ENVIRON-MENTAL REPORT 2018

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Preface

Customers must see taking a train as an attractive and sustainable alternative to other forms of transport. The company continually works towards reducing its impact on the climate and environment through both technical and behavioural initiatives.

With Rail Net Denmark's completion of the electrification between Lunderskov and Esbjerg, the next step has been taken in the electrification of the main section and the foundation for a further reduction in the environmental impact of trains has been achieved.

In this environmental report it will appear how DSB works to minimise the environmental impact of the company.

7 February 2019

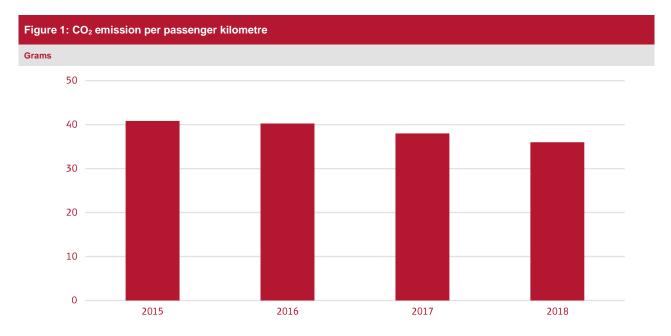
Environment and climate

The most significant risks from an environment and climate point of view are assessed to be airborne emissions from train operations and noise pollution from train operations, workshops and the preparation of trains.

DSB Vedligehold A/S is environmentally certified according to the ISO 14001 standard and was recertified in 2018 and in that connection received a certification based on the new version of the standard (ISO 14001: 2015).

CO₂ emissions

The total CO_2 emissions in 2018 have fallen by 2 percent compared to 2017. This is due to a significant decline in the consumption of diesel for train operations, a substantial increase in CO_2 emissions from train-busses and unchanged emissions from building and workshops.



DSB has set a strategic measuring point for sustainability, defined as the emission of grams of CO₂ from train operations per passenger kilometre. The figure above shows the results from recent years.

It shows a reduction of CO_2 emissions per passenger kilometre of 5 percent compared to 2017. A CO_2 emission of 36 grams per passenger kilometre makes the train, from a climate point of view, highly competitive in relation to other means of transportation, as cars and planes both emit more than 100 grams of CO_2 per passenger kilometre while busses emit 80 grams.

The next steps towards the electrification of DSB have been taken. After some initial issues, the line between Lunderskov and Esbjerg is now working well. This has meant that the line now uses electricity instead of diesel, and this results in decreased energy consumption and CO_2 emissions. As a result of errors in Rail Net Denmark's operational electrical power unit on the line, it was not

possible to use electric rolling stock for three months of 2018, and thus the full impact of the electrification will only be completely evident in the consumption figures for 2019.

With the purchase of electric locomotives for the regional traffic on Zealand, DSB has taken the next step towards the reduction of energy consumption and emissions. With the imminent purchase of The Train of the Future, the next steps towards electric trains being in operation on all DSB's lines will be taken.

The total energy consumption for trains in 2018 has decreased by 7 percent compared to 2017. The energy consumption of the diesel train traffic has decreased by 10 percent which is in part due to the electrification of the Lunderskov - Esbjerg line that opened in the fall of 2017 and in part due to the reduced operation of ME locomotives as a result of axle issues in 2018. The total energy consumption for electric trains (S-trains and Long-distance & Regional trains) is unchanged compared to 2017.

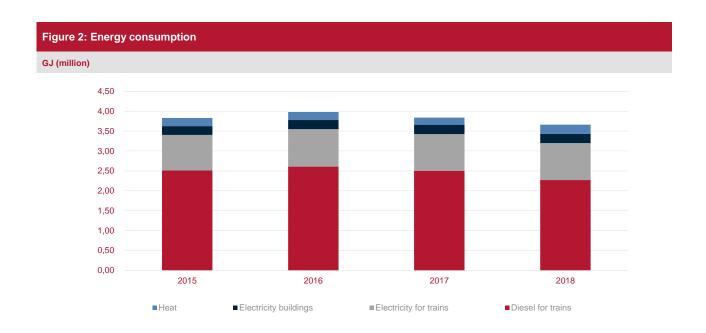
Table 1: Development in energy consumption and CO₂ emissions											
Change from 2017 to 2018	Energy consumption per seat kilometre	Energy consumption per passenger kilometre	CO ₂ emission per passenger kilometre								
Long-distance & Regional Trains											
- Diesel trains	-2%	2%	2%								
- Electric trains	-3%	-3%	-4%								
S-trains	3%	-1%	-2%								

The CO_2 emission per passenger kilometre for electric trains has decreased. This is due to an increased use of S-trains and the fact that the share of electric trains used for regional traffic has been increasing. Conversely, the CO_2 emissions per passenger kilometre for diesel trains has increased due to them representing a lower proportion of regional traffic.

Energy consumption

88 percent of DSB's total energy consumption is used for train operations, which is a small decrease compared to 2017. The energy consumption for things other than train operations has increased by 8 percent in 2018 compared to 2017. In total, this represents a small decrease in the electricity consumption and a larger increase in the consumption of heat, which mainly relates to an increased production in the workshop facilities in Aarhus.

The total energy consumption and the composition thereof is shown in the illustration below.



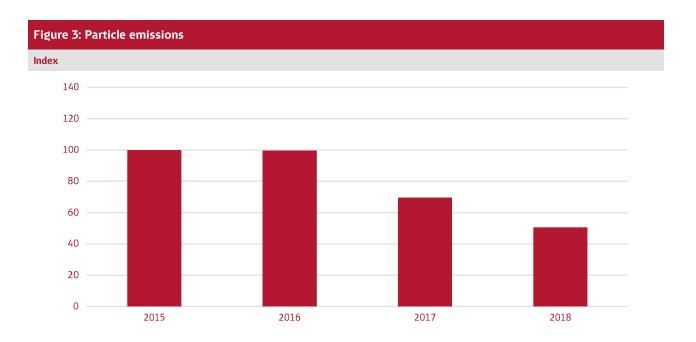
Through its environmental policy and the environmental certification of workshops and preparation centres, DSB is focused both on reducing its impact on the surrounding environment and on contributing to the transport sector's overall restructuring and the reduction of its climate impact.

DSB is continuing efforts to reduce energy consumption in buildings and fixed installations. In 2018, the following initiatives have had an impact on the development in electricity and heat consumption:

- The closure of four DSB 7-Eleven stores has resulted in a reduction of approximately 700 MWh
- The sale of Kalvebod Brygge and the final emptying of the building has reduced both the energy and water consumption
- Ongoing replacement of traditional lighting with LED lighting.

Particle emissions

Diesel trains make a local impact on air quality in the form of particles, NO_x, etc. DSB's main focus is on a reduction of particles, including ultrafine particles.



The total emission of particles, calculated by mass, from diesel trains has fallen by 27 percent in 2018 compared to 2017 and by 49 percent compared to 2015. The decrease is a result of a reduced use of MR train sets and the installation of catalytic converters in the MR train sets.

DSB has found a solution which results in significant reductions of emissions from the ME diesel locomotives. It has been decided to install new cylinder units and nozzles and to change the settings on the nozzles. In total, this leads to a reduction of particle emissions of 50 percent, a reduction in the consumption of lubricating oil and a small reduction in the consumption of diesel oil. 15 ME diesel locomotives have been changed by the end of 2018 and at the end of 2019, the initiatives will be implemented on all locomotives that are still used for passenger traffic.

Complaints and enquiries regarding environmental issues

The number of noise and smoke complaints submitted by neighbours and customers increased from 130 in 2017 to 140 in 2018.

Complaints and enquiries, by category:

Noise: 88Smoke: 8

Noise and smoke: 25Air quality: 19.

It is still the ME diesel locomotives which are the primary cause of the complaints and enquiries. This applies to both enquiries from neighbours regarding turn tracks/prep areas and from neighbours to the tracks in Valby and Østerport.

In two cases, a municipality has been involved (Fredericia and Aarhus). All the cases were about noise, and they have been resolved. In Aarhus, the municipality has ordered that DSB must reduce

the noise from the workshop in Sonnesgade to such an extent that the Danish Environmental Protection Agency's guidelines for noise in current residential areas are complied with by no later than 2028.

DSB has succeeded in solving the part of the noise issue that concerns workshop activities, and the remaining noise issue is due to shunting by the workshop's exterior areas. With the coming electrification of train operations, DSB expects that noise from shunting will be significantly reduced and that the noise issues will thus be within the allowable limits.

Accounting practices

Annual report

The annual report contains data on DSB's train operations and the company's other operations.

All 100 percent owned associated companies in Denmark are fully included in all statements in the annual report.

DSB as a supplier

Consumption and emissions from buildings that are rented to external parties are not included.

Collection and processing of data

The data used in the annual report is collected via registration systems and partners. The procedures for data collection and quality control are described in the internal 'Environmental Handbook - Collection of Environmental Data.' The Handbook describes the roles and distribution of responsibilities between central and decentralised environmental employees during the preparation of the environmental report.

The process begins with the collection and assessment of environmental information in the business units, and then the units' contribution of data and text is processed and compiled as one. On the whole, the quality control of data is conducted centrally.

Climate impact

DSB has chosen to report on CO_2 emissions from train operations and the company's other operations based on the principles in The Greenhouse Gas Protocol (the GHG protocol) where DSB reports on CO_2 in three categories:

- Direct energy consumption and emissions from train operations and building (scope 1)
- Indirect energy consumption and emissions from train operations and buildings (scope 2)
- CO₂ emissions from selected means of transportation (scope 3)

The statement for the selected means of transportation include the CO₂ emissions from transportation related to customers and employees:

- Customers' journeys with subcontractors; buses, taxis and ferries (for school trips)
- The employees' commuting to and from work in addition to work-related travel by car, taxi and plane.

Energy consumption for train operations

The diesel consumption per litra (train type) is registered automatically when the tank is filled. Furthermore, there is a waste/lack of registration (the difference between the amount filled and the amount received) from fixed tanking facilities which is distributed across the various litra. The annual consumption is based on the actual diesel consumption up to and including October, while the consumption for November and December is calculated on the basis of the expected production and the actual consumption per kilometre in the same month the year before.

DSB accounts for the operational electricity consumption on the basis of invoices received from Rail Net Denmark. The electricity consumption for Long-distance & Regional trains is calculated on the basis of meter readings from the individual litra. An operational electricity loss value is added to the measured values. The annual consumption is based on the actual consumption up to and including October, where the consumption in November and December is calculated based on the

expected production and the actual consumption per kilometre in the same month the year before.

Energy and water consumption for other operations

The electricity, heat and water consumption of buildings and fixed installations is based on meter readings taken at the end of September to the end of December for a representative selection of the meters, equivalent to approximately 70 percent of the total energy and water consumption. The consumption of the remaining meters and the consumption for the months of November and December is calculated on the basis of the actual consumption of the representative selection of meters.

CO₂ from selected means of transportation

Emissions from the selected means of transportation is based on data extracts from internal systems and statements from subcontractors. This applies to substitution driving with buses and taxis, school trips undertaken by buses and ferries and work-related travel by plane, taxi and car. CO₂ emissions from employee commuting to and from work is based on a survey from September 2018 among the employees of DSB. Work-related travel by train (domestic and international) and the employees' commuting to and from work by train is not included.

Chemical products

The statement on the selected chemical products is based on data from the suppliers that carry out tasks for DSB. This applies to maintenance of areas and winter preparedness in addition to the replacement of cooling agents in fixed installations and trains. From and including 2018, the report of nitrogen content in slippery surface prevention agents is based on a calendar year. Previously the report covered the winter period from 1 May the year before to April 30 the reporting year.

Waste

The statement on disposed waste is based on data from the suppliers that carry out the tasks. Building and construction waste is reported to DSB in connection with the handover process.

Air emissions

The statement on air emissions is calculated on the basis of key performance indicators.

The air emissions from electricity consumption for operational electricity and electricity for other operations are based on an electricity declaration from Energinet.dk according to the energy-content method. The declaration states the emissions of CO_2 , SO_2 , NO_x , HC, CO and dust per kWh. An average number has been used for 2016 and 2017. When calculating the emissions from electricity for other operations, the electricity key performance indicator is used and corrected for a loss of 5 percent in the distribution network.

Key performance indicators for emissions from diesel consumption are based on measurements of the emissions' dependency on motor power in addition to measurements or simulations of motor power in various driving patterns. CO_2 emissions for train operations are calculated on the basis of the total consumption. The calculation of the other emissions only includes the consumption for traffic with customers.

Key performance indicators for CO_2 , SO_2 and NO_x from buildings for district heating are calculated on the basis of the statement from Energinet.dk for emissions and thermal production in Denmark. An average number has been used for 2016 and 2017. The thermal production covers 68

percent of the total Danish district heating production. The key performance indicators are calculated on the basis of the energy-content method, and have been corrected for a 20 percent net loss in the distribution network.

The key performance indicators for CO₂, SO₂ and NO_x from gas and heating oil for buildings are based on 2017 data from DCE (Danish Centre For Environment And Energy). Data for LPG, natural gas and heating oil in the category "residential plants" was taken from DCE's homepage (dce.au.dk).

The key performance indicators for CO₂ emissions in connection with school trips by ferry were taken from TEMA2015.

Indexing

In the annual statement, the consumption and emissions for 2018 have been listed in absolute amounts. 2015 is the base year for indexing. For the chemical products and for building and construction waste, it has been decided not to index consumption and emissions due to, respectively, varying maintenance intervals and variation in the amount of building projects across the years.

Environmental declarations

For the environmental declaration for train products, the year's energy consumption and emissions, and the year's annual degree of coverage have been used for the train.

For the environmental declarations for rolling stock types, DSB uses the year's energy consumption and emissions in addition to seat kilometres travelled with the rolling stock. The distribution for rolling stock types is based on the production numbers.

Customer enquiries and complaints

DSB receives enquiries and complaints concerning various environmental issues from customers and neighbours. In cases where several people have complained about the same issue at the same time, this counts as one complaint. From and including 2014, the statement on customer enquiries and complaints concerning environmental issues includes enquiries and complaints from customers concerning both exterior and interior conditions in the trains: for example, air quality and noise in the train.

Environmental key figures

Environmental disclosures and statements for 2018

The environmental disclosures include energy consumption and emissions of various types of air pollutants for product types and types of rolling stock.

The annual statements contains absolute figures of consumption and emissions for 2018 as well as index figures for the period 2015-2018.

Environmental disclosure for train products 2018								
Train product	Energy Consumption	CO ₂						
Per passenger kilometre	MJ	g						
S-trains	0.21	13						
Regional trains	0.71	51						
InterCity trains	0.51	37						
Express trains	0.51	38						

The environmental disclosure for the train product shows the energy consumption and CO_2 -emissions per passenger kilometre.

Environmental disclosure for typ	es of rolling stoc	k 2018						
Train type	Energy Consumption	CO ₂	50 ₂	NO _x	НС	СО	Dust	Particles
Per seat kilometre	MJ	g	mg	mg	mg	mg	mg	mg
S-train sets (electricity)	0.05	3.3	0.5	2.3	1.8	1.9	0.1	0
Desiro train set (diesel)	0.32	24	0.2	187	29	107	0	4.0
ME-diesellocomotive and doubledecker coaches	0.34	25	0.2	329	20	38	0	10
Øresund train sets (electricity)	0.09	5.7	0.9	4.0	3.2	3.3	0.2	0
MR train set (diesel)	0.45	33	0.2	500	58	49	0	16
IR4 train set (electricity)	0.08	5.0	0.8	3.5	2.8	2.9	0.1	0
IC3 train set (diesel)	0.31	23	0.1	132	7.0	15	0	1.0
IC4 train set (diesel)	0.35	26	0.2	148	8.8	19	0	1.3

The environmental disclosure for train types shows the energy consumption and emissions per seat kilometre from train types in 2018.

Annual statement 2018

Consumption										
	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018	Unit			
Energy										
Train operation										
Electricity		100	106	104	104	258,533	MWh			
Diesel		100	104	100	91	63,142,187	Litre			
Other operations										
Electricity	1	100	103	107	100	61,280	MWh			
Heating (adjusted for degree days)	1	100	98	87	111	63,266	MWh			
Water		100	107	99	86	171,295	m³			
Chemical products (selected)										
Nitrogen content in slippery surface		-	-	-	-	53	Tonne			
prevention agents										
Herbicides (active substance)		-	-	-	-	15	Kg			

Fnergy	consumption,	Train	operation
LIICIZV	CONSUMPLION,	HIGH	Operation

	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018	Unit
Electricity		100	106	104	104	258,533	MWh
Electricity, S-trains		100	102	100	98	117,236	MWh
Electricity, Long-distance & Regional trains		100	110	107	110	141,297	MWh
Diesel		100	104	100	91	63,142,187	Litre

Energy consumption	, Other operations
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	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018	Unit
Electricity	1	100	103	107	100	61,280	MWh
Heating, total (adjusted for degree days)	1	100	98	87	111	63,266	MWh
District heating incl. steam		100	97	94	118	53,597	MWh
Heating oil		100	97	97	88	987	MWh
Gas		100	105	57	83	8,683	MWh

Emissions							
	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018 U	Unit
otal emissions							
CO ₂		100	95	90	88	253,838 To	onne
NO _x		100	103	92	78	1,219 To	onne
SO ₂		100	82	72	71	11 To	onne
HC		100	95	81	72	94 To	onne
CO		100	97	84	74	180 To	onne
Particles (TSP)		100	100	70	51	18 To	onne
Dust		100	61	49	53	1.05 To	onne
HFC	5	-	-	-	-	1.6 To	onne

Basic year for indexing is 2015 = 100.

Waste									
	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018	Unit		
Total volume of waste	Total volume of waste 21,091 Tonne								
Waste, exclusive Construction waste		100	104	123	118	10,642	Tonne		
Recycling		100	94	158	141	4,053	Tonne		
Incineration		100	106	104	97	4,227	Tonne		
Special treatment	2	100	116	114	129	2,255	Tonne		
Depositing		100	64	80	213	107	Tonne		
Construction waste		-	-	-	-	10,448	Tonne		
Recycling		-	-	-	-	4,099	Tonne		
Incineration		-	-	-	-	694	Tonne		
Special treatment		-	-	-	-	24	Tonne		
Depositing	3	-	-	-	-	5,631	Tonne		

CO ₂ emissions							
	Note	Index 2015	Index 2016	Index 2017	Index 2018	Volume 2018	Unit
Scope 1 Direct energy consumption*		100	104	100	90	169,627	Tonne
Diesel, train operation		100	104	100	91	167,579	Tonne
Gas for heating, other operations		100	105	57	83	1,784	Tonne
Heating oil, other operations		100	97	97	88	263	Tonne
Scope 2 Indirect energy consumption*		100	77	68	68	56,867	Tonne
Electricity, S-trains		100	72	62	61	17,463	Tonne
Electricity, Long-distance & Regional trains		100	78	67	68	21,047	Tonne
Electricity, other operations		100	73	66	62	9,608	Tonne
District heating incl. steam, other operations		100	96	94	108	8,749	Tonne
Scope 3 Selected means of transport*		100	95	101	164	27,345	Tonne
Replacement traffic		100	91	107	245	18,169	Tonne
Replacement busses, S-trains	4	100	294	176	839	10,624	Tonne
Replacement busses , Long-distance & Regional trains	4	100	49	92	123	7,530	Tonne
Taxa		100	167	84	57	15	Tonne
School journeys		100	98	96	95	2,028	Tonne
Busses		100	99	83	90	555	Tonne
Ferries		100	98	101	96	1,472	Tonne
Service travel		100	89	82	81	714	Tonne
Airplane		100	122	109	103	165	Tonne
Taxa		100	122	81	79	118	Tonne
Leased cars and vans		100	72	77	77	401	Tonne
Own car		100	61	51	56	30	Tonne
Employees' commuting to and from work		100	100	99	104	6,434	Tonne

^{*}Categorized by the principles in The Greenhouse Gas Protocol.

Other air emissions Index Index Index Index Note Volume 2018 Unit NO_x emissions 1,219 Tonne Electricity, S-trains 12 Tonne Electricity, Long-distance & Regional trains 15 Tonne Diesel, train operation 1,173 Tonne Electricity, other operations 6,7 Tonne District heating incl. steam, other operations 11 Tonne Gas for heating, other operations 1.0 Tonne Heating oil, other operations 0.2 Tonne SO₂ emissions 11 Tonne Electricity, S-trains 2.7 Tonne Electricity, Long-distance & Regional trains 3.2 Tonne Diesel, train operation 1.1 Tonne Electricity, other operations 1.5 Tonne District heating incl. steam, other operations 2.4 Tonne Gas for heating, other operations 0.01 Tonne Heating oil, other operations 0.08 Tonne **HC** emissions 94 Tonne Electricity, S-trains 10 Tonne Electricity, Long-distance & Regional trains 12 Tonne Diesel, train operation 72 Tonne CO emissions 180 Tonne Electricity, S-trains 10 Tonne Electricity, Long-distance & Regional trains 12 Tonne Diesel, train operation 158 Tonne Particles (TSP) 18 Tonne Diesel, train operation 18 Tonne Dust 1.05 Tonne Electricity, S-trains 0.48 Tonne Electricity, Long-distance & Regional trains 0.57 Tonne HFC (greenhouse gas) 1.6 Tonne

Note 1: Energy and water consumption, other operations

Unfortunately, in 2018 errors have been found in the registered district heating and natural gas consumption figures for 2017 on a number of meters, and this has contributed to the great fluctuations between 2017 and 2018. Electricity consumption has decreased compared to 2017 as a result of closed DSB 7-Eleven stores and the sale of a former administration building. The increase in the consumption of district heating is, among other things due to an increased production in the workshops in Aarhus and a poor utilisation of district heating at Aarhus H and in Telegade. The increase in natural gas consumption covers both a decrease and increase in consumption across several locations. Several washing units have been out of operation in 2018 for various reasons, and this contributes to the large decrease in water consumption. Another reason is the sale of a former administration building. The large decrease in water consumption covers a break in a water line between Copenhagen H and Dybbølsbro station.

Note 3: Repainting of the locomotives

The large increase in waste for waste disposal sites is due to the disposal of sand from sandblasting in connection with the renovation and repainting of locomotives.

Note 4: Contaminated soil

The large amount of construction waste for waste disposal sites is contaminated soil from the renovation of a parking lot.

Note 5: Replacement transport with train buses

The CO_2 emissions from replacement transport with train buses has increased significantly in 2018. The main reason for this is that Rail Net Denmark has completed major track works where the train traffic has been replaced by train buses. The replacement of tracks and the renovation of bridges on the stretch between Frederikssund and Valby has been the most significant track work, and here train buses have replaced the S-trains for three months over the summer period. At the same time, Rail Net Denmark carried out major track works between Hobro and Langå, Helsingør and Hellerup and Orehoved and Nykøbing Falster/Rødby Færge.

Note 6: HFC

After 2005, it has not been permitted to acquire new units with HFC or to use HFC unless it is for the maintenance of current units. Another exception is for air conditioning inside vehicles, which means that DSB continues to use HFC.

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Management Statement 2018

On today's date, DSB's senior management has considered and approved the company's Environmental Report for the period 1 January - 31 December 2018.

The Environmental Report for 2018 has been prepared in accordance with the principles stated in Accounting Practices, as described on pages 9-11.

It is our view that:

- The selected accounting practice is appropriate, and that the Environmental Report provides a true and fair picture of the company's impact on the environment and climate.
- The information stated in the Environmental Report has been presented in accordance with the stated accounting practice.

Taastrup, 7 February 2019

Flemming Jensen CEO

Independent auditors' report

Independent auditors' report on DSB's Environmental Report 2018

To DSB's stakeholders

As agreed, we have examined DSB's Environmental Report 2018 for the period 1 January 2018 to 31 December 2018. DSB's Environmental Report 2018 has been prepared in accordance with the accounting policies described on pp. 9-11.

We are to conclude on DSB's Environmental Report 2018. The degree of assurance expressed in the conclusion is limited.

Management's responsibility for DSB's Environmental Report 2018

DSB's Management is responsible for the preparation of DSB's Environmental Report 2018 in accordance with the accounting policies described on pp. 9-11.

DSB's Management is also responsible for such internal control as DSB's Management considers necessary to enable the preparation of DSB's Environmental Report that is free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to conclude on DSB's Environmental Report on the basis of our procedures. We performed our procedures in accordance with ISAE 3000, "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" and additional requirements under Danish audit legislation to obtain limited assurance for our conclusion.

Ernst & Young Godkendt Revisionspartnerselskab is subject to the International Standard on Quality Control (ISQC) 1 and thus uses a comprehensive quality control system, documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable requirements in Danish law and other regulations.

We complied with independence requirements and other ethical standards under FSR - Danish Auditors' Code of Ethics for Professional Accountants, which rely on general principles regarding integrity, objectivity, professional competence and due care, confidentiality and professional conduct.

As part of our examination, we performed the below procedures:

- Interviews of relevant company personnel responsible for the preparation of DSB's Environmental Report 2018.
- Checks of whether data has been collected, assessed and quality-reviewed as prescribed in DSB's manual for collection of environmental data.
- · Analytical reviews of data supplied by DSB.
- On sample basis, tested data to underlying documentation.
- Evaluation of the appropriateness of accounting policies used and the reasonableness of accounting estimates made by Management.

We believe that our procedures provide a reasonable basis for our conclusion.

The procedures performed in connection with our examination are less than those performed in connection with a reasonable assurance engagement. Consequently, the degree of assurance for our conclusion is substantially less than the assurance which would be obtained had we performed a reasonable assurance engagement.

Conclusion

Based on our procedures and the evidence obtained, nothing has come to our attention that causes us to believe that DSB's Environmental Report 2018 has not been prepared, in all material respects, in accordance with the accounting policies described on pp. 9-11.

Copenhagen, February 7th, 2019 **ERNST & YOUNG** Godkendt Revisionspartnerselskab CVR-nr. 30 70 02 28

Michael N. C. Nielsen State Authorised Public Accountant

MNE-no.: mne26738

Carina Ohm Associate Partner

