Redefining packaging for a changing world

Sustainability Databook 2019

The Power of Less®

DS Smith

Introduction

Welcome to the DS Smith Sustainability Databook 2019.

This document has been prepared for stakeholders who require a greater level of statistical detail about the sustainability performance of DS Smith over the calendar year January to December 2018.

A full description of trends, correlating factors and reasons for variation can be found in the DS Smith Sustainability Report 2019, available online at: dssmith.com/company/sustainability/sustainabilityreport/

Contents

Download our Sustainability Report 2019:
dssmith.com/company/sustainability/sustainabilityreport

Download our Annual report & accounts 2019:
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Access results and presentations, investor and shareholder information:
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Assurance statement

Introduction and objectives of work

Bureau Veritas UK Limited (Bureau Veritas) has been commissioned by DS Smith Plc (DS Smith) to provide independent verification of the environmental performance indicators presented on page 34 of its Annual Report & Accounts 2019 ('the Report') for calendar year 2018. This Assurance Statement applies to the related information included within the scope of work described below.

Selected information

The scope of our work was limited to assurance over the following information included within the Report for the period 01 January 2018 – 31 December 2018 (the 'Selected Information'):

- total energy consumption;
- total energy exported;
- Scope 1 and 2 greenhouse gas emissions;
- raw material usage;
- water consumption;
- total water effluent;
- landfill waste;
- discharge to air and water; and
- total production.

The reporting boundaries cover DS Smith's global operations as defined in the Report.

Reporting criteria

The Selected Information has been prepared in accordance with internal definitions set for DS Smith's Environmental Indicators. These definitions are aligned with the Global Reporting Initiative (GRI) and the Greenhouse Gas Protocol (GHGP) where applicable.

Limitations and Exclusions

Excluded from the scope of our work is any verification of information relating to:

- activities outside the defined reporting period;
- any statements of a descriptive or interpretative nature relating to the environmental performance as presented in the Annual Report or website of DS Smith;
- statements of commitment to, or intention to, undertake action in the future; and
- statements of opinion, belief and / or aspiration.

This limited assurance engagement relies on a risk based selected sample of environmental data and the associated limitations that this entails. The reliability of the reported data is dependent on the accuracy of metering and other production measurement arrangements employed at site level, not addressed as part of this assurance. This independent statement should not be relied upon to detect all errors, omissions or misstatements that may exist.

Responsibilities

This preparation and presentation of the Selected Information in the Report are the sole responsibility of the management of DS Smith.

Bureau Veritas was not involved in the drafting of the Report or of the Reporting Criteria. Our responsibilities were to:

- obtain limited assurance about whether the Selected Information has been prepared in accordance with the Reporting Criteria;
- form an independent conclusion based on the assurance procedures performed and evidence obtained; and
- reporting our conclusions to the Directors of DS Smith.

Assessment Standard

We performed our work in accordance with the International Standard on Assurance Engagements (ISAE) 3000 Revised, Assurance Engagements Other than Audits or Reviews of Historical Financial Information (effective for assurance reports dated on or after December 15, 2015), and in accordance with the main requirements of ISO 14064:2006 Part 3 - Specification with Guidance for the Validation and Verification of Greenhouse Gas Assertions.

Summary of work performed

As part of our independent verification, our work included:

1. Conducting interviews with relevant personnel of DS Smith;
2. Reviewing the data collection and consolidation processes used to compile Selected Information, including assessing assumptions made, and the data scope and reporting boundaries;
3. Carrying out nine site visits, selected using a risk based approach to the following business units:
   a. DS Smith Paper at De Hoop Mill (Netherlands), Belisce Mill (Croatia); Lucca Mill (Italy)
   b. DS Smith Packaging at Eerbeek (Netherlands), Belisce (Croatia), Marlia (Italy), Mannheim (Germany), Esmoriz (Portugal); St Jean de Bournay (France);
4. Conducting remote data verification for a selection of data points for a further 12 sites;
5. Agreeing a sample of the Selected Information to the corresponding source documentation;
6. Checking the data aggregation calculations performed at Head Office; and
7. Assessing the disclosure and presentation of the Selected Information to ensure consistency with assured information.

Conclusion

On the basis of our methodology and the activities described above, nothing has come to our attention to suggest that:

- the reported data do not provide a fair representation of environmental performance across the DS Smith group for the defined period
- there are significant omissions which could affect stakeholders' ability to make informed judgements on DS Smith's environmental performance.

Statement of Independence, Integrity and Competence

Bureau Veritas is an independent professional services company that specialises in quality, environmental, health, safety and social accountability with over 185 years history. Its assurance team has extensive experience in conducting verification over environmental, social, ethical and health and safety information, systems and processes.

Bureau Veritas operates a certified Quality Management System which complies with the requirements of ISO 9001:2008, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Bureau Veritas has implemented and applies a Code of Ethics, which meets the requirements of the International Federation of Inspections Agencies (IFIA)2, across the business to ensure that its employees maintain integrity, objectivity, professional competence and due care, confidentiality, professional behaviour and high ethical standards in their day-to-day business activities.

The assurance team for this work does not have any involvement in any other Bureau Veritas projects with DS Smith.

Environmental indicators

Group summary table

Indicator	Unit of measurement	2015 (baseline)	2017	2018 (like-for-like)	2018 (with acquisitions)	% variance (like-for-like)	% variance (with acquisitions)
Scope 1	Kt CO_2e	1,678	1,660	1,604	1,750	-3.4	5.4
Scope 2 (market)	Kt CO_2e	355	352	385	527	9.5	49.7
Emissions from energy exports	Kt CO_2e	348	317	381	381	20.1	20.1
Total CO_2e (net)	Kt CO_2e	1,686	1,695	1,609	1,897	-5.1	11.9
Total energy exported	GWh	962	892	861	905	-3.5	1.4
Total energy consumption (net)	GWh		8,667	9,396	10,947	8.4	26.3
Total production	Kt nsp	8,059	8,234	8,325	9,734	1.1	18.2
Total waste to landfill	Kt	87	118	164	210	39.1	77.6
CO_2e per tonne of production	kg CO_2e/tonne nsp	209	206	193	195	-6.1	-5.4

Comments on the data:

1. Based on data from 248 in-scope sites. There are 126 sites which require fossil fuels for their production process (paper mills, corrugators, plastics plants) and the remaining 122 smaller sites use just electricity in their processes (sheet plants, recycling and logistics depots and warehouses).
2. Figures from all years are based on data from sites we owned for the entirety of that year. The 2018 data is based on sites we have owned since 1 January 2018. We have shown the 2015 published figure, as it is the baseline year for our targets, and the published figure for 2017 to show the performance of the business from last year.
3. Total production is the sum of printed reels and paper reels from our paper mills; plastics production (all types) from our Plastics sites; recovered fibre and other materials collected and processed through our Recycling depot network; finished wood products from our timber business; and boxes and sheets sold to third parties from our Packaging sites and other types of packaging production from these sites.
4. DS Smith collects and reports environmental data in accordance with the guidelines of the Global Reporting Initiative and the Greenhouse Gas Protocol (GHGP), to the extent that this is practicable.
5. The CO_2 and CO_2e emissions were calculated using the UK DECC 2017 factors for all fuels.
6. Where available, we use the emissions factor for bought electricity from the supplier of energy to our business (Scope 2 Market Value). If this figure is not reported, the country emissions factor from the IEA is used instead (Scope 2 Location Value). Emissions from national grids use the AIB Residual Grid Emissions Factors for those European countries for which they are available, otherwise they use the previous location emissions factors from the International Energy Agency (IEA) 2017 v1.03 (AR5 Applied).
7. The CHP that supplies our Witzenhausen paper mill with steam is fired predominantly by biogenic fuels. The emissions factor for this site has been estimated as 32.77 kg/MWh of CO_2e.
8. The CHP that supplies our Belišće paper mill and corrugator with steam and electricity is fired by a combination of natural gas and flare gas. The emissions factor for flare gas is estimated to be 240 kg/MWh of CO_2e.
9. The waste figures relate to waste generated by our operations; they do not include waste that is collected from external sources for recycling.

Divisional summary tables

Packaging Division

Indicator	Unit of measurement	2017	2018 (like-for-like)	2018 (with acquisitions)	% variance (like-for-like)	% variance (with acquisitions)
Scope 1	Kt CO_2e	261	257	257	-1.5%	-1.5%
Scope 2 (market)	Kt CO_2e	181	213	213	17.4%	17.4%
Emissions from energy exports	Kt CO_2e	n/a	n/a	n/a		
Total CO_2e (net)	Kt CO_2e	442	470	470	6.2%	6.2%
Total energy exported	GWh	7	6	6	-17.2%	-17.2%
Total energy consumption (net)	GWh	1717	1731	1731	0.8%	0.8%
Total production	Kt nsp	4337	4575	4575	5.5%	5.5%
Total waste to landfill	Kt	7	6	6	-18.0%	-18.0%
CO_2e per tonne of production	kg CO_2e/tonne nsp	102.0	102.7	102.7	0.7%	0.7%

Paper Division

Indicator	Unit of measurement	2017	2018 (like-for-like)	2018 (with acquisitions)	% variance (like-for-like)	% variance (with acquisitions)
Scope 1	Kt CO_2e	1369	1320	1320	-3.6%	-3.6%
Scope 2 (market)	Kt CO_2e	138	140	140	1.3%	1.3%
Emissions from energy exports	Kt CO_2e	317	381	381	20.3%	20.3%
Total CO_2e (net)	Kt CO_2e	1191	1079	1079	-9.4%	-9.4%
Total energy exported	GWh	884	855	855	-3.3%	-3.3%
Total energy consumption (net)	GWh	6732	6589	6589	-2.1%	-2.1%
Total production	Kt nsp	2841	2789	2789	-1.8%	-1.8%
Total waste to landfill	Kt	107	146	146	36.2%	36.2%
CO_2e per tonne of production	kg CO_2e/tonne nsp	419.0	386.8	386.8	-7.7%	-7.7%

Recycling Division

Indicator	Unit of measurement	2017	2018 (like-for-like)	2018 (with acquisitions)	% variance (like-for-like)	% variance (with acquisitions)
Scope 1	Kt CO_2e	10	9	10	-8.7%	1.1%
Scope 2 (market)	Kt CO_2e	2	2	2	-16.0%	-3.4%
Emissions from energy exports	Kt CO_2e	0	0	0		
Total CO_2e (net)	Kt CO_2e	12	11	12	-10.0%	0.3%
Total energy exported	GWh	0	0	0		
Total energy consumption (net)	GWh	5	5	6	-7.9%	4.7%
Total production	Kt nsp	960	866	961	-9.9%	0.1%
Total waste to landfill	Kt	3	11	12	355.8%	369.2%
CO_2e per tonne of production	kg CO_2e/tonne nsp	12.5	12.5	12.5	-0.1%	0.2%

North America Packaging and Paper Division

Indicator	Unit of measurement	2018
Scope 1	Kt CO_2e	145
Scope 2 (market)	Kt CO_2e	141
Emissions from energy exports	Kt CO_2e	0
Total CO_2e (net)	Kt CO_2e	286
Total energy exported	GWh	44
Total energy consumption (net)	GWh	2411
Total production	Kt nsp	933
Total waste to landfill	Kt	45
CO_2e per tonne of production	kg CO_2e/tonne nsp	118.7

Carbon and energy

Country-level carbon and energy accounting

Country/region	Scope 1 emissions (metric tons of CO_2e)	Scope 2, location-based (metric tons of CO_2e)	Scope 2, market-based (metric tons of CO_2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Austria	4,841	1,448	1,448	8,779	0
Belgium	5,417	2,737	2,605	20,946	1,077
Bosnia and Herzegovina	841	288	288	318	0
Bulgaria	40,058	32,607	32,607	77,940	0
Croatia	96,023	37,134	29,515	93,976	18,436
Czechia	3,658	5,635	5,635	9,172	0
Denmark	4,777	8,531	8,531	18,603	0
Estonia	697	2,198	2,198	2,109	0
Finland	2,088	3,770	3,770	12,545	0
France	130,284	12,609	12,609	220,899	0
Germany	224,893	131,634	57,409	622,415	101,466
Greece	5,814	5,234	5,234	8,413	0
Hungary	5,326	4,301	4,301	12,598	0
Italy	387,941	26,236	26,236	55,057	0
Lithuania	2,043	3,683	3,683	5,226	0
The former Yugoslav Republic of Macedonia	1,200	1,049	1,049	1,509	0
Morocco	12	64	64	91	0
Netherlands	164,912	39,717	39,717	85,173	0
New Zealand	14	184	184	1,479	0
Poland	20,007	25,126	25,126	30,107	0
Portugal	239	5,299	4,575	21,447	1,892
Romania	1,956	1,340	1,340	3,154	0
Serbia	2,399	2,210	2,210	2,905	0
Slovakia	3,124	3,583	3,583	19,884	0
Slovenia	3,551	3,345	3,345	7,477	0
Spain	16,193	17,343	16,385	38,854	2,148
Sweden	2,262	1,527	1,527	34,161	0
Switzerland	1,883	849	0	4,246	4,246
Thailand	0	212	212	412	0
Turkey	337	1,484	1,484	3,353	0
United Kingdom	481,006	79,672	79,656	267,029	43
United States of America	136,525	162,167	150,494	397,232	25,515
Total	**1,750,321**	**623,216**	**527,020**	**2,087,509**	**154,823**

Scope 3 emissions

Category	Scope 3 emissions (metric tons CO_2e)
Purchased goods and services	709,379
Fuel-and-energy-related activities (not included in Scope 1 or 2)	45,564
Upstream transportation and distribution	132,814
Waste generated in operations	41,635
Business travel	3,241
Employee commuting	7,700
Downstream transportation and distribution	107,079
End of life treatment of sold products	762,639

Emissions to air

	Emitted to air (tonnes)
Dust	210
HFCs	0
NOx	1,432

Energy consumption summary

Indicator	Renewable sources (MWh)	Non-renewable sources (MWh)	**Total energy consumed (MWh)**
Consumption of fuel (excluding feedstock)	1,488,843	8,272,112	**9,760,955**
Consumption of purchased or acquired electricity	154,825	1,207,564	**1,362,388**
Consumption of purchased or acquired steam	0	708,933	**708,933**
Total energy consumption	1,643,668	10,188,609	**11,832,277**

Fuel consumption summary

Fuel Source	Fuel consumed for self-generation of electricity (MWh)	Fuel consumed for self-generation of heat (MWh)	Fuel consumed for self-generation of steam (MWh)	Fuel consumed for self-cogeneration or trigeneration (MWh)	**Total fuel consumed by the organisation (MWh)**
Coal	0	0	44,205	0	**44,205**
Biogas	0	0	0	90,434	**90,434**
Black liquor	0	0	0	205,023	**205,023**
Fuel oil	0	3,290	0	0	**3,290**
Light distillate	0	91,664	0	0	**91,664**
Liquefied Petroleum Gas (LPG)	0	44,942	0	0	**44,942**
Natural gas	0	0	1,210,131	6,877,880	**8,088,011**
Wood chips	0	0	0	1,193,386	**1,193,386**

Electricity and steam generation summary

	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources consumed by the organization (MWh)	**Total gross generation (MWh)**
Electricity	911,158	287,078	287,078	**1,704,889**
Steam	4,766,337	817,068	817,068	**4,816,721**

Product life cycle assessment (source: FEFCO LCA 2018)

	Carbon footprint (kg CO_2e)	Water footprint (m^3)
1 tonne of testliner	538	6.14
1 tonne of corrugated board	538	0.32

Waste and recycling

Country-level waste disposal type

Country/region	Waste to landfill (ktonnes)	Waste to recycling (ktonnes)	Waste to incineration (ktonnes)	Waste to landspread (ktonnes)	Total solid waste (ktonnes)	Hazardous waste (tonnes)
Austria	0.1	8.1	0.0	0.0	8.2	0.0
Belgium	0.3	14.1	0.1	0.0	14.6	20.7
Bosnia and Herzegovina	0.0	0.0	0.0	0.0	0.0	203.8
Bulgaria	10.2	1.2	0.0	0.0	11.4	49.5
Croatia	39.3	3.2	0.0	0.0	42.5	0.0
Czechia	0.3	14.8	0.0	0.0	15.0	3.9
Denmark	0.0	16.6	1.5	0.0	18.1	316.8
Estonia	0.0	0.1	0.0	0.0	0.1	172.1
Finland	0.0	7.2	0.1	0.0	7.3	23.5
France	4.6	140.7	6.6	3.5	155.4	14.9
Germany	0.4	126.9	43.2	0.2	170.6	73.5
Greece	0.2	15.6	0.0	0.0	15.8	0.0
Hungary	0.3	19.7	0.2	0.0	20.2	0.0
Italy	22.1	114.1	19.3	0.0	155.6	1930.4
Lithuania	0.0	5.2	0.1	0.0	5.3	68.0
The former Yugoslav Republic of Macedonia	0.1	12.5	0.0	0.0	12.6	43.4
Morocco	0.0	0.2	0.0	0.0	0.2	33.4
Netherlands	0.0	19.9	17.7	0.1	37.7	0.0
New Zealand	0.1	0.0	0.0	0.0	0.1	329.7
Poland	0.6	35.3	0.0	0.0	35.9	1.2
Portugal	0.3	4.8	0.0	0.0	5.1	0.1
Romania	0.3	5.9	0.1	0.0	6.3	0.5
Serbia	0.2	3.2	0.0	0.0	3.4	64.7
Slovakia	0.2	6.7	0.0	0.0	6.9	34.5
Slovenia	0.0	12.6	0.1	0.0	12.7	0.0
Spain	1.3	38.2	0.0	0.0	39.5	36.8
Sweden	0.0	17.4	0.4	0.0	17.8	351.4
Switzerland	0.0	7.2	0.1	0.0	7.3	23.8
Thailand	0.0	0.0	0.0	0.0	0.0	0.0
Turkey	0.0	6.2	0.0	0.0	6.3	0.0
United Kingdom	83.3	113.9	58.2	134.4	389.8	0.0
United States of America	45.3	49.2	0.0	0.0	94.5	0.0
Total	**209.5**	**820.8**	**147.8**	**138.2**	**1,316.2**	**3,796.6**

Group

Waste Destination	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Total waste to landfill	97.1	117.7	209.6
Total waste to incineration	201.5	194.8	148.8
Solid process waste to off site landspread	111.3	117.1	138.2
Solid process waste to off site recycling	678.7	721.3	835.6

Packaging division

Waste Destination	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Total waste to landfill	7.3	6.9	5.7
Total waste to incineration	12.9	6.6	6.6
Solid process waste to off site landspread	0.0	0.0	0.0
Solid process waste to off site recycling	604.5	647.8	675.3

Paper division

Waste Destination	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Total waste to landfill	86.2	107.1	145.9
Total waste to incineration	186.9	184.7	140.9
Solid process waste to off site landspread	111.3	117.1	138.2
Solid process waste to off site recycling	55.2	57.7	84.4

Recycling division

Waste Destination	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Total waste to landfill	2.5	2.5	11.7
Total waste to incineration	1.3	3.3	1.0
Solid process waste to off site landspread	0.0	0.0	0.0
Solid process waste to off site recycling	16.4	13.4	23.9

North America Packaging and Paper division

Waste Destination	2018 (ktonnes)
Total waste to landfill	45.2
Total waste to incineration	0.0
Solid process waste to off site landspread	0.0
Solid process waste to off site recycling	48.8

Water stewardship

Water abstraction

Measure	2016 (millions m³)	2017 (millions m³)	2018 (millions m³)
Water abstraction	25.5	25.2	40.1
Water consumption	6.3	5.0	8.5

Water stress

Measure	2016 (%)	2017 (%)	2018 (%)
Water withdrawl from water stressd areas		60	35

Water efficiency

Mill	2016 (m³/tonne of production)	2017 (m³/tonne of production)	2018 (m³/tonne of production)
Aschaffenburg mill	5.4	5.6	5.5
Belišće mill	16.7	14.5	15.2
Contoire-Hamel (Papeterie)	7.8	9.4	8.6
Coullons mill	9.1	7.9	8.0
De Hoop mill	6.2	5.7	5.7
Kaysersberg mill	11.0	11.5	11.4
Kemsley mill	9.0	8.4	8.1
Lucca mill	5.5	4.7	5.1
Pazardzhik (Trakia Papir S.A.) mill	31.1	30.9	33.2
Reading mill			5.5
Riceboro mill			36.6
Witzenhausen mill	5.1	4.8	5.1

Water discharge

Discharge destination	2016 (millions m³)	2017 (millions m³)	2018 (millions m³)
Fresh surface water	9.2	10.1	11.0
Brackish surface water/seawater	6.7	6.6	16.3
Third-party destinations/municipal	3.2	3.5	4.3
Total discharge	**19.2**	**20.2**	**31.7**

Raw materials

Packaging Division

Material	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Kraftliners	760.8	786.9	962.7
Mixed or unknown papers	99.5	153.9	201.3
Pre-printed reels input	15.8	16.0	20.8
Recycled papers	2,921.7	3,025.9	3,158.2
Semi chemical fluting	123.9	99.2	154.5
Total bought-in papers	**3,921.6**	**4,081.8**	**4,497.6**

Paper Division

Material	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Pulp	5.1	4.1	266.5
Recovered fibre	3,082.7	3,181.3	3,464.4
Virgin fibre input	N/A	N/A	858.9
Total fibre input	**3,087.8**	**3,185.4**	**4,589.8**

Timber

Material	2018 (ktonnes)
Wood from DS Smith land	37.5
Wood from a 3rd Party	1,137.8

Transit packaging

Material	2016 (ktonnes)	2017 (ktonnes)	2018 (ktonnes)
Baling wire (for packaging)	6.6	3.4	16.0
Pallets (for packaging)	176.4	183.6	161.9
Paper/board (for packaging)	15.6	48.1	81.5
Plastic films (for packaging)	24.7	7.0	11.2
Transit Packaging Materials	**223.4**	**242.0**	**270.6**

Social indicators

Health and safety

Key Performance Indicators	2018/19
Lost Time Accidents (LTAs)	112
Accident Frequency Rate (AFR)	2.3
Number of sites with zero LTAs	265

Gender diversity

Company structure	Male (%)	Female (%)
Board	78	22
Senior Management	88	12
Group	77	23

Nationality diversity of Senior Management

Nationality	Percentage (%)
British	32.3
French	12.8
Italian	11.3
German	9.0
American	6.8
Spanish	6.8
Belgian	3.8
Dutch	3.8
Danish	3.0
Austrian	1.5
Swedish	1.5
Bulgarian	0.8
Czech	0.8
Greek	0.8
Hong Kong	0.8
Hungarian	0.8
Irish	0.8
Lithuanian	0.8
Polish	0.8
Portugeuse	0.8
Slovenian	0.8

Number of ethical audits

Country	Valid SMETA audits (3-year validity period)	Pending audits
Austria	0	2
Belgium	2	0
Bosnia and Herzegovina	0	0
Bulgaria	0	1
Croatia	1	0
Czechia	1	1
Denmark	0	2
Estonia	0	0
Finland	2	0
France	8	8
Germany	9	2
Greece	1	1
Hungary	4	0
Italy	5	1
Lithuania	1	0
The former Yugoslav Republic of Macedonia	0	0
Morocco	0	0
Netherlands	1	0
Poland	3	0
Portugal	0	0
Romania	1	0
Russian Federation (part owndership)	1	0
Serbia	1	0
Slovakia	1	0
Slovenia	0	0
Spain	3	2
Sweden	2	0
Switzerland	1	0
Turkey	0	1
Ukraine (part ownership)	1	0
United Kingdom	15	4
United States of America	0	0
Total	**64**	**25**

Most common non-conformances

Category of non-conformance	Number of occurances (3-year period)
Health, safety and hygiene	48
Regular employement and wages	10
Working hours	6
Environment	4
Management systems	3
Entitlement to work	3
Other	2