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# 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 <sub>2</sub> 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.

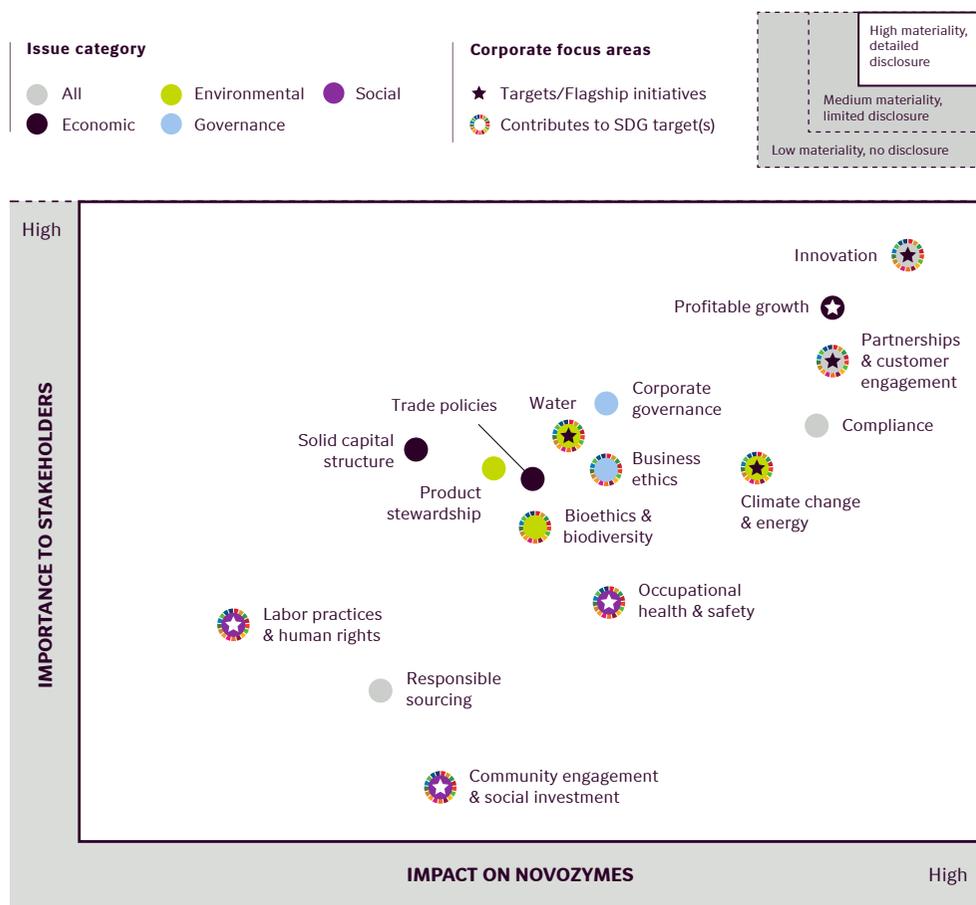
Novozyymes' materiality assessment is a systematic and rigorous process that integrates inputs from external stakeholders, trend analyses and internal engagement with relevant departments, for example senior leadership from Novozymes' business divisions, Investor Relations, Risk Management & Controls, 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 macrotrends 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

Novozyymes 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.

# 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.

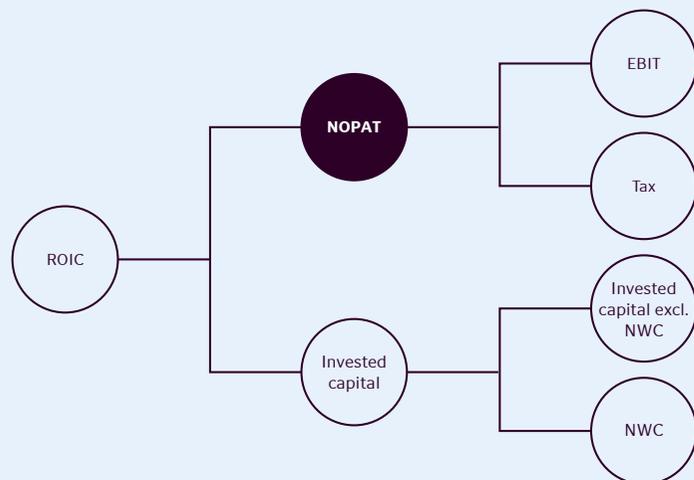
The standard will be implemented on January 1, 2019 using the modified retrospective approach, where the right-of-use assets on transition are measured at an amount equal to the lease liability. Novozymes will make use of the relief from restating comparative figures and will not apply IFRS 16 to short-term 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)
<b>Assets</b>						
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)
<b>Current assets</b>	<b>6,835</b>	<b>6,835</b>	<b>-</b>	<b>6,137</b>	<b>6,137</b>	<b>-</b>
<b>Liabilities</b>						
Contract liabilities, non-current	(199)		(199)	(335)		(335)
Deferred income, non-current	(37)	(236)	199	(2)	(337)	335
<b>Non-current liabilities</b>	<b>(2,734)</b>	<b>(2,734)</b>	<b>-</b>	<b>(2,529)</b>	<b>(2,529)</b>	<b>-</b>
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
<b>Current liabilities</b>	<b>(5,525)</b>	<b>(5,525)</b>	<b>-</b>	<b>(4,577)</b>	<b>(4,577)</b>	<b>-</b>

## 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)
<b>Gross profit</b>		<b>8,255</b>	<b>8,413</b>
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)
<b>Operating profit (EBIT)</b>		<b>4,070</b>	<b>4,047</b>
Exchange gains/(losses)		(89)	27
Tax on adjusted operating profit		(717)	(795)
Share of loss in associates		(17)	(14)
<b>Adjusted operating profit (NOPAT)</b>		<b>3,247</b>	<b>3,265</b>
<b>Average invested capital (see Invested capital section)</b>		<b>13,417</b>	<b>12,732</b>
<b>ROIC</b>		<b>24.2%</b>	<b>25.6%</b>

## 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%).

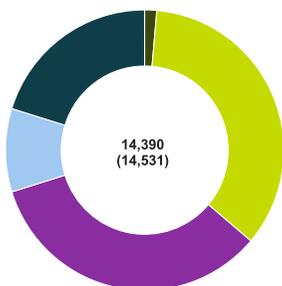
The geographical distribution of revenue is based on the country in which the goods are delivered. With a number of customers, central deliveries are made to specified locations and the final destination is unknown.

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)

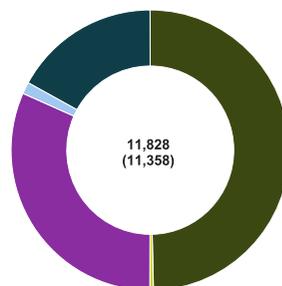
DKK million



- 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)

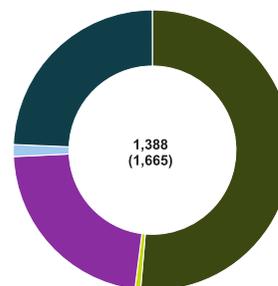
DKK million



- 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

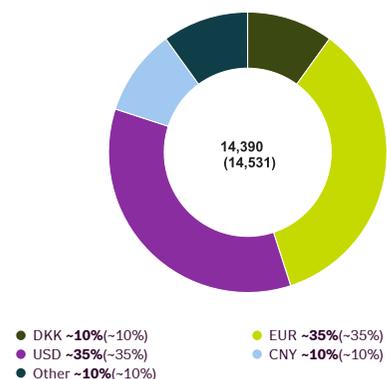
DKK million	2018	2017
Household Care	4,625	4,717
Food & Beverages	4,122	4,041
Bioenergy	2,806	2,644
Agriculture & Feed	2,045	2,108
Technical & Pharma	792	1,021
<b>Revenue</b>	<b>14,390</b>	<b>14,531</b>
Emerging markets	4,980	5,023
Developed markets	9,410	9,508
<b>Revenue</b>	<b>14,390</b>	<b>14,531</b>
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.

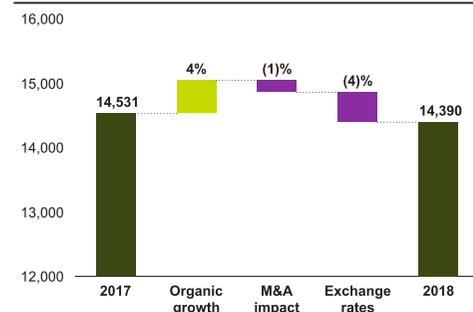
### Sales by currency 2018

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.

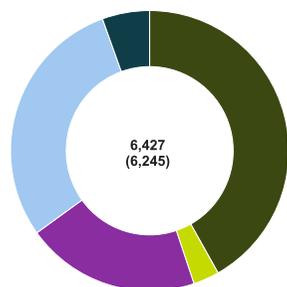
## Net operating profit after tax

# 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
<b>Employee costs</b>	<b>3,712</b>	<b>3,773</b>
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
	<b>3,677</b>	<b>3,754</b>
Change in employee costs recognized in Inventories	35	19
<b>Employee costs</b>	<b>3,712</b>	<b>3,773</b>

### Number of employees end of year 2018 (2017)

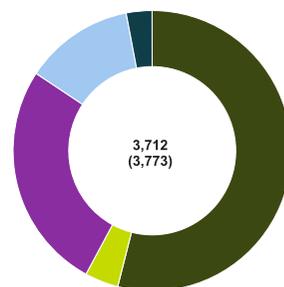
No. of employees



- 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
<b>Employees, end of year</b>	<b>6,427</b>	<b>6,245</b>
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
<b>Employees by category</b>	<b>6,427</b>	<b>6,245</b>

## 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.

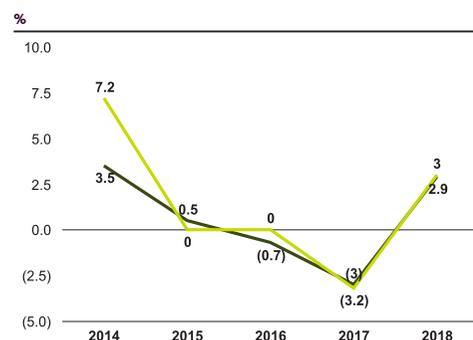
Job categories are defined as follows: Senior management comprises the CEO, executive vice presidents, vice presidents and directors. Management comprises middle managers and specialists. Professional comprises employees with academic backgrounds as well as team leaders. Process operators comprises operators 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
<b>Total research and development costs</b>	I/S	<b>1,865</b>	<b>1,913</b>
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)
<b>Other operating income, net</b>	I/S	<b>43</b>	<b>(3)</b>

## 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
<b>Tax in the income statement</b>	<b>(709)</b>	<b>(756)</b>
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%
<b>Effective tax rate</b>	<b>(18.0)%</b>	<b>(19.5)%</b>



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

As the Group operates across many different countries, the calculation of the Group's total tax charge in the income statement 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)
	<b>1,588</b>	<b>1,423</b>	<b>(1,542)</b>	<b>(1,389)</b>
Offsetting items	(650)	(668)	650	668
<b>Deferred tax at December 31</b>	<b>938</b>	<b>755</b>	<b>(892)</b>	<b>(721)</b>

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
<b>Deferred tax at December 31</b>	<b>46</b>	<b>34</b>
Deferred tax assets	938	755
Deferred tax liabilities	(892)	(721)
<b>Deferred tax at December 31</b>	<b>46</b>	<b>34</b>

### § 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
<b>Tax payables, net, at December 31</b>		<b>(401)</b>	<b>(348)</b>
Tax receivables	B/S	174	135
Tax payables	B/S	(575)	(483)
<b>Tax payables, net, at December 31</b>		<b>(401)</b>	<b>(348)</b>
Of which due within 12 months		(80)	(70)
Of which due after more than 12 months		(321)	(278)
<b>Tax payables, net, at December 31</b>		<b>(401)</b>	<b>(348)</b>
Corporate income taxes paid are specified as follows:			
Income taxes paid in Denmark		546	527
Income taxes paid outside Denmark		215	325
<b>Total income taxes paid</b>		<b>761</b>	<b>852</b>

Net operating profit after tax

## 2.7 Earnings per share

DKK million	2018	2017
<b>Profit used to calculate earnings per share</b>	<b>3,226</b>	<b>3,119</b>
<b>Average number of shares</b>		
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
<b>Average number of diluted shares</b>	<b>292,362,355</b>	<b>297,202,352</b>
Earnings per share	DKK 11.11	DKK 10.56
Earnings per share, diluted	DKK 11.03	DKK 10.49



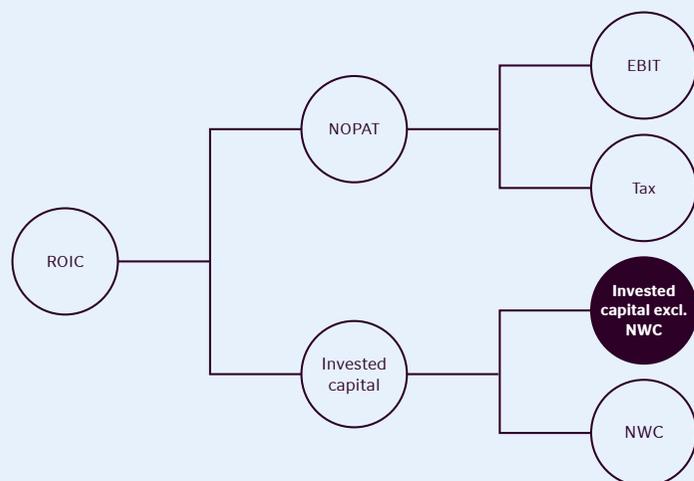
### ACCOUNTING POLICIES

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)
<b>Invested capital</b>		<b>13,953</b>	<b>12,880</b>
<b>Average invested capital</b>		<b>13,417</b>	<b>12,732</b>

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)	-
<b>Cost at December 31, 2018</b>	<b>1,086</b>	<b>2,942</b>	<b>533</b>	<b>59</b>	<b>4,620</b>
Amortization and impairment losses at January 1, 2018		(1,793)	(359)		(2,152)
Currency translation adjustments		3	(1)		2
Amortization during the year		(213)	(68)		(281)
Impairment losses		(59)	-		(59)
<b>Amortization and impairment losses at December 31, 2018</b>		<b>(2,062)</b>	<b>(428)</b>		<b>(2,490)</b>
<b>Carrying amount at December 31, 2018</b>	<b>1,086</b>	<b>880</b>	<b>105</b>	<b>59</b>	<b>2,130</b>

### 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.



### 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.

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.

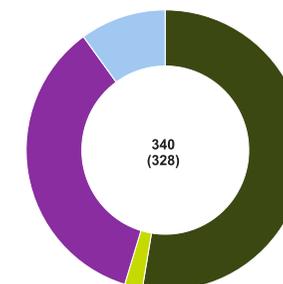
As the value in use for the Biopharma CGU is greater than its carrying amount, no impairment has been identified (2017: no impairment).

## 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)	-
<b>Cost at December 31, 2017</b>	<b>1,108</b>	<b>2,923</b>	<b>492</b>	<b>61</b>	<b>4,584</b>
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
<b>Amortization and impairment losses at December 31, 2017</b>		<b>(1,793)</b>	<b>(359)</b>		<b>(2,152)</b>
<b>Carrying amount at December 31, 2017</b>	<b>1,108</b>	<b>1,130</b>	<b>133</b>	<b>61</b>	<b>2,432</b>

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)	-
<b>Cost at December 31, 2018</b>	<b>5,694</b>	<b>10,645</b>	<b>1,846</b>	<b>1,848</b>	<b>20,033</b>
Depreciation and impairment losses at January 1, 2018	(2,718)	(5,789)	(1,117)	-	(9,624)
Currency translation adjustments	(15)	(45)	(10)	-	(70)
Depreciation for the year	(168)	(442)	(120)	-	(730)
Impairment losses	(18)	-	-	-	(18)
Disposals during the year	4	83	20	-	107
<b>Depreciation and impairment losses at December 31, 2018</b>	<b>(2,915)</b>	<b>(6,193)</b>	<b>(1,227)</b>	<b>-</b>	<b>(10,335)</b>
<b>Carrying amount at December 31, 2018</b>	<b>2,779</b>	<b>4,452</b>	<b>619</b>	<b>1,848</b>	<b>9,698</b>
Of which assets held under finance leases	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.

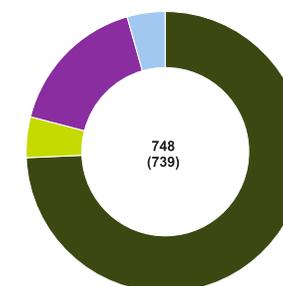
## Invested capital

# 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)	-
<b>Cost at December 31, 2017</b>	<b>5,415</b>	<b>9,808</b>	<b>1,679</b>	<b>1,648</b>	<b>18,550</b>
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
<b>Depreciation and impairment losses at December 31, 2017</b>	<b>(2,718)</b>	<b>(5,789)</b>	<b>(1,117)</b>		<b>(9,624)</b>
<b>Carrying amount at December 31, 2017</b>	<b>2,697</b>	<b>4,019</b>	<b>562</b>	<b>1,648</b>	<b>8,926</b>
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)
<b>Provisions at December 31</b>	<b>82</b>	<b>147</b>	<b>229</b>	<b>74</b>	<b>171</b>	<b>245</b>
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
<b>Provisions at December 31</b>	<b>82</b>	<b>147</b>	<b>229</b>	<b>74</b>	<b>171</b>	<b>245</b>

### 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

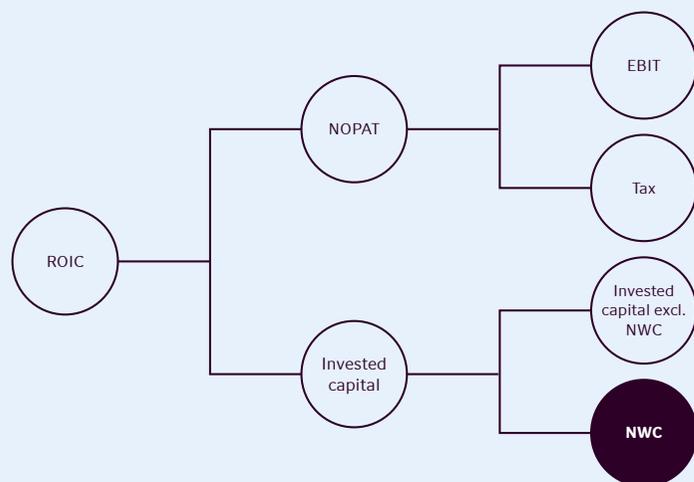
Provisions are recognized where a legal or constructive obligation has been incurred as a result of past events and it is probable it will lead to an outflow of financial resources. Provisions are measured at the present value of the expected expenditure required to settle the obligation.

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)
<b>Net working capital</b>		<b>2,768</b>	<b>2,023</b>
<b>Average net working capital</b>		<b>2,396</b>	<b>2,056</b>

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
<b>Inventories at December 31</b>	<b>2,820</b>	<b>2,586</b>
	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.

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.

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

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

## Net working capital

# 4.2 Trade receivables and contract assets

DKK million	2018	2017
Trade receivables, gross	2,768	2,780
Allowances	(162)	(226)
<b>Trade receivables at December 31</b>	<b>2,606</b>	<b>2,554</b>
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
<b>Trade receivables, gross, at December 31</b>	<b>2,768</b>	<b>2,780</b>
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)
<b>Allowances at December 31</b>	<b>162</b>	<b>226</b>

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
<b>Other receivables at December 31</b>		<b>253</b>	<b>249</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	34	35
Current	B/S	219	214
<b>Other receivables at December 31</b>		<b>253</b>	<b>249</b>

### 4.4 Contract liabilities

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

\* 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
<b>Deferred income at December 31</b>		<b>50</b>	<b>542</b>
Recognized in the balance sheet as follows:			
Non-current	B/S	37	337
Current	B/S	13	205
<b>Deferred income at December 31</b>		<b>50</b>	<b>542</b>
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
<b>Deferred income at December 31</b>		<b>50</b>	<b>542</b>

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

# 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
<b>Other liabilities at December 31</b>	B/S	<b>1,348</b>	<b>1,483</b>

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.

# 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
<b>Total</b>		<b>(2)</b>	<b>501</b>	<b>4</b>	<b>478</b>

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

### Interest rate risk

Interest rate risk arises in relation to interest-bearing assets and liabilities. In accordance with Novozymes' Treasury Policy, a minimum of 30% of loans must be at fixed interest rates. Hedging of the interest 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	-
<b>Financial income</b>	<b>47</b>	<b>90</b>
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)
<b>Financial costs</b>	<b>(164)</b>	<b>(247)</b>
<b>Financial income/costs, net</b>	<b>(117)</b>	<b>(157)</b>

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
<b>Other financial liabilities at December 31</b>	<b>3,373</b>	<b>2,291</b>
Recognized in the balance sheet as follows:		
Non-current	B/S 1,474	1,312
Current	B/S 1,899	979
<b>Other financial liabilities at December 31</b>	<b>3,373</b>	<b>2,291</b>

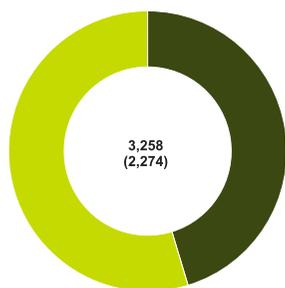
### Liabilities arising from financing activities

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
<b>Total liabilities from financing activities at December 31</b>	<b>1,803</b>	<b>460</b>	<b>2</b>	<b>9</b>	<b>2,274</b>	<b>978</b>	<b>6</b>	<b>-</b>	<b>3,258</b>

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

Credit institutions – currency 2018 (2017)

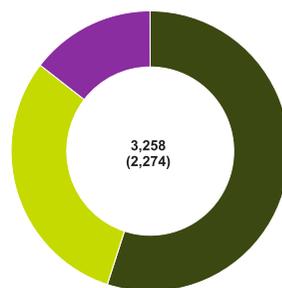
DKK million



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

Credit institutions – time to maturity 2018 (2017)

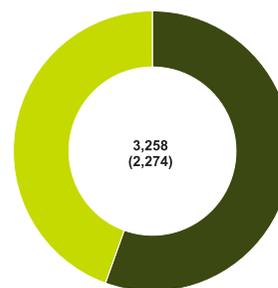
DKK million



● 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
<b>Forward exchange contracts</b>				
CAD	(343)	(9)	(332)	2
CHF	(1,351)	12	(1,453)	(1)
USD	182	-	280	1
Other	236	(13)	175	(2)
<b>Fair value hedges at December 31</b>	<b>(1,276)</b>	<b>(10)</b>	<b>(1,330)</b>	<b>-</b>

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

The forward exchange contracts fall due in the period January 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
<b>Forward exchange contracts</b>				
USD	2,235	(82)	1,855	11
	<b>2,235</b>	<b>(82)</b>	<b>1,855</b>	<b>11</b>
<b>Interest rate swaps</b>				
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)
	<b>633</b>	<b>(9)</b>	<b>633</b>	<b>(11)</b>
<b>Cash flow hedges at December 31</b>	<b>2,868</b>	<b>(91)</b>	<b>2,488</b>	<b>-</b>

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

The forward exchange contracts fall due in the period January 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
<b>Common stock</b>				
A common stock (shares of DKK 2)	53,743,600	107	53,743,600	107
B common stock (shares of DKK 2)	243,256,400	487	251,256,400	503
<b>Common stock at December 31</b>	<b>297,000,000</b>	<b>594</b>	<b>305,000,000</b>	<b>610</b>
	B/S			
<b>Treasury stock - B stock</b>				
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)
<b>Treasury stock at December 31</b>	<b>9,405,806</b>	<b>19</b>	<b>12,051,096</b>	<b>24</b>

No.	2018	2017
<b>Shares of common stock in circulation</b>		
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
<b>Shares of common stock in circulation at December 31</b>	<b>287,594,194</b>	<b>292,948,904</b>

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

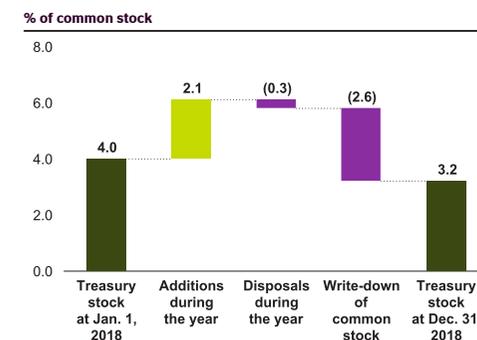
Each year, the Board of Directors assesses whether the ownership structure with A and B common stock is optimal. The Board of Directors maintains that this is the best way to

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

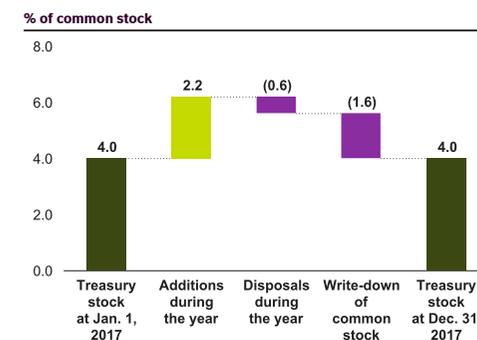
The treasury stock is used to reduce the common stock and to hedge employees' exercise of granted stock awards and stock options.

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
<b>Financial assets at amortized cost</b>		<b>3,761</b>	<b>3,338</b>
Other financial assets		20	29
<b>Fair value through profit and loss</b>		<b>20</b>	<b>29</b>
Derivatives		14	16
<b>Fair value through other comprehensive income</b>		<b>14</b>	<b>16</b>
<b>Financial assets</b>		<b>3,795</b>	<b>3,383</b>
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)
<b>Financial liabilities at amortized cost</b>		<b>(5,675)</b>	<b>(4,398)</b>
Derivatives	5.3	(115)	(17)
<b>Fair value through other comprehensive income</b>		<b>(115)</b>	<b>(17)</b>
<b>Financial liabilities</b>		<b>(5,790)</b>	<b>(4,415)</b>

### Measurement and fair value hierarchy

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

# Other financial notes

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



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
<b>Remuneration</b>	<b>94</b>	<b>8</b>	<b>102</b>	<b>120</b>	<b>7</b>	<b>127</b>
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 <sup>1</sup>	497,697	745,908	-	1,243,605	301	51	64
Allocation adjustment	-	(501)	-	(501)	293		
Exercised <sup>2</sup>	(98,698)	(579,856)	(199,713)	(878,267)	209		
Forfeited	-	(96,241)	(76,325)	(172,566)	264		
Expired	-	(395)	(14,654)	(15,049)	89		
<b>Outstanding at December 31, 2018</b>	<b>1,934,249</b>	<b>4,165,211</b>	<b>1,871,253</b>	<b>7,970,713</b>	<b>266</b>		
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		
<b>Outstanding at December 31, 2017</b>	<b>1,535,250</b>	<b>4,096,296</b>	<b>2,161,945</b>	<b>7,793,491</b>	<b>253</b>		
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
<b>Rental commitments at December 31</b>	<b>506</b>	<b>382</b>

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
<b>Other commitments</b>		
Contractual obligations to third parties relating to property, plant and equipment	171	804
<b>Other guarantees</b>		
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
<b>The Novo Nordisk Group</b>		
Sale of goods and materials	36	63
Sale of services	85	100
Purchase of goods and materials	(64)	(71)
Purchase of services	(51)	(74)
<b>The NNIT Group</b>		
Purchase of services	(32)	(34)
<b>The Chr. Hansen Group</b>		
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
<b>The Novo Nordisk Group</b>		
Receivables	35	40
Payables	(109)	(99)
<b>The NNIT Group</b>		
Payables	(5)	(4)
<b>The Chr. Hansen Group</b>		
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
<b>Fees to statutory auditor</b>	<b>14</b>	<b>15</b>
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
<b>Non-cash items</b>			
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
<b>Non-cash items</b>		<b>2,062</b>	<b>2,065</b>
<b>Business acquisitions, divestments and purchase of financial assets</b>			
Divestment of Albumedix		-	4
Other acquisitions and purchase of financial assets		(4)	(7)
<b>Cash flow from acquisitions, net</b>		<b>(4)</b>	<b>(3)</b>

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	
<b>Parent company</b>						
Novozymes A/S, Denmark	■ □ ● ◆ ○					
<b>Subsidiaries</b>						
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
<b>Joint operations/associates</b>		
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 CO<sub>2</sub> emissions avoided as a result of customers' application of Novozymes' products in their products or processes. We also focus on reducing our own CO<sub>2</sub> emissions and use of resources, and mitigating the risk of potential harm to the environment.



Estimated tons of CO<sub>2</sub> 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 CO<sub>2</sub> impact of Novozymes' products on society. Novozymes' products enable downstream users to avoid CO<sub>2</sub> emissions in certain applications by lowering energy, water and raw material consumption compared with conventional technologies.

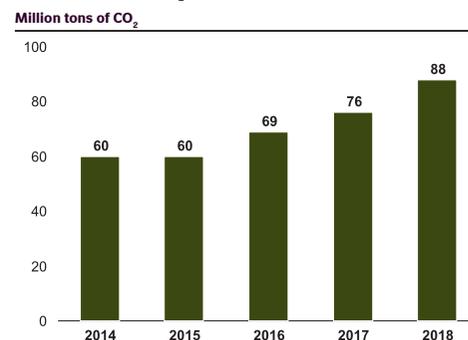
Since 2004, Novozymes has conducted peer-reviewed cradle-to-grave life cycle assessment (LCA) studies to document the environmental impact of its biosolutions. The inferences are used to demonstrate to our commercial stakeholders ways to reduce their CO<sub>2</sub> emissions and leverage the positive 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 CO<sub>2</sub> 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 CO<sub>2</sub> savings



### CRITICAL ACCOUNTING ESTIMATES AND JUDGMENTS

Novozyymes uses LCAs to estimate the CO<sub>2</sub> 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, CO<sub>2</sub> 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 CO<sub>2</sub> 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 CO<sub>2</sub> emissions from its operations.

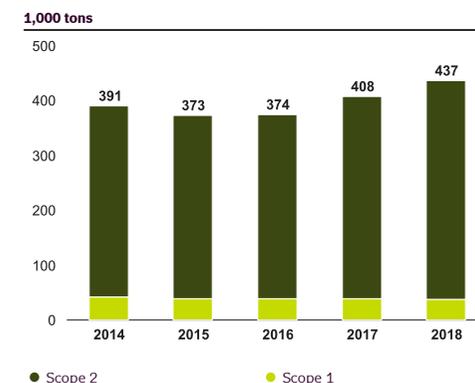
### CO<sub>2</sub>-equivalent emissions

1,000 tons	2018	2017
Natural gas	34	38
Gas oil, light fuel oil and diesel oil	3	-
HCFCs	1	1
<b>Scope 1</b>	<b>38</b>	<b>39</b>
District heat	9	10
Electricity	307	283
Steam	83	76
<b>Scope 2 (market-based)</b>	<b>399</b>	<b>369</b>
Ship	5	7
Truck	15	17
Air freight	15	15
<b>Scope 3</b>	<b>35</b>	<b>39</b>
<b>Emissions, total</b>	<b>472</b>	<b>447</b>

### Market-based vs. location-based scope 2 emissions

1,000 tons	2018	2017
Scope 2 CO <sub>2</sub> emissions (market-based)	399	369
Scope 2 CO <sub>2</sub> emissions (location-based)	452	442

### 5-year operational emissions (CO<sub>2</sub>-eqv.)



## 7.1 Climate change (continued)

### § ACCOUNTING POLICIES

The estimated reduction in CO<sub>2</sub> 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 CO<sub>2</sub> emissions comprises scope 1, scope 2 and emissions from outbound transport of products.

CO<sub>2</sub> from internally generated energy (scope 1) is calculated based on the amount of fuel consumed, using local emission factors.

CO<sub>2</sub> from externally generated energy (scope 2) is reported in accordance with both the market-based and the location-based methods, as defined by the Greenhouse Gas (GHG) Protocol. The location-based method uses annually determined local emission factors from power plants or their

organizations. If emission factors are not available, annually determined emission factors from Danish authorities and suppliers are used.

Transport-related CO<sub>2</sub> emissions (scope 3) are calculated based on principles described in the GHG Protocol. Reported quantities comprise CO<sub>2</sub> emissions related to transport from all primary enzyme production sites to the customer where Novozymes pays for the freight. Transport between production sites is also included. Transport of raw materials to a production site is not included. CO<sub>2</sub> emissions generated at external warehouses are not included. Emissions data are calculated based on distance and emission factors from the GHG Protocol.

The environmental impact potentials for global warming and ozone layer depletion are calculated on the basis of data published by the US Environmental Protection Agency (EPA) and the Montreal Protocol published by the United Nations Environment Programme (UNEP).

## 7.2 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

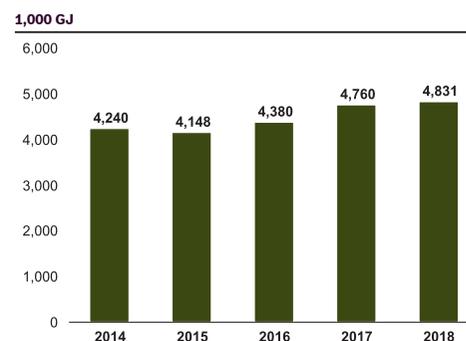
In 2018, Novozymes achieved its annual target of maintaining the increase in energy consumption at a level lower than organic sales growth.

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
<b>Internally generated energy, total</b>	<b>734</b>	<b>772</b>
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
<b>Externally purchased energy, total</b>	<b>4,097</b>	<b>3,988</b>
<b>Energy consumption, total</b>	<b>4,831</b>	<b>4,760</b>
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 CO<sub>2</sub> state that the higher combustion value is to be applied. Fuel consumption comprises all types of fuels used to produce electricity,

heat and steam on site and is converted to energy using factors supplied by utility providers or local authorities. Fuel for transportation is not included.

Externally generated energy is the input to Novozymes of externally generated electricity, heat and steam.

Energy produced from waste or wastewater is renewable and corresponds to the total energy (heat, electricity or steam) produced by an internal or external utility provider. An example is energy produced from biomass waste or biogas.

Reported quantities are based on meter readings, with the exception of steam, which may be subject to calculation.

The renewable energy percentage is calculated by dividing renewable energy consumed by total energy consumption. Renewable energy used at Novozymes sites comprises energy 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

Novozyymes' 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 <sup>3</sup>	2018	2017
Drinking water	5,578	5,427
Industrial water	2,256	2,339
Steam	371	340
<b>Water, total</b>	<b>8,205</b>	<b>8,106</b>

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.

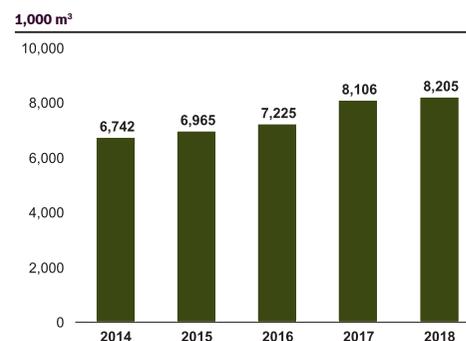
### 2018 highlights

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 m<sup>3</sup> 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 m<sup>3</sup> 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.

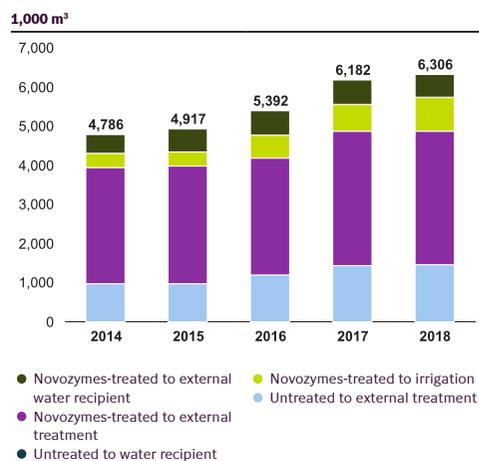
Optimization of renewable energy production (biogas) from wastewater also improved significantly in 2018 thanks to a successful partnering project with the technology supplier. The table provides details of wastewater generated in 2018.

### Wastewater treatment

1,000 m <sup>3</sup>	2018	2017
Wastewater used for irrigation	866	673
Wastewater discharged	5,440	5,509
<b>Wastewater volume, total</b>	<b>6,306</b>	<b>6,182</b>

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

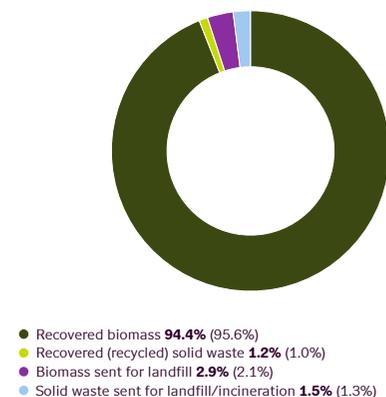
Novozymes' waste and by-products fall into three general categories: biomass (by-product), nonhazardous waste and hazardous waste. Each production site reports on the three categories and disposal methods. Production of enzymes and microorganisms generates large amounts of biomass and a relatively low 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 m<sup>3</sup> of biogas. This corresponds to approximately 5,000 Danish households and results in annual CO<sub>2</sub> 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
<b>Biomass, total</b>	<b>509</b>	<b>602</b>

## 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
<b>Nonhazardous waste</b>		
Incineration	2.1	1.7
Landfill	3.6	3.9
Recycling (external)	4.4	4.3
Recycling (internal)	0.1	0.1
<b>Nonhazardous waste, total</b>	<b>10.2</b>	<b>10.0</b>
<b>Hazardous waste</b>		
Incineration	2.3	2.5
Recycling (external)	0.2	0.2
Recycling (internal)	1.6	1.6
<b>Hazardous waste, total</b>	<b>4.1</b>	<b>4.3</b>
<b>Waste, total</b>	<b>14.3</b>	<b>14.3</b>

## 7.5 Environmental compliance, etc.

Compliance with environmental norms and regulations is a high priority for Novozymes so as to maintain business continuity and day-to-day running of operations. Novozymes is committed to complying with all environmental regulations and maintaining high standards of environmental management on various aspects, including pollution prevention, resource conservation and waste reduction.

### Our approach

Novozymes' commitment to environmental compliance is outlined in its Sustainability

Policy. All activities to ensure environmental compliance are anchored in the Quality, 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%**

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Accidents per million working hours

**2.4**

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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
<b>Rate of employee turnover, total</b>	%	<b>8.8</b>	<b>11.9</b>

### 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  $\geq 75$ .

### 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.

### 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	-
<b>Occupational accidents with absence, total</b>	<b>27</b>	<b>18</b>
Total days of absence related to accidents registered in the same year	346	235
Injury severity rate	13	13

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.



### 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	-
<b>Occupational diseases, total</b>	<b>4</b>	<b>2</b>
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	-
<b>Occupational diseases, total</b>	<b>4</b>	<b>2</b>

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

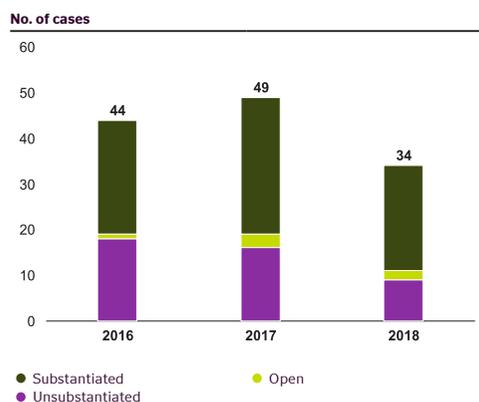
The number of fraud cases investigated by Novozymes decreased to 34 in 2018 from 49 in 2017. However, we continue to see a threat from external fraud attempts by unknown perpetrators, such as CxO fraud and fraudulent invoices. During 2018, 12 cases were reported to the police. The investigated fraud 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.

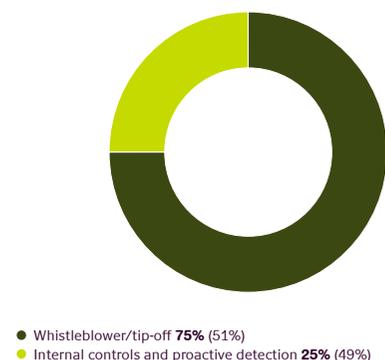
There were no violations of competition law in 2018. The anti-trust training in 2018 focused on competition law concerns relating to different forms of exclusivity in connection with customer agreements.

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.

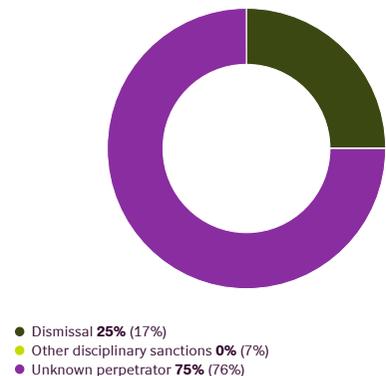
Investigated fraud cases



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,

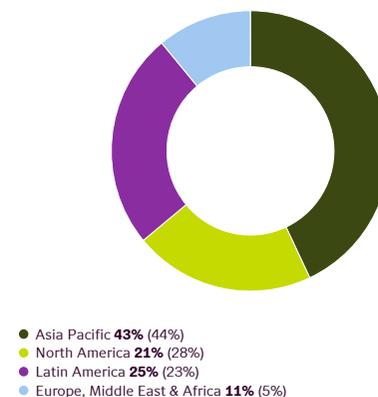
and the various educational programs are driven and implemented regionally by our sustainability managers. In total, we have educated more than 612,000 learners globally since 2015.

### 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](http://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.