,373	5,440
<b>Wastewater volume, total</b>	<b>6,147</b>	<b>6,306</b>

In 2019, in addition to running the existing wastewater projects, we spent time defining our wastewater project portfolio under the updated strategy. Some of the potential wastewater activities will be focused on waste to energy and circular systems.

Going forward, we will focus on increasing our understanding of the evolving 'context-based' approach to water management, while working towards effectively implementing our new targets.

### Wastewater by treatment method



## Environmental data

# 7.4 Waste

Novozymes supports the transition to a circular economy through sustainable consumption and production, and we deliver biological solutions that enable our customers to adopt sustainable production and consumption practices. At the same time, we are committed to drive our own business towards more circularity. Reduction, reuse and recycling of the planet's limited natural resources are vital for a sustainable future. Circular waste management is a key enabler in this and the reason why waste is a material issue for us.

### Our approach

Waste management at Novozymes is driven by our Sustainability Policy and is managed through the 'Sustainable production and consumption' pillar of our recently updated strategy, which includes new ambitions and targets on circular waste management. We aim to have 100% of key materials and waste managed in circular systems by 2030.

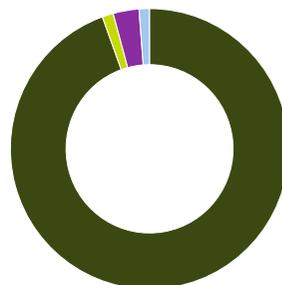
Novozymes has 16 major sites reporting on the three categories and disposal methods. As waste management is a complex issue

subject to a diverse set of local regulations and involving several external service providers, we have adopted a site-specific management approach.

### 2019 highlights

Novozymes generated 526,000 tons of waste in 2019 compared with 523,000 tons of waste in 2018. The majority of the waste was recovered, and only 4% was sent for landfill.

Waste and by-products 2019 (2018)



- Recovered biomass **94.5%** (94.4%)
- Recovered (recycled) solid waste **1.3%** (1.2%)
- Biomass sent for landfill **3.0%** (2.9%)
- Solid waste sent for landfill/incineration **1.2%** (1.5%)

### Biomass

The biomass generated makes up most of the waste and accounts for 97% of Novozymes' total waste. The biomass is rich in nitrogen and phosphorus and the energy can be recovered in biogas facilities. In 2019, 97% of our biomass was handled in a circular set-up with energy recovery in the form of biogas and/or distributed to local farmers as our agricultural fertilizer product NovoGro®. As part of our recent strategy update, we have set a new target to achieve 100% circular management of our biomass by 2022. A breakdown of the total biomass generated is provided in the table.

## § ACCOUNTING POLICIES

Biomass is measured or calculated on the basis of volume or weight produced and transported from Novozymes as liquid fertilizer (NovoGro®), converted to a fertilizer product with a higher dry matter content (NovoGro® 30 or compost) or dried and used as fuel for energy production. Biomass from a newly built plant is sent for landfill with energy production (biogas) as a temporary disposal method.

Solid waste is the registered volume of waste broken down into hazardous and nonhazardous waste, and by disposal method. The amount recycled is the quantity recycled internally or sent to an external service provider for recycling. Biomass is not included in the reported amounts of solid waste.

### Biomass

1,000 tons	2019	2018
NovoGro®	412	347
NovoGro® 30	79	138
Compost	6	9
Landfill	16	15
<b>Biomass, total</b>	<b>513</b>	<b>509</b>

## Environmental data

# 7.4 Waste (continued)

### Waste

The two other types of waste (nonhazardous and hazardous) combined account for 3% of Novozymes' total waste. In 2019, the recycling rate of waste was 52% compared with 44% in 2018. The remaining 48% of the waste, which corresponds to 6,200 tons, was sent for landfill or incineration without energy recovery. A breakdown of the total waste generated is provided in the table.

To pave the way for our long-term ambition, we have set a target that all sites should have implemented programs to reach zero waste by 2022. The roadmaps on how to achieve this at every site are to be defined in collaboration with local experts and external service providers. In the years towards 2022, Novozymes will work actively with local vendors to explore the site-specific opportunities.

Waste 1,000 tons	2019	2018
<b>Nonhazardous waste</b>		
Incineration	2.3	2.1
Landfill	3.1	3.6
Recycling (external)	4.3	4.4
Recycling (internal)	-	0.1
<b>Nonhazardous waste, total</b>	<b>9.7</b>	<b>10.2</b>
<b>Hazardous waste</b>		
Incineration	1.0	2.3
Recycling (external)	0.2	0.2
Recycling (internal)	2.4	1.6
<b>Hazardous waste, total</b>	<b>3.6</b>	<b>4.1</b>
<b>Waste, total</b>	<b>13.3</b>	<b>14.3</b>

## 7.5 Environmental compliance, etc.

Compliance with environmental norms and regulations is a high priority for Novozymes so as to maintain business continuity and day-to-day running of operations. Novozymes is committed to complying with all environmental regulations and maintaining high standards of environmental management on various aspects, including pollution prevention, resource conservation and waste reduction.

### Our approach

Novozymes' commitment to environmental compliance is outlined in its Sustainability

Policy. All activities to ensure environmental compliance are anchored in the Quality and Sustainability function. Our Environmental Management System is based on ISO 14001 certification, and we strive to minimize the number of non-compliances and neighbor complaints.

### 2019 highlights

In 2019, 17 environmental incidents were registered across our facilities, compared with 27 in 2018. Most of these were related to wastewater treatment. Plans for preventive

action for these incidents have been agreed with the relevant authorities.

Novozymes received seven neighbor complaints in 2019, down from 11 complaints in 2018.

### § ACCOUNTING POLICIES

Breaches of environmental regulatory limits are measured as the number of incidents in the reporting year considered not to be in conformity with environmental permits or requirements under environmental law.

Breaches related to annual control measurements of spills reported in previous years are not included, as they are not indicative of performance during the reporting year.

Neighbor complaints refers to the number of registered environmental complaints, primarily odor and noise related.

## 7.6 Bioethics & biodiversity

Novozymes' research and business are based on bioinnovation. To develop sustainable solutions and applications for our customers, we explore nature and take samples of fungi, bacteria and enzymes among the available biodiversity. Next, we assess the samples and optimize applications by means of biotechnological research. That is why "bioethics & biodiversity" is a material issue for Novozymes' operations and its relationships with external stakeholders.

### Our approach

Novozymes' position paper on industrial biotechnology describes our approach to managing and supporting safe and sustainable use, and the adoption of robust, science-based regulations for products involving gene technology, including the latest gene-editing technologies. We seek to engage with relevant stakeholders to improve the general level of knowledge about the sustainable and societal opportunities presented by biology, industrial biotechnology and modern gene technology.

When we take biological samples in nature, it is important that we always follow the local laws of the countries where we operate as well as complying with globally recognized principles on the utilization of genetic resources. We continuously discover new microbes that are valuable solutions for more environmentally-friendly industrial processes. Novozymes' position paper on biodiversity articulates how we endorse, acknowledge and respect the principles of the United Nations Convention on Biological Diversity and the complementary

Nagoya Protocol on Access and Benefits Sharing. Internal procedures in our management system ensure that we live up to our commitments. As an example, we have established a Nagoya Protocol steering group which ensures compliance with the protocol and that internal guidelines are maintained.

## 7.7 Product stewardship

Novozymes is committed to ensuring product safety and stewardship in our operations and customer relationships. This is material to us, as many of our biological solutions serve as ingredients in consumer goods (e.g. in laundry detergents) or are used for manufacturing consumer products such as foods, textiles and livestock.

Novozymes' ambition is to continue supplying safe products and substitute hazardous substances in its operations with safer and more sustainable alternatives wherever possible. Novozymes strives to reduce the risk of enzyme allergies among employees and downstream users by promoting adherence to enzyme safety standards.

### Our approach

Novozymes' approach to product stewardship is outlined in its Quality and Product Safety Policy, which is an important element of Novozymes' Quality Management System. Novozymes constantly strives to reduce the risk of potential harm to both human health and the environment in the manufacture, handling and use of its products.

This approach is implemented by means of many cross-functional teams, and the primary responsibility rests with Regulatory Affairs & Product Safety. Procedures ensuring product stewardship are enforced globally and audited by the independent external body Bureau Veritas.

Novozymes has also developed its position on and approach to related topics such as product information and labeling, traceability, industrial biotechnology, animal testing, REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) and FIAP (Food Improvement Agents Package).

Novozymes has started to measure performance and monitor progress in product stewardship, particularly in the areas of product safety and hazardous substance management.

### 2019 highlights

Novozymes remains firmly committed to maintaining high-quality dossiers under REACH and FIAP. With its extensive experience in responding to increasing regulatory requirements, Novozymes, in 2019, worked on developing its compliance towards new regulations such as Korean REACH.

Novozymes chairs the Enzyme Safety Working Group, which plays a coordinating role within The Association of Manufacturers and Formulators of Enzyme Products (AMFEP) to develop advanced safety standards for enzyme use. Through the AMFEP, Novozymes, recently collaborated with the Confederation of European Paper Industries to develop safety guidance for the paper industry, which will be published in early 2020. As a follow up to the safety guidance released for the baking industry in 2018, AMFEP and the Federation of

European Union Manufacturers and Suppliers of Ingredients to the Bakery, Confectionery, and Patisserie Industries launched a series of webinars that explains the safety elements relevant for this industry. In 2019, Novozymes also published a peer-reviewed article on medical surveillance at Novozymes production sites.

In 2020, we will continue to prioritize product stewardship practices at Novozymes through technical and risk assessments. We will further explore the feasibility to phase out priority substances and develop substitution strategies, working our way towards our goals. We plan to drive a new initiative to develop safety guidance specially for the textile industry in a collaboration between AMFEP, the Association of Manufacturers of Process and Performance Chemicals and the European Apparel and Textile Confederation.

# Social and governance data

We measure our social performance using a number of indicators in the areas of labor practices & human rights, occupational health & safety, business ethics, customer engagement and community engagement. These indicators enable us to track our progress and respond to risks and opportunities related to both talent attraction and retention, and business development.



Accidents per million working hours

**0.9**

Women in senior management

**31%**

Completion of business integrity training for employees

**99%**

## 8.1 Labor practices & human rights

Employees are vital for Novozymes' growth and the successful execution of its strategies. Therefore, it is important for Novozymes to focus on employee development and diversity in all its operations. Novozymes is responsible for ensuring that human rights are respected throughout its value chain.

### Our approach

We have adopted a common management approach and reporting structure for labor practices and human rights. Our People and Organization (P&O) function, together with leaders across Novozymes are responsible for ensuring equal rights for all employees and promoting diversity. We are committed to ensuring equal opportunities and avoiding discrimination based on race, religion, gender or age in our global organization. Read more in our position paper on 'Diversity and Equal Opportunities', at Novozymes.com.

Novozyymes is committed to providing a work environment where all individuals can work together comfortably and productively, free of any forms of harassment and discrimination. Novozymes recognizes and respects the right to form and join associations and to bargain collectively. Our P&O function works together with local leadership to facilitate the fulfillment of these fundamental rights in countries with limited labor legislation.

In 2019, we defined targets for 2020-2022 focused on building a culture where our employees thrive, grow and perform to bring out their best. To nurture diversity, our target is to achieve an 86 rating on our diversity index; and to enable learning, our target is to achieve an 80-point rating on our employee survey.

Novozyymes respects human rights as defined by the UN Guiding Principles on Business and Human Rights. Novozymes also respects the International Bill of Human Rights, the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, and, since 2001, we have been a signatory to the United Nations Global Compact.

We have implemented the UN Guiding Principles on Business and Human Rights in our operational policies and procedures. We also conduct due diligence and impact assessments in countries where we operate and offer grievance mechanisms to internal and external stakeholders. Our position paper on Human Rights and Labor Standards is signed by our CEO and outlines our approach to respect and manage human rights within our operations. We also published our third annual statement under the UK Modern Slavery Act. For more information, please refer to 'Policies and Position Papers' at Novozymes.com.

### 2019 highlights

#### Labor practices

We believe in promoting gender diversity at work and are continuously focused on increasing the number of women in leadership roles in the organization. In 2019, 31% of the senior management team were women, exceeding our target for the year of at least 29%.

This year, Science Magazine ranked Novozymes the world's 7<sup>th</sup> best science employer. We have been among the top 10 science employers in the world for the last four years.

In 2019, the rate of employee turnover increased to 12.7% from 8.8% in 2018. We recorded a 1.9% rate of absence, which is below our target of  $\leq 2.0\%$ . The rate of absence has been broken down into grouped job categories, based on whether the work carried out is primarily office-based.

### Employee statistics

		2019	2018
Rate of employee turnover – retirement	%	1.0	1.0
Rate of employee turnover – dismissal	%	5.7	2.0
Rate of employee turnover – voluntary	%	6.0	5.8
<b>Rate of employee turnover, total</b>	%	<b>12.7</b>	<b>8.8</b>

### Rate of absence

Senior management, management, professional and administrative	%	1.2	1.2
Skilled workers, laboratory technicians, other technicians and process operators	%	2.6	3.0
All employees	ESG %	1.9	2.1

### Other employee statistics

Average age	Years	42.0	41.4
Average seniority	Years	10.1	9.6
Number of expatriates	No.	22	23
Average training cost spent per employee	DKK	3,351	3,637
Costs as percentage of total employee costs	%	0.5	0.6

## 8.1 Labor practices & human rights (continued)

Launched in 2018, Lead the Way aims to help all leaders at Novozymes to develop their core leadership skills needed to drive employee engagement and performance, and to mobilize employees around our purpose and values. In 2019, the enrollment of leaders in the Lead the Way program increased to ~57% from ~30% in 2018.

The employee-survey result for 'Satisfaction and Motivation' was 77, not meeting our 2019 target of  $\geq 79$ . Additionally, for 'Enabling Employee Development', we achieved a result of 77, meeting our 2019 target of  $\geq 75$ . The employee survey enables us to not only track the organizational mood but also to make room for better and more relevant team talks focusing on how we work together at Novozymes. This is critical to ensuring our success as a business and sustaining our reputation as a great place to work.

### *Human rights*

In 2018, we started to conduct regionally focused human rights impact assessments to identify and assess human rights risks and impacts in our business and supplier base. As human rights risks vary from region to region, this approach enables us to gain a more comprehensive understanding of human rights risks, our positioning and the associated gaps within the respective regions.

In 2019, we conducted the human rights impact assessment for Europe, Middle East and Africa (EMEA). Through these assessments, we identified the most salient human rights, and are taking appropriate measures to mitigate the identified risks and gaps. Our aim is to complete the assessments for the remaining regions, namely, China, Latin America and North America, by 2021.



### ACCOUNTING POLICIES

Absence is defined as time lost due to an employee's illness, including sick leave, and occupational accidents and diseases. The rate of absence is calculated as the number of registered days of absence as a percentage of the total number of normal working days in one year, less vacation and public holidays.

The rate of employee turnover is calculated as employee turnover divided by the average number of permanent employees. Employee turnover is measured as the number of permanent employees leaving the Group during the preceding four quarters (excluding employees at divested entities transferred to the acquiring company).

Average age and seniority are calculated as the sum of employees' total age/seniority in whole years at the reporting date, divided by the number of employees.

Expatriation refers to Novozymes employees temporarily reassigned within Novozymes from the country of original employment for a period of more than six months.

Training costs express the cost of external training courses and seminars, translated into Danish kroner at average exchange rates. Training costs are also shown as a percentage of total employee costs.

Women in senior management measures the percentage of women in director positions or higher (i.e. senior director, vice president or executive vice president).

## 8.2 Occupational health & safety

The health and safety of all our employees is of paramount importance to Novozymes, and therefore forms a fundamental part of our business strategy. The aim is to ensure that robust safety processes, equipment, standards, tools and training are fully integrated into our way of working. We take appropriate measures to ensure focus on occupational health and safety across the organization, by means of initiatives owned and driven locally under a global framework.

### Our approach

Novozyymes' Quality and Sustainability function is responsible for supporting the organization in ensuring a safe and healthy work environment. To reinforce our safety culture, we have a Global Health and Safety Policy, along with internal standards and procedures. We monitor our performance and ensure continuous improvement through benchmarking of both internal and external key performance indicators. We define annual targets to ensure we continue to improve our performance on health and safety. In 2019, as part of our strategy update, we increased our focus on health and wellbeing and defined new ambitions and programs on these topics. For instance, we have a target to drive down the lost-time injury frequency rate by 2022 relative to a 2018 baseline.

### 2019 highlights

Our safety performance was better than ever in 2019 thanks to a company-wide focused and dedicated effort. Our target was to limit frequency of occupational accidents per million working hours (lost-time injury frequency rate) to 1.5 or below. We met our target as the frequency of occupational accidents was 0.9 compared with 2.4 in 2018. For more information on occupational accidents and diseases, please refer for the tables provided.

Our new global incident handling system CAPTURE has enabled us to implement targeted, data and theme-based safety initiatives. These initiatives focus on prevention and safety, for example machinery safety, and falling, tripping and straining of the body.

### Consequences of occupational accidents

No.	2019	2018
Return to original job	10	25
Return to a different job in the same department	-	1
Out of work or early retirement	-	1
Case pending	-	-
<b>Occupational accidents with absence, total</b>	<b>10</b>	<b>27</b>
Total days of absence related to accidents registered in the same year	351	401
Injury severity rate	35	13



### ACCOUNTING POLICIES

Occupational accidents is defined as the reported number of occurrences arising out of or in the course of work that result in fatal or nonfatal injury with at least one day of absence from work apart from the day of injury.

Occupational diseases is defined as the number of diseases contracted as a result of exposure to risk factors arising from work activity and notified as work related in accordance with local legislation.

The consequences of occupational accidents with absence and occupational diseases are measured by recording the work situation once the situation resulting from an incident has stabilized, for example whether the employees have returned to their original jobs, and the total number of calendar days of absence.

Frequencies of occupational accidents with absence and occupational diseases are stated per million working hours.

The injury severity rate is calculated by dividing total days of absence related to accidents registered in the same year by the number of occupational accidents.

## 8.2 Occupational health & safety (continued)

### Consequences of occupational diseases

No.	2019	2018
Return to original job	1	4
Return to a different job in the same department	-	-
Out of work or early retirement	-	-
Case pending	-	-
<b>Occupational diseases, total</b>	<b>1</b>	<b>4</b>
Total days of absence related to diseases registered in the same year	-	-

### Types of occupational diseases

No.	2019	2018
Skin disease	-	-
Enzyme allergy	-	3
Other	1	1
<b>Occupational diseases, total</b>	<b>1</b>	<b>4</b>

We also introduced a new global incident follow-up procedure. This procedure has supported various internal initiatives and resulted in high quality root cause analysis, strong preventative countermeasures and, sharing better practices and lessons learned.

Enzyme safety is a top priority for Novozymes. In 2019, we published a scientific study, which concluded that our preventive program works effectively, and our learnings enable us to improve ZEAL (Zero Enzyme Allergy) for the benefit of our employees and customers. We have continued to promote the culture of safety within Novozymes through our corporate safety values and activities that promote safe behavior.

Brain Space is an ongoing initiative that aims to inspire employees, equip them with tools to nurture their brains and help them thrive in a digital and fast-paced work environment. In 2019, we focused on creating better conditions for our employees to concentrate and avoid distractions by providing them with tips to avoid pseudo work and promoting brain-breaks at the workplace.

Moving forward, we will focus on the implementation of our updated strategy, aiming to improve the safety related to our products and workplace, and the general wellbeing of our employees.

## 8.3 Business ethics

Business ethics is at the core of our business and therefore a material issue for Novozymes. We are committed to conducting business in a responsible, ethical, and transparent manner, and to meeting stakeholders' expectations of high business integrity standards across our operations.

### Our approach

Novozymes' management approach to business integrity is embedded in our corporate values, policies and procedures.

Novozymes has adopted six business integrity principles that lay the ground rules for engaging with third parties and apply to all employees across the world. The business integrity principles underline Novozymes' zero tolerance approach to bribery and set clear rules for gifts and donations. These principles act as Novozymes' code of conduct in business integrity matters and form the basis of our efforts to eliminate all forms of corruption. For more details, please see our position paper on business integrity at [Novozymes.com](https://www.novozymes.com).

A dedicated legal compliance function handles business integrity-related matters and training of our employees. All employees have

access to relevant guidance on the intranet and are encouraged to raise any concerns about business integrity to the designated business integrity contacts or other relevant grievance channels. Novozymes also has a whistleblower system which allows employees and others to report their concerns relating to business integrity and corruption, fraud and other serious matters. Read more about our grievance channels at [Novozymes.com](https://www.novozymes.com).

We offer mandatory business integrity training annually for our employees in scope. This training is designed and rolled out by Novozymes' Chief legal compliance officer, based on input from regional lines of businesses and questions raised during the year to ensure relevance and applicability. This training includes real-life case studies and reinforces employees' commitment to business integrity principles. Business integrity training is also part of the onboarding training program for new employees.

Novozymes' recurring antitrust training provides general guidance on competition law and is completed by relevant employees in commercial roles across all regions.



### ACCOUNTING POLICIES

Completion of business integrity training refers to the percentage of the employees in scope who have undergone business integrity training in the last training period. New entities are included within six months of acquisition. Business integrity training is conducted for employees who can potentially influence third-party interactions or decisions as part of their job role. This comprises employees in professional, managerial or administrative positions.

The reporting criteria for competition law violations are whether it has been established by an authority member of the International Competition Network or by a competent court anywhere in the world that

a company in the Novozymes Group has violated applicable anti-trust regulations.

All allegations of fraud are investigated until it has been determined whether they can be substantiated. The number of fraud cases represents substantiated and unsubstantiated matters reported to the Audit Committee in the reporting year.

Novozymes defines fraud as an offence where an employee or third party either:

- Takes or removes the company's property without its consent with intent to deprive the company of it, or
- Intentionally deceives the company by providing false documentation or by suppressing the truth in order to obtain a personal gain

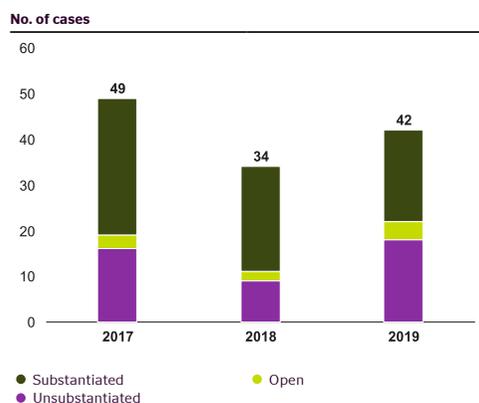
## 8.3 Business ethics (continued)

Novozymes works proactively to prevent, detect and respond to fraud, and we continuously increase internal awareness and develop relevant programs or initiatives in this area as required.

An internal control system enables identification of fraud cases and addresses concerns raised, e.g. through our whistleblower system.

These cases are reported to the Audit Committee on a quarterly basis, and all allegations of fraud are appropriately investigated in accordance with internal policies and procedures. Substantiated fraud will lead to proportionate disciplinary sanctions for the parties involved.

Reported fraud cases



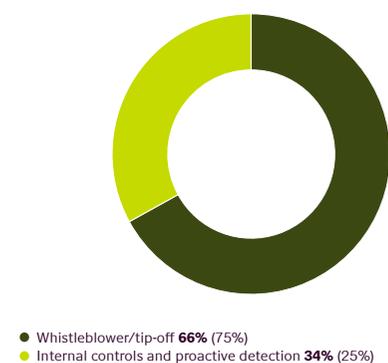
Novozymes' responsibility for ensuring ethical business practices also extends to ensure that our business partners and stakeholders are equally committed to preventing corruption and upholding business integrity principles. Our third-party due diligence processes include monitoring and ensuring that our commercial partners conduct business with integrity and share our values regarding legal compliance.

### 2019 highlights

In 2019, the business integrity training was completed by 99% of our employees in scope and focused on anti-money laundering, gifts and hospitality.

The antitrust training focused on concerns relating to price communication.

Reporting channels 2019 (2018)

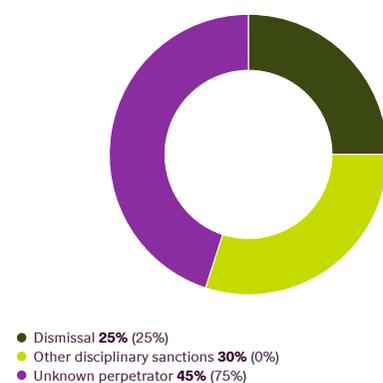


During the year, new initiatives such as a fraud e-learning module targeted at special functions and more frequent cyber fraud vulnerability assessments were launched to increase fraud awareness and mitigate the exposure towards cyber fraud.

In 2019, there were no violations of competition law.

The number of fraud cases investigated by Novozymes increased to 42 from 34 in 2018. The investigated fraud cases did not have a material financial impact.

Consequences of substantiated fraud cases 2019 (2018)



Of the investigated cases, 53% were substantiated and 35% of the substantiated cases were reported to the police.

The charts below provide further details of the reporting channels and consequences of fraud cases.

Moving forward, we will continue to raise awareness of fraud and train employees in business integrity, compliance and relevant policies and procedures.

## 8.4 Community engagement

We believe that businesses have a responsibility to engage with the communities in which they operate and invest strategically in programs that create value for society. We focus our community engagement and social investment activities on education, which we believe is crucial for global sustainable development. Our programs are designed specifically around biology, sustainability and the environment.

### Our approach

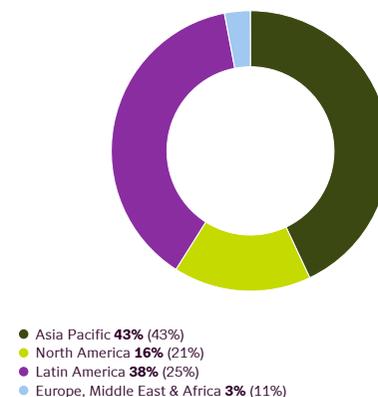
Our community engagement initiatives are driven through education-related initiatives. These initiatives are anchored in our Quality and Sustainability department, and the various educational programs are driven and implemented regionally by our sustainability managers. In total, we have educated more than 941,000 learners globally, since 2015.

### 2019 highlights

In 2019, we engaged approximately 329,000 learners, with Asia Pacific and Latin America being major contributors. An overview of the distribution of learners reached by the different regions is provided in the chart. Moving forward, we will be implementing our new long-term strategy and encouraging our employees to contribute to their local communities.

Read more about Educate in the Targets section and at [Novozymes.com](https://www.novozymes.com).

Learners reached by geography 2019 (2018)



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Methodologies to count and consolidate learners reached have been defined and are applied, but the reported numbers are still subject to assumptions and estimates, for example when recording the number of participants at a conference. This means that the result of the calculation will be an approximation.



### ACCOUNTING POLICIES

Learners reached comprises the total number of persons Novozymes reaches via its EDUCATE activities. An EDUCATE activity is an activity that engages the learner to a degree sufficient to confirm that awareness has been created.

## 8.5 Customer engagement

Novozymes believes that customer opinions serves as powerful indicator in determining the success and performance of its solutions in the market. We therefore consider customer engagement and partnership to be material for our business.

### Our approach

Each year, we conduct a satisfaction survey of our customers across all divisions. This is to monitor customer perceptions of our solutions and services and learn where we can improve. We use the survey as a dialogue tool with our customers. Overall customer perceptions are measured via four key performance drivers: Net Promoter Score (NPS), Loyalty Index, Value of Partnership, and Customer Satisfaction Score.

Novozymes has set an annual Customer Satisfaction Measurement target which refers to the NPS that reflects customer responses to the question: “How willing are you to recommend Novozymes to others?”

Responsibility for measuring, analyzing and addressing customer satisfaction and performance is anchored across commercial divisions.

### 2019 highlights

In 2019, Novozymes invited 966 customers across 85 countries to participate in the survey. We achieved an NPS of 54, surpassing our 2019 target of 50, with a 57% response rate. The results hold for our large and smaller customers, new and old, across regions. The NPS score confirms our strong relationships with our customers.

Key factors impacting the NPS include customers' appreciation for our commercial and technical support and account management. They also note certain areas of improvement, including challenges in implementing our solutions and how we perform in relation to the competition on factors such as pricing.

Our customers value our products and services and we recognize the importance of innovation to meet local needs and improve competitiveness.

Going forward, we will strive to maintain close relationships with our customers and proactively work on the areas where we can improve.



### ACCOUNTING POLICIES

The Net Promoter Score (NPS) is derived from an annual questionnaire measuring how likely the customer is to recommend Novozymes to others. The NPS is calculated as the share of promoters (on a scale of 0-100) less the share of detractors (also on a scale of 0-100). The resulting score is a value between -100 and +100.

## 8.6 Responsible sourcing

At Novozymes, we are continually focused on environmental, social and governance (ESG) issues across our value chain, and one of our material domains of focus is responsible sourcing. It is crucial for Novozymes to have a secure supply of sustainable raw materials for our production. Agricultural raw materials are a major constituent of our production processes and we continue to focus our efforts on sourcing renewable energy for our operations.

### Our approach

Our approach to responsible sourcing is mainly defined by our Responsible Purchasing Standards (RPS) and managed through our Supplier Performance Management (SPM) process. Responsibility is anchored within our Supply Operations function.

To know more, see our position statement 'Responsible purchasing' which includes Supplier Guidelines that communicate our RPS to suppliers, and our updated 'Modern slavery Statement' at [Novozymes.com](https://www.novozymes.com).

Novozymes requires all contracted suppliers to comply with our RPS, as well as, when requested, to complete questionnaires and to accept visits and audits relevant for confirmation of compliance with the standards. These standards cover various ESG criteria including respect for human and labor rights, business ethics, employee health and safety and environmental stewardship. All

our suppliers of directly sourced agricultural raw materials are required to adhere to our deforestation requirements by not contributing to further deforestation and must have zero tolerance for land grabbing.

We ensure relevant training and capacity-building for all our category managers and buyers. They receive instructions on how to apply the RPS in the selection and evaluation of Novozymes' suppliers and have received training on modern slavery and human trafficking.

Through our SPM process, Novozymes screens suppliers and classifies their risk based on spend, country and category. In case a supplier does not meet our assessment criteria, it will be thoroughly assessed whether to work with the supplier on a corrective action plan, or if choosing an alternative supplier is the appropriate response to ensure sustainable performance across our supply chain.

Novozymes is a member of SEDEX, a supplier sustainability collaboration platform. This engagement will be an important part of our responsible sourcing approach going forward, as we plan to enhance the foundation for supplier performance and risk assessments by connecting more cross-functional data from our supplier base.

Novozymes' updated strategy 'Better business with biology' has an increased focus on responsible sourcing supported by key long-term commitments and targets. To further develop our responsible sourcing practices and help implement our updated strategy, going forward, we will strengthen partnerships with our suppliers and drive ambitious programs for responsible sourcing.

We will focus on sourcing 100% renewable electricity, reducing Scope 3 emissions from key raw materials, developing circular packaging management of all key materials and reducing or substituting prioritized substances to safer alternatives.

Read more about our updated strategy and targets in the Strategy section.

### 2019 highlights

In 2019, Novozymes completed a human rights and impact assessment for the Europe, Middle East and Africa region (EMEA) of our operations and supplier base. Read more about these assessments in Note 8.1 Labor practices & human rights.

As a member of the Roundtable on Sustainable Palm Oil (RSPO), 100% of the palm oil we sourced in 2019 was RSPO certified.

# Statement of the Board of Directors and Executive Management

The Board of Directors and the Executive Management have today considered and adopted the Annual Report of Novozymes A/S for the financial year January 1 – December 31, 2019. The Consolidated Financial Statements have been prepared in accordance with International Financial Reporting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act, and the Parent Company Financial Statements have been prepared in accordance with the Danish Financial Statements Act. Management's Review has been prepared in accordance with the Danish Financial Statements Act.

Bagsvaerd, January 23, 2020

## Executive Management

**Peder Holk Nielsen**  
President & CEO

**Thomas Videbæk**

**Lars Green**

In our opinion, the accounting policies used are appropriate, and the Group's internal controls relevant to preparation and presentation of the Annual Report are adequate. The Consolidated Financial Statements and the Parent Company Financial Statements give a true and fair view of the financial position at December 31, 2019 of the Group and the Parent Company and of the results of the Group and the Parent Company operations and consolidated cash flows for the financial year January 1 – December 31, 2019.

In our opinion, Management's Review includes a true and fair account of the development in the operations and financial circumstances

## Board of Directors

**Jørgen Buhl Rasmussen**  
Chairman

**Lars Bo Køppler**

**Lena Bech Holskov**

**Agnete Raaschou-Nielsen**  
Vice Chairman

**Kim Stratton**

**Anders Hentze Knudsen**

of the Group and the Parent Company, of the results for the year, and of the financial position of the Group and the Parent Company as well as a description of the most significant risks and elements of uncertainty facing the Group and the Parent Company.

In our opinion, Novozymes A/S adheres to the AA1000 AccountAbility principles (2008), and environmental, social and governance data are stated in accordance with the accounting policies.

We recommend that the Annual Report be adopted at the Annual Shareholders' Meeting.

# Independent Auditor's Report

## To the Shareholders of Novozymes A/S

### **Our opinion**

In our opinion, the Consolidated Financial Statements give a true and fair view of the Group's financial position at December 31, 2019 and of the results of the Group's operations and cash flows for the financial year January 1 to December 31, 2019 in accordance with International Financial Reporting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act.

Moreover, in our opinion, the Parent Company Financial Statements give a true and fair view of the Parent Company's financial position at December 31, 2019 and of the results of the Parent Company's operations for the financial year January 1 to December 31, 2019 in accordance with the Danish Financial Statements Act.

In our opinion, the Consolidated environmental data and the Consolidated social and governance data for the financial year January 1 to December 31, 2019 are prepared in accordance with the accounting policies for the Consolidated environmental data and the Consolidated social and governance data.

Our opinions are consistent with our Auditor's Long-form Report to the Audit Committee and the Board of Directors.

### *What we have audited*

The Consolidated Financial Statements of Novozymes A/S, pages 51-59 and 64-114, for the financial year January 1 to December 31, 2019 comprise the consolidated income statement and statement of comprehensive income, the consolidated balance sheet, the consolidated statement of shareholders' equity, the consolidated statement of cash flows and the notes, including significant accounting policies.

The Parent Company Financial Statements of Novozymes A/S, pages 142-156, for the financial year January 1 to December 31, 2019 comprise the income statement, the balance sheet, the statement of changes in equity and the notes, including significant accounting policies.

Collectively referred to as the "Financial Statements".

The Consolidated environmental data and the Consolidated social and governance data of Novozymes A/S, pages 60-63 and 115-135, for the financial year January 1 to December 31, 2019 comprise the environmental performance and consolidated data, the social and governance performance and consolidated data and the related notes, including significant accounting policies.

These are collectively referred to as the "Environmental, Social and Governance Data."

### **Basis for opinion**

We conducted our audit in accordance with International Standards on Auditing (ISAs) and the additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### *Independence*

We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' Code of Ethics for Professional Accountants (IESBA Code) and the additional requirements applicable in Denmark. We have also fulfilled our other ethical responsibilities in accordance with the IESBA Code.

To the best of our knowledge and belief, prohibited non-audit services referred to in Article 5(1) of Regulation (EU) No 537/2014 were not provided.

### *Appointment*

We were appointed as auditors of Novozymes A/S for the first time after the initial public offering on 21 March 2001. We have been reappointed annually by shareholder resolution for a total period of uninterrupted engagement of 19 years, including the financial year 2019.

## Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the Financial Statements for 2019.

These matters were addressed in the context of our audit of the Financial Statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key audit matter

How our audit addressed the key audit matter

### Partnerships and collaboration agreements

Novozymes has entered into several partnerships and collaboration agreements.

Some of these partnerships and collaborations include complex mechanisms for sharing profit, expenses and intangible assets. Due to the complexity of the agreements, there are several uncertainties in relation to the interpretation of the agreements.

The termination of The BioAg Alliance in 2019 also includes several uncertainties and assessments of deferred income, related intangible assets and accruals.

We focused on this area because the partnerships and collaboration agreements and the related accounting treatment of profit-sharing, expenses and intangible assets are complex and because establishing appropriate accruals, initial measuring of fair value of intangible assets and impairment testing requires significant judgement and estimation by Management.

Refer to Note 2.2, 2.5, 3.1, 4.2 and 4.4 to the Consolidated Financial Statements.

We tested relevant controls including applicable information systems and monitoring controls implemented to ensure that profit-sharing, expenses and intangible assets from the partnerships and collaboration agreements are recognized and measured appropriately on an ongoing basis.

We assessed the accounting treatment applied by Management of the termination of the BioAg Alliance, including measuring initial fair value of the intangible assets taken over due to the termination, impairment of assets and cost associated with the termination.

We read the new agreements, assessed Management's interpretation of the new agreements and discussed the initial financial impact.

We tested Management's calculation of profit-sharing and related accruals etc. under the applicable agreements, as well as reconciled inputs and key assumptions – for both internal and external sources – and we assessed the accuracy of the accruals in previous periods.

We assessed whether the disclosures in relation to revenue and intangible assets are appropriate and met the requirements of accounting standards.

### Statement on Management's Review

Management is responsible for Management's Review, pages 3-50.

Our opinion on the Financial Statements and on the Environmental, Social and Governance Data does not cover Management's Review, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the Financial Statements, our responsibility is to read Management's Review and, in doing so,

consider whether Management's Review is materially inconsistent with the Financial Statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

Moreover, we considered whether Management's Review includes the disclosures required by the Danish Financial Statements Act.

Based on the work we have performed, in our view, Management's Review is in accordance

with the Consolidated Financial Statements, the Parent Company Financial Statements and the Environmental, Social and Governance Data, and has been prepared in accordance with the requirements of the Danish Financial Statements Act. We did not identify any material misstatement in Management's Review.

### Management's Responsibility for the Financial Statements and the Environmental, Social and Governance Data

Management is responsible for the preparation

of Consolidated Financial Statements that give a true and fair view in accordance with International Financial Reporting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act and for the preparation of Parent Company Financial Statements that give a true and fair view in accordance with the Danish Financial Statements Act, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Furthermore, Management is responsible for preparing the Environmental, Social and Governance Data in accordance with the accounting policies applied, and for such internal control as Management determines is necessary to enable the preparation of Environmental, Social and Governance Data that are free from material misstatement, whether due to fraud or error.

In preparing the Financial Statements, Management is responsible for assessing the Group's and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless Management either intends to liquidate the Group or the Parent Company or to cease operations, or has no realistic alternative but to do so.

#### **Auditor's Responsibilities for the Audit of the Financial Statements and the Environmental, Social and Governance Data**

Our objectives are to obtain reasonable assurance about whether the Financial Statements and the Environmental, Social and Governance Data as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Financial Statements and the

Environmental, Social and Governance Data.

As part of an audit in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the Financial Statements and the Environmental, Social and Governance Data, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Parent Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Parent Company's ability to continue as a going concern. If we conclude that a material uncertainty exists,

we are required to draw attention in our auditor's report to the related disclosures in the Financial Statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group or the Parent Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the Financial Statements and the Environmental, Social and Governance Data, including the disclosures, and whether the Financial Statements and the Environmental, Social and Governance Data represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial, environmental, social and governance information of the entities or business activities within the Group to express an opinion on the Consolidated Financial Statements and the Environmental, Social and Governance Data. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

*Hellerup, January 23, 2020*

#### **PricewaterhouseCoopers**

Statsautoriseret Revisionspartnerselskab  
CVR no 3377 1231

#### **Lars Baungaard**

State Authorized Public Accountant  
mne23331

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the Financial Statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

#### **Rasmus Friis Jørgensen**

State Authorized Public Accountant  
mne28705

# Independent assurance statement on Novozymes' 2019 sustainability reporting and adherence to the AA1000 AccountAbility Principles

## To the Shareholders of Novozymes A/S

We have been engaged by Novozymes A/S' Management to provide moderate assurance (review) as to whether Novozymes adheres to the AA1000 AccountAbility Principles (2008).

### Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Novozymes does not adhere to the AA1000 AccountAbility Principles (2008) of Inclusivity, Materiality and Responsiveness and that the description of Novozymes' commitment to these, as set out in the Annual Report, is not fairly stated.

This conclusion is to be read in the context of what is stated in the remainder of our report.

Regarding the audit of the Consolidated environmental data and Consolidated social and governance data, we refer to the Independent Auditor's Report.

### Management's responsibility

Adherence to the AA1000 AccountAbility Principles of Inclusivity, Materiality and Responsiveness is the responsibility of Management.

### Our responsibility

We are responsible for planning and performing the engagement to obtain moderate assurance (review) of Novozymes' adherence with the AA1000 AccountAbility Principles (2008) of Inclusivity, Materiality and Responsiveness; forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and reporting our conclusion to the shareholders of Novozymes A/S.

Our team of experts has competencies with regard to assessing sustainability management systems. In 2019, we have not performed any tasks or services for Novozymes or other clients, which would have conflicted with our independence, nor have we been responsible for the preparation of any part of the Annual Report. Thus, we are independent as defined in the AA1000 Assurance Standard (AA1000AS (2008)) and we consider our team qualified to carry out this independent assurance engagement.

### Scope, standards and criteria used

We have planned and performed our work based on AA1000AS (2008), using the criteria in the standard to perform a Type 1 engagement.

We have worked to obtain a moderate assurance (review) as to Novozymes' adherence to the AA1000 AccountAbility Principles (2008).

### Methodology, approach, limitation and scope of work

Our methodology has included procedures to obtain evidence of Management's commitment to the AA1000 AccountAbility Principles (2008) and of the implementation of systems and procedures in support of the principles.

Based on an assessment of materiality and risk, our work has included:

- Review of processes related to how Novozymes identifies its shareholders and engages them in relevant business decisions to develop and implement responses to sustainability;
- Review of the process that Novozymes used to identify and determine relevant and significant (material) issues to the organization and its shareholders and whether these issues are included in the sustainability reporting;
- Enquiries and interviews with the chairman of the Board of Directors, members of the Executive Leadership Team and employees responsible for Novozymes' commitment and adherence to the AA1000 AccountAbility Principles (2008), and the existence of systems and procedures to support adaptation of the principles in the organisation. Our work focused on Novozymes' updated strategy, Better business with biology. In particular, we explored how Novozymes will balance short-term interests and long-term opportunities and considerations of impacts on different shareholders related to the refocusing and differentiated approach to the business in the strategy period. In addition, how sustainability and the UN Sustainable Development Goals, is embedded in decision-making and can help drive future business growth; and
- Assessed the presentation and disclosure of the shareholder engagement description included in the Annual Report.

#### **Observations and recommendations**

According to AA1000AS (2008), we are required to include observations and recommendations for improvements in relation to Novozymes' adherence to the AA1000 AccountAbility Principles (2008).

#### **Regarding Inclusivity**

Novozymes continues to include sustainability into its core strategy and operational processes at Board, executive and operational level. This year, we have noted that significant work has been carried out to develop the non-financial targets and ambitions of the new strategy, and that there have been enhanced involvement of business functions and external experts in these processes.

#### **Regarding Materiality**

Novozymes continues to actively evaluate and manage current and likely future sustainability issues and their impact on the business. During 2019, Novozymes has updated its assessment of the material sustainability issues for the business and within the new strategy three new strategic opportunity areas relating to removal of water contaminants, gut and oral health, and alternative specialty proteins, in which Novozymes believes it can bring significant impacts by introducing its biological solutions, are being pursued. Delivery of the businesses' long-term targets continues to be factored into senior management's objectives and remuneration.

#### **Regarding Responsiveness**

2019 has been a year of change in Novozymes and there has been significant focus on driving internal performance improvement and also awareness and engagement on sustainability issues. Novozymes continues to engage extensively with customers and partners to bring more and better sustainable products forth that can contribute to the delivery of the Sustainable Development Goals.

We have communicated a few minor recommendations for improvement to the management of Novozymes.

*Hellerup, January 23, 2020*

#### **PricewaterhouseCoopers**

Statsautoriseret Revisionspartnerselskab  
CVR no.: 33771231

#### **Lars Baungaard**

State Authorized Public Accountant  
mne23331

#### **Rasmus Friis Jørgensen**

State Authorized Public Accountant  
mne28705

# Financial statements for Novozymes A/S

## Financial statements

Income statement  
Balance sheet  
Statement of shareholders' equity

## Basis of reporting

1 Accounting policies

## Primary operations

2.1 Revenue  
2.2 Employee costs  
2.3 Other operating income

## Other assets and liabilities

3.1 Intangible assets  
3.2 Property, plant and equipment  
3.3 Leases  
3.4 Financial fixed assets  
3.5 Other receivables  
3.6 Deferred tax

## Financial activities

4.1 Financial income and costs  
4.2 Credit institutions  
4.3 Proposed appropriation of net profit

## Other notes

5.1 Contingent liabilities and pending litigation  
5.2 Related party transactions  
5.3 Fees to statutory auditors  
5.4 Common stock and treasury stock  
5.5 Derivatives

# Income statement, Novozymes A/S

DKK million	Note	2019	2018
Revenue	2.1	8,260	8,272
Cost of goods sold		(3,867)	(3,965)
<b>Gross profit</b>		<b>4,393</b>	<b>4,307</b>
Sales and distribution costs		(1,285)	(1,092)
Research and development costs		(1,621)	(1,482)
Administrative costs		(598)	(600)
Other operating income	2.3	1,237	1,458
<b>Operating profit / EBIT</b>		<b>2,126</b>	<b>2,591</b>
Income from investments in subsidiaries	3.4	1,494	818
Share of result in associates	3.4	(5)	(7)
Financial income		105	34
Financial costs		(278)	(164)
<b>Profit before tax</b>		<b>3,442</b>	<b>3,272</b>
Tax		(371)	(555)
<b>Net profit</b>		<b>3,071</b>	<b>2,717</b>
<b>Proposed appropriation of net profit</b>			
Dividend to shareholders		1,528	1,485
Revaluation reserve according to the equity method		2,147	2,434
Retained earnings		(604)	(1,202)
	4.3	3,071	2,717
Proposed dividend per share		DKK 5.25	DKK 5.00

# Balance sheet, Novozymes A/S

## Assets

DKK million	Note	Dec. 31, 2019	Dec. 31, 2018
<b>Intangible assets</b>	3.1	<b>3,064</b>	<b>2,446</b>
<b>Property, plant and equipment</b>	3.2	<b>4,471</b>	<b>4,255</b>
Investments in subsidiaries	3.4	8,581	8,163
Investments in associates	3.4	37	42
Other long-term receivables	3.5	2	6
Receivables from Group enterprises	3.4	352	350
<b>Financial fixed assets</b>		<b>8,972</b>	<b>8,561</b>
<b>Fixed assets</b>		<b>16,507</b>	<b>15,262</b>
Raw materials and consumables		155	160
Work in progress		476	478
Finished goods		707	816
<b>Inventories</b>		<b>1,338</b>	<b>1,454</b>
Trade receivables		924	920
Receivables from Group enterprises		158	671
Tax receivables		344	12
Other receivables	3.5	138	85
<b>Receivables</b>		<b>1,564</b>	<b>1,688</b>
<b>Cash at bank and in hand</b>		<b>141</b>	<b>104</b>
<b>Current assets</b>		<b>3,043</b>	<b>3,246</b>
<b>Assets</b>		<b>19,550</b>	<b>18,508</b>

## Liabilities and shareholders' equity

DKK million	Note	Dec. 31, 2019	Dec. 31, 2018
Common stock		582	594
Treasury stock		(4,142)	(4,163)
Revaluation reserve according to the equity method		2,117	1,050
Reserve for development costs		166	127
Retained earnings		10,118	11,316
Proposed dividend		1,477	1,438
<b>Shareholders' equity</b>		<b>10,318</b>	<b>10,362</b>
Deferred tax	3.6	448	380
Other provisions		10	9
<b>Provisions</b>		<b>458</b>	<b>389</b>
Lease liabilities		176	-
Credit institutions	4.2	2,716	1,474
Transitional holiday accrual		58	-
<b>Non-current liabilities</b>		<b>2,950</b>	<b>1,474</b>
Lease liabilities		92	-
Credit institutions		1,408	1,895
Trade payables		512	749
Payables to Group enterprises		3,083	2,883
Other payables		729	756
<b>Current liabilities</b>		<b>5,824</b>	<b>6,283</b>
<b>Liabilities</b>		<b>9,232</b>	<b>8,146</b>
<b>Liabilities and shareholders' equity</b>		<b>19,550</b>	<b>18,508</b>

# Statement of shareholders' equity, Novozymes A/S

DKK million	Common stock	Treasury stock	Revaluation reserve according to the equity method	Reserve for development costs	Retained earnings	Proposed dividend	Total
<b>Shareholders' equity at January 1, 2019</b>	<b>594</b>	<b>(4,163)</b>	<b>1,050</b>	<b>127</b>	<b>11,316</b>	<b>1,438</b>	<b>10,362</b>
Net profit for the year			2,147		924		3,071
Capitalized development costs				39	(39)		-
Dividend received			(1,244)		1,244		-
Dividend paid						(1,486)	(1,486)
Dividend paid relating to treasury stock						48	48
Proposed dividend, gross					(1,528)	1,528	-
Proposed dividend relating to treasury stock					51	(51)	-
Purchase of treasury stock		(2,000)					(2,000)
Sale of treasury stock		75					75
Write-down of common stock	(12)	1,946			(1,934)		-
Currency translation adjustments of investments in subsidiaries, etc.			155		-		155
Value adjustment of derivatives					44		44
Other adjustments			8		41		49
<b>Shareholders' equity at December 31, 2019</b>	<b>582</b>	<b>(4,142)</b>	<b>2,116</b>	<b>166</b>	<b>10,119</b>	<b>1,477</b>	<b>10,318</b>

# 1 Accounting policies

The financial statements of Novozymes A/S have been prepared in accordance with the Danish Financial Statements Act (accounting class D). IFRS 16 was implemented at group level and in the financial statements of Novozymes A/S effective from January 1, 2019.

IFRS 16 was implemented using the modified retrospective approach, and comparative figures have not been restated. See Note 1.2 to the consolidated financial statements for further information. The table below shows the line items that were significantly impacted by the implementation of IFRS 16. The implementation of IFRS 16 had an insignificant impact on the income statement, and hence is not included in the table.

The implementation resulted in additional disclosures. See Note 3.3.

Except for the implementation of IFRS 16, the accounting policies are unchanged from 2018.

DKK million	December 31, 2019	January 1, 2019
Net book value of lease assets included in:		
Land and buildings	73	92
Plant and machinery <sup>1</sup>	100	103
Other equipment	91	115
Non-current lease-liabilities <sup>2</sup>	176	254
Current lease liabilities <sup>2</sup>	92	56

1. As of January 1, 2019 DKK 92 million was transferred from previously capitalized finance leases

2. As of January 1, 2019 a total of DKK 92 million was transferred from previous finance lease liabilities, included in other payables

The accounting policies are the same as for the consolidated financial statements with the adjustments described below. For a description of the Group's accounting policies, please refer to the consolidated financial statements.

No separate statement of cash flows has been prepared for Novozymes A/S; please refer to the consolidated statement of cash flows.

## Recognition and measurement in general

Income is recognized in the income statement as earned.

All costs incurred in generating the year's revenue are also recognized in the income statement, including depreciation, amortization and impairment losses.

Value adjustments of financial assets and liabilities measured at fair value or amortized cost are also recognized in the income statement.

Assets are recognized in the balance sheet when it is considered probable that future economic benefits will flow to the company and the value of the asset can be measured reliably. Liabilities are recognized in the balance sheet when they are considered probable and can be measured reliably. At initial recognition, assets and liabilities are measured at cost. Assets and liabilities are subsequently measured as described below for each item.

The recognition and measurement principles take due account of predictable losses and risks occurring prior to the presentation of financial statements that confirm or refute the conditions prevailing at the reporting date.

## Intangible assets

The accounting policies for intangible fixed assets follow those of the Group with the exception of goodwill, which is amortized over a period of 10 years using the straight-line method.

An amount equal to the total capitalized development costs after tax is recognized under Shareholders' equity in Reserve for development costs.

## Financial assets

Investments in subsidiaries and investments in associates are recognized initially at cost and subsequently measured using the equity method. The company's share of the equity

of subsidiaries, based on the fair value of the identifiable net assets on the acquisition date, minus or plus unrealized intercompany profits or losses, with the addition of any residual value of goodwill, is recognized under Investments in subsidiaries and Investments in associates respectively in the balance sheet. If the shareholders' equity of subsidiaries or associates is negative and Novozymes A/S has a legal or constructive obligation to cover the company's negative equity, a provision is recognized.

Net revaluation of investments in subsidiaries and associates is recognized under Shareholders' equity in the Revaluation reserve according to the equity method. The reserve is reduced by payments of dividends to the parent company and adjusted to reflect other changes in the equity of subsidiaries.

The proportionate share of the net profits of subsidiaries less goodwill amortization is recognized under Income from investments in subsidiaries in the income statement. Goodwill in subsidiaries is amortized over a period of 10 years using the straight-line method.

## Dividend

The dividend proposed for the financial year is shown as a separate item under Shareholders' equity.

## 2.1 Revenue

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Geographical distribution:		
Denmark	166	203
Rest of Europe, Middle East & Africa	5,318	5,039
North America	1,032	1,228
Asia Pacific	1,316	1,407
Latin America	428	395
<b>Revenue</b>	<b>8,260</b>	<b>8,272</b>

Reference is made to Note 2.1 to the consolidated financial statements concerning segment information.

## 2.2 Employee costs

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Wages and salaries	1,767	1,674
Pensions - defined contribution plans	186	180
Other social security costs	22	21
Other employee costs	88	141
<b>Employee costs</b>	<b>2,063</b>	<b>2,016</b>
Average number of employees in Novozymes A/S	2,688	2,663

In August 2019, Novozymes announced organizational changes related to the updated strategy. As a consequence of the changes, around 125 employees were laid off in Denmark. The employee cost in 2019 include restructuring costs related to this of around DKK 100 million.

The one-off impact is partly offset by reduced employee cost in the remainder of the year.

In addition, the announced changes in the Executive Leadership Team during 2019 has resulted in severance cost of DKK 58 million.

Reference is made to Note 6.1 to the consolidated financial statements concerning remuneration of the Board of Directors and the Executive Leadership Team.

## 2.3 Other operating income

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Royalty income relating to subsidiaries	1,228	1,422
Other	9	36
<b>Other operating income</b>	<b>1,237</b>	<b>1,458</b>

## 3.1 Intangible assets

DKK million	2019				2018	
	Goodwill	Acquired patents, licenses and know-how, etc.	Completed IT development projects	IT development projects in progress	Total	Total
Cost at January 1	1,839	1,688	523	58	4,108	2,999
Additions during the year	758	223	46	51	1,078	1,109
Disposals during the year	-	-	-	-	-	-
Transfers to/(from) other items	-	-	84	(84)	-	-
<b>Cost at December 31</b>	<b>2,597</b>	<b>1,911</b>	<b>653</b>	<b>25</b>	<b>5,186</b>	<b>4,108</b>
Amortization and impairment losses at January 1	(321)	(923)	(418)		(1,662)	(1,290)
Amortization for the year	(281)	(132)	(47)		(460)	(372)
Disposals during the year	-	-	-		-	-
<b>Amortization and impairment losses at December 31</b>	<b>(602)</b>	<b>(1,055)</b>	<b>(465)</b>		<b>(2,122)</b>	<b>(1,662)</b>
<b>Carrying amount at December 31</b>	<b>B/S 1,995</b>	<b>856</b>	<b>188</b>	<b>25</b>	<b>3,064</b>	<b>2,446</b>

## 3.2 Property, plant and equipment

	2019				2018	
DKK million	Land and buildings	Production equipment and machinery	Other equipment	Property, plant and equipment under construction	Total	Total
Cost at January 1	2,507	4,908	946	1,314	9,675	9,001
Lease assets at January 1	92	11	115		218	
Additions during the year	15	50	83	215	363	744
Disposals during the year	-	(18)	(6)	-	(24)	(70)
Transfers to/(from) other items	980	124	96	(1,200)	-	-
<b>Cost at December 31</b>	<b>3,594</b>	<b>5,075</b>	<b>1,234</b>	<b>329</b>	<b>10,232</b>	<b>9,675</b>
Depreciation and impairment losses at January 1	(1,388)	(3,327)	(705)		(5,420)	(5,203)
Depreciation for the year	(99)	(174)	(87)		(360)	(283)
Impairment losses	(5)	-	-		(5)	-
Disposals during the year	-	18	6		24	66
<b>Depreciation and impairment losses at December 31</b>	<b>(1,492)</b>	<b>(3,483)</b>	<b>(786)</b>		<b>(5,761)</b>	<b>(5,420)</b>
<b>Carrying amount at December 31</b>	<b>2,102</b>	<b>1,592</b>	<b>448</b>	<b>329</b>	<b>4,471</b>	<b>4,255</b>

### Capitalized interest

Interest of DKK 2 million (2018: DKK 10 million) was capitalized under Additions during the year. Capitalization rate: 0.9% (2018: 1.40%).

Land and buildings with a carrying amount of DKK 1,526 million (2018: DKK 355 million) have been pledged as security to credit institutions. The mortgage loans expire in 2029 and 2039.

## NOTES SECTION 3

# 3.3 Leases

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Land and buildings	73	-
Plant and machinery	100	92
Other equipment	91	-
<b>Carrying amount of lease assets</b>	<b>264</b>	<b>92</b>

In 2018, DKK 92 million was recognized as finance leases.

Additions to the lease assets during 2019 was DKK 10 million.

### Maturity analysis of the lease liability

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
<b>Lease liability</b>		
Less than 1 year	92	3
Between 1 and 5 years	79	15
More than 5 years	103	74
<b>Undiscounted lease liability at December 31</b>	<b>274</b>	<b>92</b>

In 2018, DKK 92 million was recognized as finance lease liability.

<b>DKK million</b>	<b>2019</b>
<b>Amounts recognized in profit or loss</b>	
Interest on lease liabilities	5
Variable lease payments not included in the lease liability	-
Expenses relating to short-term leases	6
Expenses relating to low-value leases	-
<b>Depreciation of lease assets per asset class</b>	
Land and buildings	19
Plant and machinery	5
Other equipment	32
<b>Depreciation of lease assets</b>	<b>56</b>
<b>Amounts recognized in the statement of cash flows</b>	
Total cash outflow for leases	58

## 3.4 Financial fixed assets

DKK million	Investments in subsidiaries	Investments in associates	Receivables from Group companies	Total
Cost at January 1, 2019	8,650	128	350	9,128
Additions during the year	5	-	10	15
Disposals during the year	-	-	(8)	(8)
<b>Cost at December 31, 2019</b>	<b>8,655</b>	<b>128</b>	<b>352</b>	<b>9,135</b>
Revaluation reserve at January 1, 2019	(487)	(86)		(573)
Share of net profit/(loss)	2,152	(5)		2,147
Elimination of profit on internal asset transfers	(658)	-		(658)
Dividends received	(1,244)	-		(1,244)
Currency translation adjustment	155	-		155
Other adjustments	8	-		8
<b>Revaluation reserve at December 31, 2019</b>	<b>(74)</b>	<b>(91)</b>		<b>(165)</b>
<b>Carrying amount at December 31, 2019</b>	<b>8,581</b>	<b>37</b>	<b>352</b>	<b>8,970</b>

At December 31, 2019, the revaluation reserve included an amount of DKK 2,281 million from the elimination of profit on internal asset transfer.

Reference is made to Note 6.7 to the consolidated financial statements concerning investments in subsidiaries, joint operations and associates.

## NOTES SECTION 3

### 3.5 Other receivables

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Prepaid expenses	68	41
Derivatives	15	14
Other receivables	57	36
<b>Other receivables at December 31</b>	<b>140</b>	<b>91</b>
Recognized in the balance sheet as follows:		
Non-current	2	6
Current	138	85
<b>Other receivables at December 31</b>	<b>140</b>	<b>91</b>

### 3.6 Deferred tax

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Deferred tax at January 1	380	235
Adjustment for previous years	24	(12)
Tax related to the income statement	51	68
Tax on shareholders' equity items	(7)	89
<b>Deferred tax at December 31</b>	<b>448</b>	<b>380</b>

## 4.1 Financial income and costs

DKK million	2019	2018
Interest income relating to subsidiaries	35	28
Interest costs relating to subsidiaries	(26)	(18)

## 4.2 Credit institutions

DKK million	2019	2018
Long-term debt to credit institutions falling due after 5 years	1,229	473

## 4.3 Proposed appropriation of net profit

DKK million	2019	2018
<b>Proposed appropriation of net profit</b>		
Dividend to shareholders	1,528	1,485
Revaluation reserve according to the equity method	2,147	2,434
Retained earnings	(604)	(1,202)
<b>Net profit</b>	<b>3,071</b>	<b>2,717</b>

## NOTES SECTION 5

# 5.1 Contingent liabilities and pending litigation

The below rental commitments relate to noncancelable operating leases, primarily for buildings and offices.

<b>DKK million</b>	<b>2018</b>
Recognized in the income statement in respect of rentals	60
Rental commitments expiring within the following periods from the reporting date:	
Less than 1 year	56
Between 1 and 2 years	30
Between 2 and 3 years	7
Between 3 and 4 years	5
Between 4 and 5 years	4
After 5 years	5
<b>Rental commitments at December 31, 2018</b>	<b>107</b>

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
<b>Other commitments</b>		
Contractual obligations to third parties relating to property, plant and equipment	92	89
<b>Other guarantees</b>		
Other guarantees and commitments to related companies	2,357	2,311
Other guarantees and commitments	151	126

**Pending litigation and arbitration**  
Reference is made to Note 6.3 to the

consolidated financial statements concerning pending litigation and arbitration.

## 5.2 Related party transactions

### Transactions

DKK million	2019	2018
<b>The Novo Nordisk Group</b>		
Sales	103	121
Purchases	(129)	(109)
<b>The NNIT Group</b>		
Purchases	(27)	(32)
<b>The Chr. Hansen Group</b>		
Sales	45	76
Purchases	(9)	(26)

In 2019, Novozymes purchased from Novo Holding 1,530,000 of its own B-shares with the pre-approval of the Board of Directors, at a price of DKK 475 million. The transaction was based on the market price.

There were no transactions with related parties other than the transactions described and normal remuneration of the Board of Directors and Executive Leadership Team, which is presented in Note 6.1 in the consolidated financial statements.

### Outstanding balances

DKK million	2019	2018
<b>The Novo Nordisk Group</b>		
Receivables	9	9
Payables	(98)	(76)
<b>The NNIT Group</b>		
Payables	(7)	(5)
<b>The Chr. Hansen Group</b>		
Receivables	10	18
Payables	-	(3)

Reference is made to Note 6.4 to the consolidated financial statements concerning transactions with related parties.

## 5.3 Fees to statutory auditors

<b>DKK million</b>	<b>2019</b>	<b>2018</b>
Statutory audit	5	4
Other assurance engagements	-	-
Tax advisory services	1	1
Other services	-	1
<b>Fees to statutory auditors</b>	<b>6</b>	<b>6</b>

Reference is made to Note 6.5 to the consolidated financial statements concerning fees to statutory auditors.

## 5.4 Common stock and treasury stock

Reference is made to Note 5.5 to the consolidated financial statements concerning common stock and treasury stock.

## 5.5 Derivatives

Reference is made to Note 5.4 to the consolidated financial statements concerning derivatives, as the figures and information in Novozymes A/S are identical to that information.

# Glossary

## **Earnings per share (diluted)**

Net profit (attributable to shareholders in Novozymes A/S) divided by the weighted average number of shares outstanding (diluted).

## **EBIT/Operating profit**

Profit before interest and tax.

## **EBIT margin**

Profit before interest and tax as a percentage of revenue.

## **EBITDA**

Profit before interest, tax, depreciation and amortization.

## **EBITDA margin**

Profit before interest, tax, depreciation and amortization as a percentage of revenue.

## **Economic profit**

Economic profit is defined as adjusted operating profit (NOPAT) less (average invested capital \* WACC).

## **Effective tax rate**

Income tax expense as a percentage of profit before tax.

## **Equity ratio**

Total shareholders' equity as a percentage of balance sheet total at year-end.

## **Free cash flow before acquisitions**

Cash flow from operating activities less cash flow from investing activities, changes in net working capital, business acquisitions, divestments and purchase of financial assets.

## **Invested capital**

Total assets excluding interest-bearing assets and minority investments less interest-bearing liabilities.

## **Net interest-bearing debt (NIBD)**

The market value of interest-bearing liabilities (financial liabilities) less the market value of cash at bank and in hand and other easily convertible interest-bearing current assets.

## **Net working capital**

Current assets less current liabilities used in, or necessary for, the company's operations. The main components are inventories, trade receivables and trade payables.

## **Adjusted operating profit after tax**

Operating profit adjusted for exchange gains/losses, share of profit in associates less tax on adjusted operating profit using the effective tax rate.

## **Organic sales growth**

Sales growth from existing business, excluding sales from business acquisitions and divestments, measured in local currency.

## **Return on invested capital (ROIC)**

Adjusted operating profit (NOPAT) after tax as a percentage of average invested capital.

# About the report

**At Novozymes, our reporting ambition is to provide a single integrated report connecting the company's business model, strategy, targets and performance through integrated financial and sustainability data.**

## **Editorial team**

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### *Design & web*

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### *Editing & proofreading*

Fokus Translations

## **Reporting and audits**

The website contains The Novozymes Report 2019, which, pursuant to section 149 of the Danish Financial Statements Act, is an extract of the company's annual report. It also contains the financial statements of the parent company Novozymes A/S. Together, these constitute the company's annual report as filed with the Danish Business Authority.

PwC has audited the consolidated financial statements, the parent company financial statements, and the environmental and social data. PwC is also the sustainability assurance provider, basing its assurance on the AA1000 Assurance Standard (2008).

The audit covers financial, environmental and social data. These are marked "Audited by PwC." See also the statements in the report. PwC has not audited the sections of the report under the headings The big picture, Our business, Governance, and Sustainability. The Sustainability section includes our Communication on Progress prepared in accordance with the UN Global Compact principles, our report index based on the Global Reporting Initiative (GRI) as well as detailed sustainability data regarding our main activities in Argentina, Brazil, Canada, China, Denmark, India and the US.

The report has been prepared in accordance with the International Financial Reporting Standards (IFRS), the Danish Financial Statements Act and additional requirements of Nasdaq Copenhagen A/S for the presentation of financial statements by listed companies. It is also inspired by the GRI's G4 Sustainability Reporting Guidelines. See Basis of reporting in the report for more details.

## **Forward-looking statements**

This annual report contains forward-looking statements, including statements about future events, future financial performance, plans, strategies and expectations. Forward-looking statements are associated with words such as, but not limited to, "believe," "anticipate," "expect," "estimate," "intend," "plan," "project," "could," "may," "might" and other words with a similar meaning.

Forward-looking statements are by their very nature associated with risks and uncertainties that may cause actual results to differ materially from expectations, both positively and negatively. These risks and uncertainties may include unexpected developments in i) the ability to develop and market new products; ii) the demand for Novozymes' products, market-driven price decreases, industry consolidation, and launches of competing products or disruptive technologies in Novozymes' core

areas; iii) the ability to protect and enforce the company's intellectual property rights; iv) significant litigation or breaches of contract; v) the materialization of the company's growth platforms, notably the opportunity for marketing biomass conversion technologies or the development of microbial solutions for broad-acre crops; vi) political conditions, such as acceptance of enzymes produced by genetically modified organisms; vii) global economic and capital market conditions, including, but not limited to, currency exchange rates (USD/DKK and EUR/DKK in particular, but not exclusively), interest rates and inflation; and viii) significant price decreases for inputs and materials that compete with Novozymes' biological solutions. The company undertakes no duty to update any forward-looking statements as a result of future developments or new information.

# Sustainability



# Sustainability

**CEO statement**

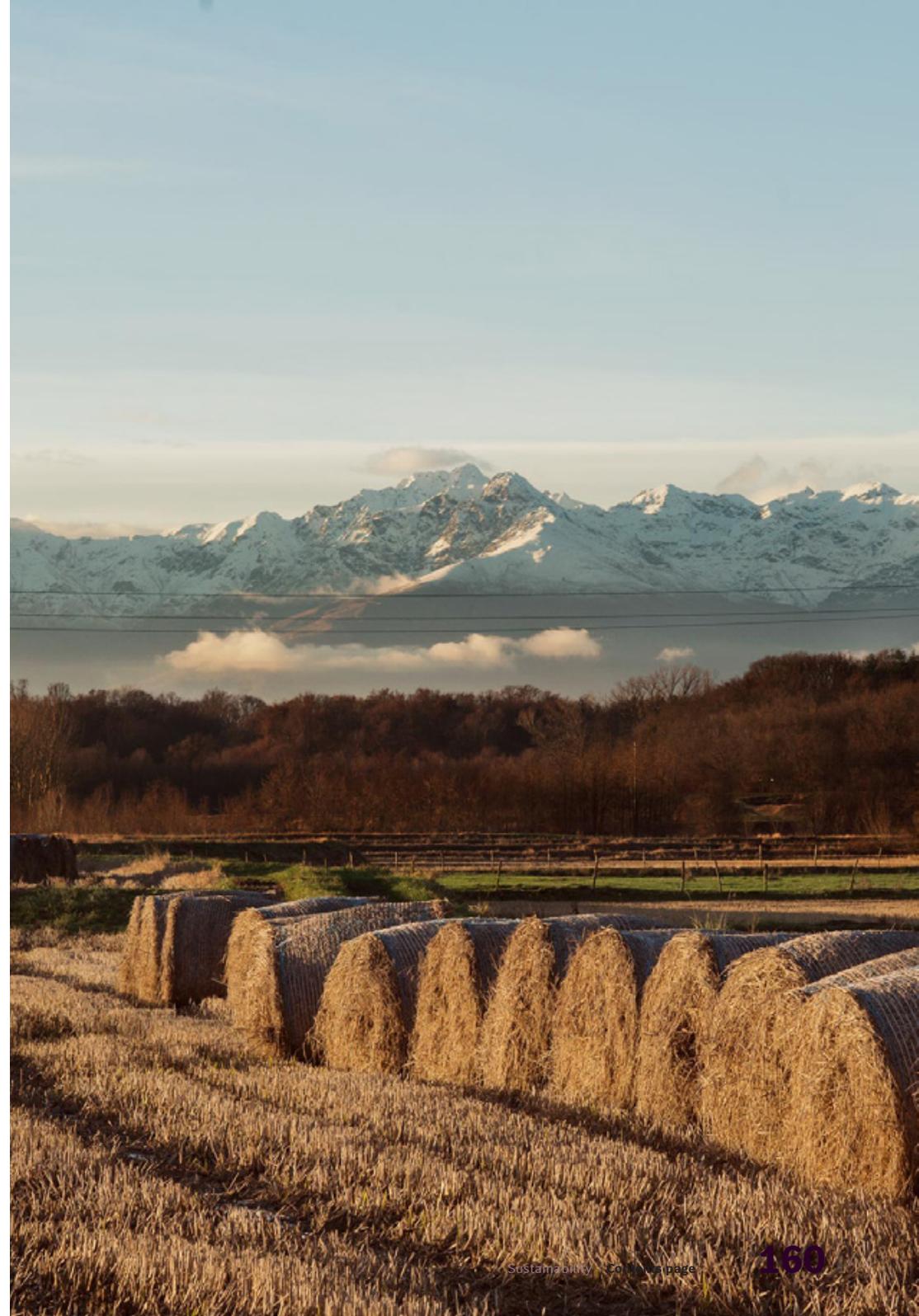
**Progress on the UNGC Ten Principles**

**Materiality**

**Sustainability governance**

**Measuring our performance**

**Driving action with our stakeholders**



UN GLOBAL COMPACT  
COMMUNICATION ON  
PROGRESS

This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

# Committed to making a better world

**Novozymes continues to deliver impactful innovation to the world in our quest for sustainable solutions to combat climate change and deliver on the UN Sustainable Development Goals.**

In 2015, we made the UN Sustainable Development Goals (SDGs) our own. The SDGs inspired our purpose and strategy and we began our journey to contribute to the goals. In the years since, Novozymes has made significant progress in delivering on the goals. Since 2015, the use of our products has enabled the reduction of an estimated 380 million tons of CO<sub>2</sub> equivalent emissions. In addition, we have delivered transformative innovations, catalyzed partnerships for change, expanded the reach of our sustainable solutions and helped an estimated 941,000 people learn about the benefits of biology.

We continue to focus on reducing the impact of our own operations while driving sustainable business growth. In 2019, 30% of the energy we consumed was from renewable sources. We substantially improved our performance in managing safety at our workplace and recorded our lowest number of occupational accidents per million working hours.

In summary, we progressed towards our goals, but we still need to do better – by making our own operations more sustainable but also by growing our business to enhance the reach and impact of our solutions.

## Stepping up our ambition

In our pursuit of generating more growth and having a greater impact on the world, in June 2019 we launched our updated strategy – Better business with biology. Through it, we will focus on addressing three global challenges – climate, water and sustainable production and consumption. These are the areas where we believe our biological solutions can make the greatest difference and where we can reliably measure our progress. For each of the three challenge areas, we commit to grow the positive impact from our solutions and to manage the environmental footprint of our own operations. We have set ambitious long-term 2030 commitments and 2022 mid-term targets.

But what brings our updated strategy alive is our focus on our employees. We want to inspire people to take action on the SDGs and we begin by pledging 1% of our time to local outreach activities by 2022.

This is our action plan to maximize our contributions to the SDGs.

## Innovating for the SDGs

We will invest in exploring biological solutions in new strategic opportunity areas like Human Oral & Gut Health and Alternative Proteins. These opportunities are inspired by the

challenges embodied in the SDGs and by growing consumer desire to live lives that are better for themselves and the environment.

## Combating climate change

The world needs to limit the increase in global warming to 1.5°C. In September 2019, UN Secretary-General António Guterres asked leaders to come to the annual UN Climate Summit to present plans, not make speeches. In my address at the summit, I announced our science-based commitment to keeping the temperature rise caused by climate change below 1.5°C. Novozymes is among the first few companies globally to set up science-based targets validated and accepted by the Science Based Targets initiative (SBTi).

By 2030, we will halve absolute CO<sub>2</sub> emissions from our own operations compared to a 2018 baseline on our way to becoming carbon neutral by 2050. Importantly, we will enable emission reduction across our value chain and engage with our suppliers to reduce emissions from our raw materials. In addition, we will also help the transport sector reduce their CO<sub>2</sub> emissions by enabling the production of bio-based, low-carbon fuels.

## Looking ahead

In 2020, we will focus on implementing our strategy and the commitments we made this

year. We will invest to bring more impactful innovation to the market and to progress on our 2030 commitments and 2022 mid-term targets on climate, water and sustainable production and consumption.

We will continue to harness the power of biology to make the world a better place. As our commitment to our purpose and the SDGs remains strong, our commitment to the UN Global Compact and its Ten Principles has never been stronger.



Peder Holk Nielsen  
President & CEO

# Progress on the UNGC Ten Principles

Novozymes continues its commitment to the Ten Principles and made significant progress in 2019.

Theme	Summary of key engagements in 2019
<b>Human rights</b>	
Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and	<ul style="list-style-type: none"> <li>UN Guiding Principles on Business and Human Rights</li> </ul>
Principle 2: make sure that they are not complicit in human rights abuses.	<ul style="list-style-type: none"> <li>Supplier Ethical Data Exchange (SEDEX)</li> <li>Roundtable on Sustainable Palm Oil (RSPO)</li> </ul>
<b>For disclosure on progress refer to Note 8.1 and Note 8.6*</b>	
<b>Labor rights</b>	
Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	<ul style="list-style-type: none"> <li>UN Guiding Principles on Business and Human Rights</li> <li>Supplier Ethical Data Exchange (SEDEX)</li> </ul>
Principle 4: the elimination of all forms of forced and compulsory labour;	
Principle 5: the effective abolition of child labour; and	
Principle 6: the elimination of discrimination in respect of employment and occupation.	
<b>For disclosure on progress refer to Note 8.1 and Note 8.6*</b>	
<b>Environment</b>	
Principle 7: Businesses should support a precautionary approach to environmental challenges;	<ul style="list-style-type: none"> <li>UN Global Compact Climate Action Platform</li> <li>UN Convention on Biological Diversity</li> </ul>
Principle 8: undertake initiatives to promote greater environmental responsibility; and	<ul style="list-style-type: none"> <li>UN Caring for Climate</li> </ul>
Principle 9: encourage the development and diffusion of environmentally friendly technologies.	<ul style="list-style-type: none"> <li>Business Council for the UN (BCUN)</li> <li>Supplier Ethical Data Exchange (SEDEX)</li> <li>below50</li> <li>Roundtable on Sustainable Palm Oil (RSPO)</li> </ul>
<b>For disclosure on progress refer to Note 7.1 to 7.7 and Note 8.6*</b>	
<b>Anti-corruption</b>	
Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery	<ul style="list-style-type: none"> <li>UN Convention against Corruption</li> <li>Supplier Ethical Data Exchange (SEDEX)</li> </ul>
<b>For disclosure on progress refer to Note 8.3 and Note 8.6*</b>	

\*Refer to Notes in 'Accounts and performance'

## Novozymes and the UN Global Compact

Novozymes has been a LEAD member of the UN Global Compact (UNGC) since 2011 and actively supports the UNGC's global and regional work on the SDGs and climate change.

In 2019, we continued our engagement with the UNGC's work on 'Ambition Loops', and interacted with them during the development of our non-financial targets, including support for the campaign 'Business Ambition for 1.5°C — Our Only Future' as one of its first signatories.

Novozymes continues to participate in the Action Platform 'Pathways to Low Carbon and Resilient Development', in the lead up to the UN Climate Action Summit in September 2019 and beyond.

We are also a continuing member of Caring for Climate, a long-standing initiative between UNGC, UN Environment and UNFCCC.

Novozymes participates in the UNGC's local networks and engages in activities to promote sustainability across all our regions.

In the Danish local UNGC network, Novozymes participated in the working group on human rights and shared our approach and insights on Novozymes' Human Rights Impact Assessments.

In Brazil, Novozymes participated in the UNGC's Young SDG Innovators program. Our project on mobile wastewater treatment systems that can help companies reuse water and help underserved communities treat domestic wastewater was selected amongst various other entries.

In China, Novozymes received the 'Global Partnership Award 2019: The Best Practice of Implementation of UN SDGs' for our efforts mainly in the areas of climate action and ecology protection.

# Materiality

**Novozymes' materiality matrix serves as critical input in identifying our focus areas and priorities, informs our strategic decisions and guides our disclosure and reporting.**

## Defining materiality

Novozymes' materiality assessment is a systematic and rigorous process that integrates inputs from external stakeholders, trend analyses and internal engagement with relevant departments including Investor Relations, Risk Management & Controls, Quality & Sustainability and leadership from our commercial divisions. This process results in a materiality matrix of financial and ESG issues which reflects the importance of those issues to stakeholders versus the impact they have on Novozymes.

We use our materiality matrix to define our priorities and focus areas for the coming period, and it acts as a guide in determining the topics we include in our annual disclosure.

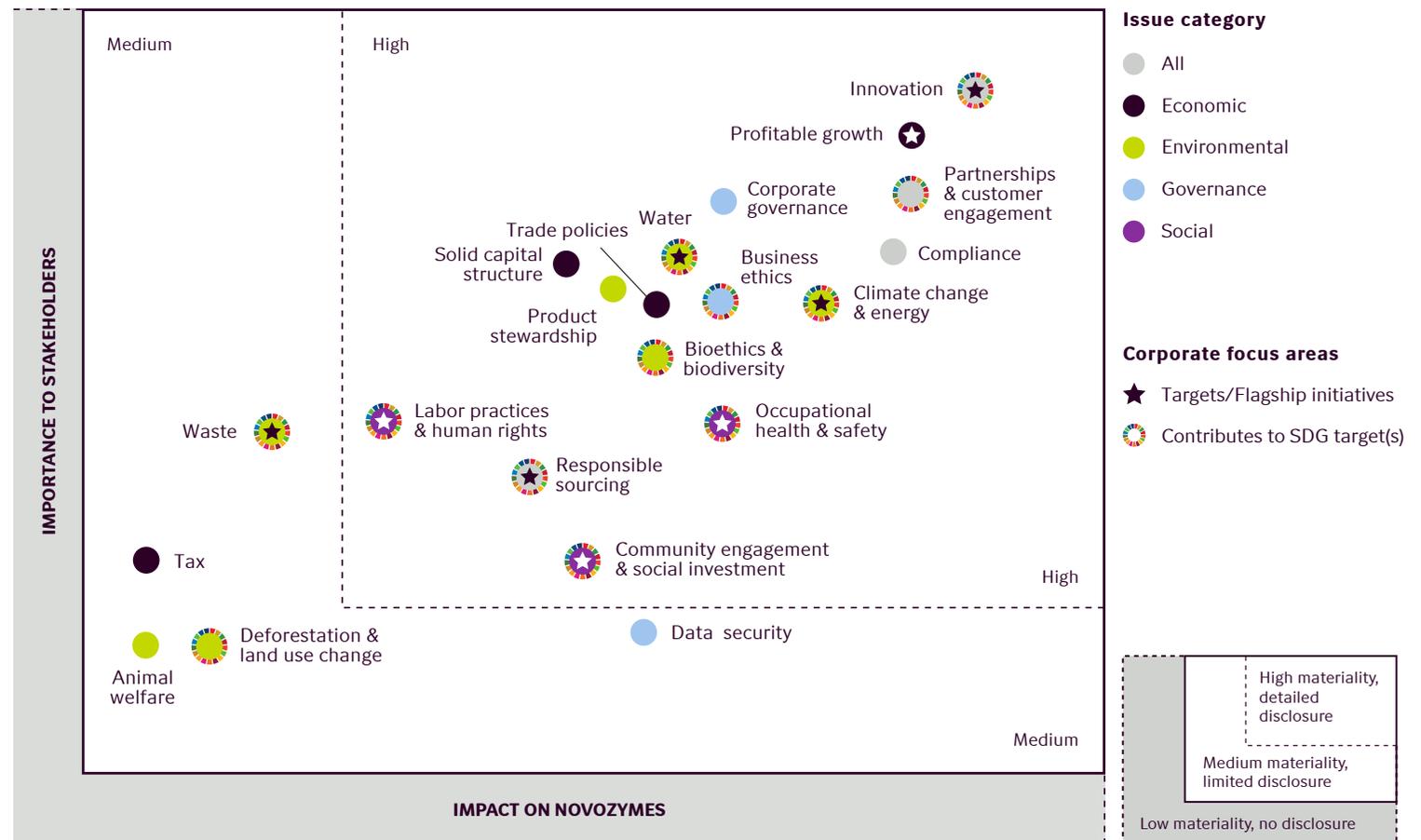
## Understanding the matrix

Novozymes' materiality matrix has three categories - low, medium and high material issues. The illustration here reflects our medium and high material issues and highlights those issues where we have external targets/flagship initiatives and make a direct contribution to one or more SDG target(s).

## Our matrix in 2019

Our materiality matrix informed the recent strategy update process to identify our operational focus areas. There were no new issues added to or deleted from the matrix.

Refer to 'Materiality' at [Novozymes.com](http://Novozymes.com) for further details on our materiality assessment and how we address our material issues across our value chain.



# Sustainability governance

At Novozymes, sustainability is a key component of our business strategies and management processes.

As sustainability is such an integral part of Novozymes' purpose and strategic direction, it is governed by the Board of Directors and the Executive Leadership Team. The Board is responsible for overseeing financial and ESG performance as part of the Executive Leadership Team's day-to-day running of the company. Novozymes' SDG Governance

Board was established in 2018 to ensure that sustainability forms an integral part of the company's strategy and actions which are anchored and executed across various commercial divisions and operations. Refer to 'Sustainability governance' at Novozymes.com for further details.

In June 2019, Novozymes launched its updated strategy, Better business with biology, and new targets, and the Novozymes' SDG Governance Board played a fundamental role in this process. Read more about our updated strategy in 'Strategy'.



## Novozymes' SDG Governance Board

In 2018, Novozymes established the SDG Governance Board to build a shared understanding of the opportunities and risks associated with the UN Sustainable Development Goals (SDGs) and to translate this knowledge into corporate priorities and targets. The SDG Governance Board consists of an Impact Board and a Foundation Board.



### Impact Board

The Impact Board sets Novozymes' strategic global direction and ambition in respect of the SDGs. The board also develops and executes a strategy for integrating sustainability into business strategies and management processes.

The Impact Board consists of the Executive Leadership Team as well as a number of SVPs and VPs from different areas of the business.



### Foundation Board

The purpose of the Foundation Board is to provide the foundation for ensuring that Novozymes' sustainability performance in our operations, supply chain and other functions allows us to build on and maintain our sustainability leadership position.

The Foundation Board consists of SVPs and VPs representing a variety of Novozymes' functions.

## Novozymes and the SDGs

We advance solutions that have the potential to have the greatest impact on the SDGs. We have identified six SDGs that we believe Novozymes' technologies and actions can contribute significantly to.



Read more in "Novozymes and the SDGs"

# Sustainability highlights

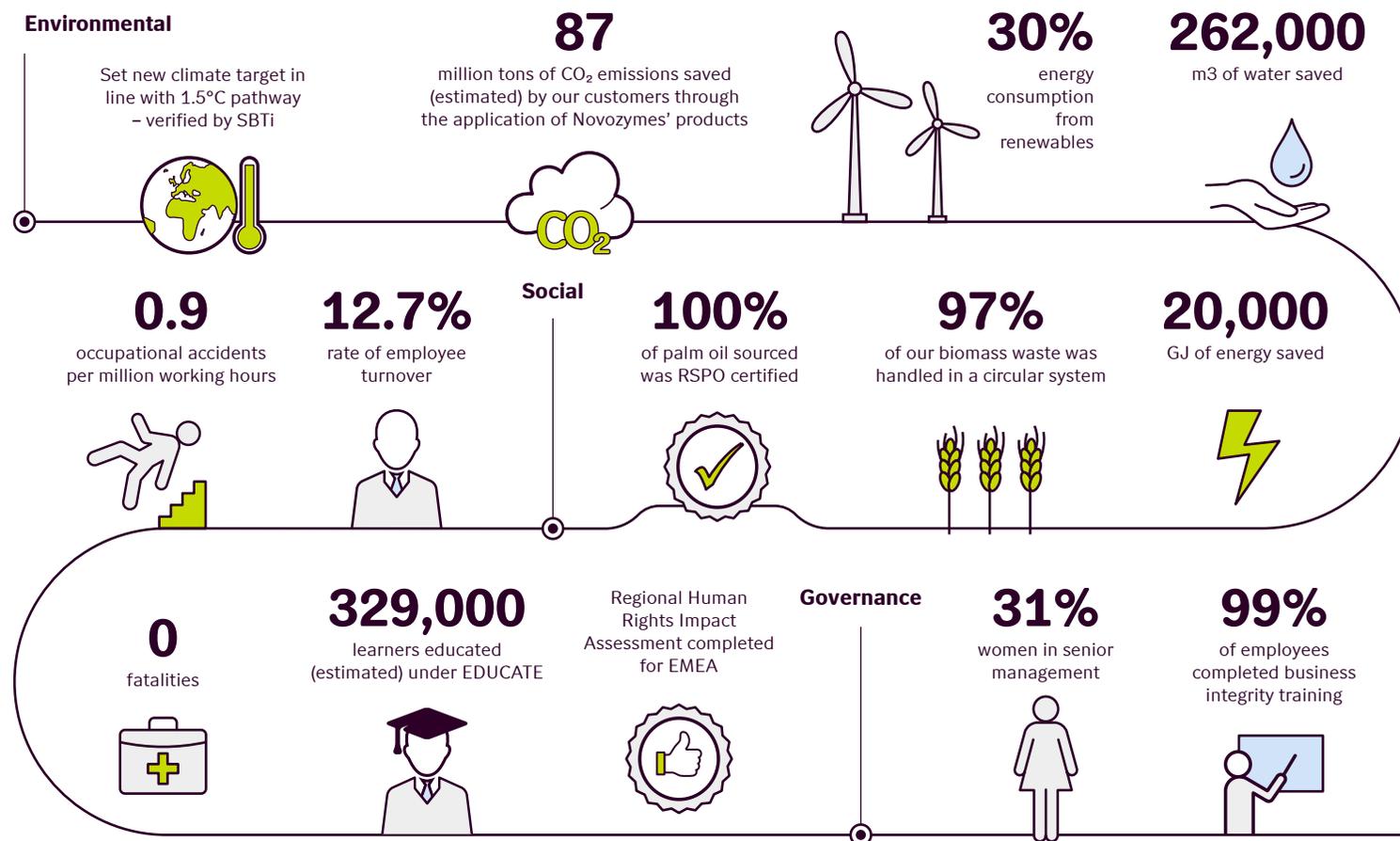
Sustainability drives the way we do business and we have always taken the triple bottom line approach to generate economic, environmental and social value.

Novozymes' key growth driver is to deliver solutions that improve the performance of our customers and partners, while having a better impact on the world. To ensure that we add value across our stakeholder ecosystem, we actively engage with our stakeholders across a variety of themes. Read more in 'Driving action with our stakeholders'.

We manage our performance on material ESG issues through relevant targets and KPIs. We also believe in sharing our performance in the most transparent way. Read more about our performance in 2019 in 'Accounts and performance'. Our sustainability leadership has been recognized by many indices and presented with a number of awards.

Through the implementation of our updated strategy, we aim to increase the positive impact of our biological solutions, while also managing the environmental footprint of our operations. Novozymes' ambition is to continuously improve business operations across our value chain, making them more efficient, environmentally friendly and socially responsible. As part of our updated strategy, we have set long-term 2030 commitments and 2022 mid-term targets to measure our progress going forward.

## 2019 Highlights



# New non-financial targets

In June 2019, Novozymes launched an updated strategy, together with a set of new non-financial targets. Our commercial priorities were the starting point for the target setting process. On that basis, we identified areas where our biological solutions can have the greatest impact on the SDGs and for which we can reliably measure progress. We assessed what our customers and employees care about and looked to our peers and other leading companies for inspiration.

Our targets focus on People (inside and outside the company) and three global challenges: Climate, Water, Production & Consumption. For each of the global challenge areas, we have defined 2030 commitments and 2022 mid-term targets. Our new targets framework considers both our opportunity to make a positive impact through our solutions and our responsibility to manage the environmental footprint of our operations.

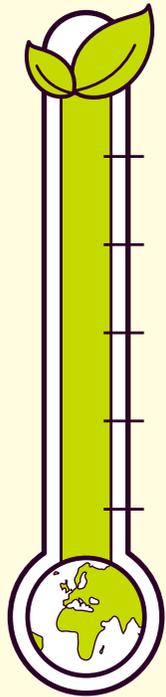
 For more information on how we have framed our targets, see 'Strategy'.

	2030 COMMITMENTS	2022 TARGETS		
<b>WORLD</b>  <b>We will help the world...</b>	<b>Limit global warming increase to 1.5°C</b>	<ul style="list-style-type: none"> <li>Save 60 million tons of CO<sub>2</sub> by enabling low-carbon fuels in the transport sector in 2022</li> </ul>	 	
	<b>Ensure clean and efficient water use</b>	<ul style="list-style-type: none"> <li>Reach &gt;4 billion people by contributing to laundry solutions that replace chemicals in 2022</li> </ul>		
	<b>Produce more and better products with less impact</b>	<ul style="list-style-type: none"> <li>Gain 500,000 tons of food by improving efficiency from farm to table in 2022</li> </ul>	 	
<b>OPERATIONS</b>  <b>We will achieve...</b>	<b>50% reduction in absolute CO<sub>2</sub> emissions from operations on our way to carbon neutral in 2050<sup>1,3</sup></b>	<ul style="list-style-type: none"> <li>Reduce absolute CO<sub>2</sub> emissions from operations by 40%<sup>1</sup></li> </ul>	 	
	<b>100% renewable electricity<sup>3</sup></b>			
	<b>15% reduction in absolute CO<sub>2</sub> emissions from purchased goods and services<sup>1,3</sup></b>			
	<b>100% sites manage water in balance with local conditions</b>	<ul style="list-style-type: none"> <li>Develop context-based water management programs at 100% of sites</li> </ul>		
<b>100% key materials and waste managed in circular systems</b>	<ul style="list-style-type: none"> <li>Develop plans for circular management of 100% of key packaging materials</li> <li>Achieve 100% circular management of our biomass</li> <li>Develop programs to reach zero waste by 2030 at 100% of sites</li> </ul>			
<b>EMPLOYEES</b>  <b>We will...</b>		<ul style="list-style-type: none"> <li>Achieve a score of 80 on learning in employee survey in 2022</li> <li>Achieve a score of 86 on our diversity index by 2022</li> <li>Achieve a score of 81 on Zymer spirit index by 2022</li> <li>Maintain occupational injuries<sup>2</sup> ≤ 1.5</li> <li>Pledge 1% of our time to local outreach activities</li> </ul>	  	

<sup>1</sup> Compared to a 2018 baseline

<sup>2</sup> Defined as a three-year rolling average of occupational injuries with absence per million working hours

<sup>3</sup> Verified by SBTi



# The heat is on: Novozymes' ambitious climate commitments

**To tackle climate change, the world needs to limit the increase in global warming to 1.5°C. Novozymes is committed to doing its part and helping the world reach the goals of the Paris Agreement.**

**B**uilding on a decade of climate action Novozymes has been engaged in climate issues for more than a decade. We work with our stakeholders to enable the transition to a low carbon economy. We were one of the very first companies to document the carbon footprints of our products and demonstrate how biological solutions can enable customers to reduce emissions.

On the operational side, we have successfully decoupled growth from emissions. Since 2010, we have grown our revenue by 48%, while absolute emissions from Novozymes' operations have risen only 6%.

When the world reached a landmark agreement in Paris in 2015, Novozymes hailed global leaders for taking the first step towards a low-carbon future and recognizing the crucial role the private sector plays in this transition. We are committed to helping the world achieve the goals of the Paris Agreement by providing low-carbon, biological solutions, while also reducing our own greenhouse gas emissions.

In 2018, the UN Intergovernmental Panel on Climate Change (IPCC) released a report stating that to avoid catastrophic and irreversible climate impacts, we need to limit the increase in global warming to 1.5°C.

This means the world needs to drastically accelerate climate action.

In September 2019, at the U.N. Climate Action Summit, Novozymes announced new ambitious climate commitments. Novozymes' President and CEO Peder Holk Nielsen said "UN Secretary-General Antonio Guterres asked companies to come up with plans – not just speeches; here is one of the first, validated, and science-based commitments – backed up by a robust plan for action."

#### Stamp of approval

By 2030, Novozymes will reduce absolute CO<sub>2</sub> emissions from its operations by 50% compared to a 2018 baseline, on our way to becoming carbon neutral in 2050.

This target has been validated by the Science-Based Targets initiative (SBTi) as being in line with a 1.5°C pathway. SBTi is a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF). SBTi has established a comprehensive verification process which considers a company's industry profile, its historical emissions and the latest climate models.

#### More action, fewer speeches

Our new climate commitments are the culmination of months of effort by our engineers, production teams and experts to define a detailed roadmap for climate action. In addition to investing in energy efficiency projects and sourcing 100% renewable electricity, we will also explore opportunities

to generate energy from waste streams for use in our operations and to share with our local communities.

Novozymes' impact goes beyond its production alone, and the company must account for emissions that occur outside its operational boundaries. We will monitor emissions across the value chain and work with our suppliers to reduce emissions from key raw materials. By 2030, we aim to reduce absolute CO<sub>2</sub> emissions from purchased goods and services by 15%, compared to a 2018 baseline.

**"This is not about Novozymes and one company only; we want to inspire others across our value chain to follow suit – and transparency is key" – Peder Holk Nielsen.**

In many geographies, Novozymes actively supports policies to promote the use of sustainable, low carbon fuels. Transportation accounts for about 25% of total energy-related global CO<sub>2</sub> emissions – and to limit its contribution to the increase in global warming, this sector will require a range of solutions, including low-carbon fuels. We have set a target to help the transport sector save 60 million tons of CO<sub>2</sub> emissions in 2022 by enabling the production of bio-based, low-carbon fuels.

# Driving action with our stakeholders

Creating value for our stakeholders and meeting stakeholder expectations on material sustainability issues is a priority for Novozymes. We strive to catalyze partnerships that drive collective action on the SDGs, enable a sustainable bioeconomy and deliver on our purpose.

## Customers

At Novozymes, we engage with our customers through strong partnerships to provide sustainable solutions tailored to their needs. To measure our impact and support our customers' sustainability commitments, we also participate in customer-driven assessments that provide us with opportunities for learning and improving our performance on material ESG issues.

## 2019 highlights

- Novozymes partnered with Orkla (one of our key customers in Europe) on a joint project to provide more environmentally-friendly solutions, specifically in the reformulation of laundry detergents across three of their leading brands to reduce the amount of chemicals (surfactants) and reduce the carbon footprint through the power of our enzymatic solutions.
- The Institution of Chemical Engineers (IChemE) Malaysia presented Novozymes and Sime Darby Research with the Palm Oil Award and the Sustainability Award for our joint project 'Enzymatic Assisted Extraction of Palm Oil' which demonstrates the benefits of the enzyme-assisted oil extraction process, including higher yield, greater profitability, and improved sustainability performance.
- Our partner Boehringer Ingelheim visited Novozymes to share their insights on trends in the animal health industry as well as

their approach to sustainable development.

These trends include consumer scrutiny on animal welfare and sustainable farming, digitalization of livestock management and chronic diseases in pets.

- Novozymes was awarded Gold recognition from Ecovadis for our sustainability performance.
- Novozymes completed the full B Impact Assessment (BIA) as part of our partnership with Seventh Generation.

**“As part of our B-Corp commitment, we consider the broader social impacts of our suppliers’ business and community engagement. Novozymes has joined us in our efforts toward continuous sustainability improvement by participating in the full BIA. We are impressed with the results and proud of our continuing partnership with Novozymes”**  
- **Joey Bergstein, CEO, Seventh Generation**

## Suppliers

Continuous engagement with our suppliers is key to driving our sustainability agenda and further developing our responsible sourcing practices. Our approach to responsible sourcing is defined by our Responsible Purchasing Standards (RPS) and managed through our Supplier Performance Management (SPM) process. We will work to strengthen our supplier sustainability profile by continuing the enrollment of suppliers onto SEDEX. We will also strengthen our commitment to obtaining certification of relevant raw materials with a sharp focus on sustainability.

## 2019 highlights

- For our TEDA site in Tianjin, China we began sourcing high quality renewable energy certificates (REC) issued by Goldpower, sourced from a nearby advanced biomass plant in the city of Nangong.
- Through our partnership with Ørsted, one of our energy suppliers, we successfully delivered the first batch of steam, derived from sustainable biomass as a substitute for coal for our site in Kalundborg, Denmark.
- Novozymes is a member of the Roundtable on Sustainable Palm Oil (RSPO). In 2019, 100% of the palm oil we sourced was RSPO certified and nearly 80% of our soy materials sourced were certified by recognized certification bodies.

## Funding for research in plant sciences

The Novo Nordisk Foundation (NNF) awarded a grant of DKK 203 million to the Collaborative Crop Resilience Program (CCRP), a new research project to be carried out in Denmark and the United States. The project aims to study the interaction of the roots and leaves of plants with bacteria for the purpose of enabling more efficient and sustainable agricultural practices - by reducing the use of fertilizer and pesticides by promoting natural bacteria that coexist with the plants. Novozymes played a key role in bringing together the universities involved and the NNF by ensuring their participation in the CCRP.

# Microbial inoculants support Climate-Smart Agriculture

**Novozymes' microbial inoculants enhance agricultural productivity, reduce environmental impacts and improve climate resilience.**

In a world of increasing crop demand, finite land resources, and a changing climate with more frequent weather anomalies, it is vital to optimize crop yields and nutrient utilization. To maximize yield potential and enhance stress tolerance, crops need an optimal start and a continuous uptake of essential nutrients in their growth cycle. **“Microbial inoculants can play a vital role in this regard,”** says *Thomas Stenfeldt Batchelor, Vice President, BioAg*

**In this article, we discuss two case studies that demonstrate these benefits.**

Novozymes' microbial solutions improve the uptake of nutrients in crops and also make them more resilient to stress factors such as dry spells. Microbial solutions increase crop yields and provide a number of environmental benefits. These results have recently been documented by two studies for our JumpStart® and Optimize® products based on the ISO-standardized life cycle assessment (LCA) methodology.

## JumpStart®

JumpStart® contains a naturally occurring soil fungus which improves the crop's uptake of phosphorus and is used in multiple crops, including corn, soy, wheat, and canola. The improved uptake of phosphorus results in early vigor, greater stress tolerance, and ultimately higher yield. The improved yield is accompanied by reduced nitrogen losses to the aquatic environment and reduced emissions of nitrous oxide, a potent greenhouse gas, to the atmosphere. The improved plant growth also results in a larger root system whereby more carbon is stored in the soil. Finally, increased demand from a growing world population can be satisfied with less pressure on natural habitats from higher crop yields. If used on all US corn, Jumpstart® could potentially reduce greenhouse gas (GHG) emissions by 3.9 million tons of CO<sub>2</sub> corresponding to annual tail pipe emissions from 820,000 US passenger cars.



## Optimize®

Optimize® is applied on soybeans and other legume plants in North America, South America and Europe. Optimize® contains a naturally occurring soil bacterium that is involved in the nitrogen fixation process of legumes, such as soybeans. Optimize® ensures the plant has the beneficial bacteria necessary to capture nitrogen directly from the atmosphere.

In Argentina, yield improvements with Optimize® generally amount to 5-6%. The accompanying increase in root growth binds carbon in the soil and thereby reduces atmospheric CO<sub>2</sub> concentration. In addition, the yield benefit results in reduced pressure on natural habitats and thereby in reduced GHG emissions from land clearing. Optimize® reduces GHG emissions of soybean production in the Buenos Aires region by no less than 17% per ton of soybeans produced.



## The yield benefits of JumpStart® and Optimize®

have been documented by statistical analyses published in peer-reviewed literature. The assessments of environmental benefits have been conducted in collaboration with biogeochemical modelers from renowned institutions and the two studies have been subject to critical review by international expert panels, as required by the ISO standard for life cycle assessment (LCA). Novozymes' investment in LCAs of existing agricultural inoculants has revealed general patterns in the environmental benefits of microbial yield enhancers, which can be used in support of future product launches.

In the highly optimized and resource-intensive soybean production in the US, Optimize® generally provides a moderate yield improvement (1-2%) and thereby also moderate environmental benefits. In a year with suboptimal soil conditions, Optimize® can be a key factor in obtaining high crop yields.

**“The findings of the LCA studies highlight the positive role that Novozymes' microbial inoculants can play in Climate-Smart Agriculture (CSA),”** says *Jesper Hedal Kløverpris, Senior Sustainability Specialist, Global Sustainability and EMEA Public Affairs.*

*CSA is a framework developed by the United Nations' Food and Agriculture Organization (FAO) to ensure sustainable agricultural strategies.*



## Driving action with our stakeholders

### Employees

Novozymes drives employee engagement through various regional initiatives that support the development of our employees, increases their motivation, drives safety awareness, strengthens safety culture and encourages healthy lifestyles. New employees are required to complete an e-learning module on sustainability at Novozymes during onboarding. We are also exploring initiatives to further strengthen employee engagement on our sustainability goals in the updated strategy.

### 2019 highlights

- This year we launched our new Innovation Campus in Lyngby, Denmark, that has been designed to encourage collaboration and innovation. We have created flexible and inspiring workspace zones that promote knowledge sharing and socializing, and support working in silence.
- In North America, employees engaged in direct conversations with the site's preferred training and development vendors at an event focused on exploring individual and team needs.
- Building on Novozymes' approach to safety management, in China, we also organized a health management session focused on cervical vertebra health for our employees.
- We introduced a new initiative called ZEDx Friday in India, where employees learn something new and spark ideas together, enabling their overall career development.

### Community

Novozymes invests in various educational programs across our regions to help people understand the potential of biology. Our programs are tailored to the needs of the communities in which we operate. These programs focus on improving scientific literacy and environmental awareness. In total, we educated an estimated 329,000 learners in 2019 through these initiatives. Moving forward, we have introduced a new target called INSPIRE, for which we have pledged 1% of our employees' time to community engagement.

### 2019 highlights

- In Denmark, Novozymes educated approximately 5000 school students through two programs. In collaboration with the new scientific learning center LIFE, we developed two cases for their mobile lab. As part of the 'Naturfagsmaraton' initiative, we created and distributed 1500 experiment sets for schools where students tested how a starch stain can be cleaned with the help of enzymes.
- In Latin America, Novozymes created an alliance with the Argentine government through the Centro Cultural de La Ciencia (Science Cultural Center) to set up an interactive program, Fuerza Atómica (Atomic Force), which thousands of people attended to learn about scientists and the challenges they face in building scientific knowledge.

## In the spotlight

# Educate Ambassadors in China

## Driving community engagement initiatives with our employees.

The Educate Target Ambassador programme is an honorary recognition for employee volunteers who are deeply involved in the EDUCATE activities. This program aims to encourage employee involvement in community engagement initiatives and strengthen the internal communication of EDUCATE target projects across all of Novozymes' sites in China.

The Ambassadors directly support four core Educate Initiatives in China, namely, The Parent's Class, Biology Catalyzes the Beauty of Life, The Little Biologists and the Biology Education Innovation. They are experienced lecturers and educators, with expertise in biology, communication and volunteer work.

The program is deeply embedded in Novozymes' 'Touch Values'. Currently, we have 18 ambassadors from various functions across all of Novozymes' sites in China. They support and encourage other employees to engage in EDUCATE activities on their respective sites through sharing their personal experiences and insights.

**“Through the EDUCATE activities we can create a footprint about biology and science in children’s minds,”** says Wu Gui Fang, Director, AP F&B Application Research and an Educate Ambassador.



## Driving action with our stakeholders

### Investors

At Novozymes, maintaining a transparent and ongoing dialogue with our investors on both financial and ESG performance is crucial to ensuring a strong long-term relationship and improving our performance on material issues.

### 2019 highlights

- Novozymes announced its updated strategy, Better business with biology, and new non-financial targets and commitments at the Capital Markets Day in June 2019. This was well received by our investors and we look forward to our continued engagement during its implementation.
- We are inspired to work with frameworks such as the Task Force on Climate Related Financial Disclosures (TCFD) and in the coming years we will work towards improved climate-related disclosures taking guidance from the TCFD framework.
- We are seeing increased interest among our investors in disclosures on and engagement in ESG topics including risks and opportunities, clean revenues, workforce metrics and animal welfare.

- Novozymes continues to be recognized by various indices and rating agencies as an ESG leader in our sector. We are included in the Corporate Knights' 2020 Global 100 Most Sustainable Corporation in the World Index.
- Novozymes has a strong tradition of transparent reporting on its climate change impacts, and we submit climate change data to CDP annually. We received a 'B' score in CDP's climate change disclosure and management assessment. Refer to [www.cdp.net](http://www.cdp.net) to access our submission.

## In the spotlight

# Novozymes secures Green Mortgage Loan

**Our energy-efficient innovation campus secures the loan from finance partner Nykredit.**

**N**ovozymes' commitment to sustainability also extends to our approach to financing and we are continuously exploring sustainable financing initiatives.

In 2019, we obtained a Green Mortgage Loan for our new energy-efficient innovation campus in Lyngby, Denmark. The loan is provided by our finance partner, Nykredit, and is funded by the proceeds from Green Mortgage Bonds.

**"Sustainable financing is one of our top priorities and to support this we launched the Green Bonds Framework in April 2019. We are pleased to support the journey toward sustainable development. With its highly energy efficient innovation campus in Lyngby, Denmark, Novozymes is one of our first Danish customers in the Green Mortgage Program. We are proud of our continued partnership." - Nykredit.**



## Driving action with our stakeholders

### Governments, industry associations, others

We engage with governments in all our regions, primarily through policy advocacy. Our engagement with industry or trade associations further helps us in our policy advocacy efforts. Novozymes presents its positions to policymakers and other interested parties in accordance with national and international laws.

Our public affairs employees in Europe, United States, India and China, primarily engage with governments through advocacy and consultation forums. They are registered in dedicated lobbyist registers, as legally required (e.g. Transparency Register in Brussels). In 2019, we spent approximately DKK 11.4 million globally on our advocacy efforts.

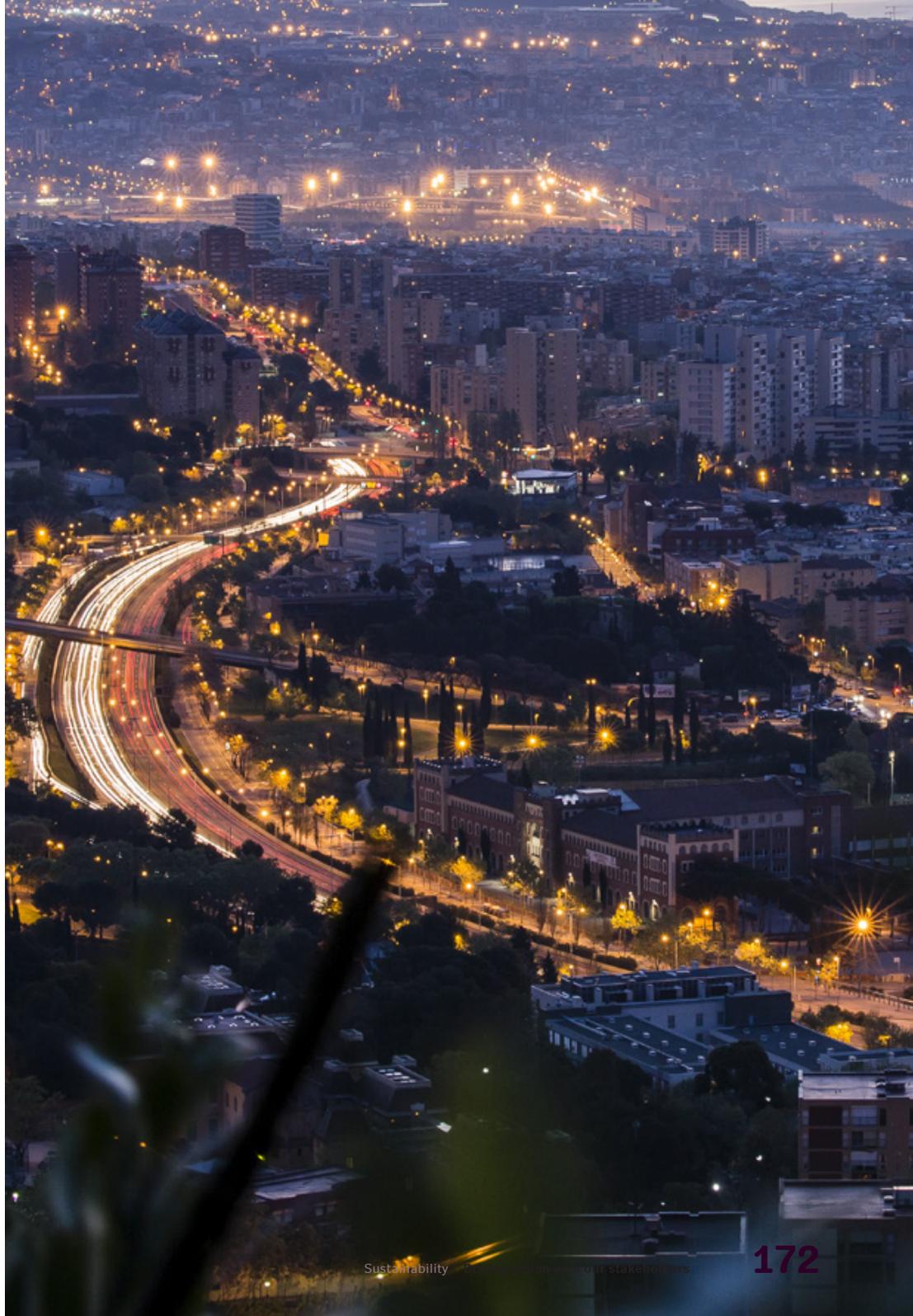
As a member of various institutions that support our sustainability commitments, we explore partnerships and drive collective action.

### 2019 highlights

- **The Sustainable Food Platform (SFP):** The SFP partnership under the Danish Initiative P4G (Partnering for Green Growth and the Global Goals 2030) saw good progress in 2019. Novozymes together with other partners in the initiative are developing a biscuit recipe that includes local Ethiopian quinoa and whey protein ingredients, made possible with enzymes. Next steps are to improve biscuit recipes, produce locally and test with Ethiopian consumers.
- **Green chemistry policies in the US:** Novozymes, together with the GC3 Sustainable Chemistry Alliance, continued

to advocate for passage of the Sustainable Chemistry Research and Development Act which was finally passed by the House of Representatives in October 2019.

- **China Business and Biodiversity Partnership (CBBP):** Novozymes became one of the first companies to join CBBP which was established in May 2019. CBBP aims to bring members and government together on one platform to engage in dialogue on biodiversity protection and sustainable utilization-related policies, laws and standards. It will also support members in evaluating biodiversity risks and sharing best practices through the global network.
- **White paper to help E10 execution in China:** As a member of the drafting committee of the white paper 'Global Experience of Biofuel Policy and Implementation', Novozymes actively participated in the discussions and provided expertise. This white paper was published by the China Petroleum and Chemical Industry Federation (CPCIF) in June 2019.
- **Confederation of Indian Industry (CII):** Novozymes is an active member of various committees of CII. Through the Committee on Bioenergy which is co-chaired by Novozymes, we provide support in the implementation of India's National Biofuels Policy through various activities including The Bioenergy Summit 2019 – Farm2Fuel. This summit was an excellent platform for various stakeholders working in the biofuels sector to engage with the government.



## Driving action with our stakeholders

- **HelloScience:** In May 2019, Novozymes' collaborative innovation and project development platform was awarded the inaugural SDG Tech Innovation Award in Copenhagen for its work to drive and build partnerships that make a lasting difference to sustainable business development around the world. HelloScience also hosted 'LiveLabs' in Bangalore, India and Copenhagen, Denmark to drive further innovative collaborations across the SDGs.
- **Below50:** Novozymes is a founding member of below50, a global campaign to reduce emissions in the transport sector by increasing demand for low-carbon fuels. In 2019, below50, along with the California Low Carbon Fuels Coalition (LCFC) and the Biotechnology Innovation Organization (BIO), jointly organized and hosted a Multi-State Legislative Strategy session RE: Passage of Low Carbon Fuel Standards (LCFS) at the BIO World Congress in Iowa. This event kicked off joint work by below50, BIO and the LCFC to advocate for more state-level policy that emphasizes the reduction of carbon intensity of transportation fuels in the US.
- **International Chamber of Commerce (ICC):** Novozymes worked through the course of 2019 to help support the development and deployment of ICC's new strategy and priorities, which include a core focus on Climate Change and Sustainable Development. Novozymes joined various events like the UN High-level Political Forum and the UN General Assembly together with ICC to support the deployment of the SDGs.
- **Business Council for the United Nations (BCUN):** In 2019, Novozymes joined the BCUN of the UN Foundation as part of its wider efforts to engage with key stakeholders on the global sustainable development agenda. Novozymes has worked closely with BCUN around its climate change initiatives, including its support for 'Business Ambition for 1.5°C – Our Only Future' and commitments from the private sector.
- **United States Council for International Business (USCIB):** During 2019, Novozymes continued its longstanding involvement with USCIB, with CEO Peder Holk Nielsen being re-elected to its Board of Trustees as its Sustainability Champion. Novozymes also helped support the launch of the USCIB 'All-in Campaign' to enhance multilateral engagements between businesses, the UN and international organizations.

Read more in 'Stakeholder engagement' at [Novozyymes.com](https://www.novozymes.com).





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