Out ma great 2017

Our science makes the greater impact





CSR REPORT 2017

ABOUT THE REPORT

Building for the future
How we work with CSR 5
Environment and climate impact7
Built on science driven by people 10
Product safety 12
Suppliers
Business ethics 13
Human rights
Independent auditor's assurance report 14

 This Statutory Report on Corporate Social Responsibility (CSR), cf. sections 99a and 99b of the Danish Financial Statements Act, is part of the management's review in the 2017 Annual Report and covers the financial period January 1 - December 31, 2017.

BUILDING FOR THE FUTURE LETTER FROM THE CEO

No two years are the same in Bavarian Nordic, and yet we present, in this eight report on corporate sustainability, numbers that resemble those from 2017, with a slightly positive downwards trend in our overall climate and environmental impact. This is of course very satisfying, and looking at the performance over a longer period, it is clear that our efforts to optimize our production – the largest contributor to our emissions – have been successful. The continuity seen in our numbers is however far from the reality we are facing in the Company. Since the completion of the transition of our Kvistgaard site into a multi-product facility, the variety and complexity in our production has grown to accommodate the demand for vaccines from our customers as well as for our own clinical development.

We continue to move forward our prioritized projects; CV301, an immunotherapy for multiple cancers, and MVA-BN RSV for protection against respiratory syncytial virus, which both represent significant opportunities in areas of high unmet medical need. And with our partners we continue to progress our other product candidates in cancer and infectious diseases.

Production of IMVAMUNE smallpox vaccine continues to be the main activity in our production. In September 2017, we received a new, large supply contract for freeze-dried IMVAMUNE from the U.S. Government. As part of this contract, we are now investing in the expansion of our facility to include a fill-finish line, which will enable us to take control over the full value chain in manufacturing. The fill-finish line is expected to be in operation in 2021. Meanwhile, we continue to produce and store the bulk vaccine produced under the current and previous entered contracts.

We are now investing a fill-finish line, which will enable us to take control over the full value chain in manufacturing

The facility expansion will not only provide us a greater flexibility and certainty in the production, but it will also enable us to provide a more fair and accurate reporting of our environmental impact going forward. The fill-finish process has historically been handled by a contract manufacturing partner, not covered by our current reporting scope, and over time we therefore expect to report an increase in our overall emissions, along with the addition of many new and skilled employees as well as new exciting projects to our pipeline in our continued endeavor to make new discoveries and develop novel therapies that could help to protect or sustain people's lives. With that in mind, we believe our science makes the greater impact.



Paul Chaplin President & CEO



HOW WE WORK WITH CSR

While pursuing our strategy and objectives to remain sustainable and grow our business further through continued investments in research and development, we recognize the importance of protecting the world around us.

This commands us to work and act responsibly in all matters, and we aim to do this by:

- manufacturing high-quality vaccines.
- working actively and systematically to minimize our impact on the environment and climate.
- maintaining an active dialog with our stakeholders on a local, national and global level.
- actively supporting and respecting human rights and labor standards.
- providing a safe and healthy working environment for our staff that includes opportunities for professional and personal development.
- communicating our CSR policy openly and honestly to external collaboration partners, including our suppliers.
- conducting business according to highest ethical standards.

These are our guiding principles for working with CSR, upon which we have formulated our policies which are further specified in relevant areas throughout this report.

Reporting framework

Since the establishment of our production facility in Kvistgaard, Denmark in 2005, we have been subject to annual environmental reporting to the Danish authorities, and this has served as a framework for key areas of our sustainability reporting. In addition, we draw from the most pertinent elements of some of the most widely known CSR reporting frameworks globally, notably the Global Reporting Initiative (GRI) and the United Nations Global Compact (UNGC).

CSR organization

To ensure that our CSR initiatives are carried out timely and efficiently and to improve transparency on the activities, we have established a CSR steering committee comprised of senior representatives in the Company, in addition to a CSR working group comprised of representatives from human resources, investor relations & communications and our environmental, health and safety manager.

Scope of our reporting

Our manufacturing facility in Kvistgaard, Denmark, where also our headquarters are located, is one of the chief sources of our environmental impact, and we seek to provide a high degree of transparency by calculating our CO₂-emissions and reporting additional environmental data from this site. Furthermore it represents almost two thirds of our employees. In addition, we have included our research and development facilities in Germany and the USA, which represent the last third of employees and contribute to our global emissions by approximately 25%.

ENVIRONMENT AND CLIMATE IMPACT

Our primary impact on the environment and climate is derived from our vaccine production in Kvistgaard, Denmark, and we endeavor to reduce our environmental and climate impact by improving our manufacturing efficiency and processes in order to optimize energy consumption and to minimize emissions and waste.

We wish to be at the forefront of environmental work and we seek to be so by maintaining a high degree of compliance and systematization in our organization, driven by our environment, health and safety manager who proactively works to ensure that we comply with environmental protection regulations and relevant requirements as defined by the authorities. In general, we consider informal visits by the authority as a benefit for information sharing and joint risk perception as we may become aware of issues that we did not consider before. We furthermore encourage environmentally aware behavior throughout the Company as a whole.

Non-financial key figures, environment and climate

The presented key figures relate to our production facility in Kvistgaard, Denmark, which also comprises our headquarters with administrative functions and quality laboratories. However, we also present our global emissions, which include all other company-owned or controlled locations, except for single-person offices.

	Note	2017	2016	2015	2014	2013
CO ₂						
CO ₂ emissions, total (metric tons)	1	2,641	2,695	3,103	3,543	3,345
- of which is related to production (metric tons)	1	1,975	1,995	2,178	2,417	2,102
Energy						
Energy used in production (mWh)	2	8,916	9,602	8,449	7,905	8,470
Water						
Waste water from production (m ³)	3	7,486	8,689	7,660	7,856	8,218
Waste						
Waste from production (metric tons)	4	151	154	145	117	125
Recycling		40%	43%	9%	11%	10%

2017 developments

While our overall production output was slightly lower in 2017, we maintained a high activity level with production of smallpox vaccines for the U.S. Government, as well as production of several vaccines for our clinical trials.

We have continued to optimize the consumption of raw materials and additives in the production, again reducing the relative consumption on largely all parameters, compared to 2016. We remain focused on avoiding any unnecessary use of chemicals and additives, thereby also seeking to minimize the amount of waste requiring special treatment.

During the year, a new cold storage facility at the Kvistgaard site was taken into operation. There were no breaches of the environmental permit for the facility in 2017.

Results and targets – Production

Emissions (note 1)

Our total CO₂ emissions were slightly lower compared to 2016, thus reaching the lowest level in absolute terms since we started our CSR reporting. While our manufacturing activity was also lower, this did not itself contribute to the reduced emission. However, further optimizations in the production process have led to a lower consumption of natural gas, which is used for heating (e.g. steam production), and this has contributed to the overall improvement.

In 2018, we expect to maintain a high activity level in the production with planned manufacturing of IMVAMUNE bulk vaccine as well as several manufacturing campaigns for clinical trial material. Thus we do not foresee reductions in our overall emissions.

Energy (note 2)

Energy consumption decreased by 7%, which is largely ascribed to lower consumption of natural gas for heating (16% decrease). This decrease is likely related to a more efficient use of heat exchangers in the production process.



The chart shows the relative CO_2 emission from production per batch.



5 year relative performance on key parameters

The electricity consumption increased by 11%, which is partly due to the expansion of the facility to include a cold storage facility, which was fully operational in 2017. This will contribute to a higher base consumption of the facility, affecting the relative energy consumption, which increased by 8% compared to 2016. However, over a five-year period, the relative energy consumption has dropped more than 50%.

Water (note 3)

Water consumption was reduced by 14%, reflecting the decreased manufacturing activity. The relative consumption was on par with 2016, and while we will continue to monitor for inappropriate consumption and make corrective actions accordingly, it is our assessment that the current relative consumption likely cannot be further lowered.

Waste (note 4)

The amount of waste was slightly lower than compared to 2016, which is largely attributed to lower manufacturing activity. The fraction of waste for recycling was at a similar high level as in 2016, resulting from the new procedures for separation and handling of waste implemented during 2016, which helped to increase the share of waste for recycling from approximately 10% annually to now approximately 40% annually.



BUILT ON SCIENCE DRIVEN BY PEOPLE

Our employees are our most valuable asset and as an innovative, knowledgebased company, it is important for us to attract and retain highly qualified workers. For this reason, we want to offer our staff a good and inspiring working environment that also provides them with development opportunities.

Being a global organization, we support a diverse, accommodating and non-discriminatory working environment where, regardless of gender, age, ethnicity, physical impairment, religion or sexual orientation, we all aspire to the same objectives.

We strive to maintain a good work-life balance, and we focus on employee

health, safety and job satisfaction. We systematically map both the physical and psychosocial working environment so that the necessary preventive steps can be taken, for the benefit of both individual employees and the Company as a whole. We do so in a close dialogue between management and employees through a number of established committees, including local works councils and a health and safety committee. The overall objectives of our occupational health and safety policy are to enable ourselves to control our occupational health and safety risks and improve our occupational health and safety performance in order to eliminate or minimize risks to personnel and guests who could be exposed to hazards associated with our activities. To help achieve these objectives, we have laid down the following principles:

- Risks that might lead to an occupational health injury or illness have to be assessed in order to determine actions (risk mitigation) that can reduce the impact or the likelihood
- Adverse incidents are evaluated in order to learn and to consider if changes of the working conditions or the occupational health and safety policy are warranted
- Members of the occupational health and safety organization will receive continuous education and training in relevant areas

2017 developments

Our workforce decreased by 5% in 2017, mainly as result of restructuring activities in our production and quality operations to match current manufacturing requirements. During 2018, we will initiate the construction of a fill-finish facility at our existing site in Kvistgaard. We have already started to recruit key personnel for this and expect to increase the number of new hires towards the anticipated completion and commissioning of the facility in 2021.

We maintained an equal distribution of men and women in managerial positions with 51% and 49% respectively. While we aim to maintain an equal gender distribution among the managers, they are first and foremost selected on the basis of their qualifications and not on gender.

Also in 2017, within the predefined time horizon, the Board met its target figure for female board members elected by the general meeting. The target was 15%, corresponding to one member. Considering the Board's current composition as well as the composition of the boards of comparable companies, the Board maintains the target for the period until 2021.

Results and targets

Occupational accidents (note 5)

We recorded three occupational accidents in 2017, resulting in injury-related absence of a total of 10 days or 3.3 in average. This translates into an accident frequency rate of 3.9 accidents per million working hours compared to 1.3 in 2016. There were no serious injuries.

As part of the preparatory work in relation to the construction of a fill-finish plant at our Kvistgaard site, our health and safety committees are proactively working to identify potential issues related to the new processes and working procedures that will be established in the new building, thereby seeking to mitigate risks at an early stage in the development of the facility.

Absence (note 5)

The absence rate was 3.7% in 2017 (2016: 3.6%) and thus we met our target to maintain the rate below 4%. We will continue our efforts around dialog-based absence management with an aim to reduce illness-related absence.



Sickness absence







Number of accidents per million working hours compared with DI (Confederation of Danish Industry) statistics for work-related accidents (all occupational groups).



PRODUCT SAFETY

Product safety is crucial in our business, and quality and responsibility are important elements of our corporate culture.

Vaccine development is a highly regulated area, in which a strong regulatory regime of inspections and approvals sets a high standard for all areas of our disciplines.

We work according to Good Manufacturing Practice (GMP), which are rules laid down by the European and U.S. health authorities. GMP includes strict requirements with respect to a product's traceability, quality and purity, which means that quality management is built into each step of the manufacturing process.

To-date, we have produced and delivered more than 30 million vaccine doses. Even though largely all these vaccines have been stockpiled for emergency use only, we and our partners have conducted various clinical trials of our product candidates in more than 10,000 people, demonstrating that our vaccine platform technology has a favorable safety profile.

SUPPLIERS

In accordance with both GMP and our own supplier management system, we perform a risk assessment of all new suppliers of critical materials and equipment used in our production and laboratories.

Suppliers whose products are considered to have a material impact on our products' quality and safety, will undergo an initial audit, followed by an evaluation every third year as a minimum, either by way of a visit or a questionnaire, depending on the situation.

The structured audit process helps us to gauge the quality and CSR mindset of our suppliers. Through this close collaboration with our key suppliers, we are gaining a deep insight into their business processes and capabilities, which provides important learnings for optimizing our own processes.

Our suppliers of raw materials are mainly located in North America and the EU, which are areas with a high level of regulation of social and environmental parameters in place.

BUSINESS ETHICS

Bavarian Nordic prioritizes business ethics as a natural part of its underlying business concept.

We want to be seen as credible and reliable by all our stakeholders, and we are committed to work actively against corruption in all its forms. We operate in countries and regions which typically are considered at low-risk with respect to corruption. Our Code of Business Conduct and Ethics ("the Code") describes the ethical requirements for all employees' and the Board of Directors' behavior in relation to customers, employees, shareholders, society, suppliers and partners. The Code includes the rules and regulations in the Foreign Corrupt Practices Act (FCPA) and the Truth in Negotiations Act (TINA) that are relevant in connection with the Company's business transactions and negotiations in the United States, but equally relevant in other markets, where the Company operates.

All employees receive yearly training in the Code, and new employees will receive training as part of their introductory program. Thus the observation of the Code rests upon all employees and all employees are encouraged to report issues, concerns and any breach of the Code. For this purpose, the Company has established a whistleblower system, which provides our employees with an opportunity file reports in a secure and confidential manner. No reports were made in 2017 through the system.

HUMAN RIGHTS

We support and respect human rights.

Our compliance in this area is widely covered by our health and safety policies as well as observance of the national labor laws in the countries in which we operate. In 2017, we have not received any reports of violation of human rights within our company.

While the scope of these efforts is mainly directed towards our own employees, we seek to conduct our business with third parties in compliance with the principles as well. In 2015, we performed a screening to assess how our business may impact human rights, and it indicated no actual adverse impacts. We will continue to monitor for potential adverse impacts, in order to determine if additional actions are required.

As part of our procurement policies, we perform regular audits of our suppliers,

whom we in writing encourage to act responsibly in all matters relating to CSR, including observing international human rights. Also, we conduct our clinical trials in a manner that recognizes the importance of protecting the safety of and respecting the research participants. We do this by applying the highest legal, ethical and scientific standards, in addition to complying with applicable laws and regulations.

INDEPENDENT AUDITOR'S ASSURANCE REPORT

To Management and broader stakeholders of Bavarian Nordic A/S

We have assessed Bavarian Nordic A/S' 2017 CSR Report ("the Report") to provide limited assurance that the data provided in notes 1-5 to the Report been have prepared in accordance with the reporting practice described. The Report covers Bavarian Nordic's international activities from 1 January to 31 December 2017.

We express a conclusion providing limited assurance.

Management's responsibility

The Management of Bavarian Nordic is responsible for collecting, analyzing, aggregating and presenting the information in the report, ensuring that the report is free from material misstatement, whether due to fraud or error. Bavarian Nordic's reporting practice contains Management's defined reporting scope for each data type.

Auditor's responsibility

Our responsibility is to express a limited assurance conclusion on the data presented in notes 1-5 of the Report based on our engagement with Management and in accordance with the agreed scope of work.

We have conducted our work in accordance with ISAE 3000, Assurance Engagements Other than Audits or Reviews of Historical Financial Information, and additional requirements under Danish audit regulation to obtain limited assurance as to whether data in notes 1-5 are free from material misstatement.

Deloitte Statsautoriseret Revisionspartnerselskab is subject to International Standard on Quality Control (ISQC) 1 and, accordingly, applies a comprehensive quality control system, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by FSR - Danish Auditors (Code of Ethics for Professional Accountants), which are based on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement. Considering the risk of material misstatement, we planned and performed our work to obtain all information and explanations necessary to support our conclusion

We performed our on-site review at Bavarian Nordic's head office in Kvistgaard, Denmark in February 2018. Our work included interviews with key functions at Bavarian Nordic, inquiries about procedures and methods to ensure that data and information have been presented in accordance with the reporting practice. We have assessed the processes, tools, systems and controls for gathering, consolidating and aggregating data, performed analytical review procedures and tested data prepared for consistency with underlying documentation. We have not performed site visits or interviewed external stakeholders, nor have we performed any assurance procedures on baseline data or forward-looking statements such as targets and expectations. Consequently, we draw no conclusion on these statements.

Conclusion

Based on our work, nothing has come to our attention causing us to believe that the data in notes 1-5 to the CSR Report for 2017 are not prepared in accordance with the reporting practice described.

Copenhagen, 12 March 2018

Deloitte

Statsautoriseret Revisionspartnerselskab Business Registration No 33 96 35 56

MatinFauborg Martin Norin Faarborg

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NOTES TO STATEMENTS ON ENVIRONMENTAL AND SOCIAL PERFORMANCE

Note 1 **CO₂ emissions** (all sites^{*})

CO ₂ emissions		2017		2016
	Production	Total	Production	Total
Direct emissions (Scope 1)	tCO ₂	tCO ₂	tCO ₂	tCO ₂
Heating	848	848	1,006	1,024
Electricity generation	_	-	10	10
Fugitive emissions	67	67	30	30
Transport in company–owned cars	60	76	46	70
Internal transportation of goods	-	-	_	-
Indirect emissions (Scope 2)				
Electricity, purchased	1,000	1,542	903	1,418
Heating, purchased	-	107	-	142
Cooling, purchased	-	-	_	_
Emissions, total	1,975	2,641	1,995	2,695

* The emission calculations presented in this report include all company-owned or controlled entities which employ more than one person.

Reporting practice

Calculations of CO₂-emissions are based on the Corporate Standard of the Greenhouse Gas Protocol Initiative and include the greenhouse gasses addressed by the UNFCCC/Kyoto Protocol (CO₂, CH4, N2O, HFCs, PFCs, SF6 and NF3) calculated in metric tons of CO₂ equivalents.

Our reporting covers scope 1 (emissions from sources that are owned or controlled by the Company) and scope 2 (emissions from purchased electricity), thus adhering to the Corporate Standard.

Emission factors

In calculating CO₂ emissions, specific emission factors based on emissions type and geographic location were used. CO₂ emissions from the combustion of natural gas, oil, gasoline, diesel fuel and liquefied pressurized gas and from fugitive emissions were deemed to have a general global effect with minor local differences. Emission factors from these sources are based on data provided by the Danish Energy Agency. Emissions for locally purchased electricity were determined on the basis of local conditions.

Emission factors for Kvistgaard are based on factors for Denmark as a whole. Emission calculations for electrical power in USA are based on emission factors provided by Duke Energy. Emission calculations for electrical power purchased in Germany are based on historical German emission factors; emission calculations for district heating purchased in Germany are based on emission factors collected from local district heating companies.

¹ www.ghgprotocol.org ² United Nations Framework Convention on Climate Change

Note 2 **Energy** (Kvistgaard site)

Energy	2017	2016
	mWh	mWh
Energy, total	8,916	9,602

Reporting practice

Energy consumption is calculated for the entire Kvistgaard facility, including laboratories and administrative functions. The figure includes purchased electricity and consumption of natural gas which is used for heating.

Note 3 Water (Kvistgaard site)

Water consumption	2017	2016	
	m ³	M ³	
Sanitary water	3,391	3,790	
Process water	7,486	8,689	
Total water consumption	10,877	12,479	
Wastewater fractions	kg	kg	
Phosphorus (kg)	14	80	
Nitrogen (kg)	195	634	
Total organic carbon (kg)	499	1,014	
Chlorides (kg)	7,486	7,212	

Process wastewater is heat-inactivated, cooled and pH adjusted before being discharged into the public sewer system. Inactivation is a procedure that ensures that all virus remnants are rendered 100% harmless, and the system is checked for operational problems before discharge. This treatment ensures that the discharged wastewater complies with the requirements in the Company's permit to use the municipal sewer system.

Reporting practice

Water consumption is measured for the entire Kvistgaard facility, including laboratories and administrative functions.

The fractions of phosphorous, nitrogen, carbon and chlorides in the waste water are based on a single analysis which is conducted once a year.

Note 4 Waste (Kvistgaard site)

Waste	2017	2016
	metric tons	metric tons
Total waste	151	154
– of which hazardous waste	22	16
Breakdown of waste disposed of:		
Incineration	46%	46%
Recycling	40%	43%
Special treatment	14%	10%

Waste consists primarily of disposable process equipment (production bags, tubing and other disposable equipment) and egg waste.

Paper, egg waste, metal, electronics and pallets are being recycled.

Hazardous waste includes organic solvents, acids, bases, hazardous clinical waste, etc.

Reporting practice

Waste volumes are calculated for the entire Kvistgaard facility and are based on annual statements from approved waste carriers handling ordinary and hazardous waste.

Note 5 Employees (All sites)

	2017	2016
Employees, total at year-end	435	457
Employees, average full-time employees over the year	439	429
Distribution:		
Denmark	279	278
Germany	139	123
Other countries	21	28
Absence	3.7%	3.6%
Employee turnover	18.3%	15.0%
Employee groups		
Ratio of men to women in management and executive positions	51% / 49%	48% / 52%
Employees under collective agreement	66	102
Other employees (white-collar workers with or without management responsibility)	369	355
Occupational accidents		
Accident frequency (number/million working hours)	3.9	1.3
Accidents in numbers	3	1
Average absence per accident in days	3.3	1

Reporting practice

Unless otherwise stated, the presented figures cover all Bavarian Nordic sites and employees.

Absence

Absence data includes recorded staff sick days and child sick days for employees in Denmark and Germany only. Leave – also parental leave – is not included in these figures. The absence rate calculation is based on the average number of full-time employees for the year and the number of effective work days in the calendar year, i.e. vacation days are excluded.

Employee turnover rate

The turnover rate expresses the ratio of employees who have left the company during a year. Employees with fixed-term contracts are not included. The calculation is based on the average number of employees over the year.

Occupational accidents

Occupational accident data relates to accidents resulting in at least one day of absence, in addition to the day of injury. The accident rate is the number of occupational accidents per one million effective working hours.

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