NOVO NORDISK A S Form 6-K February 04, 2019

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DK-2880 Bagsværd Denmark (Adress of principal executive offices) Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F Form 20-F x Form 40-F o Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934. Yes o No x If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g-32(b):82-_____

FORM 6-K

Novo Nordisk Annual Report 2018 Partnering for Committed to making The future in innovation obesity a healthcare a tablet priority

corporate strategy 08 Innovating for access in a challenging US market 32 Financial, social and Performance and outlook environmental statements 29.2million patients reached with (Supplementary information) Novo Nordisk diabetes products Statement of social performance 97 Notes to the consolidated 40 Management's statement and All references can be found on p 110. Risk management enables Auditor's reports 107 better decision-making 41 The Management review, as defined by the Danish Financial Statements Act, is found on pp 1–57. Shares and capital structure 44 This Annual Report is Novo Nordisk's full statutory Annual Additional information Report . See further details on p 110. Corporate governance 46 Legal disclaimers and references 110. The patients portrayed in this Annual Report have participated of their own accord and solely to express their personal Board of Directors

LETTERS 1 LETTER FROM THE CHAIR Although this transition has just begun, we are already seeing the positive impact it is having on our business . Under Lars Fruergaard Jørgensen's capable leadership, we are building a strong platform for sustainable growth, and the Board of Directors has every faith that A year of he and his team have the vision, capabilities and execution power to deliver long-term success for Novo Nordisk . Many of the challenges the company is confronted by are not accelerated new, nor are there any quick fixes . But with the changes Executive Management has made across the organisation in 2018 and a dis- ciplined focus on prioritising for growth, we are well on our way towards creating a simpler, more dynamic organisation - one that is change better equipped to deal with the volatile, rapidly changing business environment in which we are now operating . A clear example is the way that Novo Nordisk has redefined its approach to research and development and is executing on the new strategy that was set out last year . The core capabilities and self--reliance that have provided the foundation for past successes are no longer enough to take us where we want to go. Success in the long term can only be realised through diversification of the product portfolio via entry into other therapy areas with significant unmet patient needs. The new For Novo Nordisk, 2018 has been a year of strategy is to complement in-house innovation with greater emphasis on external collaboration and breakthrough innovation with the objec- accelerated change . With the full support of the tive of delivering greater long-term value for patients and the business . Board of Directors, the Executive Management team has redefined the company's approach to Novo Nordisk's purpose is more relevant than ever . Driving change to defeat diabetes and other serious chronic diseases is imperative if we research and development, reprioritised resources are to achieve more sustainable development. The rising prevalence towards key growth drivers and continued to of these diseases is an unintended consequence of socioeconomic streamline and simplify across the organisation growth, and turning that tide will take more than providing medi- cines . I am encouraged and excited to see how Novo Nordisk stands - while delivering strong pipeline progress and up as a leader that understands and is prepared to assume a broader successfully launching innovative products . role in shaping a society in which people everywhere can thrive . This is what motivated me to join the Novo Nordisk Board of Directors and remains a key driver for my engagement. It was an honour to be elected Chair of the Board of Directors at the 2018 Annual General Meeting . I have huge respect for the responsibil- ities that come with the role, and I am doing my utmost to repay that trust by providing stable stewardship of the company. I have spent most of my professional life in the energy sector and see many paral-lels with the pharmaceutical industry. Both are complex, highly regulated and fiercely competitive. But more importantly they play a vital role in society and the decisions they make have a huge impact for generations to come . In my role as Chair I am seeking to apply all the relevant insights and expertise I have gained . Most importantly, I strive to always uphold the interests of the patients we serve and the share- holders who are invested in the company, and I can say with absolute certainty that this is a goal shared by the employees of Novo Nordisk . In conclusion, based on Novo Nordisk's solid financial performance over the course of 2018, at the Annual General Meeting in March 2019 the Board will propose a total dividend of 8 15. Danish kroner per share . As in previous years, the Board has decided to initiate a new share repurchase programme of up to 15 billion Danish kroner, which will commence in February 2019. On behalf of the Board, all that remains for me to say is thank you: to Novo Nordisk's leadership team for leading the organisation through a year of accelerated change; to employees for their hard work and commitment in uncertain times; and to you, our shareholders, for your support throughout 2018 . Helge Lund Chair of the Board of Directors

2 LETTERS LETTER FROM THE CEO Finding strength through change

LETTERS 3 For everyone at Novo Nordisk, 2018 was a year of increasingly complex issues we face - all while holding ourselves accountable to the highest standards of compliance and integrity in change - and significant progress. We delivered everything we do . on our targets for sales and operating profit. We successfully launched Ozempic®, our new once- Our purpose is clear to everyone in the organisation: driving change to defeat diabetes and other serious chronic diseases . That is what weekly GLP-1 for people with type 2 diabetes motivates us as we go to work every day . This sense of purpose and took crucial steps towards the regulatory extends to our commitment to be a responsible corporate citizen, submission of oral semaglutide . But we also had playing our part in achieving the Sustainable Development Goals . Let me just mention a few examples from the past year: Novo Nordisk to say goodbye to many good colleagues . has partnered with the Red Cross to improve care for people with diabetes and other serious non-communicable diseases (NCDs) who are affected by humanitarian crises . We have become a founding partner of Defeat NCDs - a public-private-people partnership backed by the United Nations which seeks to improve access to treatment for diabetes and other NCDs in low- and middle-income countries . Furthermore, in light of the environmental challenges the world faces, we have embarked on a new environmental strategy, with the ambition of having zero environmental impact . And underpinning all of that, we strengthened our commitment to respect human rights, incorporating it into our Business Ethics Code of Conduct . In 2019, we will continue to focus on implementing the strategies We have a clear ambition to be a sustainable business, and our we have developed and started executing on, and we will continue actions in 2018 have significantly strengthened our platform for to drive simplicity, agility and sustainability across the organisation . - sustainable growth . We are simplifying our way of working to We work hard and make every effort to make our innovative prod- become more robust and agile in the face of new challenges . And we ucts accessible to patients in all parts of the world . We expect to continue to create long-term value for patients and shareholders by improve our market position by growing market shares, so that we driving innovation in-house and, notably, in collaboration with new can accelerate- growth . external partners . Throughout, we have done all this in a financially, environmentally and socially responsible way, reaffirming our com- mitment to the Triple Bottom Line principle that drives our approach to business. "We have a clear ambition Let us look at some examples . Within diabetes care, we significantly to be a sustainable business, strengthened our position in the GLP-1 segment with the successful and our actions in 2018 have launch of Ozempic®, and we are preparing to submit oral semaglu- tide for regulatory approval in 2019. We obtained a label update for significantly strengthened Tresiba® to reflect its superior safety profile with regard to severe hypoglycaemia and risks of cardiovascular events. We are strength- our platform for sustainable ening our leadership position in obesity care, building on the success growth." of Saxenda® . In the Biopharm business, our new strategy has set us on course to return to growth . In research and development, we are stepping up external collaboration and digitalisation . Finally, we are investing in production capacity at an unprecedented level to help In my role as CEO, I have made it clear that we aim to lead in all dis- prepare for an exciting future . The expansion of our manufacturing ease areas in which we are active . Furthermore, I want Novo Nordisk facility in Clayton, North Carolina, is scheduled to deliver products to be recognised by our employees, the patients we serve, our share- from 2020 . It is the largest single investment in the history of Novo holders and other stakeholders as an outstanding company - both Nordisk . for what we do, and how we do it . I believe we are making progress on all counts, but the job is not yet done . To ensure that we carry this momentum through 2019 and beyond, we have implemented a number of organisational changes through- I want to close by thanking everyone in Novo Nordisk for their dedi- out 2018 that have enhanced our ability to adapt and succeed in a cation in the pursuit of our purpose. I also want to express my appre- rapidly-changing business environment. Regrettably, we have had to ciation to our Board of Directors for their confidence in our leadership reduce the workforce by around 1,300 employees globally, but it is team and for their strong stewardship. And on behalf of everyone at important to understand that this has not been an exercise in cutting Novo Nordisk, I thank you - our shareholders - for your continued costs . Rather, we have recognised the need to increase the agility support . of our business by freeing up resources for reallocation towards our future key growth drivers, and we can see that this is already having a positive impact on our performance . Of course, it is not just what we do, but also how we do it that makes Novo Nordisk a special company . The Novo Nordisk Way is the foundation for our strong workplace culture, which helps us steer through times of change . We encourage open and honest dialogue, Lars Fruergaard Jørgensen and employees are mandated to take decisive action to address the President & chief executive officer

4 INTRODUCING NOVO NORDISK Novo Nordisk at a glance Driving change to defeat diabetes and other serious chronic diseases Novo Nordisk is a global healthcare company, headquartered in Denmark . Our key contribution is to discover and develop innovative 43,202 80 biological medicines and make them accessible to patients throughout employees countries the world . We aim to lead in all disease areas in which we are active . Strategic focus areas Total net sales* DKK 111,831 million Total net sales (share of sales) DKK 9,576 million DKK 90,035 million Haemophilia (9%) Diabetes (81%) DKK 6,834 million Growth disorders (6%) * Including other biopharmaceuticals (1%) . See sales and growth analyses DKK 3,869 million by business segment and by geographical area on pp 67–69 . Obesity (3%)

INTRODUCING NOVO NORDISK 5 Business approach Novo Nordisk's ambition is to be a sustainable business. By this we mean: The Triple Bottom Line principle is • creating long-term value for patients, anchored in the company's Articles Financially employees, partners and shareholders by of Association and the Novo Nordisk Responsible developing innovative and competitive Way as the way we do business . It solutions to patients' unmet needs is applied to ensure that business Patients • doing business in a financially, environ- decisions balance financial, social and mentally and socially responsible way environmental considerations, always Socially Environmentally Responsible Responsible keeping in mind the best interests of • anticipating, adapting to and creating the patients we serve . new business opportunities from changes in our business environment . Business model Diverse talent Research facilities Insights from Resources patients and Manufactured expertise from goods academic institutions Raw materials, water and energy Financial resources Our business 29.2 million people use Novo Nordisk diabetes products DKK 14,805 million DKK 17,617 million DKK 29,397 million R&D costs Cost of goods sold Sales and distribution costs 5,083 total new hires DKK 213 million invested in independent* medical education DKK 34,615 million to shareholders Approx. 4,800 as dividends investigator sites and share active in Novo 74% of waste Value created repurchases Nordisk does on renewable total tax prefilled devices not influence content power contribution produced

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INTRODUCING NOVO NORDISK Novo Nordisk Way is the key to a successful and sustainable future for the company . "This year, we have continued to focus par- ticularly on setting bold ambitions and striv- ing for agility and simplicity in everything we do," he explains . "With the fast growth the company has experienced over the past 15 years, our processes and organisational set-up have naturally become more complex . In an increasingly competitive environment, we must be able to act quickly and deci- Leading the sively. This requires us to simplify the way we operate, and empower leaders at all levels of the organisation to make the decisions that Novo are necessary in order for their area of the business to achieve its goals ". Nordisk Way By zooming in on simplicity and agility, Novo Nordisk aims to ensure that the company will continue to run a success- ful and sustainable business bringing innovative treatments to those patients who need it . The Novo Nordisk Way underpins the company's vision, strategy and actions . It describes 'who we are; how we work; and what we want to achieve', setting a clear direction for the company and all employees . It all started with a love story between August It all begins with the commit- Krogh, a Danish Nobel laureate in physiology, ment to put patients at the centre- and his wife Marie, a medical doctor . of every decision made . And an -obligation to be accountable for financial, When the couple discovered that Marie had social and environmental performance - this diabetes, they began a journey to seek a is how Novo Nordisk's 'Triple Bottom Line' treatment for the disease, and returned from principle is put into practice . A transformational journey a trip to the US and Canada in 1922 with This focus is already effecting real change the rights to manufacture and sell insulin in "The decisions we make and the actions we across Novo Nordisk - nowhere more Scandinavia . take invariably impact people, communities so than the backbone of the company, and the environment in different ways," says Research & Development (R&D), where a August Krogh became the co-founder of Lars Fruergaard Jørgensen . "To conduct our recent restructure and reprioritisation of Nordisk Insulinlaboratorium the following business in a responsible way, we take all resources has set the organisation on an year, and the story of Novo Nordisk began . these dimensions into consideration, so we accelerated path towards delivery of its Ever since, the people leading the company can strike the right balance, always keeping -strategic priorities (see p 8), have displayed the same thirst for discovery in mind what is best for the long term. This as the Kroghs, and remained true to their is what our Triple Bottom Line approach is "The bold changes we are implementing in sense of responsibility - to patients, employ- all about ". R&D are standout examples of what we are ees, communities and investors alike . doing to think bigger, reduce complexity Through thick and thin and increase agility," says Lars Fruergaard The ambitions and values of the founders For Lars Fruergaard Jørgensen, the Novo Jørgensen . "They are clear manifestations of remain vivid in the company that is Novo Nordisk Way and the Triple Bottom Line the new direction the company is taking Nordisk today. They are expressed in the Novo -provide a solid foundation for the -company's - and the questions we need to ask Nordisk Way, which is the foundation for the success. These are based on foundational -ourselves as we undergo this transforma- company culture - 'how we do business' . values that the company has stuck to tion . How can we create greater efficiency through thick and thin, ensuring balance through digitalisation? What processes can "The Novo Nordisk Way is more than a cor- and stability during years of rapid growth, be replaced by new technology? How can porate credo . It's the 'why' and the 'how' and strength and purpose through more we most effectively use our capabilities and of our business," explains Lars Fruergaard -challenging times . resources to fuel priorities? And ultimately, Jørgensen, president and chief executive- how can we deliver innovation that really officer. "It underpins our strategy and And while Novo Nordisk is operating in an benefits the patients we serve?" ambitions, and it spells out exactly what's increasingly competitive and cost-constrained expected of all employees, wherever they business environment, there is no doubt in It is a transformational journey that is being work and whatever they are working on ". Lars Fruergaard Jørgensen's mind that the guided every step of the way by the Novo

INTRODUCING NOVO NORDISK 7 Nordisk Way - even when organisational changes inevitably result in redundancies . "Sometimes we have to make tough decisions to safeguard the long-term The Novo -success and sustainability of our com- pany . By adhering to the Novo Nordisk Nordisk Way, we ensure that we always do this in the most respectful way possible," Lars Fruergaard Jørgensen says. "We are not In 1923, our Danish founders began pursuing simplicity- for simplicity's sake . a journey to change diabetes . Today, We do it so that we have the resources to we are thousands of employees seize the -biggest opportunities we have, across the world with the passion, and ultimately- to improve the lives of more skills and commitment to drive people living with diabetes and other serious change to defeat diabetes and other chronic conditions ". serious chronic diseases . Living up to our values • We aim to lead in all disease areas But how is adherence measured? Novo in which we are active . Nordisk has a unique and systematic approach to ensure that employees are living up to • Our key contribution is to discover The Essentials the Novo Nordisk Way - a process known as and develop innovative biological -facilitation . These are comprehensive assessmedicines and make them acces-1. We create value by having ments of how the desired behaviours, spelled sible to patients throughout the a patient-centred business out as 10 'essentials', are demonstrated in the world . approach . actions of managers and employees at unit level, conducted by in-house experts with a • Growing our business and deliv- 2. We set ambitious goals and broad knowledge of the business . ering competitive financial results strive for excellence . is what allows us to help patients "We can't say one thing and do another," live better lives, offer an attractive 3. We are accountable for our says Lars Fruergaard Jørgensen . "That would return to our shareholders and -financial, environmental and lead to cynicism among employees and contribute to our communities . social performance . could create a toxic work environment . The facilitation process - which was pioneered • Our business philosophy is one 4 .We provide innovation to the by Novo Nordisk - is an effective way of of balancing financial, social and -benefit of our stakeholders . -measuring how we walk the talk, and it environmental considerations . We shows us where we need to up our game ". call it 'The Triple Bottom Line' . 5 . We build and maintain good -relations with our key By ensuring that all employees stay true to • We are open and honest, ambi- stakeholders, the foundational values of the company, tious and accountable, and treat Novo Nordisk is always able to stand on solid everyone with respect . 6 . We treat everyone with respect . ground - even during times of change . • We offer opportunities for our 7. We focus on personal "We have to acknowledge the fact that the people to realise their potential . -performance and development . world we operate in has changed, and we need to show the confidence, willingness • We never compromise on quality 8. We have a healthy and engaging and leadership to tackle bigger challenges and business ethics . working environment . than those we've faced in the past," says Lars Fruergaard Jørgensen . "This can seem a Every day, we must make difficult 9 .We strive for agility and simplicity daunting task, but by sticking closely to the choices, always keeping in mind in everything we do . foundational values that have served us so what is best for patients, our employ- well throughout our history, we can all think, ees, and our shareholders in the long 10 .We never compromise on quality talk and act like true leaders". run . It's the Novo Nordisk Way . and business ethics .

8 INTRODUCING NOVO NORDISK happen by leveraging the strong clinical data from our cardiovascular outcomes trials for our GLP-1 products currently on the market, Novo Victoza® and Ozempic®. The CV safety pro- file is in addition to the proven benefits of superior blood glucose control and weight reduction . Nordisk's Novo Nordisk is preparing for regulatory approval of a once-daily tablet version of semaglutide, a long--acting GLP-1 ana- logue, following the positive results from the PIONEER clinical phase 3 trial -programme corporate reported throughout 2018. With the expected regulatory approval and launch of oral semaglutide, Novo Nordisk could be entering the oral antidiabetes segment with the aim of establishing a leadership position . strategy This is another key focus for the company in 2019 and beyond (see p 24). Strengthening leadership in obesity Currently, more than 650 million people worldwide live with obesity - defined as a Novo Nordisk's business is built around a clear purpose: driving body mass index (BMI) of 30 or above .2 As change to defeat diabetes and other serious chronic diseases . But such, obesity is rapidly becoming one of the biggest threats to global health as well as a how will the company achieve this in a business environment that significant economic burden on society . is increasingly complex, competitive and cost-constrained? Despite the size and significance of this threat, there are very few pharmacological Underpinned by the Novo Nordisk Way, events . Another key to success is to expand interventions available to treat this complex, the corporate strategy sets the direction, access to care by pursuing a market-fit serious and chronic disease . -describing how the company seeks to approach across the insulin portfolio strengthen its leadership in diabetes and (see pp 35-37). One of the main reasons for this unmet need obesity, while diversifying its pipeline and is that obesity is still not widely recognised establishing a strong presence in adjacent as a disease . Novo Nordisk is determined therapy areas through external collaboration . to change this . By educating healthcare The company develops innovative -medicines "It all starts with professionals about the need to acknowl- to improve people's lives and is also -exploring the patient. We will edge and treat obesity as a chronic disease, opportunities within digital health, to the company intends to ensure that more increase the tools and resources avail-able improve patients' patients living with obesity receive the treat- to patients living with diabetes and other ment they need. This effort begins with -serious chronic diseases, access to our products advocating to combat the stigma and biases and their ability to associated with the disease and expanding Strengthening leadership in diabetes patient support offerings, by forging new According to the International Diabetes reach treatment partnerships with professional associations Federation, approximately 425 million people and other stakeholders . worldwide live with diabetes today . But only targets, because this around 6% of all these people are in good is what leads to better Saxenda®, which was Novo Nordisk's first control of their condition 1. entry into the market for anti--obesity treat- health outcomes." ment, has now been launched in 41 countries Novo Nordisk works to address this and is an important driver of sales growth . ® -significant unmet need in two ways: by CAMILLA SYLVEST Building on the success of Saxenda, the com-strengthening its position as the world's executive vice president, pany has an ambition to develop a diverse leading supplier of insulin; and by redefin- Commercial Strategy & Corporate Affairs pipeline of future obesity care products, start- ing the treatment of type 2 diabetes with a ing with semaglutide 2.4 mg - a once-weekly growing portfolio of GLP-1 products. GLP-1 for weight management. This is cur- rently being tested in the phase 3 clinical trial Within the insulin segment, the key to GLP-1 therapies continue to be the main programme, STEP, and a dedicated cardiovas- achieving these goals is to drive the dif- drivers of growth for Novo Nordisk . Going cular outcomes trial, SELECT (see p 26) . ferentiation of Tresiba®, a next-generation forward, the aim is to transform the expecta- basal insulin that has demonstrated signifi- tions for type 2 diabetes treatments . Central Establishing a strong presence cantly lower rates of severe hypoglycaemia to the strategy are the efforts to increase the in NASH and CVD vs. - insulin glargine U-100 in adults with type focus and understanding of the cardiovascu- Novo Nordisk is expanding into therapy areas 2 diabetes at high risk for cardiovascular lar (CV) risk inherent in the disease . This will adjacent to diabetes and obesity and has an

INTRODUCING NOVO NORDISK 9 ambition to establish a strong presence in Addressing unmet needs in therapy . To strengthen this position, more these areas . To achieve this, the company is haemophilia and growth disorder patients must have access to the treat- seeking out new research collaborations to Following increased pressure from competi- ment and the product's competitiveness leverage external expertise and diversify the tion in recent years, Novo Nordisk's ambition will be improved through the roll-out of the pipeline . for the Biopharm business is to return this upgraded delivery devices, NordiFlex® and area to growth . FlexPro® . Another key priority will be to bring This diversification will initially focus on the long-acting compound somapacitan, non-alcoholic steatohepatitis (NASH), a Product differentiation will play a significant currently in phase 3 development, to market . - progressed stage of non-alcoholic fatty liver role in achieving this, particularly in hae- This is expected to become the world's first disease . NASH is a common comorbidity of mophilia, where sales of NovoSeven® have once-weekly treatment for adult growth diabetes and obesity . 80% of diagnosed declined following the launch of a compet--hormone deficiency. NASH patients have obesity, while 35% have ing product . Novo Nordisk aims to retain type 2 diabetes . Currently, Novo Nordisk has its overall value position by playing to the Lastly, it is a strategic priority to secure one project in the pipeline, namely semaglu- strengths of the existing haemophilia port-future growth by identifying bolt-on oppor- tide, as a potential treatment for NASH . folio - which includes NovoEight®, Refixia® tunities - either to support the core busi- (Rebinyn® in the US) and NovoThirteen® ness or to expand in haematological and Novo Nordisk is also currently exploring- (Tretten® in the US) - and continuing the endocrine disorders . In 2018, Novo Nordisk therapies for treatment of cardiovas--roll-out of products in new markets world- sealed agreements to this effect which cular -diseases (CVD). Atherosclerotic wide . Novo Nordisk aims to broaden its pres- include securing the worldwide licence to -cardiovascular disease is the main cause of ence within haemophilia . EpiDestiny's sickle cell disease programme death for 70% of diabetes patients in the and acquiring the US and Canadian rights to Western world,3 and significant unmet needs In growth hormone disorders, Norditropin® MacrilenTM, the only FDA-approved oral test remain in this area. The company will pursue is still the market-leading growth hormone for adult growth hormone deficiency, an entry strategy through semaglutide cardi- ovascular outcomes trials, to show cardiovas- ovo Nordisk Way cular risk reduction in both type 2 diabetes N and non-diabetic patients with obesity. Finally, Novo Nordisk will also be leadership by offeri then ng le evalu-ating external assets in ng adi tre h patient suppor ng related therapy areas such as S s wit t solu rug tio heart failure and chronic kid-d ns ney disease. Diabetes c A o H d m a d p t r e o e e S m s t c t i s a r t e i o r u v e n e n p g a m p t h n h i edpietlenoinlaiflnefeeeeaa Driving changerd O diannsengbrbddsypeh to defeat diabetess a gilcspetiiievrebten on y and other serious yrttawie figsix cuitpnpl chronic diseases a hegpanotdhddriteeinrssgsfoohualilruplctdcieeosnrssNASH and CVD E s tab ing po lish uild rtf a stro e by b s olio ng presenc rea and ent a expanding into adjac

10 PERFORMANCE AND OUTLOOK Sales of Fiasp®, the novel mealtime fast-- acting insulin aspart, reached DKK 590 2018 performance ® -million. Fiasp has now been launched in -25 and 2019 outlook countries. GLP-1 therapy for type 2 diabetes Sales of GLP-1 products for type 2 -diabetes Financial performance Novo Nordisk is the global leader with 46 .4% (Victoza® and Ozempic®) increased by 13% Novo Nordisk's 2018 performance for sales of the total insulin market and 45 .2% of the measured in Danish kroner and by 18% and operating profit growth measured in market for modern insulin and new-genera- in local currencies to DKK 26,129 million-. local currencies was in line with the outlook tion insulin, both measured in volume . Ozempic® has now been marketed in eleven provided in February 2018. The free cash flow countries in North America Operations marginally exceeded the outlook provided in Sales of long-acting insulin (Tresiba®, and Region Europe and initial feedback is February 2018 while the effective tax rate was Xultophy® and Levemir®) decreased by 6% -encouraging . Sales growth is predominantly lower than the outlook provided in February measured in Danish kroner and by 2% in driven by North America Operations com-2018 reflecting non-recurring change in tax local currencies to DKK 20,844 million . prising 81% share of the GLP-1 growth . The provisions . Capital expenditure was in line GLP-1 segment's value share of the total with the outlook provided in February 2018. Sales of Tresiba® (insulin degludec), the diabetes market has increased to 14 5%. once-daily new-generation insulin, reached compared with 11.8% 12 months ago . Novo Sales development DKK 8,035 million compared with DKK Nordisk continues to be the market leader in Sales remained unchanged in Danish kroner 7,327 million in 2017. Tresiba® has now been the GLP-1 segment with a 46% value market and increased by 5% in local currencies in launched in 76 countries . share . 2018, reflecting a significant impact from the depreciation of the US dollar and related Sales of Xultophy®, a once-daily combination Other diabetes currencies versus the Danish krone . The sales of insulin degludec (Tresiba®) and liraglutide Sales of other diabetes products, predomi- growth is in line with the latest guidance (Victoza®), reached DKK 1,614 million com- nantly consisting of oral antidiabetic prod- of '4-5% sales growth measured in local pared with DKK 729 million in 2017 . Sales ucts, needles and GlucaGen®HypoKit®, currencies' provided in connection with the growth was driven by both International decreased by 1% measured in Danish kroner announcement in November 2018 for the Operations, where predominantly Region and increased by 3% in local currencies to first nine months of 2018. Europe contributed to growth, and North DKK 4,250 million . Increasing sales measured America Operations . Xultophy® has now in local currencies were seen in International Sales growth in local currencies was realised been launched in 26 countries . Operations, where Region Latin America and within diabetes and obesity with the majority Region China contributed to sales growth . of growth originating from the GLP-1 diabetes Sales of premix insulin (Ryzodeg® and products Victoza® and Ozempic®, the obesity NovoMix®) decreased by 5% measured in Saxenda® (obesity) product Saxenda®, as well as long-acting insu-Danish kroner and remained unchanged in Sales of Saxenda®, liraglutide 3 mg for lin Tresiba® and Xultophy®, partly offset by local currencies to DKK 10,194 million . weight management, increased by 51% declining sales of Levemir® and NovoRapid® . measured in Danish kroner and by 60% in Declining sales within biopharmaceuticals Sales of Ryzodeg®, a soluble formulation of local currencies to DKK 3,869 million . Sales were driven by NovoSeven® and 'Other bioinsulin degludec and insulin aspart, reached growth was driven by both North America pharmaceuticals', partly offset by increased DKK 714 million compared with DKK 492 Operations and International Operations, sales of NovoEight® and Norditropin® . million in 2017 . Ryzodeg® has now been where Region AAMEO, Region Latin launched in 27 countries . America, Region Europe and Region Japan In the following sections, unless other- & Korea contributed to growth . In the US, wise noted, market data are based on Sales of fast-acting insulin (Fiasp® and Saxenda® has obtained broad commercial -moving annual total (MAT) from November NovoRapid®) decreased by 4% measured in formulary market access, but generally with 2018 and November 2017 provided by the Danish kroner and increased by 1% in local prior authorisation requirements . Saxenda® -independent data provider IQVIA . currencies to DKK 19,353 million . has now been launched in 41 countries. Diabetes care and obesity, sales development Development in costs Costs in % of sales Sales of diabetes and obesity products Sales and distribution Cost of goods sold Research and development Administration increased by 1% measured in Danish kroner and by 6% in local currencies to DKK 93,904 % million . Novo Nordisk is the world leader in 30 diabetes care with a global value market share of 27 9%. compared with 27 .4% in 2017 . Insulin 20 Sales of insulin decreased by 5% measured in Danish kroner and by 1% in local currencies to DKK 59,656 million . The decline in sales mea-10 sured in local currencies was driven by North America Operations declining by 7%, partly offset by International Operations increasing 0 sales with 5%, where all regions apart from 2014 2015 2016 2017 2018 Region Japan & Korea contributed to growth .

PERFORMANCE AND OUTLOOK 11 Biopharmaceuticals sales reflects a negative currency impact of 0.2 Share of growth in local currencies development percentage point . The gross margin was pos- Region Latin America Region Japan & Korea Sales of biopharmaceutical products itively impacted by improved productivity and Region China Region AAMEO decreased by 5% measured in Danish kroner positive contribution from product mix due to Region Europe North America Operations and by 1% in local currencies to DKK 17,927 higher Victoza®, Tresiba® and Saxenda® sales, % million . Decreasing sales measured in local partly countered by lower contribution from currencies were realised in North America NovoSeven®. The gross margin was negatively 100 Operations, partly offset by increasing sales impacted by lower prices primarily related to in International Operations . the basal insulin segment in the US . 80 60 Haemophilia Sales and distribution costs increased by 4% Sales of haemophilia products decreased in Danish kroner and by 7% in local curren- 40 by 9% measured in Danish kroner and by cies to DKK 29,397 million . The increase in 5% in local currencies to DKK 9,576 mil- sales and distribution costs reflects higher 20 lion . The sales decrease was primarily driven promotional activities in both North America by lower NovoSeven® sales in the US and Operations and International Operations to 0 Region Europe reflecting increased com- support Victoza® and Saxenda® as well as 2014* 2015 2016 2017* 2018* petition from a recently introduced prodlaunch activities for Ozempic® and severance uct as well as increased clinical trial activity costs related to lay-offs in the commercial * In 2014, Japan & Korea contributed -1% to the total growth * In 2017, North America contributed -5% to the total growth from competing products, partly offset by organisation, partly offset by lower costs for * In 2018, Japan & Korea contributed -2% to the total growth increased NovoSeven® sales in Region Latin legal cases . America due to timing of tender deliveries . Sales by segment Furthermore, sales of NovoEight® in Region Research and development costs increased Biopharmaceuticals Diabetes and obesity Europe and Region AAMEO contributed by 6% in Danish kroner and by 8% in local positively to the sales development as well currencies to DKK 14,805 million, reflecting DKK billion as Refixia®, the long-acting factor IX product higher costs for both research and develop- for people with haemophilia B, which now ment. The increase in research costs was 125 has been launched in 12 countries, driven by increased costs for the diabetes- portfolio and costs related to 'other serious 100 Growth disorders (Norditropin®) chronic diseases'. The increase in develop- 75 Sales of growth disorder products increased ment costs was predominantly driven by by 3% measured in Danish kroner and by the expense of the priority review voucher 50 7% in local currencies to DKK 6,834 million . for oral semaglutide, injectable semaglutide The sales growth measured in local cur- in obesity for the STEP and SELECT pro- 25 rencies was driven by positive contribution grammes, partly offset by wind-down of the from both North America Operations and PIONEER programme . Research and develop- 0 International Operations . Novo Nordisk is ment costs were also impacted by severance-2014 2015 2016 2017 2018 the leading company in the global human related costs . growth disorder market with a 26% market share measured in volume . Administration costs increased by 3% in Operating profit (DKK billion) Danish kroner and increased by 7% in local Development in costs and currencies to DKK 3,916 million . operating profit The cost of goods sold was broadly Other operating income (net) was DKK 1,152 un-changed compared to 2017 at DKK 17,617 million compared with DKK 1,041 million in million, resulting in a gross margin of 84 .2% 2017 . In 2018, Novo Nordisk received mile- 2018 measured in Danish kroner, compared with stone payments from partners related to 84 .2% in 2017 . The unchanged gross margin out-licensed clinical assets, and Novo 34.5 49.4 48.4 49.0 2014 2015 2016 2017 Net profit Sales growth Net profit margin (right) Net profit (left) In local currencies In DKK as reported % DKK billion % 40 25 40 20 30 30 15 20 20 10 10 10 5 0 0 0 2014 2015 2016 2017 2018 2014 2015 2016 2017 2018

12 PERFORMANCE AND OUTLOOK Nordisk recorded a net gain of DKK 122 mil- in line with the latest guidance of 'around costs for the priority review voucher, which lion following the disposal of 2 million shares DKK 9.5 billion'. Net capital expenditure was was expensed in fourth quarter of 2018. in NNIT to Novo Holdings A/S. primarily related to investments in a new pro- Given the current exchange rates versus the duction facility for a range of diabetes active Danish krone, growth reported in DKK is Operating profit decreased by 4% in Danish pharmaceutical ingredients in Clayton, North expected to be around 4 percentage points kroner and increased by 3% in local currencies Carolina, USA, a new diabetes filling capacity higher than in local currencies. to DKK 47,248 million, which is in line with the in Hillerød, Denmark and an expansion of the latest guidance for operating profit growth manufacturing capacity for biopharmaceuti- For 2019, Novo Nordisk expects financial mea-sured in local currencies of '2% to 5%' in cal products in Kalundborg, Denmark. items (net) to amount to a loss of around 2018. The development in operating profit DKK 2.4 billion, offsetting the -positive growth reflects the depreciation of the US Free cash flow was DKK 32.5 billion com- - currency impact on operating profit. The dollar and related currencies versus the Danish pared with DKK 32.6 billion in 2017, which current expectation for 2019 reflects losses krone as well as costs related to lay-offs in is in line with the latest guidance of 'DKK associated with foreign exchange hedging second half of 2018. Adjusting for severance 29-33 billion'. The broadly unchanged free contracts, mainly related to the US dollar costs and the priority review voucher, operat- cash flow compared with 2017primarily - versus the Danish krone and losses on non- ing profit increased by 6% in local currencies. reflects increased capital expenditure, hedged currencies. increased investment in intangible assets Financial items (net) and tax reflecting an acquisition of a priority review The effective tax rate for 2019 is expected to Financial items (net) showed a net gain of voucher for oral semaglutide and higher tax be in the range of 20–22%. DKK 367 million compared with a net loss of payments partly offset by the timing of rebate DKK 287 million in 2017. The reported net payments in the US and higher net profit. Capital expenditure is expected to be around financial item in 2018 is broadly in line with DKK 9 billion in 2019, primarily related to the latest guidance of 'gain of around DKK Outlook 2019 investments in additional capacity for active 0.5 billion'. For 2019, sales growth is expected to be 2% pharmaceutical ingredient production within to 5%, measured in local currencies. This diabetes and an expansion of the -diabetes In line with Novo Nordisk's treasury policy, guidance reflects expectations for robust filling capacity. Depreciation, -amortisation the most significant foreign exchange risks performance for the GLP-1-based diabe- and impairment losses are expected to be for the Group have been hedged, primarily tes products Victoza® and Ozempic® and around DKK 4.5 billion. The increased level through foreign exchange forward contracts. the obesity product Saxenda® as well as the of depreciation, amortisation and impair- The foreign exchange result was a gain of portfolio of new-generation -insulin. The ment losses in 2019 reflects the inclusion of DKK 298 million compared with a loss of guidance also reflects intensifying global amortisation of lease assets following the DKK 187 million in 2017. This development competition both within diabetes and introduction of IFRS 16. Free cash flow is reflects a gain on foreign exchange hedging biopharmaceuticals, especially within the expected to be DKK 29-34 billion. involving especially the US dollar versus the -haemophilia inhibitor segment. Furthermore, Danish krone, partly offset by a net loss from continued pricing pressure within diabetes is All of the above expectations are based on non-hedged currencies. expected, especially in the US. This includes assumptions that the global economic and the previously communicated funding of political environment will not significantly A negative market value of financial con- the Medicare Part D coverage gap, which change business conditions for Novo Nordisk tracts as per the end of December 2018 has been changed based on new legislation during 2019 including the potential implica- of approximately DKK 1.7 billion has been with effect from 2019 and with an expected tions from Brexit, major healthcare reforms, deferred for recognition in 2019. -negative impact of approximately DKK 2 and the currency exchange rates, especially -billion. Given the current exchange rates the US dollar, will remain at the current level The effective tax rate for 2018 was 18.9%, versus the Danish krone, growth reported in versus the Danish krone. Neither does the which is broadly in line with the latest guid- DKK is expected to be around 2 percentage guidance include the financial implications ance of a tax rate of '19% to 20%' for the full points higher than in local currencies. from a potential completion of a significant year 2018. The effective tax rate is positively bolt-on acquisition during 2019. impacted by non-recurring change in tax pro- For 2019, operating profit growth is visions related to settlement of international expected to be 2% to 6%, measured in local Novo Nordisk has hedged expected net cash tax cases covering multiple years. currencies. The expectation for operating flows in a number of invoicing currencies profit growth primarily reflects the sales and, all other things being equal, movements Capital expenditure and growth outlook and continued focus on cost in key invoicing currencies will impact Novo free cash flow control. Operating profit growth is negatively Nordisk's operating profit as outlined in the Net capital expenditure for property, plant impacted due to the changes in the funding table on the opposite side. and equipment was DKK 9.5 billion com- of the coverage gap. Furthermore, growth in pared with DKK 8.7 billion in 2017, which is operating profit is positively impacted by the Long-term financial targets Novo Nordisk introduced four long-term financial targets in 1996 to balance short- Key invoicing Impact on Novo Nordisk's operating profit in the next Hedging period and long-term considerations, thereby currencies 12 months of a 5% immediate movement in currency (months) ensuring a focus on shareholder value creation. The targets were subsequently revised USD DKK 2,000 million 11 and updated on several occasions most CNY DKK 350 million 7* recently in connection with the report for JPY DKK 160 million 12 the first nine months of 2016 released in GBP DKK 85 million 10 October 2016. The long-term financial tar- CAD DKK 90 million 10 gets are meant to provide the company's * Chinese yuan traded offshore (CNH) used as proxy when hedging Novo Nordisk's CNY currency exposure. shareholders with a view of Novo Nordisk's

PERFORMANCE AND OUTLOOK 13 Outlook 2019 These statements are based on current plans, The current expectations for 2019 are summarised in the table below: estimates and projections. By their very nature, forward-looking statements involve Expectations are as reported, if not otherwise stated Expectations 1 February 2019 inherent risks and uncertainties, both general Sales growth and specific . Novo Nordisk cautions that a in local currencies 2% to 5% number of important factors, including those described in this Annual Report 2018, could as reported Around 2 percentage points higher than in local currencies cause actual results to differ materially from Operating profit growth those contemplated in any forward-looking in local currencies 2% to 6% statements . as reported Around 4 percentage points higher than in local currencies Financial items (net) Loss of around DKK 2 4. billion Factors that may affect future results include, Effective tax rate 20% to 22% but are not limited to, global as well as local Capital expenditure Around DKK 9 billion political and economic conditions, including Depreciation, amortisation interest rate and currency exchange rate fluc- and impairment losses Around DKK 4 5. billion tuations, delay or failure of projects related Free cash flow DKK 29-34 billion to research and/or development, unplanned loss of patents, interruptions of supplies and production, product recalls, unex- pected contract breaches or terminations, financial aspirations over an undefined in February 2019 in continuation of the -government-mandated or market-driven period of time . Hence, the long-term finan- publication of this Annual Report 2018, and price decreases for Novo Nordisk's products, cial targets are not a projection of Novo written information released, or oral state- introduction of competing products, reliance Nordisk's financial outlook or expected ments made, to the public in the future by on information technology, Novo Nordisk's growth, nor do they relate to any single year . or on behalf of Novo Nordisk, may contain ability to successfully market current and forward-looking statements . Words such as new products, exposure to product liability The target level for operating profit after 'believe', 'expect', 'may', 'will', 'plan', 'strat- and legal proceedings and investigations, tax (OPAT) to net operating assets (NOA) is egy', 'prospect', 'foresee', 'estimate', 'pro- changes in governmental laws and related adjusted from 125% to 80% . The adjusted ject', 'anticipate', 'can', 'intend', 'target' and interpretation thereof, including on reim- target reflects the changes to accounting other words and terms of similar meaning bursement, intellectual property protection principles for leases (IFRS 16) as of 1 January in connection with any discussion of future and regulatory controls on testing, approval, 2019 and the investment level in both tangi- operating or financial -performance identify manufacturing and marketing, perceived or ble and intangible assets . forward-looking statements . Examples of actual failure to adhere to ethical market- such forward-looking statements include, ing practices, investments in and divesti- The target level for cash to earnings (three- but are not limited to: tures of domestic and foreign companies, year average) is adjusted from 90% to 85%. • statements of targets, plans, objectives unexpected growth in costs and expenses, The adjusted target reflects the investment or goals for future operations, including failure to recruit and retain the right employ- level in both tangible and intangible assets . those related to Novo Nordisk's products, - ees, and failure to maintain a culture of Given the inherent volatility in this ratio, the product research, product -development, compliance . target will be pursued looking at the average product introductions and product over a three-year period . approvals as well as cooperation in rela- For an overview of some, but not all, of tion thereto, the risks that could adversely affect Novo The target for 'operating profit growth' • statements containing projections of or Nordisk's results or the accuracy of for- remains unchanged . targets for revenues, costs, income (or ward-looking statements in this Annual loss), earnings per share, capital expendi- Report 2018, reference is made to the over- The long-term financial targets have been tures, dividends, capital structure, net view of risk factors in 'Risk management prepared based on the assumption of a confinancials and other financial measures, enables better decision-making' on tinuation of the current business environ- • statements regarding future economic pp 41-43 of this Annual Report 2018 . ment . Significant changes to the business performance, future actions and outcome environment, including the structure of the of contingencies such as legal proceed- Unless required by law, Novo Nordisk is US healthcare system, regulatory require- ings, and under no duty and undertakes no obliga- ments, pricing and market access environ- • statements regarding the assumptions tion to update or revise any forward-look- ment, competitive environment, healthcare underlying or relating to such statements ing statement after the distribution of this reforms, the financial implications in case of Annual Report 2018 whether as a result of a significant bolt-on acquisition, exchange In this Annual Report 2018, examples of new information, future events or otherwise . rates and changes to accounting standards forward-looking statements can be found may significantly impact the time horizon for under the headings '2018 Performance and achieving the long-term financial targets or 2019 outlook' and elsewhere . require them to be revised . Forward-looking statements Novo Nordisk's reports filed with or fur- Long-term financial targets Previous target Adjusted target nished to the US Securities and Exchange Operating profit growth 5% 5% Commission (SEC), including this statutory Operating profit after tax to net operating assets 125% 80% Annual Report 2018 and Form 20-F, which Cash to earnings (three-years-average) 90% 85% are both expected to be filed with the SEC

14 PERFORMANCE AND OUTLOOK Research and Development 2018 was a year in which Novo Nordisk data from the DEVOTE trial in the US Tresiba® 3a trial with the long-acting recombinant made significant progress in its research and label. The DEVOTE trial showed that treat- growth hormone, somapacitan . REAL 1 was development pipeline and reached several ment with Tresiba® resulted in a 40% statisti- a 86 weeks trial that enrolled 301 treat- regulatory milestones . cally significant lower rate of severe hypogly- ment-naïve adults with growth hormone caemia compared to insulin glargine U100 . deficiency . Overall, the body composition Below are the highlights from the key devel- changes observed in the 34-weeks main opment projects . On pp 20-21, the pipeline In August, the first human dose trial for the phase of the trial were maintained in the overview shows compounds in clinical devel- next-generation oral GLP-1, OG2023SC, was 52-weeks extension phase . opment, and further details on clinical trials initiated . The trial is designed to investigate can be found in the company announce- the safety, tolerability and pharmacokinetics In November, Novo Nordisk successfully ments and press releases published by Novo of OG2023SC in a SNAC tablet formulation . completed REAL 3, a 52-week paediatric Nordisk during 2018, which are available at phase 2 trial with somapacitan . REAL 3 is novonordisk com. . Also in August, Novo Nordisk completed designed to evaluate the efficacy of multi- the Ellipse trial with Victoza® in children ple dose regimens of treatment with once- R&D strategy and adolescents (10-17 years) with type 2 weekly somapacitan in 59 growth hormone In September, Novo Nordisk announced the diabetes . Novo Nordisk has submitted the treatment-naïve pre-pubertal children with intention to restructure its R&D organisation paediatric results from Ellipse in the US and growth hormone deficiency, compared to to accelerate the expansion and diversifi- in Europe to seek label expansion and six daily Norditropin® administration . cation of its pipeline across serious chronic months' patent extension . diseases . To enable increased investment in Also in November, Novo Nordisk completed transformational biological and technological In November, Novo Nordisk initiated phase alleviate 1, a combined single and multi- innovation within both core and new therapy 2 with once-weekly insulin LAI287 in a trial ple dose trial evaluating safety, tolerability areas, approximately 400 R&D positions in with 350 insulin-naïve people with type 2 and pharmacokinetics with subcutaneous Denmark and China were closed . diabetes . The main objective of the trial is to N8-GP . In the trial, anti-drug antibodies were assess the safety and efficacy of LAI287 . detected after repeated treatment with sub- To support its strategic ambitions, Novo cutaneous N8-GP in five out of 26 patients . Nordisk established four Transformational Obesity The antibody formation was considered a Research Units in 2018 to pursue novel treat- During 2018, Novo Nordisk initiated the result of the subcutaneous route of adminis- ment modalities and platform technologies . phase 3 programme, STEP, for injectable- tration as a similar antibody pattern has not These biotech-like units, based in Denmark, semaglutide 2.4 mg as a treatment for been observed following intravenous admin- the US and the UK, will operate as satellites -obesity . Four trials were initiated under istration of N8-GP. Based on the clinical of Novo Nordisk's central R&D function and the STEP programme and approximately findings in alleviate 1, Novo Nordisk decided will drive innovation in priority fields such as 4,500 people are expected to be enrolled . to discontinue the development of subcuta- translational cardio-metabolic research and All four trials have a duration of 68 weeks neous N8 - GP . stem cell research . and the STEP programme is expected to be -completed in 2020. During 2018, Novo Nordisk successfully Diabetes completed the main phase of the phase 2 During 2018, Novo Nordisk successfully com- In October, Novo Nordisk initiated the trials explorer4, in people with haemophilia pleted the ten PIONEER phase 3a trials with cardiovascular outcomes trial SELECT . In this A and B with inhibitors, and explorer5, in oral semaglutide . Overall, the higher doses trial, Novo Nordisk will investigate the impact people with severe haemophilia A without of oral semaglutide significantly improved of injectable semaglutide 2.4 mg on the inhibitors, with concizumab, a subcutaneous blood sugar control and reduced body incidence of major adverse cardiovascular by-passing agent, to evaluate the efficacy weight compared to major treatment classes events compared to placebo in people with and safety of prophylactic treatment for including SGLT2i, DPP4i and GLP-1. In addi- established cardiovascular disease and either people with haemophilia . Across the two tion, oral semaglutide showed a non-statis- overweight or obesity. SELECT is expected to trials, concizumab was safe and well-toler- tical significant reduction in major adverse enrol approximately 17,500 people and will ated and there were no issues with treat- cardiovascular events of 21% compared with run for around five years . ment of breakthrough bleeds . All 57 patients standard of care . Following the successful completing the main phase of the two trials completion of the PIONEER programme, Biopharm business chose to continue in the extension phase of Novo Nordisk will proceed the regulatory In February, Novo Nordisk submitted N8-GP, the trials . Phase 3 is expected to be initiated process in 2019. an extended half-life factor VIII for treatment in the second half of 2019. of people with haemophilia A, for market- In February, the new once-weekly GLP-1, ing authorisation in the US and in Europe . Ozempic®, was approved in Europe and in The submission was based on results from March, Ozempic® was approved in Japan . the pathfinder clinical trial programme. The approvals were based on the phase 3a which included more than 250 people with SUSTAIN development programme, enroll- -haemophilia A and investigated efficacy and ing more than 8,000 people with type 2 safety of N8-GP in adults and children as diabetes . well as people undergoing surgery . In March, the FDA approved the inclusion In August, Novo Nordisk completed the of cardiovascular and severe hypoglycaemia extension phase of REAL 1, the pivotal phase

PERFORMANCE AND OUTLOOK 15 Social performance Novo Nordisk accounts for social per- Employees women, unchanged from 2017. Of the newly formance on three dimensions: patients, Novo Nordisk aims to be an attractive promoted managers, 38% were women, employees and responsible business in pursuit employer that offers a safe and healthy, inclu- compared with 43% in 2017. The -decreasing of the ambition to be a sustainable business . sive and engaging working environment in share of women among newly appointed Policies are in place to prevent any unwanted which all employees have equal opportuni- managers was driven by fewer women impacts and promote social progress through ties to realise their potential . At the end of appointed to entry level positions (manager global access to healthcare, a safe, healthy 2018, the total number of -employees was and team leader). At the same time a higher and inclusive working environment with 43,202, corresponding to 42,672 full-time share of women were appointed to senior equal opportunities for all, business conduct positions, which is a 1% increase compared management positions (SVP, CVP, VP and with respect of others' integrity and human with 2017 . The development in -employees GM), especially among external hires . rights, and financial contributions to commu- was mainly driven by Region China, Region nities where Novo Nordisk operates . Europe, the global service centre in Bangalore, Diversity, including a strong focus on gender- India and expansions of production facilities in diversity, remains high on the agenda . Patients Algeria, China and the US . Employee turnover Novo Nordisk acknowledges the value and Novo Nordisk's business is built on the ambi- increased from 11 0%. in 2017 to 11 7%. in strength of diversity and is continuously tion to drive change to defeat diabetes and 2018 as a result of organisational adjustments assessing progress and impact. Several key other serious chronic diseases . This involves in line with the company's strategy for growth . initiatives are taken to accelerate the read- helping people with these diseases live bet- iness and pipeline of diverse senior leaders ter, healthier lives and enhancing access to In 2018, Novo Nordisk restructured the and to further embed diversity and inclusion . medical treatment and quality of care . R&D organisation to accelerate the expan- sion and diversification of its pipeline and Section 99b of the Danish Financial In 2018, Novo Nordisk provided -medical enable increased investment in transforma- Statements Act requires that Danish com- treatment to an estimated 29.2 million tional biological and technological inno- panies of a certain size report on diversity . -people with diabetes worldwide, compared vation . Additional restructuring initiatives Of the various Novo Nordisk subsidiaries, with 27 7. in 2017 . This 5% increase was pri- across functions and geographies were four Danish subsidiaries are required to marily driven by sales of human insulin (0.6 made to support the commercial activities report on diversity due to the size of the four million people) and long-acting, premix and for the portfolio of innovative products-. companies . The four companies are Novo fast-acting modern and new-generation Consequently, the total workforce was Nordisk Pharmatech A/S, NNE A/S and two insulin (0.6 million people). reduced by approximately 1,300 employees . regional holding companies: Novo Nordisk These reductions are not yet fully reflected Region Europe A/S and Novo Nordisk Region Through Novo Nordisk's Access to Insulin in the reported number of full-time positions International Operations A/S. The Board of Commitment, the company guarantees to for the year 2018 due to notice periods in Directors for all four companies meet the provide low-priced human insulin to gov- the various jurisdictions . Danish diversity requirements. (See p 47) ernments in the poorest parts of the world on diversity in the Novo Nordisk Board of and selected humanitarian organisations at Novo Nordisk's commitment to respect Directors . a ceiling price of USD 4 per vial . As a result, and support human and labour rights for an estimated 0.3 million people were treated its employees is described in the Global The average frequency rate of occupational with insulin for on average USD 0 12. per day Labour Guidelines, a uniform minimum accidents with absence was 2.4 per million as in 2017. Beyond this commitment, Novo labour standard for all Novo Nordisk working hours in 2018 compared with 27. in Nordisk sold human insulin at or below the sites and employees . The guidelines 2017 . As in 2017, there were no work--related ceiling price in other countries, reaching an cover Working Hours, Living Wage and fatalities in 2018. Novo Nordisk works with estimated 5 million people in 2018, which is Leave, Employee Privacy, Equal Treatment a zero-injury mindset and remains com- the same level as in 2017. and Non-Discrimination,- Employee mitted to continuously improving safety Representation, Forced and Child Labour, -performance . Employees are encouraged As of 2019, the guarantee is expanded Grievance Mechanisms and other related to always make the safe choice, and it is to include 29 middle-income countries as Novo Nordisk policies and guidelines . An emphasised that safety behaviour is part of defined by the World Bank . This means that ongoing risk management process is in place the company values . a total of 78 countries, home of 124 million to identify, prevent, mitigate and account for people with diabetes as well as selected Novo Nordisk's potential adverse human and Responsible business humanitarian organisations, can benefit from labour rights impacts . To date, Novo Nordisk Measures are taken to ensure that Novo this guarantee . has reported mitigated actions related to Nordisk conducts its business in a responsi-living wage, child labour, non-discrimina- ble way, in accordance with the company's Novo Nordisk has several initiatives, pro- tion, equal treatment, employee representa-Triple Bottom Line business principle . grammes and partnerships focused on tion, freedom of association and working increasing access to care all over the world . hours . In 2018, the Global Labour Guidelines Business ethics and human rights See novonordisk com/sustainable-business/. underwent an external expert review . In 2018, Novo Nordisk updated and performance-on-tbl/access-to-care html. . Actions will be taken and reported in 2019 . expanded its Business Ethics Code of Read more at novonordisk com/sustainable-. - Conduct . Business ethics is about acting Novo Nordisk takes a patient-centred business html. with integrity and in compliance with inter- approach in its care delivery model and national standards for responsible business learns with patients . (See p 37) and By the end of 2018, the gender distribution conduct. As part of the update, the Code novonordisk com/patients/DEEP. html . among managers was 60% men and 40% of Conduct now incorporates Novo

16 PERFORMANCE AND OUTLOOK Nordisk's commitment to meet the corporate Product quality Novo Nordisk has two long-term social tar- responsibility to respect human rights as set Novo Nordisk had three product recalls from gets related to employee engagement and out in the UN Guiding Principles on Business the market in 2018, compared with six in reputation . and Human Rights . This commitment was 2017 . None of these recalls were critical- . reemphasised to all employees and business Local health authorities were informed in The level of employee engagement and partners in December 2018, when Novo all instances to ensure that distributors, commitment to the company's values Nordisk took an active part in marking the pharmacies, doctors and patients received remains high . In the annual employee survey, 70th anniversary of the Universal Declaration –appropriate information. –conducted in the second quarter of 2018, of Human Rights . 91% of employees responded positively to In 2018, as in 2017, there were no failed a set of questions to measure the level of Progress was made in regard to manage- inspections by regulatory authorities among engagement compared with 90% in 2017. ment of salient human rights issues beyond those resolved at year-end . A total of 75 The target is at least 90% . those already addressed by existing global inspections were conducted in 2018 at Novo standards and programmes . In 2018, Nordisk's sites, at clinics conducting investi- Novo Nordisk's reputation among key stake- achievements include increasing the share of gations for Novo Nordisk or for voluntary ISO holders - people with diabetes, general- Novo Nordisk subsidiaries providing access to 9001 certification, compared with 83 inspec- practitioners and diabetes specialists - is an safety reporting with local language direc- tions in 2017. At year-end, 55 inspections indicator of the extent to which the company tions on local websites, from 83% in 2017 had been passed and 20 were unresolved . lives up to stakeholders' expectations and to 90% in 2018 . Human rights risks in the the likelihood that they will trust, support direct spend supply chain were assessed, Responsible tax approach and engage with the company. The com- with a focus on modern slavery risks with Novo Nordisk's tax approach is to pursue a pany reputation score, measured on a scale support from independent third party competitive tax level in a responsible way . of 0-100, increased to 83 .3, from 79 .3 in experts . See Novo Nordisk's modernslavery As a general rule. Novo Nordisk subsidiaries 2017. Data were collected between June and statement at novonordisk com/annualreport. , pay corporate taxes in the countries in which September 2018; a score between 70 and 80 they operate and where business activity is considered strong. The target is at least 80. Training in business ethics is mandatory generates profits, earned in accordance with and a high priority . Annual business -ethics international transfer pricing rules. A com- Read more details in the social statement on - -training is required for all employees, in- petitive tax level implies achieving a tax level pp 97-102 and at novonordisk com/. cluding new hires . Business ethics training around the peer-group average . The com- sustainable-business .html . is therefore a key element of the onboard- pany has a balanced tax risk profile and does ing programmes . In 2018, as in 2017, 99% not engage in tax avoidance activities . See of all relevant employees completed and note 2.6 income taxes and deferred income documented their training. This high level is taxes on p 72 and note 97. total tax contri- attributed to the constant focus on and com- bution on p 102. munication by senior management of the importance of business ethics compliance . To create certainty regarding tax payments, Novo Nordisk has applied for advance pric- A total of 33 business ethics reviews were ing agreements (APAs) in key countries . The completed in 2018 with 113 findings, com- ambition is to have APAs covering more pared with 34 reviews with 130 findings than two-thirds of total sales . An APA is an in 2017 . Based on the completed business up-front agreement between the tax author- ethics reviews, it is Group Internal Audits ities in two or more countries, covering the assessment that the business ethics com- pricing methodologies for relevant intercom- pliance level, in 2018 as in 2017, is sound . pany transactions, thereby determining the Management action plans and closure of level of taxable income for the countries in findings progressed as planned, and there question . An APA typically covers a future were no overdue Management actions or period of five tax years . findings at the end of the year . Novo Nordisk has APAs in place covering In 2018, a total of 294 supplier audits were intercompany transactions with the US, conducted to assess compliance levels with Canada, Japan, India and China correspond- the company's standards for suppliers . These ing to more than 60% of total sales . audits are undertaken by Novo Nordisk's own organisation . Of these, 19 were respon- Novo Nordisk's tax strategy is endorsed by sible sourcing audits compared with 28 in the Board of Directors . 2017 . The decrease is due to the fact that most new suppliers to production in 2018 Long-term social targets were categorised as low risk suppliers . Long-term social targets reflect Novo Only high-risk suppliers, identified through Nordisk's ambition to be a sustainable a robust risk assessment, are selected for business and support long-term financial responsible sourcing audits. There were no performance, balancing responsibility with critical findings in 2018. profitability, with the aim of creating sus- tainable value for shareholders and other stakeholders .

PERFORMANCE AND OUTLOOK 17 Environmental performance Novo Nordisk accounts for environmental volumes of products distributed globally . In 2015, Novo Nordisk set a target for all performance on three dimensions: use of It remains a priority for Novo Nordisk to production sites to run solely on power resources, emissions and waste in pursuit of increase the volumes distributed by sea, as from renewable sources by 2020. The com- the ambition to be a sustainable business . sea transport reduces both CO2 emissions pany has signed up to the RE100 initiative, a Policies are in place to prevent any unwanted and costs relative to product volume . global initiative that unites companies world- impacts and contribute to eco-balance wide in the effort to promote conversion through a circular approach to environmen- Several Novo Nordisk suppliers have com- to renewable sources . With 77% of power tal management, product stewardship and mitted to targets and actions to reduce their already provided from renewable sources, climate action . carbon emissions . As part of Novo Nordisk's Novo Nordisk expects to reach its RE100 goal supply chain programme, more than 30 key of achieving 100% renewable power at pro-Resources suppliers were engaged in 2018 to increase duction sites by 2020. A long-term solution In 2018, the energy consumption at pro- energy efficiency and use of renewable for renewable power in Europe was finalised duction sites remained stable compared energy in their operations . in 2018 with the power company, Vattenfall . with 2017 . Novo Nordisk continues to focus This solution will secure power from Danish on energy efficiency, and energy projects Waste windfarms to Novo Nordisk's European pro- implemented in 2018 are expected to lead to Compared to 2017, waste from produc- duction sites from 2020. During 2018, Novo annual savings of approximately 53,000 GJ - tion sites decreased by 10% in 2018 . This Nordisk continued to explore opportunities more than tripling the savings in 2017. 77% was primarily due to decreased amounts with energy suppliers in the US for renew- of the power (electricity) used at the produc- of organic residues from fermentation able power solutions for all Novo Nordisk's tion sites came from renewable sources such processes generated at the API facility in activities in the US. as wind and hydropower. Kalundborg, Denmark. In 2018, a new target was set, as part of the Water consumption at production sites A new biogas plant was put in operation in environmental strategy, committing to zero decreased by 5% in 2018. Three facilities in 2018 in Denmark for local handling of the CO2 emissions from operations and trans- Algeria, Brazil and China, accounting for 14% organic residues . The biogas plant converts portation by 2030 . The target covers global of Novo Nordisk's total water use in 2018, residues into bio-natural gas and fertiliser, operations, including offices and labora- are located in areas that could be impacted which is used on local farmland. The pro- tories, along with company cars, business by water stress or large seasonal variations . ject is a partnership between Novo Nordisk, flights and product distribution. The target Novozymes and the energy company, will be met by shifting to renewable energy Optimisation of water consumption is a con-Ørsted . sources whenever possible, using hybrid tinued focus area, particularly at sites located and electric cars and increasing use of vir- in water stressed regions . One water recy- Overall, 94% of all waste generated at pro- tual meetings . For emissions that cannot be cling project at the production site in Brazil duction sites is recycled, used for biogas pro- eliminated, Novo Nordisk will compensate by led to a 17% reduction of the total water duction, or incinerated in waste-to-energy investing in CO2-reducing projects . consumption at this site . plants . Emissions Circular for Zero In 2018, CO2 emissions from production sites In 2018, Novo Nordisk set an ambition to CO2 emissions from operations and transport and product distribution decreased by 2% have zero negative environmental impact . Production Offices and R&D to 127,000 tons . As of 2018, Novo Nordisk To get there, a new environmental strategy Company cars Business flights has expanded the scope to also cover the was adopted that addresses risks across the Product distribution company's global CO2 emissions from global entire value chain, including climate change, offices, laboratories, company cars and busi- water and resource scarcity, pollution and ness flights, which amounted to 269,000 plastic waste . 15% tons, of which 114,000 tons were from operations . The strategy embraces a circular mindset - 32% designing and producing products so that Emissions from company cars amounted to they can be recovered and re-used, and 62,000 tons CO2 in 2018. In 2018, a new reshaping business practices to minimise global car policy was implemented, which consumption and eliminate waste by turning 20% encourages shifting to hybrid and electric cars. it into new resources (see p 29). Emissions from business flights are estimated Long-term environmental targets to reach 54,000 tons CO and are an area of Long-term environmental targets reflect 2 10% continuous improvement for Novo Nordisk . Novo Nordisk's ambition to be a sustaina- Novo Nordisk encourages its employees to ble business and support long-term financial 23% use virtual meetings, and, in 2018, video performance, balancing responsibility with conferencing increased by 16%. profitability, with the aim of creating sus- tainable value for shareholders and other Read more details in the consolidated Emissions from product distribution remained stakeholders . environmental statement on pp 103-105 and at stable at 39,000 tons CO2, despite increasing novonordisk com/sustainable-business. .html .

18 PERFORMANCE AND OUTLOOK Performance highlights DKK million 2014 2015 2016 2017 2018 2017-2018 Financial performance Change Net sales 88,806 107,927 111,780 111,696 111,831 0% Sales growth in local currencies 1 8.3% 8.4% 5.5% 2.3% 4.6% Foreign currency impact (2 0%). 13.1% (1 9%). (2 4%). (4 5%). Net sales growth as reported 6 .3% 21 .5% 3 .6% (0 1%). 0 .1% Depreciation, amortisation and impairment losses 3.435 2.959 3.193 3.182 3.925 23% Operating profit 34,492 49,444 48,432 48,967 47,248 (4%) Net financials (396) (5,961) (634) (287) 367 N/A Profit before income taxes 34,096 43,483 47,798 48,680 47,615 (2%) Net profit for the year 26,481 34,860 37,925 38,130 38,628 1% Total assets 77,062 91,799 97,539 102,355 110,769 8% Equity 40,294 46,969 45,269 49,815 51,839 4% Capital expenditure, net (property, plant and equipment) 3,986 5,209 7,061 8,679 9,524 10% Free cash flow1 27,396 34,222 39,991 32,588 32,536 (0%) Financial ratios1 Percentage of sales: Sales and distribution costs 26 .2% 26 .2% 25 .4% 25 .4% 26 .3% Research and development costs 15 .5% 12 .6% 13 .0% 12 .5% 13 .2% Administrative costs 4 .0% 3 .6% 3 .5% 3 .4% 3 .5% Gross margin 83 .6% 85 .0% 84 .6% 84 .2% Operating margin 38 .8% 45 .8% 43 .3% 43 .8% 42 .2% Net profit margin 29 .8% 32 .3% 33 .9% 34 .1% 34 .5% Effective tax rate 22 .3% 19 .8% 20 .7% 21 .7% 18 .9% Equity ratio 52 .3% 51 .2% 46 .4% 48 .7% 46 .8% Return on equity 63 .9% 79 .9% 82 .2% 80 .2% 76 .0% Cash to earnings 103 .5% 98 .2% 105 .4% 85 .5% 84 .2% Payout ratio 48.7% 46.6% 50.2% 50.4% 50.6% Long-term financial targets1 Target2 Operating profit growth 9.5% 43.3% (20%). 1.1% (35%). 5% Operating profit growth adjusted 3 9 .5% 35 .2% 3 .9% 1 .1% (3 5%). Operating profit growth in local currencies adjusted 3 12 .7% 12 .7% 6 .2% 4 .8% 2 .8% Operating profit after tax to net operating assets 101 .0% 148 .7% 150 .2% 143 .2% 116 .7% 125% Cash to earnings (three-year average) 93 .1% 96 .8% 102 .4% 96.4% 91.7% 90% 1. For definitions, see pp 95–96.2. Targets effective 31 December 2018. The long-term financial targets were adjusted in February 2019. See '2019 Outlook' p 12 . 3. Years 2015 and 2016, adjusted for DKK 2,376 million from the partial divestment of associated company and DKK 449 million from the income related to the out-licensing of assets for inflammatory disorders respectively . Sales by geographic region Diabetes and obesity sales Biopharmaceuticals sales Region Latin America Region Japan & Korea Long-acting insulin Premix insulin Other biopharmaceuticals Region China Region AAMEO Fast-acting insulin Human insulin Growth disorders Haemophilia Region Europe North America Operations GLP-1 Other diabetes Obesity (Saxenda®) DKK billion DKK billion DKK billion 125 100 50 100 80 40 75 60 30 50 40 20 25 20 10 0 0 0 2014 2015 2016 2017 2018 2014 2015 2016 2017 2018 2014 2015 2016 2017 2018

PERFORMANCE AND OUTLOOK 19 2014 2015 2016 2017 2018 2017 - 2018 Social performance Change Patients reached with Novo Nordisk diabetes products (estimate in millions) 24.4 26.8 28.0 27.7 29.2 5% Patients reached with Novo Nordisk diabetes products via the Access to Insulin Commitment (estimate in millions) — — — 0.3 0.3 Donations (DKK million) 4 84 105 106 103 103 Employees (total) 41,450 5 41,122 42,446 42,682 43,202 1% Employee turnover 9.0% 9.2% 9.7% 11.0% 11.7% Gender in management (ratio men:women) 60:40 59:41 59:41 60:40 60:40 Relevant employees trained in business ethics 98% 98% 99% 99% 99% Product recalls 2 2 6 6 3 (50%) Failed inspections 0 0 0 0 Long-term social targets Target Employee engagement6 — — 90% 91% ≥ 90 Company reputation (scale 0–100) 79 .5 81 .1 77 .8 79 .3 83 .3 ≥ 80 Environmental performance Change Energy consumption (1,000 GJ) 2,556 2,778 2,935 2,922 2,890 (1%) Water consumption (1,000 m3) 2,959 3,131 3,293 3,276 3,101 (5%) CO2 emissions from production sites and product distribution (1,000 tons) 177 150 130 129 127 (2%) Waste (1,000 tons) 141 159 153 157 142 (10%) Long-term environmental targets Target7 Share of renewable power for production 73% 78% 78% 79% 77% 100% by 2020 CO2 emissions from operations and transportation (1,000 tons) — — — 269 0 by 2030 Share performance Change Basic earnings per share/ADR in DKK1,8 10 .10 13 .56 14 .99 15 .42 15 .96 4% Diluted earnings per share/ADR in DKK1,8 10 .07 13 .52 14 .96 15 .39 15 .93 4% Total number of shares (million), 31 December 2,650 2,600 2,550 2,500 2,450 (2%) Treasury shares (million), 31 December 57 52 46 56 56 0% Share capital (DKK million) 530 520 510 500 490 (2%) Dividend per share in DKK8 5 .00 6 .40 7 .60 7 .85 8 .15 9 4% Total dividend (DKK million) 12,905 16,230 19,048 19,206 19,547 9 2% Share repurchases (DKK million) 14,728 17,229 15,057 16,845 15,567 (8%) Closing share price (DKK) 260 .30 399 .90 254 .70 334 .50 297 .90 (11%) 4. Donations to the World Diabetes Foundation and the Novo Nordisk Haemophilia Foundation . 5. Includes employees of associated company . 6. New methodology applied in 2017, hence data between 2014–2016 is not available . 7. A new long-term environmental target was developed in 2018 . See page 17 . 8. Share performance-related key figures have been calculated reflecting a trading unit of DKK 0.20.9. Total dividend for the year including interim dividend of DKK 3 .00 per share, which was paid in August 2018. The remaining DKK 5 15, per share, corresponding to DKK 12,309 -million, will be paid subject to approval at the Annual General Meeting . Employees (total) Water consumption Cash distribution to shareholders Region Latin America Region Japan & Korea Locations with high water stress or large Share repurchases in the year Region China Region AAMEO seasonal variations Other locations Interim dividend for the year Region Europe North America Operations Dividend for prior year Free cash flow Thousand 1,000m3 DKK billion 50 3500 40 40 2800 32 30 2100 24 20 1400 16 10 700 8 0 0 0 2014 2015 2016 2017 2018 2014 2015 2016 2017 2018 2014 2015 2016 2017 2018

20 PERFORMANCE AND OUTLOOK Pipeline overview Diabetes Haemophilia Phase 1 Project Indication Description Project Indication Description LAISema Type 2 Combination of the GLP-1 analogue semaglutide Eclipse Sickle cell An oral combination treatment of decitabine and NN1535 diabetes and the long-acting basal insulin analogue LAI287 NN7533 disease and tetrahydrouridine that increases foetal -haemoglobin intended for once-weekly treatment . beta levels . thalassaemia OG2023SC Type 2 A long-acting oral GLP-1 analogue expected to have NN9023 diabetes improved bioavailability and a longer half-life than oral semaglutide . Phase 2 Phase 2 Concizumab Haemophilia A monoclonal antibody against tissue factor NN7415 A and B with pathway inhibitor intended for subcutaneous Anti-IL-21 Type 1 A beta-cell preservation treatment intended for and without prophylaxis . GLP-1 T1D diabetes adults who are newly diagnosed with type 1 inhibitors NN9828 diabetes . LAI287 Type 1 and A long-acting basal insulin analogue intended for NN1436 2 diabetes once-weekly treatment . Filed / regulatory approval N8-GP Haemophilia A long-acting recombinant coagulation factor NN7088 A VIII intended for prophylaxis and treatment of Phase 3 - breakthrough bleeds . Oral Type 2 A long-acting oral GLP-1 analogue intended for Semaglutide diabetes once-daily oral treatment . NN9924 Growth disorders Phase 3 Obesity Project Indication Description Phase 1 Somapacitan Growth A long-acting human growth hormone intended for Project Indication Description NN8640 disorders once-weekly subcutaneous administration . The project is in phase 3 for adults and in phase 2 for children . AM833 Obesity A novel amylin analogue intended for once-weekly NN9838 treatment . GG-co- Obesity A novel glucagon analogue in combination with the agonist 1177 GLP-1 analogue liraglutide . NN9277 NASH PYY 1562 Obesity A novel analogue of the appetite-regulating hor- NN9747 mone, PYY, intended for mono- or combination treatment with the GLP-1 analogue semaglutide . Phase 2 PYY 1875 Obesity A novel analogue of the appetite-regulating hor- Project Indication Description NN9775 mone, PYY, intended for mono- or combination treatment with the GLP-1 analogue semaglutide . Semaglutide NASH A long-acting GLP-1 analogue intended for NASH -once-daily treatment . Tri-agonist Obesity A novel tri-agonist activating the human GIP, GLP-1 NN9931 1706 and glucagon receptors intended for once-daily NN9423 treatment of obesity . Phase 3 Semaglutide Obesity A long-acting GLP-1 analogue intended for Obesity once-weekly treatment . NN9536

PERFORMANCE AND OUTLOOK 21 2019 expected key milestones Fiasp® Feedback from regulatory authorities in Japan Xultophy® Feedback from regulatory authorities in Japan Oral Semaglutide Submission in the US, the EU and Japan Victoza® Feedback from regulatory authorities in the US and the EU on paediatric label update based on the Ellipse trial Concizumab Phase 3 initiation in haemophilia A and B with and without inhibitors N8-GP Feedback from regulatory authorities in the US, the EU and Japan Somapacitan Submission in the US, the EU and Japan for adult growth hormone deficiency and phase 3 initiation in children Patent status for marketed products The patent expiry dates for the product portfolio are shown in the table below . The dates provided are for expiry in the US, Germany, China and Japan of patents on the active ingredient, unless otherwise indicated, and include extensions of patent term . For several products, in addition to the active ingredient patent, Novo Nordisk holds other patents on manufacturing processes, formulations or uses that may be relevant for exclusivity beyond the expiration of the active ingredient patent . Furthermore, -regulatory data protection may apply . Key marketed products in main markets (active ingredients) US Germany China Japan Diabetes: Human insulin Expired Expired Expired Expired NovoRapid® (NovoLog®) Expired Expired Expired Expired NovoMix® 30 (NovoLog® Mix 70/30) Expired Expired Expired Expired NovoNorm® (Prandin®) Expired Expired Expired Levemir® 2019 2019 Expired 2019 Victoza® 20231 20231 Expired 2022 Tresiba® 2029 2028 2024 2027 Ryzodeg® 2029 2028 2024 20242 Xultophy® 2029 2028 2024 20242 Fiasp® (2030)3 (2030)3 (2030)3 (2030)3 Ozempic® 20311 20311 2026 20311 Obesity: Saxenda® 20231 20231 Expired Expired Haemophilia, growth disorders and hormone replacement therapy: Norditropin® (Norditropin® SimpleXx®) Expired Expired Expired Expired NovoSeven® Expired4 Expired4 Expired4 Expired NovoEight® N/A N/A N/A N/A NovoThirteen® (TRETTEN®) 2021 Expired N/A Expired Vagifem® 10 mcg 20225,6 N/A N/A 20215 Refixia® (REBINYN®) 20281 20271 2022 20271 MacrilenTM N/A N/A N/A N/A 1. Current estimates . 2. Patent term extension until 2027 may apply . 3. Formulation patent; active ingredient patent has expired . 4. Room temperature-stable formulation patent until 2023 in China, Germany and Japan and until 2025 in the US . 5. Patent covers low-dose treatment regimen . 6. Licensed to several generic manufacturers beginning October 2016 . Phases Phase 3 Studies in large groups of patients (usually 1,000-3,000) comparing a new medica- Phase 1 tion with a commonly used drug or placebo for both safety and efficacy . Phase 3a Studies in a small group (usually 10-100) of healthy volunteers, and sometimes covers trials conducted after efficacy is demonstrated and prior to regulatory sub- patients, to investigate how the body handles, distributes and eliminates new mission. Phase 3b covers clinical trials completed during and after regulatory sub--medication and establish the maximum tolerated dose. mission . In small therapeutic areas such as haemophilia, regulatory guidelines may allow the design of single-arm therapeutic confirmatory trials or trials that compare Phase 2 against historical control, for example, instead of existing treatment or placebo . Studies of various dose levels in a larger group of patients (usually 100-1,000) to learn about the new medication's effect on the condition and its side effects . In Filed/regulatory approval phase 2, clinical trials are carried out to evaluate efficacy (and safety) in specified The phase in which a product undergoes regulatory authority review . Products listed patient populations. The outcome of phase 2 trials is clinical proof of concept and under this phase are currently under regulatory review in at least two of the triad the selection of dose for evaluation in phase 3 trials . markets: the US, the EU and Japan .

22 OUR BUSINESS MIT The level of innovation required to develop new commercially viable medicines is increasing . To continue delivering life-changing treatments for people living with serious chronic diseases, Novo Nordisk's research and development organisation embraces new ways of working and invites even more partners to join us, so we can increase innovation together . Evotec UCSF Novo Nordisk has a successful history of taking a tablet .4 To address this unmet need, discovering and developing peptide and it is our vision to be the leading oral pep- protein-based medicines and devices for tide therapeutics company. One successful the treatment of diabetes, obesity, haemo- example of executing on this vision is when philia and growth disorders . However, the we combined our protein expertise with increasing level of innovation calls for the Emisphere's oral drug delivery technology to company to move beyond its core tech- formulate semaglutide in a tablet ". (See p 24.) nology platforms and therapy areas . One of the key levers on this journey is to expand Another foundation for Novo Nordisk's Novo Nordisk's engagement with external oral delivery platform is the collaboration -scientific partners from academia, biotech with Professor Robert S. Langer from the and big pharma globally. Massachusetts Institute of Technology (MIT), renowned for his research and discoveries "Our history of collaborating with scientific- within the field of drug delivery systems, partners goes all the way back to the foun- among others . Together with the MIT labo- dation of this company," explains Mads ratory, Novo Nordisk device engineers have Krogsgaard Thomsen, executive vice presi- invented a small pill-sized device for oral dent and chief science officer. "As we move delivery of various peptides and proteins 5. into new areas, we are relying even more on external partners who complement our own A remaining treatment barrier in diabe- strong set of capabilities and can add new tes is the risk of low blood glucose levels skills . In 2018, we have significantly boosted -(hypoglycaemia) associated with insulin our external innovation, but we are looking treatment . Ziylo, a UK based spin-out from for even more partners". the University of Bristol, has developed a highly promising glucose sensor . In 2018, Some of the new partnerships announced Novo Nordisk acquired Ziylo to combine the in 2018 open the door to new therapy areas glucose sensor with Novo Nordisk's protein adjacent to the Novo Nordisk core areas, technology expertise and deep -biological such as diabetic kidney disease via the col- insulin understanding, with the aim of laboration with Epigen. Others add comple- -developing a glucose-responsive insulin with mentary technological skills in core therapy low risk of hypoglycaemia . areas or contribute to the newly established technology platforms of stem cell therapy Across therapy areas, Novo Nordisk is and oral peptide delivery . embracing technological innovation and seeking solutions that originate outside the Boosting technological innovation company . An example is Novo Nordisk's "Partnerships have already helped us to take partnership with Evotec to boost small-- innovation further, faster," Lars Fogh Iversen, molecule discovery and development in senior vice president and head of Global diabetes and obesity . Internally in R&D, Research Technologies, explains . "We have -technological innovation is also being a world-class protein technology platform boosted as Novo Nordisk is implementing through which we have delivered injectable digitalisation and automation in many pro-medicines for nearly a century . But we know cesses across the R&D value chain . "This that the majority of diabetes patients prefer is not another IT project . It's the new way Partnering for innovation

OUR BUSINESS 23 Emisphere Lund of working," says Lars Fogh University Iversen . "We have had the pleasure of receiving Stem cells exemplify new grants and working with many ways of working After engaging in stem cell companies at our lab. Novo Nordisk has research for two decades, Novo Nordisk has established been one of the very best companies a technology platform based on the ability of stem cells Kallyope to work with. I feel they've been to transform and become any type of cell in the human tremendous collaborators; our students body . The technology platform will be run by one of the newly and staff have loved working with established Transformational Research Units (TRU), which will operate in much the same them; and enormous scientific progress way as a biotech research unit . "The TRU is one of the new ways of working in R&D to has been made that I hope will benefit boost innovation," says Mads Krogsgaard Thomsen . "The idea

is for small groups of many patients someday." researchers to work in a more autonomous and independent way, focusing on special- ised areas outside our traditional research areas". The stem cell TRU will focus on -developing stem cell-based therapies for seri- ous chronic diseases. For instance, in type 1 diabetes which is caused by the loss of the insulin-producing beta cells – stem cells can be transformed into new beta cells that can replace the lost cells and thus provide a cure . In 2018, Novo Nordisk announced several partnerships to expand the efforts in stem cell-based therapies to new disease- areas ROBERT S . LANGER such as Parkinson's disease and chronic heart Professor from the Massachusetts Institute of failure . To secure production -capacity suitable Technology (MIT), shares his view on partnering for future clinical testing of stem cell-based with Novo Nordisk . therapies, Novo Nordisk has partnered with the University of California, San Francisco Photo: Courtesy of the Science History Institute . (UCSF) to develop high--quality stem cell lines and has licensed a nearby manufactur- ing site in Fremont, California . Accessing external innovation that we proactively reach out to potential Ziylo "We are striving to progress our With the increased focus on external innova- external scientific collaborators". In 2018, stem cell-based treatment for tion reaching across Novo Nordisk's therapy new Research & Development facilities were type 1 diabetes into clinical testing areas and technology platforms, the R&D inaugurated in the historic university campus in the near future and to follow up organisation is expanding its global pres- in Oxford, UK, and a new office was opened with treatments for other serious chronic ence . Marcus Schindler, senior vice president in the scientific hotspot of Boston, US. diseases, so we continue offering life-chang- and head of Global Drug Discovery, explains: ing treatments to even more patients in "This is the future of Novo Nordisk drug the future," says Jacob Sten Petersen, "To access external innovation, it is of development," adds Markus Schindler. "To corporate vice president and head of utmost importance that we are present at collaborate with partners to improve the lives Epigen Stem Cell R&D . the innovation hubs around the world and of patients together ". Kallyope Evotec Lund University Novel peptides for obesity and Small molecules Stem cells for Parkinson's disease diabetes treatment In a research collaboration, Novo Nordisk is combin- Via a strategic alliance, Novo Nordisk provides Novo Nordisk is collaborating with a world leading ing its expertise in disease biology understanding and extensive disease know-how and Evotec applies its group within stem cells and Parkinson's disease peptide production with Kallyope's innovative techno- research and early development platforms to discover at Lund University and with the Swedish biotech logy platform to explore the gut-brain axis and develop and develop small-molecules targeting diabetes, company BioLamina to develop stem cell-derived novel peptides for obesity and diabetes treatment . obesity and associated comorbidities . treatment for Parkinson's disease .

24 OUR BUSINESS Oral semaglutide is the result of Novo Nordisk's strong protein expertise com- bined with the oral delivery technology 'SNAC' from the US-based external partner, Emisphere . Semaglutide is a once-weekly The injectable GLP-1 analogue, which was launched under the brand name Ozempic® in 2018. SNAC is a carrier molecule that protects peptides against enzymatic break- down and enhances the absorption across the stomach wall . Oral semaglutide is a future -co--formulation of semaglutide and SNAC - in a once-daily GLP-1 tablet (See p 22). The largest ever investment In 2015, oral semaglutide proved its worth when clinical proof of concept was achieved in a in a phase 2 trial involving more than 600 people living with type 2 diabetes . In fact, the results were so encouraging that Novo Nordisk's executive management made a bold decision . tablet "Based on the phase 2 results, we decided to make the greatest single investment in manufacturing in Novo Nordisk's history," says Henrik Wulff, executive vice president of Product Supply . Although the SNAC While many people are accustomed to taking a daily tablet, for component of oral semaglutide enhances example as a vitamin supplement, many are reluctant to inject the absorption, the bio-availability – that themselves. Nevertheless, the vast majority of patients on Novo is, the proportion of active drug which enters the blood – is considerably lower Nordisk diabetes products rely on daily injections to manage their with oral administration versus injections . disease . For some of them, this is about to change. Consequently, larger amounts of the active pharmaceutical ingredient (API) are needed . And that calls for large-scale production . Novo Nordisk's portfolio of diabetes med-peptides in a tablet include overcoming the icines is primarily based on two of the bio- stomach's enzymatic breakdown, increasing "We are investing in a new API production logical blood glucose regulators: insulin and absorption across the stomach wall and mini- facility in Clayton, North Carolina," says GLP-1. Both are small proteins, known as mising food-drug interactions. It took a suit- Henrik Wulff, "and a tablet factory in Måløv, peptides, which - if taken orally - would able GLP-1 molecule, semaglutide, and more Denmark, to produce semaglutide tablets ". be categorised by the human body as food than 10 years of hard work in Novo Nordisk's and broken down by digestive enzymes in laboratories, pilot plants and global med- Encouraging late-stage clinical results the gastrointestinal tract before having any ical clinics - along with screening of more Following the encouraging results in the effect. Consequently, injections are currently than 100 external innovators of oral delivery phase 2 trial, a large phase 3a programme needed for the administration of biologi- techniques - to make the dream of develop- was initiated . During 2018, the PIONEER pro- cal medicines such as peptides . With most ing the world's first antidiabetic peptide in a gramme concluded its 10 trials, testing oral type 2 diabetes patients preferring a daily tablet come true. "With oral semaglutide we semaglutide against both oral and injectable tablet over an injection,6 it has become Novo are doing what was once considered impos- diabetes medications in more than 9,000 Nordisk's ambition to find a way to deliver sible," explains Mads Krogsgaard Thomsen, people living with type 2 diabetes . antidiabetic peptides in the form of a tablet . Novo Nordisk's chief science officer and executive vice president . "We are harness- "In the PIONEER programme, we have tested Scientific breakthrough ing the power of a biological medicine in a oral semaglutide from 'A to Z'. From newly The challenges involved in developing once-daily tablet". diagnosed to people who have been living with type 2 diabetes for many years, some 10 trials testing oral semaglutide Blood sugar and Blood sugar and Cardiovascular Well-tolerated Key results in >9,000 people living weight bene- weight bene- safety with a safety (see article text for fits against the fits against the profile consistent with type 2 diabetes further details) oral antidiabetics injectable with GLP-1-based empagliflozin and GLP-1s liraglutide therapy *dulaglutide only tested in Japan . sitagliptin and dulaglutide*

OUR BUSINESS 25 of whom even live with serious comorbidi- adverse cardiovascular events . In supportive "From a commercial perspective, entering ties related to the heart or kidneys," explains secondary endpoints, the risk of death was the oral diabetes market is a big opportunity Mads Krogsgaard Thomsen . "We have significantly reduced . for Novo Nordisk," says Camilla Sylvest . "But tested oral semaglutide against some of entering a new segment also requires new the leading oral antidiabetics and injectable Entering a new market segment ways of thinking and working ". GLP-1s on the market - and the results are With the phase 3a results in place, Novo truly exciting!" Nordisk is heading towards submission for Administering injectable antidiabetics product registration of oral semaglutide in requires education in handling of the injec- Overall, the higher doses of oral semaglutide the US and in Europe in the first half of 2019 tion device . For this reason, Novo Nordisk's significantly improved blood sugarcontrol - - the fastest Novo Nordisk submission ever . current diabetes products are typically pre- and reduced body weight when compared scribed by endocrinologists and primary to some of the leading oral glucose lower- care practitioners . However, as most people ing medicines, empagliflozin (SGLT2i) and "From a commercial are used to taking a tablet, more primary sitagliptin (DPP4i) 7. Compared to the two care practitioners are likely to prescribe oral leading injectable GLP-1s on the market, perspective, entering the semaglutide . "Launching the world's first liraglutide and dulaglutide, the highest dose oral diabetes market is a antidiabetic peptide in a tablet to primary of oral semaglutide resulted in significantly care practitioners is different from what improved blood sugar control and reduced big opportunity for Novo we have done in the past and will require body weight . In people with a long history Nordisk. But entering a increased engagement with healthcare pro- of type 2 diabetes who were on insulin treat- new segment also requires fessionals, payers and patients," says Camilla ment, the addition of oral semaglutide also Sylvest . improved blood sugar control and reduced new ways of thinking and their body weight and insulin dose with a working." The future in a tablet comparable risk of hypoglycaemia to those Across Novo Nordisk, significant efforts are treated with insulin only. For people living invested in bringing the world's first pep- with type 2 diabetes, renal impairment and CAMILLA SYLVEST tide-based diabetes medicine in tablet form cardiovascular diseases are common comor- executive vice president, to market . But Novo Nordisk's journey with Commercial Strategy & Corporate Affairs bidities .8 Oral semaglutide was proven to be biologics in tablets does not end with oral efficacious and to have a solid safety profile semaglutide . in people with moderate renal impairment . Finally, in a study with more than Camilla Sylvest, executive vice president of "This is just the beginning," promises Mads 3,000 people living with type 2 Commercial Strategy & Corporate Affairs, is Krogsgaard Thomsen. "We are building an diabetes and with high just as excited as Mads Krogsgaard Thomsen oral technology platform . Our ambition is risk of cardiovascular about the opportunity to launch semaglu- to develop more oral biological medications disease, treatment tide in a tablet . "We will be offering people for more efficacious treatment - not only with oral semaliving with type 2 diabetes what we believe for diabetes, but also for people living with glutide did not is the world's most convenient GLP-1 treat- other serious chronic diseases ". increase the ment". Today, two out of three people with risk of major type 2 diabetes are being treated with oral Read more about Novo Nordisk's technology -diabetes medication rather than injectable platforms and external partnerships at medication 9. novonordisk com/research-and-. development .html Injections Tablets Approximately two in three9 people are being treated with oral compared to injectable diabetes medication .

26 OUR BUSINESS science-based care . One such example is the partnership platform, Cities Changing DiabetesTM, which addresses the root causes Committed to of diabetes, of which obesity is the single largest factor. This initiative currently involves 19 cities on five continents in finding and making obesity sharing solutions to advance healthy living in cities . Stepping up to the challenge a healthcare "The commitment marks a change . It sends a strong and confident message that obe- sity is now an area of priority for Novo Nordisk, and that our raised ambition also priority follows additional investments," says Camilla Sylvest, executive vice president, Commercial Strategy and Corporate Affairs . The plan lays out two missions to be accomplished, and investments to make them happen . Making obesity a healthcare priority 10 Around 13% of the world's adult population live with obesity. The first mission is to make obesity a health- This translates into 650 million people . And the prevalence is care priority in countries around the world and ensure that care is delivered in the increasing . Yet less than 2% of them - 11 million - are currently same way as care for other serious chronic 11 receiving pharmacological therapy for this disease . Novo Nordisk diseases . This will require a mindset-shift in is determined to tackle this issue and has increased its commitment society , and investments to make obesity a healthcare priority and provide "People with obesity rarely seek or receive innovative treatment solutions for people with obesity . care from the healthcare system . The consequence is often poor health and reduced quality of life," explains Morten The figures speak volumes . The global is little help available . Not only in terms of Lammert, corporate vice president, Obesity increase in the prevalence of obesity - treatment options, but also when it comes to Commercial Unit . defined as having a body mass index (BMI) care and compassion. Novo Nordisk is com- of 30 or above 12 - is a public health issue mitted to changing this . The goal is to have Progress is happening, though . More health- with huge cost implications for healthcare obesity universally recognised and treated care professionals are being certified as systems 13. What these figures do not reflect, as a disease, and for people with obesity to obesity specialists; medical education in however, is the personal journey that so be treated with dignity and respect. Novo obesity management is on the rise; and the many people living with excess weight and Nordisk has made a long-term commit-view of obesity is changing. Moreover, there obesity are on . Most people with obesity ment and a plan in pursuit of this goal, are indications that the traditional narra- believe it is their own responsibility to lose which was reaffirmed with the launch of the tive - so often projected by the media - that weight . They try out different diets, and they Changing ObesityTM platform in early 2019. overweight or obesity is 'your own fault', is regularly work out at the gym. It's a long It will include activities and partnerships slowly, but surely, being contested . and lonely battle and, despite brave efforts, focused on three priorities: prevention of many are forced to admit defeat . obesity, -recognition of obesity as a disease, "The ecosystem of obesity healthcare has to and ensuring that those already living with improve" says Morten Lammert . "We need Obesity is not a personal choice . There are the disease have access to comprehensive, to help build both capabilities and capacity, a number of reasons why people develop -obesity. The disease is influenced by many factors, including physiology, genetics, psychology, and also the environment in The complexity of Weight loss which you live . But once you have obesity, it is a complex chronic disease that requires weight management lifelong management: the right diet, exercise and for some, also pharmacological treat- ment. Science shows that the body responds The perception that weight loss is easy, if to weight loss with an increased feeling of only you have the willpower, is incorrect . hunger and lower metabolic rates . Obesity Energy balance is influenced by a number is associated with many complications, such of factors, including physiology, genetics, as type 2 diabetes, cancer and cardiovascular psychology and the person's environment. disease. On top of that, there is the stigma Adding to the complexity is the body's own that people with obesity face . response to weight loss - increased feel- ings of hunger, increased desire to eat and Despite the magnitude of the problem - lowered metabolic rate . Put simply, the body for the individual as well as society - there works hard to regain weight loss . Calories Activity

OUR BUSINESS 27 for -obesity. The effects of semaglutide on 650m weight reduction are currently being inves- Adults living tigated in STEP, a phase 3 clinical trial pro- with obesity gramme. The company recently initiated a cardiovascular outcomes trial, SELECT, to evaluate the cardiovascular benefits of semaglutide 2.4 mg in a population of 17,500 people with established cardiovascular dis- ease and overweight or obesity. This study is the largest ever clinical trial within the field of obesity and the largest clinical trial con- 11m ducted by Novo Nordisk . Less than 11 million today receive pharmacological Novo Nordisk also has multiple phase 1 pro- therapy for this disease . jects investigating new treatment options, such as molecules that can target appetite regulation and energy expenditure, with the aim of achieving a better balance between the Vicki Mooney is -living two. The aspiration is to develop medicines that can achieve sustained weight loss of at with obesity and is least 20%, which is close to both physicians' a -vocal advocate for secure funding for obesity care, and tackle and patients' expected weight loss goals . obesity stigma in society . People with obesity tackling the stigma deserve this ". Among Novo Nordisk's global A head start initiatives are contributions to the education Morten Lammert is not daunted by the pros- of healthcare professionals, patient support pect of competition. With less than 2% of Vicki Mooney speaks passionately about the programmes, strengthening patient commu- people with obesity currently receiving phar- importance of changing the messaging from nities and raising awareness for the need to macological treatment, he welcomes efforts 'losing overweight' to 'becoming healthy' . establish dedicated clinics . from other pharmaceutical companies . "We And she knows what she is talking about . have a huge task ahead of us, and the more Boosting research efforts interest this space attracts, the more people She has been fighting overweight since The second mission is to continue to develop with obesity we will be able to help," he childhood, only to find that her weight kept a portfolio of superior treatment solutions . argues . going up, while her self-esteem waned, especially because of the stigma she faced Novo Nordisk's first obesity product, Thanks to Saxenda®, Novo Nordisk already about her weight . At age 27, and a mother Saxenda® was launched in the US in 2015 has a head start and is also in a unique posi- of two, she struggled to climb stairs, and felt and is indicated for people with a BMI of tion to create partnerships and engage with depressed about her life. She gathered the 27 or more in the presence of at least one patient communities to learn with them . courage to see her doctor, who referred her weight-related comorbidity or a BMI of 30 "We have learned a lot along the way," for gastric bypass surgery . or above . At the end of 2018, Saxenda® is says Morten Lammert . "Our entry into this available in 41 countries . However, to better therapy area has given us unique insights "Within 14 months after the surgery, I had meet the weight-loss goals of patients as and made us confident that we can bring halved my weight, became pregnant again, well as healthcare professionals, even better our capabilities into play and mobilise what and had a perfect pregnancy. But I never treatment options are needed . will be needed to ensure systemic changes once realised that the operation wasn't the in society . Only this way can we help peo-silver bullet I had hoped . I didn't realise an Novo Nordisk already has a diverse anti-ple with obesity and make obesity care a entire lifestyle change was required, not just obesity pipeline with injectable semaglu- sustainable business opportunity for Novo for me but for my entire family . Nor did I then tide being the frontrunner as a treatment Nordisk". know the psychological effects," she says . Today, at the age of 40, she is a strong, self-confident woman who has dedicated Weight gain her professional life to promoting body con-fidence and a healthier lifestyle to women . She is still struggling to maintain her weight loss, but has come to terms with the fact that she is indeed living with obesity. Vicki Mooney is a member of Novo Nordisk's DEEP network (see p 37) and is actively involved in patient advocacy organisations such as the European Coalition for People living with Obesity . Read more about Vicki Mooney at Metabolism Hunger hormone Fullness hormone novonordisk com/patients/DEEP. .html

28 OUR BUSINESS In pursuit of sustainable development HASSAN ALUBLED Hassan has type 2 diabetes and lives in Lebanon The Sustainable Development Goals (SDGs), adopted in 2015 partners to find more effective solutions to the daunting challenges associated with the by the United Nations, highlight the link between health and epidemic rise in the prevalence of diabetes wealth, and set a new course to direct and track progress towards worldwide. 'the world we want'. For Novo Nordisk, these goals present an Accelerating access to care opportunity to step up its contributions to sustainability, providing Each year, 15 million people between the better healthcare for more people and delivering on an aspiration ages of 30 and 69 die prematurely from of zero environmental impact by 2030. non-communicable diseases, including -diabetes. 14 More than 85% of these prema- ture deaths occur in low- and middle-income Social and economic development in its long-term business success, and we will countries . Without good health, sustaina- current form comes at a cost . Growing con- play our part to deliver on the long-term ble development in many of these countries sumption, globalisation and urbanisation are Sustainable Development Goals," says remains a dream . putting pressure on nature's resources and Camilla Sylvest, executive vice president, accelerating climate change, and jeopard- Commercial Strategy & Corporate Affairs . Through Novo Nordisk's Access to Care ise human health and well-being . Achieving "When governments, civil society and busi--strategy, the company works to remove sustainable development - a development nesses work together we all win". -barriers to effective diabetes care . Along that meets the needs of the present, without with a guarantee to make low-priced human compromising the ability of future genera- As an example, the goal to 'ensure healthy insulin available in the world's least devel- tions to meet their own needs - is a global lives and promote well-being for all, of all oped and low-income countries and as of priority. The SDGs have become the common ages' has specific targets that fit hand-in- 2019 also to selected middle-income coun- reference for stepping up efforts to address glove with Novo Nordisk's efforts to bring tries and humanitarian relief organisations, a these global challenges, including for busiinnovative products to patients . A specific number of specific initiatives aim to expand nesses, partly because they are expected to, target under this goal is to reduce prema- access to diabetes care in the world's poor- and partly because more sustainable devel- ture mortality due to non-communicable est countries. However, to achieve scale and opment is also in their own interest . diseases, including diabetes, by one third . maximise impact, there is a need to adopt a Combined with the target of universal health more holistic approach - one that relies on "We believe that a healthy environment, coverage, it gives governments an incentive partnerships . society and economy are fundamental- to to work with Novo Nordisk and civil society

OUR BUSINESS 29 than 68 million people have been displaced Nordisk was among the first manufactur- by conflict or persecution - the largest num- ers in the world to commit to a conver- ber since World War II. Not always visible or sion to renewable energy. To minimise the recognised are the four million people living environmental impact of its activities even with diabetes who have been forced to flee further, a new long-term target has been their homes due to man-made or natural set: by 2030, there will be zero emissions -disasters . The risk that their chronic disease from Novo Nordisk's operations, including will worsen is two to three15 times as high transportation . when they cannot get continuous treatment and access to care . And this leads to compli- "It has taken a dedicated effort and unwa- cations which could normally be avoided . vering focus on the targets to get to where we are today," says Henrik Wulff, executive It was with these vulnerable people in mind vice president, Product Supply . "The key to that Novo Nordisk entered into partnership success is innovation . We've been able to with the International Committee of the Red find smart solutions that benefit our business Cross, the Danish Red Cross and the London and minimise the environmental footprint of School of Hygiene and Tropical Medicines . our production ". In partnership with these organisations, the company is working to improve efficiency in From less to zero the provision of insulin to people in humani- The mantra of 'doing more with less' will not tarian crises and to explore ways of improv- be enough to create a healthy and sustain- ing care for people with diabetes and other able environment for the future . This is why serious chronic diseases . In addition, Novo Novo Nordisk has set a new ambition with Nordisk is contributing supplies of low-cost its 'Circular for Zero' strategy: to have zero human insulin to Red Cross and Red Crescent environmental impact by embracing a circu- operations all over the world 16. So far, the lar mindset . 'Circular' means designing and largest dispatches of insulin have been made producing products that can be recycled and to Syria, Palestine and Yemen . reused, and reshaping business practices to minimise consumption and eliminate waste More than medicine by turning it into new resources . While provision of care for serious chronic diseases is the number one priority for The circular approach is not new to Novo Novo Nordisk, there is more to do when it Nordisk . Since 1972, the company has been comes to contributing to global sustainable a part of the world's first industrial symbiosis development, with a circular approach to production at its manufacturing site in Kalundborg, Denmark . In 2018, the Defeat-NCD Partnership, hosted As a corporate citizen, Novo Nordisk is For almost 50 years, the waste from one by the United Nations Office for Project committed to meeting the expectations of company has been used as a resource at Services (UNOPS), was launched . Novo society and to 'do no harm'. This includes another, benefiting both the environment Nordisk is a founding partner together with another imperative, namely responsible pro- and the economy. the Danish Government. This initiative was duction and consumption, which is also sin- taken to ensure a more consistent supply gled out as a priority in the SDGs. Going forward, the ambition is to embed of low-priced insulin . For Novo Nordisk, the circular approach across the entire value this partnership is a critical next step on the Over the years, Novo Nordisk has put a chain, from Novo Nordisk's own operations road to improving access to diabetes care in lot of effort into managing its produc- to those of its suppliers, letting this mindset low-resource countries where inefficient pro- tion efficiently and pursuing goals to guide the way towards the ultimate ambi- curement and supply chains often result in reduce the use of water and energy. Novo tion: zero environmental impact by 2030. high prices for patients due to mark-ups and shortage of essential medicines. Read more at novonordisk com/about-novo-nordisk/changing-diabetes. html Leave no one behind novonordisk com/sustainable-business/performance-on-tbl/access-to-care. .html A key principle behind the SDGs is a promise novonordisk com/sustainable-business/performance-on-tbl/environmental-responsibility. .html to 'leave no one behind'. Currently, more citieschangingdiabetes com. The Sustainable Development Goals, adopted by achieve health and well-being for all (goal 3) and be Novo Nordisk world leaders in 2015, set the direction for what it an example of sustainable management and efficient and the takes to achieve a more sustainable future, with 2030 use of nature's resources (goal 12). Working with a as the defined target date. They address global chal- mindset of zero negative impact on people, communi- Sustainable lenges and set specific goals to end poverty, protect ties and the environment, Novo Nordisk has created a the planet and ensure prosperity for all . Governments baseline for its impacts against all the goals, which will Development are expected to make national plans to reach these inform the company's actions in support of the SDGs . Goals goals, while the business community and civil society are encouraged to do their part . An assessment of Novo Nordisk's activities shows that Read more at un .org/sustainabledevelopment/ the company's biggest positive contribution is to help sustainable-development-goals/

30 OUR BUSINESS Novo Nordisk's Operations Novo Nordisk operates in two main commercial units, North America Operations (including the US and Canada) and International Operations (IO), which covers five regions across the world . As the following articles show (US pp 32–34, IO pp 35–37) the patient populations and market conditions vary on multiple dimensions, but they do have one thing in common: the unmet needs are significant – and there is a large gap between the number of people living with diabetes and the ones that receive some form of treatment . Furthermore, the numbers demonstrate that diabetes is a challenge everywhere: in low, middle and high income countries . Region Africa, Asia, Region Middle East and Oceania China 187m 105m 117m 62m Adults with Adults with Adults with Adults with diabetes undiagnosed diabetes undiagnosed diabetes Adults Adults with with diabetes undiagnosed diabetes are significant and the adults with diabetes and in the adults with Adults with Adults with Adults with Adults are advected and the advected adve

OUR BUSINESS 31 Region Europe North America Region Operations China Region Japan & Korea Region Africa, Asia, Middle East and Oceania Region Latin America Region Region Region North America Latin America Europe Japan & Korea Operations 39m 38m 10m 32m Adults with adults adul

32 OUR BUSINESS to this once-weekly treatment . If that were to happen, it might cause a lasting negative perception among patients and healthcare Innovating professionals . Novo Nordisk had to prepare for this new business environment and the commercial- for access in organisation adjusted its go-to-market approach . A new operating model, initiated in 2017, focuses on growing the GLP-1 business, a challenging establishing insulin leadership and develop- ing the obesity business . It works by bringing together three principles: Integrate . Localise . Focus . The Ozempic® launch team applied US market these principles by working closely with field and home office teams to develop an approach that made space for the company's- two complementary GLP-1 products, and created a targeted launch plan for Ozempic® based on key insights from the field, geo- graphic segmentation and a careful anal- ysis of which medicines were reimbursed by health plans . This localised planning improved sales representatives' ability to identify potential restrictions to patient access and have better conversations with Around half of Novo Nordisk's global sales are generated in the US . healthcare providers about clinical benefits . For this reason, the dynamics in this market are closely

monitored . "This approach gave us a better understand- How will the business develop? What are the risks and realities to ing of how broad or limited access actually was . That was essential because access as watch out for? And how can Novo Nordisk play its part to ensure it used to be doesn't exist . More so than a that patients have access to medical treatment and care? typical launch, this approach allowed us to focus our efforts," explains Doug Langa, executive vice president,

North America The prevalence of diabetes continues to Making access possible with Ozempic® Operations . rise in the US . Last year, the US Centres for Ozempic®, Novo Nordisk's new once-weekly Disease Control and Prevention announced GLP-1 for people with type 2 diabetes, "Our new regional focus gives us flexibility that 9 .4% of the American population was launched in the US in January 2018 . to adjust tactics and investments, so that – 30 .3 million people* – have diabetes . Of patients can benefit from what we believe is those, 23 1. million are diagnosed 18. a world-class medicine . After all, we –operate in market settings that are as diverse as These dramatic figures underscore the need "Our new regional focus they are geographically distant from one to ensure that more people with diabetes gives us flexibility to adjust another". are diagnosed and treated, and achieve their treatment targets . tactics and investments, so The launch team sought real-time feedback that patients can benefit from what we believe is a reminders to help them use Ozempic® and company's innovative medication works for their is highly competitive, especially for insulin DOUG LANGA patients . treatment, where pricing pressures to main - executive vice president tain preferred status on drug reimbursement North America Operations By the end of 2018, Ozempic® had achieved lists have caused a decline in net pricing .7% share of the GLP-1 market, and Novo Nordisk's total value share in the GLP-1 With new medicines available in the US, Ozempic® was entering the market at a time – market is 45% .

and more in the development pipeline when there were already several medicines (see p 20), Novo Nordisk is well-positioned available in the GLP-1 class, including Novo Insulin: a challenging market to provide new and innovative treatment Nordisk's highly successful daily GLP-1, In the highly competitive insulin market, options for people living with diabetes Victoza®. With many existing competitors, Novo Nordisk successfully managed to grow and obesity. In order to succeed, a new there was a risk that not all health plans its market share by increasing healthcare go-to-market approach is required. would reimburse Ozempic®, and conse- providers' awareness of clinical benefits quently patients would have limited access beyond glycaemic control. Based on results

OUR BUSINESS 33 23.1m people diagnosed Closing the Part D Donut Hole under new US law A recent change in US law requires finan- 30.3 million cial contribution by the pharmaceutical industry to Medicare Part D to offset drug costs for patients who do not have insur- people ance coverage for their prescription medi- cine costs - also known as 'the donut hole'. 9.4% of the American population The required contribution demands a 20% have diabetes .* increase in manufacturer discount . Despite these realities, Novo Manufacturer discount Plan pays Nordisk adhered to Beneficiary pays its 2016 - affordability from the DEVOTE trial, a commitment and multinational study providing kept its annual list Under past law clinical data on hypoglycae- price increases below mia and cardiovascular outcomes, 10%. Rebates and discounts given to 50% Tresiba® obtained a new label update private and public payers totalled 68% of and continued its favourable positioning on gross US sales across the portfolio - which 30% drug formularies . As a result, Tresiba® gained represents more than a 13% increase com- market share in 2018. pared to 64% in 2017 (see p 66). Affordability and sustainable healthcare Novo Nordisk helps provide options for There is broad agreement that the current people who cannot afford to pay for their US healthcare system is not sustainable, but medicines, including programmes through little progress has been made in tackling the which patients can apply for financial sup-systemic issues that are causing the ineffi- port to assist with the cost of Novo Nordisk ciencies . People living with a chronic disease medicines . The company also makes its like diabetes, and for whom insulin is an human insulin available through some phar- essential medicine, may have insufficient or macy chains at USD 25 per vial . In addition, no commercial insurance coverage for their Novolin 70/30 in a FlexPen was added to medicines. They may therefore not qualify Walmart's private label, ReliOn, which also 20% to be included in one of the country's public already offers human insulin in a vial at USD healthcare programmes . 25, corresponding to daily treatment cost of a few dollars . Political pressure remains on the phar- maceutical industry . Actions by the US Another innovative approach is value-based Congress require higher financial contribucontracts - i e. . agreements that give pur- Under new legislation tion by the industry to Medicare Part D to chasing leverage based on the clinical offset drug costs for patients who tem--performance of a contracted medicine . Novo porarily lose -prescription drug insurance Nordisk entered into value-based contracts 70% coverage - also known as 'the donut hole'. with a health plan Select Health and a phar- Throughout 2018, the nation saw an increas- macy benefits manager Prime Therapeutics . 25% ing number- of Americans using high deduct- Both contracts track metrics designed to ible health plans or co-insurance, both of measure and understand how patients use which can result in higher out-of-pocket Victoza® in an effort to balance the quality costs for patients including on prescription- of healthcare with cost savings. In another drugs. This in turn has increased pressure collaboration, Novo Nordisk is exploring on the pharmaceutical industry, including how to improve health outcomes for 10,000 -legislative changes that require pharma- patients through behaviour-based adherence ceutical -companies to substantially increase strategies with Sempre Health . A pilot pro- their contributions to the Medicare Part D gramme with a health insurer is anticipated program . Novo Nordisk's business in the to launch in early 2019 . US has been affected by these and other competitive market forces, which made it Focus on obesity treatment necessary to implement some organisational It remains a top priority for Novo Nordisk to 5% changes to facilitate sustainable growth . change the way people with obesity * Numbers refer to the US only; numbers on the pp 30-31 refer to North America Operations (US and Canada)

34 OUR BUSINESS are perceived and treated. Engaging with obesity as the serious and chronic disease Collaboration has been fundamental in our healthcare professionals and patient commu- it is. Our aim is to invest in the long term, approach to driving change and reshaping nities, the company is putting muscle behind keeping obesity a key focus in our business the care of serious chronic disease. Novo efforts to make compassionate and compre-strategy, and collaborating with partners to Nordisk is engaged in multiple collaborative hensive obesity care a healthcare priority demonstrate the value of obesity manageprogrammes to bring health education, (see p 26). ment to all stakeholders." disease-state knowledge and resources to communities. Making a difference in people's lives "For years, my family has Novo Nordisk's leadership within serious Cities Changing Diabetes in Houston, now in chronic disease management is driven by its fourth year, has more than 100 organisa- dealt with growth disorders a combined focus on developing effective tions across the fourth largest city in the US through the experience of medicines and a commitment to engaging working together to address the increase in with professional communities and patients. urban diabetes. Additionally, Novo Nordisk one of my sons. It's heart- sponsored a unique partnership that has wrenching because, as a For most colleagues across the company, two leading patient organisations - the parent, you want what's working in diabetes, obesity, haemophilia - American Diabetes Association and the or growth disorders is more than a job. American Heart Association - spearheading best for your children. I've They have a personal stake in what they awareness around the serious link between seen the difference our do - either because they live with one of type 2 -diabetes and cardiovascular disease, - these serious chronic diseases themselves, or a leading cause of death. therapies have made in his because they support a loved one who does. life. And his success inspires "I'm incredibly optimistic about the coming People living with diabetes, like Michelle year and really enthusiastic about how we me to think about how we Bertone, are the reason why Novo Nordisk will be making a difference," says Doug can serve millions in ways is committed to maintaining its leadership Langa. "We have all the elements critical for that are meaningful." position in the US. Novo Nordisk -employees success - solid performance, a broad product are determined to find ways to overcome the portfolio, a strong pipeline and great people. challenges for people with serious chronic Bringing all of these elements together will DOUG LANGA diseases who just want to go about their be essential for us to deliver on what people executive vice president North America Operations lives like everyone else. Listening to the with a serious chronic disease need." voices of these people is a source of inspira- tion and spurs employees on in their pursuit of new and better medical treatments. "People with obesity deserve treatment options," says Doug Langa. "That's why That's also true for Doug Langa. "For years, we've continued explaining to employers my family has dealt with growth disorders More than and payers about the importance of long- through the experience of one of my sons. term weight management that can include It's heart-wrenching because, as a parent, Saxenda®, Novo Nordisk's GLP-1 analogue you want what's best for your children. for weight management. There is such a I've seen the difference our therapies have great need to support those looking to lose made in his life. And his success inspires me 167,000 weight and, more importantly, keep the to think about how we can serve millions in healthcare professionals participated in weight off. Unfortunately, society can get in ways that are meaningful." Novo Nordisk-sponsored independent the way of delivering care, as many don't see medical education activities in the US. Michelle Bertone lives with type 2 diabetes and is a Novo Nordisk employee "It was shocking and overwhelming to be Michelle Bertone is a senior associate work- diagnosed with type 2 diabetes eight years ing at Novo Nordisk's Plainsboro office. ago, even though all the warning signs were She's active in the company's A1Connection there. I worked hard to bring my HbA1c employee affinity group, which works to down, but the treatment regimen was not increase awareness among colleagues of working for me. With Ozempic® I found a what it is like to live with diabetes. treatment that helps me to achieve my dia- betes management goals and allows me to focus on what matters most: my son."

OUR BUSINESS 35 OTÁVIO DOMINGOS DA COSTA Otávio has type 2 diabetes and lives in Brazil The sun never sets over International Operations (IO). Covering all Novo Nordisk Where there operations outside of the US and Canada, IO is made up of five regions and operates in more than 190 countries and in nearly every time zone (see overview pp 30–31). are unmet In 2018, this geographically diverse business unit delivered robust sales growth of 7% – measured in local currencies . needs, there "In IO, we are used to waking up each morning not knowing what the day brings, and the challenges differ depending on where in the world you look," says Mike is opportunity Doustdar, executive vice president for International Operations . "What is impor- tant is to stay flexible and agile in how we respond to those challenges – this has been In Novo Nordisk's International Operations, patients' unmet needs the foundation of our strategy and has led to are immediately in sight . Whether in the mature economies of our strong performance ". Western Europe or the growth economies of Latin America, the A world of opportunity Middle East or South East Asia, millions of people with diabetes, Mike Doustdar is confident that IO continues obesity, haemophilia or growth disorders are not in good health to be a world of opportunity but also recog- nises the duty to reach ever more patients . – despite medical treatments being available . This is a gap that This is what drives him and his 14,000 begs for action and offers opportunities for Novo Nordisk . –colleagues each day . "When we look at

36 OUR BUSINESS how many people are living with diabetes or obesity in the countries covered by IO, we have to sit up and pay attention," he says . "We also know that in haemophilia and growth disorders, our products are improv- ing lives and we have to ensure access to our products for the people who need them ". The challenges in IO will always be pres- ent, yet the opportunities to make tangi- ble improvements to people's lives take -precedence. Business growth is set to con- tinue into 2019, and the so-called market-fit approach adopted in 2017 offers a useful lens for zooming in on the specific needs in each and every country . IO's track record of robust growth and future prospects comes in the context of a global epidemic of both diabetes and obesity, which is following in the wake of economic growth and demographic change . There are millions of patients around the world who can benefit from Novo Nordisk's broad port-folio of products . In 2017, the International Diabetes Federation estimated that more than 392 million people are living with dia- betes in the countries covered by IO 19. The World Obesity Federation's estimate of the number of people with obesity in those countries is even higher, at 570 million - and only a fraction are currently receiving medical treatment. Both organisations fore- cast considerable increases over the coming decades . In light of this, IO will continue to have opportunities to make a positive impact for these people . A market-fit approach The way to effectively reach patients, how- ever, differs greatly from one country to the next . In a business unit as geograph- ically, culturally and economically diverse MICHAEL PETERSEN as IO, local strategies must take a tailored Michael has obesity and lives in Denmark approach in order to fully maximise the growth potential . In 2018, this approach was extended further, offering local management teams more flex- documented clinical benefits and win leader- In other countries with more developed ibility in portfolio planning, launch sequence ship in the basal insulin segment . Along with healthcare systems, efforts have been and go-to-market strategy in order to align the first launches of the once-weekly GLP-1, directed at offering patients treatments in with market realities . With Novo Nordisk's Ozempic®, in IO, this has contributed to sales the form of modern and new-generation broad portfolio across therapy areas, each growth of 3% in 2018 measured in local insulins and developing the GLP-1 segment . business in IO can look remarkably different currencies, which is robust in the European In spite of both economic headwinds and to others in the pursuit of the right fit, healthcare context and delivers a good basis security issues, AAMEO has delivered 11% for further sales development in the coming sales growth in 2018 measured in local Take Region Europe, for example . Against years . currencies, and now reaches over 9 mil- the backdrop of ageing societies and lion patients across its broad expanse of squeezed healthcare budgets, Novo Region AAMEO (Africa, Asia, Middle East countries . Nordisk has been able to bring one or more and Oceania), the largest region of IO geo- new-generation insulins to market in several graphically, has also embraced a localised Region China offers the clearest example of countries, as well as securing leadership in approach which allows for more effective how the market-fit approach can provide the GLP-1 segment . The market-fit approach allocation of resources and investments . In better outcomes for patients and drive busi- has allowed multiple countries to give many parts of Africa and Asia, this means ness growth, in particular through digitisa--hundreds of thousands of patients access overcoming barriers to patient access by tion and the localisation of segmentation it to new generations of products which offer ensuring distribution and capacity-building . allows . Following reimbursement of

Victoza®

OUR BUSINESS 37 in 2017, Region China has grown the GLP-1 in 2018 measured in local currencies . The segment while continuing to ensure access unmet needs in obesity offer an opportunity to modern insulins in both the major cities to reach new patients that go beyond IO's and provinces . The region has harnessed the traditional reach broader digitisation process in China with a multichannel approach that helps reach The market-fit approach is not just about patients despite geographical distance, and seeking growth opportunities - it is also this effort has contributed to sales growth of about being ready to meet the challenges 8% in 2018 measured in local currencies . posed by healthcare reforms or pricing regimes . This is best exemplified by Region Japan & Korea, where healthcare reforms "Even in the most difficult and intensified competition have made it a more challenging pricing environment . As WENDY FRISBY AND SCOTT ROSS market conditions, we have a consequence the region has experienced Wendy is living with type 2 diabetes and Scott is a 2% decline in sales in 2018 measured in -living with type 1 diabetes and both are Novo Nordisk relevant products to offer employees local currencies and had to be reduced by and can be flexible as we more than 100 positions. This market-ad- strive to ensure patient justed organisation has brought multiple products to market and the number of Through their eyes: access. Given the sheer size patients treated with Novo Nordisk product insights from patient of the populations who has increased, building a strong business for experience have unmet needs, we have the future . every reason to believe that "We have a very strong portfolio and pipe- When developing treatments for serious we can continue to grow line," says Mike Doustdar . "This means that, chronic diseases, it is essential to build on even in the most difficult market conditions, knowledge and insights from the everyday and reach millions more we have relevant products to offer and can lives of the people living with the disease . wherever we are in the be flexible as we strive to ensure patient access. Given the sheer size of the popula- In Novo Nordisk, this patient-centric approach world" tions who have unmet needs, we have every is put into practice by learning with a network reason to believe that we can continue to of patients, organised in Disease Experience MIKE DOUSTDAR grow and reach millions more wherever we Expert Panels (DEEPs). DEEP members are executive vice president are in the world ". individuals living with a serious chronic dis- International Operations ease and their relatives . Both groups provide disease-specific insights and advice based on their own everyday experiences . Vicki Mooney, featured on the cover of this report, Region Latin America has taken a different- is one of them . Read her story on p 27. route. Expanding the patient base by reach- ing increasing numbers of people with The input from the DEEPs provides valuable obesity has led to a sales growth of 29% guidance through every part of the Novo Nordisk care delivery model - from research and development of innovative treatments, to building support options for achieving the best possible health outcomes . In 2018, IO sales by region 2018 IO sales by business segment 2018 DEEP members have been involved in a wide Region Europe Region AAMEO Diabetes Obesity Haemophilia range of activities, including advisory boards, Region China Region Japan & Korea Growth disorders Other biopharmaceuticals presentations, workshops and reviews . Region Latin America The philosophy behind the Novo Nordisk DEEP programme is to listen and learn . DEEP 7% 2% 7% insights have been applied to improve the design of clinical trials, develop effective 11% support materials, and deliver more engag- 10% ing awareness campaigns . Novo Nordisk and DEEPs often collaborate on global advocacy 2% projects that benefit relevant patient com- 39% munities and support the achievement of Novo Nordisk's objectives . 21% In 2019, the plan is to broaden the global outreach, which currently encompasses 120 DEEP members in 12 countries . 79% Read more at novonordisk .com/patients/ DEEP .html 22%

38 OUR BUSINESS 2018 has been an eventful year for Novo Nordisk's Biopharma- ceuticals business (Biopharm). With a new strategy, the company is aiming to further leverage the current portfolio and expand into adjacent therapy areas. For most people, Novo Nordisk is synony- - as an orphan drug for the treatment of mous with diabetes . But for many years, the -haemophilia A . company has also focused on improving the lives of people with other serious chronic "We are pleased with the FDA's orphan diseases such as haemophilia and growth drug designation for concizumab . We hormone disorders . believe it has the potential to make a real difference for people with haemophilia Despite having a broad portfolio of products as a potential once-daily subcutaneous addressing areas of significant unmet needs, treatment for bleeding prophylaxis," says the Biopharm business has been under Jesper Brandgaard, executive vice president, pressure in recent years, due to intensified Biopharm . competition and changing market dynam- ics . Returning to growth in Biopharm has therefore been singled out as a key priority in- "Securing future growth Novo Nordisk's corporate strategy . via bolt-on is an important The revised strategy defines the ambition to element in realising the return to growth. To do so, Novo Nordisk leadership ambition of aims to leverage the current portfolio and move into other areas via partnerships and returning Biopharm to bolt-on acquisitions . And in 2018, the com- growth. Specifically, we pany has taken important steps towards real- ising this ambition . set the ambition for 2018 to secure two bolt-on Exciting portfolio news There is no doubt that Novo Nordisk's additions." haemophilia business is under pressure in the new competitor landscape . However, JESPER BRANDGAARD the company has promising new products- executive vice president, -coming through the pipeline, which may Biopharm & Global Legal & Patents potentially address some of the unmet -medical needs within the haemophilia space and help the business to grow . Within growth disorders, the company will continue to roll out its market-lead- Novo Nordisk's long-acting factor IX (known ing, once-daily growth hormone product, as Refixia® in the EU and Rebinyn® in the Norditropin®, which celebrated its 30th US) was first launched in the EU in 2017 . anniversary in 2018. The product's compet- In 2018, Refixia® was approved in several itiveness will be maintained by upgrading other countries, and the product has now Norditropin® injection devices in a number of been launched in Canada, the US, the EU, countries with either NordiFlex® or FlexPro®, Japan and Switzerland. More launches are in order to make treatment as easy to use as expected to follow in 2019. possible . Also in 2018, Novo Nordisk's long--acting Somapacitan is a novel, long-acting growth factor VIII (N8-GP) for the treatment of hormone in development for once-weekly -haemophilia A was submitted for regulatory subcutaneous use, which will improve con- approval in the US and the EU. venience. "The injection fatigue following years of daily administration could nega- Moreover, the Biopharm pipeline was given tively impact adherence to the treatment," a boost in October when the US Food & says Novo Nordisk's Chief Science Officer, Drug Administration (FDA) designated con- Mads Krogsgaard Thomsen . "In line with our Taking the Biopharm Taking business above and beyond cizumab - currently in phase 2 development long-term commitment, we're investigating

OUR BUSINESS 39 SAMUEL JACK ROY AND HIS LITTLE BROTHER SEBASTIAN Samuel has growth hormone –deficiency and lives in the UK the potential of somapacitan . In 2018, phase with growth hormone deficiency who have focuses on Eclipse – an oral therapy for 3 studies of once-weekly somapacitan for been treated with somapacitan . The data in people living with sickle cell disease and the treatment of adult growth hormone this trial showed that somapacitan matched beta-thalassemia, both of which are –deficiency (AGHD), a rare endocrine disorder, the therapeutic benefits of Norditropin® in life-threatening genetic blood disorders . were successfully completed . Novo Nordisk children with growth hormone deficiency . expects to submit an application for regula- "The in-licensing agreement with EpiDestiny tory approval in the second half of 2019". Investing for future growth gives us an opportunity to enter into a new Novo Nordisk's Biopharm strategy also therapeutic area closely related to our exist- The company has also presented data from –outlines other approaches to securing ing haemophilia business," explains Jesper REAL 3, a phase 2 clinical trial in children future growth . In particular, the company is Brandgaard . –planning to expand the business into other areas via bolt-on acquisitions and in-licensing As a further effort to expand the Biopharm agreements . business, Novo Nordisk also announced an agreement in realis- and only FDA-approved oral test for the ing the leadership's ambition of returning diagnosis of AGHD . Biopharm to growth . Specifically, we set an 30 ambition to secure two bolt-on additions "The acquisition of MacrilenTM is a step during 2018," says Jesper Brandgaard . to –further strengthen our position in the growth hormone disorder space," says years In 2018, Novo Nordisk announced an in– Jesper Brandgaard . "This diagnostic tool is licensing agreement of a promising new complementary to Norditropin® and will sup- In 2018, Norditropin® could celebrate sickle cell disease programme . The agre

40 OUR BUSINESS Principles on Business and Human Rights, respect of human rights was incorporated Responsible into the Code of Conduct for implementation globally via legal and compliance functions. Any suspected breaches of the company's business standards can be reported anonymously by employees and external parties through the Compliance Hotline . Breaches are investi- gated and, if substantiated, action is taken conduct immediately . Internal audits, announced or unannounced, are conducted regu- larly, and findings are reported to the Audit Committee (see pp 47-48). Human rights due diligence Novo Nordisk is a long-standing signatory to the UN Global Compact and supports its 10 principles of responsible business conduct, The foundation for responsible business conduct is the Triple which cover human and labour rights, envi- r-on--ment and anti-corruption . Applying the -Bottom Line principle, embedded in the Novo Nordisk Way . It framework of the UN Guiding Principles on is -put into action through global policies and programmes and Business and Human Rights, Novo Nordisk -models for leadership behaviour and underpinned by robust conducts regular assessments of risks and impacts on all human rights across global -governance and assurance . processes and corporate functions . The assessments are informed by expert and peer inputs, engagement with stakeholders, includ- With global reach, in a highly regulated sec- Triple Bottom Line principle, and the Executive ing patient representatives, and cross-organ- tor, Novo Nordisk employees must work in Management team is collectively responsible isational reviews . In 2019, human rights risk compliance with a wide range of local and for this, as part of the company's ambition to and impact assessments will be initiated in international laws as well as industry require- be a sustainable business (see p 5). selected subsidiaries. Salient human rights ments and adhere to international standards issues are addressed through mitigating action of responsible business conduct . These are Throughout 2018, management has re-- plans, and progress is reported annually . implemented in global policies and codes of affirmed the imperative of responsible busi- conduct, and the company's comprehensive ness conduct and strengthened the appli- Science-based approach quality system ensures that relevant employ- cation of the Triple Bottom Line principle in In 2018, Novo Nordisk assessed its business ees are trained in the specific procedures leadership development and communication . activities against a set of science-based crite- that apply to their job function . This training ria for what it would take to achieve the con- is repeated regularly and certified . Business Ethics Compliance Framework ditions required for the world's population to Business ethics is about acting with integ- thrive within the limits of the finite resources The policies and procedures are in place to rity and in compliance with local and inter- of our planet . These include the use of ensure that business is conducted ethically and national standards . Ethical misconduct or resources as well as waste and emissions responsibly; that activities or products do not non-compliance could adversely affect peo- from the full spectrum of business activities . harm people, communities or the environment; ple, communities and the environment, and that health and fair employment terms are expose Novo Nordisk to civil and criminal Based on a comprehensive strategy review, safeguarded for employees of Novo Nordisk penalties, leading to financial and reputa- informed by trend analyses and stake- and suppliers; and that the company meets its tional loss . holder insights, Novo Nordisk is taking a responsibilities as a corporate citizen through new approach to managing environmen- tax payments and community support. Novo Nordisk keeps a close eye on compli- tal impacts, with a ambition to have zero ance with all applicable local and interna- environmental impact from the company's Guided by the Triple Bottom Line principle tional anti-corruption laws, regulations and operations (see p 29). This will also apply to Not everything fits into a formula . On a daily standards, such as the US Foreign Corrupt the company's long-standing climate action basis, people at Novo Nordisk will make Practices Act and the UK Bribery Act, codes strategy. Novo Nordisk's targets are con- independent decisions . The Novo Nordisk developed by patient organisations, and vol- sistent with the Paris Agreement . Climate- Way provides simple and clear guidance that untary industry codes . related risks for Novo Nordisk's own produc- is consistently understood by all employees . tion and suppliers are identified and assessed It includes the Triple Bottom Line princi- These requirements are spelled out in the through the risk management system . Novo ple, which guides decision-making, requir- company's Business Ethics Compliance Nordisk is taking a step-wise approach to ing everyone to do business in a financially, Framework, which includes a Code of incorporating the recommendations by the socially and environmentally responsible way, Conduct . From the outset, business ethics Financial Standards Board's Task Force on always keeping the patients' best interests in focused on preventing corruption, fraud and Climate-related Financial Disclosures . mind (see pp 15–17) . theft in all its forms, ranging from extor- tion and bribery to other ways of exercising The Board of Directors ensures that the com- undue influence in business relationships . In Read more at novonordisk .com/ pany conducts business in accordance with the 2018, in compliance with the UN Guiding sustainable-business .html

OUR BUSINESS 41 continuity measures, and is continuously Risk management upgrading its IT security systems to pro- tect against such attacks, and to detect and respond to cyber-attacks that are happening enables better on a daily basis . Legal and compliance risks such as law- decision-making suits or investigations by authorities could have significant financial and reputational impact. See ongoing cases on p 80 and an update on Novo Nordisk's Business Ethics Compliance Framework on p 40 Understanding the impacts of macro developments A long-term perspective is imperative in Novo Nordisk's rigorous approach to enterprise risk management order to anticipate, adapt to and create new business opportunities from changes in the enables management to protect and enhance the value of assets, business environment . Macro-developments people, performance and reputation . in the global economic and political environ- ment are signposts of emerging risks that may be more difficult to quantify, but which Risk management requires vigilance 24/7. and entail loss of revenues for Novo Nordisk. are important for strategic decisions with a Novo Nordisk is exposed to risks throughout With the successful completion of the phase 10-year horizon and beyond . Scenarios and its value chain - from early discovery of new, 3a PIONEER trial programme, the next risk-thinking exercises are part of the stra- promising molecules to the production and -critical milestone is submission for product- tegic planning process, and include analyses delivery of medicines to the patients who -registration, planned for the first half of of market dynamics as well as socio-eco- rely on them . Some risks are inherent in the 2019 (see p 20) . nomic and political developments that pres- pharmaceutical industry, such as delays or ent risks or opportunities for Novo Nordisk . failures of potential new medicines in the Ozempic®, the once-weekly injection-based Research & Development pipeline, while version of semaglutide, is another important High on the agenda is the concern over others are well-known to any manufactur- growth driver for Novo Nordisk . With the access and affordability for patients . Novo ing company with global production, such as successful launch in the US, Canada and the Nordisk is determined to provide access to supply disruptions . first European markets in 2018, a significant affordable medicines for people with serious milestone has been reached, and the focus is chronic diseases everywhere and has a range Product quality and patient safety must now on continuing to develop the market for of global programmes and local initiatives . never be compromised and are therefore Ozempic® . This is an enormous task, however, and will front and centre of the company's enter- require a long-term effort in collaboration prise-wide risk management set-up. Risks are Novo Nordisk is taking action to mitigate with healthcare systems, patients and other assessed in terms of risks to people as well potential supply disruptions, in case the influential stakeholders . Political and admin- as potential financial loss and reputational negotiations between the UK and the EU istrative measures from governments, such damage for Novo Nordisk . See an overview result in a 'No-Deal Brexit' . The company is as those anticipated in the US to 'lower drug of Novo Nordisk's- key risks on pp 42-43. working closely with trade associations and prices and reduce out-of-pocket costs' and other relevant stakeholders to ensure that other steps to reform healthcare, may be Heat map: a three-year horizon the interests of patients are given priority in part of the solutions, but also have a wide Executive Management and the Board of negotiations . range of potential impacts for the pharma- Directors review a 'heat map' of the most sig- ceutical industry . Novo Nordisk is closely nificant risks on a quarterly basis . The map- Healthcare reforms and other government monitoring these developments and engag- ping is based on insights from management measures to curb drug costs pose a risk to ing in policy debates, advocating on behalf teams in all organisational areas, and includes market access and prices for pharmaceutical of patients' right to health . those risks that could cause significant disrupproducts. Such measures may be imple- tions to the business over a three-year hori- mented at short notice and the impact can Another example is climate change, which zon . The most significant risks are those that be difficult to forecast . is already impacting the world in profound would have a material negative impact on the ways. Companies need to prepare for the business and a significant adverse impact on Fluctuations in Novo Nordisk's key invoicing risks and opportunities arising from chang- people. Discussions about risks inform deci- currencies also present a risk that is difficult ing weather patterns, sea level rises and sion-making by management teams . to assess, yet can have a very tangible finan- other climate impacts . As recommended by cial impact . Novo Nordisk hedges cash flows the Task Force on Climate-related Financial Highlights from the risk profile for selected currencies and provides esti- Disclosures, Novo Nordisk uses climate In the pipeline, the successful development, mates in outlooks on a quarterly basis . change scenarios to identify short, medium approval and launch of semaglutide as a and long-term risks to production facili- once-daily GLP-1 tablet treatment for adults With growing digitisation, the threat of ties and within the supply chain to ensure a with type 2 diabetes is key to Novo Nordisk's cyber-attacks and cyber espionage is increas- steady supply of medicine to patients . future

sales growth . Any delays regarding ing and a major computer virus or malware submission for market authorisation would attack could lead to severe business disrup- Read more at novonordisk .com/ impact patients' access to the new product tion . Novo Nordisk is investing in business about-novo-nordisk .html

42 OUR BUSINESS Novo Nordisk's key risks Delays or failure of Supply Competition and market Compromises to product products in pipeline disruptions developments quality and patient safety The development of a product Failures or delays may occur at Governments and private Product quality and patient candidate can take more than production sites or through- payers take measures to limit safety may be compromised 10 years and may be delayed, out the extensive global supply spending on medicines by driv- if, for example, a production or even abandoned, at sub- chain, relating to procurement ing down prices, demanding facility is found to be in non-stantial expense. The process of ingredients and compo- higher rebates and restricting compliance, a product is not involves non-clinical tests and nents as well as distribution of access to and reimbursement within specifications, or if side clinical trials, commercial prodproducts . This could be due to of new products . In some effects that were not detected uct planning and regulatory breakdowns or quality failures markets, political instability, in clinical trials become approval, including approval of at company sites or at key sup- conflict or weak enforcement apparent when a product is the production facilities, pliers' production facilities, of the rule of law may affect used for a longer period of What is the risk? sales. At any time, established time . or new competitors may bring new products to market or obtain label change for mar- keted products, leading to increased competition . Patients would not benefit If Novo Nordisk is prevented Patients would not have access Patients' health and lives from innovative treatments and from supplying products to to the clinical benefits of new could be put at risk and Novo Nordisk's future position markets, pharmacies and products if Novo Nordisk is Nordisk's reputation and as a leader could be jeopard- hospitals could face product prevented from launching new licence to operate could be ised if the company is unable shortages, with potential impli- products due to reimburse- damaged if regulatory compli- to bring innovative products to cations for patients' daily treat- ment restrictions and newer ance is not ensured . market . Any delays or failures ment needs . products could be niched for of new products could have an use in narrow sub-populations . adverse impact on sales, profits Across all markets, product and market position . categories could face intensi- What is the impact? fied competition and in these categories lower realised prices are expected. Insights into patients' unmet Internal quality audits and Clinical trial data demonstrate A robust quality management needs inform the selection- annual inspections by regu- the added value of new prod- system, improvement plans and of new product -candidates . latory authorities document ucts . Real-world evidence is systematic senior management Clinical trials are run to GMP compliance, and alterna- introduced to show health eco-reviews are in place. Authority -demonstrate safety and tive supply sites for critical raw nomic benefits . Negotiations inspections and internal qualefficacy. Assessments of materials and back-up facilities with payers aim to ensure ity audits are conducted at -commercial viability determine are in place for key production- patients' access to the clinical production sites . When issues progress through stage gates . plants and safety inventories, benefits of new products . are found with production pro- Consultations are held with to prevent and respond to cesses or marketed products, regulators to review clinical accidents or other disruptions root causes are identified and findings and obtain guidance to supplies . Global production corrected and, if necessary, on clinical programmes . reduces supply risks. products are recalled. What actions are taken? See more on pp 20-21 See more on p 16 See more on pp 32-37 See more on p 16

OUR BUSINESS 43 IT security Currency impact Breach of legislation Loss of intellectual breaches and tax disputes or ethical standards property rights Disruption to IT systems, such Exchange rate fluctuations, dis- In a tightly regulated industry, The validity of patents that are as virus attacks, and breaches putes with tax authorities and breach of legislation, indus- critical for protecting Novo of data security, may happen changes of tax legislation are try codes or company policies Nordisk's commercial prod- across the global value chain, external factors . Novo Nordisk's may occur in connection with ucts and candidates in the R&D where reliable IT systems and foreign exchange risk is most business interactions, such as pipeline may be challenged by infrastructure are critical for the significant in USD, CNY and with healthcare profession- competitors . company's ability to operate JPY, while the EUR exchange als, business partners or other effectively . rate risk is regarded as low due stakeholders . This could lead to to Denmark's fixed-rate policy lawsuits against Novo Nordisk or towards EUR . investigations by the authorities Patients' or other individuals' Novo Nordisk's cash flow, Breaches of legislation or ethical Loss of exclusivity for existing privacy could be compromised statement of comprehensive standards could compromise and pipeline products could if confidential information is dis- income and balance sheet can the integrity of the individuals impact Novo Nordisk's market closed, and breaches of IT secu- be impacted significantly by involved and could cause dam- position, sales and profits . rity could have a severe impact currency fluctuations . Changes age to Novo Nordisk's reputa- on Novo Nordisk's ability to to tax legislation or loss of tion and financial situation . maintain operations and hence major tax cases could result on its financial situation . In pro- in significant tax adjustments duction environments, for exam- and fines, and could lead to a ple, breaches of IT security could -higher-than-expected tax level impact Novo Nordisk's ability to for the company . produce and safeguard product quality . IT security technologies and Expected future cash flows for Due diligence, standard pro- Throughout the process of controls are in place to help selected currencies are hedged cedures and training are in place drafting, filing and prosecuting prevent intruders from causing- to mitigate short term impact to ensure compliance with laws a patent application, internal damage to systems and -gaining on earnings and cash flow. An and regulations and prevent controls are in place to minimise access to critical data and sys- integrated treasury management breaches of standards, with vulnerability to invalidity actions . tems . Continuity plans are -system is in place . Applicable legal defence where relevant . Patents at high risk of invalidity being prepared--- in the event of taxes are paid in jurisdictions Compliance with business ethics challenge are proactively iden- non-availability of IT systems . where business activity gener- standards is subject to internal tified to defend Novo Nordisk's Awareness campaigns, access ates profits . Multi-year advance audit. intellectual property rights. controls and intrusion detection pricing agreements with tax and prevention systems have authorities have been negotiated been implemented . Company- with the US, Canada, China, India wide internal audits of IT secu- and Japan . Hedging activities and rity controls are conducted calculation of transfer pricing are to detect and mitigate any subject to internal controls and breaches . audit . See more on pp 72-73 and 83-84 See more on p 101 See more on pp 20-21 and 74-75

44 GOVERNANCE, LEADERSHIP AND SHARES For the next 12 months, Novo Nordisk has decided to implement a new share repur- Shares and chase programme. The expected total repur- chase value of B shares amounts to a cash value of up to DKK 15 billion. The total pro- capital structure gramme may be reduced in size if significant product in-licensing or bolt-on acquisition opportunities arise during 2019. Novo Nordisk expects to conduct the majority of the new share repurchase programme according to Through open and proactive communication, the company aims the safe harbour rules in MAR . At the Annual to provide the basis for fair and efficient pricing of its shares . General Meeting in March 2019, the Board of Directors will propose a further reduction in the company's B share capital, corresponding Share capital and ownership shareholder value creation and competitive to approximately 2% of the total share capi-Novo Nordisk's total share capital of DKK shareholder return in the short term . Novo tal, by cancelling 50,000,000 treasury shares . 490,000,000 is divided into an A share cap- Nordisk's guiding principle is that any excess After the implementation of the share capital ital of nominally DKK 107,487,200 and a B capital, after the funding of organic growth reduction, Novo Nordisk's share capital will share capital of nominally DKK 382,512,800. opportunities, investments and acquisitions, amount to DKK 480,000,000, divided into A The company's A shares are not listed and should be returned to investors . The com- share capital of DKK 107,487,200 and B share are held by Novo Holdings A/S, a Danish pany's dividend policy applies a pharmaceuti- capital of DKK 372,512,800 . public limited liability company wholly cal industry benchmark to ensure a com- owned by the Novo Nordisk Foundation . petitive payout ratio for dividend payments, Share price development The Foundation has a dual objective: to which are complemented by share repurchase Novo Nordisk's share price decreased by 10 9%. provide a stable basis for the commercial programmes . As illustrated on the oppo- between its 2017 close of DKK 334 5. and the and research activities conducted by the site page, Novo Nordisk has continuously 31 December 2018 close of DKK 297 9. . For companies within the Novo Group (of which increased both the payout ratio and the divi- comparison purposes, the Danish OMXC20 Novo Nordisk A/S is the largest), and to sup- dend paid over the past five years . The final CAP stock index decreased by 13.2% and the port scientific and humanitarian purposes . dividend for 2017 paid in March 2018 was pharma peer group increased by 15% during According to the Articles of Association of equal to DKK 4.85 per A and B share of DKK 2018. The total market value of Novo Nordisk's the Foundation, the A shares cannot be 0.20 as well as for ADRs. The total dividend B shares, excluding treasury shares, was DKK divested . As of 31 December 2018, Novo for 2017 was DKK 7.85 per A and B share of 553,142,910,160 as of 31 December 2018. Holdings A/S also held a B share capital of DKK 0.20, corresponding to a payout ratio nominally DKK 29,957,800 . Novo Nordisk's of 50 .3%, which is on a par with the 2017 Communication with shareholders B shares are listed on Nasdaq Copenhagen pharma peer group average of 50.2%. In To keep investors updated about perfor- and on the New York Stock Exchange (NYSE) August 2018, an interim dividend was paid mance and the progress of clinical devel- as American Depository Receipts (ADRs). equalling DKK 3 00. per A and B share of DKK opment programmes, Novo Nordisk hosts Novo Nordisk's A and B shares are calcu-0.20 as well as for ADRs . For 2018, the Board conference calls with Executive Management lated in units of DKK 0.20, resulting in 537 of Directors will propose a final dividend of following key events and the release of million A shares and 1,913 million B shares . DKK 5 15. to be paid in March 2019, equiva- financial results . Executive Management and Each A share carries 200 votes and each B lent to a total dividend for 2018 of DKK 8 15. Investor Relations also travel extensively to share carries 20 votes *. No complete record and a payout ratio of 50.6%. The company ensure that all investors with a major holding of all shareholders exists; however, based on expects to distribute an interim dividend in of Novo Nordisk shares can meet with the available sources of information about the August 2019, and further information regard- company on a regular basis and that a num- company's shareholders, as of 31 December ing such interim dividend will be announced ber of other investors and potential investors 2018 it is estimated that shares were geo- in connection with the financial report for the also have access to the company's Executive graphically distributed as shown in the chart first six months of 2019. Dividends are paid Management and Investor Relations. on the opposite page. As of 31 December from distributable reserves . Share premium is 2018, the free float of listed B shares was a distributable reserve and any former share Analyst coverage 89.3% (of which approximately 12.2% are premium reserve is considered to have been Novo Nordisk is currently covered by 34 listed as ADRs), excluding the Novo Holdings fully distributed . Novo Nordisk does not pay sell-side analysts, including the major global A/S holding and Novo Nordisk's holding of a dividend on its holding of treasury shares . investment banks that regularly produce treasury shares which, as of 31 December Shareholders' enquiries concerning dividend research reports on Novo Nordisk . A list of 2018, was DKK 41,109,130 nominally . For payments and shareholder accounts should analysts covering Novo Nordisk can be found details about the share capital, see note 41. be addressed to Investor Service . Read more under 'Investors' at novonordisk com. . Other on pp 81-82, on the back cover, information which can be accessed via this website includes company announcements Capital structure and dividend policy Share repurchase programme for from 1995 onwards, financial, social and Novo Nordisk's Board of Directors and Execu-2018/2019 environmental results, a calendar of inves- tive Management consider that the current During the 12-month period beginning tor-relevant events, investor presentations capital and share structure of Novo Nordisk 1 February 2018, Novo Nordisk repur- and background information . serves the interests of the shareholders and chased shares worth DKK 15 billion . The * Special rights attached to A shares include pre-emptive sub- the company well, providing the strategic share repurchase programme has primarscription rights in the event of an increase in the A share capital flexibility to pursue Novo Nordisk's vision . ily been conducted in accordance with the and pre-emptive purchase rights in the event of a sale of A Novo Nordisk's capital structure strategy safe harbour rules in the EU Market Abuse shares, while B shares take priority for liquidation proceedings . A shares take priority for dividends below 0.5%, and B shares offers a good balance between long-term Regulation (MAR) . take priority for dividends between 0.5 and 5% .

GOVERNANCE, LEADERSHIP AND SHARES 45 Ownership structure Geographical split* % of share capital 2018 2017 50 Novo Nordisk Foundation Institutional and 40 private investors Novo Holdings A/S 30 75.8% of votes 24.2% of votes 28.1% of capital 71.9% of capital 20 A shares B shares 537 million shares 1,913 million shares 10 Novo Nordisk A/S 0 Denmark North America UK and Ireland Other Note: Treasury shares are included, however, voting rights of treasury shares cannot be exercised *Using shareholder registered home countries Share price performance Price development and monthly turnover Novo Nordisk share price and indexed peers of Novo Nordisk B shares Novo Nordisk Pharmaceutical industry index* OMXC20 CAP Turnover of B shares (left) Novo Nordisk's B share closing prices (right) DKK DKK billion 480 35 420 30 360 420 25 300 360 20 240 300 15 180 240 10 120 180 5 60 0 120 0 Mar Jun Sep Dec Mar Jun Sep Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2017 2018 2018 Pharmaceuticals index comprises: AstraZeneca, Bristol-Myers Squibb, Eli Lilly, GlaxoSmithKline, Lundbeck, Merck, Novartis, Pfizer, Roche, Sanofi and Novo Nordisk Cash distribution to shareholders Development in share capital Share repurchases in the calendar year Interim dividend Share capital Dividend for prior year Free cash flow DKK billion DKK million 600 40 550 32 (2%) (2%) 500 (2%) 24 (2%) 450 16 400 8 0 350 2015 2016 2017 2018 2019E 2015 2016 2017 2018 2019E

46 GOVERNANCE, LEADERSHIP AND SHARES Board of Directors Novo Nordisk has a two-tier management Corporate structure consisting of the Board of Directors and Executive Management . The two bodies are separate, and no one serves as a member governance of both . The Board of Directors supervises Executive Management, determines the company's- overall strategy and follows up on its The Board of Directors of Novo Nordisk focuses on good implementation, the performance, ensures -adequate management and organisation -governance practices . After 13 years of service on the Board, and, as such, actively contributes to develop- Göran Ando did not seek re-election at the Annual General Meet- ing the company as a focused, sustainable, ing in 2018 and Helge Lund was elected as the new chair of the global pharmaceutical company . The Board of Directors may also distribute extraordinary Board . The general meeting elected two new board members while dividends, issue new shares or repurchase the employees of Novo Nordisk A/S elected two new members of shares in accordance with authorisations the Board and re-elected two others . The Board decided that the granted by the Annual General Meeting and recorded in the meeting minutes available at Research & Development Committee should continue as a perma-novonordisk com/about us. . nent committee . A new chief financial officer was also appointed . Shareholder-elected board members serve for a one-year term and may be re-elected . Governance structure by a simple majority. However, resolutions Board members must retire at the first to amend the Articles of Association require Annual General Meeting after reaching Shareholders two-thirds of the votes cast and capital rep- the age of 70. One board member is a The shareholders of Novo Nordisk have ulti- resented, unless other adoption requirements member of the Board of Directors of Novo mate authority over the company and exer- are imposed by the Danish Companies Act . Holdings A/S, and one board member is cise their right to make decisions at general chief executive- officer of Novo Holdings meetings . At the Annual General Meeting, Novo Holdings A/S holds the majority of A/S and may be regarded as representing shareholders approve the annual report votes at general meetings . However, all stra- the interests of the controlling shareholder, and any amendments to the com-pany's tegic and operational matters are decided while six of the eight shareholder-elected Articles of Association. Shareholders also solely by the Board of Directors and Executive board members are independent as defined elect board members and the independent Management . Read more about the owner- by the Danish Corporate Governance auditor . Resolutions can generally be passed ship structure of Novo Nordisk on pp 44-45 . Recommendations .

GOVERNANCE, LEADERSHIP AND SHARES 47 In order to support continued fulfilment shareholder-elected board members with a of the Novo Nordisk Way, the criteria for nationality other than Nordic - and at least board members described in the compe- three shareholder-elected board members of tence -profile include integrity, accountabil- each gender . ity, fairness, financial literacy, commitment and desire for innovation . Board members As of 31 December 2018, two shareholder- are also expected to have experience of elected board members were female and -managing major companies that develop, six were male, while six of the eight share- manufacture and market products and holder-elected board members were non-- services globally, and some members should Nordic and two were Nordic . The company have specific experience from the health- thus fulfilled- its nationality ambition, but care sector . The competence profile, which did not fulfil its gender ambition . At the includes the nomination criteria, is available Annual General Meeting in 2018, two male at novonordisk com/about_us. candidates were nominated . The selection process was undertaken by the Nomination In 2018, the Board of Directors revised the Committee, which identified several suitable competence profile by adjusting the com- candidates with the assistance of an exec- petences that should be represented on the utive search firm . It was a requirement that Board to ensure that they meet the future diversity was taken into account with regard demands of the company . to experience, background, gender and ori- gin . In the end, the best suitable candidates The Board of Directors conducts a self-evalu- were male and non-Nordic . The Board of ation every year. The self-evaluation includes Directors will continue to work on securing all members of the Board and Executive the desired diversity on the Board by 2020 . Management . The chair has overall responsi- NOVO NORDISK SHAREHOLDERS' MEETING 2018 bility for conducting the self-evaluation . The In accordance with section 99b of the Danish Denmark self-evaluation is facilitated every third year by Financial Statements Act, Novo Nordisk external consultants, who interview all mem- discloses its gender diversity policy, targets bers of the Board of Directors and Executive and current performance (see p 15). Novo Management . For the subsequent two years, Nordisk's diversity policy is available at novo- Under Danish law, employees in Denmark the self-evaluation is facilitated by the secre- nordisk com. . may elect a number of board members tary of the Nomination Committee based on equalling half of the board members elected written questionnaires . The -process evaluates Board committees by general meetings . Board members elected topics such as board dynamics, board agenda by employees serve for a statutory four-year and discussions, strategy, -culture, executive Chairmanship term and have the same rights, duties and succession, board composition, succession, The Chairmanship consists of the chair and responsibilities as shareholder-elected board potential overboarding and training as well the vice chair, both of whom are elected members. Read more about the members of as the performance of the Chairmanship directly by general meetings. In 2018, the the Board of Directors on pp 50-51 and at and the board committees. In addition, Annual General Meeting elected Helge -novonordisk. com/about_us . each member of the Board of Directors and Lund as chair and Jeppe Christiansen as vice Executive Management is provided with feed- chair . The Chairmanship assists the Board of As of 31 December 2018, the Board of back from all other board members and exec- Directors in the planning of Board meetings, Directors consisted of 12 members, eight utives on their individual performance . employment of Executive Management and of whom were elected by shareholders and other assignments as decided by the Board . four by employees in Denmark . The Board of In 2018, the self-evaluation was facilitated Directors met seven times during 2018. At internally and, in general, revealed good In 2018, the Chairmanship focused particu- the Annual General Meeting in March 2018, performance by the Board and good colla-b--- larly on discussing strategy execution across Göran Ando did not seek re-election and oration between the Board and Executive the value chain, commercialisation strategies Helge Lund was elected as the new chair of Management . The process also resulted in different markets, partnering and acqui- the Board . Andreas Fibig and Martin Mackay in continued focus on the implementation sition to access external innovation, talent were elected as new members of the Board of the Research & Development strategy, and leadership development, succession of Directors . Furthermore, at the election -sourcing of external innovation, commercial- prepared-ness, development of the company of employee representatives to the Board, isation of the company's products and the culture and adapting the board agenda to Mette Bøjer Jensen and Thomas Rantzau development of the company culture . meet the future needs of the company . were elected as new members and, conse- quently, Liselotte Hyveled and Søren Thuesen To ensure that discussions include mul-Audit Committee Pedersen stepped down from the Board . tiple perspectives representing the complex, The Audit Committee assists the Board of global pharmaceutical environment, the Directors with oversight of the external audi- Nomination, self-evaluation and diversity Board of Directors aspires to be diverse in tors, the internal audit function, handling hot- A proposal for nomination of shareholder- gender and nationality. line complaints, financial, social and environelected board members is presented by mental reporting, business ethics compliance, the Nomination Committee to the Board In 2016, the Board of Directors adjusted its information security, insurance coverage, of Directors, taking into account required diversity ambition and set new targets with special theme reviews and other tasks on an -competences as defined by the compe- the aim of consisting, by 2020, of at least ad hoc basis, as specifically decided by the tence profile and reflecting the results of a two shareholder-elected board members Board . All members have relevant industry self-evaluation process . with Nordic nationality and at least two expertise . For independence see p 51.

48 GOVERNANCE, LEADERSHIP AND SHARES The Audit Committee is appointed by the • Jeppe Christiansen (chair) Executive Management Board and consists of: • Brian Daniels Executive Management is responsible • Liz Hewitt for overall day-to-day management, the • Liz Hewitt (chair; financial expert) • Anne Marie Kverneland organisation of the company, allocation of • Andreas Fibig resources, determination and implemen- • Sylvie Grégoire In 2018, the Remuneration Committee tation of strategies and policies, direction • Stig Strøbæk focused particularly on assessing and recom- setting, and ensuring timely reporting and mending to the Board remuneration levels provision of information to the Board of In 2018, the Audit Committee focused par- for new executives . It also reviewed and rec- Directors and Novo Nordisk's stakeholders . ticularly on reviewing and discussing work ommended to the Board appropriate levels Executive Management meets at least once performed by internal and external auditors of remuneration for the executives based on a month . The Board of Directors appoints and held focused sessions on risks and internal available benchmark data . In addition, the members of Executive Management and controls in key areas such as Product Supply, Remuneration Committee conducted general determines their remuneration. International Operations and North America reviews of various executive remuneration Operations . The Audit Committee also dis- components and terms such as short-term The Chairmanship reviews the performance cussed key accounting policies and estimates, incentives, long-term incentives, termina- of the executives . To ensure the organi- including provisions for sales rebates, indirect tion and severance payments, claw back sational implementation of the strategy, production costs and on--going tax and legal -provisions etc. Executive Management has established a cases . Finally, it reviewed and discussed the Management Board consisting of the chief status of Information Security and Business Research & Development Committee executive officer, executive vice presidents Ethics Compliance within Novo Nordisk . The Research & Development Committee and senior vice presidents . assists the Board with oversight of the Nomination Committee research and development strategy, the As of 31 December 2018, Executive The Nomination Committee assists the Board -pipeline, the R&D organisation and other Management consisted of nine members with oversight of the competence profile and tasks on an ad hoc basis, as specifically including the chief executive officer . On 15 composition of the Board, nomination of decided by the Board . The Research & February 2018, Karsten Munk Knudsen was members and committees, and other tasks Development Committee was established in appointed chief financial officer, succeeding on an ad hoc basis, as specifically decided by March 2017 in light of the updated research Jesper Brandgaard, who retained respon- the Board . and development strategy and priorities as a sibility for Biopharm and Global Legal & temporary board committee . Patents as a continuing member of Executive The Nomination Committee is appointed by Management . the Board and consists of: In 2018, the Board decided that the Research & Development Committee should continue The two executives who are based outside • Helge Lund (chair) as a permanent committee and revised its Denmark and who have responsibility for • Sylvie Grégoire charter to include additional responsibilities . International Operations and North America • Kasim Kutay Operations, respectively, are not registered • Mette Bøjer Jensen The Research & Development Committee is as executives with the Danish Business appointed by the Board and consists of: Authority . In 2018, the Nomination Committee focused particularly on identifying and interviewing • Martin Mackay (chair) candidates . It also reviewed and recom- • Brian Daniels Assurance mended a revision of the desired compe- • Sylvie Grégoire tences to be represented on the Board and • Thomas Rantzau The company's financial reporting and the reviewed the board members' competences internal controls of financial reporting pro- based on a self-evaluation conducted by In 2018, the Research & Development cesses are audited by an independent audit each board member . Committee focused particularly on review- firm elected at the Annual General Meeting . ing the results of clinical trials and discussed As part of Novo Nordisk's commitment to its Remuneration Committee potential additional research and develop- social and environmental responsibility, the The Remuneration Committee assists the ment activities to further explore opportun- company voluntarily includes an assurance Board with oversight of the remuneration ities within subcutaneous and oral GLP-1 report for social and environmental reporting policy as well as the actual remuneration as well as competitor initiatives . In addi- in the annual report. The assurance pro- of board members, board committees and tion, the committee discussed the potential vider reviews whether the social and envir- Executive Management . opportunities- for addressing unmet needs in onmental performance information covers NASH and atherosclerosis . It also reviewed aspects that are deemed to be material, and The Remuneration Committee is appointed potential external research collaborations as -verifies the internal control processes for the by the Board and consists of: well as acquisitions . The committee also dis- -information reported . cussed elements to further enhance the R&D organisations' performance, re-allocation of Novo Nordisk's internal audit function- resources and succession management . - provides independent and objective -assurance, primarily within internal control of See the Corporate Governance Report or financial processes, IT security and business 98% novonordisk com/about_us. for a more ethics . To ensure that the internal financial- attendance at board meetings in 2018 . detailed description of the board commit- audit function operates independently of See pp 50-51 for a detailed attendance tees, their charters, details on members Executive Management, its charter, audit overview for current board members . and full reports on the board committees' plan and budget are approved by the Audit - activities in 2018 .

GOVERNANCE, LEADERSHIP AND SHARES 49 Committee. The Audit Committee must for the Executive Management resides Financial Statements Act, and an overview approve the appointment, remuneration and with the Chairmanship and not with of Novo Nordisk's compliance with and dismissal of the head of the internal audit the Nomination Committee. explanations for all applicable Nasdaq and function. NYSE Corporate Governance recommenda- 3.4.7 Tasks of the Remuneration Committee: tions, are all available at novonordisk.com/ Other types of assurance activity - quality responsibility for the remuneration polabout-novo-nordisk/corporate-governance/ audits and values audits, known as facili- icy applicable to employees in general Recommendations-and-practices.html tations - help to ensure that the company resides with Executive Management adheres to high quality standards and oper- and not with the Remuneration ates in accordance with the Novo Nordisk Committee. Disclosure regarding Way. Read more about the Novo Nordisk change of control Way on p 6. 4.1.5 Termination payments: two executives' employment contracts entered into The EU Takeover Bids Directive, as par- before 2008 allow for severance pay- tially implemented by the Danish Financial Compliance with corporate ments of more than 24 months' fixed Statements Act, requires listed companies to governance codes base salary plus pension contribution, disclose information that may be of interest and thus the total value of the remu- to the market and potential takeover bid-Novo Nordisk's B shares are listed on Nasdaq neration relating to the notice period ders, in particular in relation to disclosure of Copenhagen and on the New York Stock and of the severance payment exceeds change-of-control provisions. Exchange (NYSE) as American Depository two years of remuneration. Receipts (ADRs). Novo Nordisk discloses that the Group has For more information, see the Statutory one significant agreement with a US payer Today, Novo Nordisk adheres to all Corporate Governance Report. which takes effect, alters or terminates upon of the Danish Corporate Governance a change of control of the Group. If effected, Recommendations designated by Nasdaq Novo Nordisk complies with the corporate a take-over could - at the discretion of the Copenhagen except the following four governance standards of NYSE applicable to relevant counterparty - lead to the termina- recommendations: foreign listed private issuers. A summary of tion of such agreement. Given the owner- the significant ways in which Novo Nordisk's ship structure of Novo Nordisk, the risk is 3.4.2 Independence of board commitcorporate governance practices differ from considered to be remote. tees: the majority of the members of the NYSE corporate governance listing stand- the Nomination Committee and the ards can be found in the Statutory Corporate For information about the ownership structure Remuneration Committee are not Governance Report. of Novo Nordisk, see 'Shares and capital struc- independent. ture' on pp 44-45. For information on change- The applicable corporate governance codes of-control clauses in relation to employee 3.4.6 Tasks of the Nomination Committee: for each stock exchange, the Statutory contracts for Executive Management, see responsibility for succession manage- Corporate Governance Report, in accord- 'Remuneration' on pp 53 - 57. ment and recommending candidates ance with section 107b of the Danish Corporate governance codes and practices Compliance Governance structure Assurance Shareholders Audit of financial data Danish and foreign and review of social and laws and regulations environmental data (internal and external) Board of Directors Audit Chairmanship* Nomination Remuneration R&D Corporate governance Committee Committee Committee Facilitation (internal) standards Executive Management Quality audit Novo Nordisk Way and inspections Organisation (internal and external) * The Chairmanship is directly elected by the Annual General

Meeting.

50 GOVERNANCE, LEADERSHIP AND SHARES Board of Directors Helge Lund Jeppe Brian Daniels Christiansen Chair Vice chair Chair of the Board of Novo Nordisk A/S since 2018 Vice chair and member of the Board of Novo Nordisk Member of the Board of Novo Nordisk A/S since 2016, (member for one year in 2014-2015 and again since A/S since 2013. Chair of the Remuneration Committee member of the Research & Development -Committee 2017). Chair of the Nomination Committee since 2018 since 2017 (member since 2015). since 2017 and member of the Remuneration (member since 2017). -Committee since 2018 . Position and management duties: Chief executive Position and management duties: Operating advisor officer of Maj Invest Holding A/S, Denmark, as well Position and management duties: Venture partner to Clayton Dubilier & Rice, LLC, US . Chair of the board as board member and/or executive director in three with 5AM Venture Management LLC, US . of BP p. l. c. Member of the boards of P/F Tjaldur, Faroe -wholly owned subsidiaries of this company, all in Islands, Inkerman Holding AS, Norway, and Belron S .A ., Denmark . Chair of the board of Haldor Topsøe A/S and Special competences: Extensive experience in clinical Luxembourg. Member of the board of trustees of the Emlika ApS, and board member of a wholly owned development, medical affairs and corporate strategy International Crisis Group . subsidiary of this company . Vice chair of the board of across a broad range of therapeutic areas within the Symphogen A/S and member of the boards of Novo pharmaceutical industry, especially in the US . Special competences: Extensive executive and board Holdings A/S and KIRKBI A/S, all in Denmark . Member experience of large multinational companies headquar- of the board of governors of Det Kgl . Vajsenhus, Education: MD from Washington University, St. Louis, tered in Scandinavia within regulated markets, and Denmark . Adjunct professor, Department of Finance at US (1987), and BSc in Life Sciences (1981) and MA significant financial knowledge . Copenhagen Business School, Denmark . in Metabolism and Nutritional Biochemistry (1981), both from Massachusetts Institute of Technology, Education: MBA from INSEAD, France (1991) and MA Special competences: Executive background and Cambridge, US . in Economics from the Norwegian School of Economics extensive experience within the financial sector, in & Business Administration (NHH), Norway (1987). - particular in relation to financial and capital market issues as well as insight into the investor perspective . Education: MSc in Economics from the University of Copenhagen, Denmark (1985). Andreas Fibig Sylvie Grégoire Liz Hewitt Member of the Board of Novo Nordisk A/S and Member of the Board of Novo Nordisk A/S and of the Member of the Board of Novo Nordisk A/S since 2012, -member of the Audit Committee since 2018. Audit Committee since 2015, member of the Research chair of the Audit Committee since 2015 (-member & Development Committee since 2017 and member of since 2012) and member of the Remuneration Position and management duties: Chair of the the Nomination Committee since 2018. - Committee since 2018. board and chief executive officer of International -Flavors & Fragrances Inc., US. Member of the board Position and management duties: Chair of the Position and management duties: Member of the German American Chamber of Commerce, board of Corvidia Therapeutics Inc. and executive boards of Savills plc and Melrose Industries plc, where Inc., and executive director of the World Council for chair of the board of EIP Pharma, Inc., both in the US. she is chair of both audit committees, both in the UK. Sustainable Development. -Member of the boards of Vifor Pharma Ltd., Switzer-External member of and chair of the audit committee land, and Perkin Elmer Inc., US. of the House of Lords Commission, UK. Special competences: Extensive global experience within biopharmaceutical companies, in-depth know- Special competences: In-depth knowledge of the Special competences: Extensive experience within the ledge of strategy, sales and marketing and knowledge regulatory environment in both the US and the EU, field of medical devices, significant financial knowledge about how large international companies operate . having experience of all phases of the product life and knowledge of how large international companies cycle, including discovery, registration, pre-launch operate . Education: Degree in Marketing from Berlin School of and managing the life cycle while on the market . In Economics, Germany (1982) . addition, she has financial insight, including into P&L Education: FCA (UK Institute of Chartered responsibility . - Account-ants) (1982), and BSc (Econ) (Hons) from University College London, UK (1977). Education: Pharmacy Doctorate degree from the State University of NY at Buffalo, US (1986), BA in Pharmacy from Laval University, Canada (1984), and Science College degree from Séminaire de Sherbrooke, Canada (1980).

GOVERNANCE, LEADERSHIP AND SHARES 51 Mette Bøjer Kasim Kutay Anne Marie Jensen Kverneland Member of the Board of Novo Nordisk A/S and Member of the Board of Novo Nordisk A/S and the Member of the Board of Novo Nordisk A/S since 2000 -member of the Nomination Committee since 2018. Nomination Committee since 2017 . and member of the Remuneration Committee since 2017 . Position and management duties: Wash & sterilisa- Position and management duties: Chief executive tion specialist in Product Supply, Novo Nordisk A/S . officer of Novo Holdings A/S, Denmark . Member of the Position and management duties: Laboratory board of Novozymes A/S, Denmark . technician and full-time union representative in Novo Education: Graduate programme (HD) in Business Nordisk A/S . Member of the board of the Novo Nordisk Administration (Strategic management and business Special competences: Extensive experience as finan-Foundation since 2014. development), Copenhagen Business School, Denmark cial advisor to the pharmaceutical, biotechnology and (2010), and Master of Science in Biotechnology from medical device industries . He has also advised health- Education: Degree in Medical Laboratory - Technology Aalborg University, Denmark (2001). care companies internationally, including companies from Copenhagen University Hospital, Denmark based in Europe, the US, Japan and India . (1980) . Education: MSc in Economics (1987), and BSc in Economics (1986), both from London School of Economics, UK . Martin Mackay Thomas Stig Rantzau Strøbæk Member of the Board of Novo Nordisk A/S and chair of Member of the Board of Novo Nordisk A/S and Member of the Board of Novo Nordisk A/S since 1998 the Research & Development Committee since 2018 . member of the Research & Development Committee and member of the Audit Committee since 2013 . since 2018 . Position and management duties: Co-founded Position and management duties: Electrician and Rallybio LLC, US, in January 2018 and serves as chair Position and management duties: Area specialist in full-time union representative in Novo Nordisk A/S . of the board and in an executive leadership role Product Supply, Novo Nordisk A/S . overseeing all research and non-research functions . Education: Diploma in further training for board Senior advisor to New Leaf Venture Partners, LLC, US . Education: Degree in food engineering from DTU, members from the Danish Employees' Capital Pension Member of the board of Charles River Laboratories Denmark (2003) and dairy technician diploma (1992). Fund (LD) (2003), and diploma in electrical engineering International, Inc., US. (1984). Special competences: R&D executive with extensive experience in building a pipeline, acquiring products and managing the portfolio of early-stage and late- stage projects in large international pharmaceutical companies . Education: Doctorate/PhD from University of Edinburgh, UK (1984), BSc (First Class Honours) in Microbiology from Heriot-Watt University, Edinburgh, UK (1979). Meeting participation in 20181 First Board of Chairman- Audit Remuneration Nomination R&D Name (male/female) elected Term Nationality Born Independence2 Directors ship Committee Committee Committee Helge Lund (m)4 20173 2019 Norwegian Oct . 1962 Independent 7/7 5/5 1/1 6/6 Jeppe Christiansen (m) 2013 2019 Danish Nov. 1959 Not independent 5 7/7 7/7 5/5 Brian Daniels (m) 2016 2019 American Feb. 1959 Independent 7/7 4/4 5/5 Andreas Fibig (m) 2018 2019 German Feb. 1962 Independent 6, 7 3/5 2/4 Sylvie Grégoire (f) 2015 2019 Canadian/American Nov . 1961 Independent 6, 7 7/7 5/5 5/5 Liz Hewitt (f) 2012 2019 British Nov. 1956 Independent 6, 7 7/7 5/5 3/4 Mette Bøjer Jensen (f) 2018 2022 Danish Dec. 1975 Not independent 8 5/5 5/5 Kasim Kutay (m) 2017 2019 British May 1965 Not independent 5 7/7 5/6 Anne Marie Kverneland (f) 2000 2022 Danish Jul . 1956 Not independent 8 7/7 5/5 Martin Mackay (m) 2018 2019 American Apr . 1956 Independent 5/5 4/4 Thomas Rantzau (m) 2018 2022 Danish Mar . 1972 Not independent 8 5/5 4/4 Stig Strøbæk (m) 1998 2022 Danish Jan . 1964 Not independent 6, 8 7/7 5/5 1. Number of meetings attended by each board member out of the total number of meetings within the member's term . 2. As designated by Nasdaq Copenhagen in accordance with section 3.2 1. of Recommendations on Corporate Governance . 3. In addition, Helge Lund was a member of the Board for one year in 2014–2015 4. As part of the Board succession preparedness activities, Helge Lund was invited to the chairmanship meetings as an observer from April 2017 to March 2018 . 5. Member of the board or the management of Novo Holdings A/S . 6. Pursuant to the US Securities Exchange Act, Ms Hewitt, Ms Grégoire and Mr Fibig qualify as independent Audit Committee members, while Mr Strøbæk relies on an exemption from the independence requirements . 7. Ms Hewitt, Ms Grégoire and Mr Fibig qualify as independent Audit Committee members as defined under part 8 of the Danish Act on Approved Auditors and Audit Firms . 8. Elected by employees of Novo Nordisk .

52 GOVERNANCE, LEADERSHIP AND SHARES Executive Management Lars Fruergaard Jesper Brandgaard Maziar Mike Jørgensen Doustdar* Executive vice president, President and chief Biopharm & Global Legal Executive vice pres- executive officer (CEO) & Patents ident, International Operations Lars Fruergaard Jørgensen joined Novo Nordisk in 1991 Jesper Brandgaard joined Novo Nordisk in 1999 as Maziar Mike Doustdar joined Novo Nordisk in 1992 as as an economist and has since completed postings in senior vice president of Corporate Finance . He was an office clerk in Vienna, Austria . He was appointed the Netherlands and overseas in the US and Japan . appointed executive vice president and chief financial -senior vice president of International Operations He was appointed executive vice president of IT, officer in November 2000 . In 2017, he took over in 2013 and executive vice president in 2015 . In Quality & Corporate Development in January 2013, responsibility for the Biopharm activities . In -February September 2016, he took on additional geographical and in November 2014 he took over responsibility 2018, he changed his area of responsibility and responsibility and was promoted to executive vice for Corporate People & Organisation and Business -became executive vice president of Biopharm and president of an expanded International Operations, Assurance and became chief of staff . In January 2017, Global Legal & Patents . leading all commercial units globally, except for the US he was appointed president and chief executive officer and Canada. (CEO). Other management duties: Chair of the board of SimCorp A/S and vice chair of the board of Chr. Han- Born: August 1970. Born: November 1966. sen A/S, where he is also member of the nomination and audit committee, both in Denmark . President of the Council of the Novo Nordisk Haemophilia Founda- tion, Switzerland . Born: October 1963 . Lars Green Karsten Munk Doug Langa* Knudsen Executive vice -president, Executive vice president, North Business Services & Executive vice president America Operations - Compliance and chief financial officer (CFO) Lars Green joined Novo Nordisk in 1992 as a graduate Karsten Munk Knudsen joined Novo Nordisk in 1999 as Doug Langa joined Novo Nordisk in 2011 as senior on the Finance Graduate Programme . In 2004, he was a business analyst in NNIT A/S, previously a subsidiary director of Managed Markets . In 2015, he was appointed senior vice president of Corporate Finance, of Novo Nordisk, and has since held finance positions appointed corporate vice president of Market Access and in 2014 he took up the position as senior vice of growing size and complexity throughout the Novo in the US, and in 2016 he was promoted to senior vice president of Finance & Operations of Novo Nordisk Inc. Nordisk value chain in Denmark and abroad. In 2014 president of Market Access in the US. In March 2017, in the US. In July 2017, he was promoted to executive he was appointed senior vice president of -Corporate he was appointed senior vice president, head of North vice president of Business Services & Compliance . Finance in Novo Nordisk . In February 2018, he was America Operations and president of Novo Nordisk Inc. promoted to executive vice president and chief In August 2017, he was promoted to executive vice Other management duties: Member of the board -financial officer . president, continuing his responsibilities . of Novozymes A/S, Denmark, where he also chairs the audit committee . Other management duties: Chair of the board of Born: October 1966 . NNE A/S, Denmark . Born: May 1967 . Born: December 1971 . Camilla Sylvest Mads Krogsgaard Henrik Wulff Thomsen Executive vice president, Executive vice president, Commercial Strategy & Executive vice president and Product Supply Corporate Affairs chief science officer (CSO) Camilla Sylvest joined Novo Nordisk as a trainee Mads Krogsgaard Thomsen joined Novo Nordisk in Henrik Wulff joined Novo Nordisk in 1998 in the logis- in 1996. She subsequently held roles in sales and 1991 as head of Growth Hormone Research . He was tics and planning function . He was appointed senior marketing in Novo Nordisk's headquarters and General- appointed senior vice president of Diabetes R&D in vice president of Product Supply in 2013 and executive -Manager positions in Europe and Asia . In 2015, she 1994, and executive vice president and chief science vice president of Product Supply in April 2015 . was appointed senior vice president and general officer in November 2000 . -manager of Novo Nordisk's Region China, and in Other management duties: Chair of the board of October 2017, she was promoted to executive vice Other management duties: Chair of the board of Novo Nordisk Pharmatech A/S and member of the president of Commercial Strategy & Corporate Affairs . the University of Copenhagen and a member of the board of Ambu A/S, both in Denmark . board of Symphogen A/S, both in Denmark . Member Other management duties: Member of the board of of the editorial boards of international, peer-reviewed Born: November 1970 . Danish Crown A/S, Denmark . journals . Born: November 1972 . Born: December 1960 . * Not registered as executive with the Danish Business Authority .

GOVERNANCE, LEADERSHIP AND SHARES 53 euros per meeting outside the member's Remuneration: home country, but on the home country continent, and 10,000 euros per meeting Board of Directors in a country outside the member's home continent. Expenses such as travel and accommodation in relation to board meetings as well as those At the Annual General Meeting in European pharmaceutical companies -similar associated with continuing education are March 2018 it was decided to increase to Novo Nordisk in size, complexity and reimbursed and paid in addition to the travel the fixed base fee to DKK 700,000, market capitalisation . In March 2018 the allowance . Novo Nordisk also pays social while leaving the composition of Annual General Meeting approved that the security taxes imposed by foreign authorities . level for the fixed base fee for 2018 should Further information on travel and expenses is the remuneration of the Board of be increased by DKK 100,000 from DKK available at novonordisk com/about_us. . Directors unchanged . 600,000 to DKK 700,000 . The fee for ad hoc tasks depends on the nature of the task . Incentive programmes Further information on the remuneration of Board members are not offered stock Remuneration composition the Board of Directors is available at options, warrants or participation in other The remuneration of Novo Nordisk's Board novonordisk com/about_us. . incentive schemes . of Directors comprises a fixed base fee, a multiplier of the fixed base fee for the Travel and expenses The company's remuneration principles Chairmanship and members of the board All Board members are paid a fixed travel provide guidance for the remuneration committees, fees for ad hoc tasks and a allowance per board meeting and per board of the Board of Directors and Executive travel allowance . The board fees are evalucommittee meeting of 5,000 euros per Management. These principles are available ated against relevant benchmarks of Danish meeting in the member's home country at novonordisk com/about-novo-nordisk/. and other Nordic companies as well as involving travel of 5 hours or more, 5,000 corporate-governance/remuneration html. . Board and committee fee levels 2018 Board Audit Committee Nomination Committee Remuneration Committee R&D Committee Multiplier DKK Multiplier DKK Multiplier DKK Multiplier DKK Multiplier DKK Chair 3 .00 2,100,000 1 .00 700,000 0 .50 350,000 0 .50 350,000 0 50, 350,000 Vice chair 2 .00 1.400.000 - - - - - - Member 1 .00 700.000 0 .50 350.000 0 .25 175.000 0 .25 175.000 0 25, 175.000 Actual board remuneration 2018 2017 Fee for Fee for Fixed ad hoc tasks and Travel Fixed ad hoc tasks and Travel DKK million base fee committee work allowance Total base fee committee work allowance Total Helge Lund1, 3 (BC and NC) 1.70.40.62.70.50.306.14. Jeppe Christiansen (BV and RC) 1.40.30.11.81.20.302. 17. Brian Daniels (RDM and RM) 0.7 0.3 0.4 1.4 0.6 0.1 05.1 2. Andreas Fibig1 (AM) 0.5 0.3 0.1 0.9 - - - Sylvie Grégoire (AM, NM and RDM) 0.7 0.6 0 .3 1.6 0.6 0.4 0 5.1 5. Liz Hewitt (AC and RM) 0.7 0.8 0.3 1.8 0.6 0.7 0 4.1 7. Mette Bøjer Jensen1 (NM) 0.5 0.2 0.1 0.8 - - - Kasim Kutay1 (NM) 0.7 0.2 0.1 1.0 0.5 0.2 0 2.0 9. Anne Marie Kverneland (RM) 0.7 0.2 0.1 1.0 0.6 0.2 0 1.0 9. Martin Mackay1 (RDC) 0.5 0.3 0.4 1.2 ---- --- Thomas Rantzau1 (RDM) 0 1. 0 9. Søren Thuesen Pedersen 2 0.2 - - 0.2 0.6 0.1 0 3. 1 0. Former members 2 - - - 0.5 0.1 0 2. 0 8. Total 10.1 4.3 2.8 17.2 4 8.7 3.5 3 9. 16.1 4 BC = Bo chairman, BV = Board vice chairman, AC = Audit Committee chairman, AM = Audit Committee member, NC = Nomination Committee chairman, NM = Nomination Committee member, RC = Remuneration Committee chairman, RM = Remuneration Committee member, RDC = R&D Committee chairman, RDM = R&D Committee member . 1. Kasim Kutay and Helge Lund were first elected in March 2017 . Andreas Fibig, Mette Bøjer Jensen, Martin Mackay and Thomas Rantzau were first elected in March 2018. 2. Göran Ando, Liselotte Hyveled and Søren Thuesen Pedersen resigned as of March 2018. Former members also includes fees to Bruno Angelici and Mary Szela, who resigned in 2017. 3. Novo Nordisk provides secretarial assis- tance to the chairman in Denmark and Norway . 4. Excluding social security taxes paid by Novo Nordisk amounting to less than DKK 1 million (less than DKK 1 million in 2017).

54 GOVERNANCE, LEADERSHIP AND SHARES Long-term incentive – performance 2018 Months of base Remuneration: salary equivalent Executive Performance Incentive impact CEO EVPs Long-term incentive target basis (index 100) 4 5. 3 4. Management Economic value creation1 (50% of total target allocation) 104 .4% 44% 2 0. 1 5. A. Incentive performance based on economic value creation 6.5 4.9 In 2018, the cash bonus for the Long-term incentive target basis (index 100) 4 5. 3 4. members of Executive Management Sales growth adjustment2 under the short-term cash-based (50% of total target allocation) 101%

35% 1 6. 1 2. incentive programme was 84% of the B. Incentive performance based maximum cash bonus . The members on sales performance 6.1 4.5 of Executive Management were A. + B. Total incentive based allocated 70% of their respective on financial targets 12 .6 9 4. maximum share allocation under C.

Non-financial targets achievement 3100% - - - the long-term share-based incentive Total incentive performance (A+B adjusted for C) 12.694. programme . Maximum performance 18 13.5 Performance as percentage of maximum 70% 70% Performance as percentage of target 140% 140% 2018 Performance 1. ±10% incentive impact for each percentage point performance above/below 100% until max 110% and min 90% . 2. ±33% incentive impact for each percentage point performance above/below 100% until max 101% and min 90% . 3. ±00% and min 90% . 4. ±00% and min 90% . 5. ±00% and min 90% and min 90% . 5. ±00% and min 90% . ±00% and min 90% and min 9

EVPs – 2018 local currencies . For strategic reasons, one of the non-financial targets within R&D Base salary Benefits Bonus Pension LTIP performance was cancelled, and the weight was re-allo- cated to other R&D related targets . All of DKK million the remaining non-financial targets were reached in 2018 . On this basis, 70% of the 60 maximum share allocation will be allocated to the participants in the long-term share- 50 based incentive programme . Thus, shares 81% of equalling 12 .6 months' fixed base salary plus maximum pension contribution will be allocated to 40 the chief executive officer, whereas shares equalling 9.4 months' fixed base salary plus 30 pension contribution will be allocated to the executive vice presidents . The shares allo- 85% of cated have a three-year vesting period . The 20 maximum amount of shares allocated may be reduced or increased by up to 30%, depending on 10 whether the average sales growth per year in

the three-year vesting period deviates from a target set by the Board of Directors . 0 Maximum Actual Maximum Actual In 2018, the achievement of the – predefined Other registered members of functional and individual business –targets Chief executive officer Executive Management1 (average) for the short-term cash-based incentive pro- gramme by each executive was assessed . 1. Includes executives who have been registered with the Danish Business Authority in 2018 for the full year . Based on this assessment the average cash bonus for members of Executive Management was determined to be 84% of the maximum cash bonus . Consequently, the cash bonus for the chief executive officer for 2018 was 10 months' fixed base salary plus pension contribution, while the average cash bonus for the executive vice presidents was 7.5. months' fixed base salary plus pension contribution .

GOVERNANCE, LEADERSHIP AND SHARES 55 Remuneration composition In March 2018, the Annual General Meeting The Chairmanship evaluates the degree of approved changes in the structure of the achievement for each member of Executive Novo Nordisk's Remuneration Principles pro-long-term share-based incentive programme Management, based on input from the chief vide the framework for the remuneration of by increasing the maximum share alloca- executive officer . the Executive Management . Remuneration tion for the chief executive officer and the has been designed to align the interests of -executive vice presidents and introducing a For 2018, the Board of Directors determined the executives with those of the shareholders . possibility to reduce or increase the numthat the bonus would be a maximum of ber of shares allocated depending on the 12 months' fixed base salary plus pension Executive remuneration is evaluated annually average sales growth in the vesting period . - contribution for the chief executive officer, against relevant benchmarks of Danish and Further, the ability to fully or partially reduce and a maximum of 9 months' fixed base other Nordic companies as well as European the severance payment, if an executive has -salary plus pension contribution for executive pharmaceutical companies similar to Novo taken or takes up new employment after the vice presidents . Nordisk in terms of size, complexity and expiry of the notice period, was introduced . -market capitalisation. The remuneration principles are available at Share-based incentive novonordisk com/about-novo-nordisk/. The long-term share-based incentive pro- Based on benchmark data, the Board of corporate-governance/remuneration html. . gramme is designed to promote the collective Directors decided to maintain the overall- performance of Executive Management and structure of the remuneration packages- Fixed base salary align the interests of executives and share- for Executive Management in 2018. The base salary is intended to attract and holders . Share-based incentives are linked to Remuneration packages for executives com- retain executives with the professional and both financial and non-financial targets . prise a fixed base salary, a cash-based incen- personal competences required to drive the tive, a long-term share-based incentive, a company's performance. The base salary The allocation of shares is based on the pension contribution and other benefits . The of the chief executive officer was phased in degree of achievement of the planned eco- split between fixed and variable remunera- over a two-year period ending in 2018 . nomic value creation and on the degree of tion is intended to result in a reasonable part achievement of the planned level of sales of the salary being linked to performance, Cash-based incentive growth . The allocation of shares may be while promoting sound business decisions The short-term cash-based incentive is reduced (but not increased) if certain non-- to meet the company's objectives . As such designed to incentivise individual perform-- financial targets are not met . Non-financial remuneration is designed to promote short- ance. The incentive is dependent on the targets are determined on the basis of an and long-term achievement in line with the achievement of predefined short-term assessment of the objectives regarded as company's strategy . All incentives are subject -financial, process, people and customer particularly important for the fulfilment of to claw-back, if it is subsequently determined -targets relating to the executive's functional the company's long-term performance. The that payment was based on information that area and on the achievement of personal non-financial targets are mainly linked to the was manifestly misstated . targets relating to the individual executive . company's strategy within the categories of research and development, quality/com- pliance, people and sustainability. Targets within research and development are related Remuneration package components to specific milestones, such as achievement Board of Executive of marketing authorisations, submission of Remuneration Directors Management Comments relating to Executive Management product files to the regulatory authorities in the US and Europe within a certain time Accounts for approximately 15-35% of the total value of Fixed fee/base salary the remuneration package .* frame, successful achievements of mile- stones in clinical trials and a defined number Fee for committee work of product candidates to enter -development from discovery. Targets within quality and Fee for ad hoc tasks compliance are related to the number of Up to 12 months' fixed base salary + pension contribution actual recalls and to quality compliance . Cash-based incentive per year, typically based on the base salary at the end of Targets within people are related to succes- the year . sion management across the organisation . Up to 18 months' fixed base salary plus pension -contribution for the chief executive officer and up to 13 5. Share-based incentive For 2018 the Board determined that the months' fixed base salary plus pension contribution for maximum share allocation would be up to the executive vice presidents . 18 months' fixed base salary plus pension Up to 25% of the fixed base salary and cash-based Pension contribution for the chief executive officer incentive . and up to 13 5. months' fixed base salary Travel allowance and plus pension contribution for the executive other expenses vice presidents . If the targets for economic Executive Management receives non-monetary benefits value creation and sales growth are met, such as company cars, phones etc. Other benefits Executives on international assignments may receive and at least 85% performance is reached for relocation benefits . non-financial targets, the allocation of shares will correspond to 9 months' base salary plus Up to 24 months' fixed base salary + pension contribu- pension contribution for the chief executive- tion . Executive Management contracts entered into before Severance payment 2008 exceed the 24-month limit, but will not exceed 36 officer and 675. months' base salary plus months' fixed base salary plus pension contribution . pension contribution for the executive vice presidents . The amount of shares allocated * The interval 15-35% denotes the span between 'maximum performance' and 'on-target performance'. may be reduced or increased by up to 30%,

56 GOVERNANCE, LEADERSHIP AND SHARES depending on whether the average sales employment contracts for executives allow chief executive officer should hold Novo growth per year in the three-year vesting severance payments of up to 24 months' Nordisk B shares corresponding to two times period deviates from a target set by the fixed base salary plus pension contribution the annual base salary plus pension contri- Board of Directors . in the event of a merger, acquisition or take- bution, and the executive vice presidents over of Novo Nordisk . For each individual should hold shares corresponding to the Pension executive the total value of the -remuneration annual base -salary plus pension contribution . The pension contribution is up to 25% of relating to the notice period and of the sev- For executives- being promoted or employed the fixed base salary, including bonus . erance payment does not exceed two years from outside Novo Nordisk, the sharehold- of remuneration, including all components ing requirement is built up over a period of Severance payment of the remuneration . However, employment 5 years after promotion and employment, Novo Nordisk may terminate employment contracts entered into prior to 2008 allow respectively. All executives met the share- by giving executives 12 months' notice. for severance payments of up to 36 months' holding requirement as of 31 December Executives may terminate their employment fixed base salary plus pension contribution 2018 . by giving Novo Nordisk 6 months' notice . (i e. . a deviation from the 24 months above). In addition to the notice period, executives-Further information on the remuneration are entitled to a severance payment as Shareholding requirement of Executive Management is available at described in the overview of the executive To further align the interests of the sharenovonordisk. com/about_us . -remuneration package components . The holders and Executive Management, the Remuneration of Executive Management and other members of the Management Board 2018 2017 Share- Fixed Share- Fixed base Cash based base Cash based DKK million salary7 bonus Pension Benefits incentive8 Total salary7 bonus Pension Benefits incentive8 Total Executive Management Lars Fruergaard Jørgensen 10.78.94.90.316.541.38.59.24.40 .394.31.8 Jesper Brandgaard 17.14.73.00.36.421.56.34.62.80.336.17.6 Lars Green 5.03.22.10.34.615.22.21.30.90.227.73. Karsten Munk Knudsen 2 4. 0 2. 6 1. 6 0. 3 4. 6 13. 1 - - - - Camilla Sylvest 5. 0 3. 2 2. 1 0. 3 4. 6 15. 2 1. 1 0. 6 0. 4 0. 1 1 3. 3 5. Mads Krogsgaard Thomsen 7. 1 4. 7 3 .00.36.421.56.34.62.80.336.17.6 Henrik Wulff 5.73.32.30.35.216.85.13.82.20.329.14.3 Non-registered members of Executive Management3 12 .2 10 .8 3 .6 0 .8 10 .4 37 .8 9 .5 6 .2 4 3 .5 0 .5 5 0. 24 .7 Former members of Executive Management: Former non-registered members of Executive Management5 - - - - 2 .8 1 .2 1 .5 0 .2 - 5 7. Executive Management in total 56 .8 41 .4 22 .6 2 .9 58 .7 182 .4 41 .8 31 .5 18 .5 2 .2 28 .5 122 5. Other members of the - Management Board in total6 81 .5 36 .6 28 .3 24 .6 45 .4 216 .4 79 .5 31 .7 26 .8 21 .7 34 .1 193 8. 1. In October 2018 Novo Nordisk announced that Jesper Brandgaard will retire from Novo Nordisk as of April 2019. During the period until April 2020 Jesper Brandgaard will continue to provide cer- tain services for Novo Nordisk . Severance payment of DKK 27 .7 million, to be paid in April 2020, is not included in the table above . 2. On 15 February 2018, Novo Nordisk's Executive Management was expanded to include Karsten Munk Knudsen . Amounts in the table include remuneration from 15 February 2018 . 3. Includes remuneration for Maziar Mike Doustdar and Doug Langa (Doug Langa: effective from 1 March 2017). Amounts for 2017 include taxes paid by Novo Nordisk for Maziar Mike Doustdar due to his international employment terms . In addition, Maziar Mike Doustdar received benefits in accordance with Novo Nordisk's International Assignment Guidelines, such as accommodation, children's school fees, international health insurance and other types of insurance, spouse allowance and tax-filing support, all offered net of tax to the assignee. The benefits received in 2018 not included in the above table amounted to DKK 0.9 million (DKK 2 .6 million in 2017). 4. Following the release of the Annual Report 2017, an additional cash bonus of DKK 2 .2 million was granted to a non-registered member of Executive Management . 5. Effective from 1 March 2017, Jakob Riis decided to leave Novo Nordisk . Remuneration for Jakob Riis for 2017 is included in the table above . In addition, Jakob Riis received benefits in accordance with Novo Nordisk's International Assignment Guidelines, such as accommodation, international health insurance and other types of insurance, spouse allowance and tax-filing support, all offered net of tax to the assignee . Including tax paid by Novo Nordisk, the benefits received in 2017 not included in the above table amount to DKK 1.2 million . 6. The total remuneration for 2018 includes remuneration of 37 Senior Vice Presidents (33 in 2017). The 2018 remuneration for the Senior Vice Presidents is included in the table above, whereas severance payments to five Senior Vice Presidents of DKK 56.0 million (two Senior Vice Presidents of DKK 13.0 million in 2017) are not included .7. Excluding social security taxes paid amounting to DKK 1.2 million (DKK 0.3 million in 2017) for Executive Management and DKK 3.0 million (DKK 2.6 million in 2017) for other members of the Management Board . 8. The shares are locked up for three years before they are transferred to the participants employed at the end of the three-year period. The value is the cash amount of the share bonus granted in the year using the grant-date market value of Novo Nordisk B shares . For shares allocated for the 2018 performance, the amount of shares may potentially be reduced or increased depending on whether the average sales growth per year in the three-year vesting period deviates from a target set by the Board of Directors. The amount excludes share-based incentive of DKK 11 million assigned to retired Management Board members . External board remuneration: Jesper Brandgaard serves as chairman of the board of SimCorp A/S, from which he received remuneration of DKK 1,049,385 in 2018 (DKK 1,092,305 in 2017), and as a member of the board of Chr. Hansen A/S, from which he received remuneration of DKK 572,380 in 2018 (no remuneration received in 2017). Lars Green serves as a member of the board of Novozymes A/S, from which he received remuneration of DKK 1,000,000 in 2018 (DKK 1,000,000 in 2017). Camilla Sylvest serves as a member of the board of Danish Crown A/S, from which she received -remuneration of DKK 350,000 in 2018 (no remuneration received in 2017). Mads Krogsgaard Thomsen serves as chairman of the board of the University of Copenhagen, from which he received -remuneration of DKK 256,897 in 2018 (DKK 209,902 in 2017) and as a member of the board of Symphogen A/S, from which he received remuneration of DKK 125,000 in 2018 (no remuneration in 2017). Henrik Wulff serves as a member of the board of AMBU A/S, from which he received remuneration of DKK 400,000 in 2018 (DKK 300,000 in 2017).

GOVERNANCE, LEADERSHIP AND SHARES 57 Management's long-term incentive programme The shares allocated to the members of Executive Management were released to the individual participants subsequent to approval of the Annual Report 2018 by the Board of Directors and the announcement of the full-year financial result for 2018 on 1 February 2019. Based on the share price at the end of 2018, the value of the released shares is as follows: Number Market value2 Value as of 31 December 2018 of shares released on 1 February 2019 of shares1 (DKK million) Executive Management Lars Fruergaard Jørgensen 17,650 5 3. Jesper Brandgaard 21,768 6 5. Lars Green 8,679 2 6. Karsten Munk Knudsen 7,763 2 3. Camilla Sylvest 2,500 0 7. Mads Krogsgaard Thomsen 21,768 6 5. Henrik Wulff 11,687 3 5. Non-registered members of Executive Management 11,279 3 3. Executive Management in total3 103,094 30 .7 Other members of the Management Board in total3 113,802 33 .9 1. Comprises 378,421 shares released from the joint pool for 2015 to the individual participants for the Management Board and 5,100 shares released to members of Executive Management who were not included in the joint pool for 2015 for the Management Board . 2. The market value of the shares released in 2019 is based on the Novo Nordisk B share price of DKK 297.90 at the end of 2018.3. In addition, 166,625 shares (market value: DKK 49.6 million) were released to retired Executive Management and Management Board members . Management's holding of Novo Nordisk shares The internal rules for trading in Novo Nordisk securities by board members, executives and certain employees only permit trading in the -15-calendar-day period following each quarterly announcement . Management's holding of shares At the beginning of Additions Sold/transferred At the end Market value2 the year1 during the year during the year of the year DKK million Helge Lund 3,000 3,000 0 9. Jeppe Christiansen 23,779 23,779 7 1. Brian Daniels 2,100 2,100 0 6. Andreas Fibig — — Sylvie Grégoire 1,875 1,875 0 6. Liz Hewitt 3,350 3,350 1 0. Mette Bøjer Jensen 1,340 1,340 0 4. Kasim Kutay — — Anne Marie Kverneland 9,5 (200) 9,720 2 9. Martin Mackay — 2,000 2,000 0 6. Thomas Rantzau 632 632 0 2. Stig Strøbæk 2,050 2,050 0 6. Board of Directors in total 48,046 2,000 (200) 49,846 14 .9 Lars Fruergaard Jørgensen 120,762 11,866 132,628 39 .5 Jesper Brandgaard 186,305 16,054 (28,554) 173,805 51 .8 Lars Green 132,333 6,429 (36,429) 102,333 30 .5 Karsten Munk Knudsen 47,002 47,002 14 .0 Camilla Sylvest 195 1,938 2,133 0 6. Mads Krogsgaard Thomsen 297,720 16,054 (90,639) 223,135 66 .5 Henrik Wulff 87,575 8,659 (38,659) 57,575 17 .2 Non-registered members of Executive Management 16,000 8,429 (7,125) 17,304 5 1. Executive Management in total 887,892 69,429 (201,406) 755,915 225 2. Other members of the Management Board 262,954 100,661 (68,566) 295,049 87 .9 Outstanding shares for Executive Management and other members of the Management Board3 617,435 371,809 (128,435) 860,809 4 256 4. Total 1,816,327 543,899 (398,607) 1,961,619 584 4. 1. Following the change in the Board of Directors and the retirement of members of Executive Management and the Management Board, the holding of shares at the beginning of the year has been updated compared with the Annual Report 2017. For new members shareholdings are included from the day they became members of the Board of Directors and Executive Management, respectively . 2. Calculation of market value is based on the quoted share price of DKK 297.90 at the end of the year . 3. The annual share allocation to Executive Management and other members of the Management Board is locked up for three years before it is transferred to the participants employed at the end of each three-year period. Based on the split of participants when the shares were allocated, 51% of the shares will be allocated to the members of Executive Management and 49% to other members of the Management Board . In the lock-up period, the number of allocated shares may potentially be reduced in the event of lower-than-planned value creation in subsequent years . 4. The outstanding shares include the 2015 programme released on 1 February 2019, but exclude 367,905 shares assigned to retired Executive Management and Management Board members .

58 CONSOLIDATED FINANCIAL STATEMENTS Income statement and statement of comprehensive income for the year ended 31 December DKK million Note 2018 2017 2016 Income statement Net sales 2.1, 2.2 111,831 111,696 111,780 Cost of goods sold 2.2 17,617 17,632 17,183 Gross profit 94,214 94,064
94,597 Sales and distribution costs 2.2 29,397 28,340 28,377 Research and development costs 2.2, 2.3 14,805 14,014 14,563 Administrative costs 2.2 3,916 3,784
3,962 Other operating income, net 2.2, 2.5 1,152 1,041 737 Operating profit 47,248 48,967 48,432 Financial income 4.8 2,122 1,246 92 Financial expenses 4.8
1,755 1,533 726 Profit before income taxes 47,615 48,680 47,798 Income taxes 2.6 8,987 10,550 9,873 Net profit for the year 38,628 38,130 37,925 Earnings per share Basic earnings per share (DKK) 4.1 15.96 15.42 14.99 Diluted earnings per share (DKK) 4.1 15.93 15.39 14.96 DKK million Note 2018 2017 2016
Statement of comprehensive income Net profit for the year 38,628 38,130 37,925 Other comprehensive income: Items that will not be reclassified subsequently to the income statement: Remeasurements of retirement benefit obligations 3.5 87 103 (205) Items that will be reclassified subsequently to the income statement: Exchange rate adjustments of investments in subsidiaries 491 (632) (7) Cash flow hedges, realisation of previously deferred (gains)/losses 4.3 (2,027) 1,955 682 Cash flow hedges, deferred gains/(losses) incurred during the period 4.3 (1,677) 1,987 (1,911) Other items (27) (577) (74) Tax on other comprehensive income, income/(expense) 2.6 755 (1,041) 324 Other comprehensive income for the year 36,230 39,925 36,734

CONSOLIDATED FINANCIAL STATEMENTS 59 Cash flow statement for the year ended 31 December DKK million Note 2018 2017 2016 Cash flow statement Net profit for the year 38,628 38,130 37,925 Reversal of non-cash items: Income taxes in the income statement 2.6 8,987 10,550 9,873 Depreciation, amortisation and impairment losses 3.1, 3.2 3,925 3,182 3,193 Other non-cash items 4.6 6,098 2,027 3,882 Change in working capital 4.5 (3,370) (3,634) (3,708) Interest received 51 101 114 Interest paid (89) (87) (66) Income taxes paid 2.6 (9,614) (9,101) (2,899) Net cash generated from operating activities 44,616 41,168 48,314 Purchase of intangible assets 3.1 (2,774) (1,022) (1,199) Proceeds from sale of property, plant and equipment 13 9 7 Purchase of property, plant and equipment 3.2 (9,636) (7,626) (7,068) Proceeds from sale of other financial assets 178 73 23 Purchase of other financial assets (248) (40) (112) Sale of marketable securities — 2,009 2,064 Purchase of marketable securities (12,080) (6,571) (6,790) Purchase of treasury shares, net 4.1 (15,567) (16,845) (15,057) Dividends paid 4.1 (19,048) (18,844) (23,830) Proceeds from borrowings, net 4.4 94 — Net cash used in financing activities (34,521) (35,689) (38,887) Net cash generated from activities (1,985) (1,092) 2,637 Cash and cash equivalents at the beginning of the year 4.4 17,158 18,461 15,850 Reclassification of bank overdraft to financing activities 4.4 412 — Exchange gains/(losses) on cash and cash equivalents 44 (211) (26) Cash and cash equivalents at the end of the year 4.4 15,629 17,158 18,461 CONSOLIDATED FINANCIAL STATEMENTS FINANCIAL CONSOLIDATED

60 CONSOLIDATED FINANCIAL STATEMENTS Balance sheet at 31 December DKK million Note 2018 2017 Assets Intangible assets 3.1 5,145 3,325 Property, plant and equipment 3.2 41,891 35,247 Investment in associated company 531 784 Deferred income tax assets 2.6 2,893 1,941 Other financial assets 4.7 1,242 978 Total non-current assets 51,702 42,275 Inventories 3.3 16,336 15,373 Trade receivables 3.4, 4.7 22,786 20,165 Tax receivables 1,013 958 Other receivables and prepayments 4.7 3,090 2,428 Derivative financial instruments 4.2, 4.3, 4.7 204 2,304 Cash at bank 4.2, 4.4, 4.7 15,638 18,852 Total current assets 59,067 60,080 Total assets 110,769 102,355 Equity and liabilities Share capital 4.1 490 500 Treasury shares 4.1 (11) (11) Retained earnings 53,406 48,977 Other reserves (2,046) 349 Total equity 51,839 49,815 Deferred income tax liabilities 2.6 118 846 Retirement benefit obligations 3.5 1,256 1,336 Provisions 3.6 3,392 3,302 Total non-current liabilities 4,766 5,484 Current debt 4.4, 4.7 515 1,694 Trade payables 4.7 6,756 5,610 Tax payables 4,610 4,242 Other liabilities 3.7, 4.7 14,098 14,446 Derivative financial instruments 4.3, 4.7 2,024 309 Provisions 3.6 26,161 20,755 Total current liabilities 54,164 47,056 Total liabilities 58,930 52,540 Total equity and liabilities 110,769 102,355

CONSOLIDATED FINANCIAL STATEMENTS 61 Equity statement at 31 December Other reserves Exchange rate Cash Tax and Total Share Treasury Retained adjust- flow other other DKK million capital shares earnings ments hedges items reserves Total 2016 Balance at the beginning of the year 520 (10) 46,816 (917) (686) 1,246 (357) 46,969 Net profit for the year 37,925 37,925 Other comprehensive income for the year (205) (7) (1,229) 250 (986) (1,191) Total comprehensive income for the year 37,720 (7) (1,229) 250 (986) 36,734 Transactions with owners: Dividends (note 4.1) (23,830) (23,830) Share-based payments (note 5.1) 368 368 Tax related to restricted stock units (note 2.6) 85 85 Purchase of treasury shares (note 4.1) (9) (15,048) (15,057) Reduction of the B share capital (note 4.1) (10) 10 — Balance at the end of the year 510 (9) 46,111 (924) (1,915) 1,496 (1,343) 45,269 2017 Net profit for the year 38,130 38,130 Other comprehensive income for the year 103 (632) 3,942 (1,618) 1,692 1,795 Total comprehensive income for the year 38,233 (632) 3,942 (1,618) 1,692 39,925 Transactions with owners: Dividends (note 4.1) (12) (16,833) (16,844) (18,844) Share-based payments (note 5.1) 292 292 Tax related to restricted stock units (note 2.6) 18 18 Purchase of treasury shares (note 4.1) (10) 10 — Balance at the end of the year 500 (11) 48,977 (1,556) 2,027 (122) 349 49,815 2018 Change in accounting policy, IFRS 9 (net of tax) (note 1.2) (90) 90 — Net profit for the year 38,628 38,628 Other comprehensive income for the year 87 491 (3,704) 728 (2,485) (2,398) Total comprehensive income for the year 38,625 491 (3,704) 818 (2,395) 36,230 Transactions with owners: Dividends (note 4.1) (19,048) (19,048) Share-based payments (note 5.1) 414 414 Tax related to restricted stock units (note 2.6) (5) (5) Purchase of treasury shares (note 4.1) (10) (15,557) (15,567) Reduction of the B share capital (note 4.1) (10) 10 — Balance at the end of the year 490 (11) 53,406 (1,065) (1,677) 696 (2,046) 51,839 CONSOLIDATED FINANCIAL STATEMENTS FINANCIAL CONSO

CONSOLIDATED FINANCIAL STATEMENTS 63 Section 1 Basis of preparation All entities in the Novo Nordisk Group follow the same Group accounting policies. accounting policies in general. A detailed description of accounting policies and This section gives a summary of the significant accounting policies, Management's key key accounting estimates related to specific reported amounts is presented in each PREPARATION OF BASIS accounting estimates, new International Financial Reporting Standards (IFRS) require- note to the relevant financial item. ments and other 1.1 Principal accounting policies and key accounting estimates Key accounting estimates and judgements The use of reasonable estimates and judgements is an essential part of the preparation of -RESULTS FOR THE YEAR — OPERATING ASSETS AND LIABILITIES — CAPITAL STRUCTURE AND FINANCIAL ITEMS — OTHER DISCLOSURES DISCLOSURES — OTHER ITEMS FINANCIAL AND STRUCTURE — CAPITAL LIABILITIES AND ASSETS — OPERATING YEAR THE FOR — RESULTS THE consolidated financial statements included in this Annual Report have been pre- the consolidated financial statements. Given the uncertainties inherent in Novo Nordisk's pared in accordance with International Financial Reporting Standards (IFRS) as issued business activities, Management must make certain estimates regarding valuation and by the International Accounting Standards Board (IASB) and in accordance with IFRS as judgements. These affect the application of accounting policies and reported amounts endorsed by the EU and further requirements in the Danish Financial Statements Act. of assets, liabilities, sales, costs, cash flows and related disclosures. Measurement basis The key accounting estimates identified are those that have a significant risk of resulting The consolidated financial statements have been prepared on the historical cost basis in a material adjustment. Management bases its estimates on historical experience and except for derivative financial instruments, equity investments and marketable securities, various other assumptions that are held to be reasonable under the circumstances. The which are measured at fair value. estimates and underlying assumptions are reviewed on an ongoing basis. If necessary, changes are recognised in the period in which the estimate is revised. Management Except for the changes described in note 1.2, the principal accounting policies set out considers the key accounting estimates to be reasonable and appropriate based on below have been applied consistently in the preparation of the consolidated financial currently available information. The actual amounts may differ from the amounts esti- statements for all the years presented. mated as more detailed information becomes available. Principal accounting policies In addition, Management makes judgements in the process of applying the entity's Novo Nordisk's accounting policies are described in each of the individual notes to the accounting policies, for example regarding recognition of deferred income tax assets consolidated financial statements. Management regards the ones listed in the table or the classification of transactions, below as the most significant accounting policies for the recognition and measurement of reported amounts. Management regards those listed below as the key accounting estimates and judgements used in the preparation of the consolidated financial statements. Please refer to the specific notes for further information on the key accounting estimates and judgements as well as assumptions applied. Principal accounting policies Key accounting estimates and judgements Note US net sales and rebates Estimate of US sales deductions and provisions for sales rebates 2.1 Research and development - 2.3, 3.1 and 3.2 Derivative financial instruments - 4.3 Income taxes and deferred income taxes Estimate regarding deferred income tax assets and provision for uncertain tax positions 2.6 Property, plant and equipment including impairment - 3.2 Inventories Estimate of indirect production costs capitalised 3.3 Trade receivables Estimate of allowance for doubtful trade receivables 3.4 Provisions and contingent liabilities Estimate of ongoing legal disputes, litigation and investigations 3.6 Applying materiality The consolidated financial statements are a result of processing large numbers of There are substantial disclosure requirements throughout IFRS. Management provides transactions and aggregating those transactions into classes according to their nature specific disclosures required by IFRS unless the information is not applicable or considered or function. The transactions are presented in classes of similar items in the consolidat- immaterial to the economic decision-making of the users of these financial statements. If a line item is not individually material, it is aggregated with other items of a similar nature in the consolidated financial statements or in the notes.

64 CONSOLIDATED FINANCIAL STATEMENTS 1.2 Changes in accounting policies and disclosures Adoption of new or amended IFRSs Furthermore the time value of currency options is now deferred in other comprehensive Management has assessed the impact of new or amended and revised accounting income and is recognised in the income statement at the time the hedged transaction standards and interpretations (IFRSs) issued by the (IASB), and IFRSs endorsed by the affects the income statement (note 4.3). Due to immateriality of open options as at European Union. 31 December 2017, Novo Nordisk has implemented this change for new hedging relationships from 1 January 2018. As of 1 January 2018 Novo Nordisk applied, for the first time, IFRS 9 'Financial In- struments' and IFRS 15 'Revenue from Contracts with Customers'. The impact of the Effect from IFRS 15 implementation of IFRS 9 and IFRS 15 has been immaterial in relation to recognition The group has implemented IFRS 15 'Revenue from Contracts with Customers' using and measurement. the modified retrospective approach. Effect from IFRS 9 IFRS 15 replaces the current standards on revenue (IAS 11 'Construction Contracts' and The implementation of IFRS 9 'Financial instruments', which replaces IAS 39 'Financial IAS 18 'Revenue'). There is no significant effect on the financial statements from the Instruments: Recognition and Measurement', has had the effect that the changes to implementation of the Standard. the fair value of minor shareholdings are now, on an investment-by-investment basis, recognised in either the income statement or other comprehensive income. For the Other new interpretations effective 1 January 2018 current minor shareholdings all changes in the fair value are recognised in the income It is assessed that application of other new interpretations effective on 1 January 2018 statement as financial income/expense. Previously fair value changes were recognised has not had a material impact on the Consolidated financial statements in 2018. Further, in other comprehensive income. Management does not anticipate any significant impact on future periods from the As a result of changed accounting practice relating to minor shareholdings, DKK 90 adoption of these new interpretations. million has been moved from other reserves to retained earnings within equity as an adjustment to opening equity as at 1 January 2018. New or amended IFRSs that have been issued but have not yet come into effect and have not been adopted early From 1 January 2018, the classification of portfolios of trade receivables in certain ge- In addition to the above, the IASB has issued a number of new or amended and revised ographies which are either sold under master factoring agreements or collected from accounting standards and interpretations that have not yet come into effect. The following the customer have changed from loans and receivables measured at amortised cost to standard is expected to have the most significant impact on current accounting regulation: fair value through other comprehensive income. No measurement adjustment arose at 1 January 2018 from the reclassification. Description Implementation Impact IFRS 16 Leases IFRS 16 replaces IAS 17, and will change the Novo Nordisk will adopt the standard on the The changes require capitalisation of the ma- (endorsed by the EU) accounting treatment of leases that are cur- effective date, 1 January 2019. jority of the Group's operating leases. This will rently treated as operating leases. The standard increase assets and liabilities by 3-4% of the requires all leases, where Novo Nordisk is the The standard will be implemented using the Group's total assets, thus affecting the financial lessee, regardless of type and with few excep-modified retrospective approach, meaning that ratios related to the balance sheet. tions, to be recognised in the balance sheet comparative information is not restated. The as an asset with a related liability. The lease cumulative effect of initially applying IFRS 16 The impact on operating profit will be insignif- expense will be split between a depreciation will be presented as an adjustment to opening icant. charge included in operating costs and an in- retained earnings under equity. terest expense on lease liabilities included in Cash flow from operating activities will increase financial expenses. Currently, the annual costs as the substantial portion of lease payments relating to operating leases are recognised as will be classified as financing cash outflows. a single expense amount in the income state- ment. 1.3 General accounting policies Principles of consolidation The consolidated financial statements incorporate the financial statements of the parent Translation of transactions and balances company Novo Nordisk A/S and entities controlled by Novo Nordisk A/S. Control exists Foreign currency transactions are translated into the functional currency using the when Novo Nordisk has effective power over the entity and has the right to variable exchange rates prevailing at the transaction dates. Foreign exchange gains and losses returns from the entity. resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities are recognised in the income statement. Where necessary, adjustments are made to bring the financial statements of subsidiaries in line with the Novo Nordisk Group's accounting policies. All intra-Group transactions, Foreign currency differences arising from the translation of effective qualifying cash balances, income and expenses are eliminated in full when consolidated. flow hedges are recognised in other comprehensive income. The results of subsidiaries acquired or disposed of during the year are included in the Translation of Group companies Consolidated income statement from the effective date of acquisition and up to the Financial statements of foreign subsidiaries are translated into DKK at the exchange rates effective date of disposal. prevailing at the end of the reporting period for balance sheet items, and at average exchange rates for income statement items. Translation of foreign currencies Functional and presentation currency All effects of exchange rate adjustments are recognised in other comprehensive income Items included in the financial statements of Novo Nordisk's entities are measured using being: the currency of the primary economic environment in which the entity operates (func- tional currency). The consolidated financial statements are presented in Danish kroner • The translation of foreign subsidiaries' net assets at the beginning of the year to (DKK), which is also the functional and presentation currency of the parent company. the exchange rates at the end of the reporting period. • The translation of foreign subsidiaries' statements of comprehensive income at average to year-end exchange rates.

CONSOLIDATED FINANCIAL STATEMENTS 65 Section 2 Results for the year This section comprises notes related to the results for the year and hence provides for both the commercial and government channels, and determine which drugs are DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE -CAPITAL LIABILITIES AND ASSETS - OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS information related to Novo Nordisk's long-term financial target for growth in oper- covered on their formularies (or 'preferred drug lists'). Specifically, Management views ating profit in local currencies. Operating profit decreased by 3.5% in 2018 (increase the rising healthcare cost trend and highly competitive environment as the primary drivers of 1.1% in 2017). The article '2018 performance and 2019 outlook' on p 10 includes of payer pressure to reduce overall drug costs. Management's review of the results for the year and the articles 'Innovating for access in a challenging US market' on pp 32-34 and 'Where there are unmet needs, there is This has resulted in greater focus on negotiating higher rebates from drug manufactur- opportunity' on pp 35-37 include Management's perspective on the various markets, ers. As new products enter the market, private payers are increasingly likely to adopt which is not part of the audited financial statements (unaudited), narrow formularies that exclude certain drugs, while securing higher rebates from the preferred brand(s). Pricing mechanisms in the US market In the US, sales rebates are paid in connection with public healthcare insurance pro- From Management's perspective, in 2018 payers have continued to leverage their grammes, namely Medicare and Medicaid, as well as rebates to pharmacy benefit size and influence to negotiate higher rebates. Moreover, intense competition in the managers (PBMs) and managed healthcare plans. Key customers in the US include private diabetes space limits the impact of price increases, as much of it is given back to payers payers, PBMs and government payers. PBMs and managed healthcare plans play a role in the form of higher rebates and price protection, leading to continued downward in negotiating price concessions with drug manufacturers on behalf of private payers pressure on prices. 2.1 Net sales and rebates Accounting policies Key accounting estimates of sales deductions and provisions for sales rebates Revenue from sale of goods is recognised when Novo Nordisk has transferred control Sales deductions are estimated and provided for at the time the related sales are recorded. of products sold to the buyer and it is probable that Novo Nordisk will collect the con- These estimates of unsettled rebate, discount and product return obligations require sideration to which it is entitled for transferring the products. Control of the products use of judgement, as not all conditions are known at the time of sale, for example total is transferred at a point in time, typically on delivery, sales volume to a given customer. Sales are measured at the fair value of the consideration received or receivable. When The estimates are based on analyses of existing contractual obligations and historical sales are recognised, Novo Nordisk also records estimates for a variety of sales deductions, experience. Provisions are calculated on the basis of a percentage of sales for each prod- including product returns as well as rebates and discounts to government agencies, uct as defined by the contracts with the various customer groups. Provisions for sales wholesalers, health insurance companies, managed healthcare organisations and retail rebates are adjusted to actual amounts as rebates, discounts and returns are processed. customers. Sales deductions are recognised as a reduction of gross sales to arrive at net sales, by assessing the expected value of the sales deductions (variable consideration). Novo Nordisk considers the provisions established for sales rebates to be reasonable Where contracts contain customer acceptance criteria, Novo Nordisk recognises sales and appropriate based on currently available information (refer to p 66 for further in- when the acceptance criteria are satisfied. formation). However, the actual amount of rebates and discounts may differ from the amounts estimated by Management as more detailed information becomes available. On some markets Novo Nordisk is selling products on a sale-or-return basis. Where there is historical experience or a reasonably accurate estimate of future returns, estimated product returns is recorded as a reduction in sales. Where shipments of new products are made on a sale-or-return basis, without sufficient historical experience for estimating sales returns, revenue is recorded based on esti- mated demand and acceptance rates for well-established products with similar market characteristics. If similar market characteristics do not exist, revenue is recorded when there is evidence of consumption or when the right of return has expired.

66 CONSOLIDATED FINANCIAL STATEMENTS 2.1 Net sales and rebates (continued) Other US discounts and sales returns Other discounts are provided to wholesalers, hospitals, pharmacies etc. They are usually linked to sales volume or provided as cash discounts. Accruals are calculated based on Gross-to-net sales reconciliation historical data and recorded as a reduction in gross sales at the time the related sales DKK million 2018 2017 2016 are recorded. Sales returns are related to damaged or expired products. Gross sales 230,701 216,174 198,924 Arrangements with certain healthcare providers may require Novo Nordisk to make US Managed Care and Medicare (65,207) (53,077) (40,874) refunds to the healthcare providers if anticipated treatment outcomes do not meet predefined targets. US wholesaler charge-backs (29,469) (28,324) (25,416) US Medicaid rebates (11,950) (12,491) (10,862) Provisions for sales rebates Other US discounts and sales returns (6,606) (5,771) (5,147) DKK million 2018 2017 2016 Non-US rebates, discounts and sales returns (5,638) (4,815) (4,845) At the beginning of the year 20,216 19,971 16,508 Total gross-to-net sales adjustments (118,870) (104,478) (87,144) Additional provisions, including increases to existing provisions 82,315 63,772 56,954 Net sales 111,831 111,696 111,780 Amount paid during the year (78,539) (61,017) (53,217) Adjustments, including unused amounts reversed during the year 386 (117) (822) Sales discounts and sales rebates are predominantly issued in the US. As such, rebates Effect of exchange rate adjustment 1,016 (2,393) 548 amount to 68% of gross sales in the US (64% in 2017 and 59% in 2016). Novo Nordisk At the end of the year 25,394 20,216 19,971 sales are impacted by exchange rate changes. For development in key currencies refer to note 4.2 on p 83. US Managed Care and Medicare Unsettled rebates are recognised as Provisions when the timing or amount is uncertain For Managed Care and Medicare, rebates are offered to a number of PBMs and managed (note 3.6). Where absolute amounts are known, the rebates are recognised as other healthcare plans. These rebate programmes allow the customer to receive a rebate after liabilities. Wholesaler charge-backs are netted against trade receivable balances. Hence, attaining certain performance parameters relating to formulary status or pre-established provisions for sales rebates include US Managed Care, Medicare, Medicaid and other market shares relative to competitors. Rebates are estimated according to the specific minor US rebate types, as well as rebates in Canada. terms in each agreement, historical experience, anticipated channel mix, growth rates and market share information. Novo Nordisk adjusts the provision periodically to reflect actual sales performance. Managed Care and Medicare rebates are generally settled Provisions for sales rebates around 100 days from the transaction date. US Managed Care US Medicare US Medicaid US wholesaler charge-backs Other sales rebates in the US and Canada Wholesaler charge-backs relate to contractual arrangements between Novo Nordisk and indirect customers in the US whereby products are sold at contract prices lower than DKK million the list price originally charged to wholesalers. A wholesaler charge-back represents the difference between the invoice price to the wholesaler and the indirect customer's 12,000 contract price. Accruals are calculated for estimated charge-backs using a combination of factors such as historical experience, current wholesaler inventory levels, contract 10,000 terms and the value of claims received but not yet processed. Wholesaler charge-backs are generally settled within 30 days of the liability being incurred. 8,000 US Medicaid rebates Medicaid is a government insurance programme. Medicaid rebates have been estimated 6,000 using a combination of historical experience, product and population growth, price increases, and the impact of contracting strategies. Further, the calculation involves 4,000 interpretation of relevant regulations that are subject to changes in interpretative guid- ance from government authorities. Novo Nordisk adjusts the provision periodically to 2,000 reflect actual sales performance. Medicaid rebates are generally settled around 150 days from the transaction date. 0 2016 2017 2018

CONSOLIDATED FINANCIAL STATEMENTS 67 2.2 Segment information Accounting policies The Biopharmaceuticals business segment includes research, development, manufac- Operating segments are reported in a manner consistent with the internal reporting turing and marketing of products within the areas of haemophilia, growth disorders provided to Executive Management and the Board of Directors. and hormone replacement therapy. We consider Executive Management to be the operating decision-making body, as all Segment performance is evaluated on the basis of operating profit consistent with the significant decisions regarding business development and direction are taken in this forum. Consolidated financial statements. Financial income and expenses and income taxes are DISCLOSURES — OTHER ITEMS FINANCIAL AND STRUCTURE — CAPITAL LIABILITIES AND ASSETS — OPERATING YEAR THE FOR — RESULTS PREPARATION OF BASIS managed at Group level and are not allocated to business segments. Business segments Novo Nordisk operates in two business segments based on therapies: Diabetes and There are no sales or other transactions between the business segments. Costs have obesity and Biopharmaceuticals, been split between business segments according to a specific allocation. In addition, a minor number of corporate overhead costs are allocated systematically between the The Diabetes and obesity business segment includes research, development, manufac- segments. Other operating income has been allocated to the two segments based on turing and marketing of products within the areas of insulin, GLP-1 and related delivery the same principle. Segment assets comprise the assets that are applied directly to the systems, oral antidiabetic products (OAD), obesity and other chronic diseases. activities of the segment, including intangible assets, property, plant and equipment, inventories, trade receivables and other receivables and prepayments. As of 1 January 2018, the disaggregation of product net sales was changed to align with management reporting as listed below. Comparative figures have been updated No operating segments have been aggregated to form the reported business segments. to reflect the new disaggregation of product net sales. Business segments DKK million 2018 2017 2016 2018 2017 2016 2018 2017 2016 Segment sales Diabetes and obesity Biopharmaceuticals Total Long-acting insulin 20,844 22,174 21,346 - of which Tresiba® 8.035 7.327 4.056 - of which Xultophy® 1.614 729 207 - of which Levemir® 11.195 14.118 17.083 Premix insulin 10.194 10.749 10.678 - of which Ryzodeg ® 714 492 196 - of which NovoMix ®/NovoLog Mix ® 9,480 10,257 10,482 Fast-acting insulin 19,353 20,124 19,945 - of which Fiasp ® 590 99 of which NovoRapid®/NovoLog® 18,763 20,025 19,945 Human insulin 9,265 9,793 10,745 Total insulin 59,656 62,840 62,714 Victoza® 24,333 23,173 20,046 Ozempic® 1,796 — Total GLP-1 26,129 23,173 20,046 Other diabetes 4,250 4,302 4,612 Total diabetes 90,035 90,315 87,372 Obesity (Saxenda®) 3,869 2,562 1,577 Diabetes and obesity total sales 93,904 92,877 88,949 Haemophilia 9,576 10,469 10,472 - of which NovoSeven® 7,881 9,206 9,492 - of which NovoEight® 1,354 1,103 851 Growth disorders (Norditropin®) 6,834 6,655 8,770 Other biopharmaceuticals 1,517 1,695 3,589 Biopharmaceuticals total sales 17,927 18,819 22,831 Segment key figures Total net sales 93,904 92,877 88,949 17,927 18,819 22,831 111,831 111,696 111,780 Cost of goods sold 14,716 15,014 14,337 2,901 2,618 2,846 17,617 17,632 17,183 Sales and distribution costs 26,396 25,475 24,387 3,001 2,865 3,990 29,397 28,340 28,377 Research and development costs 12,222 11,358 11,481 2,583 2,656 3,082 14,805 14,014 14,563 Administrative costs 3,266 3,143 3,128 650 641 834 3,916 3,784 3,962 Other operating income, net 538 466 486 614 575 251 1,152 1,041 737 Operating profit 37,842 38,353 36,102 9,406 10,614 12,330 47,248 48,967 48,432 Operating margin 40.3% 41.3% 40.6% 52.5% 56.4% 54.0% 42.2% 43.8% 43.3% Depreciation, amortisation and impairment losses expensed 3,210 2,536 2,674 715 646 519 3,925 3,182 3,193 Additions to Intangible assets and Proper- ty, plant and equipment 9,219 7,565 6,144 3,107 2,226 2,123 12,326 9,791 8,267 Assets allocated to business segments 71,706 61,542 55,081 17,542 14,994 14,798 89,248 76,536 69,879 Non-allocated assets 1 21,521 25,819 27,660 Total assets 110,769 102,355 97,539 1. The part of total assets that remains unallocated to either of the two business segments includes Investment in associated company, Deferred income tax assets, Other financial assets, Tax receivables, Marketable securities, Derivative financial instruments and Cash at bank.

68 CONSOLIDATED FINANCIAL STATEMENTS 2.2 Segment information (continued) Net sales disclosures Sales to external customers attributed to the US are collectively the most material to the Group. The US is the only country where sales contribute more than 10% of total Geographical areas net sales. Novo Nordisk operates in two main commercial units: In 2018, Novo Nordisk had three major wholesalers distributing products, representing • North America Operations (the US and Canada) 20%, 13% and 13% respectively of total net sales (21%, 13% and 12% in 2017 and • International Operations 21%, 13% and 12% in 2016). Sales to these three wholesalers are within both Diabetes Region Europe: the EU, EFTA, Albania, Bosnia-Herzegovina, Macedonia, Serbia, and obesity and Biopharmaceuticals. Montenegro and Kosovo Region AAMEO: countries in Africa, Asia, Middle East & Oceania Net sales to be recognised from fulfilling existing customer contracts containing fixed Region China: Mainland China, Taiwan and Hong Kong or minimum sales volumes is expected to be DKK 767 million in 2019 and DKK 742 Region Japan & Korea: Japan and South Korea million thereafter. Region Latin America: countries in South America, Central America and Mexico Net sales will be impacted by exchange rate fluctuations. Conversely, Financial income Sales are attributed to geographical regions according to the location of the customer. and Financial expenses will be impacted by the corresponding results of hedging activities. Allocation of property, plant and equipment, trade receivables, allowance for trade Please refer to notes 4.2, 4.3 and 4.8 for more details on hedging. receivables and total assets is based on the location of the assets. The country of domicile is Denmark, which is part of Region Europe. Denmark is im- material to Novo Nordisk's activities in terms of geographical size and the operational business segments. 99.6% of total sales are realised outside Denmark. Of total property, plant and equipment, DKK 24,199 million is located in Denmark, where the Group's main production, filling, packaging, moulding and assembly facilities are located. Geographical areas 2018 2017 2016 2018 2017 2016 2018 2017 2016 2018 2017 2016 DKK million North America Operations International Operations Total Of which the US Total Region Europe Sales by business segment: Long-acting insulin 12,902 14,758 14,782 12,600 14,466 14,493 7,942 7,416 6,564 4,282 3,895 3,374 - of which Tresiba® 5,271 4,982 2,246 5,192 4,970 2,246 2,764 2,345 1,810 1,246 966 665 - of which Xultophy® 529 162 - 528 162 - 1,085 567 207 1,007 560 206 - of which Levemir® 7,102 9,614 12,536 6,880 9,334 12,247 4,093 4,504 4,547 2,029 2,369 2,503 Premix insulin 1,332 1,790 2,080 1,294 1,743 2,032 8,862 8,959 8,598 1,701 1,878 2,040 - of which Ryzodeg® — — — — — 714 492 196 56 26 15 - of which NovoMix® / NovoLog Mix® 1,332 1,790 2,080 1,294 1,743 2,032 8,148 8,46 8,402 1,645 1,852 2,025 Fast-acting insulin 10,021 10,968 11,427 9,634 10,574 11,058 9,332 9,156 8,518 4,558 4,366 4,200 - of which Fiasp® 233 8 - 211 - - 357 91 - 357 91 - of which NovoRapid® / NovoLog® 9,788 10,960 11,427 9,423 10,574 11,058 8,975 9,065 8,518 4,201 4,275 4,200 Human insulin 1,917 1,937 2,011 1,778 1,766 1,827 7,348 7,856 8,734 1,580 1,770 2,099 Total insulin 26,172 29,453 30,300 25,306 28,549 29,410 33,484 33,387 32,414 12,121 11,909 11,713 Victoza® 18,093 17,465 14,624 17,561 16,929 14,146 6,240 5,708 5,422 3,720 3,451 3,391 Ozempic® 1,757 - - 1,634 - 39 - 39 - Total GLP-1 19,85 14,624 19,195 16,929 14,146 6,279 5,708 5,422 3,759 3,451 3,391 Other diabetes 890 943 930 733 782 776 3,360 3,359 3,682 579 605 653 Total diabetes 46,912 47,861 45,854 45,234 46,260 44,332 43,123 42,454 41,518 16,459 15,965 15,757 Obesity (Saxenda®) 2,658 1,993 1,446 2,446 1,828 1,366 1,211 569 131 207 102 28 Diabetes and obesity total 49,570 49,854 47,300 47,680 48,088 45,698 44,334 43,023 41,649 16,666 16,067 15,785 Haemophilia 4,004 5,023 4,934 3,723 4,852 4,710 5,572 5,446 5,538 2,781 2,828 2,520 - of which NovoSeven® 3,457 4,609 4,589 3,278 4,451 4,378 4,424 4,597 4,903 1,944 2,245 2,082 - of which NovoEight® 308 315 254 291 315 254 1.046 788 597 776 551 416 Growth disorders 2,834 2,550 4,498 2,823 2,543 4,495 4,000 4,105 4,272 1,511 1,572 1,661 Other biopharmaceuticals 500 582 2,510 262 348 2,291 1,017 1,113 1,079 721 722 716 Biopharmaceuticals total 7,338 8,155 11,942 6,808 7,743 11,496 10,589 10,664 10,889 5,013 5,122 4,897 Total sales by business and geographi- cal segment 56,908 58,009 59,242 54,488 55,831 57,194 54,923 53,687 52,538 21,679 21,189 20,682 Total sales growth as reported (1.9%) (2.1%) 4.2% (2.4%) (2.4%) 4.1% 2.3% 2.2% 2.9% 2.3% 2.5% (0.6%) Property, plant and equipment 13,040 7,318 4,599 13,023 7,298 4,599 28,851 27,929 25,580 25,500 24,665 22,040 Trade receivables, net 12,902 10,742 10,604 12,643 10,517 10,426 9,884 9,423 9,630 3,388 3,273 3,304 Allowance for doubtful trade receivables (12) (32) (41) (12) (32) (41) (1,358) (1,262) (1,182) (241) (223) (166) Total assets 30,349 20,612 18,684 29,732 20,180 18,349 80,420 81,743 78,855 64,327 65,600 63,407

CONSOLIDATED FINANCIAL STATEMENTS 69 Sales by business segment 2018 Sales by geographical area 2018 Diabetes and obesity Biopharmaceuticals Diabetes Haemophilia North America Operations Region China Obesity Growth disorders Region Europe Region Japan & Korea Other biopharmac Region AAMEO Region Latin America 1% 4% DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS -OPERATING YEAR THE FOR — RESULTS PREPARATION OF BASIS 6% 5% 9% 10% 3% 11% 51% 81% 19% Geographical areas (continued) 2018 2017 2016 2018 2017 2016 2018 2017 2016 2018 2017 2016 International Operations (continued) Region AAMEO Region China Region Japan & Korea Region Latin America 1,281 1,229 1,180 814 694 547 857 872 881 708 726 582 337 261 181 16 2 - 751 739 711 414 377 253 58 7 1 - - - 20 - 886 961 998 798 692 54 170 274 349 329 2,606 2,686 2,388 3,783 3,555 3,363 650 697 677 122 143 130 275 183 97 - - 351 253 58 32 30 26 2,331 2,503 2,291 3,783 3,555 3,363 299 444 2,153 2,821 3,096 3,361 187 232 302 695 836 819 8,146 8,098 7,716 8,868 8,598 8,330 2,473 2,742 2,858 1,876 2,040 1,797 841 858 715 521 309 255 614 590 2,344 1,177 1,163 1,101 199 216 158 557 681 737 858 558 1,022 1,049 1,097 1,082 194 215 158 400 497 559 837 543 1,022 109 52 11 5 1 - 135 169 170 21 15 -680 676 906 20 15 15 1,538 1,579 1,469 251 263 221 216 279 250 4 5 3 72 104 104 4 3 6 2,073 2,118 2,257 223 236 176 2,167 2,364 2,310 1,113 824 1,249 12,153 12,018 11,580 11,285 10,709 10,458 5,797 6,072 6,225 4,009 3,699 3,593 1.1% 3.8% 2.7% 5.4% 2.4% 5.9% (4.5%) (2.5%) 14.5% 8.4% 3.0% (2.8%) 723 566 525 1,812 1,884 2,095 201 146 161 615 668 759 3,237 3,468 3,164 1,841 1,541 1,773 504 279 305 914 862 1,084 (866) (823) (817) - - (5) (5) (5) (246) (211) (194) 5,635 5,876 4,937 6,003 5,927 5,697 1,503 1,304 1,248 2,952 3,036 3,566

70 CONSOLIDATED FINANCIAL STATEMENTS 2.3 Research and development costs Research and development costs by business segment (note 2.2) DKK million 2018 2017 2016 Accounting policies Diabetes and obesity 12,222 11,358 11,481 Novo Nordisk's research and development is mainly focused on: Biopharmaceuticals 2,583 2,656 3,082 • Insulins, GLP-1s and other therapeutic new anti-diabetic drugs for diabetes Total 14,805 14,014 14,563 treatment. • GLP-1s, combinations and new modes of action for weight management. • Blood-clotting factors and new modes of action for haemophilia treatment. Research and development costs • Human growth hormone for treatment of growth disorders. DKK million 2018 2017 2016 • New modes of action including GLP-1 for treatment of NASH, cardiovascular- and chronic kidney disease. Internal and external Research and development costs 7,280 7,430 7,494 The research activities utilise biotechnological methods based on advanced protein Employee costs (note 2.4) 6,288 5,848 6,149 chemistry and protein engineering. These methods have played a key role in the devel- Amortisation and impairment losses, opment of the production technology used to manufacture insulin, GLP-1, recombinant intangible assets (note 3.1) 769 211 427 blood-clotting factors and human growth hormone. Depreciation and impairment losses, property, plant and equipment 468 525 493 Novo Nordisk expenses all internal research costs. In line with industry practice, internal (note 3.2) development costs are also expensed as incurred, due to significant regulatory uncer- tainties and other uncertainties inherent in the development of new products. Hence, Total Research and development these do not qualify for capitalisation as intangible assets until marketing approval by a costs 14,805 14,014 14,563 regulatory authority is obtained or considered highly probable. Costs for post-approval activities that are required by authorities as a condition for obtaining regulatory approval As percentage of net sales 13.2% 12.5% 13.0% are recognised as research and development costs. Research and development activities are carried out by Novo Nordisk's research and For a review of the development in research and development costs, refer to p 10 and development centres, mainly in Denmark, the US, the UK and China. Research and p 14, '2018 performance and 2019 outlook', which is not part of the audited financial development trials are carried out all over the world. Novo Nordisk also enters into statements, partnerships and licence agreements. Research costs comprise the very early stages of the drug development cycle from the Research and development costs primarily comprise employee costs, and internal and initial drug discovery until the drug is ready for administration to humans. The activities external costs related to execution of studies, including manufacturing costs and facility initially focus on identifying a single drug candidate with a profile that will support a costs of the research centres. Further, the costs comprise amortisation, depreciation and decision to initiate development activities. Before selection of the final drug candidate, impairment losses related to software and property, plant and equipment used in the it is tested in animals to gather efficacy, toxicity and pharmacokinetic information. research and development activities. Development costs are incurred from the start of phase 1, when the drug is administered Certain research and development activities are recognised outside research and to humans for the first time; these are the projects captured in the pipeline overview development costs: on pp 20-21 (unaudited). The final product is developed, and subsequent clinical trials (phase 2 and 3) are conducted to further test the drug in humans, using the results from • Up-front payments and milestone payments paid to licence/research collabora- these trials to attempt to obtain marketing authorisation, permitting Novo Nordisk to tion are capitalised as intangible assets. Amortisation is initiated when regulatory market and sell the developed products. approval is obtained and amortisation is classified as cost of goods sold over the useful life, please refer to note 3.1. • Royalty expenses paid to partnerships after regulatory approval are expensed as cost of goods sold. • Royalty income received from partnerships is recognised as part of other operating income, net. • Contractual research and development obligations to be paid in the future are disclosed separately as commitments in note 5.2.

CONSOLIDATED FINANCIAL STATEMENTS 71 2.4 Employee costs 2.5 Other operating income, net Accounting policies Accounting policies Wages, salaries, social security contributions, annual leave and sick leave, bonuses Other operating income, net, comprises licence income and income of a secondary and non-monetary benefits are recognised in the year in which the associated services nature in relation to the main activities of Novo Nordisk. Licence income from royalties are rendered by employees of Novo Nordisk. Where Novo Nordisk provides long-term on future net sales are recognised as the underlying customers' sale occurs and from employee benefits, the costs are accrued to match the rendering of the services by the sales milestones once the contingent sale milestone is achieved in accordance with the employees concerned. terms of the relevant agreement. Income from the transfer of the right to use intellectual DISCLOSURES -OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS - OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS property may contain development or regulatory milestones (variable consideration) on which the income is recognised when the significant uncertainties in achieving the Employee costs milestones are resolved, due to the significant uncertainties inherent in the development DKK million 2018 2017 2016 of pharmaceutical products. Wages and salaries 25,259 23,869 24,651 Operating profit from the wholly owned subsidiary NNE A/S, not related to Novo Nordisk's Share-based payment costs (note 5.1) 414 292 368 main activities, is recognised as Other operating income. Other operating income also Pensions - defined contribution plans 1,791 1,800 1,829 includes income from sale of intellectual property rights. Pensions - defined benefit plans (note 3.5) 73 165 145 Other social security contributions 1,901 1,910 1,853 In February 2018, Novo Nordisk A/S disposed of 8.0% of its 25.5% interest in NNIT A/S. Novo Nordisk's 17.5% retained interest is classified as an associate due to the Group's Other employee costs 2,087 2,102 2,110 right to appoint a Board member, the high level of trading activity with NNIT A/S in Total employee costs for the year 31,525 30,138 30,956 combination with the equity interest. In total, DKK 122 million gain from the sale after deduction of book value of DKK 246 million was recorded as Other operating income Employee costs capitalised as intan- in 2018. A total consideration of DKK 368 million was received and recorded in the gible assets and property, plant and cash flow statement, equipment (1,500) (1,435) (1,258) Change in employee costs capitalised as inventories (105) (91) (127) Total employee costs in the income statement 29,920 28,612 29,571 Included in the income statement: Cost of goods sold 8,164 7,854 7,841 Sales and distribution costs 12,214 11,994 12,447 Research and development costs 6,288 5,848 6,149 Administrative costs 2,755 2,505 2,721 Other operating income, net 499 411 413 Total employee costs in the income statement 29,920 28,612 29,571 Average number of full-time employees 42,881 41,665 41,993 Year-end number of full-time employees 42,672 42,076 41,971 Employees (total) 43,202 42,682 42,446 Remuneration to executive management and board of directors DKK million 2018 2017 2016 Salary and cash bonus 102 74 77 Pension 22 18 20 Benefits4 4 6 10 Share-based incentive5 22 7 11 Severance payments 1, 4 28 0 66 Executive Management in total 1, 2, 3 178 105 184 Fee to Board of Directors 17 16 14 Total 195 121 198 1. Please refer to 'Remuneration', pp 53-57 (unaudited), for further information. 2. Jesper Brandgaard will retire from Novo Nordisk in April 2019. The 2018 remuneration for Jesper Brandgaard is included in the above table together with a severance payment of DKK 27.7 million. President and CEO Lars Rebien Sørensen retired from Novo Nordisk on 31 December 2016. The 2016 remuneration for Lars Rebien Sørensen is included in the above table together with a severance payment of DKK 65.7 million. EVPs Jerzy Gruhn and Jesper Højland stepped down from Novo Nordisk's Executive Management in 2016. The 2016 remuneration for Jerzy Gruhn and Jesper Høiland is included in the above table. 3. Total remuneration for registered members of Executive Management and the Board of Directors amounts to DKK 159 million (DKK 90 million in 2017 and DKK 152 million in 2016). 4. Benefits are included in Other employee costs, and severance payments are included in Wages and salaries in the table above. 5. Until 2017 the cost of the programme was expensed when shares were granted as the pool was fixed. From 2017 onwards, the programme will be expensed equally over the grant year and the subsequent 3 years of vesting as the number of shares will be reduced if a participant terminates employment with Novo Nordisk.

72 CONSOLIDATED FINANCIAL STATEMENTS 2.6 Income taxes and deferred income taxes Income taxes expensed DKK million 2018 2017 2016 Income taxes Current tax on profit for the year 10,469 10,562 8,981 Deferred tax on profit for the year (1,007) 182 3,014 Accounting policies The tax expense for the period comprises current and deferred tax as well as interest Tax on profit for the year 9,462 10,744 11,995 on tax cases ongoing or settled during the year. Further, it includes adjustments to Current tax adjustments recognised for previous years and changes in provision for uncertain tax positions. Tax is recognised in prior years (522) (425) (3,191) the income statement except to the extent that it relates to items recognised in equity Deferred tax adjustments recognised for or other comprehensive income. prior years 47 231 1,069 Ongoing tax disputes, primarily related to transfer pricing cases, are included as part of Income taxes in the deferred tax assets, tax receivables and tax payables. income statement 8,987 10,550 9,873 Management judgement regarding recognition of deferred income tax assets Current tax on other comprehensive and provision for uncertain tax positions income for the year - (2) (28) Novo Nordisk is subject to income taxes around the world. Significant judgement and Deferred tax on other comprehensive estimates are required in determining the worldwide accrual for income taxes, deferred income for the year (755) 1,043 (296) income tax assets and liabilities and provision for uncertain tax positions. Tax on other comprehensive income Novo Nordisk recognises deferred income tax assets, if it is probable that sufficient for the year, (income)/expense (755) 1,041 (324) taxable income will be available in the future, against which the temporary differences and unused tax losses can be utilised. Adjustments recognised for prior years include adjustments caused by events that Management has considered future taxable income and applied its judgement in assessing occurred in the current year related to current and deferred tax for prior years. Such whether deferred income tax assets should be recognised, adjustments predominantly arise from tax payments regarding tax disputes and reversal of the associated tax liability recognised in prior years. In the course of conducting business globally, tax and transfer pricing disputes with tax authorities may occur. Management judgement is applied to assess the possible out- come of such disputes. The 'most probable outcome' method is applied when making DKK million 2018 2017 2016 provisions for uncertain tax positions, and Novo Nordisk considers the provisions made to be adequate. However, the actual obligation may deviate and depends on the result Computation of effective tax rate: of litigation and settlements with the relevant tax authorities. Statutory corporate income tax rate in Denmark 22.0% 22.0% US tax reform Deviation in foreign subsidiaries' The US tax reform has contributed to a lower tax expense in 2018 compared with 2017 tax rates compared with the Danish due to the reduction of the US federal tax rate. tax rate (net) (1.9%) 0.0% 0.2% Non-taxable income less non-tax-deduct- In 2017 the re-evaluation of the deferred tax assets as a consequence of new US tax ible expenses (net) (0.2%) 0.1% 0.1% legislation increased the tax expense by DKK 171 million. Others, including adjustment of prior years (1.0%) (0.4%) (1.6%) Effective tax rate 18.9% 21.7% 20.7% The impact of the deviation in foreign subsidiaries' tax rates compared with the Danish tax rate is mainly driven by Swiss business activities.

CONSOLIDATED FINANCIAL STATEMENTS 73 2.6 Income taxes and deferred income taxes (continued) Deferred income taxes Accounting policies Income taxes paid Deferred income taxes arise from temporary differences between the accounting and DKK million 2018 2017 2016 tax values of the individual consolidated companies and from realisable tax loss car-ry-forwards. The tax value of tax loss carry-forwards is included in deferred tax assets to Income taxes paid in Denmark for the extent that these are expected to be utilised in future taxable income. The deferred current year 6,640 6,798 5,506 income taxes are measured according to current tax rules and at the tax rates assumed Income taxes paid outside Denmark in the year in which the assets are expected to be utilised. DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS - OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS for current year 2,376 2,639 2,645 In general, the Danish tax rules related to company dividends provide exemption from Income taxes paid/ tax for most repatriated profits. A provision for withholding tax is only recognised if a repayments relating to prior years 598 (336) (5,252) concrete distribution of dividends is planned. The potential withholding tax amounts Total income taxes paid 9.614 9.101 2.899 to DKK 367 million for 2018 (DKK 343 million in 2017). The value of future tax deductions in relation to share programmes is recognised as deferred tax, until the shares are paid out to the employees. Any estimated excess tax The income taxes paid relating to prior years include repayments and adjustments arising deduction compared to the costs realised in the income statement is charged to Equity. from tax disputes primarily regarding transfer pricing. Development in deferred income tax assets and liabilities Property, Provisions Offset plant and Intangible and other within DKK million equipment assets Inventories liabilities Other2 countries Total 2018 Net deferred tax asset/(liability) at 1 January (868) (500) 833 1,658 (28) - 1,095 Income/(charge) to the income statement 199 (67) 177 763 (112) 960 Income/(charge) to other comprehensive income — (37) (22) 814 755 Income/(charge) to equity1 — — (15) (15) Effect of exchange rate adjustment (34) 3 — 3 8 (20) Net deferred tax asset/(liability) at 31 December (703) (564) 973 2,402 667 - 2,775 Classified as follows: Deferred tax asset at 31 December 694 52 2,490 2,403 833 (3,579) 2,893 Deferred tax liability at 31 December (1.397) (616) (1.517) (1) (166) 3.579 (118) 2017 Net deferred tax asset/(liability) at 1 January (966) (359) 1.176 2.005 814 -2,670 Income/(charge) to the income statement 61 (132) (192) (182) 32 (413) Income/(charge) to other comprehensive income — (151) (26) (866) (1,043) Income/(charge) to equity 1 — — — 17 17 Effect of exchange rate adjustment 37 (9) — (139) (25) (136) Net deferred tax asset/(liability) at 31 December (868) (500) 833 1,658 (28) - 1,095 Classified as follows: Deferred tax asset at 31 December 237 57 2,194 1,748 318 (2,613) 1,941 Deferred tax liability at 31 December (1,105) (557) (1,361) (90) (346) 2,613 (846) 1. Deferred tax related to value adjustment of restricted stock units. In addition, a gain of DKK 10 million (gain of DKK 1 million in 2017) related to current tax have also been charged to equity. The net charge to equity is DKK 5 million (DKK 18 million in 2017). 2. Other mainly includes hedging and tax loss carry-forwards. Specification of tax loss carry-forwards at 31 December DKK million 2018 2017 Recognised deferred tax on tax loss carry-forwards 20 24 Unrecognised tax base of tax loss carry-forwards 347 364 Classified as follows: Expiry within one year — Expiry within two to five years 58 16 Expiry after more than five years 289 348 The total tax value of unrecognised tax loss carry-forwards amounts to DKK 90 million in 2018 (DKK 93 million in 2017).

74 CONSOLIDATED FINANCIAL STATEMENTS Section 3 Operating assets and liabilities This section presents details of the operating assets that form the basis for the activities Development in operating profit after tax to net operating assets of Novo Nordisk, and related liabilities. These net assets impact Novo Nordisk's long-term financial target for `operating profit after tax to net operating assets' (OPAT/NOA); for Net operating assets (average) a definition please refer to pp 95–96 (unaudited). Operating profit after tax OPAT/NOA (right hand scale) In line with industry practice, Novo Nordisk does not capitalise internal development costs, which impacts OPAT/NOA. For acquisition of assets in development from third DKK million % parties, the cost is capitalised as an intangible asset despite the uncertainty of commercial 45,000 180 sales arising from its development. 40,000 160 35,000 140 Novo Nordisk's approach to managing operating assets is to retain assets for research, development and production activities under the company's own control, and to lease 30,000 120 non-core assets related to e.g. administration and distribution. Management believes 25,000 100 this is a significant factor in maintaining the quality of the company's products. Further, 20,000 80 being able to deliver products to customers with limited notice is a priority. Consequently, 15,000 60 the total production capacity reflects this priority, and the inventory level includes a 10,000 40 level of safety stock. 5,000 20 0 0 Development of net operating assets Management believes that a significant factor in the development of net operating assets 2016 2017 2018 relates to investments in new production facilities for active pharmaceutical ingredients for diabetes, mainly the facility in Clayton, US. offset by increased provision for sales rebates in the US, presented as provisions under current liabilities in the balance sheet. 3.1 Intangible assets Accounting policies Patents and licences, including acquired patents and licences for research and devel-Factors considered material that could trigger an impairment test include the following: opment projects, are carried at historical cost less accumulated amortisation and any impairment loss. Amortisation is based on the straight-line method over the estimated • Development of a competing drug useful life. This is the shorter of the legal duration and the economic useful life, not • Changes in the legal framework covering patents, rights and licences exceeding 15 years. The amortisation of patents and licences begins after regulatory • Advances in medicine and/or technology that affect the medical treatments approval has been obtained. • Lower-than-predicted sales • Adverse impact on reputation and/or brand names Internal development of software for internal use is recognised as intangible assets • Changes in the economic lives of similar assets if the recognition criteria are met, for example a significant business system where • Relationship to other intangible assets or property, plant and equipment the expenditure leads to the creation of a durable asset. Amortisation is based on the • Changes or anticipated changes in participation rates or reimbursement policies. straight-line method over the estimated useful life of 3-15 years. The amortisation begins when the asset is in the location and condition necessary for it to be capable of If the carrying amount of intangible assets exceeds the recoverable amount based on operating in the manner intended by Management. the existence of one or more of the above indicators of impairment, any impairment is measured based on discounted projected cash flows. Impairments are reviewed at Research and development projects each reporting date for possible reversal. Internal research costs are charged in full to the consolidated income statement in the period in which they are incurred. Consistent with industry practice, internal devel- Intangible assets opment costs are also expensed until regulatory approval is obtained or is probable; DKK million 2018 2017 please refer to note 2.3. Patents and licences 3,858 2,095 For acquired research and development projects, patents and licences the likelihood Software 1,287 1,230 of obtaining future commercial sales is reflected in the cost of the asset, and thus the probability recognition criteria is therefore always considered to be satisfied. As the cost Total intangible assets 5,145 3,325 of acquired research and development projects can often be measured reliably, these projects fulfil the capitalisation criteria as intangible assets on acquisition. Subsequent milestone payments payable on achievement of a contingent event (e.g. commencement of Phase 3 trials) are accrued and capitalised into the cost of the intangible asset when the The allocation of the book value of the patents and licences to operating segments achievement of the event is probable. However, further internal development costs sub- is as follows: sequent to acquisition are treated in the same way as other internal development costs. DKK million 2018 2017 Impairment of assets Intangible assets with an indefinite useful life and intangible assets not yet available for Diabetes and obesity 1,375 743 use are not subject to amortisation. They are tested annually for impairment, irrespective Biopharmaceuticals 2,483 1,352 of whether there is any indication that they may be impaired. Total patents and licences 3,858 2,095 Assets that are subject to amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable.

CONSOLIDATED FINANCIAL STATEMENTS 75 3.1 Intangible assets (continued) 3.2 Property, plant and equipment Additions Accounting policies Additions to intangible assets amount to DKK 2,789 million of which DKK 127 million Property, plant and equipment is measured at historical cost less accumulated depreciation (DKK 112 million in 2017) has not yet been paid. The additions related to patents and any impairment loss. The cost of self-constructed assets includes costs directly and licences amounts to DKK 1,403 million (DKK 389 million in 2017) within Diabetes and indirectly attributable to the construction of the assets. Any subsequent cost is included obesity and DKK 1,165 million (DKK 714 million in 2017) within Biopharmaceuticals, in the asset's carrying amount or recognised as a separate asset only when it is probable --- OPERATING YEAR ASSETS THE AND FOR LIABILITIES --- RESULTS PREPARATION OF BASIS Please refer to note 5.2 Commitment for an overview of total contractual commitments. that future economic benefits associated with the item will flow to Novo Nordisk and the cost of the item can be measured reliably. Depreciation is based on the straight-line In 2017 and 2018 Novo Nordisk both acquired intellectual property and entered into method over the estimated useful lives of the assets; major patent and licence agreements, as summarised below. Upfront fees and acquisition costs have been capitalised and subsequent milestone payments payable on • Buildings: 12-50 years achievement of a contingent event will be capitalised on the contingent event being • Plant and machinery: 5-16 years probable of being achieved. • Other equipment: 3-10 years • Land: not depreciated. 2018 additions The depreciation commences when the asset is available for use, in other words when it is in the location and condition necessary for it to be capable of operating in the MacrilenTM manner intended by Management. Novo Nordisk has acquired the US and Canadian rights to MacrilenTM (macimorelin), the first and only FDA-approved oral growth hormone receptor indicated for the diagnosis The assets' residual values and useful lives are reviewed and adjusted, if appropriate, of Adult Growth Hormone Deficiency, a rare endocrine disorder. at the end of each reporting period. If the asset's carrying amount is higher than its estimated recoverable amount, it is written down to the recoverable amount. PRV - Priority Review Voucher During 2018 Novo Nordisk acquired a Priority Review Voucher which has been fully amor- Plant and equipment with no alternative use developed as part of a research and devel- tised on notification and commitment to the FDA in December 2018 of the intent to use opment project are expensed. However, plant and equipment with an alternative use or the Priority Review Voucher for the oral semaglutide New Drug Application (NDA) filing, used for general research and development purposes are capitalised and depreciated over the estimated useful life as research and development costs. Ziylo Ltd Novo Nordisk has acquired full rights to Ziylo's glucose binding molecule platform to develop glucose responsive insulins. Development in capital expenditure MB2 LLC and Calibrium LLC Capital expenditure, net Capital expenditure / sales In 2015, Novo Nordisk acquired the two US companies MB2 LLC and Calibrium LLC. Novo Nordisk has capitalised a milestone payment to the sellers of the companies. DKK million % 10,000 10 Staten Biotechnology B.V. Novo Nordisk has entered into a collaboration and exclusive option agreement to develop 8,000 8 novel therapeutics for the treatment of dyslipidaemia. 6,000 6 2017 additions 4,000 4 MB2 LLC and Callibrium LLC In 2015, Novo Nordisk acquired the two US companies MB2 LLC and Callibrium LLC. 2,000 2 DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL Novo Nordisk has capitalised a milestone payment to the sellers of the companies. 0 0 Keros Therapeutics Inc. Novo Nordisk has entered into a licence agreement with Keros. The agreement also 2016 2017 2018 covers a research collaboration to develop ligand traps. Capital expenditure in 2018 and 2017 was primarily related to investments in new Amortisation and impairment losses production facilities for active pharmaceutical ingredients for diabetes, mainly the Novo Nordisk did not realise any impairment loss in 2018 (impairment loss amounted facility in Clayton, US and Måløv, Denmark. The facilities will also be for tableting and to DKK 195 million in 2017) related to patents and licences. All impairments in 2017 packing oral products. were related to the Diabetes and obesity segment. Further, it related to new diabetes filling capacity in Hillerød. The facility will serve as a Intangible assets not yet in use amount to DKK 2,612 million (DKK 1,715 million in backup production facility for the US market and act as a launch site for new injectable 2017), primarily patents and licences in relation to research and development projects. diabetes products. Impairment tests in 2018 and 2017 of patents and licences not yet in use are based on Management's projections and anticipated net present value of estimated future cash Also, capital expenditures related to expansion of the manufacturing capacity for biop- flows from marketable products. Terminal values used are based on the expected life harmaceutical products and the construction of new research facilities in Kalundborg. of products, forecasted life cycle and cash flow over that period, and the useful life of The facilities will be producing active pharmaceutical ingredients for NovoSeven® and the underlying assets. future products for treating haemophilia. Amortisation and impairment losses Depreciation and impairment losses DKK million 2018 2017 DKK million 2018 2017 Cost of goods sold 208 193 Cost of goods sold 2,312 2,091 Sales and distribution costs 15 15 Sales and distribution costs 69 76 Research and development costs 769 211 Research and development costs 468 525 Administrative costs 2 3 Administrative costs 70 57 Other operating income, net 6 5 Other operating income, net 6 6 Total amortisation and impairment losses 1,000 427 Total depreciation and impairment losses 2,925 2,755

76 CONSOLIDATED FINANCIAL STATEMENTS 3.2 Property, plant and equipment (continued) Property, plant and equipment Land and Plant and Other Assets under DKK million buildings machinery equipment construction Total 2018 Cost at the beginning of the year 22,032 23,799 4,469 14,361 64,661 Additions during the year 1 222 365 175 8,775 9,537 Disposals during the year (267) (1,422) (178) — (1,867) Transfer from assets under construction 3,448 2,667 295 (6,410) — Effect of exchange rate adjustment (34) 3 18 120 107 Cost at the end of the year 25,401 25,412 4,779 16,846 72,438 Depreciation and impairment losses at the beginning of the year 8,934 17,808 2,672 — 29,414 Depreciation for the year 1,047 1,377 385 — 2,809 Impairment losses for the year 49 63 4 — 116 Depreciation and impairment losses reversed on disposals during the year (235) (1,346) (163) - (1,744) Effect of exchange rate adjustment (25) (31) 8 - (48) Depreciation and impairment losses at the end of the year 9,770 17,871 2,906 — 30,547 Carrying amount at the end of the year 15,631 7,541 1,873 16,846 41,891 2017 Cost at the beginning of the year 20,190 23,165 4,130 10,539 58,024 Additions during the year 895 502 263 7,028 8,688 Disposals during the year (133) (367) (186) — (686) Transfer from assets under construction 1.516 964 401 (2.881) — Effect of exchange rate adjustment (436) (465) (139) (325) (1.365) Cost at the end of the year 22,032 23,799 4,469 14,361 64,661 Depreciation and impairment losses at the beginning of the year 8,182 17,079 2,584 - 27,845 Depreciation for the year 964 1,340 334 - 2,638 Impairment losses for the year 54 47 16 - 117 Depreciation and impairment losses reversed on disposals during the year (100) (343) (178) — (621) Effect of exchange rate adjustment (166) (315) (84) — (565) Depreciation and impairment losses at the end of the year 8,934 17,808 2,672 — 29,414 Carrying amount at the end of the year 13,098 5,991 1,797 14,361 35,247 1. Invoices and accruals related to additions for property, plant and equipment that have not vet been paid amount to DKK 1,893 million (DKK 1,992 million in 2017). DENMARK GLOBAL PRODUCTION SETUP KALUGA, (~8,850 FTE's) RUSSIA (~270 FTE's) Diabetes and biopharmacetutical active Filling and packaging ingredient production Assembly Filling and packaging Moulding and assembly Tablet production KORIYAMA, JAPAN (~70 FTE's) NEW HAMPSHIRE, Packaging USA (~190 FTE's) Biopharmaceutical TIANJIN, active ingredient production CHINA (~1,060 FTE's) Filling and packaging CLAYTON, NC, Assembly USA (~1,210 FTE's) Diabetes active ingredient production Filling and packaging CHARTRES, Assembly FRANCE (~1,170 FTE's) Filling and packaging MONTES CLAROS, Assembly BRAZIL (~990 FTE's) Filling and packaging TIZI OUZOU, Assembly ALGERIA (~220 FTE's) Tablet production Global production setup is unaudited and does not form part of the consolidated financial statements.

CONSOLIDATED FINANCIAL STATEMENTS 77 3.3 Inventories Management must make judgements about cost of production, standard cost variances and idle capacity in estimating indirect production costs for capitalisation. Changes in the parameters for calculation of indirect production costs could have an impact on the Accounting policies gross margin and the overall valuation of inventories. Inventories are stated at the lower of cost and net realisable value. Cost is determined using the first-in, first-out method. Cost comprises direct production costs such as raw Inventories materials, consumables and labour as well as indirect production costs. Production DKK million 2018 2017 costs for work in progress and finished goods include indirect production costs such as employee costs, depreciation, maintenance etc. Raw materials 2,464 2,420 — OPERATING YEAR ASSETS THE AND FOR LIABILITIES — RESULTS PREPARATION OF BASIS Work in progress 11,753 10,992 If the expected sales price less completion costs to execute sales (net realisable value) is Finished goods 4,078 4,180 lower than the carrying amount, a write-down is recognised for the amount by which the carrying amount exceeds its net realisable value. Total inventories (gross) 18.295 17.592 Write-downs at year-end (1.959) (2.219) Inventory manufactured prior to regulatory approval (pre-launch inventory) is capitalised Total inventories (net) 16,336 15,373 but immediately provided for, until there is a high probability of regulatory approval for the product. A write-down is made against inventory, and the cost is recognised in the Indirect production costs included in work in progress income statement as Research and development costs. Once there is a high probability and finished goods 8,533 7,768 of regulatory approval being obtained, the write-down is reversed, up to no more than Share of total inventories (net) 52% 51% the original cost. Movements in inventory write-downs Key accounting estimate of indirect production costs capitalised Write-downs at the beginning of the year 2,219 1,358 Indirect production costs account for approximately 50% of the net inventory value, Write-downs during the year 509 1,556 reflecting a lengthy production process compared with low direct raw material costs. Utilisation of write-downs (409) (438) The production of both diabetes and obesity and biopharmaceutical products is highly complex from fermentation to purification and formulation, including quality control Reversal of write-downs (360) (257) of all production processes. Furthermore, the process is very sensitive to manufactur- Write-downs at the end of the year 1,959 2,219 ing conditions. These factors all influence the parameters for capitalisation of indirect production costs at Novo Nordisk and the full cost of the products. Indirect production costs are measured using a standard cost method. This is reviewed regularly to ensure relevant measures of capacity utilisation, production lead time, cost base and other rel- All write-downs in both 2017 and 2018 results in the fully impaired inventory, evant factors, hence inventory is valued at actual cost. When calculating total inventory, 3.4 Trade receivables Trade receivables DKK million Gross carry- Loss Net carrying 2018 ing amount allowance amount Accounting policies Trade receivables are recognised initially at fair value and subsequently measured at Not yet due 22,359 (692) 21,667 amortised cost using the effective interest method, less allowance for doubtful trade 1-90 days 1,055 (111) 944 receivables. 91-180 days 235 (79) 156 181-270 days 60 (41) 19 Before being sold trade receivables in factoring portfolios are measured at fair value DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL 271-360 days 76 (76) - with changes recognised in other comprehensive income. More than 360 days past due 371 (371) — The allowance for doubtful receivables is deducted from the carrying amount of Trade Trade receivables 24,156 (1,370) 22,786 receivables, and the amount of the loss is recognised in the income statement under Sales and distribution costs. Subsequent recoveries of amounts previously written off are credited against Sales and distribution costs. DKK million Gross carry- Loss Net carrying 2017 ing amount allowance amount Key accounting estimate of allowance for doubtful trade receivables Novo Nordisk's customer base comprises government agencies, wholesalers, retail Not yet due 19,592 (558) 19,034 pharmacies, Managed Care and other customers. From 1 January 2018 management 1-90 days 1,065 (155) 910 makes allowance for doubtful trade receivables based on the simplified approach to 91-180 days 298 (113) 185 provide for expected credit losses, which permits the use of the lifetime expected loss 181-270 days 111 (75) 36 provision for all trade receivables. This has not resulted in a material change in loss 271-360 days 95 (95) — allowance compared with previous policy. The allowance is an estimate based on shared More than 360 days past due 298 (298) — credit risk characteristics and the days past due. Generally, invoices are due for payment within 90 days of shipment of goods. Trade receivables 21,459 (1,294) 20,165 Loss allowance is calculated using an ageing factor, geographical risk and specific customer knowledge. The allowance is based on a provision matrix on days past due Movements in allowance for doubt- and a forward looking element relating mainly to incorporation of the Dun & Bradstreet ful trade receivables 2018 2017 country risk rating and an individual assessment. Please refer to note 4.2 for a general description of credit risk. Carrying amount at the beginning of the year 1,294 1,223 Reversal of allowance on realised losses (25) (27) Many of the countries within Region AAMEO have significant sales and low credit Net movement recognised in income statement 164 196 ratings. As such, this region has a relatively high impact on the allowance for doubtful Effect of exchange rate adjustment (63) (98) trade receivables. Instability and sharp currency depreciation are impacting the political climate in countries such as Russia, Iran and Argentina. Novo Nordisk is monitoring Allowance at the end of the year 1,370 1,294 these developments closely. Payment history as well as current economic conditions and indicators are taken into account in the valuation of trade receivables. Please refer to note 2.2 for a geographical split of trade receivables and allowance for doubtful trade Total realised losses in 2018 amount to DKK 25 million (DKK 27 million in 2017). receivables, and notes 4.2 and 4.7 for the trade receivable programmes.

78 CONSOLIDATED FINANCIAL STATEMENTS 3.5 Retirement benefit obligations Accounting policies Recognition of defined benefit plans Defined contribution plans The costs for the year for defined benefit plans are determined using the projected unit Novo Nordisk operates a number of defined contribution plans throughout the world. credit method. This reflects services rendered by employees to the valuation dates and is These plans are externally funded in entities that are legally separate from the Group. based on actuarial assumptions primarily regarding discount rates used in determining Novo Nordisk's contributions to the defined contribution plans are charged to the income the present value of benefits and projected rates of remuneration growth. Discount rates statement in the year to which they relate, are based on the market yields of high-rated corporate bonds in the country concerned. Defined benefit plans Actuarial gains and losses arising from experience adjustments and changes in actuarial In a few countries, Novo Nordisk operates defined benefit plans. The plan in the US assumptions are charged or credited to other comprehensive income in the period in is structured as a post-retirement healthcare plan covering all employees. From 2012, which they arise. Past service costs are recognised immediately in the income statement, this plan was frozen such that it no longer credited future service or admitted new participants, and a new defined contribution plan was established covering all em- Pension plan assets are only recognised to the extent that Novo Nordisk is able to ployees in the US. derive future economic benefits such as refunds from the plan or reductions of future contributions. Novo Nordisk manages the allocation and investment of pension plan The defined benefit plans for Germany cover all employees employed before November assets with the purpose of meeting the long-term objectives. 2003. Obligations relating to employees employed after 2003 are covered by a defined contribution plan. The Group's defined benefit plans are pension plans and medical plans and are usually funded by payments from Group companies and by employees to funds independent of In Switzerland, the employee pension scheme is set up as a combined defined benefit Novo Nordisk. Where a plan is unfunded, a liability for the retirement benefit obligation and defined contribution plan, and is mandatory. In Germany and Switzerland, the is recognised in the balance sheet. Costs recognised for retirement benefits are included defined benefit plans are partly reimbursed by international insurance companies. The in Cost of goods sold, Sales and distribution costs. Research and development costs, risk related to the plan assets in these countries is therefore limited to counterparty risk and Administrative costs. against these insurance companies. The net obligation recognised in the balance sheet is reported as non-current liabilities. The plan in Japan covers all employees and is set up as a combined defined benefit and defined contribution plan. Retirement benefit obligations 2018 2017 DKK million US Germany Switzerland Japan Other total total At the beginning of the year 448 926 283 393 428 2,478 2,611 Current service costs 17 30 22 28 42 139 141 Past service costs and settlements (67) - (2) (13) (8) (90) (45) Interest costs 14 17 2 2 8 43 40 Remeasurement (gains)/losses1 (32) (34) (7) (10) 7 (76) (79) Plan participant contributions etc. — 8 — 5 13 12 Benefits paid to employees (17) (7) (26) (29) (9) (88) (66) Effect of exchange rate adjustment 23 3 12 28 3 69 (136) At the end of the year 386 935 292 399 476 2,488 2 2,478 Fair value of plan assets At the beginning of the year — 525 197 316 104 1,142 1,160 Interest income — 10 2 1 4 17 12 Settlements — — — — (43) Remeasu gains/(losses)1 — 13 (1) (6) 5 11 24 Employer contributions 17 16 19 25 24 101 96 Plan participant contributions etc — 7 — 8 15 14 Benefits paid to employees (17) (7) (26) (29) (9) (88) (66) Effect of exchange rate adjustment — 2 8 23 1 34 (55) At the end of the year — 559 206 330 137 1,232 1,142 Net retirement benefit obligations at the end of the year 386 376 86 69 339 1,256 1,336 1. Net remeasurement is a gain of DKK 87 million (gain of DKK 103 million in 2017), primarily related to changes in financial assumptions, and is included in other comprehensive income. 2. The present value of partly funded retirement benefit obligations amounts to DKK 1.841 million (DKK 1.778 million in 2017). The present value of unfunded retirement benefit obligations amounts to DKK 647 million (DKK 700 million in 2017). Key assumptions used for valuation Discount rate 4.3% 2.0% 1.0% 0.8% 2.4% 2.1% 1.8% Future remuneration N/A 2.3% 1.8% 3.0% 2.9% 2.5% 2.3%

CONSOLIDATED FINANCIAL STATEMENTS 79 3.5 Retirement benefit obligations (continued) 1 %-point 1 %-point Please refer to note 5.2 for a maturity analysis of the net retirement benefit obligation. DKK million increase decrease Novo Nordisk does not expect the contributions over the next five years to differ signif- icantly from current contributions. 2018 Discount rate (decrease)/increase (369) 458 Future remuneration growth (decrease)/increase 99 (89) Actuarial valuations are performed annually for all major defined benefit plans. As- OPERATING YEAR ASSETS THE AND FOR LIABILITIES - RESULTS PREPARATION OF BASIS sumptions regarding future mortality are based on actuarial advice in accordance with published statistics and experience in each country. Other assumptions such as medical 2017 cost trend rate and inflation are also considered in the calculation. Discount rate (decrease)/increase (375) 463 Future remuneration growth (decrease)/increase 105 (95) Significant actuarial assumptions for the determination of the retirement benefit obliga- tion (not considering plan assets) are discount rate and expected future remuneration increases. The sensitivity analysis below has been determined based on reasonably likely The sensitivities above consider the single change shown with the other assumptions changes in the assumptions occurring at the end of the period, assumed to be unchanged. The table shows the NPV impact of net retirement liabilities. 3.6 Provisions and contingent liabilities Accounting policies Novo Nordisk issues credit notes for expired goods as a part of normal business. Where Provisions for sales rebates and discounts granted to government agencies, wholesalers, there is historical experience or a reasonably accurate estimate of expected future retail pharmacies, Managed Care and other customers are recorded at the time the related returns can otherwise be made, a provision for estimated product returns is recorded. revenues are recorded or when the incentives are offered. Provisions are calculated based The provision is measured at gross sales value. on historical experience and the specific terms in the individual agreements. Unsettled rebates are recognised as Provisions when the timing or amount is uncertain. Where Key accounting estimate regarding ongoing legal disputes, litigation and absolute amounts are known, the rebates are recognised as Other liabilities. Please refer investigations to note 2.1 for further information on sales rebates and provisions. Provisions for legal disputes consist of various types of provision linked to ongoing legal disputes. Management makes estimates regarding provisions and contingencies, Provisions for legal disputes are recognised where a legal or constructive obligation including the probability of pending and potential future litigation outcomes. These are has been incurred as a result of past events and it is probable that there will be an by nature dependent on inherently uncertain future events. When determining likely outflow of resources that can be reliably estimated. In this case, Novo Nordisk arrives outcomes of litigation etc. Management considers the input of external counsels on at an estimate based on an evaluation of the most likely outcome. Disputes for which each case, as well as known outcomes in case law. no reliable estimate can be made are disclosed as contingent liabilities. Although Management believes that the total provisions for legal proceedings are Provisions are measured at the present value of the anticipated expenditure for settlement. adequate based on currently available information, there can be no assurance that This is calculated using a pre-tax discount rate that reflects current market assessments there will not be any changes in facts or matters, or that any future lawsuits, claims, of the time value of money and the risks specific to the obligation. The increase in the proceedings or investigations will not be material. provision for interest is recognised as a financial expense. - CAPITAL STRUCTURE AND FINANCIAL ITEMS - OTHER DISCLOSURES DISCLOSURES - OTHER ITEMS FINANCIAL AND STRUCTURE - CAPITAL Provisions Provisions Provisions for sales for legal for product Other 2018 2017 DKK million rebates disputes returns provisions1 total total At the beginning of the year 20.216 1.781 847 1.213 24.057 23.831 Additional provisions, including increases to existing provisions 82,315 73 439 510 83,337 65,213 Amount used during the year (78,539) (8) (388) (308) (79,243) (61,976) Adjustments, including unused amounts reversed during the year 386 (24) (38) (10) 314 (406) Effect of exchange rate adjustment 1,016 38 9 25 1,088 (2,605) At the end of the year 25,394 1,860 869 1,430 29,553 24,057 Non-current liabilities2 — 1,860 320 1,212 3,392 3,302 Current liabilities 25,394 — 549 218 26,161 20,755 1. Other provisions consist of various types of provision, including obligations in relation to employee benefits such as jubilee benefits, company-owned life insurance etc. Assets offsetting obligations related to company-owned life insurance are presented as part of Other financial assets. 2. For non-current liabilities, provisions for product returns will be utilised in 2020 and 2021. In the case of provisions for legal disputes, the timing of settlement cannot be determined.

80 CONSOLIDATED FINANCIAL STATEMENTS 3.6 Provisions and contingent liabilities (continued) Contingent liabilities On 18 January 2017, the Minnesota State Attorney General's Office served Novo Nor- Novo Nordisk is currently involved in pending litigations, claims and investigations disk with a Civil Investigative Demand calling for the production of documents and arising out of the normal conduct of its business. While provisions that Management information relating to pricing and trade practices for Novo Nordisk's long acting insulin deems to be reasonable and appropriate have been made for probable losses, there products, including Levemir® and Tresiba®, from 1 January 2008 through the present are uncertainties connected with these estimates. Novo Nordisk does not expect the date. On 16 October 2018, the state of Minnesota filed a lawsuit in the United States pending litigations, claims and investigations, individually and in the aggregate, to have District Court for the District of New Jersey against Novo Nordisk, Sanofi, and Eli Lilly a material impact on Novo Nordisk's financial position, operating profit or cash flow in alleging that the manufacturers and certain Pharmacy Benefit Managers 'PBMs' colluded addition to the amounts accrued as provision for legal disputes, to artificially inflate list prices paid by consumers for diabetes products, while offering reduced prices to PBMs through rebates used to secure formulary access. The complaint Pending litigation against Novo Nordisk also includes Minnesota state law claims for consumer fraud, deceptive trade practices, Novo Nordisk, along with the majority of incretin-based product manufacturers in the false advertising, and unjust enrichment. Novo Nordisk does not expect the lawsuit to USA, is a defendant in product liability lawsuits related to use of incretin-based medi- have a material impact on Novo Nordisk's financial position, operating profit or cash flow. cations. To date, 290 plaintiffs have named Novo Nordisk in product liability lawsuits, In light of the lawsuit, Novo Nordisk considers its response to the Minnesota Attorney predominantly claiming damages for pancreatic cancer that allegedly developed as a General's Civil Investigative Demand to be concluded. result of using Victoza® and other GLP-1/DPP-IV incretin-based products.187 of the Novo Nordisk plaintiffs have also named other defendants in their lawsuits. Most Novo On 7 March 2017, the Washington Attorney General's Office served Novo Nordisk Nordisk plaintiffs have filed suit in California federal and state courts. In November with a Civil Investigative Demand calling for the production of documents and in- 2015, all pancreatic cancer cases pending in the California federal and state courts formation relating to pricing and trade practices for Novo Nordisk's insulin products, were dismissed on federal preemption grounds. Plaintiffs subsequently appealed these including Levemir®, NovoLog®, and Novolin®, from 1 January 2005 through the present rulings to the federal and California state appeals courts. In November 2017, the U.S. date. Novo Nordisk is cooperating with the Washington State Attorney General in this Court of Appeals for the Ninth Circuit reversed and vacated the Federal District Court investigation. Novo Nordisk does not expect the investigation to have a material impact Judge's ruling, thereby reinstating the dismissed federal lawsuits and sending them back on Novo Nordisk's financial position, operating profit or cash flow. to the Federal District Court in California for further proceedings. In November 2018, the California Court of Appeal issued a similar ruling, thus sending the California state court On 26 April 2017, the New Mexico Attorney General's Office served Novo Nordisk with cases back to state trial court for further proceedings. Currently, Novo Nordisk does not a Civil Investigative Demand calling for the production of documents and information have any individual trials scheduled in 2019. Novo Nordisk does not expect the pending regarding the trade practice and pricing of Novo Nordisk's insulin products, namely claims to have a material impact on its financial position, operating profit or cash flow. NovoLog® and Novolin®, for the period of 1 January 2012 through the present date. Novo Nordisk is cooperating with the New Mexico Attorney General in this investigation. Since January 2017, several class action lawsuits have been filed against Novo Nordisk, Novo Nordisk does not expect the investigation to have a material impact on Novo former CEO Lars Rebien Sørensen, former CFO Jesper Brandgaard and former President Nordisk's financial position, operating profit or cash flow. of Novo Nordisk Inc. Jakob Riis in the United States District Court for the District of New Jersey on behalf of all purchasers of Novo Nordisk American Depository Receipts between On 14 January 2019, Novo Nordisk was one of several pharmaceutical companies February 2015 and February 2017. All lawsuits have been consolidated into one case. that received a request for information involving pricing practices from United States The lawsuit alleges that Novo Nordisk artificially inflated its financial results, failed to Representative Elijah Cummings, Chair of the United States House of Representatives disclose pricing pressure and rising rebate payments to pharmacy benefit managers, Committee on Oversight and Reform. The Company will be cooperating with the and made other materially misleading statements to potential investors. On 16 August Committee and will respond to the requests set forth in the Committee's letter. Novo 2018, the court denied Novo Nordisk's Motion to Dismiss the case. Hence, the case Nordisk does not expect this inquiry to have a material impact on Novo Nordisk's financial will now proceed into discovery. Novo Nordisk does not expect the litigation to have position, operating profit or cash flow. a material impact on Novo Nordisk's financial position, operating profit or cash flow. On 30 January 2019, Novo Nordisk was one of three pharmaceutical companies that Since January 2017, ten pricing-related class action lawsuits have been brought against received a request for information involving insulin pricing practices from United States Novo Nordisk, Sanofi, Eli Lilly and in some cases certain Pharmacy Benefit Managers Representatives Frank Pallone, Jr. and Diana DeGette, Chairs of the United States House 'PBMs' on behalf of classes of U.S. purchasers of diabetes products. Five of these lawsuits of Representatives Committee on Energy and Commerce and Subcommittee on Oversight have been consolidated into one matter pending in the United States District Court for and Investigations, respectively. The Company will be cooperating with the Committee the District of New Jersey and one has been voluntarily dismissed without prejudice. and will respond to the requests set forth in the Committee's letter. Novo Nordisk does The other four lawsuits are also pending as separate matters in the same Federal Court not expect this inquiry to have a material impact on Novo Nordisk's financial position, in New Jersey. All pending matters allege that the manufacturers and PBMs colluded operating profit or cash flow. to artificially inflate list prices paid by consumers for diabetes products, while offering reduced prices to PBMs through rebates used to secure formulary access. Novo Nordisk Other contingent liabilities does not expect the lawsuits to have a material impact on Novo Nordisk's financial In addition to the above, the Novo Nordisk Group is engaged in certain litigation pro- position, operating profit or cash flow. ceedings and various ongoing audits and investigations. In the opinion of Management, neither settlement or continuation of such proceedings, nor such pending audits and Pending claims against Novo Nordisk and investigations investigations are expected to have a material effect on Novo Nordisk's financial position, involving Novo Nordisk operating profit or cash flow. In March 2016, the United States Department of Justice ("DOJ") served Novo Nordisk with a Civil Investigative Demand ("CID") calling for the production of documents and information regarding Novo Nordisk's haemophilia-related patient support programmes, as well as information relating to the marketing and promotion of NovoSeven®RT. The 3.7 Other liabilities investigation is being conducted by DOJ in conjunction with the U.S. Attorney's Office for the Western District of Oklahoma. Furthermore, two CIDs from the Washington State Attorney General's ("WAG") office have been served on Novo Nordisk in 2014 and 2016, Other liabilities each calling for the production of documents and information regarding Novo Nordisk's DKK million 2018 2017 haemophilia-related patient support programme, SevenSECURE®, as well as information Employee costs payable 6,582 5,617 relating to the marketing and promotion of NovoSeven®RT. The WAG has decided to cease further investigation under its CIDs and defer to the related investigation being Sales rebates payable 1,660 1,528 conducted by the DOJ under its March 2016 CID. Novo Nordisk continues to cooperate Healthcare fees payable 473 990 with the DOJ and the U.S. Attorneys' Office in this investigation. Novo Nordisk does not VAT and duties payable 433 1,182 expect the investigation to have a material impact on Novo Nordisk's financial position, Payables regarding clinical trials 458 402 operating profit or cash flow. Payables regarding promotion activities 404 325 Rent and leases payable 321 300 In March 2016, the US Attorney's Office for the Southern District of New York served Legal and consultancy costs payable 208 164 Novo Nordisk with a Civil Investigative Demand calling for the production of documents Trade payable to associated company 150 223 and information regarding Novo Nordisk's contracts and business relationships with Payables related to non-current assets 2,020 2,104 Pharmacy Benefit Managers concerning NovoLog®, Novolin® and Levemir®. Novo Nor- disk is cooperating with the U.S. Attorney's Office in this investigation. Novo Nordisk Other payables 1,389 1,611 does not expect the investigation to have a material impact on Novo Nordisk's financial Total other liabilities 14,098 14,446 position, operating profit or cash flow.

CONSOLIDATED FINANCIAL STATEMENTS 81 Section 4 Capital structure and financial items This section provides an insight into Novo Nordisk's capital structure, earnings per share, Novo Nordisk has a low debt-to-equity ratio due to limited debt financing. Further — OTHER DISCLOSURES ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS - OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS free cash flow and financing items. The free cash flow impacts Novo Nordisk's long- information on the company's capital structure can be found in `Shares and capital term financial target for 'Cash to earnings (three-year average)'. Cash to earnings is structure' on pp 44-45 (unaudited). defined as 'free cash flow as a percentage of net profit'. Free cash flow is a measure of the amount of cash generated in the period which is available for the Board to allocate Management considers foreign exchange exposure to be one of the main financial risks. between Novo Nordisk's capital providers, through e.g. dividends, share repurchases Novo Nordisk aims to reduce the short-term impact from movements in key currencies by and repayment of debt (excl. lease liability repayments) or for retaining in the business hedging future cash flows. Notes 4.2 and 4.3 include more information in this respect, to fund future growth, 4.1 Share capital, distributions to shareholders and earnings per share Share capital A share B share Total share DKK million capital capital capital Development in share capital: Share capital 2014 107 423 530 Cancelled in 2015 — (10) (10) Cancelled in 2016 — (10) (10) Cancelled in 2017 — (10) (10) Share capital at the beginning of the year 107 393 500 Cancelled in 2018 — (10) (10) Share capital at the end of the year 107 383 490 At the end of 2018, the share capital amounted to DKK 107 million in A share capital (equal to 537 million A shares of DKK 0.20) and DKK 383 million in B share capital (equal to 1,913 million B shares of DKK 0.20). Each A share carries 200 votes and each B share carries 20 votes. Cash distribution to shareholders Novo Nordisk paid out an interim dividend of DKK 3.00 per share in August 2018. The net cash distribution to shareholders in the form of dividends and share repurchases amounts to DKK 34.6 billion, compared with a free cash flow of DKK 32.5 billion. This is in line with the guiding principle of paying out excess capital to investors after funding organic growth and potential acquisitions. DKK million 2018 2017 2016 Interim dividend for the year 7,238 7,396 7,600 Dividend for prior year 11,810 11,448 16,230 Share repurchases for the year 15,567 16,845 15,057 Total 34,615 35,689 38,887 The total dividend for 2018 amounts to DKK 19,547 million (DKK 8.15 per share). At the end of 2018, a final dividend of DKK 12,309 million (DKK 5.15 per share) is expected to be distributed pending approval at the Annual General Meeting. The interim dividend of DKK 7,238 million (DKK 3.00 per share) was paid in August 2018. The total dividend for 2017 was DKK 19,206 million (DKK 7.85 per share), of which the final dividend of DKK 11,810 million (DKK 4.85 per share) was paid in March 2018. No dividend is declared on treasury shares. According to Danish Corporate law, reserves available for distribution as dividends are based on the financial statements of the parent company, Novo Nordisk A/S. Dividends are paid from distributable reserves. Share premium is a distributable reserve and any former share premium reserve is considered to have been fully distributed. As at 31 December 2018, distributable reserves total DKK 38,816 million (2017: DKK 33,127 million), corresponding to the parent company's retained earnings.

82 CONSOLIDATED FINANCIAL STATEMENTS 4.1 Share capital, distribution to shareholders and earnings per share (continued) Treasury shares Accounting policies Treasury shares are deducted from the share capital on cancellation at their nominal value of DKK 0.20 per share. Differences between this amount and the amount paid to acquire or received for disposing of treasury shares are deducted directly in Equity. 2018 2017 Number of Number of As % of share As % of share B shares B shares Market value, capital before capital after of DKK 0.20 of DKK 0.20 DKK million cancellation (million) (million) Holding at the beginning of the year 18,579 2.2% 56 46 Cancellation of treasury shares (16,725) (2.0%) (50) Transfer regarding restricted stock units (200) (1) - Purchase during the year 15,567 51 60 Value adjustment (611) — Holding at the end of the year 16,610 2.3% 56 56 Treasury shares are primarily acquired to reduce the company's share capital. In addition, a limited part is used to finance Novo Nordisk's long-term share-based incentive programme (restricted stock units) and restricted stock units to employees. Novo Nordisk's guiding principle is that any excess capital, after the funding of organic growth opportunities and potential acquisitions, should be returned to investors. Novo Nordisk applies a pharmaceutical industry payout ratio to dividend payments, which are complemented by share repurchase programmes. The purchase of treasury shares during the year relates to the remaining part of the 2017 share repurchase programme totalling DKK 1.7 billion and the DKK 15 billion Novo Nordisk B share repurchase programme for 2018, of which DKK 1.2 billion was outstanding at year-end. The programme ended on 30 January 2019. Transfer of treasury shares relates to the long-term share-based incentive programme and restricted stock units to employees. Earnings per share Accounting policies Earnings per share is presented as both basic and diluted earnings per share. Basic earnings per share is calculated as net profit divided by the average number of shares outstand- ing. Diluted earnings per share is calculated as net profit divided by the sum of average number of shares outstanding, including the dilutive effect of the outstanding share pool. Please refer to 'Financial definitions' on p 95 for a description of calculation of the dilutive effect. DKK million 2018 2017 2016 Net profit for the year 38,628 38,130 37,925 Average number of shares outstanding in 1,000 shares 2,419,603 2,473,218 2,529,945 Dilutive effect of average outstanding share pool1 in 1,000 shares 4,814 4,875 4,784 Average number of shares outstanding, including dilutive effect of outstanding share pool in 1,000 shares 2,424,417 2,478,093 2,534,729 Basic earnings per share DKK 15.96 15.42 14.99 Diluted earnings per share DKK 15.93 15.39 14.96 1. For further information on the outstanding share pool, please refer to note 5.1.

CONSOLIDATED FINANCIAL STATEMENTS 83 4.2 Financial risks Key currencies Exchange rate DKK per 100 2018 2017 2016 Novo Nordisk has centralised management of the Group's financial risks. The overall USD objectives and policies for the company's financial risk management are outlined in an Average 631 660 673 internal Treasury Policy, which is approved by the Board of Directors. The Treasury Policy Year-end 652 621 706 consists of the Foreign Exchange Policy, the Investment Policy, the Financing Policy and Year-end change 5.1% (12.0%) 3.4% the Policy regarding Credit Risk on Financial Counterparts, and includes a description of permitted use of financial instruments and risk limits. -- OTHER DISCLOSURES ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS - OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS CNY Novo Nordisk only hedges commercial exposures and consequently does not enter into Average 95 98 101 derivative transactions for trading or speculative purposes. Novo Nordisk uses a fully Year-end 95 95 102 integrated Treasury Management System to manage all financial positions, and all posi-Year-end change (0.3%) (6.9%) (2.9%) tions are marked-to-market. Management has assessed the following key financial risks: Type Financial risk JPY Average 5.72 5.88 6.21 Foreign exchange risk High Year-end 5.91 5.51 6.03 Interest rate risk Low Year-end change 7.3% (8.6%) 6.3% Liquidity risk Low Credit risk Low GBP Average 842 849 911 Year-end 827 839 869 Foreign exchange risk Year-end change (1.4%) (3.5%) (14.0%) Foreign exchange risk is an important financial risk for Novo Nordisk and can have a significant impact on the income statement, statement of comprehensive income, balance sheet and cash flow statement. CAD Average 487 508 508 The overall objective of foreign exchange risk management is to reduce the short-term Year-end 479 495 524 negative impact of exchange rate fluctuations on earnings and cash flow, thereby Year-end change (3.2%) (5.5%) 6.5% contributing to the predictability of the financial results. The majority of Novo Nordisk's sales are in USD, EUR, CNY, JPY, GBP and CAD. The foreign exchange risk is most significant in USD, CNY and JPY, while the EUR exchange rate Foreign exchange sensitivity analysis: risk is regarded as low because of Denmark's fixed exchange rate policy towards EUR. A 5% immediate increase/decrease in the following currencies versus EUR and DKK would impact Novo Nordisk's operating profit as outlined in the table below: Novo Nordisk hedges existing assets and liabilities in key currencies as well as future expected cash flows up to a maximum of 24 months forward. Hedge accounting is Estimated for applied to match the impact of the hedged item and the hedging instrument in the DKK million 2019 2018 consolidated income statement. Management has chosen to classify the result of hedging activities as part of financial items. USD 2,000 1,900 CNY 350 325 During 2018, the hedging horizon varied between 6 and 13 months for USD, CNY, JPY, JPY 160 170 GBP and CAD. Currency hedging is based on expectations of future exchange rates GBP 85 90 and mainly uses foreign exchange forwards and foreign exchange options matching CAD 90 80 the due dates of the hedged items. Expected cash flows are continually assessed using historical inflows, budgets and monthly sales forecasts. Hedge effectiveness is assessed on a regular basis. There is no expected ineffectiveness at 31 December 2018, primarily because hedging instruments match currencies of hedged cash flows. The financial contracts existing at year-end cover the expected future cash flow for the following number of months: 2018 2017 USD 11 months 12 months CNY1 6 months 6 months JPY 12 months 12 months GBP 11 months 13 months CAD 9 months 11 months 1. Chinese yuan traded offshore (CNH) is used to hedge Novo Nordisk's CNY currency exposure.

84 CONSOLIDATED FINANCIAL STATEMENTS 4.2 Financial risks (continued) Credit exposure split into Cash at bank and Derivative financial instruments (market value) Derivative At year-end, a 5% immediate increase/decrease in all other currencies versus EUR and Cash at financial DKK would affect other comprehensive income and the income statement as outlined DKK million bank instruments Total in the table below: 2018 5% increase 5% decrease AA-range 7,989 90 8,079 in all other in all other currencies currencies A-range 7,212 114 7,326 against against BBB-range 246 246 DKK million DKK and EUR DKK and EUR Not rated or below BBB-range 191 191 2018 Total 15,638 204 15,842 Other comprehensive income (1,988) 1,988 2017 Income statement 115 (115) AA-range 12,369 935 13,304 Total (1,873) 1,873 A-range 5,967 1,369 7,336 BBB-range 438 438 2017 Not rated or below BBB-range 78 78 Other comprehensive income (1,994) 2,098 Income statement 210 (255) Total 18,852 2,304 21,156 Total (1,784) 1,843 Novo Nordisk has no significant concentration of credit risk related to Trade receivables or Other receivables and prepayments, as the exposure in general is spread over a large A 5% depreciation of USD against all other currencies at 31 December 2018 would number of counterparties and customers. In the US, the three major wholesalers account affect equity by DKK 1.604 million (2017: DKK 1,707 million) and the income statement for the larger part of total net sales, cf. note 2.2. However, US wholesaler credit ratings by DKK 157 million (2017: DKK 52 million). are monitored and a large part of the trade receivables are sold on full non-recourse terms, cf. below. Novo Nordisk continues to monitor the credit exposure in Region AAM- The foreign exchange sensitivity analysis comprises effects from the Group's cash, EO due to the increasing sales and low credit ratings of many countries in this region. Trade receivables and Trade payables, current loans, current and non-current financial investments, foreign exchange forwards and foreign exchange options at year-end. Trade receivable programmes Anticipated currency transactions, investments and non-current assets are not included. Please refer to note 3.4 for the description of the loss allowance for the Group and the aging analysis. Interest rate risk Novo Nordisk has no significant exposure to interest rate risk as it does not hold any Novo Nordisk's subsidiaries in the US and Japan employ trade receivable programmes in marketable securities or non-current loans, which trade receivables are sold on full non-recourse terms to optimise working capital. Liquidity risk At year-end, the Group had derecognised receivables without recourse having due dates The liquidity risk is considered to be low, and Novo Nordisk has limited debt financing. after 31 December amounting to: Novo Nordisk ensures the availability of the required liquidity through a combination of cash management, highly liquid investment portfolios and both uncommitted and DKK million 2018 2017 2016 committed credit facilities. Novo Nordisk uses cash pools for optimisation and central- isation of cash management. US 3,587 3,328 2,754 Japan 1,937 2,024 2,259 Credit risk Credit risk arises from the possibility that transactional counterparties may default on their obligations, causing financial losses for the Group. Novo Nordisk considers its maximum credit exposure to financial counterparties to be DKK 15,842 million (2017: In addition, full non-recourse off-balance sheet factoring arrangement programmes are DKK 21,156 million). In addition, Novo Nordisk considers its maximum credit exposure occasionally applied by Novo Nordisk subsidiaries around the world, with limited impact to Trade receivables, Other receivables less prepayments and Other financial assets to on the Group's trade receivables. be DKK 26,018 million (2017: DKK 22,602 million). Please refer to note 4.7 for details of the Group's total financial assets. Please refer to note 2.2 for the split of allowance for trade receivables by geographical segment. To manage credit risk on financial counterparties, Novo Nordisk only enters into derivative financial contracts and money market deposits with financial counterparties possessing a satisfactory long-term credit rating from at least two out of the three selected ratings agencies: Standard and Poor's, Moody's and Fitch. Furthermore, maximum credit lines defined for each counterparty diversify the overall counterparty risk. The table below shows Novo Nordisk's credit exposure on cash and financial derivatives.

CONSOLIDATED FINANCIAL STATEMENTS 85 4.3 Derivative financial instruments Fair value hedges Value adjustments of fair value hedges are recognised in the income statement along with any value adjustments of the hedged asset or liability that are attributable to the Accounting policies hedged risk. Novo Nordisk uses financial instruments to reduce the impact of foreign exchange on financial results. Cash flow hedges Value adjustments of the effective part of cash flow hedges are recognised directly Use of derivative financial instruments in other comprehensive income. The cumulative value adjustment of these contracts The derivative financial instruments are used to manage the exposure to market risk, is transferred from other comprehensive income to the income statement when the — OTHER DISCLOSURES ITEMS FINANCIAL AND STRUCTURE — CAPITAL LIABILITIES AND ASSETS — OPERATING YEAR THE FOR — RESULTS PREPARATION OF BASIS None of the derivatives are held for trading. hedged transaction is recognised in the income statement. Novo Nordisk uses forward exchange contracts and to a minor extent currency options Discontinuance of cash flow hedging to hedge forecast transactions, assets and liabilities. The overall policy is to hedge the When a hedging instrument expires or is sold, or when a hedge no longer meets the majority of total currency exposure, criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the forecast transaction is ultimately recognised Currently, net investments in foreign subsidiaries are not hedged. in the income statement. When a forecast transaction is no longer expected to occur, the cumulative gain or loss that was reported in equity is immediately transferred to Initial recognition and measurement the income statement under Financial income or Financial expenses. On initiation of the contract, Novo Nordisk designates each derivative financial contract that qualifies for hedge accounting as one of: Fair value determination The fair value of derivative financial instruments is measured on the basis of quoted • hedges of the fair value of a recognised asset or liability (fair value hedge) market prices of financial instruments traded in active markets. If an active market • hedges of the fair value of a forecast financial transaction (cash flow hedge). exists, the fair value is based on the most recently observed market price at the end of the reporting period. All contracts are initially recognised at fair value and subsequently remeasured at fair value at the end of the reporting period. If a financial instrument is quoted in a market that is not active, Novo Nordisk bases its valuation on the most recent transaction price. Adjustment is made for subsequent changes in market conditions, for instance by including transactions in similar financial instruments assumed to be motivated by normal business considerations. If an active market does not exist, the fair value of standard and simple financial instru- ments, such as foreign exchange forward contracts, interest rate swaps, currency swaps and unlisted bonds, is measured according to generally accepted valuation techniques. Market-based parameters are used to measure the fair value. Hedging activities 2018 2017 Contract Positive Negative Contract Positive Negative amount fair value fair value amount fair value fair value DKK million at year-end at year-end at year-end at year-end at year-end Forward contracts USD 1 29,951 21 1,555 33,273 1,664 8 Forward contracts CNH, JPY, GBP and CAD 7,462 23 166 7,677 222 37 Forward contracts, cash flow hedges 37,413 44 1,721 40,950 1,886 45 Currency options USD — — 2,152 180 — Currency options JPY — — 112 6 — Currency options, cash hedges — — 2,264 186 — Forward contracts USD 9,145 123 256 11,519 260 239 Forward contracts CNH, CAD, EUR and GBP 3,268 37 47 2,680 120 25 Forward contracts, fair value hedges 12,413 160 303 14,199 380 264 Time value of currency options (hedge accounting not applied)2 — — — 34 — Currency options GBP (hedge accounting not applied) — — 125 1 — Total hedging activities 49,826 204 2,024 57,538 2,487 309 Recognised in the income statement 160 303 415 264 Recognised in other comprehensive incomes 44 1,721 2.072 45 Presented in the balance sheet as: Derivative financial instruments (current assets/liabilities) 204 2.024 2.304 309 Cash at bank — 183 1. Average hedge rate for USD cash flow hedges is 610 at the end of 2018 and 644 at the end of 2017. 2. With the implementation of IFRS 9, hedge accounting is applied to time value of currency options from 1 January 2018. There are no open options at 31 December 2018. 3. Realisation in 2018 of previously deferred gains amounts to DKK 2,027 million. Furthermore, an additional loss of DKK 1,677 million as of 31 December 2018 has been deferred for realisation in 2019.

86 CONSOLIDATED FINANCIAL STATEMENTS 4.3 Derivative financial instruments (continued) The above financial contracts regarding cash flow hedging are expected to impact the income statement within the periods shown below. The split is based on an estimate of when the cash flow hedges are expected to be reclassified to fair value hedges with the fair value then being transferred to Financial income or Financial expenses. The cash flow impact is an immediate consequence of the reclassification (note 4.8). 2018 2017 Positive Negative Positive Negative fair value fair value fair value fair value DKK million at year-end at year-end at year-end Expected timing of income statement impact 0-12 months 44 1,721 2,072 45 More than 12 months — — — — Total cash flow hedges for which hedge accounting is applied 44 1,721 2,072 45 4.4 Cash and cash equivalents, financial resources and Free cash flow free cash flow DKK million 2018 2017 2016 Net cash generated from Accounting policies operating activities 44,616 41,168 48,314 The cash flow statement shows how income and changes in balance sheet items affect Net cash used in investing activities (12,080) (6,571) (6,790) cash and cash equivalents, in other words the cash generated or used in the period. Net purchase of marketable securities — (2,009) (1,533) 4 The cash flow statement is presented in accordance with the indirect method commencing Free cash flow 32,536 32,588 39,991 with Net profit for the year. Cash flows in foreign currencies are translated to DKK at the average exchange rate for the respective year. 4. Additional non-IFRS financial measure; please refer to pp 95–96 for definition. Cash from operating activities converts income statement items from the accrual basis of accounting to cash basis. As such, starting with net profit, non-cash items are re-versed and actual payments included. Further, the change in working capital is taken 4.5 Change in working capital into account, as this shows the development in money tied up in the balance sheet. Cash from investing activities shows payments related to the purchase and sale of Novo Nordisk's long-term investments. This includes fixed assets such as construction of new Accounting policies production sites, intangible assets such as patents and licences, and financial assets. Working capital is defined as current assets less current liabilities and measures the liquid assets Novo Nordisk has available for the business. Cash and cash equivalents consist of cash offset by short-term bank loans. Where short term bank loans are consistently overdrawn, they are excluded from cash and Change in working capital cash equivalents. The movement in such facilities is presented under financing activities DKK million 2018 2017 2016 in the cash flow statement1. Financial resources consist of cash and cash equivalents, marketable securities with original maturity of less than three months and undrawn Inventories (963) (1,032) (1,583) committed credit facilities expiring after more than one year. Trade receivables (2,621) 69 (4,749) Other receivables and prepayments (662) (17) (154) Restricted cash Trade payables 1,146 (401) 1,084 Cash and cash equivalents at 31 December 2018 includes DKK 120 million that is re- Other liabilities (348) 265 1,526 stricted. The restricted cash balance relates to subsidiaries, where availability of currency Adjustment for payables related to for remittance of funds is temporarily scarce. non-current assets 84 (1,143) — DKK million 2018 2017 2016 Change in working capital before exchange rate adjustments (3,364) (2,259) (3,876) Cash and cash equivalents Cash at bank (note 4.2) 15,638 18,852 18,690 Exchange rate adjustments (6) (1,375) 168 Current debt (bank overdrafts)1 (9) (1,694) (229) Cash flow change in working capital (3,370) (3,634) (3,708) Cash and cash equivalents 15,629 17,158 18,461 Financial resources Cash and cash equivalents 15,629 17,158 18,461 Marketable - 2,009 Undrawn committed credit facility2 11,574 8,190 8,178 Current debt (bank overdrafts)1 (506) - Financial resources3 26,697 25,348 28,648 1. securities ----Cash and cash equivalents at the beginning of the year has been adjusted for a DKK 412 million bank loan reclassified to financing activities. At 31 December 2018 bank loans classified as financing activities totalled DKK 506 million (2017: DKK 412 million). 2. The undrawn committed credit facility in 2018 is a EUR 1,550 million facility (EUR 1,100 million in 2017 and EUR 1,100 million in 2016) committed by a portfolio of international banks. The facility matures in 2023. 3. Additional non-IFRS financial measure; please refer to pp 95–96 for definition.

CONSOLIDATED FINANCIAL STATEMENTS 87 4.6 Other non-cash items For the purpose of presenting the cash flow statement, non-cash items with effect on the income statement must be reversed to identify the actual cash flow effect from the income statement. The adjustments are specified as follows: Other non-cash items DKK million 2018 2017 2016 - OTHER DISCLOSURES ITEMS FINANCIAL AND STRUCTURE - CAPITAL LIABILITIES AND ASSETS -OPERATING YEAR THE FOR - RESULTS PREPARATION OF BASIS Reversals of non-cash income statement items Interest income and interest expenses, net (note 4.8) 34 21 13 Capital gain/(loss) on investments, net etc (note 4.8) (163) 25 (16) Result of associated company (note 4.8) (12) (14) (24) Share-based payment costs (note 5.1) 414 292 368 Income from the partial divestment of associated company (122) — Changes in non-cash balance sheet items Increase/(decrease) in provisions (note 3.6) 5,496 226 4,007 Increase/(decrease) in retirement benefit obligations (note 3.5) (80) (115) 265 Remeasurements of retirement benefit obligations (note 3.5) 87 103 (205) Other adjustments Exchange rate adjustments on working capital (note 4.5) 6 1,375 (168) Other, primarily exchange rate adjustments 438 114 (358) Total other non-cash items 6.098 2.027 3.882 4.7 Financial assets and liabilities Accounting policies The implementation of IFRS 9 'Financial instruments', has had the effect that financial Financial assets 'at fair value through the income statement' assets are classified into new categories based on the characteristics of the instrument. Financial assets at fair value through the income statement consist of equity investments. The change of categories has not meant changes in measurement compared to the Equity investments are included in other financial assets unless management intends to policies applied before 1 January 2018, other than for fair value adjustments relating dispose of the investment within 12 months of the end of the reporting period. In that to minor shareholdings and measurement of trade receivables in factoring portfolios. case, the current part is included in other receivables and prepayments. Please refer to note 1.2 for a general description of changes in accounting policies and disclosures. Net gains and losses arising from changes in the fair value of financial assets are recog- nised in the income statement as financial income or expenses. From 1 January 2018, Novo Nordisk's investments in minor shareholdings are measured and classified as fair value through the income statement. Prior to adoption of IFRS 9, The fair values of quoted investments are based on current bid prices at the end of the minor shareholdings were classified as available for sale under which measurement was reporting period. Financial assets for which no active market exists are carried at fair at fair value through other comprehensive income. value based on a valuation methodology. From 1 January 2018, all financial assets previously categorised as loans and receivables Financial assets 'at amortised cost' are classified as financial assets at amortised cost with the exception of certain portfolios Financial assets at amortised cost are cash at bank and non-derivative financial assets of trade receivables which are either sold under master factoring agreements or collected solely with payments of principal and interest. Novo Nordisk normally 'holds-to-collect' from the customer. These specific portfolios of trade receivables are separately classified the financial assets to attain the contractual cash flows. If collection is expected within and measured at fair value through other comprehensive income. one year (or in the normal operating cycle of the business if longer), they are classified as current assets. If not, they are presented as non-current assets. For derivatives there is no change to classification or measurement. Trade receivables and other receivables are recognised initially at fair value. Subsequently Cash at bank previously classified as cash and cash equivalents will henceforth be classified they are measured at amortised cost using the effective interest method, less allowance as financial assets at amortised cost, with no change to measurement. for doubtful receivables. Management determines the classification of its financial assets on initial recognition Financial assets 'at fair value through other comprehensive income' and re-evaluates this at the end of every reporting period to the extent that such a Financial assets at fair value through other comprehensive income are trade receivables classification is permitted or required. that are held to collect or to sell in factoring agreements. Recognition and measurement Financial liabilities 'at fair value through the income statement' Purchases and sales of financial assets are recognised on the settlement date. These are Financial liabilities at fair value through the income statement consist of forward initially recognised at fair value. ">1,292

FDIC premiums

Other	1,375 109
Total operating expenses	2,947 2,892
	\$44,401 \$38,374
Operating expenses/average assets	
Efficiency ratio	3.43% 3.32%
-	65.3% 64.8%

As shown in Table 6, first quarter 2009 operating expenses were \$44.4 million, up \$6.0 million or 15.7% from the prior year level. The significant portion of the increase was attributable to incremental operating expenses related to the ABG and Citizens acquisitions. Additionally, the increase in operating expenses can be attributable to an increased level of FDIC-insurance assessments (\$1.3 million), higher pension costs related to the underlying asset

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performance in 2008 (\$0.9 million), higher volume-based data processing and communication costs (\$0.6 million), and increased amortization of intangibles related to the two acquisitions completed in the last year (\$0.4 million). During 2007 and the first half of 2008, FDIC premiums were principally met through the application of a credit balance created in prior years. This credit balance was depleted in the second quarter of 2008 and resulted in higher FDIC premiums in subsequent quarters. Additionally, the FDIC's reserve fund has declined over the past year due to costs associated with recent bank failures and is expected to continue to decline in the future. Also in late 2008, the FDIC basic insurance coverage limit was temporarily increased to \$250,000 through December 31, 2009. These actions have resulted in significant increases in the FDIC assessment charge rates (240% above the first quarter of 2008) and are expected to continue throughout the remainder of 2009. The Company is also participating in the FDIC's Temporary Liquidity Guarantee Program (TLGP) that provides unlimited coverage for transaction deposit accounts and for which a supplemental 10-basis point premium is assessed. Several expense category increases continue to be impacted by the Company's investment in strategic technology and business development initiatives to grow and enhance its service offerings.

The Company's efficiency ratio (recurring operating expenses excluding intangible amortization and acquisition expenses divided by the sum of net interest income (FTE) and recurring noninterest income) was 65.3% for the first quarter, 0.5 percentage point above the comparable quarter of 2008. This resulted from operating expenses (as described above) increasing 14.5% primarily due to the acquisitions in the last year and the increased levels of FDIC premium and pension related expense, while recurring operating income increased at a slower rate of 13.6% due to a \$2.7 million or 15.5% increase in noninterest income excluding security gains and a \$4.7 million or 12.0% increase in net interest income year over year. Operating expenses as a percentage of average assets increased 12 basis points for the quarter as operating expenses increased 15.7%, while average assets increased 12.8% during the same time period. The increased level of FDIC premiums and pension related costs, which do not enhance revenue growth, impacted both ratios.

Income Taxes

The first quarter effective income tax rate was 21.5%, compared to the 22.5% effective tax rate in the first quarter of 2008. The lower effective tax rate for 2009 was principally a result of a higher proportion of income being generated from tax-exempt securities and loans.

Investments

As reflected in Table 7 below, the carrying value of investments (including unrealized gains on available-for-sale securities) was \$1.42 billion at the end of the first quarter, an increase of \$22.9 million and \$110.3 million from December 31, 2008 and March 31, 2008, respectively. The book value (excluding unrealized gains) of investments increased \$27.2 million and \$115.7 million from December 31, 2008 and March 31, 2008, respectively. During the fourth quarter of 2008 and continuing in the first quarter of 2009, the Company invested a portion of the net liquidity received in the Citizens acquisition into mortgage-backed securities and obligations of state and political subdivisions. The overall mix of securities within the portfolio over the last year has changed, with an increase in the proportion of mortgage-backed securities and small decreases in all other security categories. The change in the carrying value of investments is impacted by the amount of net unrealized gains in the available for sale portfolio at a point in time. At March 31, 2009, the portfolio had a \$15.8 million net unrealized gain, a decrease of \$4.2 million from the unrealized gain at December 31, 2008 and a decrease of \$5.4 million from the unrealized gain at March 31, 2008. This fluctuation is indicative of the liquidity risk associated with the pooled trust preferred securities, interest rate movements during the respective time periods and the changes in the size and composition of the portfolio.

Included in the available for sale portfolio are pooled trust preferred securities with a current par value of \$74.0 million and unrealized losses of \$24.6 million at March 31, 2009. The underlying collateral of these assets is principally trust-preferred securities of smaller regional banks and insurance companies. The Company's securities are in the super senior, cash flow tranche of the pools. All other tranches in these pools will incur losses before this tranche is impacted. The market for these securities at March 31, 2009 is not active and markets for similar securities are also not active. The inactivity was evidenced first by a significant widening of the bid-ask spread in the brokered markets in which these securities trade and then by a significant decrease in the volume of trades relative to historical levels. The fair value of these securities was based on a discounted cash flow model using market estimates of interest rates and volatility, as well as, observable quoted prices for similar assets in markets that have not been active. These assumptions may have a significant effect on the reported fair values. The use of different assumptions, as well as changes in market conditions, could result in materially different fair values. The Company has the intent and ability to hold these securities to recovery or maturity and does not consider these investments to be other-than temporarily impaired as of March 31, 2009. In determining if unrealized losses are other-than-temporary, management considers: the length of time and extent that fair value has been less than cost, the financial condition and near term prospects of the issuer, any external credit ratings and the Company's ability and intent to hold the security for a period sufficient to allow for any anticipated recovery in fair value. Subsequent changes in market or credit conditions could change those evaluations.

Table 7: Investments						
	March 31, 2009		December 31, 2008		March 31, 2008	
	Amortized		Amortized	An	nortize	ed
	Cost/Book	Fair	Cost/Book	Fair Co	st/Boc	ok Fair
(000's omitted)	Value	Value	Value	Value V	Value	Value
Held-to-Maturity Portfolio:						
U.S. Treasury and Agency						
securities	\$46,874	\$49,025	\$61,910	\$64, \$6 87	,019	\$129,117
Government guaranteed						
mortgage-backed securities	50,603	50,900	0	0	0	0
Obligations of state and						
political subdivisions	17,333	17,655	15,784	16,0045	5,850	5,959
Other securities	3,191	3,191	3,196	3,1963	3,210	3,210
Total held-to-maturity						
portfolio	118,001	120,771	80,890	83,4 6 86	5,079	138,286

Available-for-Sale Portfolio:					
U.S. Treasury and Agency					
securities	352,307	378,018	382,301	411,7 25 1,006	260,473
Obligations of state and					
political subdivisions	554,793	563,639	538,008	547,9 393 4,985	547,991
Corporate securities	35,588	35,356	35,596	35,15237,259	37,626
Collateralized mortgage					
obligations	20,811	21,292	25,464	25,70032,340	32,722
Pooled trust preferred					
securities	72,206	47,567	72,535	49,86 5 3,038	68,454
Government guaranteed					
mortgage-backed securities	197,042	202,673	188,560	192,0 54 1,882	174,418
Subtotal	1,232,747	1,248,545	1,242,464	1,262, 4 , 93 0,510	1,121,684
Equity securities	51,429	51,420	51,628	51,62849,919	49,919
Total available-for-sale					
portfolio	1,284,176	1,299,965	1,294,092	1,314, 1 , 2 , 5 0,429	1,171,603
Net unrealized gain on					
available-for-sale portfolio	15,789	0	20,029	Q 1,174	0
Total	\$1,417,9663	\$1,420,736	\$1,395,0113	\$1,39 %,5,80 7,6823	\$1,309,889

Loans

As shown in Table 8, loans ended the first quarter at \$3.10 billion, down \$32.4 million (1.0%) from year-end 2008 and up \$266.0 million (9.4%) versus one year earlier. The Citizens acquisition added approximately \$118 million of loans to the loan portfolio as of March 31, 2009. Excluding the impact of the Citizens acquisition, loans increased \$147.7 million or 5.2% from the first quarter of 2008 with organic growth in all portfolios; consumer mortgage, consumer installment and business lending. During the first quarter of 2009 loans declined in the consumer mortgage portfolio (\$36.0 million) due to the sale of loans and the consumer installment portfolio (\$16.1 million), partially offset by an increase in the business lending portfolio (\$19.7 million).

Table 8: Loans

(000's			Decembe	r 31,		
omitted)	March 31,	2009	2008		March 31,	2008
Business						
lending	\$1,078,593	34.7%	\$1,058,846	33.8%	\$998,443	35.2%
Consumer						
mortgage	1,026,934	33.1%	1,062,943	33.9%	987,807	34.8%
Consumer						
installment	998,214	32.2%	1,014,351	32.3%	851,536	30.0%
Total						
loans	\$3,103,741	100.0%	\$3,136,140	100.0%	\$2,837,786	100.0%

Business lending increased \$19.7 million in the first three months of 2009 and increased \$80.2 million versus one year ago. Excluding the impact of the Citizens acquisition, business lending increased \$14.1 million over the last three months and \$45.1 million over the last year. The intensity of competition the Company faces in some of its markets has eased somewhat due to a portion of the banks reducing their lending participation due to the liquidity and capital restraints they may be facing. The Company maintains its commitment to generating growth in its business portfolio in a manner that adheres to its twin goals of maintaining strong asset quality and producing profitable margins. The Company has continued to invest in additional personnel, technology and business development resources to further strengthen its capabilities in this key business segment.

Consumer mortgages increased \$39.1 million, year-over-year, and declined \$36.0 million in the first three months of 2009. Excluding the impact of the Citizens acquisition, consumer mortgages decreased \$36.3 million for the first quarter of 2009 and increased \$25.5 million over the past twelve months. During the first quarter of 2009, the Company originated \$107.9 million of residential mortgages for sale to others, principally Fannie Mae. Longer-term fixed rate residential mortgages sold to investors totaled \$91.8 million in the first quarter of 2009. Consumer mortgage growth has been strong over the last few quarters due to a decline in long-term interest rates. The consumer real estate portfolio does not include exposure to subprime, Alt-A, or other higher-risk mortgage products. The Company's solid performance during a tumultuous period in the overall industry is a testament to the stable, low-risk profile of its portfolio and its ability to successfully meet customer needs at a time when some national mortgage lenders are restricting their lending activities in many of the Company's markets. Interest rates and expected duration continue to be the most significant factors in determining whether the Company chooses to retain, versus sell and service portions of its new mortgage production.

Consumer installment loans, including borrowings originated in automobile, marine and recreational vehicle dealerships, as well as branch originated home equity and installment loans, decreased \$16.1 million in the first three months of 2009 and increased \$146.7 million on a year-over-year basis. Excluding the impact of the Citizens acquisition, consumer installment lending decreased \$13.3 million for the first three months of 2009 and increased \$77.1 million for the year-over-year period. The origination of consumer installment loans demonstrates definite

seasonal patterns and is traditionally slower in the first quarter. Declines in manufacturer production and industry sale projections indicate continued weakness in the new vehicle market which has created a demand in late model used and program car inventories, segments in which the Company is an active participant. Past business development efforts have created opportunities to strategically expand the Company's share of the market, helping drive productive growth in this portfolio. The Company is focused on maintaining the solid profitability produced by its in-market and contiguous indirect portfolio, while continuing to pursue its long-term steady approach to expanding its dealer network.

Asset Quality

Table 9 below exhibits the major components of nonperforming loans and assets and key asset quality metrics for the periods ending March 31, 2009 and 2008 and December 31, 2008.

		December	
(000'a amittad)	31,	31,	31,
(000's omitted) Nonaccrual loans	2009	2008	2008
	\$13,361	\$11,122	\$7,662
Accruing loans 90+ days	0.47	550	202
delinquent	947	553	
Restructured loans	977	1,004	
Total nonperforming loans	15,285	12,679	
Other real estate (OREO)	1,383	1,059	1,027
Total nonperforming assets	\$16,668	\$13,738	\$10,176
Allowance for loan losses to			
total loans	1.29%	1.26%	1.28%
Allowance for loan losses to			
nonperforming loans	262%	312%	398%
Nonperforming loans to total			
loans	0.49%	0.40%	0.32%
Nonperforming assets to total			
loans and other real estate	0.54%	0.44%	0.36%
Delinquent loans (30 days old			
to nonaccruing) to total loans	1.33%	1.43%	0.99%
Net charge-offs (annualized) to			
quarterly average loans			
outstanding	0.30%	0.30%	0.11%
Loan loss provision to net			
charge-offs (quarterly)	120%	100%	100%

Table 9: Nonperforming Assets

As displayed in Table 9, nonperforming assets at March 31, 2009 were \$16.7 million, a \$2.9 million increase versus the level at the end of 2008 and an increase of \$6.5 million as compared to the very favorable level one year earlier. Other real estate (OREO) increased \$0.4 million from one-year ago and increased \$0.3 million from year-end 2008, a result of the Company managing 20 OREO properties at March 31, 2009 as compared to 12 OREO properties at March 31, 2008. No single property has a carrying value in excess of \$325,000. Nonperforming loans were 0.49% of total loans outstanding at the end of the first quarter, nine and 17 basis points higher than the levels at December 31, 2008 and March 31, 2008, respectively. The allowance for loan losses to nonperforming loans ratio, a general measure of coverage adequacy, was 262% at the end of the first quarter compared, to 312% at year-end 2008 and 398% at March 31, 2008, reflective of the rising level of nonperforming loans.

Delinquent loans (30 days through nonaccruing) as a percent of total loans was 1.33% at the end of the first quarter, ten basis points below the 1.43% at year-end 2008 and 34 basis points higher than the 0.99% at March 31, 2008. The commercial loan delinquency ratio at the end of the first quarter increased in comparison to both December 31, 2008 and March 31, 2008. The delinquency rate for installment loans and real estate loans decreased as compared to the

December 31, 2008 and increased as compared to March 31, 2008. The Company's success at keeping the non-performing and delinquency ratios at favorable levels despite deteriorating economic conditions was the result of its continued focus on maintaining strict underwriting standards, as well as effective utilization of its collection and recovery capabilities.

(000's omitted)	Three Months Ended March 31, 2009 2008		
Allowance for loan			
losses at beginning of			
period	\$39,5753	\$36,427	
Charge-offs:			
Business lending	1,144	277	
Consumer mortgage	75	52	
Consumer installment	2,027	1,348	
Total charge-offs	3,246	1,677	
Recoveries:			
Business lending	109	173	
Consumer mortgage	6	46	
Consumer installment	799	679	
Total recoveries	914	898	
Net charge-offs	2,332	779	
Provision for loans			
losses	2,810	780	
Allowance for loan			
losses at end of period	\$40,0535	\$36,428	
Net charge-offs (annualized) to quarterly average loans outstanding:			
Business lending	0.39%	0.04%	
Consumer mortgage	0.03%		
Consumer installment	0.49%		
Consumer instanment			

Table 10: Allowance for Loan Losses Activity

As displayed in Table 10, net charge-offs during the first quarter were \$2.3 million, \$1.6 million higher than the equivalent 2008 period. The business lending, consumer mortgage and consumer installment portfolios experienced increases in the level of charge-offs as compared to the first quarter of 2008. The business lending portfolio included on \$0.5 million charge-off on a single commercial relationship. The net charge-off ratio (net charge-offs as a percentage of average loans outstanding) for the first quarter was 0.30%, 19 basis points higher than the comparable quarter of 2008. Net charge-offs and the corresponding net charge-off ratios continue to be below average long-term historical levels.

The consumer mortgage portfolio experienced a net charge-off ratio of 0.03% for the quarter, versus a neutral result in the previous year. The consumer installment and business lending net charge-off ratios for the first quarter of 0.49% and 0.39%, respectively, increased 18 basis points and 35 basis points versus prior year levels. As compared to the fourth quarter of 2008, the consumer installment charge-off ratio improved by three basis points while the business lending portfolio and consumer mortgage portfolio charge-off ratios were higher by one basis point each.

A loan loss allowance of \$40.1 million was determined as of March 31, 2009, necessitating a \$2.8 million loan loss provision for the quarter, compared to \$0.8 million one year earlier. The first quarter 2009 loan loss provision was \$0.5 million higher than the level of net charge-offs, due mostly to higher levels of nonperforming loans and greater qualitative risk factors attributable to the portfolio due to deteriorating economic conditions. The allowance for loan losses rose \$3.6 million or 10.0% over the last 12 months, slightly higher than the 9.4% growth in the loan portfolio. Contributing to the changes was the deteriorating charge-off, nonperforming and delinquency trends experienced over the last twelve months. This contributed to the ratio of allowance for loan loss to loans outstanding increasing three basis points to 1.29% for the first quarter, as compared to the level at December 31, 2008 and increasing one basis point from the level at March 31, 2008. The increase was also slightly impacted by the decreased proportion of low-risk consumer mortgage loans in the overall loan portfolio, a result of the recent selling of mortgages and organic and acquired growth in the other loan portfolios.

Deposits

As shown in Table 11, average deposits of \$3.8 billion in the first quarter were up \$559.1 million compared to first quarter 2008 and \$245.4 million versus the fourth quarter of last year. Excluding the impact of the Citizens acquisition, average deposits increased \$5.1 million as compared to the fourth quarter of 2008 and decreased \$5.7 million as compared to the first quarter of the prior year. The mix of average deposits changed since the first quarter of 2008. The weightings of non-time (interest checking, non-interest checking, savings and money markets accounts) have increased from their year-ago levels, while the proportion of time deposits decreased. This change in deposit mix reflects the Company's focus on expanding core account relationships and reducing higher cost time deposit balances, as well as the deposit profile of the acquired Citizens branches. This shift in mix, combined with the Company's ability to reduce rates due to market conditions, resulted in the quarterly cost of interest-bearing deposits declining from 2.68% in the first quarter of 2008 to 1.76% in the most recent quarter.

Average first quarter non-public fund deposits were up \$444.5 million or 14.8% compared to the year earlier period and \$178.6 million or 5.5% versus the fourth quarter of 2008. Average public funds have increased \$66.8 million or 25% from the fourth quarter of 2008 and \$114.6 million or 52% from the first quarter of 2008. The Company continues to focus heavily on growing its core deposits through enhanced marketing and training programs and new product offerings introduced over the last few years.

Table 11: Quarterly	Average Deposits
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		December	
	March 31,	31,	March 31,
(000's			
omitted)	2009	2008	2008
Demand			
deposits	\$651,298	\$615,540	\$555,927
Interest			
checking			
deposits	609,750	571,540	473,805
Savings			
deposits	470,417	463,797	452,929
Money			
market			
deposits	610,980	508,119	334,200
Time			
deposits	1,432,149	1,370,215	1,398,650
Total			
deposits	\$3,774,594	\$3,529,211	\$3,215,511
Non-public			
fund			
deposits	\$3,439,732	\$3,261,115	\$2,995,201
Public			
fund			
deposits	334,862	268,096	220,310
Total			
deposits	\$3,774,594	\$3,529,211	\$3,215,511

Borrowings

At the end of the first quarter, borrowings of \$858.8 million decreased \$3.7 million from December 31, 2008 and \$9.3 million versus the end of the first quarter of 2008 as a portion of the new liquidity from the Citizens acquisition was used to eliminate short-term obligations.

Shareholders' Equity

Total shareholders' equity of \$547.2 million at the end of the first quarter increased \$2.5 million from the balance at December 31, 2008. This change consisted of net income of \$10.5 million, \$0.6 million from shares issued under the employee stock plan and \$0.6 million from employee stock options earned, partially offset by dividends declared of \$7.2 million and a \$2.0 million decrease in other comprehensive income. The other comprehensive loss is comprised of a \$2.8 million decrease in the after-tax market value adjustment on the available for sale investment portfolio, partially offset by a \$0.1 million increase in the after-tax market value adjustment on the interest rate swap and a positive \$0.7 million adjustment to the funded status of the Company's retirement plans. Over the past 12 months, total shareholders' equity increased by \$58.5 million, as net income and positive contributions from a common stock offering and shares issued under the employee stock plan more than offset dividends declared, a lower market value adjustment on investments, and the funded status of the Company's defined benefit pension and other postretirement plans.

The Company's Tier I leverage ratio, a primary measure of regulatory capital for which 5% is the requirement to be "well-capitalized," was 7.16% at the end of the first quarter, down six basis points from year-end 2008 and 43 basis points lower than its level one year ago. The decrease in the Tier I leverage ratio compared to December 31, 2008 is primarily the result of the Citizens acquisition and organic loan growth increasing average assets proportionally more than the common stock offering increased stockholders equity. Tier I decreased as compared to the prior's year first quarter for similar reasons as average assets excluding intangibles and the market value adjustment increased 12.5% while shareholders' equity, excluding intangibles and the market value adjustment, increased at a lesser 6.1% rate. The tangible equity-to-assets ratio of 4.42% decreased four basis points from December 31, 2008 and decreased 88 basis points versus March 31, 2008. The decline from the year earlier period was primarily due to the intangible and total assets added as a result of the acquisition of ABG and Citizens, having a proportionally greater impact on the ratio than the common equity offering and other capital generating factors discussed above.

The dividend payout ratio (dividends declared divided by net income) for the first three months of 2009 was 68.8%, up from 57.4% for the first three months of 2008. The ratio increased because net income declined 4.0% while dividends declared increased 15.2%. The Company's quarterly dividend increased because there were 2.9 million more shares outstanding primarily due to the common stock offering in the fourth quarter of 2008. Additionally, the quarterly dividend was raised 4.8% in August 2008, from \$0.21 to \$0.22. On a cash earnings basis, the dividend payout ratio was 59.2% for the first three months of 2009 as compared to 51.1% for the first three months of 2008.

Liquidity

Liquidity risk is measured by the Company's ability to raise cash when needed at a reasonable cost and minimize any loss. The Company must be capable of meeting all obligations to its customers at any time and, therefore, the active management of its liquidity position is critical. Given the uncertain nature of our customers' demands as well as the Company's desire to take advantage of earnings enhancement opportunities, the Company must have available adequate sources of on and off-balance sheet funds that can be acquired in time of need. Accordingly, in addition to the liquidity provided by balance sheet cash flows, liquidity must be supplemented with additional sources such as credit lines from correspondent banks, the Federal Home Loan Bank, and the Federal Reserve Bank. Other funding alternatives may also be appropriate from time to time, including wholesale and retail repurchase agreements, large certificates of deposit, and brokered CD relationships.

The Company's primary approach to measuring liquidity is known as the Basic Surplus/Deficit model. It is used to calculate liquidity over two time periods: first, the amount of cash that could be made available within 30 days (calculated as liquid assets less short-term liabilities); and second, a projection of subsequent cash availability over an additional 60 days. The minimum policy level of liquidity under the Basic Surplus/Deficit approach is 7.5% of total assets for both the 30 and 90-day time horizons. As of March 31, 2009, this ratio was 14.4% for 30 days and 14.3% for 90 days, excluding the Company's capacity to borrow additional funds from the FHLB.

To measure longer-term liquidity, a baseline projection of loan and deposit growth for five years is made to reflect how current liquidity levels could change over time. This five-year measure reflects adequate liquidity to fund loan and other asset growth over the next five years.

Forward-Looking Statements

This document contains comments or information that constitute forward-looking statements (within the meaning of the Private Securities Litigation Reform Act of 1995), which involve significant risks and uncertainties. Actual results may differ materially from the results discussed in the forward-looking statements. Moreover, the Company's plans, objectives and intentions are subject to change based on various factors (some of which are beyond the Company's control). Factors that could cause actual results to differ from those discussed in the forward-looking statements include: (1) risks related to credit quality, interest rate sensitivity and liquidity; (2) the strength of the U.S. economy in general and the strength of the local economies where the Company conducts its business; (3) the effect of, and changes in, monetary and fiscal policies and laws, including interest rate policies of the Board of Governors of the Federal Reserve System; (4) inflation, interest rate, market and monetary fluctuations; (5) the timely development of new products and services and customer perception of the overall value thereof (including features, pricing and quality) compared to competing products and services; (6) changes in consumer spending, borrowing and savings habits; (7) technological changes; (8) any acquisitions or mergers that might be considered or consummated by the Company and the costs and factors associated therewith; (9) the ability to maintain and increase market share and control expenses; (10) the effect of changes in laws and regulations (including laws and regulations concerning taxes, banking, securities and insurance) and accounting principles generally accepted in the United States; (11) changes in the Company's organization, compensation and benefit plans and in the availability of, and compensation levels for, employees in its geographic markets; (12) the costs and effects of litigation and of any adverse outcome in such litigation; (13) other risk factors outlined in the Company's filings with the Securities and Exchange Commission from time to time; and (14) the success of the Company at managing the risks of the foregoing.

The foregoing list of important factors is not all-inclusive. Such forward-looking statements speak only as of the date on which they are made and the Company does not undertake any obligation to update any forward-looking statement, whether written or oral, to reflect events or circumstances after the date on which such statement is made. If the Company does update or correct one or more forward-looking statements, investors and others should not conclude that the Company would make additional updates or corrections with respect thereto or with respect to other forward-looking statements.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

Market risk is the risk of loss in a financial instrument arising from adverse changes in market rates, prices or credit risk. Credit risk associated with the Company's loan portfolio has been previously discussed in the asset quality section of Management's Discussion and Analysis of Financial Condition and Results of Operations. Management believes that the tax risk of the Company's municipal investments associated with potential future changes in statutory, judicial and regulatory actions is minimal. The Company has an minimal amount of credit risk in its investment portfolio because essentially all of the fixed-income securities in the portfolio are AA or higher rated. Therefore, almost all the market risk in the investment portfolio is related to interest rates.

The ongoing monitoring and management of both interest rate risk and liquidity, in the short and long term time horizons is an important component of the Company's asset/liability management process, which is governed by limits established in the policies reviewed and approved annually by the Board of Directors. The Board of Directors delegates responsibility for carrying out the policies to the Asset/Liability Committee (ALCO) which meets each month and is made up of the Company's senior management as well as regional and line-of-business managers who oversee specific earning asset classes and various funding sources. As the Company does not believe it is possible to reliably predict future interest rate movements, it has maintained an appropriate process and set of measurement tools, which enable it to identify and quantify sources of interest rate risk in varying rate environments. The primary tool used by the Company in managing interest rate risk is income simulation.

While a wide variety of strategic balance sheet and treasury yield curve scenarios are tested on an ongoing basis, the following reflects the Company's projected net interest income sensitivity over the subsequent twelve months based on:

- Asset and liability levels using March 31, 2009 as a starting point.
- There are assumed to be conservative levels of balance sheet growth—low to mid single digit growth in loans and deposits, while using the cashflows from investment contractual maturities and prepayments to repay short-term capital market borrowings or reinvested in securities or cash equivalents.
- The prime rate and federal funds rates are assumed to move up 200 basis points over a 12-month period while moving the long end of the treasury curve to spreads over federal funds that are more consistent with historical norms. Deposit rates are assumed to move in a manner that reflects the historical relationship between deposit rate movement and changes in the federal funds rate.
- Cash flows are based on contractual maturity, optionality, and amortization schedules along with applicable prepayments derived from internal historical data and external sources.

Net Interest Income Sensitivity Model Calculated annualized increase (decrease) in projected net interest income at March 31, Change in interest rates 2009 +200 basis points \$6,844,000 (\$3,539,000)

0 basis points (normalized yield curve)

The modeled net interest income (NII) reflects an increase in a rising rate environment from a flat rate scenario as well as interest rate risk exposure to falling rates despite the Federal Funds trading at a range of 0 - 25 basis points. The increase in a rising rate environment is largely due to slower investment cash flows, a higher reinvestment rate, the repricing of assets to higher rates offset by the increase of liability rates. Over a longer time period the growth in NII improves significantly in a rising rate environment as lower yielding assets mature and are replaced at higher rates.

In the 0 basis point model, the current yield curve shifts to a normalized level based on historical spreads to the federal funds rate. The decrease in NII is largely due to faster investment cash flows and assets repricing to lower rates as corresponding liabilities and held at current levels. Despite Fed Funds trading near 0%, the Company believes treasury rates could potentially fall further, and thus, the (normal yield curve) model tests the impact of this lower treasury rate scenario.

The analysis does not represent a Company forecast and should not be relied upon as being indicative of expected operating results. These hypothetical estimates are based upon numerous assumptions: the nature and timing of interest rate levels (including yield curve shape), prepayments on loans and securities, deposit decay rates, pricing decisions on loans and deposits, reinvestment/replacement of asset and liability cash flows, and other factors. While the assumptions are developed based upon current economic and local market conditions, the Company cannot make any assurances as to the predictive nature of these assumptions, including how customer preferences or competitor influences might change. Furthermore, the sensitivity analysis does not reflect actions that ALCO might take in responding to or anticipating changes in interest rates.

Item 4. Controls and Procedures

The Company maintains disclosure controls and procedures, as defined in Rule 13a – 15(e) under the Securities Exchange Act of 1934, designed to: (i) record, process, summarize, and report within the time periods specified in the Securities and Exchange Commission's (SEC) rules and forms, and (ii) accumulate and communicate to management, including the principal executive and principal financial officers, as appropriate, to allow timely decisions regarding disclosure. Based on management's evaluation of the Company's disclosure controls and procedures, with the participation of the Chief Executive Officer and the Chief Financial Officer, it has concluded that, as of the end of the period covered by this Quarterly Report on Form 10-Q, these disclosure controls and procedures were effective as of March 31, 2009.

There have been no changes in the Company's internal controls over financial reporting in connection with the evaluation referenced in the paragraph above that occurred during the Company's last fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Part II. Other Information

Item 1. Legal Proceedings

The Company and its subsidiaries are subject in the normal course of business to various pending and threatened legal proceedings in which claims for monetary damages are asserted. Management, after consultation with legal counsel, does not anticipate that the aggregate liability, if any, arising out of litigation pending against the Company or its subsidiaries will have a material effect on the Company's consolidated financial position or results of operations.

Item 1A. Risk Factors

There has not been any material change in the risk factors disclosure from that contained in the Company's 2008 Form 10-K for the fiscal year ended December 31, 2008 (filed with the SEC on March 13, 2009).

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None

Item 3. Defaults Upon Senior Securities

Not applicable.

Item 4. Submission of Matters to a Vote of Security Holders

There were no matters submitted to a vote of the shareholders during the quarter ending March 31, 2009.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

Exhibit No.

Description

- 10.1 Supplemental Retirement Plan Agreement dated April 9, 2009, by and among Community Bank System, Inc., Community Bank, N.A. and George J. Getman. Incorporated by reference to Exhibit 10.1 to the Form 8-K filed on April 9, 2009 (Registration No. 001-13695.
- 10.2Employment Agreement dated March 18, 2009 by and among Community Bank System, Inc., Community Bank, N.A. and Mark E. Tryniski. Incorporated by reference to Exhibit 10.1 to the Form 8-K filed on March 18, 2009 (Registration No. 001-13695).
- 10.3 Supplemental Retirement Plan Agreement dated March 18, 2009 by and among Community Bank System, Inc., Community Bank, N.A. and Mark E. Tryniski. Incorporated by reference to Exhibit 10.2 to the Form 8-K filed on March 18, 2009 (Registration No. 001-13695).
- 31.1 Certification of Mark E. Tryniski, President and Chief Executive Officer of the Registrant, pursuant to Rule 13a-15(e) or Rule 15d-15(e) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2Certification of Scott Kingsley, Treasurer and Chief Financial Officer of the Registrant, pursuant to Rule 13a-15(e) or Rule 15d-15(e) under the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32.1 Certification of Mark E. Tryniski, President and Chief Executive Officer of the Registrant, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification of Scott Kingsley, Treasurer and Chief Financial Officer of the Registrant, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Signatures

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Community Bank System, Inc.

Date: May 7, 2009

/s/ Mark E. Tryniski Mark E. Tryniski, President and Chief Executive Officer

Date: May 7, 2009

/s/ Scott Kingsley Scott Kingsley, Treasurer and Chief Financial Officer