


The Novozymes Report 2018

Where we make a difference
In 2018, an estimated 5.6 billion
people used products made with
our solutions on a weekly basis.

Rethink tomorrow

novozymes 

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Our purpose

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



2018 in brief: 2018 was a satisfactory year for Novozymes. We grew in most of our markets and across most geographies.




Business model: Novozymes' business is about turning science into sustainable biological solutions. Our business model enables us to cater to many different industries.



Explore the online version of
The Novozymes Report 2018 at
report2018.novozymes.com



A young girl with dark hair in a ponytail, wearing a bright yellow hoodie and grey pants, is lying on her stomach on a light-colored, textured couch. She is holding a small blue and white carton to her mouth and drinking. Her legs are raised and bent at the knees. The background is a plain, light-colored wall.

Where we make a difference
Novozymes' enzymes such as Saphera® help create the lactose-free and other "free-from" foods that are in increasing demand worldwide.

The big picture

Financial highlights



4%

Organic sales growth
(2017: 4%)

Total sales in 2018 were DKK 14,390 million, an increase of 4% organically and a decrease of 1% in DKK. Bioenergy and Food & Beverages were the main contributors to organic sales growth.



28.3%

EBIT margin
(2017: 27.9%)

The EBIT margin was 28.3%, 0.4 percentage point higher than in 2017. Excluding the one-time costs incurred in 2017 relating to organizational changes and the divestment of Albumedix, the EBIT margin in 2018 was 0.7 percentage point lower than in 2017.



3%

Net profit growth
(2017: 2%)

Net profit grew by 3% to DKK 3,227 million in 2018, up from DKK 3,120 million in 2017. This was driven by both a lower tax rate and lower net financial costs.

24.2%

ROIC (2017: 25.6%)

Return on invested capital (ROIC) including goodwill was 24.2%, compared with 25.6% at year-end 2017. The lower ROIC was mainly due to higher net invested capital.

Key figures

	2018 realized	2018 outlook ¹
Sales growth, organic	4%	4-6%
EBIT margin	28.3%	~28.0%
Net profit growth	3%	~0%
Net investments excl. acquisitions, DKKbn	1.4	1.3-1.5
Free cash flow before acquisitions, DKKbn	2.3	2.3-2.6
ROIC (including goodwill)	24.2%	24-25%
Avg. USD/DKK	632	600

1. Outlook guided as of February 7, 2018.



Outlook 2019



See more details on performance in Accounts and performance

Sustainability highlights



23%

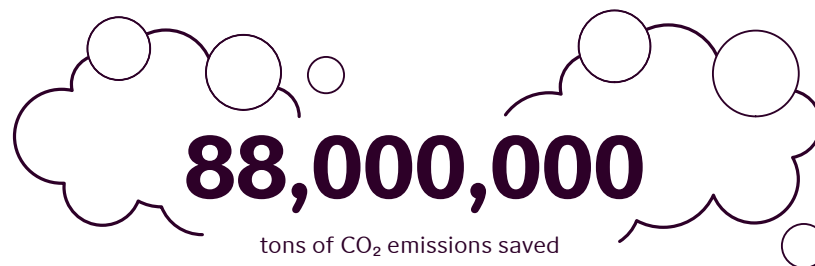
Renewable energy
(2017: 24%)

Energy from renewable sources accounted for 23% of our total energy consumption in 2018.

In Denmark and Brazil, we purchase our electricity from renewable sources.



See more details in
Accounts and performance



In 2018, our customers saved an estimated 88 million tons of CO₂ emissions by applying Novozymes' products. The savings achieved are equivalent to taking approximately 37 million cars 🚗 off the road.



78

Employee development
(New in 2018)

In 2018, we implemented TunedIn, a new employee survey and dialogue tool. The survey is used in conjunction with team talks throughout the company about how we work and grow together. The survey shows an employee development score of 78, which meets our target of 75 or above.



30%

Women in senior management
(2017: 26%)

In 2018, we exceeded our target of 27% for women in senior management (directors or higher). This is a result of our continued focus on improving diversity.

Key figures

	2018 realized	2018 target
Estimated reduction in CO ₂ emissions through our customers' application of our products, in million tons	88	≥ 80
Growth in absolute water usage	1%	< organic sales growth
Growth in absolute energy usage	1%	< organic sales growth
Growth in absolute CO ₂ emissions	7%	≤ organic sales growth
Renewable energy	23%	23%
Occupational accidents ¹	2.4	≤ 1.5
Employee absence	2.1%	≤ 2.0%
Women in senior management	30%	≥ 27%
Employee development	78	≥ 75
Customer satisfaction ²	50	≥ 40
RobecoSam rating ³	n.a.	Medal

1. Per million working hours.

2. Defined as Net Promoter Score.

3. Novozymes canceled this target in 2018.

Sales by geography

North America

North America was solid overall with 5% organic sales growth in 2018 compared with 2017. Bioenergy and Agriculture & Feed were the main growth drivers.



Organic sales growth



Latin America

Organic sales growth in Latin America was 6% in 2018 compared with 2017, driven by Bioenergy and Food & Beverages, whereas Household Care was lower.



Organic sales growth



Europe, the Middle East & Africa

Organic sales growth in 2018 compared with 2017 was soft across most industries. Partly due to weak markets in the Middle East, Household Care was particularly soft, and Food & Beverages posted low growth.



Organic sales growth



Asia Pacific

Food & Beverages and Household Care were the main drivers of the 5% organic sales growth in 2018 compared with 2017.



Organic sales growth



Sales by industry



Household Care



Food & Beverages



Bioenergy

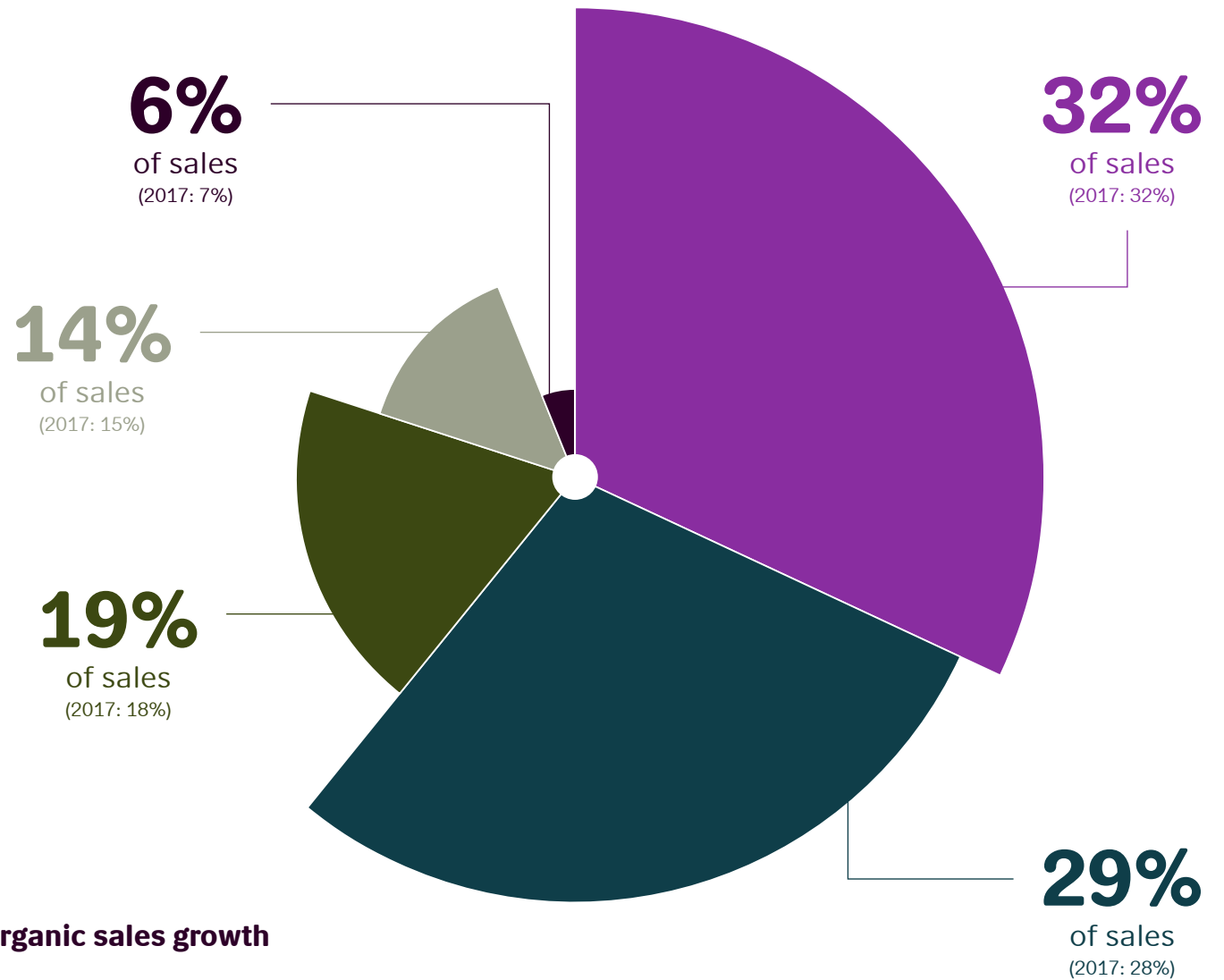


Agriculture & Feed



Technical & Pharma

Three out of five of Novozymes' industries grew in 2018. Bioenergy delivered strong growth, and Food & Beverages and Agriculture & Feed also delivered growth. Household Care was flat, and sales declined in Technical & Pharma. Novozymes holds an estimated 48% share of the global enzyme market.



Organic sales growth



Household Care



Where we make a difference
Our enzymes enable manufacturers to produce laundry and cleaning products that offer better performance with reduced environmental impact.

2018 results

Sales to the Household Care industry were flat organically and down 2% in DKK compared with 2017. Sales were a bit softer than initially expected due to challenging Middle Eastern markets in the second half of the year, as well as a truck strike in Brazil and a customer's North American distribution issues in the second quarter of the year.

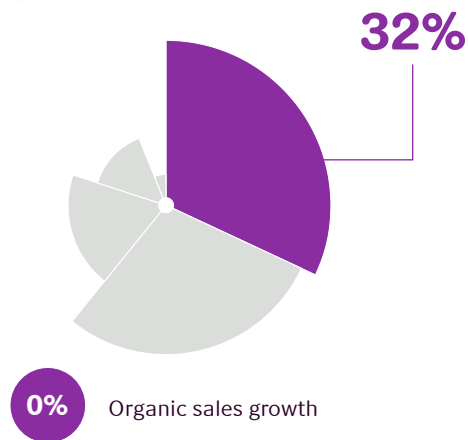
Sales to local customers maintained their good momentum throughout the year, and sales of enzymes for dishwashing solutions continued to deliver strong performance.

The emerging markets delivered solid performance driven by local customers. In China, penetration with enzymatic solutions for laundry detergents continues as the demand for liquid detergent formulations continues to grow.

As expected, some of our global customers continued to reduce enzyme dosing during 2018, particularly in the developed markets.

The rollout of the first product from the freshness platform is tracking according to plan although, as expected, the contribution from the platform was minor in 2018.

% of total sales



2019 outlook

Organic sales growth is expected to be supported by a broader rollout for the freshness platform and increased penetration in emerging markets, where we tap into consumer trends with our innovative enzymes for both liquid and powder detergents. The development of the freshness platform is tracking according to plan, and we expect to ship to more emerging markets through the year and to Europe in late 2019. The dose reductions at some of our large customers are likely to continue, although at a lower level. This puts a dampener on growth. We expect low-single-digit organic sales growth for Household Care, including annualization of the Middle Eastern impact.



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

Product launches

- ✓ **Licheninase** – A new enzyme launched for automatic dishwashing, targeting dried-in cereals
- ✓ **Lipex® Evity 200 L** – New premium liquid lipase for the removal of grease stains

Key industry trends

- Growth in the liquid and unit dose market, driven by consumer convenience and stronger commercial focus on these categories
- Rising demand for Household Care solutions tailored to emerging-market needs, such as hot and humid conditions and mild handwashing alternatives
- Strong interest in freshness and odor reduction technologies and claims

SDG impact



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



Read more about our contributions to the SDGs

Food & Beverages



Where we make a difference
Enzymes enable producers to diversify their product ranges and develop products that stay fresh longer.

2018 results

Food & Beverages sales grew by 5% organically and by 2% in DKK.

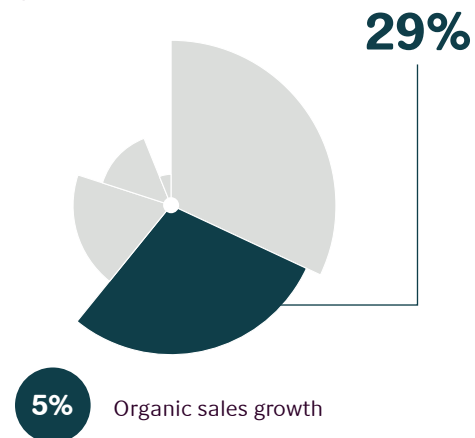
Food & Beverages delivered solid and wide-ranging growth. Both emerging and developed markets posted growth in 2018 compared with 2017. Food & nutrition and beverages were the most significant growth contributors, while baking experienced a

slight decline. This decline was caused by two main factors: the planned price decreases in the North American freshkeeping market and loss of business in the Middle East. However, sales of baking enzymes to the European and African markets performed well, almost offsetting the negatives.



Read more about our Food & Beverages solutions on Novozymes.com

% of total sales



2019 outlook

Organic sales growth is expected to be driven by continued step-up in commercial presence, especially in the emerging markets, as well as by ramp-up of newly launched innovations, such as Frontia® and Palmora®. There is a modest positive expectation for baking, including planned price decreases in the US coming to an end in the first quarter. Food & nutrition is expected to continue its good momentum, supported by the enduring health awareness trends. We expect continued solid growth across all industries with mid-single-digit organic sales growth, including annualization of the Middle Eastern impact.

Key industry trends

- Consumer focus on health, wellness and natural products
- Increase in raw material costs and focus on production process optimization
- Customers consolidating operations in order to increase overall efficiency
- Consumer focus on brands using local produce and/or catering to specific local taste, tradition and cultures

“The world needs to produce 70% more food by 2050 than today to feed a growing global population. Our enzymes can reduce food waste, replace food additives, and improve the quality and nutritional value of food,” says Andrew Fordyce, Executive Vice President, Food & Beverages.

SDG impact



Our solutions contribute to making food production systems more sustainable.



Read more about our contributions to the SDGs

Bioenergy



Where we make a difference
Our new yeast products maximize the efficiency of ethanol plants.

2018 results

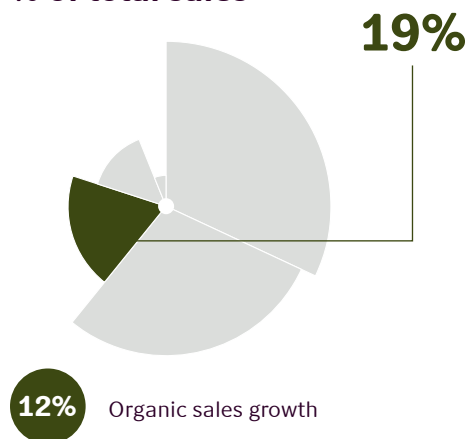
Sales to Bioenergy grew by 12% organically and by 6% in DKK compared with 2017.

The strong growth within enzymes for conventional biofuels continued throughout the year, driven by broad technology offerings and tailored customer solutions. Our newly launched yeast products, Innova® Drive and Innova® Lift, posted good growth in the second half of the year, albeit from a low base. Latin America continued to perform well, supported by new starch-based ethanol production capacity.

US and global ethanol production is estimated to be up ~1% in 2018 compared with 2017. Ethanol producer margins were under pressure, and inventory levels elevated.

“Our products for Bioenergy convert plant materials and waste to biofuels. Using these biofuels reduces CO₂ emissions by 50-90% compared with conventional gasoline,” says Tina Sejersgård Fanø, Executive Vice President, Agriculture & Bioenergy.

% of total sales



2019 outlook

Organic sales growth is expected to be driven mainly by increased penetration from innovation as well as volume growth outside the US market. We expect US ethanol production in 2019 to be slightly lower than in 2018, with ethanol inventory levels remaining high into 2019. As such, we expect first-quarter US ethanol production to decline, before improving for the rest of the year. We expect high-single-digit growth in Bioenergy for the full year.



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

Product launches

- ✓ **Innova® Drive** – Novozymes’ first launch within yeast for conventional biofuels. Innova® Drive is aimed at ethanol plants with short fermentation times
- ✓ **Innova® Lift** – The second product from our yeast platform. Innova® Lift is aimed at ethanol plants with longer fermentation times

Key industry trends

- Growing calls for lower CO₂ emissions in the transportation sector, driving demand for ethanol
- Political push in favor of biofuels in more regions
- Volatility in commodity prices, affecting customer margins

SDG impact



Novozymes promotes the development and deployment of low-carbon transportation fuels.



Read more about our contributions to the SDGs

Agriculture & Feed



Where we make a difference
Our solutions improve yields in farming and enhance the digestibility and nutritional value of animal feed.

2018 results

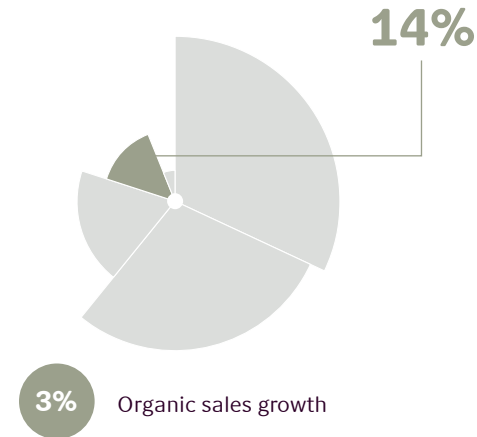
In Agriculture & Feed, sales increased by 3% organically and were down 3% in DKK compared with 2017.

BioAg performed very well in 2018. While agricultural markets in general were challenged by low crop prices and poor farm economics, growth in Novozymes' BioAg business was driven mainly by the combined Acceleron® B-300 SAT/B-360 ST corn product for the US market.

Sales to the feed industry declined during 2018, as challenging feed enzyme markets, especially in Latin America, put pressure on volumes. Animal health sales developed well across the major geographies.

During 2018, Novozymes recognized DKK 169 million of deferred income as revenue, compared with DKK 202 million in 2017. Deferred income does not impact the calculation of organic sales growth rates; it impacts realized sales growth in DKK but has no cash flow impact.

% of total sales



2019 outlook

Sales to the agriculture-related markets are subject to uncertainty, due primarily to global farm economics and trade-related concerns. We are negotiating with Bayer regarding the future setup of the BioAg business, which is also a source of uncertainty. Feed sales are expected to grow modestly for the year. We expect a low-single-digit decrease to a mid-single-digit increase in organic sales.

Novozymes expects to recognize roughly DKK 113 million of the deferred income in BioAg as revenue in 2019.

 [Read more about our Agriculture & Feed solutions on **Novozymes.com**](#)

Product launches

- ✓ **Acceleron® B-360 ST** – A biological seed treatment that promotes symbiosis between microbes and corn plants, strengthening root systems and increasing plants' access to nutrients
- ✓ **Balancius™** – A novel enzyme that improves digestion and nutrition in chickens


Key industry trends

- Consumer focus on health, wellness and natural products
- Sensitivity to fluctuations in commodity prices among farmers
- Consolidation of large agricultural companies to increase overall scale and efficiency

SDG impact



Our solutions support sustainable food production and resilient agricultural practices.

 [Read more about our contributions to the SDGs](#)

Technical & Pharma



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



2018 results

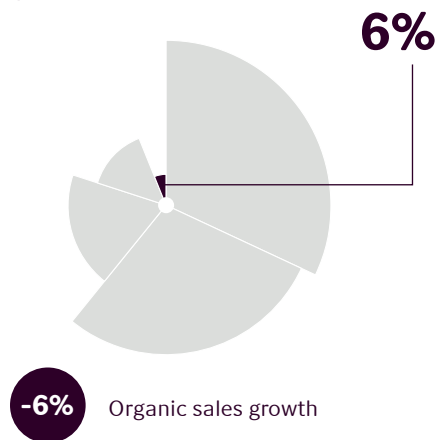
Sales to Technical & Pharma declined by 6% organically and by 22% in DKK in 2018. The divestment of Albumedix late 2017 impacted revenue negatively by DKK ~150 million. The divestment has no impact on organic sales growth.

Performance was weak across the various technical industries, as well as in Pharma. Sales to the textile industry were below expectations, following weak performance in the Middle East.

2019 outlook

The business was impacted by the challenging markets in the Middle East during the second half of 2018, a situation that is expected to continue in the first half of 2019. We expect low-single-digit organic sales growth for the year, including annualization of the Middle Eastern impact.

% of total sales



Key industry trends

- Continuous focus on process optimization and cost reduction
- Water scarcity driving demand for solutions that reduce water consumption, improve water quality and clean wastewater

SDG impact



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

[Read more about our contributions to the SDGs](#)

Product launches

- ✓ **BioSec®** – Novozymes' first product for sludge dewatering. BioSec® is aimed at municipal wastewater treatment
- ✓ **Cellusoft® Cold** – Low-temperature cellulase for liquid denim abrasion and garment biopolishing



Answering the world's call for cleaner water

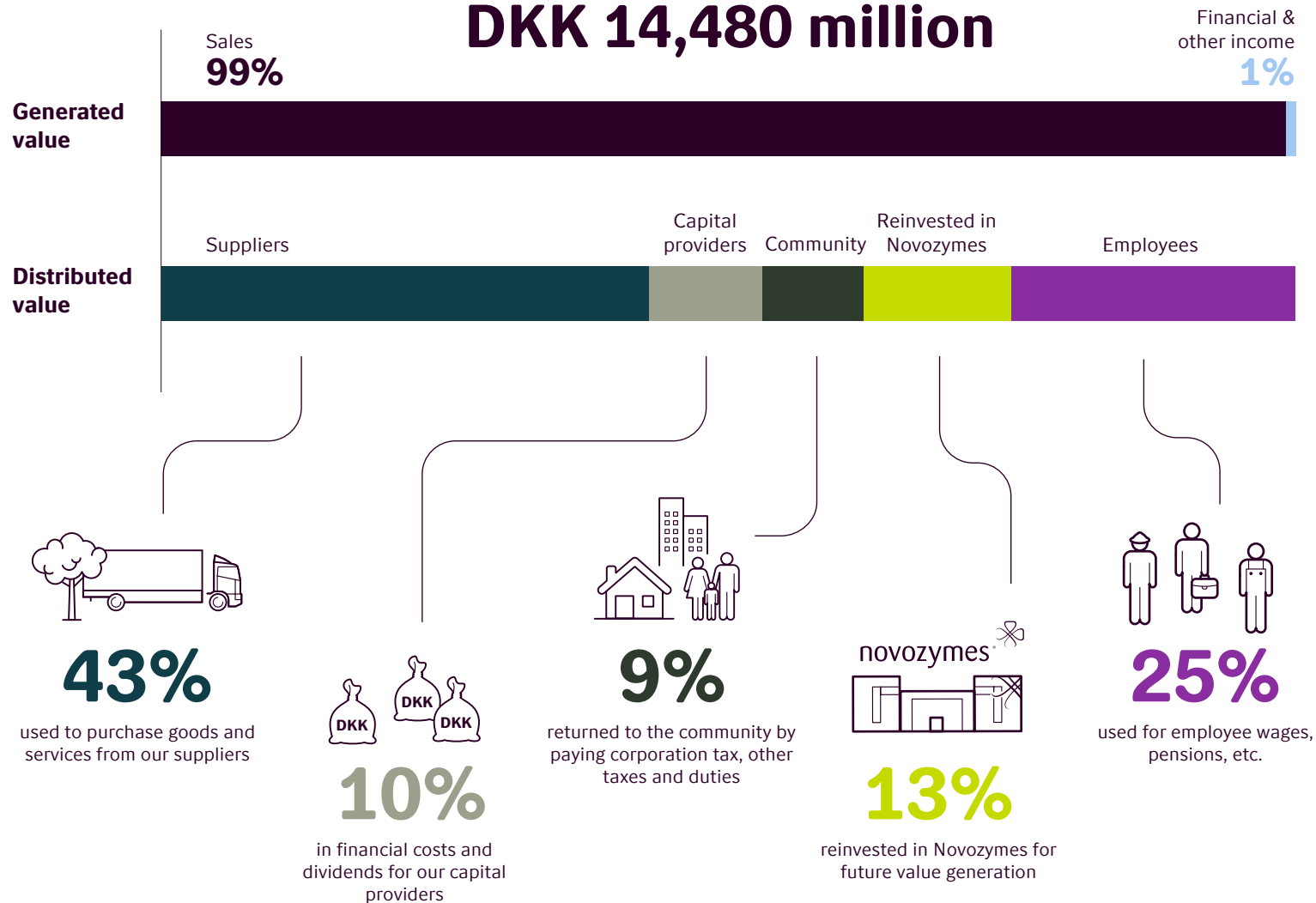
Solving the world's water problems presents a monumental challenge for society. As part of its Sustainable Development Goals (SDGs), the United Nations has identified Clean Water & Sanitation as Goal 6, recognizing that water is the key to unlocking progress in several of the other SDGs.

One of the ways in which Novozymes is contributing to this goal is through our wastewater solutions. Novozymes has produced and sold microbial solutions for wastewater treatment for a number of years. In 2018, with the launch of BioSec®, we took another step toward cleaner, greener wastewater for the world.

[Read more about BioSec® in the article "Every drop counts"](#)

Economic contribution

DKK 14,480 million



In 2018, Novozymes generated value of DKK 14,480 million. 87% of this amount was returned to society. The remaining 13% was reinvested in Novozymes to develop the company, and ensure competitiveness and future value generation for distribution among key stakeholders.

In addition to the 10% returned to capital providers, Novozymes bought back shares worth DKK 2 billion in 2018.

A positive tax contribution

Novozyymes' overall tax strategy and transfer-pricing policy support a positive tax contribution to society and governments in the countries in which Novozymes operates. Novozymes continuously works to fulfill its tax obligations in the countries where 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 2018, Novozymes incurred corporate income taxes and other taxes and duties that came to approximately DKK 1,250 million. In addition, Novozymes collected and withheld tax contributions on dividends and wages totaling approximately DKK 1,250 million. Novozymes' total tax contribution therefore amounted to approximately DKK 2,500 million, compared with approximately DKK 2,750 million in 2017.

Key events 2018

2018



February

- **Novozymes launches Innova® Drive**, the first product from our yeast platform. Innova® Drive is aimed at ethanol plants with short fermentation times



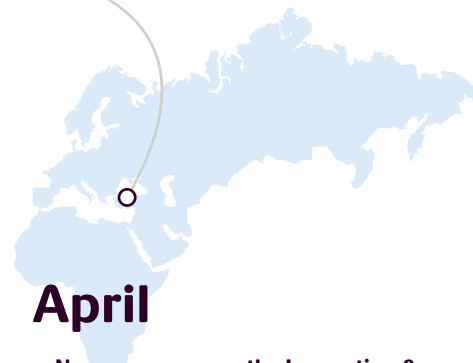
May

- **Alterion® is approved for use in Europe.** The probiotic for poultry codeveloped with Adisseo is now available globally



January

- Henkel recognizes Novozymes with its **Best Supply Performance Award for 2017**
- **Age of Biology** opens an art installation at Berlin Hauptbahnhof, Germany, using fungi provided by Novozymes



April

- **Novozymes opens the Innovation & Technology Center in Istanbul, Turkey.** The center will cater to customers in the Middle East and Africa



June

- **Kalundborg Symbiosis receives the WIN WIN Gothenburg Sustainability Award for sustainable production.** The Symbiosis is a partnership between Novozymes and seven other manufacturers in Kalundborg, Denmark



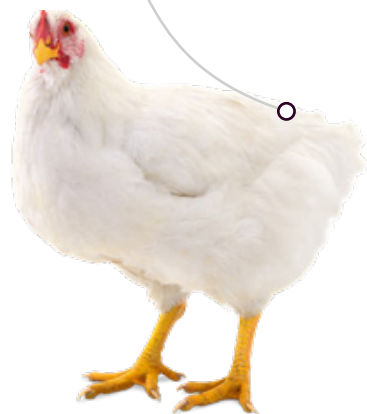
October

- **Novozymes launches Innova® Lift**, the second product from our yeast platform. Innova® Lift is aimed at ethanol plants with long fermentation times
- The Prime Minister of Denmark, **Lars Løkke Rasmussen**, **visits Novozymes' headquarters** in the lead-up to the Partnering for Green Growth and the Global Goals 2030 (P4G) environmental summit in Copenhagen
- For the third year in a row, Science Magazine ranks **Novozymes among the top 3** science employers in the world



December

- **Balancius™** receives **DSM's Innovation Award 2018**
- **Novozymes launches our first product for sludge dewatering, BioSec®**, aimed at municipal wastewater treatment facilities



September

- **DSM and Novozymes launch Balancius™**, a transformative innovation to improve nutritional uptake in poultry. Balancius™ enables farmers to use less feed to raise an animal



November

- **A new partnership is formed with Elanco Animal Health Inc.** to develop nutritional health products for beef and dairy cattle

Five-year summary

DKK million	2018	2017	2016	2015	2014
Income statement					
Revenue	14,390	14,531	14,142	14,002	12,459
Gross profit	8,255	8,413	8,126	8,129	7,149
EBITDA	5,158	5,114	4,960	5,011	4,400
Operating profit / EBIT	4,070	4,047	3,946	3,884	3,384
Financial items, net	(117)	(157)	(34)	(257)	(84)
Net profit	3,227	3,120	3,050	2,825	2,525
Balance sheet					
Total assets	19,697	18,373	18,659	17,791	18,426
Shareholders' equity	11,438	11,267	11,745	11,593	11,280
Invested capital	13,953	12,880	12,584	11,891	10,535
Net interest-bearing debt	2,535	1,642	990	437	(716)
Investments and cash flows					
Cash flow from operating activities	3,679	4,063	3,840	3,339	4,525
Purchases of property, plant and equipment	1,332	1,593	1,076	968	703
Net investments excluding acquisitions*	1,388	1,665	1,188	1,015	715
Free cash flow before net acquisitions and securities	2,291	2,398	2,652	2,324	4,229
Business acquisitions, divestments and purchase of financial assets	4	3	161	242	14
Free cash flow	2,287	2,395	2,491	2,082	4,215

* Excluding The BioAg Alliance impact in 2014.

		2018	2017	2016	2015	2014
Key ratios						
Revenue growth, DKK	%	(1)	3	1	12	6
Revenue growth, organic	%	4	4	2	4	7
R&D costs (% of revenue)	%	13.0	13.2	13.2	13.5	14.8
Gross margin	%	57.4	57.9	57.5	58.1	57.4
EBITDA margin	%	35.8	35.2	35.1	35.8	35.3
EBIT margin	%	28.3	27.9	27.9	27.7	27.2
Effective tax rate	%	18.0	19.5	21.4	22.0	23.0
Equity ratio	%	58.1	61.3	62.9	65.2	61.2
NIBD/EBITDA	x	0.5	0.3	0.2	0.1	(0.2)
Return on equity	%	28.4	27.1	26.1	24.7	22.6
ROIC including goodwill	%	24.2	25.6	25.1	25.9	23.1
WACC after tax	%	6.6	6.5	6.5	5.3	3.7
Earnings per share (EPS), diluted	DKK	11.03	10.49	10.06	9.12	8.02
Dividend per share (2018 proposed)	DKK	5.00	4.50	4.00	3.50	3.00

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 has been prepared as described in the Glossary.

Environmental and social data

		2018	2017	2016	2015	2014
Total number of employees	No.	6,427	6,245	6,441	6,485	6,454
Rate of employee turnover	%	8.8	11.9	10.4	9.1	8.1
Frequency of accidents with absence per million working hours		2.4	1.6	2.2	2.5	1.7
Women in senior management	%	30	26	25	24	23
Estimated CO ₂ reductions from customers' application of Novozymes' products	Mill. tons	88	76	69	60	60

We have an obligation

Some companies have the ability to transform industries and truly impact people's lives. Novozymes is one such company. 2018 was a satisfactory year during which we made significant progress on our strategic journey.



Letter from the Board of Directors

As the world becomes increasingly politically polarized and some governments abandon sustainable initiatives, consumers look to innovative companies to spearhead sustainability. Novozymes produces and sells biological solutions that enable customers to produce more from less. In essence, every product we sell makes the world more sustainable.

With our extensive knowledge about sustainable solutions, we see it as our obligation to make sure that these solutions reach as many industries and people as possible. By expanding the reach of our solutions, we can ensure that we achieve the sustainable impact we seek. At the same time, we can grow our company and provide attractive returns for our shareholders.

When sustainability and business go hand in hand

In 2018, Novozymes brought several impactful innovations to market, enabling our customers to increase the quality or consumer experience of their products or processes, reduce their environmental footprint and increase their profitability. Some of our new solutions even have the potential for transformative change.

To give just one example, Novozymes launched Balancius™ in the fall of 2018 as part of our feed alliance with DSM. Balancius™ is a novel enzyme that improves gut functionality in broiler chickens. The product is so effective that poultry farmers need 3% less feed to raise a chicken. Balancius™ not only benefits farmer economics, it also saves on the use of raw materials and energy, thus reducing CO₂ emissions.

Novozymes spends 13% of revenue on R&D. As a Board, we support the decision to reinvest substantial amounts in the company to ensure the development of more impactful innovations such as Balancius™. Bringing new innovations to market also drives revenue and earnings growth.

Satisfactory performance

In 2018, we delivered on the financial outlook parameters set out at the beginning of the year. Bioenergy delivered strong growth, and Food & Beverages was solid. Agriculture & Feed also contributed to growth, whereas sales to the Household Care industry were flat. Overall, we delivered 4% organic sales growth and solid earnings and cash flow. This is satisfactory, especially considering the negative impact from challenging Middle Eastern markets.

Events such as those relating to the Middle East are difficult to foresee, but nevertheless impact the business. What is important is to remain vigilant regarding our surroundings and to take action when possible.

Investing in Novozymes' future

The Board actively engages in dialogue regarding Novozymes' strategy and how this evolves, to ensure that the company successfully achieves its targets and delivers on its purpose.

Strategy was one of the key topics of our Board meeting in Bangalore, India, in June 2018, where we had the opportunity to meet with employees and gain insights into their work and the environment in which they operate.

In 2018, the Board continued to support substantial investments in Novozymes' future. In Lyngby, Denmark, we are building an innovation campus, which will be inaugurated in summer 2019. In India, we look forward to inaugurating our new production facilities near Mumbai very shortly. We are also making improvements to production facilities in other locations, to ensure that they remain up to date and can continue delivering at very high capacity.

We want Novozymes to continue to be a leading, growing and profitable bioinnovator for many years to come. In 2019, Novozymes will launch a new strategy, and together with the Executive Leadership Team, the Board looks forward to presenting our revised priorities in June.

2019: focus on commercial execution

In 2019, we expect Novozymes to deliver 3-6% organic sales growth, an EBIT margin of 28-29% and an ROIC of around 23%. Our guidance for 2019 reflects geopolitical uncertainty such as the one in the Middle East, the future setup of the BioAg business as well as volatile agricultural markets.

In 2019, growth will come from more impactful innovation across businesses and a stronger presence, especially in the emerging markets. These game-changing innovations will not only contribute to Novozymes' topline, they will also make the world more sustainable. Although our outlook reflects uncertainties, our view on 2019 is positive.

One of Novozymes' top priorities for 2019 and beyond is to drive excellence in commercial execution and dialogue with customers. We want to improve our speed to market and explore optimal routes to market in both emerging and developed markets. Together, the Board and the Executive Leadership Team will increasingly focus on and drive this agenda. We believe in the importance of being led by science and of demonstrating that good business and sustainability can complement one another to benefit the planet and all our stakeholders.

Thank you

The Board would like to thank all of Novozymes' employees for their achievements and dedication during the year. We look forward to making an even greater impact in 2019.

On behalf of the Board of Directors,



Jørgen Buhl Rasmussen
Chairman



Building sustainable growth during times of rapid change

2018 was a satisfactory year for Novozymes. Despite challenges in certain parts of the world, particularly the Middle East, we grew most of our markets and delivered 4% organic sales growth. This is in line with our guidance. We delivered solid earnings and satisfactory cash flow, and launched significant innovations that will contribute to future growth. In 2019, we plan to further strengthen our commercial execution power.



Letter from the CEO

Novozymes performed well in 2018, once again demonstrating the impact our solutions have on the world. Our innovation pipeline is strong, and we are commercializing products from most of our priority innovation platforms. We support our innovations with solid investments in commercial activities and an increased presence in growth markets such as Southeast Asia and Africa.

We grew organic sales by 4% during the year and delivered strong earnings. The EBIT margin came in at a solid 28.3%, and net profit grew by 3%. All these results were in line with the financial outlook parameters set out at the beginning of the year. This is satisfactory, especially considering the negative Middle Eastern impact.

Most of our industries contributed to growth, demonstrating the robustness of a business that spans several industries and geographies. Bioenergy performed particularly well, supported by new innovations launched in 2018. Food & Beverages delivered solid growth, Agriculture & Feed also grew, while sales to Household Care were flat.

“Our innovation pipeline is strong, and we are commercializing products from most of our priority innovation platforms.”

Novozymes' key growth driver is delivering innovative quality solutions that enable customers to increase the quality of their products and their consumers' experience using them, produce more from less and improve their sustainability performance.

We set ambitious sustainability targets accordingly. In 2018, our customers avoided an estimated 88 million tons of CO₂ emissions by applying our solutions. That corresponds to taking approximately 37 million cars off the road.

We met most of our operational sustainability targets set for 2018; however, we did not meet our CO₂ emission reduction target due to product mix changes and an inability to source renewable energy for some of our production sites.

Regrettably, we were unable to maintain last year's record-low number of occupational accidents with absence. 27 of our employees were injured at work in 2018, which translates to 2.4 accidents with absence per million working hours. The wellbeing of employees is a top priority, and we in the Executive Leadership Team will do our utmost to ensure that the number of accidents is substantially reduced going forward.

The world takes notice

In 2018, the Executive Leadership Team spent time traveling the world meeting employees, customers, investors, politicians, NGOs and other stakeholders, all of whom are important to Novozymes. And it was worth every minute. From these meetings, it is clear that, despite the challenges we are seeing in some of our markets, Novozymes has a very strong platform for future growth – and a purpose that resonates with all of our stakeholders.

It is exciting to work for a company where every single product sold brings value to customers and partners and improves their sustainability

performance. However, the current political and economic climate makes it challenging to achieve a global consensus on solving broader societal challenges.

In 2018, I joined the Board of Directors of Partnering for Green Growth and the Global Goals 2030 (P4G), a global network of leaders and innovators from government, business and civil society seeking breakthrough solutions for green economic growth. I take part in such forums because we cannot change the world by ourselves.

2018: innovation for increased impact

In 2018, we brought a total of eight impactful innovations to market across several innovation platforms. Let me briefly mention a few of these. In animal health & nutrition, we launched Balancius™ to help farmers produce more meat per chicken using less feed. In BioAg, we launched Acceleron® B-360 ST, a new corn inoculant for higher and more sustainable yields.

We added solutions for water to our list of top-priority innovation platforms and subsequently launched an enzymatic product for sludge dewatering, which is an important part of the wastewater treatment process. This new solution helps wastewater treatment plants to reduce their chemical usage, energy consumption and overall disposal costs.

We also launched two yeast solutions for Bioenergy. I am proud to see that these solutions are helping ethanol producers and have already had a positive impact on sales in Bioenergy.

Emerging markets bring opportunities for growth

To support growth in the years to come, we are continuing to step up our activities in emerging markets. These markets hold significant potential, particularly within Household Care and Food & Beverages.

Driving growth in emerging markets requires a good understanding of customers in the region and of their consumers. In 2018, we opened offices in Thailand, Indonesia, the Philippines and Kenya. With these offices in place, we are building more commercial execution power in Southeast Asia and Africa.

We also opened the Novozymes Innovation & Technology Center in Istanbul, Turkey. This center will enable us to develop solutions tailored to the specific needs, trends and production processes of customers in the Middle East and Africa. It features state-of-the-art facilities, including an industrial-scale flatbread line, enabling customers to taste, feel and smell flatbread baked with our solutions.

In 2018, our freshness solution for Household Care was launched in emerging markets. This is our most significant Household Care innovation in years and offers a whole new dimension in clean. The feedback shows that this solution stands out and holds a great deal of potential for the future, both in emerging and developed markets.

“Driving growth in emerging markets requires a good understanding of customers in the region and of their consumers.”

Letter from the CEO

More innovation and supply perspectives

Over the past three years, Novozymes has identified and leveraged important synergies between Research & Technology and Supply Operations. Innovation pipeline management and investment allocation in our production facilities are becoming more complex.

To ensure that our innovation and supply perspectives are represented to an even greater extent within the Executive Leadership Team, Claus Crone Fuglsang, Senior Vice President, Research & Technology, and Graziela Chaluppe dos Santos Malucelli, Senior Vice President, Supply Operations, will take part in meetings. Furthermore, Claus Crone Fuglsang has taken on the title of Chief Science Officer (CSO), reflecting the important role that Research & Technology plays in ensuring that Novozymes delivers truly impactful innovations.

This is testimony to the great work and results that both Claus Crone Fuglsang and Graziela Chaluppe dos Santos Malucelli have achieved over the past few years.

Delivering on our ambitious targets

Creating sustainable value for our key stakeholders is what drives me and my colleagues to deliver every day. In 2018, we made further progress on our long-term sustainability targets. These targets are rooted in the UN Sustainable Development Goals (SDGs) and ensure that we always work toward fulfilling our purpose of creating better lives in a growing world.

Looking ahead

In summary, I am pleased that our impactful innovations are reaching markets with attractive value propositions and strong sustainability impact, helping our customers to improve their processes and products and produce more from less. Overall, we delivered within our guidance for 2018, despite challenging external factors.

In 2019, we expect to increase sales organically by between 3 and 6%. Growth comes from innovation and increased market penetration, particularly in the emerging markets. New game-changing solutions, such as freshness in laundry, Balancius™ for feed and yeast for Bioenergy, will make strong contributions to our topline – and make the world more sustainable. Although the outlook reflects uncertainties, our view on 2019 is positive.

In 2019, we will focus on increasing our commercial execution power to show our customers that we deliver the products, service, quality, reliability and expertise that they expect and that make them stand out in their markets. In addition, we will continue to strengthen our commercial presence in emerging markets. Only by being present in these markets can we engage with and enhance direct dialogue with our customers and build knowledge about the trends and needs our innovations must satisfy. We also continue to build digital competencies and increasingly use digital tools and new ways of working, spanning R&D, production, routes to market, administration and other functions.

We want to remain the undisputed leader in bioinnovation for many years to come. We will revise our priorities during the first half of 2019 and look forward to launching a new strategy in June in connection with a Capital Markets Day.

Thank you

On a final note, I would like to thank Novozymes' employees for their dedication and passion for this company.

Our employees want Novozymes to do well and are strongly motivated to deliver sustainable biological solutions. It is their ability to “rethink tomorrow” that makes us who we are. Their hard work ensures that we are able to deliver incredible innovations and reach even more people around the world with our sustainable solutions. Every single day they go to work, they contribute to creating better lives and setting the right direction for our world.

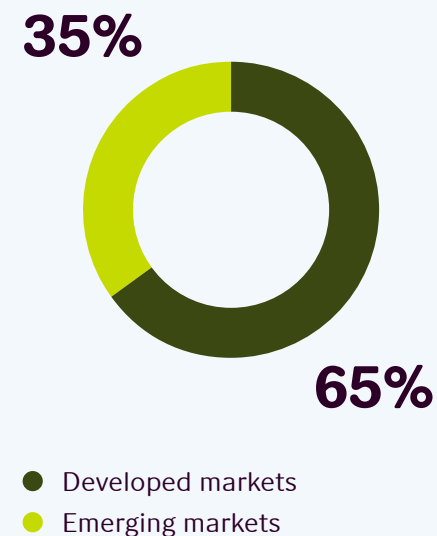


Peder Holk Nielsen
President & CEO

Novozymes holds more than
6,500
active and pending patents

In 2018, total sales came to DKK million
14,390

Sales in emerging and developed markets



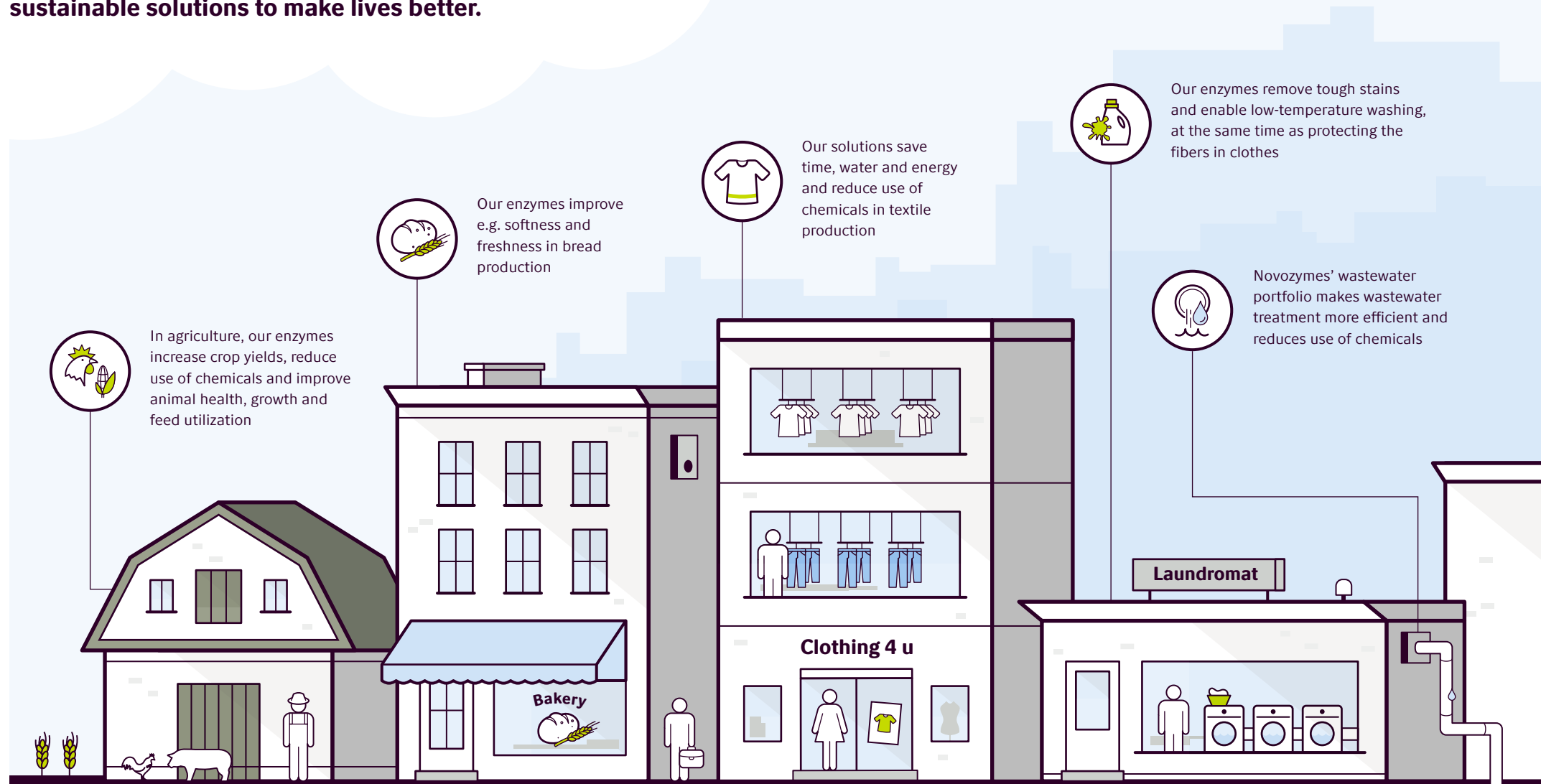
This is Novozymes

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

As a global market leader in biological solutions, we produce industrial enzymes and microorganisms for a broad range of industries.

An estimated 5.6 billion people 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 where Novozymes' solutions make an impact.





Our enzymes help create the lactose-free and other “free-from” foods, among other things, that are in increasing demand around the world



Novozymes’ solutions improve the filtration and flavor of beer as well as 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 use of chemicals



Novozymes’ bioenergy solutions help fuel your car with biofuels from renewable sources, reducing CO₂ emissions compared with gasoline

With more than 6,400 employees on six continents, Novozymes is truly a global company. Here are some facts you might not know about Novozymes.

2/3 of worldwide investment in enzyme development comes from Novozymes

Since 2000, we have brought more than **100** new molecules to market

Novozymes is headquartered in Denmark, and we have production sites in Denmark, the US, Brazil, China, India, Argentina, Canada, and Germany

More than **7%** of employees have a PhD



Novozymes and the Sustainable Development Goals

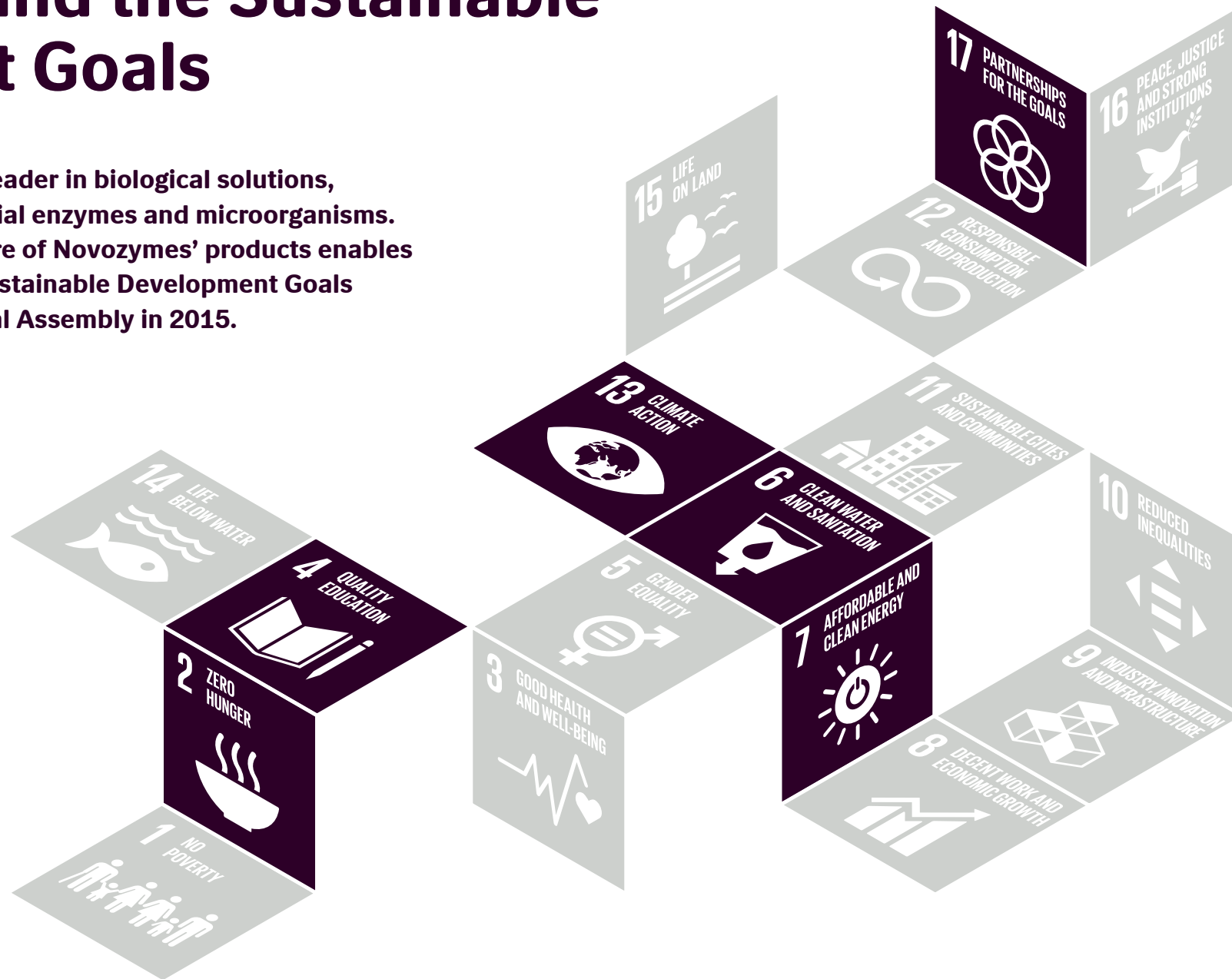
Novozymes is the global market leader in biological solutions, producing a wide range of industrial enzymes and microorganisms. The intrinsically sustainable nature of Novozymes' products enables us to contribute to many of the Sustainable Development Goals (SDGs) adopted by the UN General Assembly in 2015.

Novozymes' purpose and long-term targets are inspired by the SDGs. The sustainable nature of our solutions means that we contribute to achieving the SDGs every day. We assess the potential impact on the SDGs of all the projects in our innovation pipeline. This enables us to advance solutions that have the potential to have a high impact on the SDGs. In 2018, Novozymes set up the SDG Governance Board to build a shared understanding of SDG opportunities and risks, and to ensure that this knowledge is embedded in corporate strategy and targets.

Below are six examples where Novozymes' technology and actions can deliver significant contributions to the SDGs.



See also "Novozymes and the global goals" for more details about how we contribute to the SDGs





GLOBAL GOAL 2: ZERO HUNGER

Many of Novozymes' solutions contribute to enabling sustainable food production and resilient agricultural practices. Together with our partners, we help farmers around the world to make their production more sustainable and increase their productivity. Through The BioAg Alliance, Novozymes works to improve crop harvests using products containing naturally occurring microbes.

We also provide animal health and nutrition products that enable the world's poultry and swine farmers to produce more from less in a sustainable way. Many of our Food & Beverages solutions address specific food and nutrition challenges, for example lactose intolerance and nutritious infant foods.



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. Novozymes aims to educate 1 million people about the potential of biology by 2020. Since 2015, Novozymes has educated more than 612,000 people about biology and how it enables a sustainable future, by engaging with local schools, universities and communities.

In 2018, we conducted several educational activities aimed at external audiences. One example is the Mobile Science Lab, which was set up by Novozymes as a step toward making quality education accessible to remote schools and communities in the vicinity of Bangalore, India.



GLOBAL GOAL 6: CLEAN WATER AND SANITATION

Many of Novozymes' solutions help customers to save water and reduce wastewater, for example in the production of textiles, leather and pulp & paper. We develop biological solutions for wastewater treatment and sludge reduction for municipal and industrial applications.

Through our open innovation platform HelloScience, Novozymes and pump manufacturer Grundfos explore the development of new solutions and partnerships to address water challenges.

In 2018, Novozymes launched BioSec®, which targets sludge dewatering in wastewater treatment.



GLOBAL GOAL 7: AFFORDABLE AND CLEAN ENERGY

Novozymes supports the development of and actively promotes the 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. Novozymes is an active member of the UN Sustainable Energy for All (SE4All) initiative. In collaboration with WBCSD and other partners, we helped launch below50 – a partnership to promote the use of more sustainable low-carbon transportation fuels.

Our vision is to bring together green technologies in a synergistic energy matrix. Read more about our vision and pathway for a global green energy matrix in the sustainability report.

In 2018, through our engagement with the Brazilian Association of Industrial Biotechnology (ABBI), we provided input for RenovaBio – a program designed to stimulate biofuel production and use in Brazil to help meet the country's commitment to reduce greenhouse gas emissions.

Novozymes is committed to increasing the use of renewable energy in our own operations. In 2018, 23% of our energy came from renewable sources.



GLOBAL GOAL 13: CLIMATE ACTION

Novozymes' solutions help address climate change by enabling our customers to reduce their CO₂ emissions. We have set a target of saving 100 million tons of CO₂ in 2020 through the application of our solutions. In 2018, our customers avoided an estimated 88 million tons of CO₂ emissions by applying our products – equivalent to taking approximately 37 million cars off the road.

Novozymes invests in increasing the share of renewable energy in our energy mix. We have said goodbye to coal-based energy at our largest production plant in Kalundborg, Denmark. In addition, we have set an internal carbon price to evaluate our global portfolio of operational eco-efficiency projects and drive decarbonization in our operations.



GLOBAL GOAL 17: PARTNERSHIPS FOR THE GOALS

As part of our strategy Partnering for Impact, we partner with global and regional influencers, policymakers, industry organizations, academia and NGOs to promote the development of sustainable solutions. One of our long-term sustainability targets is to catalyze 5 global partnerships for change. This means that we aim to form five high-impact partnerships by 2020 with public or private organizations that share our agenda and support Novozymes' commercial activities. Novozymes also actively engages in other partnerships aimed at developing sustainable solutions, for example the Partnering for Green Growth and the Global Goals 2030 (P4G) initiative and the Bio-Based Industries partnership in Europe.

In 2018, Novozymes joined heads of state and leaders from business and civil society for the inaugural P4G summit convened to promote partnerships delivering inclusive growth and measurable progress on the SDGs.

Enzymes catering to health trends

Consumers are increasingly interested in foods that are healthier and more natural without compromising on taste.

At Novozymes, we believe that by researching and anticipating trends in the food and beverage industry, we can create solutions for the consumer concerns of today – and tomorrow.

This strategy has delivered on three key food trends: the desire to reduce lactose, acrylamide and trans fats.

Lowering lactose

According to the US National Laboratory of Medicine, an estimated 65% of the world's population has some degree of lactose intolerance. Novozymes has the solution.

In 2016, we launched Saphera®, an innovative lactase that gives dairy product producers the versatility to create high-quality, lactose-free products at the same time as cutting back on added sugar.

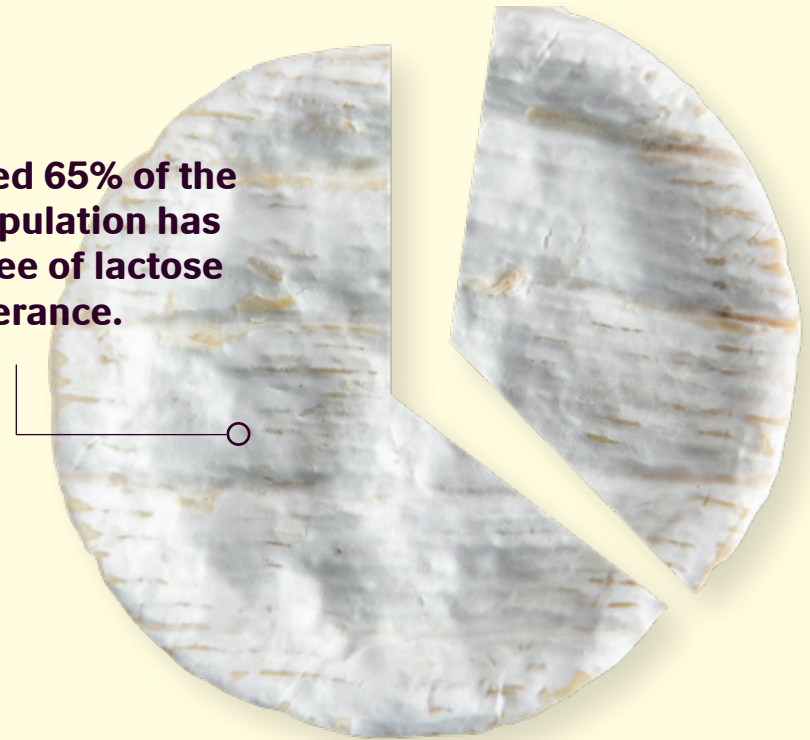
“People perceive products with low levels of lactose and sugar to be better for them,” says Andrew Fordyce, Executive Vice President, Food & Beverages. “Saphera® helps producers meet the lactose-free and reduced-sugar trends at the same time.”

Attacking acrylamide

Many of the food products we eat every day, from cornflakes and biscuits to french fries, contain the substance acrylamide, which forms naturally when starchy foods are processed at high temperatures.

Despite occurring naturally, acrylamide has a dark side – it is a suspected carcinogen. Fortunately, Novozymes predicted the need to find solutions to the acrylamide problem several years ago.

An estimated 65% of the world's population has some degree of lactose intolerance.



In 2007, we introduced Acrylaway®, which reduces the acrylamide content of foods commonly processed at high temperatures by as much as 95%. Legislation is now catching up with science and, in 2018, the European Union tightened regulations on acrylamide in food and beverages. Acrylaway® is used in more than 30 countries today across a range of industrially produced foods.

Tricking trans fats

Who can resist crispy fries, crumbly cookies or crunchy popcorn? But many fried foods and baked goods contain trans fats and, while we may crave them, they are unfortunately bad for our health. Legislation against trans fats is catching up with food manufacturers. Fortunately, there is a solution: enzymes.

“Enzymes can help producers make healthier fats without the use of harsh chemicals. Right now, Novozymes has a well-proven enzymatic solution that producers are picking up on,” continues Andrew Fordyce.

Trend trackers

Macro- and industry trends impact Novozymes and highlight the need for innovation and strong positioning of our solutions. To ensure long-term success, Novozymes monitors and tracks macro- and industry trends with the potential to drive or hinder growth in each of our end markets.

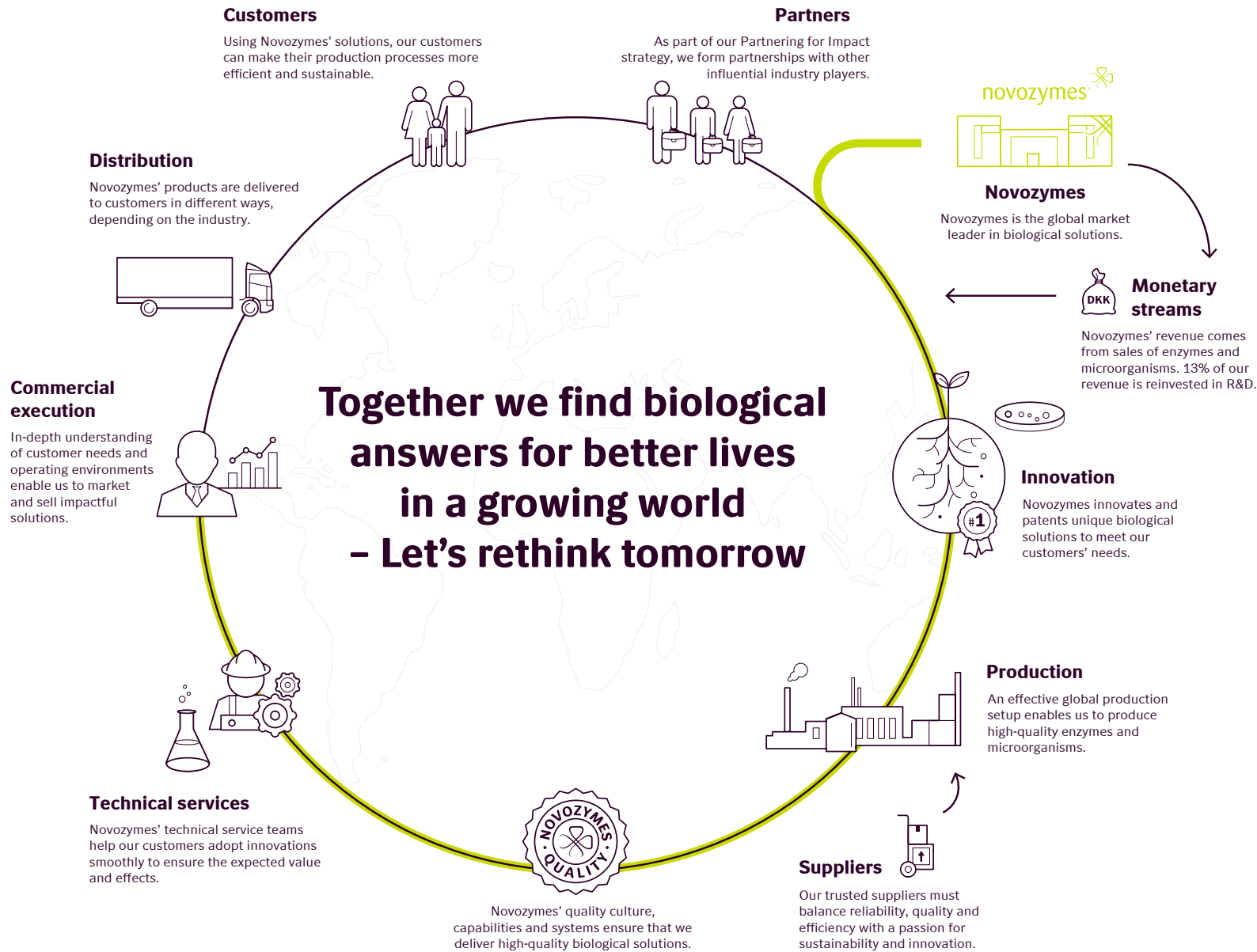


Read more about macro-trends in the Business model section

Our business

Where we make a difference
Novozymes' solutions contributed
to saving an estimated 88 million
tons of CO₂ worldwide
in 2018.

Business model



Macrotrends that impact our business model



Transition to sustainable agriculture



Energy transition



Shifting demographics and urbanization



Water scarcity



Digitalization of the global economy

Our business is about turning science into sustainable biological solutions in a growing world. We use enzymes and microorganisms to unlock business opportunities. From enabling farmers to feed animals more efficiently to giving ethanol producers better control over difficult production processes, our innovations are paving the way for a better tomorrow.

Our business model and our strategy form the framework for how we use our resources to live up to our purpose, meet our long-term goals and develop meaningful partnerships.

A model for sustainability

The very nature of our products means that sustainability is in our DNA as well as being a key part of both our value proposition and business model.

We believe that it is important to optimize our use of resources and minimize our footprint, which is why we set targets for reducing resource consumption and CO₂ emissions. From the moment we enter into agreements with our suppliers and partners through to the production process and beyond, sustainability is a key priority.

And our customers appreciate this. Combining our innovative products with a strong sustainability ethos creates the kind of differentiator that our customers value.

We also demonstrate our commitment to green solutions by estimating the annual impact savings from our customers' applications of our products.

From the moment they were established in 2015, the UN Sustainable Development Goals (SDGs) have been integral to our business. These goals guide our purpose and our long-term targets.

Customers

Because we work so closely with our customers and know that our products often have a tremendous impact on their production processes, we see them as partners.

By using Novozymes' enzymatic and microbial solutions, our customers can save on costs and reduce the environmental footprint of their products and processes. Our solutions have the potential to lower the need for raw materials, conserve resources and improve product quality and effectiveness.

Excellent results are achieved by working closely with our customers to gain a deeper understanding of their needs and those of their consumers. That is how we develop solutions that enable customers to enhance their impact.

Partners

Our Partnering for Impact strategy drives us to seek out and build meaningful partnerships with other influential industry players, for example Monsanto (now Bayer) as part of The BioAg Alliance, and DSM and Adisseo in Animal Health & Nutrition.

These partnerships enable Novozymes to explore and enter new business areas faster and more efficiently by combining our strong innovation know-how and manufacturing expertise with our partners' strong skills in areas such as screening, testing, data processing and commercialization.

Innovation

With R&D facilities in multiple regions and commercial teams with strong insights into different markets, we are able to identify enzymes and microorganisms capable of meeting global and regional needs. More than 23% of our employees work in R&D. Every year, our researchers screen thousands of microorganisms to track down the one that produces the enzyme with the exact characteristics we need for a specific product. Most of our products take between two and five years to progress from idea to market.

We have anchored our specialized application development units in the commercial side of our organization within the Household Care & Technical Industries, Agriculture & Bioenergy and Food & Beverages divisions. This creates a strong connection between the commercial side and R&D. The result is a solid pipeline of impactful products with the characteristics our customers are looking for.

A Portfolio Board manages the R&D pipelines and prioritizes funding across Novozymes' divisions. This board ensures that the innovations we bring to market have strategic and financial impact, and that they help us to deliver on the SDGs.

Production

In order to produce large quantities of enzymes, we use fermentation techniques that enable our microorganisms to multiply.

Fermentation is a core part of our production process. After recovering enzymes or microbes from the fermentation process, we prepare them for use by our customers, either in the form of liquids or granulates. We produce our enzymes and microbes at 16 plants on four continents, and continuously endeavor to optimize and innovate our production processes to ensure that we get the most out of our production capacity. Thanks to these efforts, our capacity utilization is very high.

Suppliers

By using an efficient supplier management system, we support and encourage our suppliers to apply the same rigorous standards to their processes as we do. We work closely with them to innovate and implement responsible and sustainable solutions.

Quality

At Novozymes, we pride ourselves on our high-quality solutions, services and processes. Our close relationships with our customers allow us to anticipate and understand their needs and, consequently, deliver the quality expected of us.

Continuous monitoring and improvement are an integral part of our quality system and a cornerstone of how we advance the products and services we offer our customers.

Technical services

Our technical service teams set us apart from the competition because they optimize product use and make the necessary adjustments tailored to the needs of individual customers. This ensures that our customers realize the value they expect.

Our service does not come to an end when our teams leave the customer's plant. The knowledge our teams gain from working closely with customers feeds back into our product pipeline and goes into improving future innovations. In this way, our relationships with customers are key to measuring our progress and helping us to rethink tomorrow.

Commercial execution

Every interaction we have with our customers is an opportunity to learn more about their needs and engage in dialogue about our solutions. We leverage this in-depth understanding of our customers' products and production processes when selling our enzymes and microorganisms, because we know exactly how our solutions can make a difference to the customer. Take Bioenergy as an example. Here we provide tailored solutions to ethanol plants where we supplement the technology we sell with technical know-how, bringing additional value to the customer.

With facilities such as our Innovation and Technology Center in Turkey and our Detergent Design Center in India, we are able to showcase to customers exactly how our products work for their specific product or industry. The close proximity to customers in these regions is also a great advantage when

presenting new products to existing and new markets.

Traditionally, we market most of our products in direct interaction with customers, but digital go-to-market strategies are becoming increasingly important, and we are constantly looking to optimize how we make customers aware of the benefits of our products and services. We are available and open for dialogue through social media, at trade events and via our owned digital channels such as Novozymes.com.

Distribution

Distribution of Novozymes' products differs from one industry to the next. In Bioenergy and Household Care, most products are dispatched directly from Novozymes to our customers. Within Agriculture & Feed, distribution is carried out by our industry partners. Food & Beverages and Technical markets are more fragmented, with a mixed distribution setup.

Monetary streams

Novozymes' revenue comes from sales of enzymes and microorganisms. Product prices include the cost of technical services.

Around 13% of our sales revenue is reinvested in R&D, benefiting both product innovation and production economy. Novozymes' largest costs are direct production costs and R&D.

When it comes to shareholder returns, we have a target dividend payout ratio of around 50%. We also conduct regular share buyback programs to provide returns for investors.



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 internal 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.

Macrotrends that impact our business

Novozymes' growth and long-term success are influenced by developments around the world that translate into global macrotrends. Some of these trends present potential opportunities while others present potential risks, all of which inform and shape our innovation and operational strategies.

Novozymes has identified five global macrotrends with the potential to impact our business.



	 Transition to sustainable agriculture	 Energy transition
Description	<p>A growing population, shifting consumer preferences and climate change-related supply chain disruptions are putting increased pressure on global food supplies. At the same time, agriculture is in competition for land with other uses (e.g. urbanization). For these reasons, the agricultural sector is seeing growing demand for new and innovative sustainable food production solutions.</p>	<p>Rapid urbanization and a growing population are driving up demand for electricity, heat and transportation. The global movement toward a low-carbon economy and the fight against climate change are triggering a major shift in the global energy system. The cost of renewable energy is falling, and the world is increasingly exploring low-carbon alternatives to fossil fuels.</p>
Our response to the trend	<p>Many of Novozymes' solutions are making a significant contribution to the transition to sustainable agriculture, and this remains a key focus area for innovation.</p>	<p>Novozymes' response to the global energy transition is supported by our commitment to increase the share of renewables in our energy mix as well as by our Bioenergy solutions, which address the need for low-carbon alternatives in the transportation sector, which is still heavily dependent on fossil fuels.</p>
Example	<p>Balancius™: A natural biological solution developed by Novozymes in partnership with DSM for improved chicken gut health, reducing the amount of feed required to raise an animal by 3%.</p>	<p>below50: Novozymes is a founding member of this global campaign to reduce emissions in the transportation sector by increasing demand for sustainable fuels.</p>

	 Shifting demographics and urbanization	 Water scarcity	 Digitalization of the global economy
Description	<p>The global economy is currently driven by three key demographic factors: rapid urbanization, a growing middle class in emerging economies and an aging population in most developed economies. Patterns of consumption are also becoming more varied and complex, particularly with the widening socioeconomic gap. Consumer-based markets are looking for sustainable solutions that can keep pace with these shifts.</p>	<p>Global demand for clean water is expected to outstrip supply by 2030, aggravated by climate change-related weather crises and severe pollution. Several regions of the world are experiencing severe water crises. Governments are responding with stricter regulation and surveillance of water management practices, which is driving demand for solutions that reduce water consumption, increase efficiencies and improve wastewater quality.</p>	<p>Digitalization is transforming the world we live in – from the fabric of society to markets and businesses. This disruptive technology enables companies to adopt new ways of manufacturing, boosts production efficiencies and increases the agility and customization of their products and solutions.</p>
Our response to the trend	<p>Novozymes is partnering with our customers to develop tailor-made solutions to address these changing consumer needs effectively.</p>	<p>Novozymes is exploring the feasibility of using biotechnological solutions to address key challenges within water and wastewater treatment. We already have a number of wastewater solutions in our portfolio, with more expected from our innovation pipeline.</p>	<p>Novozymes is focused on meeting customer needs better, faster and in a more impactful way through industry-leading digital capabilities.</p>
Example	<p>Progress® In: Novozymes' first product designed specifically for the broad market of unpenetrated detergents and to help detergent producers in emerging markets develop better detergents.</p>	<p>HelloScience: An open innovation platform, launched in partnership with UNICEF and pump manufacturer Grundfos, with the purpose of finding new answers to some of the world's most pressing water challenges.</p>	<p>DigiPro: A project that uses data analytics to improve yields, particularly from our fermentation and recovery processes – which are vital stages in the production of enzymes.</p>

Innovation pipeline update

Area	Innovation	Feasibility	Discovery	Development	Launch	Commercial
Household Care	Freshness solutions for laundry detergents	✓	✓	✓	✓	●
Household Care	Tailored emerging-market solutions	✓	✓	✓	●	
Food & Beverages	Vegetable oil processing	✓	✓	✓	●	
Food & Beverages	Grain milling	✓	✓	✓	✓	●
Agriculture & Feed	Animal health	✓	✓	✓	●	
Agriculture & Feed	New transformative BioAg solutions	✓	✓	✓	✓	●
Bioenergy	Biomass conversion	✓	✓	✓	●	
Technical	Solutions for water	✓	●			

Arrows denote progress over the past 12 months.

Novozymes’ innovation pipeline features more than 120 research projects across the business, with many more active leads. Our divisional structure is enabling us to bring new innovation to the market at a higher rate than ever, at the same time as leveraging significant cross-segment R&D synergies.

The table shows the eight priority innovation platforms, each with revenue potential of DKK 500 million or more. These areas represent significant market-expanding growth opportunities, most with the potential to impact the world in a sustainable way, enabling us to live up to our purpose of delivering biological answers for better lives in a growing world.

In 2018, progress was made across most programs – three of which resulted in product launches.

In **Household Care**, the first product from the freshness platform is now available on supermarket shelves in the Philippines as well as in other markets. Our freshness solution delivers completely new functionality, meaning that consumers can experience cleaner and fresher clothes. Available exclusively to one of our largest customers, this is only the first product to emerge from this platform. The overall potential of the freshness platform is expected to be in the region of DKK 1 billion, and we are already off to a very good start.

In **Food & Beverages**, we saw good development within the grain-milling program with the continued rollout of Frontia®, a solution enabling grain-milling processors to obtain significantly more starch and gluten during the grain fiber-milling process, yet with lower water and energy consumption. In vegetable oil processing, we ramped up our trialing activity for Palmora®, which improves yield and process performance in palm oil production by reducing viscosity and improving the separation of oil from the palm fruit pulp.

In **Agriculture & Feed**, both innovation platforms progressed according to plan. The animal health platform covers a broad portfolio of projects – including Balancius™ for improved chicken gut health, which we launched

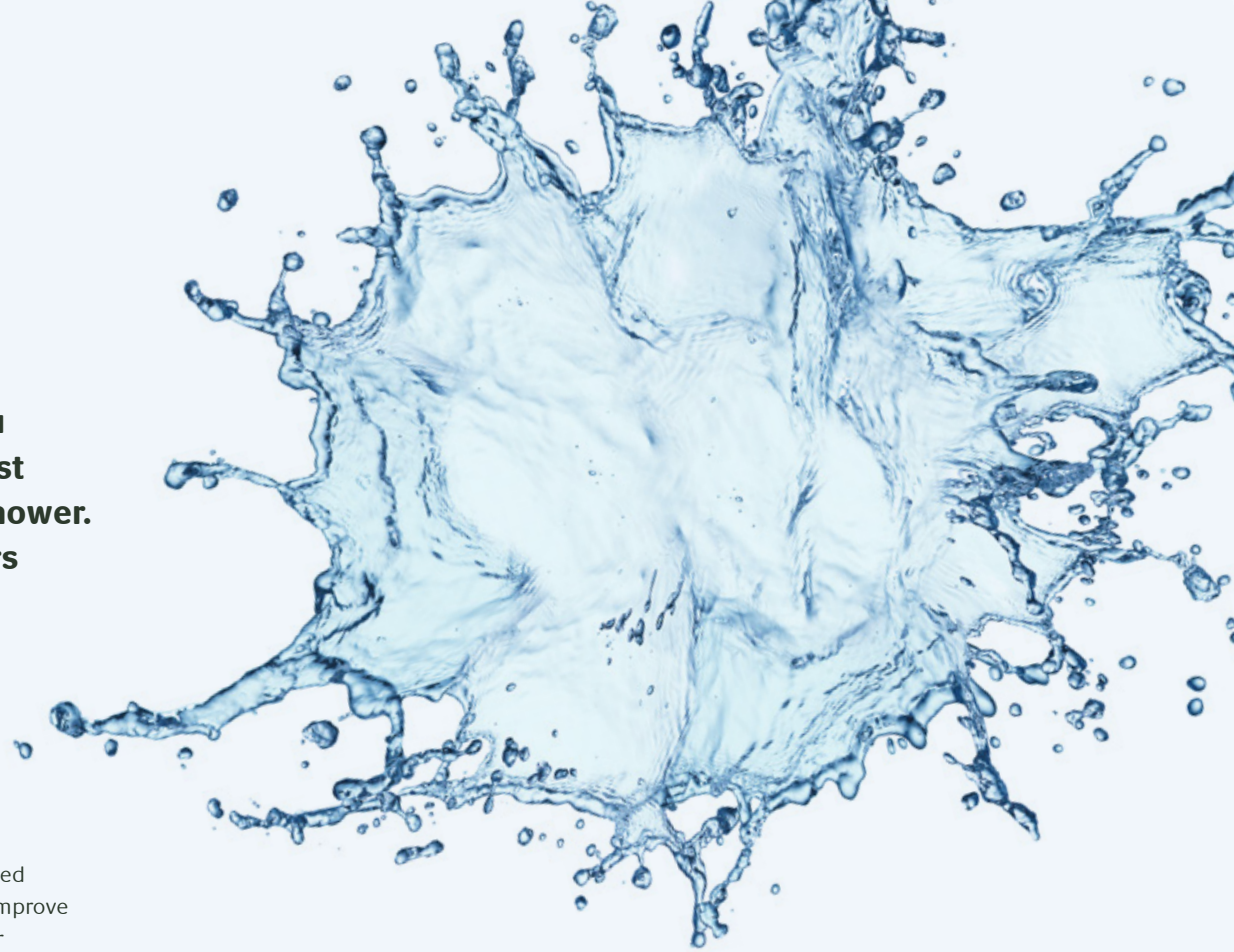
successfully together with DSM. The development with Bayer of new transformative microbes for corn, soybeans and wheat resulted in the launch of the Acceleron® B-360 ST (BioRise 2) corn inoculant.

In **Bioenergy**, the market for second-generation ethanol has not developed as expected over the past years, but we remain positive about the future and the potential for Novozymes to contribute to a more sustainable world through second-generation ethanol. Our enzymatic technology for biomass conversion is ready to be commercialized as soon as the market for second-generation ethanol is ready.

In **Technical**, we were able to launch the first product from the water platform as early as in the fourth quarter of 2018, despite only adding “solutions for water” as a new innovation program in 2017. Our new enzyme technology enables wastewater plants to reduce the water content of their sludge – a by-product of wastewater cleaning. This helps plants to reduce chemical usage, energy consumption and overall disposal costs. This technology brings significant benefits to wastewater operators and to the environment. We are exploring the feasibility of biotechnological solutions that target key challenges within water and wastewater treatment, as we see the water treatment space as an exciting opportunity for Novozymes to leverage our core technologies to help address one of the world’s most pressing challenges.

Every drop counts

You are in the shower. Probably for a little longer than you would like to admit. You are enjoying the hot water and just cannot seem to muster up the resolve to step out of the shower. Ever wonder what happens to the water after it disappears down the drain?



Most likely, it ends up in a municipal wastewater treatment facility to be cleaned and then released into a nearby river, bay or ocean.

From sludge to clean water

The process of cleaning our wastewater results in a by-product called sludge. Municipalities need to dispose of large volumes of sludge every year, but it still holds a lot of water at this stage. This makes disposal more expensive and also means that significant resources are needed to transport and dispose of it.

Dewatering sludge in wastewater treatment facilities can be an expensive affair, and today's dewatering solutions are not very effective. Energy consumption, disposal costs and the use of chemicals all add up.

In December 2018, Novozymes launched BioSec® to help wastewater facilities improve their sludge dewatering, reducing their chemical usage, energy consumption and overall disposal costs.

The magic of enzymes

Enzymes have a natural ability to transform one substance into another. In the case of sludge, enzymes work to break down particles in the water that make it difficult for chemicals to bond with the sludge solids. As a result, facilities are able to use fewer chemicals, making the process less energy intensive. The volume of sludge also decreases, lowering disposal costs.

"We've conducted some trials of our new product with a large treatment facility in Denmark," says Jens Kolind, Vice President,

Technical Industries. "The first results are very promising, and we're receiving positive feedback from the plant. In an industry that focuses on cost reduction and sustainability, an innovative biological dewatering solution can make a profound difference."

Working with customers for a successful launch

When Novozymes prepares for the launch of a new product such as BioSec®, close collaboration with customers that are willing to test the new solution at full scale is key to success.

"BioSec® was developed in close collaboration with a number of potential customers, and we're grateful for their willingness to test it and share the results with us, so that we could optimize it along the way," continues Jens Kolind. "While initial sales are expected to be limited, we're excited about the launch, as it brings significant benefits to wastewater operators and to the environment."



Read more about Novozymes' wastewater solutions on [Novozymes.com](https://www.novozymes.com)

Strategy

At Novozymes, we are committed, together with our partners, to building a more sustainable future – and making an impact on our customers, consumers and the world. To reinforce this commitment, we have defined a purpose and a strategy that guide us in a clear direction as the market leader in biological solutions.

Taking on global challenges

As the world grows, so do the needs of the people living in it. But how can we improve the living standards of a growing population with limited resources? At Novozymes, our business is about turning science into sustainable biological answers in a world with growing needs.

Our purpose – “Together we find biological answers for better lives in a growing world – Let’s rethink tomorrow” – is engrained in how we work and innovate, and it serves as the foundation for our collaboration with customers, governments, academia and other institutions.

All in it together

We call our strategy “Partnering for Impact.” Partnerships are key to our success. Only by engaging in deep-rooted collaborations with others can we make a profound impact on the world.

As far as Novozymes is concerned, mutual benefits and obligations are essential for successful partnerships. One such partnership

is the one we have with our customers. Our solutions are often an integral element of their production processes. Enzymes and microorganisms enable more sustainable and efficient production, and are often the ingredients that allow our customers to stand out from the competition.

By working with the environmental and economic realities facing us and our partners, we can help create tangible and sustained impacts, including optimized processes, breakthrough products, improved profitability and reduced environmental footprint.

With partnerships at its center, our strategy sets out the four focus areas that enable us to fulfill our purpose.

“Together we find biological answers for better lives in a growing world – Let’s rethink tomorrow.”

Novozymes’ four strategic focus areas



Rally for change

We will form partnerships and networks with customers, consumers, governments, suppliers, academia and others around us to make a sustainable difference.



Lead innovation

We will inspire and excite our customers by delivering more significant innovation, tailored to their local markets.



Focus on opportunities

We will prioritize the customers, markets and activities that hold the biggest opportunities for creating impact.



Grow people

We want to be better at enabling our employees to develop their professional and leadership skills.



Rally for change

In 2018, Novozymes continued to work with like-minded organizations to promote sustainable growth. Novozymes was invited to participate in the UN General Assembly for the fifth time. Novozymes' CEO, Peder Holk Nielsen, took this opportunity to engage in dialogue with key influencers and reinforce our commitment to achieving the UN Sustainable Development Goals (SDGs).

As part of his leadership role in supporting the SDGs, Peder Holk Nielsen was the lead business delegate at the P4G – Partnering for Green Growth and the Global Goals 2030 meetings in October 2018.

The Kalundborg Symbiosis received the WIN WIN Gothenburg Sustainability Award 2018 for sustainable production. The Symbiosis is a partnership between Novozymes and seven other public and private companies involved in manufacturing in Kalundborg, Denmark. The companies share their production waste so that others in the partnership can use them as resources in their own manufacturing processes.

HelloScience, Novozymes' open innovation initiative, took another step forward in terms of collaboration. In October 2018, HelloScience announced that Novozymes, Grundfos and NX Filtration BV would be joining forces to develop a new solution to remove pesticides from drinking water using enzymes, water technology and membranes.



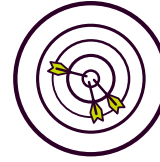
Lead innovation

2018 saw Novozymes flex its innovation muscle with diverse and remarkable solutions tailored to our customers' needs.

In Bioenergy, we launched two products from our new yeast platform: Innova® Drive and Innova® Lift. For decades, the yeast strains used in the starch-based ethanol industry have remained broadly unchanged. The majority of ethanol plants face operational problems related to yeast, which is negatively impacted by high temperatures, infections and organic acids. With the Innova® platform, Novozymes has introduced a brand new yeast strain never seen before in the ethanol industry. The yeast has the characteristics plant operators have been calling for, such as robustness, without the need for major process changes.

In Agriculture, we launched Balancius™ together with our partner DSM. Balancius™ is a natural biological feed additive that will help chicken farmers raise flocks that absorb nutrients better and grow more efficiently. Balancius™ belongs to the enzyme class called muramidases and is the world's first enzyme to improve gut functionality in broiler chickens. The product is being launched in the US and Latin America to begin with, and a global rollout is expected in 2019-2020.

We also launched BioSec® for sludge dewatering in wastewater treatment. BioSec® is the first product from our "solutions for water" innovation platform.



Focus on opportunities

Novozymes' strategy has helped us to strengthen our presence in key markets and focus on regional innovation. In 2018, we opened the Innovation and Technology Center in Istanbul, Turkey, ensuring that we stay close to our customers in the region and develop solutions based on a deep understanding of their needs.

The 700 m² center focuses on baking technologies and features state-of-the-art, locally relevant facilities, including an industrial-scale flatbread line. The center gives customers and partners in the Middle East and Africa easier access to our regional R&D and marketing expertise, allowing us to build on these partnerships even more and improve our commercial execution power in growth markets.

We also opened our Textile Application Center in Bangalore, India, to support the growing textile industry in the region. We pride ourselves on our technical service offering to local customers, and the center will enhance our technical service capabilities and near-to-market innovation.



Grow people

In 2018, we continued to build on successful initiatives from 2017. Teach for Tomorrow, a program encouraging Novozymes' employees to teach biology lessons in local elementary schools, entered its second year. This time round, our employees shared their knowledge of good bacteria to ignite a passion for science in young children.

Innovation is the fuel that drives us, and we want to ensure that our employees adopt healthy practices that leave space for them to grow and for ideas to flourish. Our new initiative, Brain Space, provides employees with inspiration and tools to care for their brain health and thrive in a fast-paced digital work environment. Among other things, employees are encouraged to rethink the meeting culture and their smartphone habits.

Our Lead the Way leadership program has inspired other companies, and in May we were delighted to welcome 70 guests from leading Danish companies, all wanting to learn how we use the program to support our leaders to live our values and drive engagement and performance at work.

Risk management

Novozymes faces a diverse range of risks and uncertainties. Some can materialize within a short space of time, whereas others could emerge more gradually. Continuously strengthening risk management is key to Novozymes' operations and plans for profitable growth.

Our risk management process reduces uncertainty and keeps us on track to achieve our ambitions and deliver value to our stakeholders. Our aim is to identify and mitigate all risks as early as possible in order to reduce their likelihood and impact.

The Board of Directors has overall responsibility for overseeing risks 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 the longer-term threats, trends and challenges facing our business.

Risk management framework

Novozymes 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, at times, some risks require more frequent updates.

Risks are assessed based on a two-dimensional heat map rating system that estimates the impact of a 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. 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.

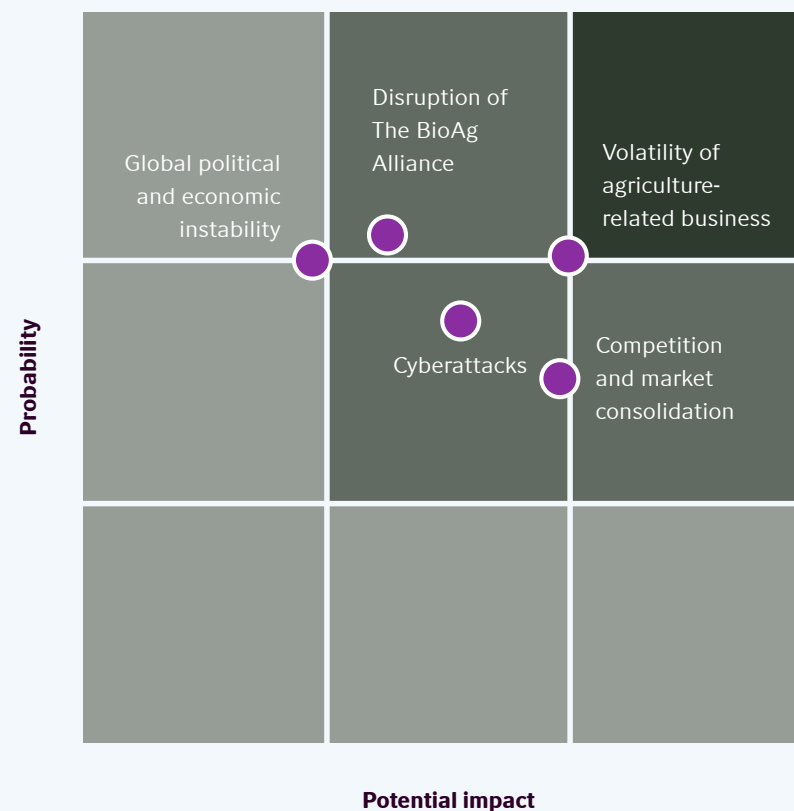
Risk assessment

Four of the key enterprise risks for 2019 are identical to those identified for 2018. The risk regarding Loss of knowledge has been changed to Cyberattacks to reflect the importance of the latter. In addition, "Global political and economic instability" has been added as a risk for 2019. This was previously identified as an emerging risk.

Key risks 2019

This report shows five key risks that may impact Novozymes in 2019. The risks are: Competition and market consolidation; Volatility of agriculture-related business; Cyberattacks; Disruption of The BioAg Alliance; 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 2019

Competition and market consolidation

Novozymes' market-leading position could be challenged by competition from existing and potential new competitors. Consolidation among competitors creates larger-scale players.

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 competitors' financial strength and bargaining power.

Mitigation

We continuously compete with other enzyme manufacturers through enhanced go-to-market strategies and tactics. We are accelerating regional innovation and establishing stronger local commercial teams. Introducing transformative innovations ensures that our product portfolio stands out.

We are also increasing investments in digitalization projects linking areas such as R&D, production, sales and finance, with the aim of further strengthening our competitive profile and profitability.

Volatility of agriculture-related business

Agriculture-related markets are inherently volatile on account of weather conditions, harvest quality, commodity prices, political mandates for ethanol blends and so on. In addition, the ongoing geopolitical uncertainty could add to the volatility of the industry.

Potential impact

Agricultural markets remained somewhat uncertain in 2018. If the volatility of the agricultural markets and poor global farm economics persist, this could challenge our value proposition and profitability in the industry. Without political support, the ethanol industry could be further challenged, putting pressure on Novozymes' profitability. In terms of geopolitical uncertainty, higher import tariffs on agricultural crops, for example, could lead to acreage being further reduced, particularly in North America, where there is relatively high dependency on exports.

Mitigation

We are mindful of the ongoing geopolitical uncertainty and, as we move through 2019, we will keep a close watch on US ethanol inventories and prices as well as on certain crop prices. Substantial R&D investments enable us to develop even better solutions for improving yield and profitability. Our animal health portfolio is continuing to grow, and we now have two yeast products that will cement our position as a technology leader in biofuels.

Cyberattacks

It is extremely important to Novozymes to safeguard sensitive business information and critical assets against the global threat of theft. The risk of collateral damage from cyberwarfare or targeted attacks from cybercriminals is on the rise, due to rapid digital advancements, the geopolitical situation and a lack of regulations and laws.

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 or privileged accounts are inaccessible for a long period.

Mitigation

Our more than 6,500 granted or pending patents act as our defense against infringement by competitors. In addition to the new security initiatives implemented in 2018, we will continue our efforts to mitigate cyberrisks through our updated security strategy, strengthened IT enterprise architecture and stronger focus on IT governance.

Disruption of The BioAg Alliance

Bayer's acquisition of Monsanto continues to entail uncertainty for The BioAg Alliance, in which Novozymes and Monsanto are partners. The uncertainty relates to the future of the Alliance model.

Potential impact

A merged Bayer–Monsanto could expand the reach of The BioAg Alliance and the opportunities available to it. However, there is an element of uncertainty and risk if Bayer is not committed to, and successful in, driving and prioritizing this business area to reach its full potential. There could also be a risk if business is transitioned to a different collaboration model, although this would probably unlock other opportunities as well.

Mitigation

Novozymes' shorter-term focus is to ensure successful launches of biological solutions on Bayer's (Monsanto's) corn seed, starting in 2019.

Novozymes is engaged in close dialogue with Bayer on exploring the best possible collaboration model for both companies for the future.

Global political and economic instability

The risk of political and economic instability was categorized as an emerging risk going into 2018. However, with developments during the year, we now see a high risk of continued and potentially greater instability in 2019. 2018 also saw rapidly changing trade conditions, for example the imposition of tariffs, making it difficult to mitigate risks.

Potential impact

Growing volatility in the global economy and political instability could impair business growth, not only for Novozymes but also in general.

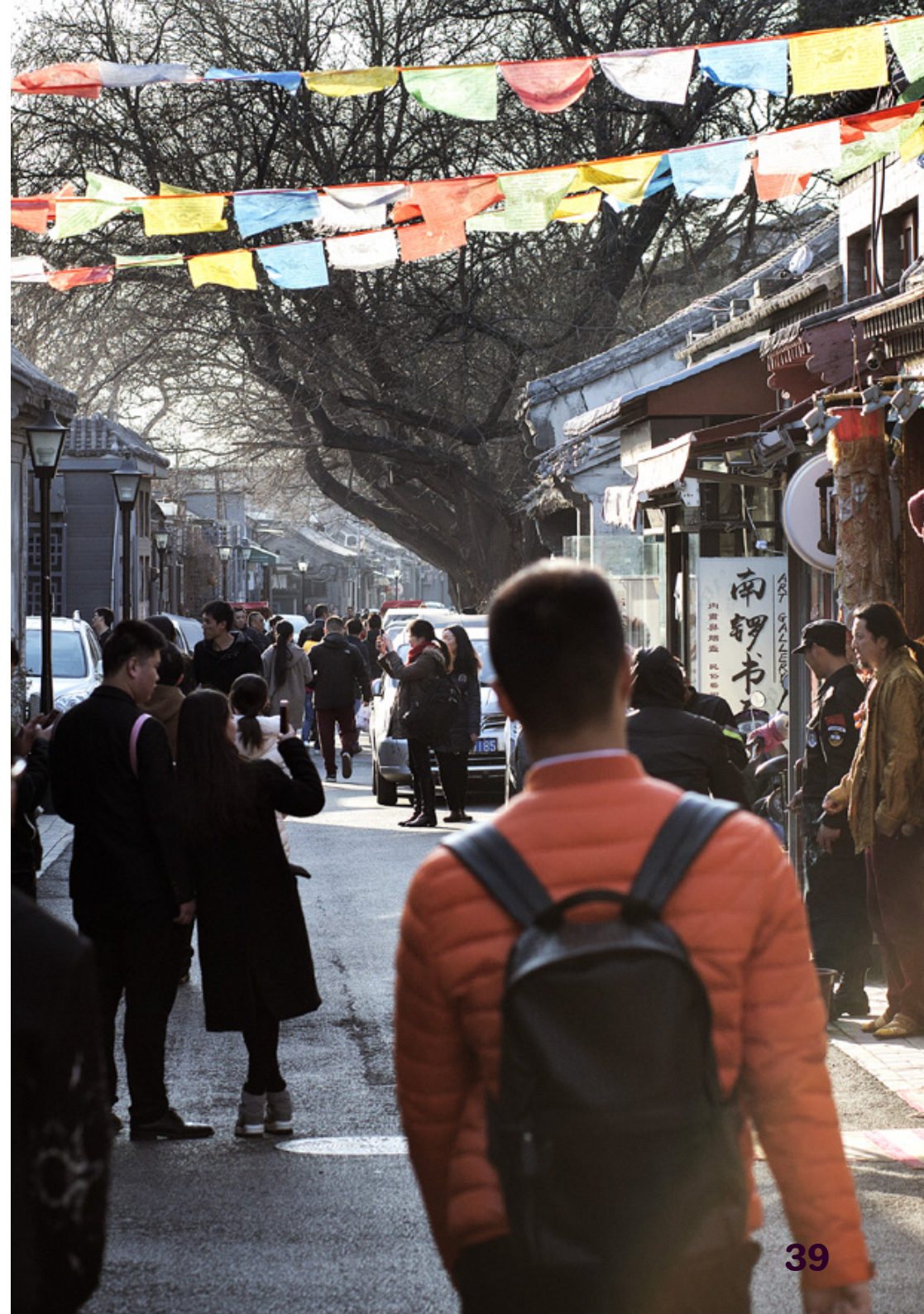
Polarization and trade protectionism can make it more difficult for leaders to agree and work to strengthen global and regional institutions and networks. They also work against globalization generally and pose a risk to the global consensus on climate change and sustainable development.

Adverse economic conditions, such as those seen in the Middle East in 2018, may result in reduced consumer demand and increased 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 insolvency of customers, partners and suppliers.

Mitigation

Novozymes closely monitors political developments and macro- and microeconomic indications so as to be able to respond quickly to any adverse developments.

We actively engage in global forums on sustainability to maintain focus on the benefits of globalization and shared commitments, and we continuously remind the world of the importance of safeguarding a sustainable future.



Mitigating actions taken related to the key risks identified for 2018

Competition and market consolidation

In 2018, Novozymes defended our market-leading position by launching new innovations and optimizing go-to-market strategies for products that had already been launched, to ensure uptake by a wider group of customers. In addition, Novozymes further optimized our legal track for potential intellectual property rights infringement, particularly in emerging markets.

In 2018, Novozymes launched a new, transformative innovation, Balancius™. Transformative innovations set Novozymes apart from our competitors, as they have a profound impact on industries and, often, on people's lives. As the first-ever enzyme for poultry gut health, Balancius™ pushes industry boundaries.

Throughout the year, advancements in our freshness platform also helped mitigate threats from competitors in Household Care. Our efforts to speed up our innovation pipeline and get closer to customers also paid off, with the launch of new, tailored solutions.

In 2018, we further prioritized and invested in digitalization. A Digital Transformations team was set up.

Volatility of agriculture-related business

In 2018, we continued our substantial R&D investments that enable us to develop new and even better solutions for improving yield and profitability, aimed at the agriculture-related businesses.

Through The BioAg Alliance, we launched Acceleron® B-360 ST, which promotes symbiosis between microbes and corn plants to strengthen root systems and increase plants' access to nutrients. Under the brand name BioRise 2, this technology will be used in combination with Acceleron® B-300 SAT.

In Bioenergy, we launched two products from our new yeast platform: Innova® Drive and Innova® Lift. For decades, the yeast strains used in the starch-based ethanol industry remained largely unchanged. The majority of all ethanol plants face operational problems related to yeast, which is impacted by high temperatures, infections and organic acids.

In animal health, we expanded our offerings within natural growth promotion, for example through our alliance with Boehringer Ingelheim. In addition to ensuring that our offerings were competitive, we also monitored competitor pricing in the industry to ensure that our products delivered an optimal price/performance ratio. We partnered with some of the key players in the agriculture-related markets, such as DSM in the feed alliance and Bayer (Monsanto) in The BioAg Alliance.

Loss of knowledge

In 2018, safeguarding knowledge and ability to operate, especially against cyberattacks, remained critical.

Novozymes continued our efforts to mitigate cyberrisks through our updated security strategy, a strengthened IT enterprise architecture, cyberthreat quick fixes and stronger IT governance.

We also continued our active patent strategy by protecting discoveries, production strains, formulations and relevant know-how. Actions continued to be taken to secure Novozymes' assets through a global information security strategy, perimeter protection, access control and so on.

Disruption of The BioAg Alliance

The BioAg Alliance, Novozymes' partnership with Bayer (Monsanto) continued to progress in 2018. The Alliance's third codeveloped product, Acceleron® B-360 ST, was launched under the brand BioRise 2.

In 2018, Novozymes' key priority was to ensure the continued success of The BioAg Alliance, especially in a period of uncertainty and change for our partner. Bayer's acquisition of Monsanto closed in the summer of 2018, and we are in close dialogue with Bayer exploring how to best reap mutual benefits from continued collaboration within the BioAg area.

Looking beyond 2019

In addition to short-term risks, Novozymes identifies emerging risks capable of affecting our business in the longer term (three years and beyond). These risks are determined through our enterprise risk management process and integrated trendspotting exercise. We evaluate and monitor these long-term risks and assess their potential to impact our business and growth. To help us prepare for addressing these risks, we engage with relevant key stakeholders to develop long-term strategies.

In an evolving risk landscape, one of our emerging risks from 2018 – Global political and economic instability – has become even more pertinent in the short term, and this risk has therefore been moved to our list of key risks for 2019.

We are currently closely monitoring a number of emerging risks, among which the following two have been assessed to be of greatest relevance for Novozymes. Some emerging risks also pose opportunities for a business such as Novozymes, due to our strong focus on sustainability and innovative solutions, for example within the food & nutrition space and wastewater treatment.

Concerns about new technology

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

Consumers are more health conscious and vocal in expressing growing concerns about the intended and unintended consequences of biotechnology and genetic engineering on society. 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. 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 consequences of biotechnology with stakeholders.

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 regulation, 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 within our own operations and across the value chain. We invest in improving our water efficiency. Investments are being made to develop a more comprehensive overview of water consumption at all of our sites, and this will enable us to improve water efficiency. Besides the risk that this issue poses to our operations, increasing demand for clean water solutions also serves as an opportunity for our business. Clean Water & Sanitation is one of Novozymes' core contributions to the SDGs.



Targets

We measure progress on our purpose and strategic focus areas against nine long-term financial and nonfinancial targets. These ambitious targets reflect our belief that our biological solutions can have a profound positive impact on the world.

Our long-term targets guide us toward our overall goal of helping the world become more sustainable, at the same time as ensuring Novozymes' continued growth and value creation.

Balancing financial, social and environmental aspects

Novozyymes seeks to generate economic, environmental and social value. This is the triple bottom line approach we have always taken and which is engrained in our purpose, strategy and long-term targets. The triple bottom line approach ensures that business decisions balance financial, social and environmental considerations, always keeping in mind the best interests of our stakeholders.

Long-term sustainability targets

We launched our six long-term sustainability targets in 2015, inspired by the UN's 17 Sustainable Development Goals (SDGs). The goals form the blueprint for a better and more sustainable future for all. They address global challenges such as widespread poverty and hunger, inequality, climate change and water scarcity.

The SDGs encourage global businesses, national governments and wider society to use and develop solutions that contribute toward sustainable growth. Novozymes was one of

the first companies to link its business targets to the SDGs. The opportunity to provide solutions to these global challenges translates into business opportunities for Novozymes and strong partnerships with like-minded stakeholders.

Long-term financial targets

Novozyymes' long-term financial targets expire at the end of 2019. They reflect our commitment to deliver economic value through organic sales growth at an attractive earnings level, while investing sensibly to drive additional long-term profitable sales growth. Delivering high economic value ensures that we are able to continue investing in innovation and driving a sustainability agenda. Growing organic sales is a priority, because only by selling more of our solutions will we achieve the sustainable impact we strive for and so live up to our purpose.

We continue to invest in strengthening our leadership position within industrial biotechnology and in leveraging the potential of our innovation pipeline (see Business model). From the perspective of profitability and return on capital, Novozymes' other two long-term financial targets are EBIT margin of 26% or above and Return on invested capital (ROIC) including goodwill of 25% or above (before the implementation of IFRS 16

Leases). The ROIC target excludes the impact of potential acquisitions.

For 2019 specifically, we expect to increase organic sales by 3-6%. Growth comes from innovation and increased market penetration, particularly in the emerging markets. New game-changing solutions, such as freshness in laundry, Balancius™ for feed and yeast for Bioenergy, will make strong contributions to our topline – and make the world more sustainable. Although the outlook reflects uncertainties, our view on 2019 is positive.

ROIC is expected at around 23% (2018: 24.2%) in 2019. The average calculation of invested capital now includes a higher end balance following the major investment programs that we announced early in 2017. Adjusting for the implementation of IFRS 16 Leases, which has a negative impact of around 1 percentage point, the outlook for ROIC would have been around 24% for 2019.

Our long-term sustainability targets

- ◎ **REACH**
6 billion people with our solutions by 2020
- ◎ **EDUCATE**
1 million people about the potential of biology from 2015 to 2020
- ◎ **CATALYZE**
5 global partnerships for change from 2015 to 2020
- ◎ **DELIVER**
10 transformative innovations from 2015 to 2020
- ◎ **SAVE**
100 million tons of CO₂ in 2020
- ◎ **ENABLE**
Novozyymes' employees to develop by 2020

REACH

6 billion people with our biological solutions

Every time a consumer uses a product that has been made using or treated with Novozymes' technology, or contains one or more of our products, the world becomes a bit more sustainable. By 2020, we want 6 billion people worldwide to be using products made with our solutions at least once a week.

This target relates to SDG 12 Responsible consumption and production

Our solutions enable more efficient use of natural resources, decreased use of chemicals and a reduced environmental impact. By giving more people access to biological solutions, we enable sustainable consumption and production.



This target is closely linked to our sales performance. The target achievement is essentially an estimation of how many people use a product that was made using, was treated with or contains Novozymes' solutions.

Achievements in 2018

In 2018, an estimated 5.6 billion consumers used more than one of our solutions on a weekly basis – up from 5.2 billion in 2017.

- In 2018, Novozymes took a long stride toward achieving the 6 billion target due to contributions from the laundry and textile industries
- Most of the REACH growth in 2018 originated from Africa, India and China, all of which will continue to be major growth regions for REACH in 2019

What's next?

A favorable increase in REACH depends on successful strategy execution in each industry and expanded sales in emerging markets.

Regional solutions to regional issues

As far back as 2000 B.C., people living in the Middle East developed fermentation techniques that they used in baking, brewing and cheese-making.



Flatbreads are hugely popular in the region, but they quickly go stale and become dry. At our new innovation center in Istanbul, Turkey, Novozymes is actively working to solve this and other issues.

Driving innovation with successful regionally tailored solutions requires an in-depth understanding of customers in the region and their consumers. One way to gain this understanding is to invite customers over to "our place," to share our world with them and get to know theirs better. The Novozymes Innovation & Technology Center, our new customer center in Istanbul, is a key part of this approach in the Middle East and Africa (MEA) region. It opened in April 2018 and will enable us to develop solutions tailored to the specific needs, trends and production processes of customers in the region.

Emerging markets such as MEA have the greatest untapped potential when it comes to increasing the reach and associated impact of sustainable solutions. Water and arable land are scarcer in MEA than in any other region. Ensuring a

sustainable supply of quality food and beverages for a growing population despite these scarce resources is one of the most pressing challenges the region faces. Enzymes are nature's own toolkit for making more from less, so regionally tailored enzymatic solutions have huge potential when it comes to solving this challenge.

The center features state-of-the-art, locally relevant facilities, including an industrial-scale flatbread line.

"Together with our customers, we'll accelerate innovation through on-site baking trials, flour analyses and evaluations of aspects such as texture and freshness," says Andrew Fordyce, Executive Vice President, Food & Beverages. Over time, the center will also include facilities relevant to other industries, including starch processing, brewing, dairy and household care.

EDUCATE

1 million people about the potential of biology

Ensuring access to quality education for all is crucial for global sustainable development. At Novozymes, we believe that the more people we educate about biology, sustainability and the environment, the more people will get involved in creating and using sustainable biological solutions. The activities described in this target are purely for educational purposes and are not related to Novozymes' sales and marketing.

Achievements in 2018

In 2018, Novozymes educated around 302,000 people. This brings our total to more than 612,000 learners since 2015.

This target relates to SDG 4 Quality education

By helping young people to understand the potential of biology, Novozymes is helping them to gain the knowledge and skills to promote sustainable development. Our program also ensures that we roll out new solutions to improve learning outcomes related to biology.



Examples of activities:

- In North America, various events helped to teach more than 60,000 students, parents and teachers
- In Latin America, among other things, we partnered with educational institutions and educated teachers about scientific experiments to exemplify how to change the world through biology
- 25,000 children from across Denmark took part in the Mass Experiment to find good bacteria in nature
- In India, two flagship initiatives, Agastya Mobile Science Labs and Hand Print, educated around 80,000 people
- In China, employees got involved in the Parents' Class initiative to teach schoolchildren about biology
- As part of our global Teach for Tomorrow program, Novozymes employees taught elementary schoolchildren worldwide about bacteria

What's next?

In the coming year, we will build on the success of our programs across all regions. We also intend to develop new partnerships with relevant educational organizations.

We're going on a bacteria hunt!

Bacteria are all around us – and inside us.



Where we make a difference
"Bacteria are a fantastic resource that can be used to solve the biggest challenges of our time."

In fact, these single-celled organisms are so numerous, it is believed that there are more than a trillion different bacterial species in the world. Yet only 20,000 have been described.

In 2018, Novozymes took part in the world's biggest bacteria hunt, helping 25,000 Danish schoolchildren to search forests and parks for samples of beneficial bacteria. The hunt was part of the Mass Experiment organized by Astra, the Danish national center for education in natural sciences. Novozymes developed this year's bacterial theme in collaboration with Astra in the hope of children being inspired by science and nature.

"Bacteria are a fantastic resource that can be used to solve the biggest challenges of our time. They can be used as biological fertilizer, to produce biochemicals and to develop health-beneficial products containing live bacteria," says Mads Bjørnvad, Senior Department Manager, Microbe Technology.

Only 20,000 of more than 1,000,000,000,000 bacterial species in the world have been described.

After the schools had analyzed their findings, they sent the test kits – decorated with hearts, leaves and messages such as "I love nature. Science is exciting!" – to Novozymes, so that our scientists could screen and characterize the bacteria.

The results were published in January 2019 as a bacterial map of Denmark, showing where to find the various species of *Lactobacillus* bacteria.

Read more about our educational initiatives in Note 8.4 Community engagement

CATALYZE

5 global partnerships for change

To make the necessary impact on the world, we need strong partners dedicated to working with us to solve key global issues. By 2020, we aim to form five high-impact partnerships with public or private organizations that share our agenda and support Novozymes' commercial activities.

Achievements in 2018

Novozymes is a founding member of the Brazilian Association of Industrial Biotechnology (ABBI) – an organization that seeks to promote innovation and

sustainable development of the industrial biotechnology sector in Brazil. Through our engagement with ABBI, we provided input for new public biotechnology policies as well as for sustainability programs that promote biotechnology in the country. This work resulted in the approval of RenovaBio – a government program designed to stimulate biofuel production and use in Brazil to help meet the country's commitment under the Paris Agreement to reduce greenhouse gas emissions. In 2018, we collaborated with ABBI to help to implement the program.

Between 2015 and 2018, Novozymes has catalyzed two global partnerships for change: below50 (2017) and ABBI for RenovaBio (2018).

What's next?

In 2019, we will continue to develop existing partnerships and work to create promising new partnerships.

This target relates to SDG 17
Partnerships for the Goals



Boosting biofuels in Brazil with RenovaBio



Governments across the world are seeking to meet the Paris Climate Agreement's 2°C temperature increase cap and support SDG 7 Affordable and Clean Energy. One component of this is finding sustainable alternatives to traditional fossil fuels. Wanting to be ahead of the game, the government of Brazil recognized some time ago that in order to keep to the Paris Climate Agreement, it would need more sustainable alternatives to meet the country's growing demand for transportation fuels.

Introducing RenovaBio

ABBI was formed to help support the move toward sustainable fuels, with Novozymes as a founding member. ABBI promotes innovation and sustainable development of the industrial biotechnology sector in Brazil.

"Brazil is a large and growing market for Novozymes' bioenergy solutions. Cofounding ABBI was a great opportunity for Novozymes to engage in dialogue with key stakeholders on securing a sustainable future for industrial biotechnology in Brazil," says Pedro Luiz Fernandes, Head of Corporate Affairs & Sustainability, Latin America.

Through ABBI, along with other industry groups, Novozymes provided the Brazilian government

with input and support for the creation of the national biofuel policy, the RenovaBio program, which was approved by the National Congress on December 26, 2017.

In short, the policy states that:

- The average carbon intensity of gasoline must be reduced by 10.1% by 2028
- Fuel distributors must gradually increase the amount of biofuels they sell each year in proportion to their respective market share for fossil fuels, thereby supporting the expansion of the bioenergy market in Brazil. According to a government study, this could double Brazil's ethanol production by 2030

In 2018, Novozymes and ABBI continued to provide detailed information to assist with the implementation of the RenovaBio program, including presenting new technologies for the production of renewable fuels.

DELIVER

10 transformative innovations

Our aim is to deliver 10 transformative innovations by 2020 that create significant impact for our customers and make the world more sustainable.

This target relates to SDGs 2, 6, 7, 9, 12 and 13

By working on transformative innovations, Novozymes is enhancing scientific research and upgrading the technological capabilities of industrial sectors globally. Our innovations will further contribute to achieving the SDG impacts related to agriculture, water treatment, energy consumption, sustainable consumption, production and climate change.



When evaluating our innovation efforts and pipeline, we consider the financial and transformative potential of each innovation and measure its impact against the SDGs.

Achievements in 2018

Together with our partner DSM, Novozymes launched Balancius™ – the world’s first enzyme to improve gut functionality in broiler chickens.

Novozymes delivered five transformative innovations between 2015 and 2018. In addition to Balancius™, we launched Frontia® and our freshness solution in 2017, Acceleron® B-300 SAT in 2016 and Alterion® in 2015.

What’s next?

An overview of some of the most promising programs in Novozymes’ innovation pipeline as well as their current status can be found in the Business model section. Several of these have transformative potential.

Balancius™: a good gut feeling



Our new game-changing poultry gut health innovation helps farmers raise healthy flocks that grow and thrive.

Flashback to 1984, as Japanese Professor A. Yoneda, armed with petri dishes and ankle-deep in muck, enters a pigsty on a farm outside Tokyo, Japan. He collects some samples and heads back to his lab where, a little while later, his research reveals a unique fungus – from a rare class of microbes – capable of surviving in alkaline conditions.

"Balancius™ is the first and only feed additive that targets the bacterial cell debris in the guts of chickens," says Susanne Palsten Buchardt, Vice President, Animal Health & Nutrition Commercial. "It's a game-changing technology that pushes industry boundaries."

All in the details

Balancius™ works by removing leftovers from dead bacteria from the chicken's gut without changing its natural gut flora, with the result that poultry farmers need 3% less feed to raise an animal.

Little did he know then that this expedition would hold the key to saving 4.2 million tons of CO₂ emissions 34 years later.

From pigsty to chicken guts

In view of the growing global population, the UN has highlighted food production and climate action as being among the world's biggest challenges. At the same time, consumers are demanding meat from antibiotic-free, sustainably raised animals. So how can we produce more poultry, for more people, more sustainably? With Balancius™ – the world's first enzyme that improves gut functionality in broiler chickens.

That means significant savings for the average farmer, who spends 70% of total production costs on feed. It means big savings for the rest of us too. If Balancius™ were used for all broilers in Latin America and North America, the total potential annual saving in terms of greenhouse gas emissions would be 4.2 million tons of CO₂.

Scientists at Novozymes developed Balancius™ based on the same rare fungus that Professor Yoneda discovered more than three decades ago. Launched this year in partnership with DSM, the world leader in animal nutrition, Balancius™ allows chickens to absorb more nutrition from their food.

"Poultry farmers are constantly looking for new solutions to solve the challenges facing the industry while meeting consumer demands," continues Susanne Palsten Buchardt. "Balancius™ offers a new way for farmers to improve feed conversion into meat and deliver animal-based protein to feed a growing population more sustainably and naturally."

Our targets

REACH EDUCATE CATALYZE DELIVER **SAVE** ENABLE

SAVE

100 million tons of CO₂

Our products help customers avoid CO₂ emissions and improve their sustainability performance by reducing their consumption of energy, raw materials and chemicals. To help mitigate climate change impacts across the value chain, we aim to save 100 million tons of CO₂ in 2020 through the application of our solutions.

Achievements in 2018

We estimate that our solutions saved customers a total of 88 million tons of CO₂

This target relates to SDG 13 Climate action

By enabling low-carbon production, Novozymes is helping to improve climate change mitigation capacity across several industries.



in 2018. This figure is based on life cycle assessments (LCAs) spanning raw material extraction, production use and final disposal.

Our products for starch-based ethanol and BioAg contributed significantly to this target in 2018. For starch-based ethanol, the positive effect was driven by the launch of our yeast products (Innova® Drive and Innova® Lift), overall sales volume growth and a higher average CO₂ reduction effect due to changes in product mix. In BioAg, our new corn inoculants made a significant contribution to reduced CO₂ emissions.

What's next?

Delivering on the CO₂ savings target is closely connected to the volume of enzymes and microorganisms brought to market.

Solutions for starch-based ethanol, laundry and agriculture have significant potential to contribute further to the achievement of the SAVE target. We will continue to explore these and other opportunities to make even greater CO₂ savings.

Time to get excited about yeast

In 2018, Novozymes successfully launched two yeast solutions that will help Bioenergy customers to optimize their ethanol production, save on resources and achieve better yields.

In 2018, Novozymes revealed our new yeast platform for starch-based ethanol – Innova® – and introduced the first two products: Innova® Drive and Innova® Lift. Developed to meet the need for reduced fermentation time and increased stability, our yeast strains are totally unique.

Close collaboration with customers is key

Yeast represents a major bottleneck in ethanol production because it requires constant care and attention. Bringing a new product to market can be a challenge when that product is a vital part of the customer's production process. Because of the close working relationship between Novozymes and our customers, our technical service teams were invited to test the yeasts in customers' plants as part of the development process.

"Good customer relationships are important in this process," says Brian Brazeau, Vice President, Biofuels Commercial. "Customers trust us to test something new in their plants. In turn, they get access to the latest technology on the market."

Two products for two time ranges

Our Innova® platform consists of two products: Innova® Drive for fermentation times under 57

hours and Innova® Lift for fermentation times over 57 hours. Both products are highly tolerant and robust, putting ethanol producers in control and reducing operational stress.

"Customers trust us to test something new in their plants. In turn, they get access to the latest technology on the market."



ENABLE

Novozymes' employees to develop

Our ability to grow and contribute to a better world depends on our ability to enable our employees to develop, both personally and professionally. This target ensures that Novozymes builds the skills needed to deliver on our strategy. It will also ensure that all employees realize their full potential.

Achievements in 2018

- By 2020, Novozymes aims to have 30% or more women in senior management. In 2018, we met this target, as 30% of senior management are women

- In 2018, we implemented TunedIn, a new employee survey and dialogue tool. The survey is used in conjunction with team talks throughout the company about how we work and grow together. The survey shows an employee development score of 78, which meets our target of 75 or above
- In 2018, we successfully enrolled more than 300 leaders (~30% of all leaders) in Lead the Way

What's next?

In the coming years, we will work on the following focus areas to enable Novozymes' employees to develop their skills:

- Unlocking the potential of talents across our global organization
- Further developing our leaders through Lead the Way and other initiatives
- Promoting more agile and flexible working structures, and building the skills required to embrace digitalization

This target relates to **SDG 8 Decent work and economic growth** and **SDG 5 Gender equality**



Swipe right for leadership development

A new digital-based program helps Novozymes' leaders to develop their skills at the same time as staying on schedule.

Lead the Way is a new leadership development program that will ensure that all of Novozymes' leaders develop the core leadership skills needed to live our values and drive employee engagement and performance. Lead the Way is organized digitally through an app with a learning path, and while most leadership development programs typically last just a few days, Lead the Way focuses on continuous learning.

"We use a blended learning technique where we work with a variety of on-the-job learning modules," says Flemming Karstens Søbørg, Head of Leadership & Talent Excellence.

The program also boasts a library of e-learning resources, podcasts and videos as well as featuring a two-day practical training session, enabling leaders to meet face to face to share knowledge and get feedback from one another.

Overall, it has been designed to focus on five core leadership skills:

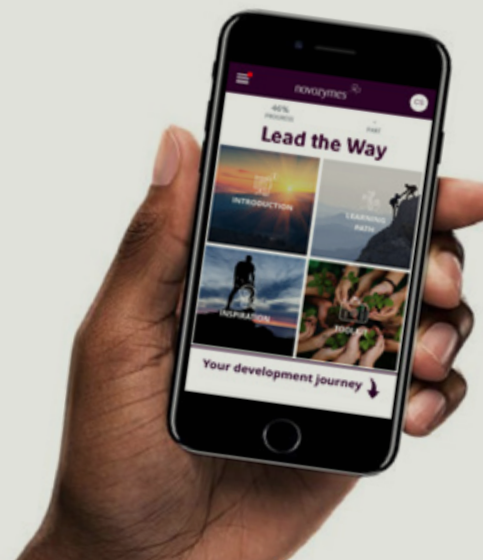
- ✓ Clarify direction and purpose
- ✓ Empower and follow up
- ✓ Assess and improve performance
- ✓ Coach and develop employees
- ✓ Build collaborative teams

"If our leaders master these five skills, they'll be able to drive employee engagement and performance and lead with the Novozymes touch," continues Flemming Karstens Søbørg.

Training on the go

The Lead the Way app enables leaders to track their progress and fit training modules into their work schedules. The app will prompt them when tasks need to be completed.

"Our leaders have busy schedules," concludes Flemming Karstens Søbørg. "That's why we took a pocket-sized approach to this program. Everything they need is just a swipe away!"



Outlook for 2019

Sales outlook

Novozymes expects 3-6% organic sales growth for 2019. Growth is supported by strong innovation and increased market penetration, especially in the emerging markets. The 3-6% range also reflects geopolitical uncertainty such as the one in the Middle East (affecting Household Care, Food & Beverages and Technical & Pharma), the future setup of our BioAg business as well as volatile agricultural markets.

Using current spot rates as full-year estimates for the major currencies, and including lower recognition of deferred income (BioAg), Novozymes expects to see a positive impact of approximately 1 percentage point for growth in DKK. Roughly DKK 113 million of deferred income will be recognized in 2019, compared with DKK 169 million in 2018.

The first quarter of 2019 is expected to see a modest decline in organic sales y/y, mainly due to annualization of the Middle Eastern impact from the second half of 2018, a challenging Feed comparison and the enzyme price reductions in US baking coming to an end. Organic sales growth in the second half of the year is expected to be much stronger thanks to an easier Middle East comparison, the freshness platform in Household Care entering Europe, BioAg seasonality, an easing y/y price effect in US baking and Bioenergy volume growth picking up in the US market.



Household Care organic sales growth is expected to be supported by a broader rollout for the freshness platform and increased penetration in emerging markets, where we tap into consumer trends with our innovative enzymes for both liquid and powder detergents. The development of the freshness platform is tracking according to plan, and we expect to ship to more emerging markets through the year and to Europe in late 2019.

The dose reductions at some of our large customers are likely to continue, although at a lower level. This puts a dampener on growth.

We expect low-single-digit organic sales growth for Household Care, including annualization of the Middle Eastern impact.



Food & Beverages organic sales growth is expected to be driven by continued step-up in commercial presence, especially in the emerging markets, as well as by ramp-up of newly launched innovations, such as Frontia® and Palmora®. There is a modest positive expectation for baking, including planned price decreases in the US coming to an end in the first quarter.

Food & nutrition is expected to continue its good momentum, supported by the enduring health awareness trends. We expect continued solid growth across all industries with mid-single-digit organic sales growth overall in Food & Beverages, including annualization of the Middle Eastern impact.



Bioenergy organic sales growth is expected to be driven mainly by increased penetration from innovation as well as volume growth outside the US market. We expect US ethanol production in 2019 to be slightly lower than in 2018, with ethanol inventory levels remaining high into 2019. As such, we expect first-quarter US ethanol production to decline, before improving for the rest of the year. We expect high-single-digit growth in Bioenergy for the full year.



Agriculture & Feed sales to the agriculture-related markets are subject to uncertainty, due primarily to global farm economics and trade-related concerns. We are negotiating with Bayer regarding the future setup of the BioAg business, which is also a source of uncertainty.

Feed sales are expected to grow modestly for the year. We expect a low-single-digit decrease to a mid-single-digit increase in organic sales for Agriculture & Feed for the year.

Novozymes expects to recognize roughly DKK 113 million of the deferred income in BioAg as revenue in 2019. Deferred income does not impact the calculation of organic sales growth rates; it impacts realized sales growth in DKK but has no cash flow impact.



Technical & Pharma was impacted by the challenging markets in the Middle East during the second half of 2018, a situation that is expected to continue in the first half of 2019. We expect low-single-digit organic sales growth for the year, including annualization of the Middle Eastern impact.

Profit outlook

For 2019, we expect an EBIT margin of 28-29%, including a minor positive impact from currencies. As currencies are experiencing high volatility, in particular the US dollar, a weakening relative to what has been assumed in the guidance for the full year could impact the EBIT margin negatively. The DKK ~60 million lower deferred income expected in 2019 relative to 2018 impacts EBIT, and the EBIT margin, negatively. Sales growth and productivity improvements are expected to be supportive of margins, mitigating the effects of higher input costs.

Given the current visibility and interpretation of various country-specific tax rules and levels, Novozymes expects an effective tax rate of 18-20% for 2019.

Financial outlook

	2018 realized	2019 outlook ¹
Sales growth, organic	4%	3-6%
EBIT margin	28.3%	28-29%
Net profit growth	3%	0-5%
Net investments excl. acquisitions, DKKbn	1.4	1.0-1.3
Free cash flow before acquisitions, DKKbn	2.3	2.2-2.6
ROIC (including goodwill)	24.2%	~23% ²
Avg. USD/DKK	631	657

1. Assumes that the exchange rates for the company's key currencies remain at the rates on January 23 for the rest of 2019.

2. The implementation of IFRS 16 Leases has a negative impact on ROIC of approximately 1 percentage point.

Net profit growth is expected to be 0-5%. The USD currency exposure has been hedged through forward contracts at an average exchange rate of 6.21 USD/DKK for 2019.

Net investments are expected to be DKK 1.0-1.3 billion (2018: DKK 1.4 billion). The investment level for 2019 reflects general maintenance CAPEX, expansion CAPEX as well as the finalization of the innovation campus in Lyngby, Denmark.

Free cash flow before acquisitions is expected to be in the range of DKK 2.2-2.6 billion (2018: DKK 2,291 million). The reclassification of lease payments (IFRS 16) is expected to impact free cash flow positively by around DKK 0.1 billion.

Return on invested capital (ROIC) including goodwill is expected at around 23% (2018: 24.2%). The average calculation of invested capital now includes a higher end balance following the major investment programs that we announced early in 2017. The implementation of IFRS 16 Leases has a negative impact on ROIC of approximately 1 percentage point.

Currency exposure

From a currency perspective, we expect 2019 EBIT to be most exposed to fluctuations in the USD.

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.

Since October 2018, we have hedged our expected USD cash flow using 12-month rolling contracts. 2018 was fully hedged at an average of USD/DKK 6.18. 2019 is fully hedged at an average of USD/DKK 6.21.

The outlook is based on exchange rates for the company's key currencies remaining at the closing rates on January 23 for the full year.

Sustainability outlook

Novozymes remains committed to continuously improving the sustainability performance of our own operations and supply chain. Improving sustainability performance is a long-term undertaking, and we will continue to pursue and prioritize opportunities to make our operations more cost-effective, environmentally friendly and socially responsible.

For 2019, we will continue with annual targets to keep our resource consumption and CO₂ emissions lower than our organic sales growth, while working to define better long-term targets in these areas. We will work to improve the share of renewable energy in our energy mix to support us on our journey of decoupling our business growth from the impact it has on the environment. We will also sharpen focus on our safety culture and continue our global initiatives to improve our safety behavior to reduce the number of accidents in 2019.

We are seeing an increasing level of third-party assessment and engagement with our investors on our sustainability performance. In an effort to streamline our reporting on sustainability to various channels, we decided to discontinue our participation in the RobecoSAM

corporate sustainability assessment. However, our commitment to improving our sustainability performance and disclosure remains intact.

Key sustainability targets

Environment	2019 target	2020 target
Estimated reduction in CO ₂ emissions through our customers' application of our products, million tons	≥ 94	100
Growth in absolute water usage*	< organic sales growth	
Growth in absolute energy usage*	< organic sales growth	
Growth in absolute CO ₂ emissions*	≤ organic sales growth	
Renewable energy*	28%	30%
People		
Occupational accidents per million working hours*	≤ 1.5	≤ 1.0
Employee absence*	≤ 2.0%	≤ 2.0%
Women in senior management*	≥ 29%	≥ 30%
Satisfaction and motivation*	≥ 79	≥ 79
Enable employee development*	≥ 75	≥ 75
Talent utilization*	≥ 38%	
Stakeholders		
Customer satisfaction	≥ 50	

* Included as Management remuneration target.

Feeling fresh?

You have just done
a load of laundry.
Although your
clothes may look
clean, they smell
musty when you
put them on.

Novozymes' new freshness products can help solve the problem.



Toward the end of 2017, Novozymes launched our most significant Household Care innovation in years. Part of a range of products within our freshness platform, this solution offers a whole new dimension in clean, tackling the dirt and grime hiding beneath the surface of fabrics and removing malodors.

These stains are a persistent problem for consumers worldwide. By eliminating trapped dirt and other substances, our freshness products have the power to prevent the malodors that tend to form on laundry.

The freshness range offers solutions that are effective at low temperatures. Just as importantly, these solutions also work on today's synthetic textiles.

In 2018, the freshness solution was successfully launched in the emerging markets.

It has already started contributing to growth and will be rolled out in more markets in 2019 and over the coming years.

“We’re seeing strong interest from our customers and, judging by what they say, they’re very excited about the way these solutions can tackle some of their own customers’ stickiest pain points,” says Anders Lund, Executive Vice President, Household Care & Technical.

Governance

Where we make a difference
Novozymes' agricultural solutions
improve crop production and
enhance yields, ensuring we get
more from each acre.



Chairman's introduction

Novozymes' Board of Directors has a collective responsibility to develop and drive company strategy, performance and accountability, to ensure that every decision lives up to our purpose and core values and is in the best interests of our stakeholders. In 2018, the Board took further steps to help Novozymes harness future opportunities.

2018 was another exciting year for the Board of Novozymes. We started the year by welcoming Ms. Patricia Malarkey as a member of the Board. Patricia Malarkey is an experienced R&D business leader with more than 30 years in the global agrochemical industry. The Board now has 10 members: seven elected at the Annual Shareholders' Meeting and three employee representatives.

Ensuring the right competencies and composition

In the past few years, the Board has welcomed some very strong, internationally experienced people, and thereby further strengthened the Board's collective executive competencies in such important areas as industrial biotech, R&D within biotech, innovation pipeline management and emerging markets.

We continuously evaluate the Board's balance of skills and experience, so that we have the right people in place to ensure that the Board is the best sparring partner for the Executive Leadership Team. The combined strength of all the members of Novozymes' Board is what makes it operate so effectively. Every year, we conduct an internal analysis and assessment of the Board's competencies and experience. In 2018, the Board was assisted in this task by

an external facilitator, as we are every three years. The resulting assessment consisted of both a self-evaluation and an evaluation with external consultants of the composition of the Board and its talents. I am very pleased with the overall results, which are available to read in the Governance section.

Effective Nomination and Remuneration Committee

The Board believes that a proactive and transparent corporate governance structure promotes sustainable business behavior and long-term value creation. In 2017, we set up a Nomination and Remuneration Committee to assess the Board and its composition as well as its remuneration. In 2018, the committee contributed to the appointment of a new board member and assisted CEO Peder Holk Nielsen in developing the Executive Leadership Team, including onboarding Ms. Prisca Havranek-Kosicek as the new CFO of Novozymes. The committee also reviewed Novozymes' remuneration policy, salary increases and variable pay elements to senior management, among other matters.

Closer to the business

In 2018, as in previous years, the Board conducted reviews of Novozymes' business

and of the mid- and long-term strategies for our industries and functions. We held three meetings outside the boardroom: at Novozymes' production site in Kalundborg, Denmark, at the future Innovation Campus in Lyngby, Denmark, and at our site in Bangalore, India. This was a great opportunity to gain an even better understanding of the challenges and opportunities facing Novozymes' employees as they work to grow the company.

We spent a couple of days in Bangalore meeting employees, visiting the production site and the Detergent Design Center, and discussing priorities, growth opportunities and investments in India and the rest of Southeast Asia. I was impressed by the dedication and drive of our employees, and was thrilled to see for myself how Novozymes works with customers in emerging markets.

Ensuring our competitive edge

In addition to ensuring that Novozymes harnesses opportunities in both mature and new markets in the best way possible, the Board explores current and emerging trends with the potential to impact Novozymes in the years to come. By building on its enhanced competencies and strategic proximity to the business, the Board can provide guidance on

how trends can be turned into competitive advantages for Novozymes.

In 2018, the Board specifically focused on understanding the new technologies and ways of working in R&D and production as well as on the potential that digitalization holds for our business – with and for our customers. Only by knowing as much as possible about the topic can we challenge the company's readiness and ensure that Novozymes is futureproof. This is an exciting task, and one that will require our constant vigilance for many years to come.

These were just a few of the activities and matters covered by the Board during this eventful year.



Jørgen Buhl Rasmussen
Chairman of the Board of Directors
Novozymes A/S

Corporate governance

A proactive and transparent corporate governance structure promotes 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 on Novozymes.com.

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

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	● ● ● ● ●

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:

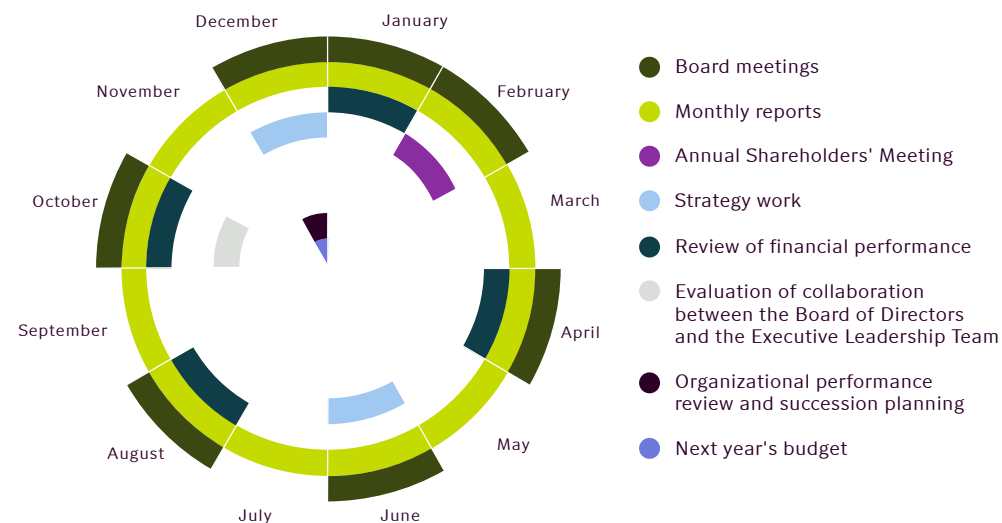
1. At least half of the shareholder-elected board members shall be independent as defined in the Danish Recommendations on Corporate Governance.
2. At least 40% of the shareholder-elected board members shall have substantial international experience from the management of large corporations or institutions 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 2018. The required competencies are defined in a competency profile that specifies various 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.

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
- Decide the overall management and strategic development of the company

A year with 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 – 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 meetings of the Board of Directors.

The Board of Directors has two committees, one of which is a Nomination and Remuneration Committee that 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. In addition, the Board of Directors has an Audit Committee that assists the Board of Directors with monitoring aspects relating to accounting, auditing, internal controls and financial, environmental and social reporting. Further information about both committees can be found on 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. 34 cases were investigated and reported in 2018. 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 the Consolidated financial statements.

Charters and recommendations

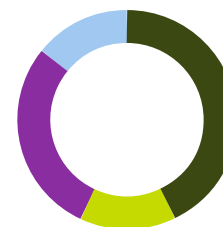
In laying down the management principles for Novozymes, the Board of Directors has followed the Recommendations on Corporate Governance that form part of the disclosure requirements applicable to companies listed on Nasdaq Copenhagen.

These recommendations are available on corporategovernance.dk. A detailed review of Novozymes’ position on all 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 pursuant to section 107b of the Danish Financial Statements Act at report2018. novozymes.com/governancereport2018. These recommendations require companies to explain any noncompliance. The recommendations were changed from Jan. 1, 2018. With the revised recommendations, Novozymes still follows 45 of the 47 recommendations, the 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 **43%**
- Swedish **14%**
- British **29%**
- Australian **14%**



Tenure – board members elected by the shareholders

- 1-2 years **43%**
- 3-4 years **14%**
- +4 years **43%**



Gender – board members elected by the shareholders

- Men **57%**
- Women **43%**

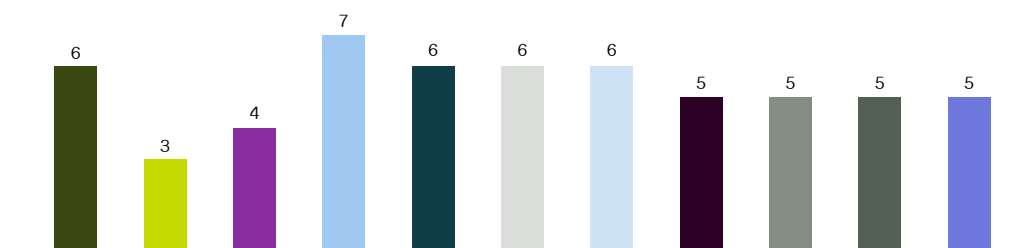


Board governance structure (elected by shareholders)

- Independent board members **71%**
- Nonindependent board members **29%**



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



- General board and/or executive management¹
- R&D executive management²
- B2B & industry marketing & sales
- Governance & risk management³
- Stakeholder relations management (beyond customers and investors)³
- Financial management and investor relations³
- Alliance strategy and acquisitions³
- Total value and supply chain management³
- Innovation and pipeline management³
- Emerging market strategy³
- Digitalization strategy and/or management³

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

Furthermore, under the Danish Financial Statements Act (sections 99a and 99b), it is mandatory for large companies to report on corporate responsibility and equal opportunities. As a member of the UN Global Compact, Novozymes prepares a Communication on Progress, which is available under Sustainability indices & data at report2018.novozymes.com/sustainability/engagement. Together with our integrated financial, environmental and social reporting, the Communication on Progress meets both the requirements for reporting on corporate responsibility and equal opportunities, and the UN Global Compact's advanced reporting criteria.

Novozymes also works within the parameters of Touch the World, the company's values and commitments, and has committed to the principles of the UN Global Compact and the UN Convention on Biological Diversity.

Other Board-related information

The Board of Directors held seven meetings in 2018, with an overall attendance rate of 99%.

Any changes to the Articles of Association require that shareholders representing at least two-thirds of the total number of votes in the company are represented at the Shareholders' Meeting, and that at least two-thirds of the votes cast, as well as two-thirds of the voting capital represented at the meeting, are in favor of the proposal to change the Articles of Association.

The Annual Shareholders' Meeting has authorized the Board of Directors to allow the company to acquire treasury stock on an ongoing basis, provided the nominal value of the company's total holding of treasury stock does not exceed 10% of its share capital at any time, cf. section 198 of the Danish Companies Act.

The purchase price must not deviate by more than 10% from the price quoted on Nasdaq Copenhagen on the date of acquisition. This authorization applies until April 1, 2019. In addition, the Board of Directors is authorized to reduce the share capital.

Each year, one of the responsibilities of the Board of Directors is to assess whether the capital and share structure of Novozymes is optimal. The Board of Directors remains of the opinion that the share structure with A and B common stock is the best way to safeguard Novozymes' long-term strategy and development to the benefit of the company's shareholders and other stakeholders. Regarding capital structure, Novozymes will continue to favor a rather conservative balance sheet, reflected by a target for net interest-bearing debt of 0-1x EBITDA. This target was met in 2018.

Novozymes is party to a number of partnership contracts that can be terminated by the other party in the event of significant changes to the ownership or control of Novozymes. A few of these contracts contain provisions that restrict Novozymes' licenses to use specific forms of technology in such situations.

Evaluation of the Board of Directors

In 2018, the annual evaluation of the Board of Directors was facilitated by external consultants and, in general, revealed a good performance by the Board of Directors as well as good collaboration between the Board of Directors and the Executive Leadership Team. The evaluation also resulted in increased focus on strategy development, the company culture and the risk management review by the Board of Directors.

Board member	Audit Committee member	Nomination and Remuneration Committee member	Nationality	Board meetings attended	Board tenure	Election period
Jørgen Buhl Rasmussen (Chairman) ^{1,2}	●	●	Danish	● ● ● ● ● ● ●	2011	1 year
Agnete Raaschou-Nielsen (Vice Chairman) ^{1,2}	●	●	Danish	● ● ● ● ● ● ●	2011	1 year
Lars Green ¹	●		Danish	● ● ● ● ● ● ●	2014	1 year
Kasim Kutay ¹			British	● ● ● ● ● ● ●	2017	1 year
Patricia Malarkey ^{1,2,3}			British	● ● ● ● ● ● ●	2018	1 year
Kim Stratton ^{1,2}		●	Australian	● ● ● ● ● ● ●	2017	1 year
Mathias Uhlén ^{1,2}			Swedish	● ● ● ● ● ● ●	2007	1 year
Lena Bech Holskov ⁴			Danish	● ● ● ● ● ● ●	2013	4 years
Anders Hentze Knudsen ⁴			Danish	● ● ● ● ● ● ●	2013	4 years
Lars Bo Kjøppler ⁴			Danish	● ● ● ● ● ● ●	2010	4 years

1. Elected at the Shareholders' Meeting.
2. Independent.

3. Elected to the Board on March 13, 2018 and attended first two meetings as observer.

4. Employee representative.

Creating more Brain Space

Novozymes prioritizes our employees and endeavors to offer the safest and healthiest workplaces possible. Our ability to grow and contribute to a better world relies on our ability to help our employees grow professionally and personally. What better way to achieve this than by encouraging and empowering employees to prioritize their brain health?

In August 2018, we launched a global internal initiative called Brain Space. The initiative aims to sharpen focus on how our employees care for their wellbeing, emphasizing the importance of “brain breathers” and giving employees the tools and knowledge to allow their minds to recharge and thrive in a fast-paced digital work environment.

“Our company is based on our collective knowledge. We’re always innovating, sharing new ideas and constantly engaged,” says Marianne Bie Frydendahl, Vice President, Quality, Environment & Safety. “Our brains are our greatest assets, but they need a break too.”

Responsibility for taking care of their brain does not rest solely on the shoulders of each employee. We are also looking to make

company-wide changes that encourage employees to adopt healthier habits at work, such as avoiding distractions in the form of computer and phone notifications. Furthermore, we encourage teams to discuss their availability or nonavailability outside normal work hours.

Brain Space has been very well received by our employees across the globe. Employees are fully engaged, and many areas are already working with Brain Space in their teams.

“We want all employees to develop good habits that stick. Brain Space is an ongoing initiative at Novozymes to make sure employees have the support and knowledge they need to protect their brain health,” concludes Marianne Bie Frydendahl.

“Our brains are our greatest assets, but they need a break too.”



“The initiative aims to sharpen focus on how our employees care for their wellbeing, emphasizing the importance of brain breathers.”



Board of Directors

Novozymes' Board of Directors has seven 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.

Board of Directors



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 one year at a time.

Board positions

Chairman: F. Uhrenholt A/S

Member: Smurfit Kappa Group
Advisory Board of Blazar Capital

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. Member of the Audit Committee and of the Nomination and Remuneration Committee. Member of the Board since 2011. Elected for one year at a time.

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.



Lars Green*

Born 1967. Executive Vice President, Business Services and Compliance, Novo Nordisk A/S. Chairman of the Audit Committee. Member of the Board since 2014. Elected for one year at a time.

Special competencies

In-depth knowledge of the Novo Group's business, international experience from managing global biotechnology and biopharma companies, 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.*



Kasim Kutay*

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

Board positions

Member: Novo Nordisk A/S
ConvaTec Plc

Special competencies

Broad 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.*



Patricia Malarkey

Born 1965. Member of the Board since 2018. Elected for one year at a time.

Special competencies

Broad experience within commercial agricultural research, biotechnology and innovation pipeline management.



Kim Stratton

Born 1962. Member of the Nomination and Remuneration Committee. Member of the Board since 2017. Elected for one year at a time.

Board positions

Member: European Federation of Pharmaceutical Industries and Associations (EFPIA)

Special competencies

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



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 one year at a time.

Board positions

Chairman: Atlas Antibodies AB
Antibodypedia AB
ScandiBio Therapeutics AB

Vice chairman: Affibody Medical AB

Member: Bure Equity AB

Special competencies

Broad experience within research and biotechnology.



Lena Bech Holskov*

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

** 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 four years at a time.


** 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 four years at a time. Employee representative 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.*



“The combined strength of all the members of Novozymes’ Board is what makes it operate so effectively.”

**Jørgen Buhl Rasmussen,
Chairman of the Board of Directors**



Executive Leadership Team

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

Executive Leadership Team



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 BCom in International Business Management from Copenhagen Business School, Denmark.

Special competencies

Novozymes' CEO since 2013. Peder Holk Nielsen focuses on developing our organization and processes to effectively turn market insights into product ideas and solutions that excite Novozymes' customers.

With his background in engineering and business management, Peder Holk Nielsen drives an agenda that couples market insights and research capabilities to deliver innovation and growth.



Tina Sejersgård Fanø

Born 1969. Executive Vice President, Agriculture & Bioenergy.

Board positions

Member: DLF A/S

Education

Holds an MSc in Chemical Engineering from the Technical University of Denmark (DTU), as well as a BA in Philosophy and Education from Copenhagen University, Denmark.

Special competencies

Tina Sejersgård Fanø is responsible for application research, technical services, sales and marketing in the Agriculture & Bioenergy division. She has significant 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 services, sales and marketing in the Food & Beverages division. His career has moved from pure engineering to a strong focus on value generation for customers. Previous responsibilities include global sales and marketing, strategic account management and technical service strategy.



Prisca Havranek-Kosicek

Born 1975. CFO & Executive Vice President, Finance, IT & Legal.

Board positions

Member: Allianz Elementar Versicherungs-AG, Allianz Elementar Lebensversicherungs-AG

Education

Holds a PhD in Business Administration from the Vienna University of Economics and Business, Austria.

Special competencies

Prisca Havranek-Kosicek has strong business acumen as a result of holding positions around the world, a thorough understanding of the various finance functions and knowledge of the markets in which Novozymes operates.



Anders Lund

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

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 of 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 BCom in International Business from Copenhagen Business School, Denmark

Special competencies

Thomas Videbæk is responsible for the Research, Innovation & Supply unit. The unit focuses on developing new biological solutions and production optimization – from discovery to large-scale manufacturing. It also ensures the supply and quality of our products and incubation of new platforms. Thomas Videbæk has a broad knowledge of sales and customer solutions and supply chain operations.

Remuneration report

At Novozymes, we work to promote the long-term interests of our shareholders, and the remuneration of the Board of Directors and the Executive Leadership Team supports this objective. Based on the target achievement for the short-term cash-based incentive program, the Executive Leadership Team received on average 68% of the maximum in 2018.

General remuneration policy

Novozyymes' 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 stockbased 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 the fees paid to the Board annually, based on the recommendations of the Nomination and

Remuneration paid to individual members of the Board of Directors

DKK '000	2018			2017			2016		
	Board of Directors	Committees	Total	Board of Directors	Committees	Total	Board of Directors	Audit Committee	Total
Jørgen Buhl Rasmussen	1,500	250	1,750	1,417	250	1,667	917	208	1,125
Agnete Raaschou-Nielsen	1,000	250	1,250	917	250	1,167	583	250	833
Mathias Uhlén	500	0	500	500	-	500	500	-	500
Anders Hentze Knudsen	500	0	500	500	-	500	500	-	500
Patricia Malarkey ¹	401	0	401	-	-	-	-	-	-
Lars Bo Køppler	500	-	500	500	-	500	500	-	500
Lena Bech Holskov	500	-	500	500	-	500	500	-	500
Lars Green	500	500	1,000	500	500	1,000	500	500	1,000
Kasim Kutay ²	500	-	500	417	-	417	-	-	-
Kim Stratton ²	500	250	750	417	208	625	-	-	-
Henrik Gürtler ³	-	-	-	250	-	250	1,500	-	1,500
Heinz-Jürgen Bertram ⁴	-	-	-	219	-	219	500	-	500
Lena Olving ⁵	-	-	-	-	-	-	83	42	125
Remuneration	6,401	1,250	7,651	6,137	1,208	7,345	6,083	1,000	7,083

1. Joined on March 12, 2018.

2. Joined on February 22, 2017.

3. Resigned on February 22, 2017.

4. Resigned on June 8, 2017.

5. Resigned on February 25, 2016.

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.

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 2018, 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 this additional fee if they are elected to the Nomination and Remuneration Committee.

In 2018, Patricia Malarkey was elected as a new member of the Board of Directors. The number of board members thereby increased, which resulted in an increase in the total fee to the Board of Directors from DKK 7.3 million in 2017 to DKK 7.7 million in 2018.

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 2018.

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, 2018	Purchased during the year	Sold during the year	Shares of stock at Dec. 31, 2018	Market value DKK million
Jørgen Buhl Rasmussen	2,000	-	-	2,000	0.6
Agnete Raaschou-Nielsen	430	-	-	430	0.1
Lars Green	-	1,000	-	1,000	0.3
Mathias Uhlén	650	-	-	650	0.2
Anders Hentze Knudsen	356	-	-	356	0.1
Lena Bech Holskov	1,100	-	-	1,100	0.3
Lars Bo Kjøppler	360	-	-	360	0.1
Board of Directors	4,896	1,000	-	5,896	1.7

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 ensure Novozymes' continued positive development and, as a result, good value creation for Novozymes' shareholders. The Board finds that the best results are achieved when a relatively high proportion of an executive's total remuneration is dependent on the achievement of individual targets and on meeting Novozymes' financial, social and environmental targets.

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

Compared with Novozymes' peers, the variable part of the total remuneration (cash bonus and stock-based incentive programs) is relatively high. This is because the Board of Directors sets the base salary for members of the Executive Leadership Team at a level that is below the average for a sample of comparable Danish companies. In 2018, the ratio of the Chief Executive Officer's total remuneration to the average remuneration for employees was 55, on par with 2017.

On February 1, 2018, Prisca Havranek-Kosicek joined the Executive Leadership Team as Chief Financial Officer.

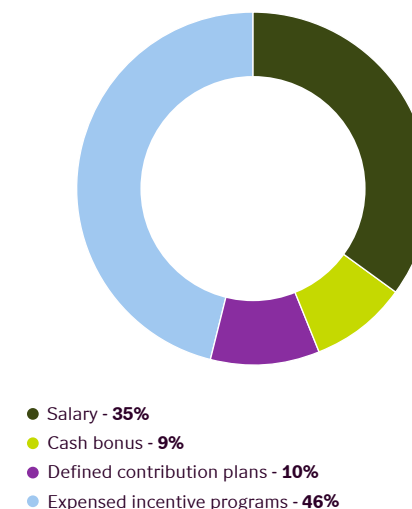
In 2018, the members of the Executive Leadership Team received an average increase in base salary of 3.0%. The Executive Leadership Team has a defined contribution pension scheme, with the pension contribution representing between 25% and 30% of the base salary and the cash bonus.

The maximum annual cash bonus is equivalent to five months' fixed base salary plus pension contributions. The amount of the cash bonus is dependent on 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

For 2018, the cash bonus based on individual targets was on average 66% of the maximum bonus. The cash bonus related to Novozymes' operational targets was 70% of the maximum bonus, as the EBIT target was met while some of the sustainability targets were not.

Composition of Executive Leadership Team remuneration 2018



Remuneration paid to individual members of the current Executive Leadership Team

DKK million	Salary	Cash bonus	Defined contribution plans	Expensed incentive programs	Total remuneration
Peder Holk Nielsen ¹	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
Prisca Havranek-Kosicek ^{1,2}	4.7	1.1	1.2	3.9	10.9
Tina Sejersgård Fanø	4.6	1.2	1.3	5.7	12.8
Thomas Videbæk ¹	6.3	1.8	1.9	8.4	18.4
Total remuneration 2018	33.2	8.5	9.7	43.0	94.4
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 ³	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
Total remuneration 2017	29.8	7.2	8.8	39.7	85.5
Peder Holk Nielsen	8.2	1.1	2.4	9.1	20.8
Anders Lund	4.4	0.6	1.0	3.2	9.2
Andrew Fordyce	5.0	0.6	1.2	6.1	12.9
Benny D. Loft	4.8	0.6	1.2	6.1	12.7
Tina Sejersgård Fanø	3.8	0.6	1.0	3.1	8.5
Thomas Videbæk	5.7	0.8	1.5	6.1	14.1
Per Falholt ⁴	0.8	-	0.2	1.0	2.0
Thomas Nagy ⁴	0.8	-	0.2	1.0	2.0
Total remuneration 2016	33.5	4.3	8.7	35.7	82.2

1. Registered Executive Management.

2. Joined on February 1, 2018.

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

4. Resigned on February 8, 2016.

A three-year incentive program has been set up for the Executive Leadership Team, covering the period 2017-2019. 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 on Novozymes.com.

The value of the three-year program was approximately DKK 162 million as of January 1, 2017. The value of the program corresponds to the aggregated annual remuneration of the Executive Leadership Team in 2017-2019 (base salary, pension contributions and maximum cash bonus).

Prisca Havranek-Kosicek will take part in the 2017-2019 Executive Leadership Team's incentive program on a proportional basis from February 1, 2018.

The program is an equal stock and stock option program. Awards are dependent on accumulated economic profit generated as well as the average organic sales growth during the period:

- A total of up to 75% of the program will be allocated if economic profit accumulated for 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. 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.

For 2018, the economic profit generated was DKK 2.5 billion. The accumulated economic

profit generated under the program is DKK 5.1 billion, equaling 68% of the DKK 7.5 billion target.

- 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. 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 2018, organic sales growth reached 4%. The average organic sales growth under the program is 4%.

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.

The stock was allocated in January 2017 and will be released in January 2020 in accordance with the level of target achievement, while the stock option program is a three-year incentive program with annual allocations. In 2018, 497,697 stock options were granted to the Executive Leadership Team. The allocations for 2017-2019 will be adjusted in January 2020 to reflect the level of target achievement. The

awarded stock options have a vesting period of three years, after which there is an exercise period of five years.

The incentive program includes a maximum clause that gives the Board of Directors the option to reduce the number of stock and stock options allocated. The reduction can be implemented if the intrinsic value of the stock

and stock options for the Executive Leadership Team totals more than DKK 303 million on the date in January 2020 on which the Annual Report for 2019 is approved.

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 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 compensation of between one and two years' base salary and pension contributions, depending on the position held.

Remuneration of senior leadership

The remuneration of Novozymes' senior leadership (182 vice presidents and directors) is in line with the general remuneration policy.

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

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

The program for the directors is a stock option program that includes the same targets for organic sales growth and economic profit as the other programs. Furthermore, awards are 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.

The following members of the Executive Leadership Team hold shares of stock in Novozymes A/S

Shares of stock	Shares of stock at Jan. 1, 2018	Purchased during the year	Sold during the year	Shares of stock at Dec. 31, 2018	Market value DKK million
Peder Holk Nielsen	209,269	-	-	209,269	60.9
Anders Lund	146	-	-	146	-
Andrew Fordyce	-	3,500	-	3,500	1.0
Prisca Havranek-Kosicek	-	-	-	-	-
Tina Sejersgård Fanø	10,178	-	-	10,178	3.0
Thomas Videbæk	-	-	-	-	-
Executive Leadership Team	219,593	3,500	-	223,093	64.9

The following members of the Executive Leadership Team hold stock options in Novozymes A/S

Stock options	Options at Jan. 1, 2018	Additions during the year	Exercised during the year	Options at Dec. 31, 2018	Market value DKK million
Peder Holk Nielsen	524,322	136,326	-	660,648	31.5
Anders Lund	171,762	69,287	-	241,049	12.4
Andrew Fordyce	331,308	69,287	-	400,595	19.4
Prisca Havranek-Kosicek	-	62,626	-	62,626	2.4
Tina Sejersgård Fanø	158,310	69,287	-	227,597	11.1
Thomas Videbæk	349,548	90,884	(98,698)	341,734	14.8
Executive Leadership Team	1,535,250	497,697	(98,698)	1,934,249	91.6

The Novozymes stock

During 2018, the Novozymes stock performed 9% below the OMXC25CAP index, with the share price contracting by 18% versus 2017. DKK 3.3 billion was returned to shareholders via a DKK 2.0 billion stock buyback program and a dividend payment of DKK 1.3 billion. A new stock buyback program worth up to DKK 2 billion is planned for 2019.

The Novozymes stock is listed on Nasdaq Copenhagen and included in the OMX Copenhagen CAP 25 index.

Shareholders

Novozyymes' common stock consists of two types: A shares and B shares, both with a nominal value of DKK 2 per share. All A stock is held by Novo Holdings A/S, and an A share carries 10 times as many votes as a B share. At the end of 2018, Novo Holdings A/S held 25.5% of the total common stock and, through its holding of the A stock and a proportion of the B stock (21,991,400 shares), controlled 71.7% of the votes. Novo Holdings A/S is wholly owned by the Novo Nordisk Foundation, and Novozymes is therefore included in the consolidated financial statements of the Novo Nordisk Foundation.

At year-end, Novozymes had more than 55,000 shareholders, of whom 95% were private shareholders in Denmark. Fifty institutional investors, including Novo Holdings A/S, owned approximately 50% of the B shares. Roughly 70% of the B shares were held outside Denmark. Novozymes held 3.9% of the B

shares, equivalent to 3.2% of the total common stock. Besides Novo Holdings A/S, Baillie Gifford & Co. held more than 5% of Novozymes' B shares at December 31, 2018.

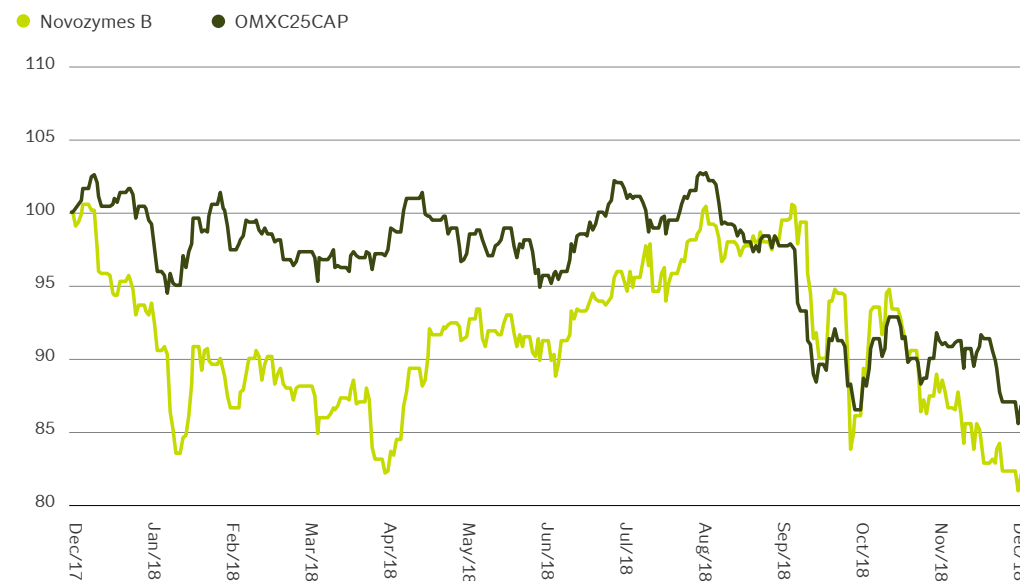
Stock performance

Novozyymes' share price contracted by 18% during the year. For comparison, the OMXC25CAP decreased by 9% in 2018.

The average daily trading volume of Novozymes' stock in 2018 was 537,229 shares, or DKK 173 million, making it the 13th most actively traded company on Nasdaq Copenhagen, compared with 11th in 2017. At year-end, the total market cap of Novozymes was DKK 86.4 billion, split between DKK 70.8 billion for the B shares and DKK 15.6 billion for the nontraded A shares, assuming the same value per share as for the B shares. Over the past five years, Novozymes' stock has generated an average annual return (compounded) to shareholders of 8%. Total shareholder return in 2018 was -16%, adjusted for dividends.

	A stock	B stock	Total
Share capital (DKK)	107,487,200	486,512,800	594,000,000
Number of shares	53,743,600	243,256,400	297,000,000
Held by Novo Holdings A/S (%)	100.0%	9.0%	25.5%
Number of votes	1,074,872,000	486,512,800	1,561,384,800
Voting rights (%)	68.9%	31.1%	100.0%
Held by Novo Holdings A/S (%)	68.9%	2.8%	71.7%

Share price development



Dividends

The Board of Directors proposes that the Annual Shareholders' Meeting approve a dividend of DKK 5 per share for the 2018 financial year. This will result in an expected total dividend payment of approximately DKK 1,438 million, corresponding to a payout ratio of 44.6%.

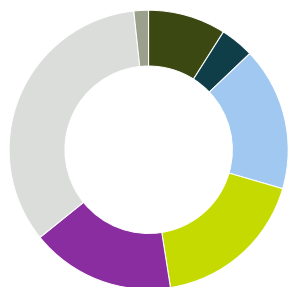
The dividend for 2018 will be disbursed on March 4, 2019, and the last trading day with right to dividend for 2018 is February 27, 2019.

The proposed dividend payout ratio was 44.6% compared to 42.3% for the 2017 results. This development follows the plan announced in the 2017 annual report to increase the payout ratio to ~50% over the coming years.

Stock buyback program in 2018

A DKK 2 billion buyback program ran from February 14 to November 28, 2018. Under the program, 6,167,092 shares were purchased and added to treasury stock.

Ownership by geography (B shares)



- Novo Holdings A/S – 9.0%
- Denmark – 16.6%
- Rest of Europe – 16.7%
- Rest of world – 1.7%
- Treasury stock – 3.9%
- UK – 18.0%
- North America – 34.1%

Novozymes A/S

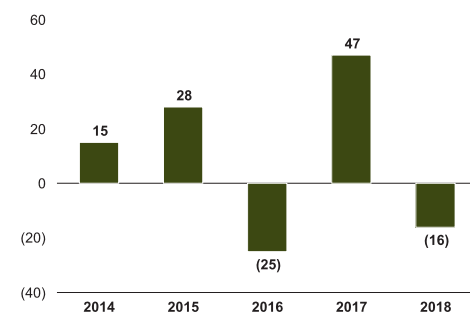
New stock buyback program in 2019

Novozymes has decided to initiate a new stock buyback program worth up to DKK 2.0 billion in total, or a maximum of 20 million shares. The shares acquired within the program will be used to reduce the common stock and meet obligations arising from employee stock-based incentive programs.

Financial calendar

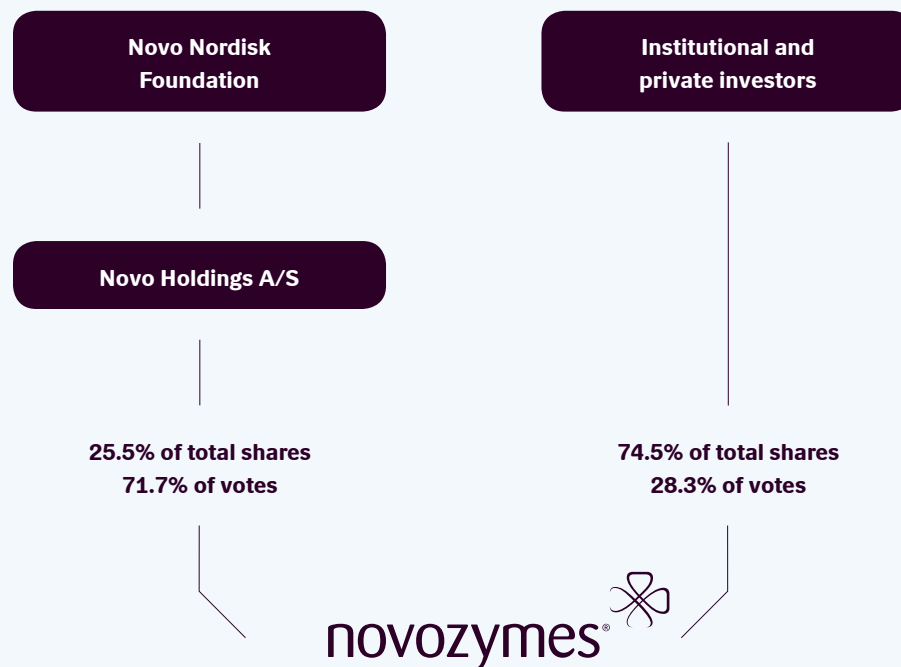
Feb. 27, 2019	Annual Shareholders' Meeting 2019
Apr. 24, 2019	Interim report for the first 3 months of 2019
Aug. 8, 2019	Interim report for the first half of 2019
Oct. 23, 2019	Interim report for the first 9 months of 2019
Jan. 23, 2020	Group financial statement for 2019

Total shareholder return, %



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 basis 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.



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



Accounts and performance

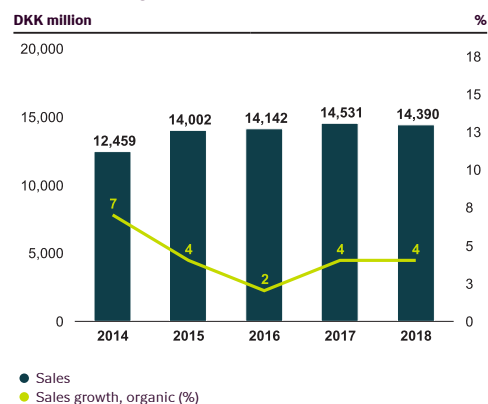
Sales and earnings

Sales

Total sales in 2018 were DKK 14,390 million, an increase of 4% organically and a decrease of 1% in DKK.

“Sales to Bioenergy and Food & Beverages were the main contributors to organic sales growth.”

Sales and sales growth



Gross profit and margin

Gross profit decreased by 2% to DKK 8,255 million from DKK 8,413 million in 2017. The gross margin was 57.4%, down from 57.9% in 2017. Productivity improvements and mix had a positive impact on the gross margin, whereas higher input costs and lower deferred income had a negative effect.

Operating costs

Operating costs decreased by 3% to DKK 4,228 million. Operating costs as a percentage of sales were 29%.

- Sales and distribution costs decreased by 3%, representing 10.9% of sales
- Research and development costs decreased by 3%, representing 13.0% of sales
- Administrative costs decreased by 5%, representing 5.5% of sales

Other operating income

Other operating income was a net income of DKK 43 million, compared with a net loss of DKK 3 million in 2017, which included the divestment of Albumedix.

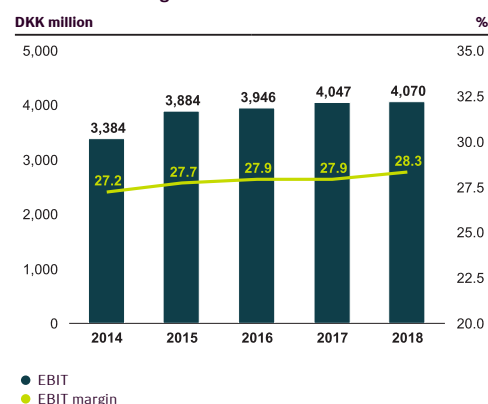
EBITDA

EBITDA increased by 1% to DKK 5,158 million, up from DKK 5,114 million in 2017. Depreciation, amortization and impairment losses were DKK 1,088 million in 2018, up 2% from DKK 1,067 million in 2017.

EBIT and EBIT margin

EBIT increased by 1% to DKK 4,070 million, up from DKK 4,047 million in 2017. The EBIT margin ended at 28.3%, up from 27.9% in 2017. Excluding the one-time costs incurred in 2017 relating to organizational changes and the divestment of Albumedix, the EBIT margin in 2018 was 0.7 percentage point lower than in 2017.

EBIT and EBIT margin



Net finance

Net financial costs were DKK 117 million in 2018, compared with DKK 157 million in 2017. Net financial costs in 2017 were impacted by a write-down of DKK 120 million on a financial asset related to a guarantee provided by M&G. In 2018, Novozymes realized a DKK 89 million currency hedging/revaluation net loss, compared with a net gain of DKK 27 million in 2017.

Tax

The effective tax rate was 18%, compared with 19.5% in 2017. In 2017 and 2018, Novozymes transferred intellectual property from Switzerland to Denmark. This had a positive impact on the effective tax rate of 2.5 and 3.1 percentage points respectively.

Net profit

Net profit grew by 3% to DKK 3,227 million in 2018, up from DKK 3,120 million in 2017, driven by a lower tax rate and lower net financial costs.

Earnings per share (diluted)

Earnings per share (diluted) increased by 5% to DKK 11.03, compared with DKK 10.49 in 2017, due to higher net profit and cancellation of shares.

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

Consolidated statements of income

Income statement

DKK million	Note	2018	2017
Revenue	2.1, 2.2	14,390	14,531
Cost of goods sold	2.3, 3.1, 3.2, 4.1	(6,135)	(6,118)
Gross profit		8,255	8,413
Sales and distribution costs	2.3, 3.1, 3.2	(1,571)	(1,619)
Research and development costs	2.3, 2.4, 3.1, 3.2	(1,865)	(1,913)
Administrative costs	2.3, 3.1, 3.2	(792)	(831)
Other operating income, net	2.5	43	(3)
Operating profit / EBIT		4,070	4,047
Share of result in associates		(17)	(14)
Financial income	5.2	47	90
Financial costs	5.2	(164)	(247)
Profit before tax		3,936	3,876
Tax	2.6	(709)	(756)
Net profit		3,227	3,120
Attributable to			
Shareholders in Novozymes A/S		3,226	3,119
Non-controlling interests		1	1
		3,227	3,120
Proposed dividend per share		DKK 5.00	DKK 4.50
Earnings per share	2.7	DKK 11.11	DKK 10.56
Earnings per share, diluted	2.7	DKK 11.03	DKK 10.49

Statement of comprehensive income

DKK million	Note	2018	2017
Net profit		3,227	3,120
Items that may be reclassified subsequently to the income statement:			
Currency translation adjustments			
Subsidiaries and non-controlling interests		181	(970)
Tax on currency translation adjustments	(5)	(5)	37
Currency translation adjustments		176	(933)
Cash flow hedges			
Fair value adjustments		(133)	115
Tax on fair value adjustments		29	(25)
Cash flow hedges reclassified to financial costs		42	(5)
Tax on reclassified fair value adjustments	(9)	(9)	1
Cash flow hedges		(71)	86
Other comprehensive income		105	(847)
Comprehensive income for the year		3,332	2,273
Attributable to			
Shareholders in Novozymes A/S		3,331	2,273
Non-controlling interests		1	-
		3,332	2,273

Balance sheet and financial position

Total assets

Total assets increased from DKK 18,373 million at December 31, 2017, to DKK 19,697 million at December 31, 2018. The increase was mainly driven by changes in currency, an increase in net working capital and higher net investments.

ROIC

Return on invested capital (ROIC), including goodwill, was 24.2%, down 1.4 percentage points from 25.6% in 2017. The decrease was mainly a result of higher net invested capital.

Invested capital

Invested capital increased from DKK 12,880 million in 2017 to DKK 13,953 million in 2018. This was a result of higher net working capital and high net investments.

Net working capital

Novozymes' net working capital increased to DKK 2,768 million, up from DKK 2,023 million in 2017, due to higher trade receivables and increasing inventories, as well as lower deferred income and contract liabilities.

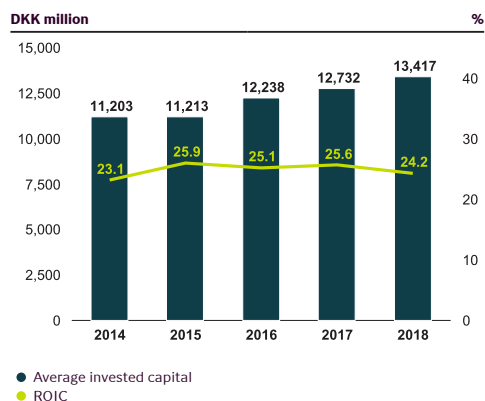
Net interest-bearing debt

Novozymes had net interest-bearing debt of DKK 2,535 million at December 31, 2018, compared with DKK 1,642 million at December 31, 2017. Net interest-bearing debt was impacted by cash outflows from dividend payments of DKK 1,317 million, stock buybacks of DKK 2,000 million and net investments of DKK 1,388 million, which exceeded cash inflows from operating activities of DKK 3,679 million.

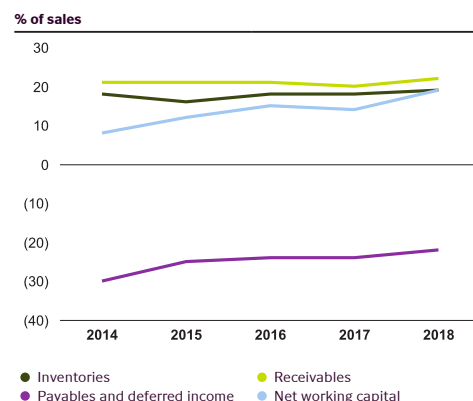
Net interest-bearing debt-to-EBITDA

Net interest-bearing debt-to-EBITDA was 0.5x at December 31, 2018, compared with 0.3x at December 31, 2017.

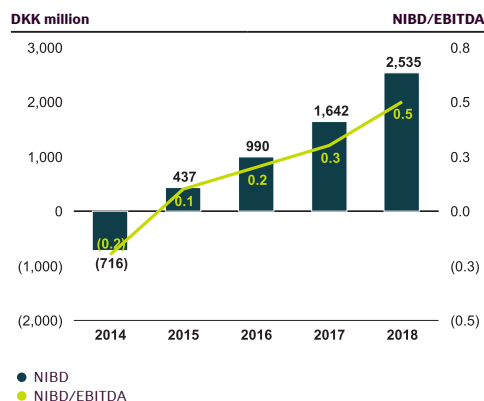
ROIC and average invested capital



Net working capital



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



Consolidated balance sheet

Assets

DKK million	Note	Dec. 31, 2018	Dec. 31, 2017
Intangible assets	3.1	2,130	2,432
Land and buildings	3.2	2,779	2,697
Plant and machinery	3.2	4,452	4,019
Other equipment	3.2	619	562
Assets under construction and prepayments	3.2	1,848	1,648
Deferred tax assets	2.6	938	755
Other financial assets		20	29
Investments in associates		42	59
Other receivables	4.3	34	35
Non-current assets		12,862	12,236
Inventories	4.1	2,820	2,586
Trade receivables	4.2	2,606	2,554
Contract assets	4.2	279	
Tax receivables	2.6	174	135
Other receivables	4.3	219	214
Other financial assets		14	16
Cash and cash equivalents		723	632
Current assets		6,835	6,137
Assets		19,697	18,373

Liabilities and shareholders' equity

DKK million	Note	Dec. 31, 2018	Dec. 31, 2017
Common stock	5.5	594	610
Currency translation adjustments		(86)	(262)
Cash flow hedges		(26)	45
Retained earnings		10,943	10,861
Equity attributable to shareholders in Novozymes A/S		11,425	11,254
Non-controlling interests		13	13
Shareholders' equity		11,438	11,267
Deferred tax liabilities	2.6	892	721
Provisions	3.3	132	159
Contract liabilities	4.4	199	
Deferred income	4.5	37	337
Other financial liabilities	5.3	1,474	1,312
Non-current liabilities		2,734	2,529
Provisions	3.3	97	86
Other financial liabilities	5.3	1,899	979
Trade payables		1,418	1,341
Contract liabilities	4.4	175	
Deferred income	4.5	13	205
Tax payables	2.6	575	483
Other liabilities	4.6	1,348	1,483
Current liabilities		5,525	4,577
Liabilities		8,259	7,106
Liabilities and shareholders' equity		19,697	18,373

Equity and shareholder return

Shareholders' equity

At December 31, 2018, shareholders' equity was DKK 11,438 million, up 2% from DKK 11,267 million at December 31, 2017, as comprehensive income in 2018 more than offset dividend payments and net stock buyback.

Equity ratio

Shareholders' equity represented 58% of the balance sheet total at December 31, 2018, down from 61% at December 31, 2017.

Return on equity

Return on equity was 28.4%, up 1.3 percentage points from 27.1% in 2017. The increase was a result of higher net profit and a relatively lower increase in equity.

Treasury stock

At December 31, 2018, the holding of treasury stock was 9.4 million B shares, equivalent to 3.2% of the common stock.

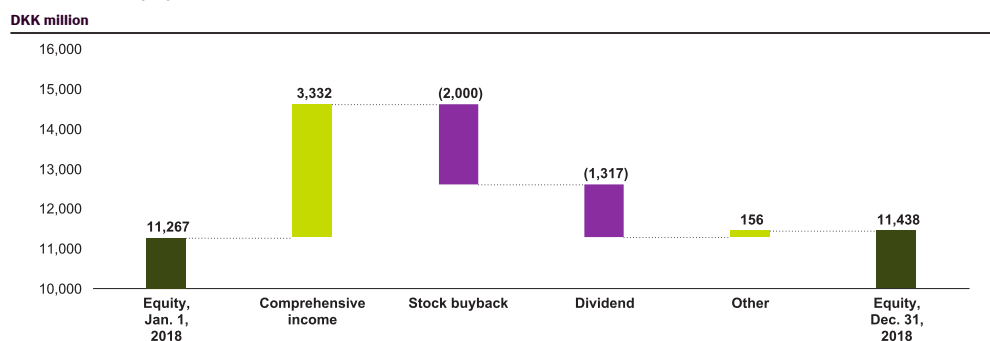
Dividend

The Board of Directors proposes that the Annual Shareholders' Meeting approve a dividend of DKK 5.00 per share for the 2018 financial year, an increase of 11% compared with 2017. This will result in an expected total dividend payment of approximately DKK 1,438 million, corresponding to a payout ratio of 44.6%.

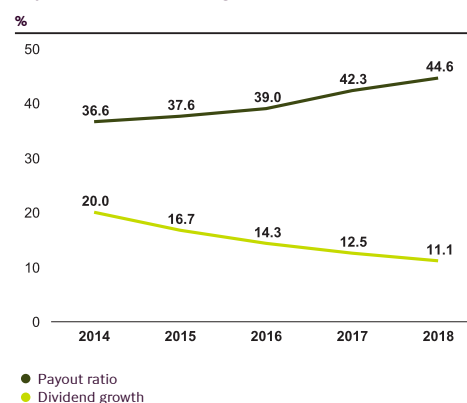
Stock buyback program

In 2018, Novozymes bought back 6.2 million B shares with a transaction value of DKK 2,000 million under the stock buyback program initiated on February 14, 2018, and completed on November 28, 2018. The shares acquired within the program will be used to reduce the common stock and to meet obligations arising from employee stock-based incentive programs.

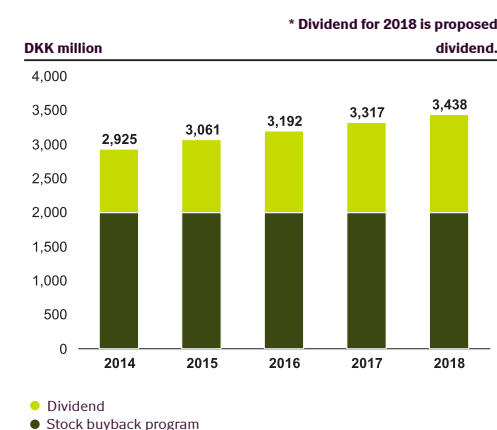
Movements in equity 2018



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 the company					Non-controlling interests	Total equity
	Common stock	Currency translation adjustments	Cash flow hedges	Retained earnings	Total		
Shareholders' equity at January 1, 2018	610	(262)	45	10,861	11,254	13	11,267
Net profit for the year				3,226	3,226	1	3,227
Other comprehensive income for the year		176	(71)		105	-	105
Total comprehensive income for the year		176	(71)	3,226	3,331	1	3,332
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)
Changes in shareholders' equity	(16)	176	(71)	82	171	-	171
Shareholders' equity at December 31, 2018	594	(86)	(26)	10,943	11,425	13	11,438
Shareholders' equity at January 1, 2017	620	670	(41)	10,483	11,732	13	11,745
Net profit for the year				3,119	3,119	1	3,120
Other comprehensive income for the year		(932)	86		(846)	(1)	(847)
Total comprehensive income for the year		(932)	86	3,119	2,273	-	2,273
Purchase of treasury stock				(2,000)	(2,000)		(2,000)
Sale of treasury stock				179	179		179
Write-down of common stock	(10)			10	-		-
Dividend				(1,192)	(1,192)		(1,192)
Stock-based payment				104	104		104
Tax related to equity items				158	158		158
Changes in shareholders' equity	(10)	(932)	86	378	(478)	-	(478)
Shareholders' equity at December 31, 2017	610	(262)	45	10,861	11,254	13	11,267

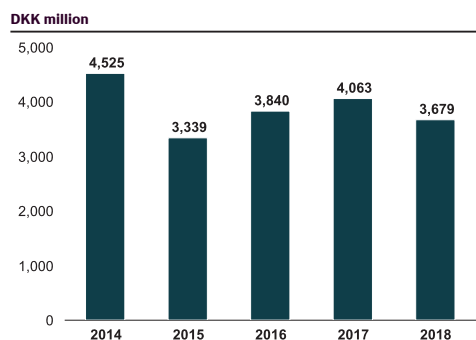
The proposed dividend of DKK 1,438 million for 2018 is included in Retained earnings.

Cash flow

Cash flow from operating activities

Cash flow from operating activities was DKK 3,679 million, down from DKK 4,063 million in 2017. Higher net profit impacted cash flow positively, while higher net working capital negatively impacted cash flow by DKK 847 million. The development in net working capital was caused by higher receivables and increasing inventories, as well as lower deferred income and contract liabilities.

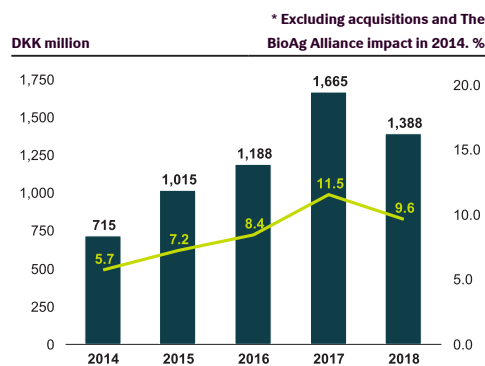
Cash flow from operating activities



Net investments

Net investments excluding acquisitions were DKK 1,388 million, down from DKK 1,665 million in 2017. Net investments in property, plant and equipment amounted to DKK 1,328 million, compared with DKK 1,566 million in 2017. Novozymes' main investment projects in 2018 were the greenfield facility in Mumbai, India, the capacity expansion in Nebraska, US, and the innovation campus in Lyngby, Denmark.

Net investments



● Net investments
● Net investments (% of sales)

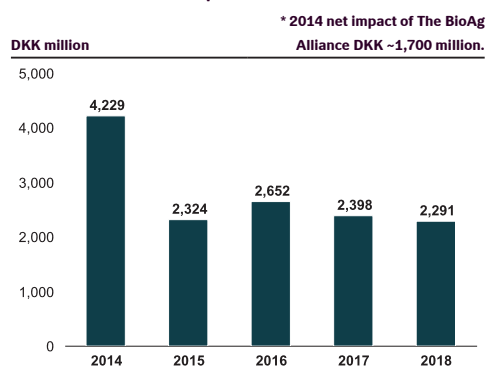
Free cash flow before acquisitions

Free cash flow before net acquisitions was DKK 2,291 million, compared with DKK 2,398 million in 2017. The decrease of 4% was mainly due to higher net working capital, offset by lower net investments and to some extent also higher net profit.

Free cash flow

Free cash flow was DKK 2,287 million in 2018, compared with DKK 2,395 million in 2017.

Free cash flow before acquisitions



Financing activities

Cash flow from financing activities was negative at DKK 2,167 million, compared with a negative cash flow of DKK 2,553 million in 2017. The negative cash flow from financing activities was mainly due to completion of the stock buyback program (DKK 2,000 million) and dividend payments (DKK 1,317 million).

Cash position

Cash and cash equivalents at December 31, 2018, amounted to DKK 723 million, up from DKK 632 million at December 31, 2017. Undrawn committed credit facilities were DKK 3,646 million at December 31, 2018.

Consolidated statement of cash flows

DKK million	Note	2018	2017	DKK million	Note	2018	2017
Net profit		3,227	3,120	Financing			
Reversal of non-cash items	6.6	2,062	2,065	Borrowings		2,093	965
Income tax paid	2.6	(761)	(852)	Repayments of borrowings		(1,115)	(505)
Interest received		9	7	Purchase of treasury stock		(2,000)	(2,000)
Interest paid		(11)	(28)	Sale of treasury stock		172	179
Cash flow before change in working capital		4,526	4,312	Dividend paid		(1,317)	(1,192)
Change in working capital				Cash flow from financing activities		(2,167)	(2,553)
(Increase)/decrease in receivables		(361)	(96)	Net cash flow		120	(158)
(Increase)/decrease in inventories		(234)	(224)	Unrealized gain/(loss) on currencies and financial assets included in cash and cash equivalents		(29)	(22)
Increase/(decrease) in payables, deferred income and contract liabilities		(265)	74	Net change in cash and cash equivalents		91	(180)
Currency translation adjustments		13	(3)	Cash and cash equivalents at January 1		632	812
Cash flow from operating activities		3,679	4,063	Cash and cash equivalents at December 31		723	632
Investments							
Purchase of intangible assets	3.1	(60)	(99)				
Purchase of property, plant and equipment		(1,332)	(1,593)				
Sale of property, plant and equipment		4	27				
Business acquisitions, divestments and purchase of financial assets	6.6	(4)	(3)				
Cash flow from investing activities		(1,392)	(1,668)				
Free cash flow		2,287	2,395				

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 previous years, we have measured resource efficiency relative to gross profit, but this has proved not to be optimal, as non-sustainability-related changes in gross profit, such as currency fluctuations and product mix, distort the picture of the actual sustainability performance. We have therefore decided to explore a better way of measuring our sustainability performance and aim to finalize this work in 2019.

While exploring better long-term sustainability measures, we have introduced annual targets for energy and water consumption and CO₂ emissions, where we aim to keep growth in resource consumption and CO₂ emissions lower than our organic sales growth.

Climate change

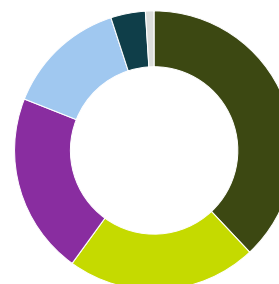
Novozymes' total CO₂ emissions were 472,000 tons in 2018, an increase from 447,000 tons in 2017. Our target measures the increase in part of the total CO₂ emissions (scope 1+2 only), which increased by 7% from 408,000 tons in 2017 to 437,000 tons in 2018. This means the target was not met.

Despite this, Novozymes' net overall impact on climate change remains positive, as its products result in lower CO₂ emissions over their life cycles compared with conventional technologies. In 2018, our customers avoided an estimated 88 million tons of CO₂ emissions by applying our solutions in their products or processes, up from 76 million tons in 2017. This is equivalent to taking 37 million cars off the road.

Energy

In 2018, Novozymes' energy consumption was 4,831,000 GJ, an increase of 1% compared with 2017. Renewable sources accounted for 23% of the energy consumption in 2018, down from 24% in 2017. All our electricity in Denmark and Brazil comes from offshore windfarms and hydropower.

Energy by source 2018 (2017)



- Electricity - conventional **38%** (37%)
- Electricity - renewable **22%** (23%)
- Steam **21%** (20%)
- Fuels - conventional **14%** (15%)
- Heat - conventional **4%** (4%)
- Fuel and heat - renewable **1%** (1%)

Water

In 2018, Novozymes' water consumption increased by 1% from 8,106,000 m³ in 2017 to 8,205,000 m³.

The total volume of wastewater generated in 2018 increased by 2%.

In 2018, Novozymes established a wastewater treatment plant at its new production site in Patalganga, India, designed to reuse 100% of the treated process water in production.

Waste

Novozymes recovered 97% of biomass generated in 2018 from landfill, on par with 2017.

For solid waste, the rate of recycling across our global production sites increased to 44%, compared with 43% in 2017.

Environmental compliance

The number of breaches of regulatory limits recorded worldwide increased to 27 in 2018 from 24 in 2017. Most of these breaches relate to wastewater treatment. Novozymes is addressing these incidents. In addition, we received 11 neighbor complaints in 2018, compared with 12 in 2017, mostly related to air pollution and waste management.

Consolidated environmental data

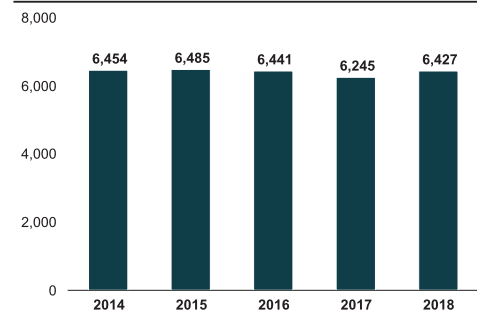
	Note		2018	2017
Climate change				
Estimated CO ₂ reductions from customers' application of Novozymes' products in their products or processes	7.1	Million tons	88	76
Greenhouse gas emissions	7.1	1,000 tons CO ₂ -eqv.	472	447
Energy				
Energy consumption	7.2	1,000 GJ	4,831	4,760
Renewable energy	7.2	%	23	24
Water				
Water consumption	7.3	1,000 m ³	8,205	8,106
Volume of wastewater	7.3	1,000 m ³	6,306	6,182
Waste				
Solid waste	7.4	1,000 tons	14	14
Recycling rate for solid and hazardous waste	7.4	%	44	43
Biomass volume	7.4	1,000 tons	509	602
Recycling rate for biomass	7.4	%	97	98
Environmental compliance, etc.				
Breaches of regulatory limits	7.5	No.	27	24
Neighbor complaints	7.5	No.	11	12
References to notes without data				
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, 2018, the total number of employees was 6,427, compared with 6,245 in 2017. The employee absence rate was 2.1%, on par with the 2017 performance.

Number of employees

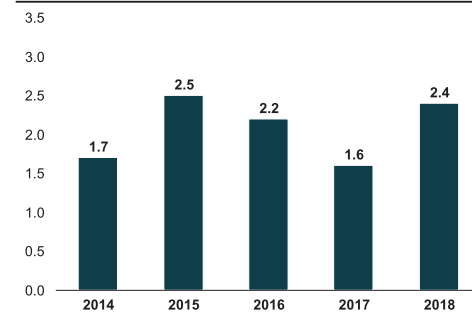


Novozymes promotes equal opportunities and strengthens diversity in the global workplace. At December 31, 2018, 30% of senior management (directors and higher) were women, up from 26% in 2017.

Occupational health & safety

Despite our continuous focus on building awareness and keeping employees safe and healthy, the frequency of occupational accidents increased to 2.4 per million working hours in 2018, compared with 1.6 in 2017.

Frequency of accidents (per million working hours)



Innovation

Novozymes is committed to delivering bioinnovation and launched eight new products in 2018. In 2018, Novozymes had 1,041 active patent families, which comprise the number of inventions that have active patent applications or active patents. See more details about our new products in This is Novozymes.

Business ethics

In 2018, Novozymes reinforced its commitment to its business integrity principles. 99% of Novozymes' employees completed business integrity training in 2018, on par with 2017.

As in 2017, there were no breaches of competition law in 2018.

The number of investigated fraud cases decreased to 34 in 2018, compared with 49 in 2017. None of the investigated fraud cases had a material financial impact.

Business integrity training for employees



Community engagement

In 2018, Novozymes engaged approximately 302,000 learners, compared with approximately 188,000 in 2017. The increase was due to expansion of our 2017 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 2018, we received an NPS of +50, compared with +39 in 2017, which confirms our solid relationships with our customers.

Consolidated social and governance data

	Note		2018	2017
Labor practices & human rights				
Employees, total	2.3	No.	6,427	6,245
Women	2.3	%	37.7	37.7
Rate of absence	8.1	%	2.1	2.1
Women in senior management	8.1	%	30	26
Occupational health & safety				
Fatalities		No.	-	-
Frequency of occupational accidents	8.2	Per million working hours	2.4	1.6
Frequency of occupational diseases	8.2	Per million working hours	0.4	0.2
Innovation				
New products	2.4	No.	8	8
Active patent families	2.4	No.	1,041	1,049
Business ethics				
Completion of business integrity training for employees	8.3	%	99	99
Breaches of competition law	8.3	No.	-	-
Investigated fraud cases	8.3	No.	34	49
Community engagement				
Estimated number of learners reached	8.4	No.	302,000	188,000
Customer engagement				
Customer satisfaction, Net Promoter Score (NPS)	8.5	No.	50	39
Reference to notes without data				
Responsible sourcing	8.6		n.a.	n.a.

Notes

Basis of reporting

- 1** 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** Provisions

Net working capital

- 4.1** Inventories
- 4.2** Trade receivables and contract assets
- 4.3** Other receivables
- 4.4** Contract liabilities
- 4.5** Deferred income
- 4.6** Other liabilities

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 auditor
- 6.6** Cash flow
- 6.7** Events after the reporting date
- 6.8** 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

1 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, balance sheet, and 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 for 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 Danish kroner 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 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

The definitions of non-IFRS financial measures are included 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 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	● ● ●
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	● ● ●
7.1 Climate change	CO ₂ emissions	Estimate	● ● ●
8.4 Community engagement	Learners reached	Estimate	● ● ●

Basis of reporting

The consolidated financial statements of the Novozymes 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, 2018. 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 9 Financial Instruments and IFRS 15 Revenue from Contracts with Customers.

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 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. Topic-Specific Information is provided by referencing GRI Standards 200, 300 and 400 on Economic, Environmental and Social disclosures. Specific content for which information is reported is outlined in Novozymes' GRI Content Index

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 these financial statements. The disclosures on environmental, social and governance (ESG) data include information on our management approach, targets, initiatives and related progress on the issues.

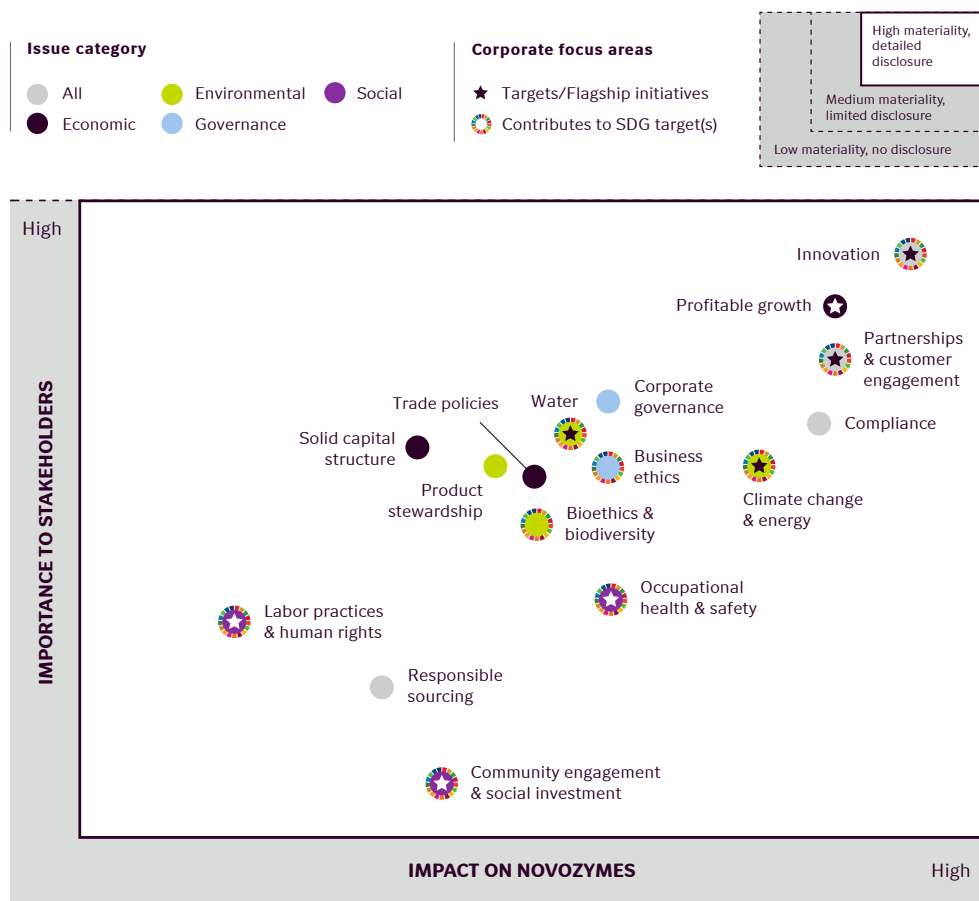
Novozyymes' materiality assessment is a systematic and rigorous process that integrates inputs from external stakeholders, trend analyses and internal engagement with relevant departments, for example senior leadership from Novozymes' business divisions, Investor Relations, Risk Management & Controls, Public Affairs and Corporate Sustainability. This process results in identification of the ESG issues that are most material to Novozymes.

Basis of reporting

1 Basis of reporting (continued)

The illustration is a snapshot of the upper-right quadrant of Novozymes' materiality matrix and depicts the 16 issues from the economic, environmental, social and governance areas that are most material to Novozymes' business.

In 2018, we studied relevant macro trends and changes in the internal and external environment to understand the impact they have on our current materiality matrix. As a result of this process, we identified one new issue in the economic category: Trade policies.



Changing global trade policies are impacting businesses all over the world. Therefore, it is important that we manage this issue to minimize the impact it may have on Novozymes' business. All other issues remain unchanged.

For further details on the materiality assessment process, including a full list of all material issues and an explanation of how the issues are linked to the Sustainable Development Goal (SDG) targets, see Materiality in the Sustainability section.

Impact of new accounting standards

Novozymes has adopted the following new or amended standards and interpretations from January 1, 2018:

- IFRS 9 – Financial Instruments: Classification and Measurement of Financial Assets and Financial Liabilities contains requirements for the classification and measurement of financial assets and liabilities, impairment methodology and general hedge accounting.

The implementation of IFRS 9 has had an insignificant impact on the consolidated financial statements. The implementation has resulted in additional disclosures; see Notes 4.2 and 5.1. The basis for calculating the allowance for doubtful receivables has been changed from incurred losses to expected losses. However, this has had only an insignificant impact on the allowances and thereby the consolidated financial statements.

The standard has been implemented prospectively using January 1, 2018 as the date of initial application. Novozymes has made use of the relief from restating comparative figures.

- IFRS 15 – Revenue from Contracts with Customers establishes a single comprehensive framework for revenue recognition.

The implementation of IFRS 15 has had an insignificant impact on the income statement and the related key ratios in the consolidated financial statements. Contract assets and Contract liabilities are now presented separately in the balance sheet.

The standard was implemented using the modified retrospective method. Novozymes made use of the relief from restating comparative figures and applied IFRS 15 only to contracts that were not completed as of January 1, 2018.

The following table shows the amounts by which the affected line items are impacted by the implementation of IFRS 15. Line items that are not affected are not included in the table, and consequently subtotals disclosed cannot be derived from the numbers provided.

Basis of reporting

1 Basis of reporting (continued)

The first column shows amounts prepared under IFRS 15, while the second column shows the amounts had IFRS 15 not been implemented.

The implementation has resulted in additional disclosures; see Notes 2.2 and 4.2.

- Amendment to IFRS 2 – Classification and Measurement of Share-based Payment Transactions clarifies the accounting for certain types of share-based payment transactions

- Annual Improvements to IFRSs (2014-2016) contains minor changes to three standards

- IFRIC 22 – Foreign Currency Transactions and Advance Consideration clarifies the accounting for transactions that include the receipt or payment of advance consideration in a foreign currency

The adoption of the amended standards and interpretations has not had a significant impact on recognition or measurement in the consolidated financial statements for 2018 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 2018. Novozymes expects to adopt the accounting standards and interpretations when they become mandatory. The following accounting standard is considered the most relevant for Novozymes:

- IFRS 16 – Leases introduces a single lessee accounting model, requiring lessees to recognize leases in the balance sheet as a right-of-use asset and a lease liability, unless the lease term is 12 months or less or the underlying asset has a low value. In the income statement, the lease cost is replaced by depreciation of the leased asset and an interest expense for the financial liability.

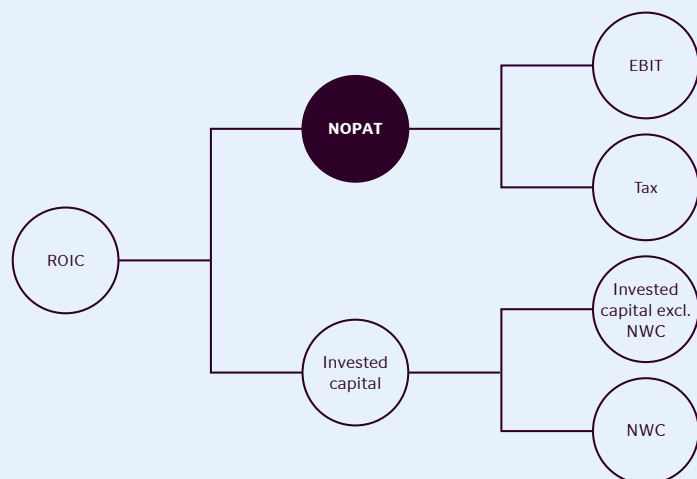
The standard will be implemented on January 1, 2019 using the modified retrospective approach, where the right-of-use assets on transition are measured at an amount equal to the lease liability. Novozymes will make use of the relief from restating comparative figures and will not apply IFRS 16 to short-term leases and low-value leases.

The impact assessment analysis concluded that the implementation of IFRS 16 will have an insignificant impact on profit and loss, but will result in an expected increase in total assets and liabilities of DKK 615 million. Consequently, ROIC is expected to be impacted negatively by approximately 0.8 percentage point, and free cash flow in the Consolidated statement of cash flows will improve by approximately DKK 125 million. The right-of-use asset and lease liability are to be presented separately in the balance sheet or disclosed in the notes. Furthermore, the implementation of IFRS 16 will require additional disclosures.

DKK million	December 31, 2018			January 1, 2018		
	IFRS 15	Previous IFRS	Increase/(decrease)	IFRS 15	Previous IFRS	Increase/(decrease)
Assets						
Trade receivables	2,606	2,878	(272)	2,424	2,554	(130)
Contract assets	279	-	279	143		143
Other receivables	219	226	(7)	201	214	(13)
Current assets	6,835	6,835	-	6,137	6,137	-
Liabilities						
Contract liabilities, non-current	(199)		(199)	(335)		(335)
Deferred income, non-current	(37)	(236)	199	(2)	(337)	335
Non-current liabilities	(2,734)	(2,734)	-	(2,529)	(2,529)	-
Provisions	(97)	(140)	43	(66)	(86)	20
Contract liabilities, current	(175)		(175)	(238)		(238)
Deferred income, current	(13)	(125)	112	(23)	(205)	182
Other payables	(625)	(645)	20	(747)	(783)	36
Current liabilities	(5,525)	(5,525)	-	(4,577)	(4,577)	-

Net operating profit after tax

Net operating profit after tax



DKK million	Note	2018	2017
Revenue	2.2	14,390	14,531
Cost of goods sold		(6,135)	(6,118)
Gross profit		8,255	8,413
Sales and distribution costs		(1,571)	(1,619)
Research and development costs	2.4	(1,865)	(1,913)
Administrative costs		(792)	(831)
Other operating income, net	2.5	43	(3)
Operating profit (EBIT)		4,070	4,047
Exchange gains/(losses)		(89)	27
Tax on adjusted operating profit		(717)	(795)
Share of loss in associates		(17)	(14)
Adjusted operating profit (NOPAT)		3,247	3,265
Average invested capital (see Invested capital section)		13,417	12,732
ROIC		24.2%	25.6%

Organic sales growth

4%

Net profit growth up from 2% in 2017 to

3%

The EBIT margin grew by 0.4 percentage point to

28.3%



Net operating profit after tax

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 single largest market, contributing ~32% of the Group's revenue (2017: ~32%).

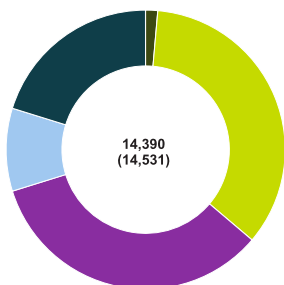
The geographical distribution of revenue is based on the country in which the goods are delivered. With a number of customers, central deliveries are made to specified locations and the final destination is unknown.

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 (2017: ~50%, ~30% and ~13%).

Revenue 2018 (2017)

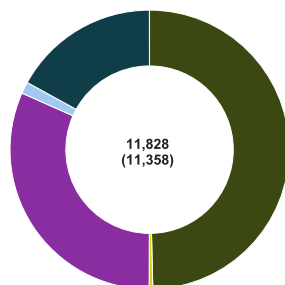
DKK million



- Denmark **204** (208)
- Rest of Europe, Middle East & Africa **5,010** (5,043)
- North America **4,893** (4,952)
- Latin America **1,381** (1,463)
- Asia Pacific **2,902** (2,865)

Intangible assets and property, plant and equipment 2018 (2017)

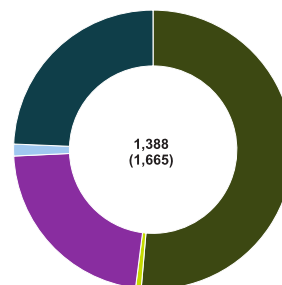
DKK million



- Denmark **5,871** (5,658)
- Rest of Europe, Middle East & Africa **49** (60)
- North America **3,738** (3,607)
- Latin America **160** (201)
- Asia Pacific **2,010** (1,832)

Net investments 2018 (2017)

DKK million



- Denmark **713** (876)
- Rest of Europe, Middle East & Africa **9** (18)
- North America **309** (452)
- Latin America **19** (27)
- Asia Pacific **338** (292)

Net operating profit after tax

2.2 Revenue

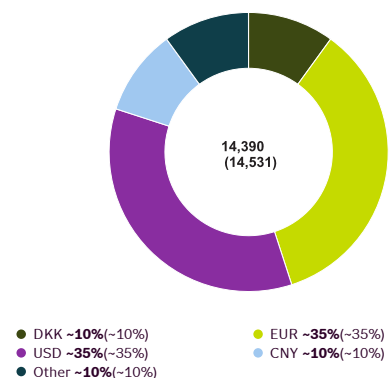
DKK million	2018	2017
Household Care	4,625	4,717
Food & Beverages	4,122	4,041
Bioenergy	2,806	2,644
Agriculture & Feed	2,045	2,108
Technical & Pharma	792	1,021
Revenue	14,390	14,531
Emerging markets	4,980	5,023
Developed markets	9,410	9,508
Revenue	14,390	14,531
Sales to the five largest customers as a percentage of revenue	28%	30%

At the beginning of 2018, contract liabilities amounted to DKK 573 million, of which DKK 224 million has been recognized as revenue in 2018.

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

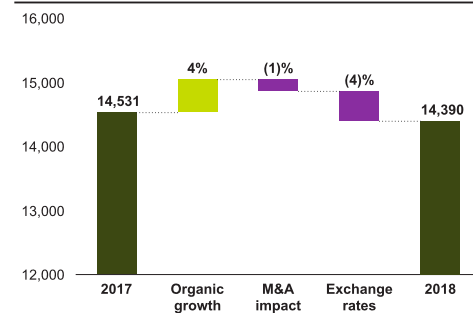
Sales by currency 2018

DKK million



Sales growth 2018

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 13%

of Novozymes' total annual revenue (2017: 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 sales 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 sales 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 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 the customers, and each batch delivered is considered a separate performance obligation, as each batch is distinct.

Discounts

Enzymes and microorganisms are sometimes sold with 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 and collaborations are granted a right of return. No revenue is recognized for the goods expected to be returned, but a refund liability is recognized. Estimates of the expected level of returns are based on an 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 the 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.

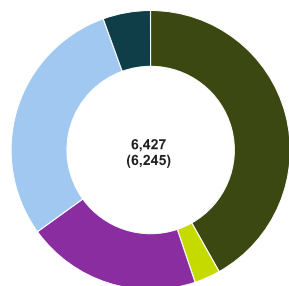
Net operating profit after tax

2.3 Employees

DKK million	2018	2017
Wages and salaries	2,960	2,965
Pensions – defined contribution plans	306	289
Other social security costs	232	273
Other employee costs	114	139
Stock-based payment	100	107
Employee costs	3,712	3,773
Recognized in the income statement under the following items:		
Cost of goods sold	1,350	1,342
Sales and distribution costs	778	811
Research and development costs	1,057	1,070
Administrative costs	492	531
	3,677	3,754
Change in employee costs recognized in Inventories	35	19
Employee costs	3,712	3,773

Number of employees end of year 2018 (2017)

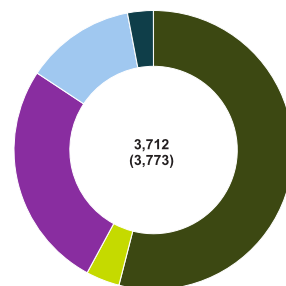
No. of employees



- Denmark **2,687** (2,631)
- Rest of Europe, Middle East & Africa **191** (173)
- North America **1,301** (1,277)
- Asia Pacific **1,892** (1,815)
- Latin America **356** (349)

Employee costs 2018 (2017)

DKK million



- Denmark **2,004** (1,962)
- Rest of Europe, Middle East & Africa **145** (191)
- North America **981** (1,015)
- Asia Pacific **470** (472)
- Latin America **112** (133)

Net operating profit after tax

2.3 Employees (continued)

	2018	2017
Average number of employees in the Group	6,351	6,301
Average number of employees who work with R&D	1,522	1,473
Number of employees outside Denmark as a percentage of total number of employees	58%	58%
Part-time employees	296	272
Full-time employees	6,131	5,973
Employees, end of year	6,427	6,245
Senior management	188	186
Management	1,207	1,122
Professional	1,820	1,816
Administrative	602	558
Skilled workers, laboratory technicians and other technicians	1,364	1,344
Process operators	1,246	1,219
Employees by category	6,427	6,245

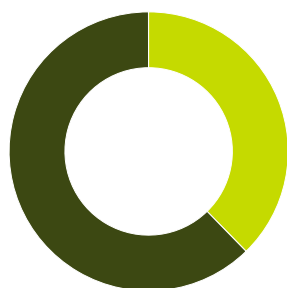
ACCOUNTING POLICIES

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 above are stated 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.

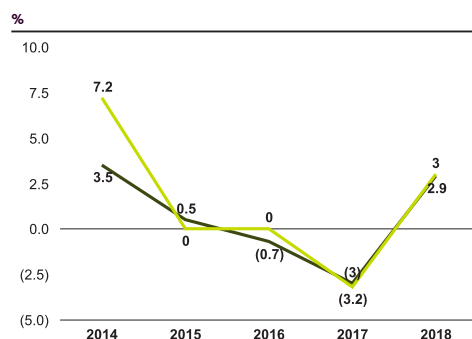
Job categories are defined as follows: Senior management comprises the CEO, executive vice presidents, vice presidents and directors. Management comprises middle managers and specialists. Professional comprises employees with academic backgrounds as well as team leaders. Process operators comprises operators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

Employee gender distribution 2018 (2017)



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

Employee growth



● Growth in total number of employees
● Growth in number of female employees

Net operating profit after tax

2.4 Research and development costs

DKK million	Note	2018	2017
Internal and external research and development costs		564	615
Employee costs	2.3	1,057	1,070
Amortization and impairment losses, intangible assets	3.1	120	122
Depreciation and impairment losses, property, plant and equipment	3.2	124	106
Total research and development costs	I/S	1,865	1,913
As a percentage of revenue		13.0%	13.2%

In 2018, Novozymes launched eight new products (2017: eight new products). New products comprises products with new or improved characteristics.

In 2018, Novozymes had 1,041 active patent families (2017: 1,049). Active patent families comprises the number of inventions for which there are one or more active patent applications or active patents at year-end.

Reference is made to the Innovation pipeline update in the business model for an overview of significant market-expanding opportunities that are currently being pursued in Research & Development.



ACCOUNTING POLICIES

Research and development costs primarily comprises employee costs, internal and external costs related to development of new products and to 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.

2.5 Other operating income, net

DKK million		2018	2017
Income and grants concerning research projects/ collaborations		33	26
Other secondary income, net		10	37
Loss on divestment of Albumedix		-	(66)
Other operating income, net	I/S	43	(3)

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 the 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 most significant.

For Novozymes, such agreements create predictability in relation to taxation and reduce the risk of Novozymes becoming part of the ongoing transfer-pricing debate around the world. A major part of internal transactions in the Group is covered by APAs. See Novozymes' Position on Tax on Novozymes.com.

Joint taxation

Novozymes A/S and its Danish subsidiaries are jointly taxed with the Danish companies in the Novo Holdings A/S Group. The 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. The tax for the individual companies is allocated in full on the basis of the expected taxable income.

Tax in the income statement

DKK million	2018	2017
Tax payable on net profit	(890)	(1,015)
Change in deferred tax	150	253
Revaluation of deferred tax due to changes in corporate tax rate	-	(33)
Adjustment for previous years	31	39
Tax in the income statement	(709)	(756)
Calculation of effective tax rate:		
Corporate tax rate in Denmark	(22.0)%	(22.0)%
Non-taxable income less non-deductible expenses	(0.1)%	(0.6)%
Difference in foreign tax rates	3.3%	2.9%
Revaluation of deferred tax due to changes in corporate tax rate	-	(0.8)%
Other adjustments	0.8%	1.0%
Effective tax rate	(18.0)%	(19.5)%



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 necessarily 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 can be substantial differences between the tax charge in the consolidated income statement and actual tax payments.

In 2017 and 2018, Novozymes transferred intellectual property from Switzerland to Denmark. This had a positive impact on the effective tax rate of 2.5 and 3.1 percentage points respectively, included in "Difference in foreign tax rates".

Net operating profit after tax

2.6 Tax (continued)

Deferred tax

DKK million	Deferred tax assets		Deferred tax liabilities	
	2018	2017	2018	2017
Intangible assets and property, plant and equipment	742	536	(1,193)	(1,064)
Inventories	471	441	(188)	(156)
Tax loss carry-forwards	34	6	-	-
Stock options	75	185	-	-
Other	266	255	(161)	(169)
	1,588	1,423	(1,542)	(1,389)
Offsetting items	(650)	(668)	650	668
Deferred tax at December 31	938	755	(892)	(721)

The tax value of the unrecognized share of tax loss carry-forwards, tax credits, etc. that do not expire amounted to DKK 23 million (2017: DKK 26 million).

DKK million	2018	2017
Deferred tax at January 1	34	(247)
Currency translation adjustments	1	(33)
Tax related to the income statement	123	240
Tax on shareholders' equity items	(112)	74
Deferred tax at December 31	46	34
Deferred tax assets	938	755
Deferred tax liabilities	(892)	(721)
Deferred tax at December 31	46	34

§ ACCOUNTING POLICIES

Corporation tax, comprising the current tax liability, change in deferred tax for the year and possible adjustments relating to previous 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 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 the 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		2018	2017
Tax payables, net, at January 1		(348)	(295)
Currency translation adjustments		3	(5)
Tax related to the income statement		(832)	(996)
Tax on shareholders' equity items		15	96
Tax paid for the current year, net		761	852
Tax payables, net, at December 31		(401)	(348)
Tax receivables	B/S	174	135
Tax payables	B/S	(575)	(483)
Tax payables, net, at December 31		(401)	(348)
Of which due within 12 months		(80)	(70)
Of which due after more than 12 months		(321)	(278)
Tax payables, net, at December 31		(401)	(348)
Corporate income taxes paid are specified as follows:			
Income taxes paid in Denmark		546	527
Income taxes paid outside Denmark		215	325
Total income taxes paid		761	852

Net operating profit after tax

2.7 Earnings per share

DKK million	2018	2017
Profit used to calculate earnings per share	3,226	3,119
Average number of shares		
Weighted average number of shares in circulation	290,422,325	295,338,610
Average dilutive effect of outstanding stock options and stock awards	1,940,030	1,863,742
Average number of diluted shares	292,362,355	297,202,352
Earnings per share	DKK 11.11	DKK 10.56
Earnings per share, diluted	DKK 11.03	DKK 10.49



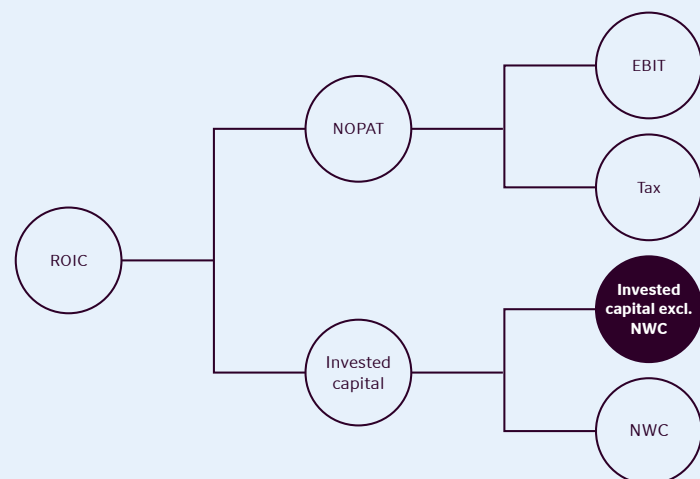
ACCOUNTING POLICIES

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	2018	2017
Intangible assets	3.1	2,130	2,432
Property, plant and equipment	3.2	9,698	8,926
Investments in associates		42	59
Net working capital (see Net working capital section)		2,768	2,023
Financial assets, non-interest-bearing		14	16
Provisions	3.3	(229)	(245)
Other non-current financial liabilities, non-interest-bearing		(5)	(9)
Other financial liabilities, non-interest-bearing		(110)	(8)
Tax, net		(355)	(314)
Invested capital		13,953	12,880
Average invested capital		13,417	12,732

ROIC down from 25.6% in 2017 to

24.2%

Increase in average invested capital of DKK million

685

Net investments excl. acq. down from DKK 1,665 million in 2017 to DKK million

1,388



Invested capital

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, 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)	-
Cost at December 31, 2018	1,086	2,942	533	59	4,620
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)
Amortization and impairment losses at December 31, 2018		(2,062)	(428)		(2,490)
Carrying amount at December 31, 2018	1,086	880	105	59	2,130

! 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.

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

A 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 Albedix divestment in late December 2017, the activity in the Biopharma CGU –

previously the Albedix CGU – has been reduced to sales-based royalty agreements.

The market value of Novozymes is significantly higher than its equity, thus no further key assumptions are used in determining whether impairment of goodwill exists for Novozymes' main activities (2017: no impairment).

The recoverable amount of the Biopharma CGU has been determined based on a value-in-use calculation. The expected future cash flows are based on a forecasting period of five years, reflecting the term of the royalty agreements.

The key assumptions used in testing for impairment are based on Management's expectations of future royalty payments, which are partly based on experience, as well as input from external experts. A WACC of 11% (2017: 10%) has been used to calculate the discounted cash flows for the Biopharma CGU.

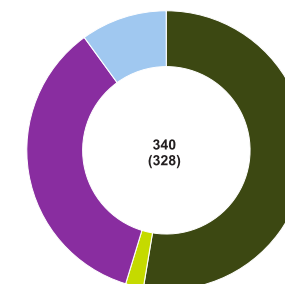
As the value in use for the Biopharma CGU is greater than its carrying amount, no impairment has been identified (2017: no impairment).

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, 2017	1,159	3,156	420	49	4,784
Currency translation adjustments	(51)	(35)	(1)	-	(87)
Additions during the year	-	7	10	82	99
Disposals during the year	-	(205)	(7)	-	(212)
Transfers to/(from) other items	-	-	70	(70)	-
Cost at December 31, 2017	1,108	2,923	492	61	4,584
Amortization and impairment losses at January 1, 2017		(1,752)	(295)		(2,047)
Currency translation adjustments		14	1		15
Amortization during the year		(229)	(72)		(301)
Impairment losses		(27)	-		(27)
Disposals during the year		201	7		208
Amortization and impairment losses at December 31, 2017		(1,793)	(359)		(2,152)
Carrying amount at December 31, 2017	1,108	1,130	133	61	2,432

Recognition of amortization and impairment losses by function 2018 (2017)

DKK million



- Cost of goods sold **179** (162)
- Sales and distribution **7** (25)
- Research and development **120** (122)
- Administration **34** (19)

Impairment

In 2017, an impairment loss of DKK 27 million on abandoned patents was recognized and

included in Cost of goods sold and Research and development costs at DKK 15 million and DKK 12 million respectively.

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 they are 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, 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)	-
Cost at December 31, 2018	5,694	10,645	1,846	1,848	20,033
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
Depreciation and impairment losses at December 31, 2018	(2,915)	(6,193)	(1,227)	-	(10,335)
Carrying amount at December 31, 2018	2,779	4,452	619	1,848	9,698
Of which assets held under finance leases	148	-	-	-	148

Capitalized interest and pledges

Interest of DKK 29 million (2017: DKK 10 million) has been capitalized under Additions during the year above and included as Investing activities in the statement of cash flows. Capitalization rate: 2.98% (2017: 2.05%).

Land and buildings with a carrying amount of DKK 355 million (2017: DKK 377 million) have been pledged as security to credit institutions. The mortgage loan expires in 2029.

Impairment

In 2018, an impairment loss of DKK 18 million on a building was recognized and included in Sales and distribution costs (2017: no impairment losses).



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 assets' residual value and useful life 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 that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss, if any. 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.

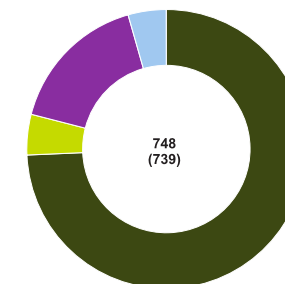
Invested capital

3.2 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, 2017	5,604	9,957	1,693	856	18,110
Currency translation adjustments	(291)	(527)	(88)	(37)	(943)
Additions during the year	65	294	110	1,124	1,593
Disposals during the year	(8)	(126)	(66)	(10)	(210)
Transfers to/(from) other items	45	210	30	(285)	-
Cost at December 31, 2017	5,415	9,808	1,679	1,648	18,550
Depreciation and impairment losses at January 1, 2017	(2,673)	(5,718)	(1,078)		(9,469)
Currency translation adjustments	116	268	29		413
Depreciation for the year	(165)	(449)	(125)		(739)
Disposals during the year	4	110	57		171
Depreciation and impairment losses at December 31, 2017	(2,718)	(5,789)	(1,117)		(9,624)
Carrying amount at December 31, 2017	2,697	4,019	562	1,648	8,926
Of which assets held under finance leases	59	-	-	-	59

Recognition of depreciation by function 2018 (2017)

DKK million



- Cost of goods sold **556** (583)
- Sales and distribution **35** (20)
- Research and development **124** (106)
- Administration **33** (30)

Invested capital

3.3 Provisions

DKK million	2018			2017		
	Dismantling and restoration	Legal and other obligations	Total	Dismantling and restoration	Legal and other obligations	Total
Provisions at January 1	74	171	245	101	191	292
Reclassification to Contract liabilities	-	(20)	(20)			
Currency translation adjustments	3	(1)	2	(7)	-	(7)
Additions during the year	5	42	47	-	21	21
Reversals during the year	-	(41)	(41)	(20)	(26)	(46)
Utilization during the year	-	(4)	(4)	-	(15)	(15)
Provisions at December 31	82	147	229	74	171	245
Recognized in the balance sheet as follows:						
Non-current	B/S 72	60	132	69	90	159
Current	B/S 10	87	97	5	81	86
Provisions at December 31	82	147	229	74	171	245

Dismantling and restoration

Dismantling and restoration relates to estimated future costs of environmental restoration – Novozymes aims for its production sites to have no negative environmental impact – and restoration of leased premises when terminating the lease and vacating the premises. These liabilities relate to established circumstances, and the costs are expected to be incurred either when concrete measures are implemented or when the sites are vacated. The expected costs and timing are by nature uncertain.

Amounts with regard to restoration of leased premises are considered uncertain, as the final settlements will depend on thorough inspection of the premises and negotiations with the lessor at the time of vacating. The costs are expected to be incurred in a minimum of 1 year to a maximum of 15 years.

Legal and other obligations

Novozymes is involved in a number of ongoing legal disputes, and provision is made for the estimated costs of these based on the current evaluation of the outcomes. The cases are expected to be finalized in 2019-2020. In Management's opinion, the outcome of these cases is not expected to give rise to any significant loss beyond the amounts provided for at December 31, 2018.



ACCOUNTING POLICIES

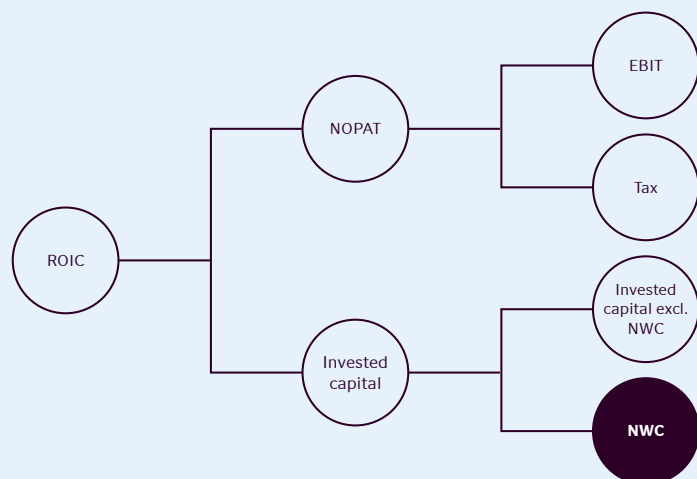
Provisions are recognized where a legal or constructive obligation has been incurred as a result of past events and it is probable it will lead to an outflow of financial resources. Provisions are measured at the present value of the expected expenditure required to settle the obligation.

No provisions are discounted, as discounting does not have any significant impact on the carrying amounts.

Other obligations includes other long-term employee benefits and other contractual obligations. 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 long period.

Net working capital

Net working capital



DKK million	Note	2018	2017
Inventories	4.1	2,820	2,586
Trade receivables	4.2	2,606	2,554
Contract assets	4.2	279	
Other receivables	4.3	253	249
Deferred income	4.5	(50)	(542)
Trade payables		(1,418)	(1,341)
Contract liabilities, excl. deferred income	4.4	(374)	
Other liabilities	4.6	(1,348)	(1,483)
Net working capital		2,768	2,023
Average net working capital		2,396	2,056

Average net working capital in DKK million

2,396

Net working capital as % of sales

19.2%

Deferred income related to The BioAg Alliance released as revenue in 2018 in DKK million

169



4.1 Inventories

DKK million	2018	2017
Raw materials and consumables	372	308
Work in progress	828	727
Finished goods	1,620	1,551
Inventories at December 31	2,820	2,586
	B/S	
Cost of materials, included under Cost of goods sold	3,411	3,451
Write-downs expensed during the year	117	111
Reversal of write-downs during the year*	33	45

* Part of the reversal of write-downs can be attributed 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 938 million at the end of

2018 (2017: DKK 862 million). The 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 cost determined on a first-in first-out basis or net realizable value where this is lower.

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.

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

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 that they are consumed in the customer's production.

4.2 Trade receivables and contract assets

DKK million	2018	2017
Trade receivables, gross	2,768	2,780
Allowances	(162)	(226)
Trade receivables at December 31	2,606	2,554
Aging of trade receivables, gross:		
Up to 30 days	2,613	2,521
Between 30 and 90 days	35	57
More than 90 days	120	202
Trade receivables, gross, at December 31	2,768	2,780
Changes in allowances for trade receivables:		
At January 1	226	179
Allowances during the year	48	128
Write-offs during the year	(90)	(13)
Reversed allowances	(22)	(68)
Allowances at December 31	162	226

As of December 31, 2018, DKK 272 million from Trade receivables and DKK 7 million from Other receivables has been recognized as Contract assets. Refer to Note 1 for a description of the impact of the implementation of IFRS 15.

Trade receivables

In 2018, allowances have been recognized according to the lifetime expected credit loss method, whereas the allowances in 2017 were recognized according to the incurred loss method.

The transition to lifetime expected credit losses has had only an insignificant impact on allowances as of January 1, 2018.

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

In 2017, the aging of trade receivables that were past due but not impaired up to 30 days amounted to DKK 141 million, between 30 and 90 days DKK 33 million and more than 90 days DKK 21 million.

Novozymes has collateral held as security for trade receivables in selected countries of DKK 68 million (2017: DKK 64 million).

§ 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 the 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 included in Sales and distribution costs.

Contract assets

Contract assets amounted to DKK 279 million at the end of 2018, and are mainly related to the estimated profit split arising from partnerships that Novozymes has entered.

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 has been made for contract assets at the end of 2018.

! 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 every reporting date.

Net working capital

4.3 Other receivables

DKK million		2018	2017
Deposits		24	27
Prepaid expenses		100	97
Other		129	125
Other receivables at December 31		253	249
Recognized in the balance sheet as follows:			
Non-current	B/S	34	35
Current	B/S	219	214
Other receivables at December 31		253	249

4.4 Contract liabilities

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

* In 2017, deferred income related to The BioAg Alliance was included in Note 4.5.

As of December 31, 2018, DKK 311 million from Deferred income has been recognized as Contract liabilities. Refer to Note 1 for a description of the impact of the implementation of IFRS 15.

Contract liabilities relate mainly to payments from Monsanto in connection with the formation of The BioAg Alliance in 2014. The planned recognition of deferred income in the income statement is based on an assessment of the earnings process and the underlying deliverables, which are reassessed annually.

The reassessment in 2018 has not changed the planned recognition of deferred 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.

Net working capital

4.5 Deferred income

DKK million		2018	2017
The BioAg Alliance	2023	16	519
Other	Up to 2027	34	23
Deferred income at December 31		50	542
Recognized in the balance sheet as follows:			
Non-current	B/S	37	337
Current	B/S	13	205
Deferred income at December 31		50	542
Expected to be recognized in the income statement:			
Within 1 year		13	205
Between 1 and 5 years		32	283
After 5 years		5	54
Deferred income at December 31		50	542

* In 2018, deferred income related to The BioAg Alliance is included in Note 4.4.

As of December 31, 2018, DKK 311 million from Deferred income has been recognized as Contract liabilities. Refer to Note 1 for a description of the impact of the implementation of IFRS 15.

At December 31, 2017, deferred income amounted to DKK 542 million. This related mainly to payments from Monsanto in connection with the formation of The BioAg Alliance in 2014. The planned recognition of deferred income in the income statement is based on an assessment of the earnings process and the underlying deliverables, which are reassessed annually. The reassessment in 2017 did not change the planned recognition of deferred income.



ACCOUNTING POLICIES

Deferred income reflects the portion of payments received that relates to future periods and deliverables, and for which the criteria for revenue recognition are not yet met. Deferred income is measured at nominal value.

4.6 Other liabilities

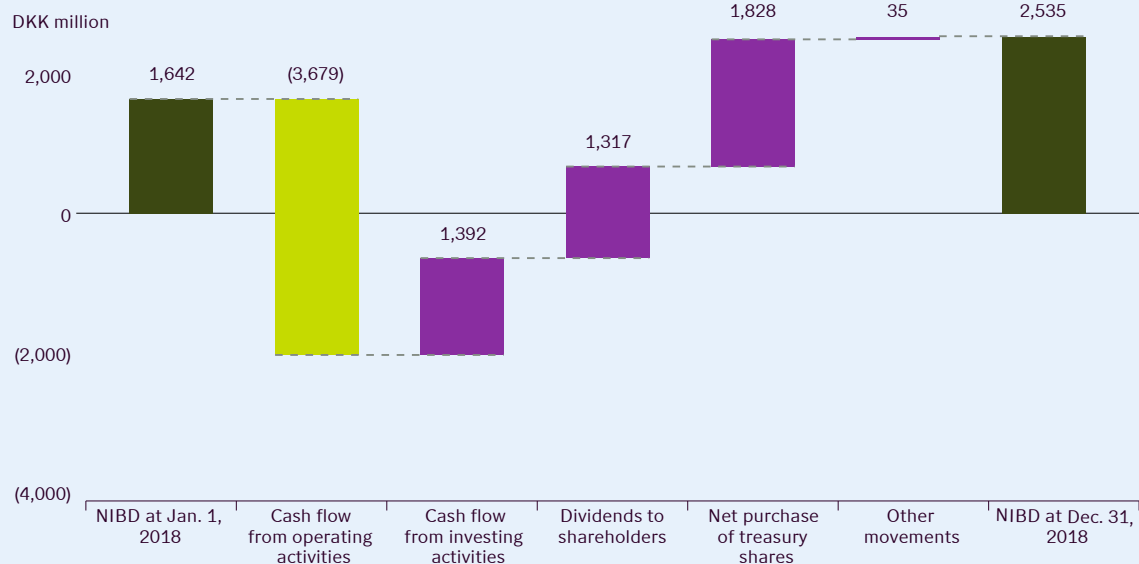
DKK million		2018	2017
Employee costs payable		712	671
Stock-based payment settled in cash		11	29
Other payables		625	783
Other liabilities at December 31	B/S	1,348	1,483

As of December 31, 2018, DKK 20 million from Other payables has been recognized as Contract liabilities. Refer to Note 1 for a description of the impact of the implementation of IFRS 15.

Capital structure and financing



Net interest-bearing debt, 2018



NIBD/EBITDA at December 31, 2018

0.5x

Return on equity up from 27.1% to

28.4%

Novozymes bought back 6.2 million B shares under the stock buyback program with a transaction value of DKK million

2,000

5.1 Financial risk factors and risk management

Novozymes' international operations mean that 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 the risks. 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 where 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 as hedging. 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.

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

Foreign exchange sensitivity – 2018

The sensitivity analysis below shows the impact on net profit and other comprehensive income of a 5% change in the DKK versus the key currencies to which Novozymes was exposed on December 31, 2018. 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, 2018, and that all other variables remain constant. The table shows the effect of an increase in exchange rates. A decrease in the exchange rate would have an opposite effect.

Foreign exchange sensitivity – 2019 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 would result in a change in the expected EBIT for 2019 of around DKK 130-160 million (2018: DKK 110-130 million). A 5% movement in the EUR would result in a change in expected EBIT for 2019 of around DKK 200 million (2018: DKK 200 million). Of the expected USD cash flows for 2019, 100% has been hedged by forward contracts at an average rate of DKK 6.21. As a result, the impact on net profit from changes in the USD has been reduced significantly compared with the impact on EBIT.

Foreign exchange analysis

DKK million	Increase in exchange rates	2018		2017	
		Change in net profit	Change in other comprehensive income	Change in net profit	Change in other comprehensive income
CHF	5.0%	(1)	59	(4)	74
CNY	5.0%	(2)	116	(1)	107
USD	5.0%	2	236	1	212
Other	5.0%	(1)	90	8	85
Total		(2)	501	4	478

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 risk is managed by entering into fixed-rate loans and interest rate swaps.

With the current hedging of interest 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 8 million (2017: negative effect of DKK 2 million). At December 31, 2018, 62% (2017: 72%) 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, 2018, the Group considered its maximum credit risk to be DKK 3,795 million (2017: DKK 3,383 million), which is the total of the Group's financial assets. At December 31, 2018, the maximum credit risk related to one counterparty was DKK 308 million (2017: DKK 313 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, 2018, Novozymes' financial resources amounted to DKK 4,023 million (2017: DKK 4,307 million), consisting of net cash and cash equivalents and undrawn committed credit facilities of DKK 3,646 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	2018	2017
Interest income	10	7
Gains on cash flow hedges	-	12
Gains on fair value hedges, net	26	-
Other foreign exchange gains, net	-	71
Fair value adjustments of cash-settled stock options	11	-
Financial income I/S	47	90
Interest costs	(13)	(27)
Losses on cash flow hedges, net	(42)	-
Losses on fair value hedges, net	-	(56)
Other financial costs	(22)	(24)
Other foreign exchange losses, net	(73)	-
Write-down of financial asset	(14)	(120)
Fair value adjustments of cash-settled stock options	-	(20)
Financial costs I/S	(164)	(247)
Financial income/costs, net	(117)	(157)

The financial asset relating to the partnership with Beta Renewables S.p.A. was fully written down in 2017. This related to a guarantee

provided by M&G because cellulosic ethanol projects had not commercialized as expected in Beta Renewables S.p.A. The write-down of DKK

120 million, included in Financial costs, was made because M&G was experiencing financial difficulties.



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.

5.3 Other financial liabilities

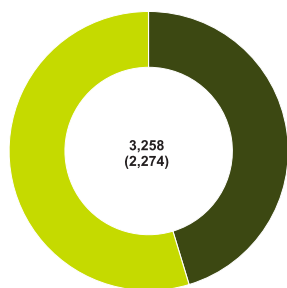
DKK million	2018	2017
Credit institutions	3,258	2,274
Derivatives	115	17
Other financial liabilities at December 31	3,373	2,291
Recognized in the balance sheet as follows:		
Non-current	B/S 1,474	1,312
Current	B/S 1,899	979
Other financial liabilities at December 31	3,373	2,291

Liabilities arising from financing activities

DKK million	2016	Financing cash flows	Foreign exchange movement	Other movements	2017	Financing cash flows	Foreign exchange movement	Other movements	2018
Long-term borrowing	1,713	-	2	(411)	1,304	746	3	(584)	1,469
Short-term borrowing	90	460	-	420	970	232	3	584	1,789
Total liabilities from financing activities at December 31	1,803	460	2	9	2,274	978	6	-	3,258

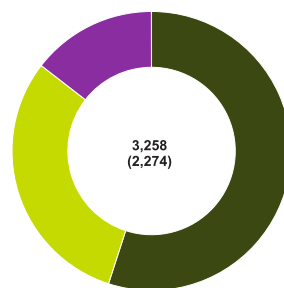
* Other movements include the effect of reclassification of non-current portion of interest-bearing loans and borrowings.

Credit institutions – currency 2018 (2017)
DKK million



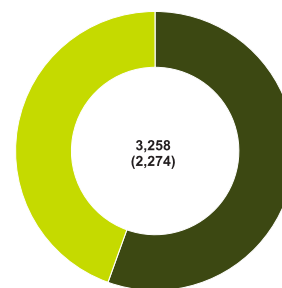
● EUR **1,477** (1,123)
● Other **1,781** (1,151)

Credit institutions – time to maturity 2018 (2017)
DKK million



● Less than 1 year **1,789** (970)
● Between 1 and 5 years **996** (876)
● More than 5 years **473** (428)

Loan portfolio – fixed or floating interest rate 2018 (2017)
DKK million



● Fixed interest rate **1,808** (1,438)
● Floating interest rate **1,450** (836)

5.4 Derivatives – hedge accounting

Fair value hedges

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

DKK million	2018		2017	
	Contract amount based on agreed rates*	Fair value Dec. 31	Contract amount based on agreed rates*	Fair value Dec. 31
Forward exchange contracts				
CAD	(343)	(9)	(332)	2
CHF	(1,351)	12	(1,453)	(1)
USD	182	-	280	1
Other	236	(13)	175	(2)
Fair value hedges at December 31	(1,276)	(10)	(1,330)	-

* 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 2019 to June 2019 (2017: January 2018 to May 2018).

The fair value hedges were 100% effective, as the gain on forward exchange contracts was DKK 26 million (2017: gain of DKK 56 million),

compared with a loss on the hedged items of DKK 26 million (2017: loss of DKK 56 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	2018		2017	
	Contract amount based on agreed rates*	Fair value Dec. 31	Contract amount based on agreed rates*	Fair value Dec. 31
Forward exchange contracts				
USD	2,235	(82)	1,855	11
	2,235	(82)	1,855	11
Interest rate swaps				
EUR/EUR – pays fixed rate of 3.58% / earns variable rate of (0.271%) (2017: (0.273%))	112	(4)	112	(9)
DKK/DKK – pays fixed rate of 0.595% / earns variable rate of (0.150%) (2017: (0.165%))	521	(5)	521	(2)
	633	(9)	633	(11)
Cash flow hedges at December 31	2,868	(91)	2,488	-

* 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 2019 to December 2019 (2017: January 2018 to December 2018), and the swaps fall due in July 2019 and May 2026 (2017: July 2019 and May 2026).

At the end of 2018, the Group had hedged 100% of expected future cash flows in USD for 2019 at an average rate of DKK 6.21 (2017: 100% of expected future cash flows in USD for 2018 at an average rate of DKK 6.18).

5.5 Common stock and treasury stock

	2018		2017	
	No.	Nominal value DKK million	No.	Nominal value DKK million
Common stock				
A common stock (shares of DKK 2)	53,743,600	107	53,743,600	107
B common stock (shares of DKK 2)	243,256,400	487	251,256,400	503
Common stock at December 31	297,000,000	594	305,000,000	610
	B/S			
Treasury stock - B stock				
Treasury stock at January 1	12,051,096	24	12,381,738	25
Additions during the year	6,167,092	13	6,770,271	13
Disposals during the year	(812,382)	(2)	(2,100,913)	(4)
Cancellation of common stock	(8,000,000)	(16)	(5,000,000)	(10)
Treasury stock at December 31	9,405,806	19	12,051,096	24

No.	2018	2017
Shares of common stock in circulation		
Shares of stock at January 1	292,948,904	297,618,262
Purchase of treasury stock	(6,167,092)	(6,770,271)
Sale of treasury stock	812,382	2,100,913
Shares of common stock in circulation at December 31	287,594,194	292,948,904

Each A share gives an entitlement to 20 votes, while each B share gives an entitlement to two votes.

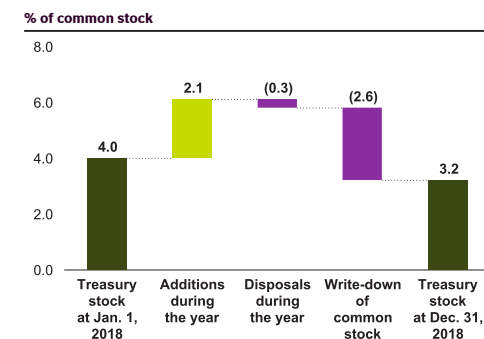
Each year, the Board of Directors assesses whether the ownership structure with A and B common stock is optimal. The Board of Directors maintains that this is the best way to

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

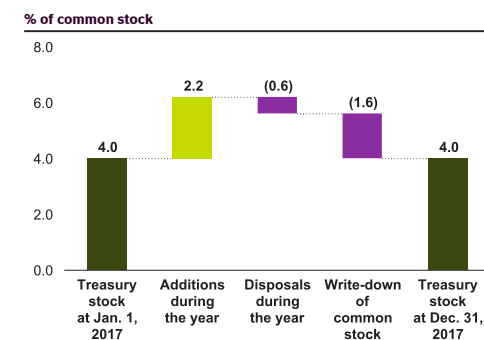
The treasury stock is used to reduce the common stock and to hedge employees' exercise of granted stock awards and stock options.

In 2018, Novozymes canceled 8 million treasury shares, reducing the common stock to 297 million shares.

Treasury stock 2018



Treasury stock 2017



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	2018	2017
Trade receivables	4.2	2,606	2,554
Contract assets	4.2	279	
Other receivables, excl. prepaid expenses	4.3	153	152
Cash and cash equivalents		723	632
Financial assets at amortized cost		3,761	3,338
Other financial assets		20	29
Fair value through profit and loss		20	29
Derivatives		14	16
Fair value through other comprehensive income		14	16
Financial assets		3,795	3,383
Credit institutions	5.3	(3,258)	(2,274)
Trade payables		(1,418)	(1,341)
Contract liabilities, excl. deferred income	4.4	(374)	
Other payables	4.6	(625)	(783)
Financial liabilities at amortized cost		(5,675)	(4,398)
Derivatives	5.3	(115)	(17)
Fair value through other comprehensive income		(115)	(17)
Financial liabilities		(5,790)	(4,415)

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.



Grant date fair value of options
granted in 2018 in DKK million

64

Realized audit fee ratio during
2018

0.75

No. of Danish and foreign
subsidiaries in the Group

43

6.1 Management remuneration

DKK million	2018			2017		
	Executive Leadership Team	Board of Directors	Total	Executive Leadership Team	Board of Directors	Total
Salaries and other short-term benefits	41	8	49	37	7	44
Defined contribution plans	10	-	10	9	-	9
Expensed stock-based incentive programs	43	-	43	40	-	40
Severance package	-	-	-	34	-	34
Remuneration	94	8	102	120	7	127
Total remuneration for registered Executive Management*	55		55	43		43

* Registered as of December 31.

General guidelines for 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 and can be found on Novozymes.com. 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 contributions, a cash bonus scheme, stock-based incentive programs and other benefits (car, telephone, etc.). The variable part of the total remuneration (cash bonus and stock-based incentive programs) is relatively large compared with the base salary, and is dependent on 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 compensation of between one and two years' base salary and pension contributions, depending on the position held.

Board of Directors

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

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. At the time of granting stock options, there is no difference between exercise price and share price.

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. Half of the incentive program is allocated in stock options and half in stock, with the stock options being awarded annually in 2017, 2018 and 2019, while the stock was allocated in 2017 and will be released in 2020. The final grant will depend on accumulated economic profit generated as well as average organic sales growth during the period.

- A total of up to 75% of the program will be allocated if economic profit accumulated for the three years attains 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. Between these two points, stock options and stock will be granted proportionally. If the accumulated economic profit is below DKK 5.5 billion, no stock or stock options will be awarded under

the economic profit pool

- A total of up to 25% of the program will be allocated if Novozymes achieves 6% organic sales growth on average during the three years. If average organic sales growth of 3% is achieved, 50% of the stock and stock options allocated to the sales growth pool will be awarded. Between these two points, stock options and stock will be awarded proportionally. If the average sales growth is below 3%, no stock or stock options will be awarded under the sales growth pool

The total fair value of the program at grant date was DKK 162 million, which will be expensed over a six-year period. The value of the stock will be 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). The recognition of the program expense is based on the expected target achievement, which is reassessed annually.

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 303 million at the end of the program in January 2020. The maximum-value clause has been adjusted to include the new Chief Financial Officer (CFO). The former CFO is no longer part of the program.

Furthermore, three-year programs were established in 2017 for vice presidents and directors covering the period 2017-2019 (approximately 182 vice presidents and directors). The total fair value at grant date was DKK 175 million, and the maximum-value clause is approximately DKK 350 million. The grant date fair value will be expensed over a six-year period, based on the expected target achievement, which is reassessed annually. The program for the vice presidents largely follows the same mechanisms as the program for the Executive Leadership Team. 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 are awards linked to annual EBIT and sustainability targets.

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 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 a voluntary early retirement pension 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 on 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, 2018	1,535,250	4,096,296	2,161,945	7,793,491	253		
Granted ¹	497,697	745,908	-	1,243,605	301	51	64
Allocation adjustment	-	(501)	-	(501)	293		
Exercised ²	(98,698)	(579,856)	(199,713)	(878,267)	209		
Forfeited	-	(96,241)	(76,325)	(172,566)	264		
Expired	-	(395)	(14,654)	(15,049)	89		
Outstanding at December 31, 2018	1,934,249	4,165,211	1,871,253	7,970,713	266		
Outstanding at January 1, 2017	1,443,244	4,157,065	2,756,676	8,356,985	230		
Change in Management	(249,614)	249,614		-			
Granted	478,444	990,999	543	1,469,986	250	45	67
Allocation adjustment	-	(54,837)	(155,173)	(210,010)	269		
Exercised	(136,824)	(1,104,587)	(304,605)	(1,546,016)	121		
Forfeited	-	(135,413)	(99,995)	(235,408)	270		
Expired	-	(6,545)	(35,501)	(42,046)	78		
Outstanding at December 31, 2017	1,535,250	4,096,296	2,161,945	7,793,491	253		
Number of exercisable options at December 31, 2018				1,990,159	218		
Number of exercisable options at December 31, 2017				972,760	178		

1. The allocation of stock options for 2017-2019 will be adjusted in January 2020 based on the cumulative level of target achievement in the period.

2. The weighted average share price for stock options exercised during 2018 was DKK 340 (2017: DKK 297).

		2018			2017		
		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.	3,573,318	4,397,395	7,970,713	2,892,905	4,900,586	7,793,491
Weighted average term to maturity	Years	4	7	6	5	7	6
Range of exercise prices	DKK	157-317	249-335	157-335	83-317	249-317	83-317
Average exercise price	DKK	255	274	266	215	276	253

6.2 Stock-based payment (continued)

During 2018, DKK 100 million arising from stock-based payment has been recognized in the income statement (2017: DKK 107 million), DKK 97 million of which is from equity-settled programs (2017: DKK 104 million) and DKK 3 million from cash-settled programs (2017: DKK 3 million).

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 11 million has been recognized for this in 2018 (2017: DKK 29 million). The intrinsic value of exercisable cash-settled programs in 2018 was DKK 6 million (2017: DKK 34 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:

		2018	2017
Expected future dividends per share	DKK	34.1	31.6
Volatility	%	23.9	26.6
Annual risk-free interest rate	%	0.3	0.0
Weighted average share price at grant date	DKK	301	250

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 2018, 41,577 stock awards with a fair value of DKK 12 million were granted to new employees enrolled in the programs (2017: DKK 125 million).

The total number of outstanding stock awards at December 31, 2018 was 495,005 (2017: 460,175). The fair value of these at December 31, 2018 was DKK 144 million (2017: DKK 163 million), which will be expensed over the three-year period (2017-2019).

6.3 Commitments and contingencies

DKK million	2018	2017
Recognized in the income statement in respect of rentals	127	115
Rental commitments expiring within the following periods from the reporting date:		
Less than 1 year	119	104
Between 1 and 2 years	89	57
Between 2 and 3 years	62	44
Between 3 and 4 years	49	33
Between 4 and 5 years	43	21
After 5 years	144	123
Rental commitments at December 31	506	382

Of this, commitments to related parties at December 31, 2018 amounted to DKK 23 million, compared with DKK 39 million at December 31, 2017.

The above rental commitments relate to noncancelable operating leases, primarily for buildings and offices.

DKK million	2018	2017
Other commitments		
Contractual obligations to third parties relating to property, plant and equipment	171	804
Other guarantees		
Other guarantees and commitments to related companies	26	47
Other guarantees and commitments	332	309

Contractual obligations to third parties relating to capital expenditure were significantly

impacted in 2017 by the construction of Innovation campus, Lyngby in Denmark.

Pending litigation and arbitration

Novozymes is engaged in certain legal cases. In the opinion of the Board of Directors and 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 could be terminated by the opposite 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 71.7% 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 has had the following transactions with related parties:

Transactions

DKK million	2018	2017
The Novo Nordisk Group		
Sale of goods and materials	36	63
Sale of services	85	100
Purchase of goods and materials	(64)	(71)
Purchase of services	(51)	(74)
The NNIT Group		
Purchase of services	(32)	(34)
The Chr. Hansen Group		
Sale of goods and materials	82	39
Purchase of services	(26)	-

There have not been any transactions with related parties other than the transactions described above, and normal remuneration

of the Board of Directors and Executive Leadership Team, which is presented in Note 6.1.

Outstanding balances

DKK million	2018	2017
The Novo Nordisk Group		
Receivables	35	40
Payables	(109)	(99)
The NNIT Group		
Payables	(5)	(4)
The Chr. Hansen Group		
Receivables	18	5
Payables	(3)	-

Other financial notes

6.5 Fees to statutory auditor

DKK million	2018	2017
Statutory audit	8	7
Other assurance engagements	-	-
Tax assurance services	5	7
Other services	1	1
Fees to statutory auditor	14	15
Audit fee ratio	0.75	1.14

Audit fee policy

It is Novozymes' policy that the annual fee for nonaudit services provided by the statutory auditor should not exceed the annual fee for statutory audit services measured at Group level. The audit fee ratio may only exceed 1 with the approval of the Audit Committee.

In 2018, no such approval was given. In 2017, approval was given for extra advisory services

of DKK 2.0 million related to applications for two major Bilateral Advance Pricing Agreements (BAPA).

Implementation of the EU audit reform has led to restrictions on the nonaudit services that the auditor elected at the Annual Shareholders' Meeting may perform. The fee for nonaudit services performed for Novozymes by PricewaterhouseCoopers Statsautoriseret

Revisionspartnerselskab is DKK 2 million (2017: DKK 3 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. The EU audit reform will lead to future restrictions on the scope of the nonaudit services that the elected auditor may perform while conducting the audit.

Other financial notes

6.6 Cash flow

DKK million	Note	2018	2017
Non-cash items			
Accrued interest income and interest costs		3	20
(Gain)/loss on financial assets, etc., net		10	139
Depreciation, amortization and impairment losses	3.1, 3.2	1,088	1,067
Realized loss and allowances for doubtful trade receivables		23	69
Financial (gain)/loss on sale of assets		3	(9)
Unrealized foreign exchange (gain)/loss		125	(142)
Tax	2.6	709	756
Stock-based payment	6.2	100	107
Change in provisions		(16)	(22)
Loss on divestment of Albumedix	2.5	-	66
Profit/loss in associates		17	14
Non-cash items		2,062	2,065
Business acquisitions, divestments and purchase of financial assets			
Divestment of Albumedix		-	4
Other acquisitions and purchase of financial assets		(4)	(7)
Cash flow from acquisitions, net		(4)	(3)

Undrawn committed credit facilities were DKK 3,646 million at December 31, 2018 (2017: DKK 3,944 million), all of which expires in 2020-2023.

To comply with the Danish Business Authority's recent interpretation of cash on demand, credit institutions has been reclassified from cash and cash equivalents to cash flow from financing activities with restatement

of comparatives. The 2017 cash flow from financing activities has been restated from negative cash flows of DKK 2,815 million to negative DKK 2,553 million, and cash and cash equivalents as of January 1, 2017 and

December 31, 2017 have been restated with increases of DKK 7 million and DKK 269 million respectively.

§ 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, 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 Events after the reporting date

No events have occurred after the balance sheet date of importance to the consolidated financial statements.

6.8 Group companies

	Activity	Percentage of shares owned		Activity	Percentage of shares owned	
Parent company						
Novozymes A/S, Denmark	■ □ ● ◆ ○					
Subsidiaries						
Novozymes BioAg S.A., Argentina	■ □ ● ◆	100	Novozymes Deutschland GmbH*, Germany	● ○	100	
Novozymes Australia Pty. Ltd.*, Australia	●	100	Organobalance GmbH, Germany	□ ● ◆	100	
Novozymes Belgium BVBA*, Belgium	●	100	Novozymes Hong Kong Ltd., Hong Kong		○	
Novozymes Latin America Ltda.*, Brazil	■ □ ● ◆	100	Novozymes South Asia Pvt. Ltd., India	■ □ ● ◆	100	
Novozymes BioAg Productos Para Agricultura Ltda., Brazil	□ ●	100	Novozymes Italia S.r.l.*, Italy	●	100	
Novozymes BioAg Limited, Canada	■ □ ● ◆ ○	100	Novozymes Japan Ltd.*, Japan	● ◆	100	
Novozymes Canada Limited, Canada	■ □ ●	100	Novozymes Malaysia Sdn. Bhd.*, Malaysia	●	100	
Novozymes (China) Biotechnology Co. Ltd., China	■ □ ●	100	Novozymes Mexicana, S.A. de C.V.*, Mexico	●	100	
Novozymes (China) Investment Co. Ltd., China	● ◆ ○	100	Novozymes Mexico, S.A. de C.V., Mexico	●	100	
Novozymes (Shenyang) Biologicals Co. Ltd., China	■ □ ●	100	Novozymes Nederland B.V.*, Netherlands	●	100	
Suzhou Hongda Enzyme Co. Ltd., China	■ □ ●	96	Novozymes RUS LLC*, Russia	●	100	
Novozymes Bioindustrial A/S*, Denmark		○	100	Novozymes Singapore Pte. Ltd.*, Singapore		○
Novozymes Bioindustrial China A/S*, Denmark		○	100	Novozymes South Africa (Pty) Ltd.*, South Africa	●	100
Novozymes Biopharma DK A/S*, Denmark		○	100	Novozymes Korea Limited*, South Korea	●	100
Novozymes BioAg A/S*, Denmark		○	100	Novozymes Spain S.A.*, Spain	●	100
Novozymes France S.A.S.*, France	● ◆	100	Novozymes Sweden AB*, Sweden	●	100	
			Novozymes Switzerland AG, Switzerland	■ ●	100	
			Novozymes Switzerland Holding AG*, Switzerland		○	
			Novozymes (Thailand) Limited*, Thailand	●	100	
			Novozymes Enzim Dis Ticaret Ltd. Sirketi*, Turkey	●	100	

Other financial notes

6.8 Group companies (continued)

	Activity	Percentage of shares owned
Novozymes UK Ltd.*, UK	● ◆	100
Novozymes BioAg, Inc., USA	■ □ ●	100
Novozymes Biologicals, Inc., USA	■ □ ● ◆	100
Novozymes Blair, Inc., USA	■ □	100
Novozymes, Inc., USA	◆	100
Novozymes North America, Inc., USA	■ □ ● ◆	100
Novozymes US, Inc.*, USA	○	100

■ ISO 14001-certified sites. All major companies are also ISO 9001 certified.

□ Production

● Sales & Marketing

◆ Research & Development

○ Holding companies, etc.

* Owned directly by Novozymes A/S.

	Activity	Percentage of shares owned
Joint operations/associates		
Grundejerforeningen Smørmosen*, Denmark		
Grundejerforeningen Hallas Park*, Denmark		
Microbiogen PTY Ltd.*, Australia		23.10
Beta Renewables S.p.A.*, Italy		9.95
MagnaBioAnalytics LLC, USA		19.35

Environmental data

We measure our performance in areas that have an impact on the environment. One of the most important measures is our estimate of the CO₂ emissions avoided as a result of customers' application of Novozymes' products in their products or processes. We also focus on reducing our own CO₂ emissions and use of resources, and mitigating the risk of potential harm to the environment.



Estimated tons of CO₂ saved
from customers' application of
Novozymes' products

88 million

Renewable energy share of total
energy consumption

23%

Percentage of biomass waste
repurposed to local farmers as
NovoGro®

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 integrated into our business strategy, as the transition toward a low-carbon economy offers many opportunities to support the growth of Novozymes' biological solutions. At the same time, climate change-associated issues (regulatory action, physical or reputational damage, etc.) pose multiple risks to Novozymes' supply chain and operations.

Our approach

Novozyymes' Sustainability Policy and climate change position paper outline the company's approach to managing climate action. Several departments (Supply Operations, Quality, Environment & Safety, Global Sustainability & Public Affairs, etc.) 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 its annual target to limit the increase in absolute GHG emissions to levels lower than organic sales growth. This target is complemented by our targets to limit energy consumption and increase the share of renewable energy in our operations. The progress on these targets is reported in Note 7.2 Energy.

Novozyymes' SAVE target measures the net positive CO₂ impact of Novozymes' products on society. Novozymes' products enable downstream users to avoid CO₂ emissions in certain applications by lowering energy, water and raw material consumption compared with conventional technologies.

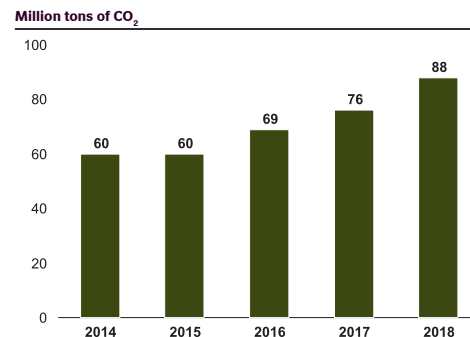
Since 2004, Novozymes has conducted peer-reviewed cradle-to-grave life cycle assessment (LCA) studies to document the environmental impact of its biosolutions. The inferences are used to demonstrate to our commercial stakeholders ways to reduce their CO₂ emissions and leverage the positive impact on climate change made possible by Novozymes' solutions. To learn more, please see our approach to LCA on Novozymes.com.

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.

2018 highlights

In 2018, Novozymes' customers avoided an estimated 88 million tons of CO₂ emissions through the application of our products, up from 76 million in 2017. The annual savings achieved are equivalent to taking approximately 37 million cars off the road.

Estimated annual CO₂ savings



CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Novozyymes uses LCAs to estimate the CO₂ emissions that customers avoid by using Novozymes' products in their processes or products. A calculation methodology to consolidate the LCAs has been defined and consistently applied. However, the individual LCAs depend on assumptions and estimates, which means that the result of the calculation will be an approximation.

Environmental data

7.1 Climate change (continued)

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 2018, CO₂ emissions (scope 1+2 only) increased by 7% to 437,000 tons from 408,000 tons in 2017.

Novozymes fell short of its target to limit the rise in operational CO₂ emissions to levels

lower than organic sales growth in 2018.

This was mainly due to some shifts in our production capacity to sites with higher carbon footprints. These shifts were driven by changes in our product mix.

A breakdown of the operational emissions is provided in the table.

In 2018, Novozymes authored and launched a new vision for climate change mitigation in the transport sector. The vision presents a pathway to unite green technologies in the future energy matrix based on their complementarity. It highlights the potential role of biorefining as a flexible platform to provide low-carbon liquid fuels for transport segments that cannot easily be electrified. The biorefining side streams can also be used as storable fuels for electricity production during peak demand periods. Additionally, biorefining allows for negative greenhouse gas emissions when combined with the carbon capture and storage (CCS) technology. To find out more, please refer to the spotlight article Biorefining for a better future in the Sustainability section of this report.

Going forward, Novozymes will continue to purchase more energy from renewable sources whenever possible and reduce consumption of fossil-based energy through efficiency projects to reduce CO₂ emissions from its operations.

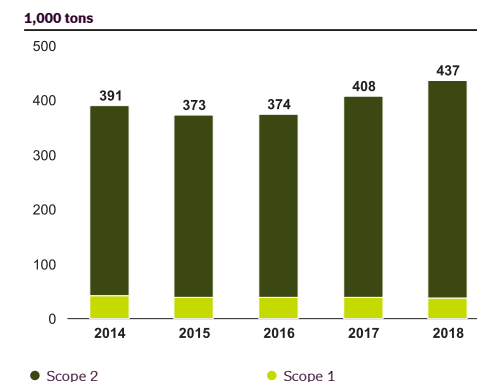
CO₂-equivalent emissions

1,000 tons	2018	2017
Natural gas	34	38
Gas oil, light fuel oil and diesel oil	3	-
HCFCs	1	1
Scope 1	38	39
District heat	9	10
Electricity	307	283
Steam	83	76
Scope 2 (market-based)	399	369
Ship	5	7
Truck	15	17
Air freight	15	15
Scope 3	35	39
Emissions, total	472	447

Market-based vs. location-based scope 2 emissions

1,000 tons	2018	2017
Scope 2 CO ₂ emissions (market-based)	399	369
Scope 2 CO ₂ emissions (location-based)	452	442

5-year operational emissions (CO₂-eqv.)



7.1 Climate change (continued)

§ ACCOUNTING POLICIES

The estimated reduction in CO₂ emissions resulting from customers' application of Novozymes' products is based on annually updated life cycle assessments (LCAs) of Novozymes' products. The LCAs are prepared and updated by Novozymes and subject to assumptions and estimates.

Reported CO₂ emissions comprises scope 1, scope 2 and emissions from outbound transport of products.

CO₂ from internally generated energy (scope 1) is calculated based on the amount of fuel consumed, using local emission factors.

CO₂ 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 and suppliers are used.

Transport-related CO₂ emissions (scope 3) are calculated based on principles described in the GHG Protocol. Reported quantities comprise CO₂ 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. CO₂ 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).

7.2 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.

2018 highlights

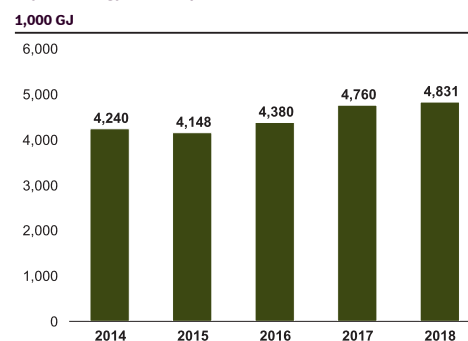
In 2018, Novozymes achieved its annual target of maintaining the increase in energy consumption at a level lower than organic sales growth.

Projects driving process optimization and energy efficiency undertaken at our sites throughout the year resulted in energy savings

of 29,000 GJ. Furthermore, 23,000 GJ of energy savings were realized through the installation of a second anaerobic digester at our largest production site in Kalundborg, Denmark.

The table provides details of energy consumed by primary source.

5-year energy consumption



Novozymes continued to use 100% renewable electricity from the Horns Rev II wind farm at its Danish facilities. In 2018, Novozymes focused on exploring and maturing opportunities in the renewable energy procurement space in all its operating regions. Energy from renewable sources accounted for 23% of the total energy consumed in 2018, down from 24% in 2017.

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.

Energy consumption by primary source

1,000 GJ	2018	2017
Natural gas	645	696
Biogas	65	69
Gas oil, light fuel oil and diesel oil	24	7
Internally generated energy, total	734	772
Electricity – conventional	1,825	1,780
Electricity – renewable	1,062	1,080
District heat – conventional	175	181
District heat – renewable	4	2
Steam	1,031	945
Externally purchased energy, total	4,097	3,988
Energy consumption, total	4,831	4,760
Energy production from waste	72	36

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 CO₂ 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 that is 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' biological 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 consumers and 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 whole value chain.

Our approach

Novozymes' approach to water management is anchored in its Sustainability Policy. We constantly strive to manage water-related risks within our operations by improving water efficiency and ensuring compliance with wastewater discharge regulations at all our sites.

Water by primary source

1,000 m ³	2018	2017
Drinking water	5,578	5,427
Industrial water	2,256	2,339
Steam	371	340
Water, total	8,205	8,106

This is exemplified by our annual target, which aims to keep growth in water consumption lower than organic sales growth.

Sustainable 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 and Quality, Environment & Safety departments.

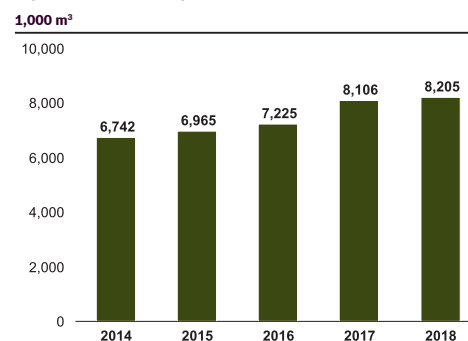
2018 highlights

In 2018, Novozymes spent a total of DKK 37 million on various water projects at its production sites. These projects included the installation of a new treatment technology at our site in Araucária, Brazil, which reduces chemical use and generates less wastewater. Overall, Novozymes achieved water savings of almost 158,000 m³ in 2018. Thanks to these efforts, Novozymes met its annual target of restricting the growth in water consumption to

a level lower than the organic sales growth in 2018.

The table provides a breakdown of total water consumed. In the last quarter of 2018, we also commissioned a water reuse system in Franklinton, US. When operational, it is projected to save 80,000 m³ of water per year.

5-year water consumption



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 can 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)

Novozymes established a wastewater treatment plant at its new production site in Patalganga, India, designed to reuse 100% of the treated process water in production.

Novozymes strives to utilize the biomass in wastewater streams coming from its enzyme production processes. A new facility for treatment of all the biomass from our Danish production sites, including biomass present in wastewater, has been commissioned near Kalundborg. This facility has the capacity to

convert 200,000 tons of biomass per year to bionatural gas and fertilizers, supporting the circular economy and industrial symbiosis in the region.

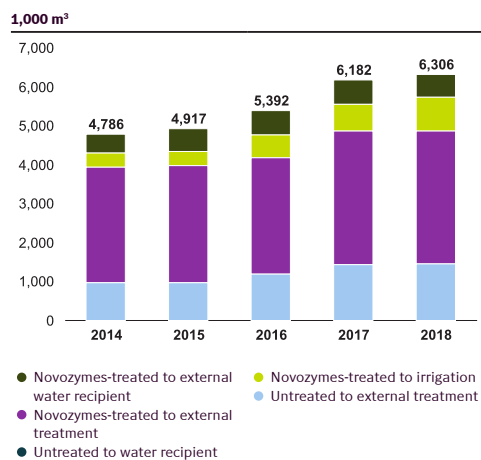
Optimization of renewable energy production (biogas) from wastewater also improved significantly in 2018 thanks to a successful partnering project with the technology supplier. The table provides details of wastewater generated in 2018.

Wastewater treatment

1,000 m ³	2018	2017
Wastewater used for irrigation	866	673
Wastewater discharged	5,440	5,509
Wastewater volume, total	6,306	6,182

In 2019, our focus will be on improving our understanding of site-specific water-related risks and technology facilitation to increase reuse of the treated wastewater.

Wastewater by treatment method



Environmental data

7.4 Waste

Novozymes supports the transition to a circular economy through sustainable consumption and production practices. Reduction, reuse and recycling of the planet's limited natural resources are vital for a sustainable future. Responsible waste management is a key enabler in this and the reason why waste is a material issue for Novozymes.

Our approach

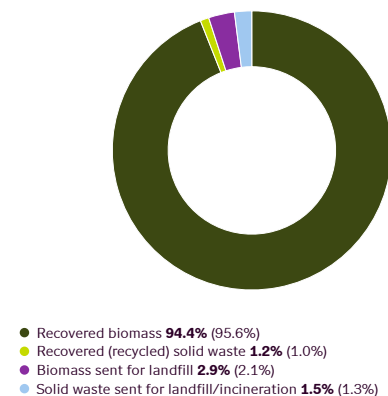
Novozymes' waste and by-products fall into three general categories: biomass (by-product), nonhazardous waste and hazardous waste. Each production site reports on the three categories and disposal methods. Production of enzymes and microorganisms generates large amounts of biomass and a relatively low percentage of waste. Our approach to waste management is driven by our Sustainability Policy, and we continuously strive to improve our resource efficiency, minimize waste and increase recyclability.

As waste handling is a complex issue subject to local regulations and involving several external service providers, we have adopted a site-specific management approach. Monitoring and reporting of waste data are anchored in our Quality, Environment & Safety function.

2018 highlights

Novozymes generated 523,000 tons of waste in 2018 compared with 616,000 tons in 2017. The vast majority of the waste is recovered, as only 4% is sent for landfill.

Waste and by-products recovered 2018 (2017)



Biomass

The biomass generated accounts for the majority of total waste and by-products generated by Novozymes' production sites. Biomass is a by-product rich in nitrogen and phosphorus. In 2018, 97% of the biomass was recovered and sold to local farmers as

our organic agricultural fertilizer product NovoGro® or composted. The remaining 3% was sent for landfill. A breakdown of total biomass generated is provided in the table. Novozymes is investigating options for recycling biomass currently being sent for landfill.

In 2018, Novozymes, along with the Danish energy companies Ørsted and Bigadan, inaugurated a new biogas plant at its production site in Kalundborg, Denmark. The plant utilizes Novozymes' biomass to produce biogas for use in other industries and private households. After being processed at the biogas plant, the biomass will continue to be used as fertilizer on fields. The new plant shows how Novozymes' biomass by-product can be beneficially reused twice, and exemplifies Novozymes' commitment to the circular economy. When running at full capacity, the plant can process 300,000 tons of biomass per year, generating 8 million m³ of biogas. This corresponds to approximately 5,000 Danish households and results in annual CO₂ savings of around 17,000 tons.



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	2018	2017
NovoGro®	347	399
NovoGro® 30	138	171
Compost	9	19
Landfill	15	13
Biomass, total	509	602

Environmental data

7.4 Waste (continued)

Solid waste

Nonhazardous waste and hazardous waste account for 3% of the total waste and by-products generated and include materials such as paper, food waste, laboratory waste and chemicals. In 2018, the rate of recycling of solid waste was 44% compared with 43% in 2017. The remaining 56% of the waste, which corresponds to 8,000 tons, was sent for landfill or for incineration without energy recovery. A breakdown of total solid waste generated is provided in the table.

Novozymes strives to increase its recycling rate and the amount of waste diverted from landfill. In collaboration with local experts and vendors, we are currently exploring opportunities to increase waste diversion at three of our largest production sites, in Denmark, the US and China. We will use the learnings from these assessments to improve our waste management practices globally.

Waste 1,000 tons	2018	2017
Nonhazardous waste		
Incineration	2.1	1.7
Landfill	3.6	3.9
Recycling (external)	4.4	4.3
Recycling (internal)	0.1	0.1
Nonhazardous waste, total	10.2	10.0
Hazardous waste		
Incineration	2.3	2.5
Recycling (external)	0.2	0.2
Recycling (internal)	1.6	1.6
Hazardous waste, total	4.1	4.3
Waste, total	14.3	14.3

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, Environment & Safety function. Our Environmental Management System is based on ISO 14001 certification, and we strive to minimize the number of noncompliances and neighbor complaints.

2018 highlights

In 2018, 27 environmental incidents were registered across our facilities, compared with 24 in 2017. Most of these were related to wastewater treatment. Plans for preventive

action have been agreed with the relevant authorities for these incidents.

Novozymes received 11 neighbor complaints in 2018, down from 12 complaints in 2017.

§ ACCOUNTING POLICIES

Breaches of environmental regulatory limits is 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, then 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 uses industrial biotechnology

to produce a wide range of enzymes and microorganisms. Novozymes' position paper on industrial biotechnology articulates our approach to managing and supporting safe and sustainable use, and the adoption of robust, science-based regulations for processes and products involving gene technology, including the latest gene-editing technologies. We acknowledge the need to engage with stakeholders to improve the general level of knowledge about the opportunities presented by biology, industrial biotechnology and gene technology, and their role in society.

When we take samples in nature, it is important that we comply with globally recognized principles on the utilization of genetic resources. Novozymes' position paper on biodiversity articulates how Novozymes endorses, acknowledges and respects the principles in the United Nations Convention on Biological Diversity and the complementary Nagoya Protocol on Access and Benefits Sharing. Novozymes has internal procedures to ensure that the company lives up to its commitments.

Novozymes understands the importance of a healthy and thriving biodiversity, resulting in well-functioning ecosystems and ultimately enabling sustainable development and achievement of the UN Sustainable Development Goals (SDGs). The private sector has enhanced its engagement with and responsibility toward biodiversity-related issues and is now a new, global focus area. Novozymes regularly monitors the trends and developments in this area and assesses how to incorporate best practices into its operations.

7.7 Product stewardship

Novozymes is committed to ensuring product stewardship and safety in its 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 as industrial processing aids (e.g. in the production of baked goods).

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 during 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, Authorisation and Restriction of Chemicals) and FIAP (Food Improvement Agents Package).

2018 highlights

Novozymes is a full member of the Enzyme REACH Consortium and successfully met the May 2018 REACH deadline to register technical enzymes sold in low volumes. As a Lead Registrant in many Substance Information Exchange Forums (SIEF) for enzymes, Novozymes remains firmly committed to maintaining high-quality substance dossiers, which are endorsed by the external authorities.

Novozymes strives to reduce the risk of enzyme allergies among employees and downstream users by promoting adherence to enzyme safety standards. In 2018, the Association of Manufacturers and Formulators of Enzyme Products (AMFEP) published Industry Guidelines on the Safe Handling of Enzymes in the Bakery Supply Chain, which

was jointly developed with the Federation of European Union Manufacturers and Suppliers of Ingredients to the Bakery, Confectionery and Patisserie Industries.

Novozymes chairs the Enzyme Safety Working Group, which has a coordinating role within AMFEP to develop advanced safety standards for enzyme use through industry associations.

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.



Women in senior management

30%

Accidents per million working hours

2.4

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. It is therefore important for Novozymes to focus on employee development and diversity in all its operations. Novozymes is also 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, sex or age in our global organization. For instance, we have a target to ensure that women hold at least 30% of senior management positions by 2020.

Novozymes is committed to providing a work environment where all individuals can work together comfortably and productively, free of all forms of harassment and discrimination. Furthermore, 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.

Read more in our position papers on diversity and equal opportunities and human rights on Novozymes.com.

2018 highlights

Labor practices

We believe in promoting gender diversity at work and have continuous focus on increasing the number of women in leadership roles in the organization. In 2018, 30% of the senior management team were women, exceeding our target for the year of at least 27%.

This year, Science Magazine ranked Novozymes third-best global science employer. We have been among the top 10 employers in the world for the last four years.

In 2018, the rate of employee turnover decreased from 11.9% to 8.8%. In 2018, we recorded a 2.1% rate of absence, which is above 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

		2018	2017
Rate of employee turnover – retirement	%	1.0	0.8
Rate of employee turnover – dismissal	%	2.0	4.9
Rate of employee turnover – voluntary	%	5.8	6.2
Rate of employee turnover, total	%	8.8	11.9

Rate of absence

Senior management, management, professional and administrative	%	1.2	1.3
Skilled workers, laboratory technicians, other technicians and process operators	%	3.0	2.9
All employees	ESG %	2.1	2.1

Other employee statistics

Average age	Years	41.4	41.5
Average seniority	Years	9.6	9.6
Number of expatriates	No.	23	23
Average training cost spent per employee	DKK	3,637	3,159
Costs as percentage of total employee costs	%	0.6	0.5

8.1 Labor practices & human rights (continued)

In 2018, we launched a leadership development program, Lead the Way, to help all leaders at Novozymes to develop the core leadership skills needed to drive employee engagement and performance, and mobilize employees around our purpose and values. The participants are guided through the program via a mobile app with a “learning path” that combines multiple types of activities such as watching videos, meeting with peers, on-the-job exercises, e-learning, sparring with managers and face-to-face training. To date ~30% of leaders have enrolled in the program.

In October, we introduced our new employee survey, TunedIn. The new survey and process were designed together with employees across Novozymes, who contributed to the development of the questionnaire, process, name, etc. With TunedIn, we not only track organizational mood but also make room for more relevant team talks about how we work together at Novozymes. These talks are key to ensuring our success as a business and sustaining our reputation as a great place to work. The survey helps us to track our long-term and annual target for “Satisfaction and Motivation.” In 2018, we achieved a result of 81, surpassing our annual target of ≥ 75 .

Human rights

Novozymes revamped its human rights monitoring approach in 2016 to carry out a global human rights impact assessment every two years. However, the applicability of human rights varies from region to region, and we therefore believe that a region-specific assessment will provide a better overview of relevant human rights, our positioning and associated gaps in the individual region. This exercise involves assessing all 48 human rights as per the International Bill of Human Rights. This year, we started with India and held individual meetings with relevant functions to identify material human rights and existing procedures to mitigate any risks. We identified potential human rights themes and are taking the following actions:

- Nondiscrimination – we continue to implement robust processes and procedures to avoid any discrimination in our supply chain
- Safe and healthy working conditions for our suppliers’ employees – we continue to assess working conditions at our suppliers’ premises
- Modern slavery in our supply chain – we continue to improve our supplier evaluation framework
- Land grabbing – we continue to respect land rights of local communities, including indigenous people

We plan to cover the remaining geographies – China, Europe, North America and Latin America – by 2021.

§ ACCOUNTING POLICIES

Absence is stated as time lost due to the 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 who left the Group during the last 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 is the costs of external training courses and seminars, translated into Danish kroner at average exchange rates. Training costs is 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 employees is of paramount importance to Novozymes. This is why health and safety is a fundamental part of our business strategy. The aim is to ensure that robust safety processes, hardware, 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 driven locally as part of a global framework.

Our approach

Novozyymes' Quality, Environment & Safety function is responsible for ensuring a safer and healthier working environment. To reinforce 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 our long-term target of an occupational accident frequency of 1.0 accident per million working hours or below by 2020. To help us achieve this target, we also define annual targets.

2018 highlights

In 2018, our target was to limit the frequency of occupational accidents per million working hours to 1.5 or below. However, we experienced an increase in the frequency of occupational accidents to 2.4 from 1.6 in 2017, therefore not meeting our target for 2018. Our analysis showed a higher number of accidents in production areas, many involving strains and sprains, whereas falling and tripping accidents were down compared with previous years. For more information on occupational accidents and diseases, please refer to the tables provided.

To sharpen focus on safety behavior, we introduced four desired behaviors: Help, Act, Rethink and Talk. These behaviors guide us in how to act to stay safe, and what we can expect from one another when it comes to safety issues. We believe that having an aligned approach to safety and an aligned set of safety behaviors across the entire organization is essential. To support this, all employees have been asked to complete an e-learning course, and tools have also been provided for local dialogue.

Consequences of occupational accidents

No.	2018	2017
Return to original job	22	18
Return to a different job in the same department	1	-
Out of work or early retirement	1	-
Case pending	3	-
Occupational accidents with absence, total	27	18
Total days of absence related to accidents registered in the same year	346	235
Injury severity rate	13	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's 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 outcome of the incidents 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.	2018	2017
Return to original job	3	2
Return to a different job in the same department	-	-
Out of work or early retirement	-	-
Case pending	1	-
Occupational diseases, total	4	2
Total days of absence related to diseases registered in the same year	-	-

Types of occupational diseases

No.	2018	2017
Skin disease	-	2
Enzyme allergy	3	-
Other	1	-
Occupational diseases, total	4	2

We also implemented a new company-wide system, CAPTURE, to record improvements, corrective actions and incidents. This digital platform is available in Danish, English, Chinese, Spanish and Portuguese. The system enables global trendspotting and sharing of learnings, provides better data security, and ensures we comply with all current legislation, such as the new EU rules on protection of personal data, the General Data Protection Regulation (GDPR).

We want our employees to prioritize self-care, learn more about the power of the brain and discover what their brains can achieve when they work together. This is why we launched a global initiative, Brain Space, aimed at inspiring employees and equipping them with tools for how to nurture their brains to help them thrive in a digital, fast-paced work environment. Employees are provided with tips on digital detox, and tips for encouraging more brain-

friendly meetings and coping with shiftwork, and with tools to spark important dialogue among colleagues.

The Global Medical Center and Global OH&S have managed our allergy performance for years using a series of procedures known as the ZEAL (Zero Enzyme Allergy) standards. These procedures have led to a decrease in allergy cases over the years. However, in 2018 we experienced three enzyme allergy cases, for which the root cause has been identified and corrected.

In 2019, we will continue to work toward improving our safety culture with special focus on Management's role. Furthermore, we plan to enhance the use of our new data system and build on CAPTURE to prevent the recurrence of accidents by understanding the current trends and increasing the quality of our root cause analysis.

8.3 Business ethics

Business ethics is at the core of our business and therefore a key issue for the company. We are committed to conducting business in an ethical and transparent way, and to meeting stakeholders' expectations of high business integrity standards across our operations.

Our approach

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. These principles, which include zero tolerance for bribery and rules for gifts and donations, form the basis of our efforts to eliminate all forms of corruption. For more details, please see our position paper on business integrity on [Novozymes.com](https://www.novozymes.com).

Novozymes' management approach to addressing anti-corruption and business integrity is embedded in our corporate values and policies. A dedicated compliance function handles business integrity-related matters, including training of our employees. All employees have access to guidance and may anonymously raise concerns about business ethics and corruption via a multichannel grievance mechanism.

Read more about our grievance channels on [Novozymes.com](https://www.novozymes.com).

Novozymes also works proactively to prevent, detect and respond to fraud, and has continuously increased its internal awareness and proactive initiatives in this area. An internal control system enables identification of fraud cases and concerns raised, either through Novozymes' whistleblower system or other reporting channels. 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. Reporting to the police is assessed on a case-by-case basis.

Novozymes recognizes its responsibility not just for ensuring ethical business practices within its own operations, but also 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.



ACCOUNTING POLICIES

Completion of business integrity training refers to the percentage of selected employees 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 can be 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 the intent of depriving 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 conducts an annual business integrity training program to ensure that employees are well equipped to uphold business integrity principles and handle ethical dilemmas that they may encounter in their everyday work. The global e-learning program has been designed and rolled out by Novozymes' Chief Legal Compliance Officer, based on input from regions' lines of business and questions raised during the year to ensure relevance and applicability. The training includes a reinforcement of employees' commitment to business integrity as well as case studies mimicking real cases at Novozymes or from the media noted during the year.

Novozymes also has recurring anti-trust e-learning in place providing general guidance on anti-trust law. This program is completed by relevant employees in commercial roles across the globe.

2018 highlights

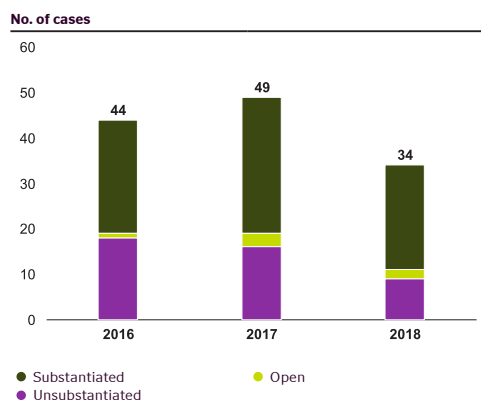
The number of fraud cases investigated by Novozymes decreased to 34 in 2018 from 49 in 2017. However, we continue to see a threat from external fraud attempts by unknown perpetrators, such as CxO fraud and fraudulent invoices. During 2018, 12 cases were reported to the police. The investigated fraud cases in 2018 did not have a material financial impact.

The charts below provide further details of the reporting channels and consequences of fraud cases.

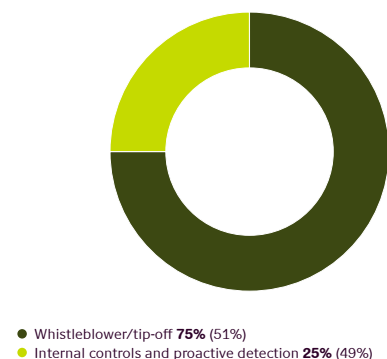
There were no violations of competition law in 2018. The anti-trust training in 2018 focused on competition law concerns relating to different forms of exclusivity in connection with customer agreements.

The business integrity training in 2018 was completed by 99% of our employees. Moving forward, we will continue to raise awareness of fraud and train employees in relevant policies and procedures.

Investigated fraud cases



Reporting channels 2018 (2017)



Consequences of substantiated fraud cases 2018 (2017)



8.4 Community engagement

As a responsible company, we believe that it is important to engage with the communities in which we operate and to create significant value in 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 by our long-term target of educating 1 million people about the potential of biology. The EDUCATE target is anchored in our Corporate Sustainability department,

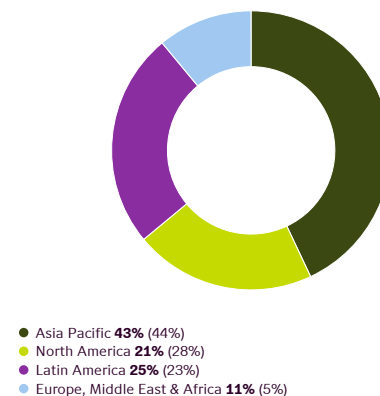
and the various educational programs are driven and implemented regionally by our sustainability managers. In total, we have educated more than 612,000 learners globally since 2015.

2018 highlights

In 2018, we engaged approximately 302,000 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.

Read more about EDUCATE in the Targets section and in the Sustainability section.

Learners reached by geography 2018 (2017)



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 the opinion of its customers serves as a powerful indicator in determining the success and performance of its solutions in the market. We therefore treat customer engagement and partnership as a key material issue for our business.

Our approach

We monitor customer satisfaction and collect feedback on a regular basis. Responsibility for measuring, analyzing and addressing customer satisfaction is anchored across the commercial divisions.

Novozymes has an annual target for Customer Satisfaction Measurement. To measure customer satisfaction, Novozymes conducts

an annual survey based on the Net Promoter Score (NPS) methodology. The NPS reflects customers' answers to the question: "How likely are you to recommend Novozymes to others?" and ranges from -100 to +100.

2018 highlights

In 2018, Novozymes invited 933 customers, twice the number from last year, to participate in the survey, and we saw a response rate of 63%. We achieved an NPS of +50, surpassing our 2018 target of +40. The results hold for our large and smaller customers, new and old, across regions.

This score is high compared with the NPS of +39 in 2017 and confirms our solid

relationships with our customers. Among the key factors impacting the NPS, customers appreciate our commercial and technical services and our products. Particularly with regard to account management, our customers note that our sales force is proactive, and engaged and adept at driving discussions about new and upcoming opportunities. We also see that our products match our customers' needs, but there is a hunger for more co-innovation and regional products across industries.

Going forward, we will continue to translate the learnings from the survey and incorporate the findings into our engagement strategies for all our customers.



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 number between -100 and +100.

8.6 Responsible sourcing

It is crucial for Novozymes to have a secure supply of raw materials for its production. Agricultural raw materials are a major constituent of our production processes, and this is one of the reasons for our continuous sharp focus on environmental, social and governance (ESG) issues.

Our approach

Novozymes' supplier management and responsible sourcing approach is anchored in the Sourcing department. Novozymes screens suppliers and classifies their risk based on country and category. Suppliers are assessed by the Sourcing department by means of Supplier Performance Management (SPM). An initial evaluation of suppliers is carried out in the form of an SPM questionnaire. Once the form is completed, the system assigns a score, potentially "flags" issues and recommends suppliers are "approved," "conditionally approved" or "rejected." Conditionally approved suppliers require an action plan. If suppliers are unwilling to improve, Novozymes reserves the right to end the collaboration with immediate effect. Approved suppliers need to

be regularly re-evaluated. The system has an integrated set of assessment criteria covering commercial, quality, employee health and safety, human and labor rights, environment and business integrity.

We require all our contracted suppliers to comply with our Responsible Purchasing Standard. This covers various aspects, including business ethics, labor standards and human rights, health and safety, and environment. For example, we require all our suppliers of directly sourced agricultural raw materials to adhere to our deforestation requirements by not contributing to further deforestation, and exercise zero tolerance of land grabbing. See our position paper on responsible purchasing on Novozymes.com for more details.

2018 highlights

Our segmentation approach for evaluation of suppliers was strengthened back in 2017 by including country risk as a key parameter. The impact of this during 2018 has led to an annual increase of approximately 50% in the number

of direct suppliers subject to evaluation/re-evaluation by the Sourcing department.

Another significant move to increase the level of transparency in our supplier base and to continuously improve our responsible sourcing practices is that Novozymes has now become an AB member of the Sedex sustainability collaboration platform. Read more about our engagement with Sedex in the Sustainability section.

During 2018, we also conducted an internal training program on modern slavery and human trafficking for sourcing teams. The objective of the training was to educate our colleagues about issues relating to modern slavery, and how to identify and react in case of violations. To strengthen our systems for monitoring human rights risks in our operations and in our supplier base, we have initiated regional human rights impact assessments. Read more about our assessments in Note 8.1 Labor practices & human rights.

Statement of the Board of Directors and Executive Leadership Team

The Board of Directors and the Executive Leadership Team have today considered and adopted the Annual Report of Novozymes A/S for the financial year January 1 – December 31, 2018. 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 24, 2019

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, 2018 of the Group and the Parent Company and of the results of the Group and Parent Company operations and consolidated cash flows for the financial year January 1 – December 31, 2018.

In our opinion, Management's Review includes a true and fair account of the development in the operations and financial circumstances

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, 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.

Executive Leadership Team

Peder Holk Nielsen
President & CEO

Thomas Videbæk

Prisca Havranek-Kosicek

Board of Directors

Jørgen Buhl Rasmussen
Chairman

Kim Stratton

Lena Bech Holskov

Agnete Raaschou-Nielsen
Vice Chairman

Lars Green

Anders Hentze Knudsen

Kasim Kutay

Mathias Uhlén

Lars Bo Køppler

Patricia Malarkey

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, 2018 and of the results of the Group's operations and cash flows for the financial year January 1 to December 31, 2018 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, 2018 and of the results of the Parent Company's operations for the financial year January 1 to December 31, 2018 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, 2018 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 71-79 and 83-131, for the financial year January 1 to December 31, 2018 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 summary of significant accounting policies.

The Parent Company Financial Statements of Novozymes A/S, pages 160-173, for the financial year January 1 to December 31, 2018 comprise the income statement, the balance sheet, the statement of changes in equity and the notes, including summary of 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 80-83 and 132-153, for the financial year January 1 to December 31, 2018 comprise the environmental performance and consolidated data, the social and governance performance and consolidated data and the related notes, including summary of 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 Auditor's responsibilities for the audit of the Financial Statements 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 18 years, including the financial year 2018.

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 2018.

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

Revenue recognition related to 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 and expenses. Due to the complexity of the agreements, there are several uncertainties in relation to the interpretation of the agreements.

We focused on this area because the agreements and the related accounting treatment of revenue recognition are complex and because establishing appropriate accruals requires significant judgement and estimation by Management.

Refer to Note 2.2 to the Consolidated Financial Statements.

We tested relevant controls including applicable information systems and monitoring controls implemented, to ensure that revenue and costs from the partnerships and collaboration agreements are recognized appropriately on an ongoing basis.

We obtained Management's estimate of deferred income and profit-sharing accruals under the applicable agreements, and reconciled inputs and key assumptions – from both internal and external sources – and assessed the accuracy of the accruals in previous periods.

We assessed whether the disclosures in relation to revenue were appropriate and met the requirements of accounting standards and the Danish Financial Statements Act.

Statement on Management's Review

Management is responsible for Management's Review, pages 3-70.

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 stated in the Environmental, Social and Governance Data, 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, including the disclosures, and whether the Financial Statements 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.

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.

Hellerup, January 24, 2019

PricewaterhouseCoopers

Statsautoriseret Revisionspartnerselskab
CVR no 3377 1231

Lars Baungaard

State Authorized Public Accountant
mne23331

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 limited assurance statement on Novozymes' adherence to the AA1000 AccountAbility Principles

To the Stakeholders of Novozymes

We have been engaged by Novozymes A/S' Management to provide moderate assurance (review) as to whether Novozymes adheres to the AA1000 AccountAbility Principles.

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 the description of Novozymes' adherence to the AA1000 AccountAbility principles of Inclusivity, Materiality and Responsiveness is not fairly stated.

This conclusion is to be read in the context of what we say in the remainder of our 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 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 stakeholders of Novozymes A/S.

Our team of experts has competencies with regard to assessing sustainability management systems. In 2018, 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 moderate assurance (review) of Novozymes' adherence to the AA1000 AccountAbility Principles.

Methodology, approach, limitation and scope of work

Our methodology has included procedures to obtain evidence of Management's commitment to the AA1000 AccountAbility Principles 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:

1. Review of processes related to how Novozymes identifies its stakeholders and engages them in relevant business decisions to develop and implement responses to sustainability;
2. Review of the process that Novozymes used to identify and determine relevant and significant (material) issues to the organization and its stakeholders and whether these issues are included in the sustainability reporting; and
3. Enquiries and interviews with the Chairman of the Board of Directors, members of the Executive Leadership Team and employees responsible for key areas of Novozymes' operations regarding Novozymes' commitment and adherence to the AA1000 AccountAbility Principles, and the existence of systems and procedures to support adaptation of the principles in the organization. Our work focused on Novozymes' sustainability ambition and strategy, and its organizational capacity to deliver on this. This work also included Novozymes' lessons learned from recent experience for the Group's next strategy period, with a particular focus on how sustainability and the UN Sustainable Development Goals, a material topic to Novozymes' stakeholders, can drive future business growth.

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.

Regarding Inclusivity

Novozymes continues to include sustainability in its core strategy and operational processes at Board, executive and operational level. This year in particular we have noted the establishment of new Impact and Foundation Boards to help drive both strategic and operational sustainability performance, and the enhanced involvement of business functions in these processes.

We have also noted new strategic work undertaken by Novozymes to consider how the UN Sustainable Development Goals can drive future growth opportunities for the business.

Regarding Materiality

Novozymes continues to actively evaluate and manage current and likely future sustainability issues and their impact on the business. During 2018, Novozymes has updated its assessment of the material sustainability issues for the business. Delivery of the business's long-term targets continues to be factored into senior management's objectives and remuneration.

Regarding Responsiveness

There has been significant focus this year on driving internal performance improvement as well as awareness of and engagement in sustainability issues. We have noted that consideration of sustainability issues and the UN Sustainable Development Goals in particular is central to the ongoing 2020+ strategy process.

We have communicated a number of minor recommendations for improvement to the Management of Novozymes.

Hellerup, January 24, 2019

PricewaterhouseCoopers

Statsautoriseret Revisionspartnerselskab
CVR no.: 33771231

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Financial statements for Novozymes A/S

Financial statements

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Income statement, Novozymes A/S

DKK million	Note	2018	2017
Revenue	2.1	8,272	8,273
Cost of goods sold		(3,965)	(4,062)
Gross profit		4,307	4,211
Sales and distribution costs		(1,092)	(960)
Research and development costs		(1,482)	(1,433)
Administrative costs		(600)	(556)
Other operating income	2.3	1,458	1,516
Operating profit / EBIT		2,591	2,778
Income from investments in subsidiaries	3.3	818	963
Share of result in associates	3.3	(7)	(11)
Financial income	4.1	34	79
Financial costs	4.1	(164)	(191)
Profit before tax		3,272	3,618
Tax		(555)	(597)
Net profit		2,717	3,021
Proposed appropriation of net profit			
Dividend to shareholders		1,485	1,266
Revaluation reserve according to the equity method		2,434	952
Retained earnings		(1,202)	803
	4.3	2,717	3,021
Proposed dividend per share		DKK 5.00	DKK 4.50

Balance sheet, Novozymes A/S

Assets

DKK million	Note	Dec. 31, 2018	Dec. 31, 2017
Intangible assets	3.1	2,446	1,709
Property, plant and equipment	3.2	4,255	3,798
Investments in subsidiaries	3.3	8,163	7,321
Investments in associates	3.3	42	49
Other long-term receivables	3.4	6	2
Other financial assets		-	10
Receivables from Group enterprises	3.3	350	1,411
Financial fixed assets		8,561	8,793
Fixed assets		15,262	14,300
Raw materials and consumables		160	134
Work in progress		478	486
Finished goods		816	830
Inventories		1,454	1,450
Trade receivables		920	900
Receivables from Group enterprises		671	1,222
Tax receivables		12	25
Other receivables	3.4	85	90
Receivables		1,688	2,237
Cash at bank and in hand		104	130
Current assets		3,246	3,817
Assets		18,508	18,117

Liabilities and shareholders' equity

DKK million	Note	Dec. 31, 2018	Dec. 31, 2017
Common stock	5.4	594	610
Treasury stock		(4,163)	(4,698)
Revaluation reserve according to the equity method		1,050	92
Reserve for development costs		127	151
Retained earnings		11,316	13,250
Proposed dividend		1,438	1,216
Shareholders' equity		10,362	10,621
Deferred tax	3.5	380	235
Other provisions		9	8
Provisions		389	243
Credit institutions	4.2	1,474	1,312
Non-current liabilities		1,474	1,312
Credit institutions		1,895	968
Trade payables		749	670
Payables to Group enterprises		2,883	3,474
Other payables		756	829
Current liabilities		6,283	5,941
Liabilities		8,146	7,496
Liabilities and shareholders' equity		18,508	18,117

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
Shareholders' equity at January 1, 2018	610	(4,698)	92	151	13,250	1,216	10,621
Net profit for the year			2,434		283		2,717
Capitalized development costs				(24)	24		-
Dividend received			(1,805)		1,805		-
Dividend paid						(1,358)	(1,358)
Dividend paid relating to treasury stock						42	42
Proposed dividend, gross					(1,485)	1,485	-
Proposed dividend relating to treasury stock					47	(47)	-
Purchase of treasury stock		(2,000)					(2,000)
Sale of treasury stock		172					172
Write-down of common stock	(16)	2,363			(2,347)		-
Currency translation adjustments of investments in subsidiaries, etc.			306		(49)		257
Value adjustment of derivatives					(71)		(71)
Other adjustments			23		(141)	100	(18)
Shareholders' equity at December 31, 2018	594	(4,163)	1,050	127	11,316	1,438	10,362

1 Accounting policies

The financial statements of Novozymes A/S have been prepared in accordance with the Danish Financial Statements Act (accounting class D). The accounting policies are unchanged from last year.

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 it is 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 on a reliable basis. Liabilities are recognized in the balance sheet when they are considered probable and can be measured on a reliable basis. When first recognized, 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 on 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 the Reserve for development costs.

Financial assets

Investments in subsidiaries and investments in associates are recognized initially at cost and measured subsequently 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 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.

NOTE SECTION 2

2.1 Revenue

DKK million	2018	2017
Geographical distribution:		
Denmark	203	205
Rest of Europe, Middle East & Africa	5,039	4,939
North America	1,228	1,265
Asia Pacific	1,407	1,427
Latin America	395	437
Revenue	8,272	8,273

Reference is made to Note 2.1 to the consolidated financial statements concerning segment information.

2.2 Employee costs

DKK million	2018	2017
Wages and salaries	1,674	1,593
Pensions - defined contribution plans	180	175
Other social security costs	21	21
Other employee costs	141	170
Employee costs	2,016	1,959
Average number of employees in Novozymes A/S	2,663	2,613

Reference is made to Note 6.1 to the consolidated financial statements concerning remuneration of the Board of Directors and Executive Leadership Team.

2.3 Other operating income

DKK million	2018	2017
Royalty income relating to subsidiaries	1,422	1,490
Other	36	26
Other operating income	1,458	1,516

NOTE SECTION 3

3.1 Intangible assets

DKK million	2018				2017	
	Goodwill	Acquired patents, licenses and know-how, etc.	Completed IT development projects	IT development projects in progress	Total	Total
Cost at January 1	897	1,558	483	61	2,999	2,186
Additions during the year	942	130	14	23	1,109	863
Disposals during the year	-	-	-	-	-	(50)
Transfers to/(from) other items	-	-	26	(26)	-	-
Cost at December 31	1,839	1,688	523	58	4,108	2,999
Amortization and impairment losses at January 1	(124)	(816)	(350)		(1,290)	(1,130)
Amortization for the year	(197)	(107)	(68)		(372)	(183)
Impairment losses	-	-	-		-	(27)
Disposals during the year	-	-	-		-	50
Amortization and impairment losses at December 31	(321)	(923)	(418)		(1,662)	(1,290)
Carrying amount at December 31	1,518	765	105	58	2,446	1,709

Impairment

In 2017, an impairment loss of DKK 27 million on abandoned patents was recognized and

included in Cost of goods sold and Research and development costs at DKK 15 million and DKK 12 million respectively.

NOTE SECTION 3

3.2 Property, plant and equipment

	2018				2017	
DKK million	Land and buildings	Production equipment and machinery	Other equipment	Property, plant and equipment under construction	Total	Total
Cost at January 1	2,490	4,581	888	1,042	9,001	8,272
Additions during the year	6	156	27	555	744	774
Disposals during the year	(2)	(63)	(5)	-	(70)	(45)
Transfers to/(from) other items	13	234	36	(283)	-	-
Cost at December 31	2,507	4,908	946	1,314	9,675	9,001
Depreciation and impairment losses at January 1	(1,308)	(3,233)	(662)		(5,203)	(4,952)
Depreciation for the year	(81)	(156)	(46)		(283)	(294)
Disposals during the year	1	62	3		66	43
Depreciation and impairment losses at December 31	(1,388)	(3,327)	(705)		(5,420)	(5,203)
Carrying amount at December 31	1,119	1,581	241	1,314	4,255	3,798

Capitalized interest

Interest of DKK 10 million (2017: DKK 6 million) has been capitalized under Additions during the year above and under Investing activities in the Consolidated statement of cash flows. Capitalization rate: 1.40% (2017: 1.62%).

Land and buildings with a carrying amount of DKK 355 million (2017: DKK 377 million) have been pledged as security to credit institutions. The mortgage loan expires in 2029.

NOTE SECTION 3

3.3 Financial fixed assets

DKK million	Investments in subsidiaries	Investments in associates	Receivables from Group companies	Total
Cost at January 1, 2018	7,150	128	1,411	8,689
Additions during the year	1,500	-	188	1,688
Disposals during the year	-	-	(1,249)	(1,249)
Cost at December 31, 2018	8,650	128	350	9,128
Revaluation reserve at January 1, 2018	171	(79)		92
Share of net profit/(loss)	1,685	(7)		1,678
Elimination of profit on internal asset transfers	(867)	-		(867)
Dividends received	(1,805)	-		(1,805)
Currency translation adjustment	306	-		306
Other adjustments	23	-		23
Revaluation reserve at December 31, 2018	(487)	(86)		(573)
Carrying amount at December 31, 2018	8,163	42	350	8,555

As of December 31, 2018, DKK 1,623 million elimination of profit on internal asset transfer is included in the revaluation reserve.

Reference is made to Note 6.8 to the consolidated financial statements concerning investments in subsidiaries, joint operations and associates.

NOTE SECTION 3

3.4 Other receivables

DKK million	2018	2017
Prepaid expenses	41	40
Derivatives	14	16
Other receivables	36	36
Other receivables at December 31	91	92
Recognized in the balance sheet as follows:		
Non-current	6	2
Current	85	90
Other receivables at December 31	91	92

3.5 Deferred tax

DKK million	2018	2017
Deferred tax at January 1	235	367
Adjustment for previous years	(12)	(24)
Tax related to the income statement	68	(9)
Tax on shareholders' equity items	89	(99)
Deferred tax at December 31	380	235

NOTE SECTION 4

4.1 Financial income and costs

DKK million	2018	2017
Interest income relating to subsidiaries	28	67
Interest costs relating to subsidiaries	(18)	(12)

The financial asset relating to the partnership with Beta Renewables S.p.A. was fully written down in 2017. This related to a guarantee provided by M&G because cellulosic ethanol projects had

not commercialized as expected in Beta Renewables S.p.A. The write-down of DKK 120 million, included in Financial costs, was made because M&G was experiencing financial difficulties.

4.2 Credit institutions

DKK million	2018	2017
Long-term debt to credit institutions falling due after 5 years	473	428

4.3 Proposed appropriation of net profit

DKK million	2018	2017
Proposed appropriation of net profit		
Dividend to shareholders	1,485	1,266
Revaluation reserve according to the equity method	2,434	952
Retained earnings	(1,202)	803
Net profit	2,717	3,021

NOTE SECTION 5

5.1 Contingent liabilities and pending litigation

Rental and leasing commitments related to noncancelable operating lease contracts expire within the following periods from the reporting date:

DKK million	2018	2017
Recognized in the income statement in respect of rentals	60	56
Rental commitments expiring within the following periods from the reporting date:		
Less than 1 year	56	59
Between 1 and 2 years	30	19
Between 2 and 3 years	7	13
Between 3 and 4 years	5	5
Between 4 and 5 years	4	4
More than 5 years	5	7
Contingent liabilities at December 31	107	107
Other contingent liabilities		
Contractual obligations to third parties relating to property, plant and equipment	89	544
Other guarantees and commitments to related companies	2,311	2,140
Other guarantees and commitments to third parties	126	97

Pending litigation and arbitration

Reference is made to Note 6.3 to the consolidated financial statements concerning pending cases.

5.2 Related party transactions

Transactions

DKK million	2018	2017
The Novo Nordisk Group		
Sales	121	162
Purchases	(109)	(131)
The NNIT Group		
Purchases	(32)	(34)
The Chr. Hansen Group		
Sales	76	33
Purchases	(26)	-

Outstanding balances

DKK million	2018	2017
The Novo Nordisk Group		
Receivables	9	13
Payables	(76)	(66)
The NNIT Group		
Payables	(5)	(4)
The Chr. Group		
Receivables	18	4
Payables	(3)	-

Reference is made to Note 6.4 to the consolidated financial statements concerning transactions with related parties.

5.3 Fees to statutory auditor

DKK million	2018	2017
Statutory audit	4	4
Other assurance engagements	-	-
Tax advisory services	1	2
Other services	1	1
Fees to statutory auditor	6	7

Reference is made to Note 6.5 to the consolidated financial statements concerning fees to statutory auditor.

NOTE SECTION 5

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.

Glossary

Acre

A measure of land area. In the US and the UK, one acre equals 4,840 square yards, which is 4,047 square meters.

Acrylamide

A chemical compound that forms naturally when starchy foods are processed at high temperatures, such as when they are fried or baked. A suspected health risk.

Age of Biology

A Novozymes-backed initiative focusing attention on biology and its power to shape our world.

Asia Pacific

Australia, Bangladesh, Cambodia, China, Hong Kong, India, Indonesia, Iran, Japan, Kazakhstan, Kyrgyzstan, Laos, Malaysia, Myanmar, Nepal, New Zealand, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Turkmenistan, Uzbekistan, Vietnam.

Biodiversity

The variety of all living things: the different plants, animals and microorganisms, the genetic information they contain, and the ecosystems they form.

Bioenergy

Comes in the form of liquid fuels, electricity, heat and steam, and is produced from primary crops or biomass such as sugarcane, grains, agricultural residues, algae and household waste.

Biofuels

Liquid fuels produced from primary crops or biomass such as sugarcane, grains, agricultural residues, algae and household waste. They are typically used to replace gasoline and diesel in transportation.

Biomass

Organic material, predominantly plants or plant residues.

Biomass conversion

A method for turning agricultural residues and waste into high-quality fuels, electricity or renewable chemicals.

Carbon Disclosure Project (CDP)

An independent not-for-profit organization that manages the global disclosure platform for companies, cities, states and regions to report their environmental impact.

Cellulosic ethanol

Biofuel made from cellulosic materials, which include agricultural residues such as corn cobs, stover and straw, forestry waste and municipal solid waste.

Clean label

A term for foods labeled in a way that emphasizes health and the absence of artificial ingredients and common allergens.

Developed markets

Markets with a highly developed economy and advanced technology infrastructure relative to less industrialized markets.

Earnings per share (diluted)

Net profit (attributable to shareholders in Novozymes A/S) divided by the weighted average number of shares outstanding (diluted).

EBIT

Earnings before interest and tax. See Operating profit.

EBIT margin

Earnings before interest and tax as a percentage of revenue.

EBITDA

Earnings before interest, tax, depreciation and amortization.

EBITDA margin

Earnings 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.

EMEA

Europe, the Middle East & Africa.

Emerging markets

Markets that are becoming more advanced, usually by means of rapid growth and industrialization.

Enzymes

Proteins that act as catalysts, helping to convert one substance into another.

Equity ratio

Total shareholders' equity as a percentage of balance sheet total at year-end.

Feed conversion

The way in which livestock is able to convert animal feed into the desired output, such as meat and dairy.

Free cash flow before acquisitions

Cash flow from operating activities minus cash flow from investing activities, changes in net working capital, business acquisitions, divestments and purchase of financial assets.

Global Reporting Initiative (GRI)

An international, multistakeholder body working on a standardized framework for reporting environmental, social and economic information.

HelloScience

An online open innovation network for entrepreneurs, researchers, NGOs and companies to find solutions to some of the world's greatest challenges.

Inoculant

Inoculants are beneficial microorganisms that promote plant health.

Intergovernmental Panel on Climate Change (IPCC)

IPCC is the UN body for assessing the science related to climate change.

Invested capital

Total assets excluding interest-bearing assets and minority investments less interest-bearing liabilities. See “Invested capital” section.

Learners reached

A learner is a person who has been engaged in a Novozymes Educate activity, for example a workshop or an educational activity that requires active participation from the learner.

Life cycle assessment (LCA)

An environmental assessment tool that addresses environmental impacts from all processes in the production of products, from raw material extraction through production and product use to final disposal.

Materiality

The materiality assessment process identifies topics that pose either risks or opportunities for Novozymes’ business strategy. Relevant topics are those that may be considered important for reflecting the organization’s economic, environmental and social impacts, or for influencing the decisions of stakeholders.

Microbes

Microscopic, living, single-celled organisms such as bacteria and fungi.

Microorganisms

Microscopic, living, single-celled organisms such as bacteria and fungi.

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 interest-bearing debt-to-EBITDA (NIBD/EBITDA)

Net interest-bearing debt divided by EBITDA.

Net working capital

All current assets less current liabilities used in, or necessary for, the company’s operations. The main components are inventories, trade receivables and trade payables.

NOPAT

EBIT adjusted for exchange gain/losses, share of profit in associates less tax on adjusted operating profit using the effective tax rate. See “Net operating profit after tax” section.

Operating profit (EBIT)

See EBIT.

Organic sales growth

Sales growth from existing business, excluding sales from business acquisitions and divestments, measured in local currency.

P4G – Partnering for Green Growth and the Global Goals 2030

An initiative with the ambition of becoming the world’s leading forum for developing public-private partnerships to deliver on the SDGs and the Paris Climate Agreement.

Product stewardship

The practice of designing and managing products to minimize adverse environmental, health and safety impacts across the product life cycle.

Renewable energy

Continuously replenished energy generated from natural processes. Sources include solar, wind and hydropower-based electricity and energy from biogas.

RenovaBio

The Brazilian national biofuel policy to support the Brazilian government in cutting carbon emissions.

Return on equity (ROE) ratio

A profitability ratio that measures a company’s ability to generate profits from its shareholders’ investments in the company.

Return on invested capital (ROIC)

Adjusted operating profit (NOPAT) after tax as a percentage of average invested capital. EBIT is adjusted for net foreign exchange gains/losses and share of result in associates.

Starch

Long chains of sugar molecules. The main component of cereal grains such as corn, wheat and rice.

Starch-based ethanol

Ethanol produced from starch, most often corn kernels.

Sustainable Development Goals (SDGs)

The UN Sustainable Development Goals (SDGs) are an intergovernmental set of 17 aspirational goals with 169 targets. The goals were officially implemented on September 25, 2015.

UN Global Compact

An international UN initiative working to bring businesses together with UN agencies, labor and civil society to support 10 principles in the areas of human rights, labor standards, the

environment and anti-corruption.

UN Sustainable Energy for All (SE4ALL)

A UN initiative focused on SDG 7, the goal on universal energy access.

WBCSD

World Business Council for Sustainable Development. CEO-led organization of more than 200 businesses and partners working on the transition to a sustainable world.

Yeast

Single-celled microorganism, part of the fungus kingdom.

About the report

At Novozymes, our reporting ambition is to provide one integrated report linking the company's business model, strategy, targets and performance through integrated financial and sustainability data.

The Novozymes Report 2018 is available in the form of a full online version at report2018.novozymes.com. The online report features interactive graphics and videos for an even better experience and greater insight.

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Reporting and audits

The website contains The Novozymes Report 2018, 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 that is 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 the 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 made with respect to 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 the 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.

