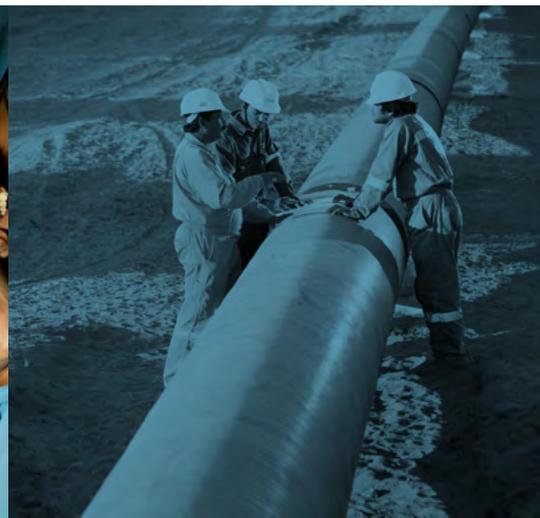




Corporate Responsibility

Report 2017

DATA APPENDIX



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Economics and funding

Investment proposals that covered results of Corporate Responsibility (CR) due diligence (%)

	2013	2014	2015	2016	2017
Investment proposals	100	100	100	100	100

Note: Investment Proposals (IPs): in 2017 Cairn required that any new investment with a net expenditure in excess of US\$1 million should be assessed against specified investment criteria, which include an assessment of the potential CR risks involved with the opportunity. For those investment opportunities that are taken forward to the Board for approval, an IP is required which summarises the outcome of the review (including the CR assessment), the recommended terms of the offer and how the opportunity would be managed in the event of success. These IPs are signed off by all functional department heads, the Chief Operating Officer (COO) on behalf of the Management Team (MT) and the Chief Executive Officer (CEO) on behalf of the Executive Team (ET).

Contractors and supply chain

Total proportion of spending on local suppliers (%)

2017	40
2016	36
2015	23
2014	27
2013	33

Proportion of spending on local suppliers (%)

	2013	2014	2015	2016	2017
Greenland	7	54	26	66	2
Ireland	3	11	6	12	5
Malta	28	7	31	0	0
Mexico	n/a	n/a	n/a	n/a	10
Morocco	14	9	43	1	3
Nepal	98	42	n/a	n/a	n/a
Norway	59	93	94	96	89
Senegal	1	11	5	18	24
Spain	87	87	100	51	n/a
United Kingdom	73	87	53	69	77

Note: We break down this data by country as our 'significant locations of operation'.

Note: Local suppliers are considered to be those operating from the country of operation. They are classified as such by having a local address and, where appropriate, further registration as may be required by local authorities to recognise these companies officially (for example, NINEA number in Senegal).

New supplier screening (%)

	2013	2014	2015	2016	2017
Environmental	-	33	33	90	80
Impacts on society	-	22	33	80	60
Labour practices	-	22	33	90	80
Human rights	-	0	17	75	60

Note: Supplier screening data is only available from 2014 onwards.

Note: This data shows the percentage of significant new suppliers (any that require approval from Cairn's Contracts Committee) that were screened for CR risks in four different areas as shown, i.e. environmental, impacts on society, labour practices and human rights. This data is compiled by reviewing Cairn's Contracts Committee records to identify new suppliers that Cairn selected during the reporting year. Tender and contract documentation for those suppliers are then reviewed to identify which CR risks are covered in the screening process for each one.

In 2015, 75% of suppliers that were not screened were data processing companies and suppliers of materials for which CR issues were not considered a particular risk.

In 2016, 18 out of 20 new suppliers were screened for CR risks; the remaining two (10%) were international suppliers of IT/software-related services for which CR issues were not considered a particular risk.

In 2017, three out of five significant new suppliers were screened for CR risks in all four areas. The other two included a metocean equipment and data contract which was screened for HSE and a seismic processing (desk-based) contract which was considered low risk.

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Ethics, anti-bribery and corruption**Ethics****Business ethics compliance**

	2013	2014	2015	2016	2017
Incidents of non-compliance with Cairn's Code of Business Ethics (number)	0	0	0	0	0
Employee dismissals resulting from non-compliance with Code of Business Ethics (number)	0	0	0	0	0
Contracts cancelled in part due to concerns about contractors' ability/willingness to operate in line with business principles (number)	0	0	0	0	0

Anti-bribery and corruption**Operations assessed for risks related to corruption (number/%)**

	2014	2015	2016	2017
Cairn total	8/100	4/100	4/100	4/100

Note: Significant risks identified include: 1) risk of corruption acts in the supply chain, 2) risk of local contractors not being adequately trained on anti-bribery and corruption, 3) risk of not adapting corporate anti-bribery and corruption management systems to the local culture, 4) risk of operating in jurisdictions perceived as high-risk for bribery, 5) risk of poor communication and monitoring of anti-bribery and corruption policies and procedures.

Note: For the purposes of this indicator we define an operation as a country in which we had operational activity (including field and office activity) in the reporting year. It should be noted that we may have more than one set of assets in a given country.

Note: All of the operations included have been assessed for risks related to corruption although the assessments may not have taken place in the reporting year itself.

Total communicated to on anti-corruption policies and procedures (number/%)

	2013	2014	2015	2016	2017
Board members	-	7/100	9/100	9/100	10/100
Total employees	-	178/100	151/100	170/100	180/100
Total management grade employees	-	56/100	48/100	54/100	53/100
Total non-management grade employees	-	122/100	103/100	116/100	127/100
Total business partners*	-	-	12/75	20/87	5/63
Business partners - significant suppliers	-	-	11/85	19/95	5/100
Business partners - joint venture partners	-	-	1/33	1/33	0/0

Note: Data on business partners communicated to on anti-corruption policies and procedures is only available since 2015.

Note: Significant suppliers are defined as any new suppliers that Cairn selected during the reporting year that required approval from Cairn's Contracts Committee.

Note: All joint venture business partners will receive a copy of Cairn's Group Code of Ethics when they first become a partner. The data presented is for those 'communicated to' in the reporting year.

Note*: The following notes explain the processes Cairn goes through to ensure that anti-corruption risks are assessed and to ensure its anti-corruption policies and procedures are communicated to its business partners.

In line with the requirements outlined in the UK Bribery Act, Cairn applies a risk-based approach to assessing corruption risk prior to establishing new operations and contracting with new joint venture partners and suppliers. Cairn considers a number of factors when determining the level of anti-bribery and corruption due diligence to be completed, such as the Corruption Perceptions Index score for the relevant country and the level of contact the business partner is expected to have with public officials. These factors are objectively scored, and the appropriate level of due diligence is determined accordingly. This process is mandatory for all Cairn Group companies, business units and locations.

In addition, all Cairn contractors are required to comply with Cairn's Group Code of Ethics. Consequently, this policy document is incorporated into contracts entered into by the Cairn Group with suppliers, consultants and agents.

As Operator (or prospective Operator) under a licence, we provide the relevant government with details of our anti-bribery policies and procedures in the following circumstances:

- in the course of submitting an application under a licence bid round;
- where requested by the party from whom we are acquiring an interest in a licence;
- in the course of requesting consent from the relevant government to an acquisition of interests (if required);
- where otherwise requested by the relevant government.

Up-to-date versions of Cairn's anti-bribery and corruption policy documents are displayed on the Cairn Energy website at all times.

Business relationships	Society and community	People	Environment	Reporting guidelines for 2017 KPI's
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Employees communicated to on anti-corruption policies and procedures, and country breakdown (number/%)

	2013	2014	2015	2016	2017
Greenland	-	1/100	n/a	n/a	n/a
Mexico	-	n/a	n/a	n/a	1/100
Morocco	-	2/100	2/100	1/100	1/100
Norway	-	17/100	21/100	25/100	28/100
Senegal	-	n/a	1/100	1/100	5/100
Spain	-	3/100	n/a	n/a	n/a
United Kingdom	-	155/100	127/100	143/100	145/100

Total employees and Board members trained in Cairn's anti-corruption policies and procedures (number/%)

	2013	2014	2015	2016	2017
Board members	-	0/0	7/78	9/100	10/100
Total employees	56/27	105/59	23/15	154/91	31/17
Total management grade employees	24/34	30/54	13/27	50/93	11/21
Total non-management grade employees	32/24	75/61	10/10	104/90	20/16

Note: Figures on Board members trained in Cairn's anti-corruption policies and procedures are only available from 2014 onwards.

Note: All Cairn employees have been trained in Cairn's anti-corruption policies and procedures, but these are the figures for employees who received training in the reporting year.

Employees trained in Cairn's anti-corruption policies and procedures, and country breakdown (number/%)

	2013	2014	2015	2016	2017
Greenland	-	0/0	n/a	n/a	n/a
Mexico	-	n/a	n/a	n/a	0/0
Morocco	-	0/0	0/0	0/0	0/0
Norway	-	6/35	0/0	24/96	0/0
Senegal	-	n/a	0/0	1/100	2/40
Spain	-	0/0	n/a	n/a	n/a
United Kingdom	-	99/64	23/18	129/90	29/20

Note: All Cairn employees have been trained in Cairn's anti-corruption policies and procedures, but these are the figures for employees who received training in the reporting year.

Anti-competitive behaviour (number)

	2013	2014	2015	2016	2017
Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	-	0	0	0	0

An employee is defined as a person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Personnel who are contracted for more than three months to an organisational position and who are categorised as 'other workers' in the database are not included in the employee numbers for these indicators.

Data on Board members cannot be broken down by country as Cairn has only one Board of Directors, which is located in the UK. Data on business partners cannot be broken down by country as it only includes business partners in Senegal, our only operational asset in 2017.

Business relationships	Society and community	People	Environment	Reporting guidelines for 2017 KPI's
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Transparency

Payments to governments

Total payments to governments (\$'000 US)

	2013	2014	2015	2016	2017
Signature, discovery and production bonuses	-	0	0	0	8,000
Licence, rental and entry fees	-	1,475	1,033	330	1,904
Infrastructure improvements	-	1,995	0	0	0
Corporate income tax	-	-66,000	-51,865	-35,468	-30,225
Withholding tax withheld on payments to group companies	-	4,029	333	0	0
VAT	-	-9,285	-6,257	-3,682	-6,625
Customs duty	-	1,058	309	172	206
Training allowances	-	987	607	713	224
PAYE and NI	-	16,069	18,009	18,559	22,076
Withholding tax withheld on payments to third parties	-	28,051	10,095	4,244	2,179
Other	-	5,460	1,388	408	749

Payments to governments (\$'000 US)

	2013	2014	2015	2016	2017
Signature, discovery and production bonuses					
Mexico	-	0	0	0	8,000
Licence, rental and entry fees					
Greenland	-	779	205	0	0
Ireland	-	214	68	113	103
Malta	-	146	551	0	0
Mauritania	-	136	61	0	0
Mexico	-	0	0	0	375
Norway	-	37	0	105	1171
Senegal	-	107	107	107	107
Spain	-	43	0	0	0
United Kingdom	-	13	41	6	148
Infrastructure improvements					
Morocco	-	1,995	0	0	0
Corporate income tax					
Ireland	-	0	0.3	0.1	0.1
Norway	-	-66,000	-51,865	-35,468	-30,225
Withholding tax withheld on payments to group companies					
Morocco	-	4,029	333	0	0

	2013	2014	2015	2016	2017
VAT					
Ireland	-	-23	17	-7	-9
Malta	-	0	-251	0	0
Mexico	-	0	0	0	726
Morocco	-	16	20	14	0
Norway	-	-2,024	-1,533	1,282	-1,952
Spain	-	-170	-105	-26	-15
United Kingdom	-	-7,084	-4,405	-4,945	-5,375
Customs duty					
Senegal	-	1,058	309	172	206
Training allowances					
Greenland	-	539	0	268	0
Malta	-	38	0	0	0
Morocco	-	176	271	183	24
Senegal	-	200	200	200	200
Mauritania	-	34	136	62	0
PAYE and NI					
Greenland	-	228	20	0	0
Mexico	-	0	0	0	28
Morocco	-	154	29	26	24
Norway	-	3,794	2,714	3,085	3,860
Senegal	-	0	0	239	455
Spain	-	216	132	29	18
United Kingdom	-	11,677	15,114	15,179	17,690
Withholding tax withheld on payments to third parties					
Greenland	-	0	236	0	0
Ireland	-	14	0	0	0
Morocco	-	14,495	1,011	93	0
Senegal	-	13,542	8,848	4,151	2,000
United Kingdom	-	0	0	0	179
Other					
Greenland	-	536	416	132	0
Ireland	-	245	0	0	0
Mexico	-	0	0	0	280
Morocco	-	2,232	362	0	0
Nepal	-	0	516	0	0
Norway	-	2,343	58	-4	0
Senegal	-	104	36	280	469

Note: Data has been provided for individual countries where relevant payments have been made.

Note: We disclose gross payments for assets that we operate and net payments for our non-operated assets.

Note: Negative figures reflect refunds received. These figures represent a net of payments and refunds.

Cairn reports these figures in support of two transparency initiatives, namely the European Union Accounting Directive and the Extractive Industries Transparency Initiative (EITI). The figures include both payments to governments included in our EITI reporting, such as corporate income tax, licence fees and withholding tax suffered, and additional payments made including VAT and payroll taxes and social security costs.

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Public policy**Political contributions**

	2013	2014	2015	2016	2017
Money paid to political parties and institutions (£ pounds sterling)	0	0	0	0	0

Compliance**Non-compliance with laws and regulations (excluding environmental)**

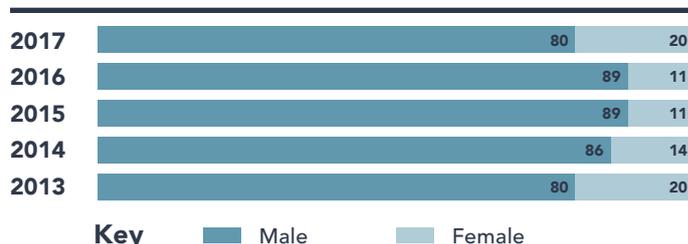
	2013	2014	2015	2016	2017
Incidents (number)	0	0	0*	0	0
Non-monetary sanctions (number)	0	0	0	0	0
Monetary value of significant fines (£'000 pounds sterling)	0	0	0	0	0

Note*: Cairn filed VAT/withholding tax returns late on four occasions in Morocco in 2015, incurring penalties of \$0.4MM, the equivalent of approximately 26% of tax payment when it was acting on its own behalf and as agent on behalf of its suppliers. The vast majority of this assessment (\$0.4MM) arose as a result of late filing of annual tax summaries for 2013 and 2014.

Corporate governance**Board meetings that considered CR issues (%)**

	2013	2014	2015	2016	2017
Cairn total	100	100	100	100	100

Note: The Board is ultimately accountable for ensuring Cairn meets our standards of corporate governance. It provides a leadership role in risk management and requires routine updates on CR-related risks and performance. CR performance is a standing item on the Board agenda and the Board received a CR corporate and operational update at each Board meeting in 2017. It also routinely examines the status and management of high-risk issues facing the company. The Board received performance update papers for each meeting in 2017.

Gender breakdown of Cairn's Board of Directors (%)**Age breakdown of Cairn's Board of Directors (%)****Cairn's Board members from minorities (%)**

	2013	2014	2015	2016	2017
Total	-	0	0	0	0

Note: Figures for age breakdown of Cairn's Board of Directors and Board members from minorities are only available for 2014 onwards.

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Society and community

Social and economic benefit

Social investment (£ pounds sterling)

	2013	2014	2015	2016	2017
Cairn total	343,139	354,558	426,867	95,694	185,242
Community development	0	101	56,274	42,689	86,773
Senegal	0	101	56,274	42,689	86,773
Disaster relief	0	0	0	0	3,879
Mexico	n/a	n/a	n/a	n/a	3,879
Education	343,139	352,390	360,142	20,501	39,871
Greenland	343,139	108,782	0	0	0
Ireland	n/a	12,543	0	0	0
Morocco	0	60,705	178,783	0	0
Senegal	0	170,360	181,359	20,501	39,871
Environment	0	1,240	10,452	6,248	6,982
Senegal	0	0	10,452	6,248	6,982
Spain	0	1,240	0	0	0
National contractor training	n/a	n/a	n/a	7,858	47,736
Senegal	n/a	n/a	n/a	7,858	47,736
Other	0	827	0	18,397	0
Morocco	0	827	0	0	0
Senegal	0	0	0	18,397	0

Note: Cairn defines social investment as 'pro-active contributions or actions taken by Cairn to help bring benefits to communities where we operate'. These may include community development projects, capacity-building within national institutions and developing skills within local businesses.

Note: In 2015 and previous years, education figures included training allowances paid to governments that were also included in the 'Payments to governments' data. From 2016 the training allowances paid to governments have only been reported in 'Payments to governments' data and not in the 'Social investment' data.

Note: A category for 'National contractor training' was added in 2016. Previous contractor training payments were included under education.

Charitable giving

Charitable giving in the UK (£ pounds sterling)

	2013	2014	2015	2016	2017
United Kingdom total	455,333	487,995	229,318	216,470	285,000
Children	280,000	280,750	108,333	106,480	103,860
Community development	41,500	53,500	15,000	31,600	59,835
Culture	18,000	21,500	35,000	40,000	20,000
Disaster relief	0	0	10,000	0	0
Education	41,378	65,133	10,000	15,000	10,250
Environment	17,000	20,000	15,000	15,000	10,000
Health	34,000	34,500	25,000	8,390	45,730
Other	23,455	12,612	10,985	0	35,325

Human rights

Human rights approach

Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening (number/%)

	2013	2014	2015	2016	2017
Cairn total	-	0/0	1/14	2/22	2/18

Note: A significant investment agreement is defined as one that requires Board approval. This equates to one with a net expenditure in excess of US\$1 million.

Note: Significant investment agreements and contracts are assessed against specified investment criteria, which include an assessment of the potential CR risks, including human rights, involved with the opportunity. The Investment Proposal (IP) summarises the outcome of the review (including the CR assessment), the recommended terms of the offer and how the opportunity would be managed in the event of success. These IPs are signed off by all functional department heads, the Chief Operating Officer (COO) on behalf of the Management Team (MT) and the Chief Executive Officer (CEO) on behalf of the Executive Team (ET).

Data for this indicator is compiled by reviewing all IPs that were approved in the reporting year.

All operations are screened broadly for human rights issues at the IP stage. In this indicator we include only those agreements, finalised in the reporting year, that make specific reference to human rights.

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Operations that have been subject to human rights reviews or impact assessments (number/%)

	2013	2014	2015	2016	2017
Cairn total	-	5/62.5	2/50	4/100	4/100

Note: For the purposes of this indicator we define an operation as a country in which we had operational activity (including field and office activity) in the reporting year. It should be noted that we may have more than one set of assets in a given country.

Note: All field operations have been assessed for risks related to corruption although the assessments may not have taken place in the reporting year itself.

Employees trained on human rights policies and procedures (%)

2017	47
2016	0
2015	0
2014	6
2013	4

Note: An employee is defined as a person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Personnel who are contracted for more than three months to an organisational position and who are categorised as 'other workers' in the database are not included in the employee numbers for this indicator.

Total employee training on human rights policies and procedures (hours)

	2013	2014	2015	2016	2017
Cairn total	18	28	0	0	43

Grievances**Total human rights grievances and incidents of discrimination (number)**

	2013	2014	2015	2016	2017
Filed	0	0	0	0	0
Filed and addressed	0	0	0	0	0
Filed, addressed and resolved	0	0	0	0	0
Filed prior to reporting period but resolved during reporting period	0	0	0	0	0

Labour relations grievance policy (%)

	2013	2014	2015	2016	2017
Total employees covered by non-retaliation and grievance policy	100	100	100	100	100

Total labour practices grievances (number)

	2013	2014	2015	2016	2017
Filed	-	0	0	0	0
Filed and addressed	-	0	0	0	0
Filed, addressed and resolved	-	0	0	0	0
Filed prior to reporting period but resolved during reporting period	-	0	0	0	0

Total impacts on society grievances (number)

	2013	2014	2015	2016	2017
Filed	-	0	1	0	0
Filed and addressed	-	0	1	0	0
Filed, addressed and resolved	-	0	0	0	0
Filed prior to reporting period but resolved during reporting period	-	0	0	1	0

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Major accident prevention and safety

Spills

Total number of spills to the environment (number)

	2013	2014	2015	2016	2017
Oil	0	0	1	3	0
Fuel	0	0	0	1	0
Chemical	0	0	1	0	1*
Waste	0	0	0	0	0
Other	0	0	0	0	0

Note*: Approx. 34 litres of hydraulic oil leaked from an underwater remotely operated vehicle (ROV) in Senegal.

Total volume spilled to the environment (barrels)

	2013	2014	2015	2016	2017
Oil	0	0	0.002	1.050	0
Fuel	0	0	0	0.001	0
Chemical	0	0	0.006	0	0.214
Waste	0	0	0	0	0
Other	0	0	0	0	0

Oil (number/barrels)

	2013	2014	2015	2016	2017
Senegal	0/0.00	0/0.00	1/0.002	3/1.050	0/0.00

Fuel (number/barrels)

	2013	2014	2015	2016	2017
Senegal	0/0.00	0/0.00	0/0.00	1/0.001	0/0.00

Chemical (number/barrels)

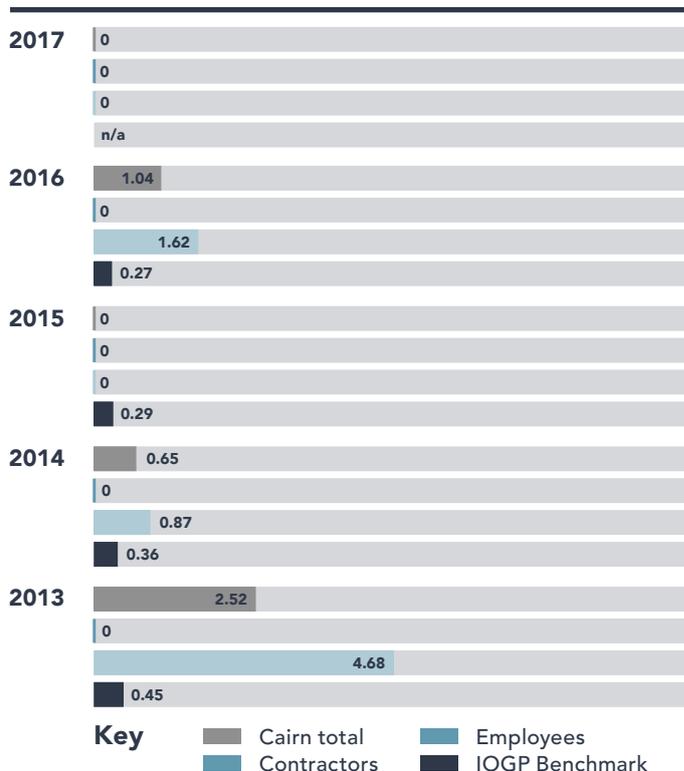
	2013	2014	2015	2016	2017
Senegal	0/0.00	0/0.00	1/0.006	0/0.00	1/0.214

Note: We report spills according to the categories provided by the GRI: oil, fuel, chemical, waste, other. Oil: crude oil. Fuel: diesel, gasoline, kerosene, heating oil, aviation fuel. Chemical: any other raw material or ancillary. Waste: any material (solid, liquid, gas) that is introduced into the work location as a product of the work but that fulfils no further useful purpose at that location. Other: other material not included in categories above. If something fits into more than one category, we report against the category that provides the most information, e.g. chemical rather than waste when reporting waste chemicals. We collect figures on the number of spills in the following size categories: less than 1 barrel; between 1 and 10 barrels; between 10 and 100 barrels; and greater than 100 barrels. We also record the actual volume spilled. We report figures on spills to the environment, but also collect data on spills contained before reaching the environment for monitoring purposes.

Note: Data has been provided for individual countries where there have been relevant spills.

Occupational safety

Lost Time Injury Frequency (LTIF) (Lost time injuries per million hours worked)



Note: LTIF is defined as the number of lost time injuries (fatalities + lost work day cases) per 1,000,000 hours worked (IOGP).

Note: IOGP is the International Association of Oil and Gas Producers. We have included overall IOGP benchmark figures (average of onshore and offshore for employees and contractors). IOGP benchmark figures are not yet available for 2017.

Note: Cairn TRIR and LTIF statistics can be higher than the IOGP benchmark after only one incident, or a small number of incidents, because our exploration activities often last for only a short time period, so there are relatively few hours worked compared with ongoing production and other long-term operations.

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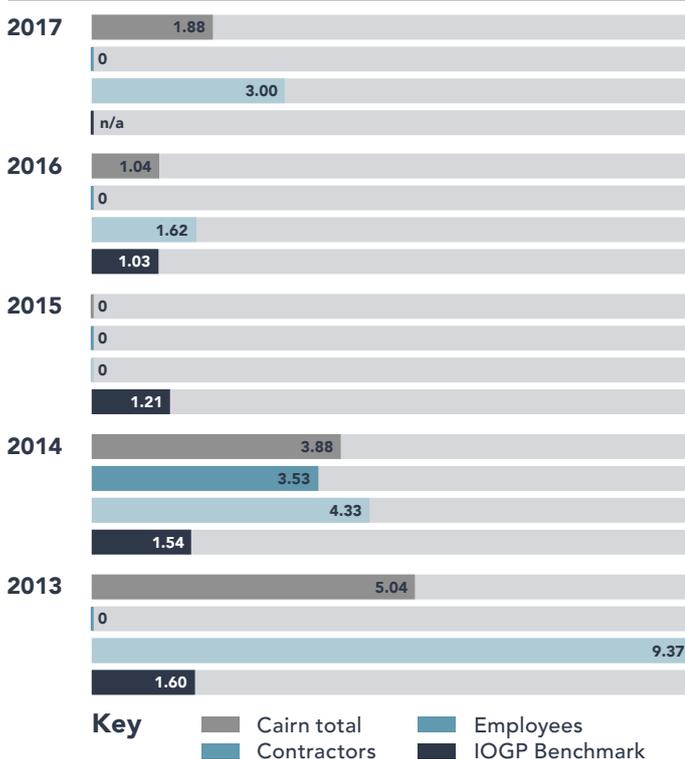
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LTIF and country breakdown
(Lost time injuries per million hours worked)

	2013	2014	2015	2016	2017
Morocco	5.69	0.00	0.00	0.00	0.00
Senegal	0.00	1.23	0.00	1.63	0.00

LTIF and gender breakdown
(Lost time injuries per million hours worked)

	2013	2014	2015	2016	2017
Cairn total male/ female	1.58/ 6.24	0.74/ 0.00	0.00/ 0.00	1.26/ 0.00	0.00/ 0.00
Morocco male/ female	2.92/ 101.55	0.00/ 0.00	0.00/ 0.00	0.00/ 0.00	0.00/ 0.00
Senegal male/ female	0.00/ 0.00	1.26/ 0.00	0.00/ 0.00	1.71/ 0.00	0.00/ 0.00

Total Recordable Injury Rate (TRIR)
(Total recordable injuries per million hours worked)

Note: TRIR is defined as the number of recordable injuries (fatalities, lost work day cases, restricted work day cases and medical treatment cases) per 1,000,000 hours worked (IOGP).

Note: IOGP is the International Association of Oil and Gas Producers. We have included overall IOGP benchmark figures (average of onshore and offshore for employees and contractors). IOGP benchmark figures are not yet available for 2017.

Note: Cairn TRIR and LTIF statistics can be higher than the IOGP benchmark after only one incident, or a small number of incidents, because our exploration activities often last for only a short time period, so there are relatively few hours worked compared with ongoing production and other long-term operations.

TRIR and country breakdown
(Total recordable injuries per million hours worked)

	2013	2014	2015	2016	2017
Morocco	11.37	3.11	0.00	0.00	0.00
Senegal	0.00	4.90	0.00	1.63	2.99
United Kingdom	0.00	3.07	0.00	0.00	0.00

TRIR and gender breakdown
(Total recordable injuries per million hours worked)

	2013	2014	2015	2016	2017
Cairn total male/ female	4.74/ 6.24	3.68/ 5.33	0.00/ 0.00	1.26/ 0.00	2.25/ 0.00
Morocco male/ female	8.77/ 101.55	3.23/ 0.00	0.00/ 0.00	0.00/ 0.00	0.00/ 0.00
Senegal male/ female	0.00/ 0.00	5.03/ 0.00	0.00/ 0.00	1.71/ 0.00	3.08/ 0.00
United Kingdom male/female	0.00/ 0.00	0.00/ 7.33	0.00/ 0.00	0.00/ 0.00	0.00/ 0.00

Total Lost Day Rate (LDR)
(Lost days per 200,000 hours worked)

	2013	2014	2015	2016	2017
Cairn total	6.30	14.63	0	4.18	0
Employees	0	0	0	0	0
Contractors	11.71	19.57	0	6.49	0

Note: The GRI definition is used for this indicator. IOGP definitions are used for the rest of the health and safety statistics, but no LDR definition is provided by IOGP.

LDR and gender breakdown
(Lost days per 200,000 hours worked)

	2013	2014	2015	2016	2017
Cairn total male/ female	4.42/ 13.73	16.65/ 0	0/0	5.04/ 0.00	0/0
Morocco male/ female	8.19/ 223.40	0/0	0/0	0/0	0/0
Senegal male/ female	0/0	28.44/ 0	0/0	6.82/ 0.00	0/0

Total Recordable Injuries (TRI)
(number)

	2013	2014	2015	2016	2017
Cairn total	4	6	0	1	2
Morocco	4	1	0	0	0
Senegal	0	4	0	1	2
United Kingdom	0	1	0	0	0

Note: TRI is defined as the sum of fatalities + lost work day cases + restricted work day cases + medical treatment cases.

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Total fatalities (number)

	2013	2014	2015	2016	2017
Employees	0	0	0	0	0
Contractors	0	0	0	0	0
Third parties	0	0	0	0	0

Note: Fatalities: cases that involve one or more people who died as a result of a work-related incident or occupational illness (IOGP).

Note: A third party is a person with no business relationship with Cairn

Lost Work Day Cases (LWDC) (number)

	2013	2014	2015	2016	2017
Cairn total	2	1	0	1	0
Morocco	2	0	0	0	0
Senegal	0	1	0	1	0

Note: A LWDC is defined as any work-related injury, other than a fatal injury, which results in a person being unfit for work on any day after the day of occurrence of the occupational injury. 'Any day' includes rest days, weekend days, leave days, public holidays, or days after ceasing employment (IOGP).

LWDC and gender breakdown (number)

	2013	2014	2015	2016	2017
Cairn total male/female	1/1	1/0	0/0	1/0	0/0
Morocco male/female	1/1	0/0	0/0	0/0	0/0
Senegal male/female	0/0	1/0	0/0	1/0	0/0

Days unfit for work (lost work days) (days)

	2013	2014	2015	2016	2017
Cairn total	25	113	0	20	0
Employees	0	0	0	0	0
Contractors	25	113	0	20	0

Note: Health and safety data includes employees and contractors except where specifically stated it is broken down by employee/contractor.

Note: An employee is a person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Cairn has a lot of other individuals who work on behalf of Cairn in the office. Those who are contracted for more than three months to an organisational position are categorised as 'other workers' and these individuals are included as employees for the purposes of reporting health and safety statistics, including hours worked. ('Other workers' are not included in absenteeism data which is applicable to employees only.) They are not paid directly by Cairn but through their employing organisation.

Note: A contractor is someone contracted to work on Company business on a temporary basis in field-based positions, a subcontractor through another company, or someone contracted to work on Company business for less than three months in an office-based position. These people are not paid directly by Cairn but through their employing organisation. We record contractor work-related activities in line with IOGP definitions of mode 1 and mode 2 contractors; mode 3 are excluded as per the IOGP guidelines.

Note: A third party is a person with no business relationship with Cairn.

Note: There have been no recordable occupational diseases so no data has been reported for this indicator.

Note: There have been no process safety events in 2017.

Note: Records of all incidents, including all recordable injuries, are kept in our online incident reporting system. Contractors are required to report all incidents to Cairn management as soon as possible after the event, and the details are logged into our incident reporting system, which keeps key personnel informed, by email, about progress with the reporting and investigation.

Days unfit for work (lost work days) and country breakdown (days)

	2013	2014	2015	2016	2017
Cairn total	25	113	0	20	0
Morocco	25	0	0	0	0
Senegal	0	113	0	20	0
United Kingdom	0	0	0	0	0

Note: Days unfit for work are defined as the sum total of calendar days (consecutive or otherwise) after the days of the occupational injuries on which the people involved were unfit for work and did not work.

Days unfit for work (lost work days) and gender breakdown (days)

	2013	2014	2015	2016	2017
Cairn total male/female	14/11	113/0	0/0	20/0	0/0
Morocco male/female	14/11	0/0	0/0	0/0	0/0
Senegal male/female	0/0	113/0	0/0	20/0	0/0

Restricted Work Day Cases (RWDC) and gender breakdown (number)

	2013	2014	2015	2016	2017
Cairn total male/female	0/0	1/0	0/0	0/0	0/0
Morocco male/female	0/0	1/0	0/0	0/0	0/0

Note: A RWDC is defined as any work-related injury other than a fatality or lost work day case which results in a person being unfit for full performance of the regular job on any day after the occupational injury. Work performed might be an assignment to a temporary job, part-time work at the regular job, or continuation full-time in the regular job but not performing all the usual duties of the job. Where no meaningful restricted work is being performed, the incident is recorded as a LWDC.

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Medical treatment cases (MTC) and gender breakdown (number)

	2013	2014	2015	2016	2017
Cairn total male/female	2/0	3/1	0/0	0/0	2/0
Senegal male/female	0/0	3/0	0/0	0/0	2/0
United Kingdom male/female	2/0	0/1	0/0	0/0	0/0

Note: A medical treatment case is defined as a case that is not severe enough to be reported as a fatality or lost work day case or restricted work day case but is more severe than requiring simple first aid treatment.

Note: There were two medical treatment cases in 2017: a hand injury during pump repair in February and a finger pinch injury in August, both on our rig in Senegal.

Health and well-being**Total hours worked (hours)**

	2013	2014	2015	2016	2017
Employees ¹	366,232	390,096	274,473	341,745	398,750
Contractors ²	426,908	1,155,123	397,713	615,873	667,302

Hours worked by employees¹ (hours)

	2013	2014	2015	2016	2017
Greenland	3,048	1,752	n/a	n/a	n/a
Mexico	n/a	n/a	n/a	n/a	296
Morocco	5,974	8,087	4,541	2,648	1,744
Nepal	3,176	n/a	n/a	n/a	n/a
Norway	36,866	31,950	37,927	54,080	63,218
Senegal	352	11,496	19,032	19,840	17,000
Spain	11,840	11,116	1,168	n/a	n/a
United Kingdom	304,977	325,695	211,805	265,177	316,492

Hours worked by contractors² (hours)

	2013	2014	2015	2016	2017
Greenland	69,189	n/a	n/a	n/a	n/a
Ireland	n/a	29,684	n/a	n/a	n/a
Malta	n/a	7,645	n/a	n/a	n/a
Morocco	345,815	313,736	n/a	n/a	n/a
Senegal	11,904	804,058	397,713	591,887	651,422
United Kingdom	n/a	n/a	n/a	23,986	15,881

1. An employee is a person employed by, and on the payroll of, Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Cairn has a lot of other individuals who work on behalf of Cairn in the office. Those who are contracted for more than three months to an organisational position are categorised as 'other workers' and these individuals are included as employees for the purposes of reporting health and safety statistics, including hours worked. ('Other workers' are not included in

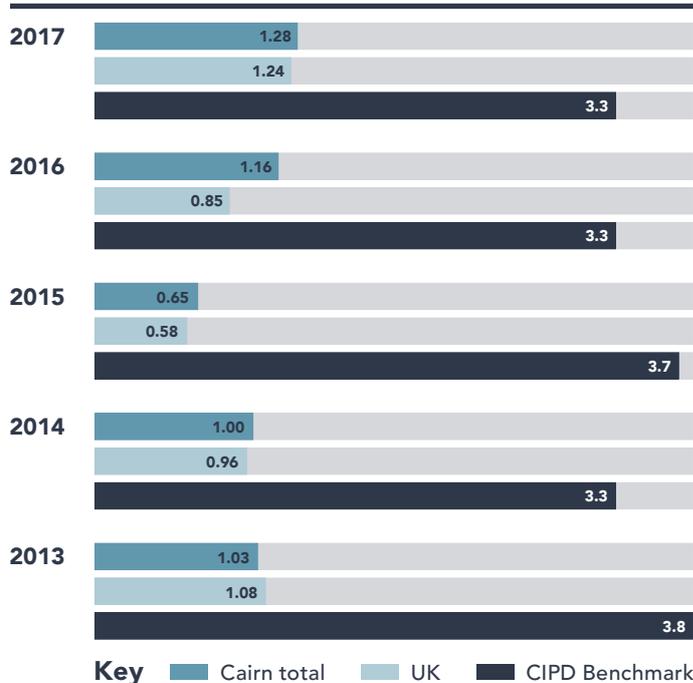
absenteeism data which is applicable to employees only.) They are not paid directly by Cairn but through their employing organisation.

2. A contractor is someone contracted to work on Company business on a temporary basis in field-based positions, a subcontractor business on another company, or someone contracted to work on Company business for less than three months in an office-based position. These people are not paid directly by Cairn but through their employing organisation. We record contractor work-related activities in line with IOGP definitions of mode 1 and mode 2 contractors; mode 3 are excluded as per the IOGP guidelines.

Note: Hours worked are collected for employees and for contractors. Employee hours are derived primarily from Cairn's time-writing system that UK and Norway employees use to log their working hours. For Senegal and Morocco employees, hours worked are estimated based on the number of working days in the month and the standard working hours. Employee hours include hours worked by 'other workers' as these are captured in the time-writing system. Cairn's Human Resources department compiles the figures and enters them into the database each month.

Hours worked by field-based contractors are collected monthly, together with other HSE KPI data, from each vessel, rig, aircraft and shore base. For offshore workers, the hours are often calculated on a 12 hours per work day basis.

Hours worked by short-term (less than three months) office-based contractors were collected for the first time in 2016. Figures for Dakar office contractors are obtained monthly in the form of timesheets. The remaining figures are compiled at the end of the year using a list of non-time-writing personnel and the schedule of a software implementation project, and had to be estimated in some cases.

Total absenteeism rates (%)

Note: This data covers employees only (and not 'other workers' or personnel who are contracted for more than three months to an organisational position). Contractor absenteeism is the responsibility of the contractor, and is not monitored by Cairn for reporting purposes.

Note: CIPD is the Chartered Institute of Personnel and Development in the UK. The CIPD Benchmark provided here is its figure for the mean level of employee absence, per employee per annum (average working time lost per year (%)) and is applicable to the UK only.

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Employee absenteeism and gender breakdown (%)

	2013	2014	2015	2016	2017
Cairn total/	1.03/	1.00/	0.65/	1.16/	1.28/
male/	0.49/	0.85/	0.37/	0.69/	0.32/
female	1.62	1.14	0.94	1.67	2.32
Greenland total/	0.51/	0.00/	n/a	n/a	n/a
male/	0.51/	0.00/	n/a	n/a	n/a
female	n/a	n/a	n/a	n/a	n/a
Mexico total/	n/a	n/a	n/a	n/a	0.00/
male/	n/a	n/a	n/a	n/a	0.00/
female	n/a	n/a	n/a	n/a	n/a
Morocco total/	0.00/	0.00/	0.76/	0.00/	0.00/
male/	0.00/	0.00/	n/a	n/a	n/a
female	0.00	0.00	0.76	0.00	0.00
Norway total/	0.77/	1.68/	1.11/	3.05/	1.85/
male/	0.54/	1.51/	0.63/	1.84/	1.15/
female	1.10	1.91	1.59	4.58	2.66
Senegal total/	n/a	n/a	0.00/	0.00/	0.00/
male/	n/a	n/a	0.00/	0.00/	0.00/
female	n/a	n/a	n/a	n/a	0.00
Spain total/	0.85/	0.81/	n/a	n/a	n/a
male/	1.15/	0.70/	n/a	n/a	n/a
female	0.38	0.96	n/a	n/a	n/a
United Kingdom total/	1.08/	0.96/	0.58/	0.85/	1.24/
male/female	0.46/	0.79/	0.33/	0.47/	0.17/
	1.71	1.10	0.84	1.24	2.39

Security**Total security incidents (number)**

2017	1*
2016	0
2015	0
2014	1
2013	0

Note*: Break-in at staff apartment.

Note: A security incident is defined as any fact or event which could affect personal or organisational security. We break security incidents down into incidents against employees, incidents against contractors, incidents against security personnel, incidents against assets and incidents involving threat or extortion.

Security incidents and country breakdown (number)

	2013	2014	2015	2016	2017
United Kingdom	0	1	0	0	0
Senegal	0	0	0	0	1

Security personnel that received human rights training (%)

	2013	2014	2015	2016	2017
Cairn total	0	0	0	0	0

Note: Most security personnel at Cairn assets are provided by security services for a shared building or area rather than for just Cairn. Although no human rights training has been provided, the security services providers in Senegal are contractually obliged to comply with Cairn's anti-bribery and corruption and human rights requirements.

Employees**Total employee training (average hours per employee)**

2017	34
2016	36
2015	41
2014	18
2013	42

Employee training and gender breakdown (average hours per employee)

	2013	2014	2015	2016	2017
Cairn total	42	18	41	36	34
Cairn male/					
female	46/37	19/17	54/27	43/24	38/29
Greenland total	1	0	n/a	n/a	n/a
Greenland					
male/female	1/n/a	0/n/a	n/a/n/a	n/a/n/a	n/a/n/a
Mexico total	n/a	n/a	n/a	n/a	4
Mexico male/					
female	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	4/n/a
Morocco total	0	0	0	0	n/a
Morocco male/					
female	0/0	n/a/0	n/a/0	n/a/0	n/a/0
Norway total	55	41	48	25	33
Norway male/					
female	42/73	38/46	55/40	6/21	38/27
Senegal total	n/a	n/a	14	36	13
Senegal male/					
female	n/a/n/a	n/a/n/a	14/n/a	36/n/a	13/12
Spain total	74	13	n/a	n/a	n/a
Spain male/					
female	9/171	16/12	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom total	41	16	41	38	35
United Kingdom					
male/female	50/32	16/16	54/26	51/25	40/31

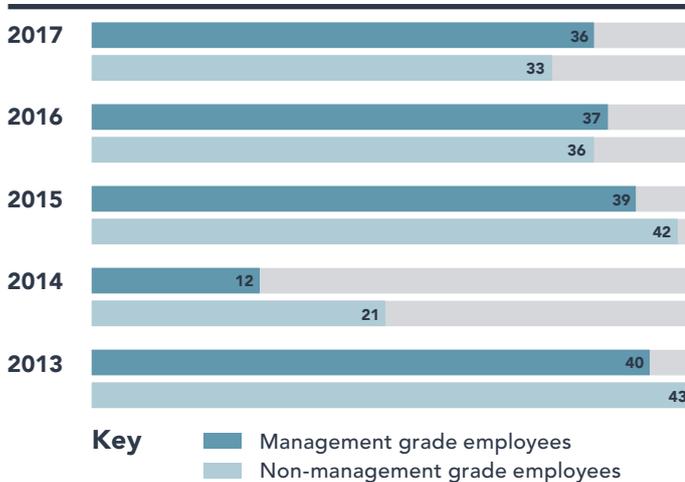
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Total management and non-management training (average hours per employee)**Total performance and career development reviews (% of employees)**

	2013	2014	2015	2016	2017
Cairn total	100	100	100	100	100
Male	100	100	100	100	100
Female	100	100	100	100	100
Management grade employees	100	100	100	100	100
Non-management grade employees	100	100	100	100	100

Note: Management is defined as personnel that have responsibility for managing other people, including senior management, middle management and team leaders. N.B. some senior roles, e.g. in the technical department, do not include responsibility for managing other people.

Equality and diversity**Cairn workforce: a snapshot (number)**

	2013	2014	2015	2016	2017
Cairn total					
Employees ¹ /other workers ³ /contractors ²	207/74/539	178/49/707	151/46/435	170/63/405	180/56/361
Employees male/female	104/103	91/87	78/73	88/82	94/86
Other workers male/female	55/19	41/8	33/13	46/17	41/15
Contractors male/female	522/17	683/24	419/16	385/20	348/13
Greenland					
Employees ¹ /other workers ³ /contractors ²	2/0/114	1/0/0	0/0/0	0/0/0	n/a/n/a/n/a
Employees male/female	2/0	1/0	0/0	0/0	n/a/n/a
Other workers male/female	0/0	0/0	0/0	0/0	n/a/n/a
Contractors male/female	110/4	0/0	0/0	0/0	n/a/n/a
Ireland					
Employees ¹ /other workers ³ /contractors ²	n/a/n/a/n/a	0/0/98	0/0/0	0/0/0	n/a/n/a/n/a
Employees male/female	n/a/n/a	0/0	0/0	0/0	n/a/n/a
Other workers male/female	n/a/n/a	0/0	0/0	0/0	n/a/n/a
Contractors male/female	n/a/n/a	93/5	0/0	0/0	n/a/n/a
Malta					
Employees ¹ /other workers ³ /contractors ²	n/a/n/a/n/a	0/0/41	0/0/0	0/0/0	n/a/n/a/n/a
Employees male/female	n/a/n/a	0/0	0/0	0/0	n/a/n/a
Other workers male/female	n/a/n/a	0/0	0/0	0/0	n/a/n/a
Contractors male/female	n/a/n/a	40/1	0/0	0/0	n/a/n/a

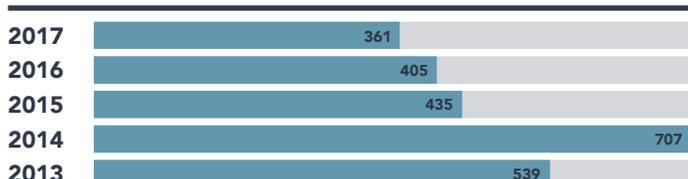
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	2013	2014	2015	2016	2017
Mexico					
Employees ¹ /other workers ³ /contractors ²	n/a/n/a/n/a	n/a/n/a/n/a	n/a/n/a/n/a	n/a/n/a/n/a	1/0/0
Employees male/female	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	1/0
Other workers male/female	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	0/0
Contractors male/female	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	0/0
Morocco					
Employees ¹ /other workers ³ /contractors ²	2/2/393	2/0/281	2/0/0	1/0/0	1/0/0
Employees male/female	1/1	0/2	0/2	0/1	0/1
Other workers male/female	1/1	0/0	0/0	0/0	0/0
Contractors male/female	382/11	271/10	0/0	0/0	0/0
Norway					
Employees ¹ /other workers ³ /contractors ²	17/2/0	17/1/0	21/1/0	25/4/0	28/8/0
Employees male/female	10/7	11/6	11/10	14/11	15/13
Other workers male/female	2/0	1/0	1/0	2/2	7/1
Contractors male/female	0/0	0/0	0/0	0/0	0/0
Senegal					
Employees ¹ /other workers ³ /contractors ²	0/2/32	0/6/287	1/9/435	1/8/389	5/4/354
Employees male/female	0/0	0/0	1/0	1/0	3/2
Other workers male/female	2/0	4/2	5/4	4/4	2/2
Contractors male/female	30/2	279/8	419/16	373/16	342/12
Spain					
Employees ¹ /other workers ³ /contractors ²	5/1/0	3/0/0	n/a/n/a/n/a	n/a/n/a/n/a	n/a/n/a/n/a
Employees male/female	3/2	1/2	n/a/n/a	n/a/n/a	n/a/n/a
Other workers male/female	0/1	0/0	n/a/n/a	n/a/n/a	n/a/n/a
Contractors male/female	0/0	0/0	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom					
Employees ¹ /other workers ³ /contractors ²	181/67/0	155/42/0	127/36/0	143/51/16	145/44/7
Employees male/female	88/93	78/77	66/61	73/70	75/70
Other workers male/female	50/17	36/6	27/9	40/11	32/12
Contractors male/female	0/0	0/0	0/0	13/3	6/1

Total employees¹ (number)



Total contractors² (number)



Contract types and gender breakdown

Employee¹ contract type totals (number)



Key Permanent Fixed-term contract

Note: A permanent contract of employment is a contract with an employee for full-time or part-time work for an indeterminate period. A fixed-term contract is a contract of employment that ends when a specific time period expires.

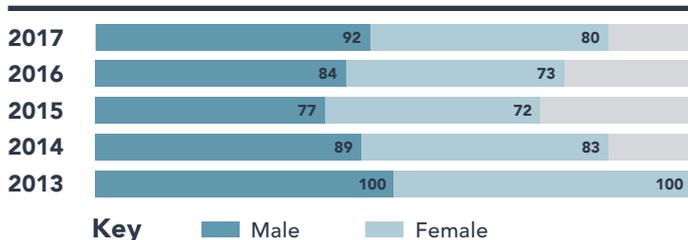
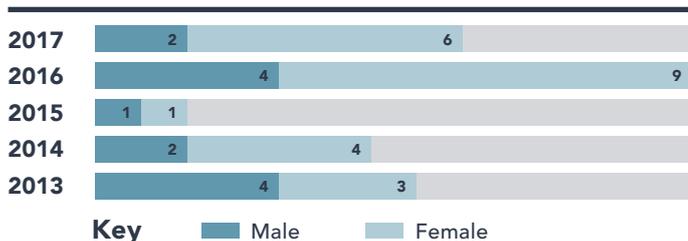
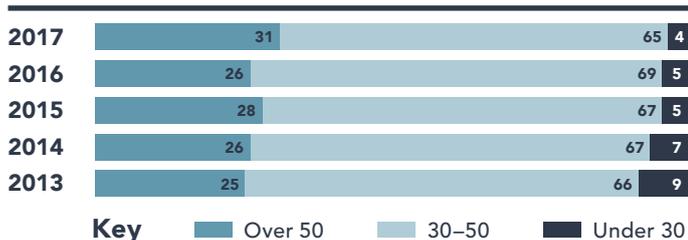
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Permanent (number)**Fixed (number)****Employee age groups and gender breakdown****Employee¹ age group totals (%)****Over 50 years old (%)**

	2013	2014	2015	2016	2017
Cairn total/male/female	25/ 34/16	26/ 35/16	28/ 37/18	26/ 34/17	31/ 37/23
Greenland total/male/female	50/ 50/0	100/ 100/0	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
Mexico total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	0/0/0
Morocco total/male/female	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Norway total/male/female	35/ 50/14	35/ 45/17	29/ 45/10	28/ 43/9	32/ 40/23
Senegal total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	100/ 100/0	100/ 100/0	20/ 33/0
Spain total/male/female	0/0/0	0/0/0	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
United Kingdom total/male/female	25/ 34/16	25/ 33/17	28/ 35/20	25/ 32/19	31/ 37/24

30-50 years old (%)

	2013	2014	2015	2016	2017
Cairn total/male/female	66/ 56/77	67/ 56/78	67/ 54/82	69/ 58/80	65/ 57/74
Greenland total/male/female	50/ 50/0	0/0/0	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
Mexico total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	100/ 100/0
Morocco total/male/female	100/ 100/100	100/ 0/100	100/ 0/100	100/ 0/100	100/ 0/100
Norway total/male/female	65/ 50/86	59/ 45/83	67/ 45/90	68/ 57/82	64/ 60/69
Senegal total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	0/0/0	0/0/0	80/ 67/100
Spain total/male/female	100/ 100/100	100/ 100/100	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
United Kingdom total/male/female	65/ 55/75	67/ 58/77	68/ 56/80	69/ 59/80	65/ 56/74

Under 30 years old (%)

	2013	2014	2015	2016	2017
Cairn total/male/female	9/10/8	7/9/6	5/9/0	5/8/2	4/5/2
Greenland total/male/female	0/0/0	0/0/0	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
Mexico total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a	0/0/0
Morocco total/male/female	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Norway total/male/female	0/0/0	6/9/0	5/9/0	4/0/9	4/0/8
Senegal total/male/female	n/a/ n/a/n/a	n/a/ n/a/n/a	0/0/0	0/0/0	0/0/0
Spain total/male/female	0/0/0	0/0/0	n/a/ n/a/n/a	n/a/ n/a/n/a	n/a/ n/a/n/a
United Kingdom total/male/female	10/11/9	8/9/6	5/9/0	6/10/1	4/7/1

Minority groups**Employees¹ from minority groups (%)**

	2013	2014	2015	2016	2017
Cairn total	2	0	3	3	3

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Minority groups and gender breakdown (%)

	2013	2014	2015	2016	2017
Cairn total/male/female	2/1/4	0/0/0	3/1/4	3/1/5	3/1/6
Greenland total/male/female	0/0/0	0/0/0	n/a/n/a	n/a/n/a	n/a/n/a
Mexico total/male/female	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	0/0/n/a
Morocco total/male/female	0/0/0	0/0/0	0/n/a/0	0/n/a/0	0/n/a/0
Norway total/male/female	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Senegal total/male/female	n/a/n/a	n/a/n/a	0/0/0	0/0/n/a	0/0/0
Spain total/male/female	0/0/0	0/0/0	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom total/male/female	3/1/4	0/0/0	3/2/5	4/1/6	4/1/7

Managerial and non-managerial grade employees**Total managerial employees¹ gender breakdown (%)**

Year	Male	Female
2017	70	30
2016	67	33
2015	75	25
2014	75	25
2013	72	28

Key Male Female

Managerial employees¹ gender breakdown (%) by country

	2013	2014	2015	2016	2017
Greenland male/female	100/0	0/0	n/a/n/a	n/a/n/a	n/a/n/a
Morocco male/female	50/50	0/100	n/a/0	n/a/0	n/a/n/a
Norway male/female	67/33	67/33	67/33	71/29	60/40
Senegal male/female	n/a/n/a	n/a/n/a	100/0	100/0	50/50
Spain male/female	100/0	100/0	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom male/female	72/28	77/23	76/24	65/35	72/28

National and expatriate employees**Total national and expatriate employees¹ (%)**

	2013	2014	2015	2016	2017
Employee total (number)	207	178	151	170	180
National (%)	99	99	98	98	98
Expatriates (%)	1	1	2	2	2

Note: An expatriate employee is an employee who is sent to live and work abroad for Cairn for a defined period. A national employee is a resident in the country of operation and employed by the local Cairn office.

Total national and non-national contractors² (%)

Year	National	Non-national
2017	19	81
2016	23	77
2015	15	85
2014	17	83
2013	15	85

Key National Non-national

Contractors² that are national (%)

	2013	2014	2015	2016	2017
Greenland	11	n/a	n/a	n/a	n/a
Ireland	n/a	19	n/a	n/a	n/a
Malta	n/a	0	n/a	n/a	n/a
Morocco	18	23	n/a	n/a	n/a
Senegal	3	13	15	20	18

Note: National contractors are from the country of operation, i.e. have the nationality (born or naturalised) of that country. Non-national contractors are not from the country of operation, i.e. do not have the nationality of that country.

Total national and expatriate managerial employees¹ (%)

Year	National	Expatriate
2017	98	2
2016	96	4
2015	96	4
2014	98	2
2013	97	3

Key National Expatriate

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Managers hired from the local population (%)

	2013	2014	2015	2016	2017
Greenland	0	n/a	n/a	n/a	n/a
Morocco	50	100	n/a	n/a	n/a
Norway	100	83	83	86	100
Senegal	n/a	n/a	0	0	50
Spain	100	100	n/a	n/a	n/a
United Kingdom	100	100	100	100	100

Note: This data covers employees and not contractors.

1: An employee is a person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Personnel who are contracted for more than three months to an organisational position and who are categorised as 'other workers' in the database are not included in the employee numbers for this indicator.

2: A contractor is someone contracted to work on Company business on a temporary basis in field-based positions or a subcontractor through another company, or someone contracted to work on Company business for less than three months in an office-based position. These people are not paid directly by Cairn but through their employing organisation.

Field-based contractors: Many field-based contractors work on rotation (back-to-back), e.g. one month on, one month off, so it is not practical or meaningful to give the total number of individuals who have worked as contractors on Cairn projects throughout the year. Instead we provide the total number of contractor positions.

Short-term (less than three months) office-based contractors: Data on numbers of short-term office contractors was collected for the first time in 2016. This data comes from three sources:

(i) Figures for Dakar office contractors are obtained monthly in the form of timesheets. This data is cross-checked against Cairn's employee and long-term contractor workforce data to ensure there is no double counting.

(ii) A list of non-time-writing personnel is supplied by Cairn's finance department at the end of the year. This list is cross-checked against employee and long-term contractor workforce data, and contractor data from Senegal, to ensure that personnel are not double-counted.

(iii) A schedule of contractor personnel who worked on a major software (Unit4) implementation project at Cairn was supplied in 2017. This was cross-checked against the non-time-writing personnel list to ensure there was no duplication.

Data on numbers of field-based contractors and some short-term office-based contractors is collected and entered into the database each month. At the end of the year, the highest monthly figures are taken from each vessel/rig/base/office and these are added together to give the total number of contractors. Short-term office-based contractor data that is not available monthly is entered into the database at the end of the year and the average monthly figure is used for the number of contractors in this case.

3: 'Other workers' are defined as personnel who are contracted for more than three months in an organisational position. They form part of Cairn's organisational workforce in the office and are not included in the contractor numbers.

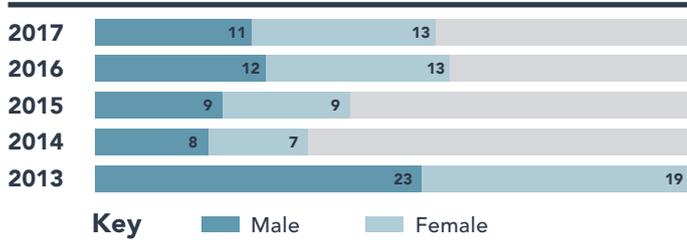
Note: Data has been provided for individual countries where there are relevant employees and contractors.

Note: The KPIs regarding national, expatriate and non-national personnel are defined differently for employees and contractors. For employees, the terms are applicable to office staff and are defined in accordance with employment contracts. For contractors, the data is collected for the purpose of measuring Cairn's impact on the communities in which we work and the definitions are simply regarding whether a contractor is from the country of operation or not.

Note: Managers are personnel that have responsibility for managing other people, including senior management, middle management and team leaders. N.B. some senior roles, e.g. in the technical department, do not include responsibility for managing other people.

New hires

Total new hires and gender breakdown (number)



New hires and gender breakdown (number/%)

	2013		2014		2015		2016		2017	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cairn total	23/22	19/18	8/9	7/8	9/12	9/12	12/14	13/16	11/12	13/15
Mexico	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1/100	0/0
Morocco	0/0	1/100	0/0	1/50	0/0	0/0	0/0	0/0	0/0	0/0
Norway	1/10	1/14	3/27	0/0	5/45	6/60	3/21	1/9	2/13	3/23
Senegal	n/a	n/a	n/a	n/a	1/100	0/0	0/0	0/0	2/67	3/150
Spain	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	n/a	n/a
United Kingdom	22/25	17/18	5/6	6/8	3/5	3/5	9/12	12/17	6/8	7/10

Total new hires and age group breakdown (number)



New hires and rate of new hires – over 50 years old (number/%)

	2013	2014	2015	2016	2017
Cairn total	7/13	2/4	5/12	3/7	6/11
Norway	0/0	0/0	2/33	1/14	0/0
Senegal	n/a	n/a	1/100	0/0	0/0
United Kingdom	7/16	2/5	2/6	2/6	6/13

New hires and rate of new hires – 30-50 years old (number/%)

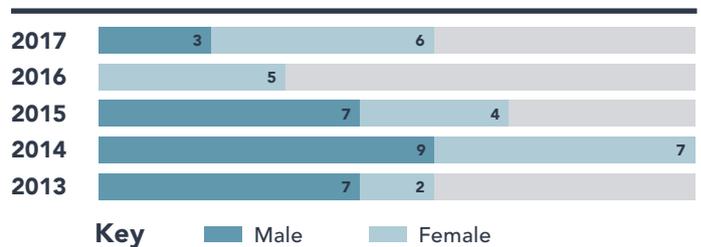
	2013	2014	2015	2016	2017
Cairn total	30/22	8/7	13/13	18/15	17/14
Mexico	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	1/100
Morocco	0/0	1/50	0/0	0/0	0/0
Norway	2/18	2/20	9/64	2/12	5/28
Senegal	n/a/n/a	n/a/n/a	0/0	0/0	4/100
United Kingdom	27/23	5/5	4/5	16/16	7/7

New hires and rate of new hires – under 30 years old (number/%)

	2013	2014	2015	2016	2017
Cairn total	5/28	5/38	0/0	4/44	1/14
Norway	0/0	1/100	0/0	1/100	0/0
Senegal	n/a/n/a	n/a/n/a	0/0	0/0	1/n/a
United Kingdom	5/28	4/33	0/0	3/38	0/0

Turnover

Total employees leaving employment and gender breakdown (number)



Note: Data has been provided for individual countries where there has been applicable hiring.

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Turnover, rate of turnover and gender breakdown (number/%)

	2013		2014		2015		2016		2017	
	Male	Female								
Cairn total	7/7	2/2	9/10	7/8	7/9	4/5	0/0	5/6	3/3	6/7
Norway	2/20	0/0	3/27	1/17	5/45	2/20	0/0	0/0	0/0	1/8
Senegal	n/a	n/a	n/a	n/a	0/0	n/a	0/0	n/a	1/33	1/50
Spain	1/33	0/0	0/0	0/0	n/a	n/a	n/a	n/a	n/a	n/a
United Kingdom	4/5	2/2	5/6	6/8	2/3	2/3	0/0	4/6	2/3	4/6

Total employees leaving employment and age group breakdown (number)**Turnover and rate of turnover – age group breakdown****Turnover and rate of turnover – over 50 years old (number/%)**

	2013	2014	2015	2016	2017
Cairn total	3/0	6/0.1	4/0.1	0/0	2/4
Norway	1/0	3/0.5	3/0.5	0/0	0/0
Senegal	n/a	n/a	0/0	0/0	0/0
Spain	0/0	0/0	n/a	n/a	n/a
United Kingdom	2/0	3/0.1	1/0.03	0/0	2/4

Turnover and rate of turnover – 30–50 years old (number/%)

	2013	2014	2015	2016	2017
Cairn total	6/4	7/6	6/6	4/3	6/5
Morocco	0/0	1/50	0/0	1/100	0/0
Norway	1/9	1/10	4/29	0/0	1/6
Senegal	n/a	n/a	0/0	0/0	1/25
Spain	1/20	0/0	n/a	n/a	n/a
United Kingdom	4/3	5/5	2/2	3/3	4/4

Turnover and rate of turnover – under 30 years old (number/%)

	2013	2014	2015	2016	2017
Cairn total	0/0	3/23	1/14	1/11	1/14
Norway	0/0	0/0	0/0	0/0	0/0
Senegal	n/a	n/a	0/0	0/0	1/n/a
Spain	0/0	0/0	n/a	0/0	n/a
United Kingdom	0/0	3/25	1/17	1/13	0/0

Parental leave and retention**Total parental leave and retention rates**

	2013	2014	2015	2016	2017
Employees entitled to parental leave (number)	207	178	151	143	180
Employees entitled to parental leave: male/female (number)	104/103	91/87	78/73	73/70	94/86
Employees that took parental leave (number)	17	20	10	12	7
Employees that took parental leave: male/female (number)	4/13	7/13	3/7	5/7	3/4
Employees that returned to work after parental leave (number/%)	9/100	13/76	9/90	8/100	9/100
Male employees that returned to work after parental leave (number/%)	4/100	7/100	3/100	5/100	3/100
Female employees that returned to work after parental leave (number/%)	5/100	6/60	6/86	3/100	6/100
Total employees that returned to work after parental leave who were still employed 12 months after return to work (number/%)	8/100	7/78	13/100	3/100	9/100
Male employees that returned to work after parental leave who were still employed 12 months after return to work (number/%)	4/100	2/50	7/100	1/100	5/100
Female employees that returned to work after parental leave who were still employed 12 months after return to work (number/%)	4/100	5/100	6/100	2/100	4/100

Note: Turnover figures include only employees who left voluntarily (i.e. resignators).

Note: Turnover and new hire figures are calculated using employee numbers at the end of the year.

Note: An employee is a person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Personnel who are contracted for more than three months to an organisational position and who are categorised as 'other workers' in the database are not included in the employee numbers except for the purpose of reporting health and safety statistics.

Note: Data for 'new hires', 'turnover' and 'parental leave and retention' includes only employees (not 'other workers' or contractors).

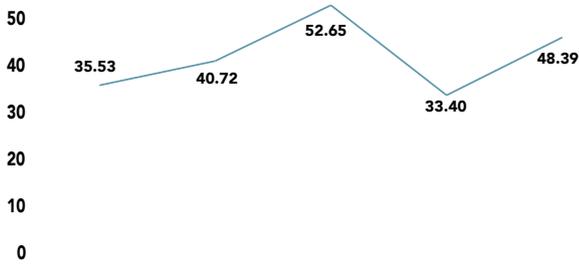
Environment

Air emissions

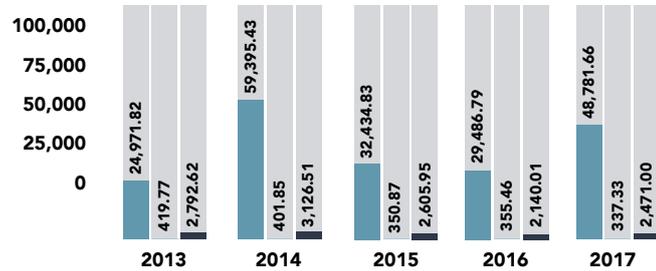
Direct and indirect air emissions

Total and normalised GHG emissions (Scopes 1, 2 and 3)

Normalised GHG emissions (CO₂e per 1,000 hours worked)



Total GHG emissions (tonnes CO₂e)



Key ■ Scope 1¹ ■ Scope 2² (Location-based) ■ Scope 3³

Direct air emissions

Total and normalised direct GHG emissions (Scope 1¹) (tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2013	2014	2015	2016	2017
Cairn total	24,971.82/31.48	59,395.43/38.44	32,434.83/48.25	29,486.79/30.79	48,781.66/45.76
Greenland	5,741.76/79.49	2.22/1.27	0.00/0.00	0.00/0.00	n/a/n/a
Ireland	n/a/n/a	4,760.54/160.37	0.00/0.00	0.00/0.00	n/a/n/a
Malta	n/a/n/a	498.70/65.23	0.00/0.00	0.00/0.00	n/a/n/a
Morocco	18,844.61/53.57	12,923.29/40.16	0.00/0.00	0.00/0.00	n/a/n/a
Nepal	0.04/0.01	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a
Norway	0.03/0.00	0.23/0.01	0.00/0.00	0.00/0.00	n/a/n/a
Senegal	382.68/31.22	41,207.84/50.53	32,434.83/77.83	29,486.79/48.20	48,651.50/72.79
Spain	2.70/0.23	2.62/0.24	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom	n/a/n/a	n/a/n/a	n/a/n/a	n/a/n/a	130.17/0.39

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Total CO₂ emissions (tonnes)

Year	Total CO ₂ emissions (tonnes)
2017	45,786.00
2016	28,110.28
2015	30,843.44
2014	59,192.83
2013	24,886.37

CO₂ emissions (tonnes)

	2013	2014	2015	2016	2017
Greenland	5,721.68	2.21	0.00	0.00	n/a
Ireland	n/a	4,740.40	0.00	0.00	n/a
Malta	n/a	496.94	0.00	0.00	n/a
Morocco	18,780.52	12,880.02	0.00	0.00	n/a
Nepal	0.04	n/a	n/a	n/a	n/a
Norway	0.03	0.23	0.00	0.00	n/a
Senegal	381.41	1,070.41	30,843.44	28,110.28	45,655.96
Spain	2.69	2.61	n/a	n/a	n/a
United Kingdom	n/a	n/a	n/a	n/a	130.04

Total CH₄ emissions (tonnes)

Year	Total CH ₄ emissions (tonnes)
2017	101.59
2016	46.10
2015	53.43
2014	2.60
2013	1.02

CH₄ emissions (tonnes)

	2013	2014	2015	2016	2017
Greenland	0.24	0.00	0.00	0.00	n/a
Ireland	n/a	0.36	0.00	0.00	n/a
Malta	n/a	0.02	0.00	0.00	n/a
Morocco	0.77	0.53	0.00	0.00	n/a
Senegal	0.02	1.69	53.43	46.10	101.59

Total NO_x emissions (tonnes)

Year	Total NO _x emissions (tonnes)
2017	646.49
2016	435.00
2015	472.96
2014	1,109.80
2013	465.92

NO_x emissions (tonnes)

	2013	2014	2015	2016	2017
Greenland	107.24	0.04	0	0	n/a
Ireland	n/a	88.18	0	0	n/a
Malta	n/a	9.33	0	0	n/a
Morocco	351.51	241.60	0	0	n/a
Nepal	0	n/a	n/a	n/a	n/a
Senegal	7.16	770.66	472.96	435.00	646.38
United Kingdom	n/a	n/a	n/a	n/a	0.11

Total SO₂ emissions (tonnes)

Year	Total SO ₂ emissions (tonnes)
2017	42.27
2016	28.63
2015	31.29
2014	73.84
2013	30.92

SO₂ emissions (tonnes)

	2013	2014	2015	2016	2017
Greenland	7.22	0	0	0	n/a
Ireland	n/a	5.94	0	0	n/a
Malta	n/a	0.63	0	0	n/a
Morocco	23.22*	15.73*	0	0	n/a
Senegal	0.48	51.55	31.29	28.63*	42.27

Total volatile organic compounds (VOCs) (tonnes)

Year	Total VOCs (tonnes)
2017	107.16
2016	52.24
2015	58.33
2014	37.66
2013	15.83

VOCs (tonnes)

	2013	2014	2015	2016	2017
Greenland	3.61	0	0	0	n/a
Ireland	n/a	2.97	0	0	n/a
Malta	n/a	0.31	0	0	n/a
Morocco	11.98	8.31	0	0	n/a
Senegal	0.24	26.06	58.33	52.24	107.16

Note: Small changes have been made to a number of data points for NO_x, SO₂ and VOCs for the years 2013–2016. All of these changes were by less than 1% except for three SO₂ figure changes (marked with *) which were by less than 4%. These changes were necessary because some small errors were made by our database provider during 2016 calculation updates.

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Indirect air emissions**Total and normalised GHG emissions from purchased energy (location-based Scope 2²) (tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)**

	2013	2014	2015	2016	2017
Cairn total	419.77/0.53	401.85/0.26	350.87/0.52	355.46/0.37	337.33/0.32
Greenland	17.96/0.25	11.34/6.47	0.00/0.00	0.00/0.00	n/a/n/a
Morocco	4.69/0.01	4.96/0.02	2.79/0.62	0.69/0.26	n/a/n/a
Norway	1.48/0.04	1.30/0.04	8.46/0.22	13.81/0.26	12.65/0.20
Senegal	1.87/0.15	22.09/0.03	27.19/0.07	31.95/0.05	42.46/0.06
Spain	17.06/1.44	13.37/1.20	n/a/n/a	n/a/n/a	n/a/n/a
United Kingdom	376.72/1.24	348.79/1.07	312.42/1.48	309.02/1.07	282.22/0.85

Total and normalised GHG emissions from purchased energy (market-based Scope 2²) (tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2013	2014	2015	2016	2017
Cairn total	-	-	102.10/0.15	66.68/0.07	75.13/0.07
Morocco	-	-	2.79/0.62	0.69/0.26	n/a/n/a
Norway	-	-	43.21/1.14	34.05/0.63	32.67/0.52
Senegal	-	-	27.19/0.07	31.95/0.05	42.46/0.06
United Kingdom	-	-	28.90/0.14	0.00/0.00	0.00/0.00

Total and normalised GHG emissions (Scope 3³) (tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2013	2014	2015	2016	2017
Cairn total	2792.62/3.52	3126.51/2.02	2605.95/3.88	2140.01/2.23	2,471.00/2.32

Total GHG emissions from business travel (Scope 3³) (tonnes CO₂e)

	2013	2014	2015	2016	2017
Business travel total	2792.62	3126.51	2605.95	2140.01	2,448.50
Air travel	2,783.67	3117.61	2601.65	2136.96	2,444.06
Rail travel	8.95	8.91	4.31	3.06	4.44

Total GHG emissions from electricity transmission and distribution losses (Scope 3³) (tonnes CO₂e)

	2013	2014	2015	2016	2017
Cairn total	n/a	n/a	n/a	n/a	22.50

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Note: Data has been provided for individual countries where there have been relevant emissions.

Notes about GHG data:

We report our GHG emissions in accordance with the GHG Protocol Corporate Accounting and Reporting Standard (World Resources Institute/World Business Council for Sustainable Development). We use the latest published 100-year Global Warming Potentials (GWPs) for CO₂, CH₄ and N₂O from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5). All GHG emissions are reported in tonnes of carbon dioxide equivalent (CO₂e). We report five years of data from a baseline of four years earlier.

¹ Scope 1 GHG emissions

Definition

Scope 1 emissions: direct GHG emissions which occur from sources that are owned or controlled by the Company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.

At present, Cairn is undertaking exploration activities only. We are not operating any production assets. Our Scope 1 emissions arise from:

- fuel combustion during offshore rig, marine vessel and aircraft operations as well as a very small amount during use of land-based vehicles (proportion of total Scope 1 GHG emissions in 2017: >69%) and for Edinburgh office heating;
- flaring during well testing (proportion of total Scope 1 GHG emissions in 2017: 30%); and
- incineration of waste on marine vessels (proportion of total Scope 1 GHG emissions in 2017: <0.5%).

Fuel combustion

The rig, vessels and helicopters keep a daily log of fuel usage and each provides us with a total figure for fuel consumption, in litres, at the end of each month. Fuel consumption figures for land-based vehicles (<0.5% of total fuel consumption) are partly drawn from accurate fuel consumption records and partly from estimates when exact fuel usage is impractical to track.

Natural gas combustion for Edinburgh office heating is reported for the first time this year as this data was not available before 2017. The figure is calculated as a proportion of the natural gas usage for the whole building.

A fuel density figure is used to convert litres of fuel into tonnes. The fuel density is provided by the rig, vessels or helicopter operator when available (most of the time in 2017). Otherwise, a typical density is used from API 2009. Figures in tonnes are then converted into CO₂e using emission factors for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from the API Compendium 2009.

Flaring

Flaring was carried out during well testing in 2017. The volume of oil and gas flared was measured and converted into mass (tonnes) using densities obtained from well test samples that were analysed in the laboratory. Scope 1 GHG emissions (tonnes of CO₂e) were then calculated using emission factors from EEMS (Environmental Emissions Monitoring System) Atmospheric Emissions Calculations, 2008 (Table 10.1).

Waste incineration

Some waste oil and non-hazardous waste was incinerated on the rig and marine vessels supporting drilling operations in 2017. Scope 1 GHG emissions (tonnes of CO₂e) arising from waste incineration are calculated using emission factors from the GHG Protocol 2014.

Estimates and uncertainties

Petrol and diesel consumption for land-based vehicles at shore bases/offices was partly estimated. This represents less than 0.5% of fuel consumption during operations in Senegal and overall. The mass of waste incinerated on board vessels is partly calculated using volume-to-mass conversions; however, this represents a small amount compared to overall Scope 1 GHG emissions (<0.5 tonnes CO₂e). Natural gas combustion for heating Cairn's Edinburgh office is calculated as a proportion of the natural gas usage for the whole building.

We use the most applicable emission factors available, but there will always be a small margin of error from these as they may not match fuel type exactly.

² Scope 2 GHG emissions

Definition

Scope 2 emissions: electricity and district heating/cooling indirect emissions are from the generation of purchased electricity and district heating/cooling consumed by the Company. Purchased electricity and district heating/cooling is defined as electricity and district heating/cooling that is purchased or otherwise brought into the organisational boundary of the Company.

Our Scope 2 emissions arise from:

- use of electricity in all our offices and a small amount of district heating and cooling in our Stavanger office.

We report Scope 2 emissions in line with GHG Protocol Scope 2 Guidance, i.e. in two ways: according to a location-based method and a market-based method. (Transmission and distribution losses are excluded.)

For the location-based method, we use emission factors from the International Energy Agency (IEA) (updated to IEA 2016 in 2017). These are grid average emission factors for each country. For district heating and cooling, we use location-based emission factors from the UK Department for Environment, Food & Rural Affairs (Defra) (updated to Defra 2017 emission factors in 2017).

For the market-based method we use emission factors, where available, in the following order of preference:

- Supplier-specific emission factors – obtained from Cairn's offices' electricity suppliers.
- Residual mix emission factors – obtained from the Association of Issuing Bodies (AIB) document 'European Residual Mixes 2016'.
- Location-based emission factors. These are the same IEA and Defra emission factors that we use for calculating location-based emissions.

Supplier-specific emission factors were requested from the electricity suppliers of all of Cairn's offices but were only available for the Edinburgh and London offices. Market-based Scope 2 figures for Norway were calculated using the residual mix emission factor for Norway. For Senegal, there were no residual mix factors available, so the location-based factors were used.

We are not able to obtain supplier-specific emission factors for years prior to 2015 so all Scope 2 data prior to 2015 is calculated according to the location-based method.

Estimates and uncertainties

Most of our electricity and district heating and cooling (Norway only) consumption happens in our head office in Edinburgh (71% of our total electricity, district heating and cooling in 2017), followed by Stavanger, and London and Dakar (13%, 8% and 8% of total respectively). Electricity consumption for the Edinburgh, London and Dakar offices is taken from meter readings. The figure for the London office covers October 2016 to October 2017 because fourth-quarter figures are not available in time for this report. Electricity consumption for the Stavanger office is calculated as a proportion of the overall building consumption, although the 2017 figure is the 2016 figure + 5% as the data was not available in time for end-of-year reporting.

There is always a degree of inaccuracy in emission factors. Also, there is no electricity emission factor available for Greenland, so we used the Denmark factor instead.

³ Scope 3 GHG emissions

Definition

Scope 3 emissions: Scope 3 emissions are a consequence of the activities of the Company, but occur from sources not owned or controlled by the Company.

Cairn currently reports Scope 3 emissions from two sources: 1) business travel (business travel well-to-tank emissions are excluded) including air and rail travel but not tube travel (99% of total Scope 3 GHG emissions in 2017); and 2) electricity transmission and distribution losses (1% of total Scope 3 GHG emissions in 2017). Other Scope 3 emissions, e.g. supply chain and employee commuting, are excluded.

For calculating Scope 3 (business travel) GHG emissions, we use the Defra methodology, including its recommendation to include an uplift for the influence of radiative forcing in air travel emissions. This uplift ensures that the maximum climate impact of an organisation's travel habits is captured. In our air travel GHG emissions calculations, we use journey type (domestic, short haul, long haul and international), seat class (economy, premium economy, business, first) and distance travelled. In our rail travel GHG emissions calculations, we use rail type (national rail, international rail) and distance. We updated to the latest Defra 2017 emission factors in 2017 (see <http://www.ukconversionfactorscarbonsmart.co.uk/>).

It is Cairn policy that all travel for Edinburgh- and London-based staff, and usually the smaller offices, is booked using its corporate travel agent, HRG, except under special exception. As a result of this, the majority of our travel data is obtained in a report from HRG and includes details on journey type, seat class and kilometres travelled. Travel data is also obtained from Cairn's travel provider in Norway, from a travel expense claim report from Edinburgh's accounts department, and through communication with executive assistants in all Cairn's offices. Where journey kilometres are not provided with the data, they are obtained from internet resources, e.g. airmilescalculator.com, travelmath.com and virgintrainsseastcoast.com (carbon calculator).

For calculating Scope 3 (electricity transmission and distribution losses) GHG emissions we use Defra 2017 emission factors. We are reporting Scope 3 (electricity transmission and distribution losses) GHG emissions for the first time in 2017.

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Estimates and uncertainties

Not all HRG flight data can be broken down into flight sectors with the corresponding seat class, so there is a degree of uncertainty in this, e.g. GHG emissions for some of the domestic flight sectors may be calculated using short- or long-haul flight emission factors.

Travel data obtained from travel expenses does not always show whether a journey is single or return, so this sometimes has to be assumed. In addition, the seat class of these flights is not shown; however, flights booked outside the HRG system are usually with budget airlines, so the majority are known to be economy class. These flights are not broken down into sectors, but the majority are domestic or short-haul/European flights which are only one flight sector.

For rail travel data obtained from travel expenses, some of the journey distances are based on estimates.

Travel data provided by Cairn's travel provider in Norway (Berg-Hansen) does not include train journeys, so an estimate has to be made for these.

Occasional flights/train journeys booked by individuals, based in Cairn's offices outside the UK, might get missed; however, this is considered minimal.

The estimates and uncertainties that apply to Scope 2 data also apply to Scope 3 electricity transmission and losses data.

GHG normalised to total employee and contractor hours worked

To meet UK reporting requirements, GHG emissions need to be reported normalised to an appropriate performance measure representative of the business. As Cairn did not have revenue or operated production facilities in 2017, or in the previous four years, and activities were of an exploration nature only (i.e. exploration drilling and associated activity), its GHG emissions have been normalised to total employee and contractor hours worked. They are presented as tonnes of CO₂e per 1,000 hours worked.

Hours worked are collected for employees and for contractors. Employee hours are derived primarily from Cairn's time-writing system that UK and Norway employees use to log their working hours. For Senegal and Morocco employees, hours worked are estimated based on the number of working days in the month and the standard working hours. Employee hours include hours worked by 'other workers' (contracted for more than three months to an organisational position) as these are captured in the time-writing system. Cairn's Human Resources department compiles the figures and enters them into the database each month.

Hours worked by field-based contractors are collected monthly, together with other HSE KPI data, from each vessel, rig, aircraft and shore base. For offshore workers, the hours are often calculated on a 12-hour work day basis.

Hours worked by short-term (less than three months) office-based contractors were collected for the first time in 2016. Figures for the Dakar office contractors were obtained monthly in the form of timesheets. The remaining figures were compiled at the end of 2017 using a list of non-time-writing personnel and the schedule of a software implementation project, and had to be estimated in some cases.

Estimates and uncertainties

Hours worked by field-based contractors are often calculated on a 12-hour work day basis rather than being a precise log of time worked.

Hours worked by short-term office contractors, other than those in the Dakar office, were estimated, largely based on discussion with people in the Edinburgh office.

Limited assurance of our 2017 GHG data (Scopes 1, 2 and 3 and normalised) has been provided independently by RPS which, within the scope of the limited assurance engagement, has found that the GHG emissions reported are materially correct and a fair representation of available information. A full assurance statement detailing the verification undertaken and its limitations is available on our [website](#).

Discharges**Waste****Total hazardous and non-hazardous waste (tonnes)**

			TOTAL
2017	149.47	372.67	522.14
2016	245.27	381.21	626.48
2015	33.17	272.87	306.04
2014	172.47	489.03	661.50
2013	30.29	266.19	296.48

Key ■ Hazardous ■ Non-hazardous

Total regulated hazardous waste quantities by disposal method (tonnes)

	2013	2014	2015	2016	2017
Incineration or used as fuel	2.38	112.24	20.25	204.51	136.33
Recycling	21.36	52.78	8.24	12.35	12.01
Reuse	0	0	1.03	18.37	1.05
Landfill	0.02	0.96	3.50	1.85	0.00
On-site storage	0	1.17	0.14	0.01	0.00
Unspecified disposal	6.53	5.32	0.00	8.18	0.08

Total recycled and reused waste

	2015	2016	2017
Total recycled (tonnes)	103	199	178
Total recycled and reused (tonnes)	127	253	244
% recycled	34	32	34
% recycled and reused	42	40	47

Total regulated non-hazardous waste quantities by disposal method (tonnes)

	2013	2014	2015	2016	2017
Composting	0.98	0.44	1.02	1.40	6.90
Incineration or used as fuel	62.49	30.66	7.56	27.79	37.78
Recycling	97.22	181.63	94.64	186.77	166.25
Reuse	0	67.52	23.35	35.17	64.38
Landfill	73.41	136.96	137.70	112.79	85.67
On-site storage	0	2.60	0.00	0.00	0.00
Unspecified	32.08	69.21	8.61	17.30	11.69

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Hazardous and non-hazardous waste (tonnes)

	2013	2014	2015	2016	2017
Greenland hazardous	2.02	0.00	0.00	0.00	n/a
Greenland non-hazardous	45.14	0.40	0.00	0.00	n/a
Ireland hazardous	n/a	14.15	0.00	0.00	n/a
Ireland non-hazardous	n/a	12.10	0.00	0.00	n/a
Malta hazardous	n/a	0.00	0.00	0.00	n/a
Malta non-hazardous	n/a	3.64	0.00	0.00	n/a
Morocco hazardous	27.58	46.14	0.00	0.00	n/a
Morocco non-hazardous	106.32	79.24	1.00	0.50	n/a
Nepal hazardous	0.00	n/a	n/a	n/a	n/a
Nepal non-hazardous	1.00	n/a	n/a	n/a	n/a
Norway hazardous	0.05	0.00	0.15	0.08	0.08
Norway non-hazardous	1.14	1.38	2.94	4.35	4.57
Senegal hazardous	0.36	111.99	32.52	242.21	146.66
Senegal non-hazardous	3.35	254.57	150.81	272.58	244.53
Spain hazardous	0.00	0.01	n/a	n/a	n/a
Spain non-hazardous	0.33	0.49	n/a	n/a	n/a
United Kingdom hazardous	0.29	0.19	0.49	2.98	2.73
United Kingdom non-hazardous	108.90	137.21	118.12	103.78	123.57

Water effluent and discharges to water**Water effluent discharged to surface (m³)**

	2013	2014	2015	2016	2017
Cairn total	2,851	22,452	1758	2,529	16,038
Greenland	1,094	0	0	0	n/a
Ireland	n/a	438	0	0	n/a
Malta	n/a	120	0	0	n/a
Morocco	1,717	6,172	0	0	n/a
Senegal	40	15,722	1758	2,529	16,038

Note: Water effluent data includes domestic water effluent discharged from vessels but not from taps in offices. Domestic water effluent discharge from vessels is usually based on estimates as vessels do not often have discharge metres.

Oil discharged in water effluent to surface (tonnes/mg per litre of water discharged to surface/mg per million tonnes of hydrocarbon produced)

	2013	2014	2015	2016	2017
Cairn total	0.00/ 0.00/0.00	0.00/ 0.00/0.00	0.00/ 0.00	0.00/ 0.00	0.00/ 0.00

Note: There has been no hydrocarbon production since 2010.

Note: Data has been reported for countries where waste has been generated. Similarly, data has been reported for applicable waste disposal methods that have been used.

Notes: Hazardous waste: all waste that is defined as hazardous, toxic, dangerous, listed, priority, special, or some other similar term as defined by an appropriate country, regulatory agency or authority. We use the European Union (EU) definitions and waste codes.

Non-hazardous waste: industrial wastes resulting from Company operations, including process and oil field wastes (solid and liquid) disposed of either on-site or off-site. Includes refuse and other office waste, commercial (e.g. retail) or packaging-related wastes. Excludes hazardous waste as defined above.

Disposal method: the method by which the waste is disposed. This is split into the following categories in line with GRI reporting requirements: reuse, recycling, composting, incineration, landfill, on-site storage and unspecified. Waste data, including information on disposal method, is provided by our waste disposal contractors where applicable, or by contractors who are responsible for waste generated during short-term operations. We use the EU definitions and codings.

We generate waste during rig, marine vessel and shore base operations, as well as from our offices in the UK and other locations.

Waste from field-based operations: waste generated during field-based operations (including offshore waste – except where offshore treatment is allowed such as waste incineration under the International Convention for the Prevention of Pollution from Ships (MARPOL)) is transferred to shore-based waste disposal facilities and waste transfer notes are used to record and track each transfer as part of our 'Duty of Care'. Waste figures are submitted to Cairn at the end of each month by the vessels themselves (in the case of short-term operations such as seismic) or by the waste disposal contractor (in the case of longer-term operations such as current drilling operations in Senegal). This data is then checked and entered into our database, split by hazardous/non-hazardous and by disposal method.

Waste figures are reported in tonnes. We ask our contractors to weigh waste wherever possible and report by mass (tonne, kg). Where this is not possible, tonnage is calculated by multiplying the volume of waste by a conversion factor. We provide contractors with a set of standard conversion factors from the Waste & Resources Action Programme (WRAP), a non-governmental organisation working with the UK Government, the EU and other funders, to help deliver their policies on waste prevention and resource efficiency (see www.wrap.org.uk).

Office waste: waste data is collected from our offices at the end of each year. This covers all types of waste including general office waste, controlled waste and recycling waste, e.g. paper and toner cartridges. Figures for Cairn's head office in Edinburgh are received from the waste contractors that service the building, and are partly estimated. Figures for Cairn's Stavanger office are obtained from the building managers, although 2017 data had to be estimated (2016 figure + 5%) as figures were not yet available in time for end-of-year reporting. For both these offices some figures are calculated as a proportion of the overall building. For other offices waste figures are estimated using per person per month Edinburgh office figures.

Estimates and uncertainties

There is a degree of uncertainty in the volumes of waste measured and in the conversion factors used to convert volume to tonnes and these will arise from the method used.

Waste figures for offices are, for the most part, estimated as a proportion of the overall building or using per person per month Edinburgh office figures.

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Resource use

Energy consumption

Total direct and indirect energy consumption (GJ)

Year	Direct	Indirect
2017	489,935	3,098
2016	330,382	3,064
2015	358,864	3,099
2014	854,153	3,642
2013	358,690	3,940

Key ■ Direct ■ Indirect

Direct energy consumption by primary source

Aviation gas (GJ)

	2013	2014	2015	2016	2017
Cairn total	5,554	10,949	1,868	3755	5,353
Morocco	5,554	6,642	0	0	0
Senegal	0	4,307	1,868	3755	5,353

Diesel (GJ)

	2013	2014	2015	2016	2017
Cairn total	1	803	822	1,516	1,278
Ireland	n/a	50	0	0	0
Morocco	0	41	0	0	0
Nepal	1	n/a	n/a	n/a	n/a
Senegal	0	712	822	1,516	1,278

Fuel oil (marine diesel) (GJ)

	2013	2014	2015	2016	2017
Cairn total	352,609	841,848	356,145	325,039	483,173
Greenland	82,398	0	0	0	0
Ireland	n/a	67,752	0	0	0
Malta	n/a	7,171	0	0	0
Morocco	264,708	179,195	0	0	0
Senegal	5,504	587,730	356,145	325,039	483,173

Gasoline (petrol) (GJ)

	2013	2014	2015	2016	2017
Cairn total	475	498	28	72	131
Greenland	65	33	0	0	0
Morocco	409	346	0	0	0
Senegal	0	119	28	72	131

Heating oil (GJ)

	2013	2014	2015	2016	2017
Cairn total	1	3	0	0	0
Norway	1	3	0	0	0

Natural gas (GJ)

	2013	2014	2015	2016	2017
Cairn total	52	52	0	0	0
Spain	52	52	0	0	0

Indirect energy (purchased electricity) consumption (GJ)

	2013	2014	2015	2016	2017
Cairn total	3,940	3,642	2,978	2,851	2,874
Greenland	205	130	0	0	0
Morocco	23	24	14	3	0
Nepal	6	n/a	n/a	n/a	0
Norway	409	360	272	158	166
Senegal	10	115	142	167	248
Spain	211	165	n/a	n/a	n/a
United Kingdom	3,075	2,847	2,550	2,523	2,460

Indirect energy (district heating) consumption (GJ)

	2015	2016	2017
Cairn total	78	199	208
Norway	78	199	208

Indirect energy (district cooling) consumption (GJ)

	2015	2016	2017
Cairn total	42	15	15
Norway	42	15	15

Note: Most of our electricity and district heating and cooling (Norway only) consumption happens in our head office in Edinburgh (71% of our total electricity, district heating and cooling in 2017), followed by Stavanger, and London and Dakar (13%, 8% and 8% of total respectively). Electricity consumption for the Edinburgh, London and Dakar offices is taken from meter readings. The figure for the London office covers October 2016 to October 2017 because fourth-quarter figures are not available in time for this report. Electricity consumption for the Stavanger office is calculated as a proportion of the overall building consumption, although the 2017 figure is the 2016 figure + 5% as the data was not available in time for end-of-year reporting.

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Water consumption

Total water withdrawal (m³)

			TOTAL
2017	19,369	11,140	30,509
2016	2,285	8,511	10,796
2015	2,514	6,302	8,816
2014	5,832	29,945	35,777
2013	4,692	7,167	11,859

Key Freshwater Seawater

Note: Water consumption data is collected under the categories of freshwater, brackish water and seawater. There has been no brackish water consumption since before 2011. Some freshwater used by Cairn's activities is produced by reverse osmosis from seawater. This data is included under seawater, that being the source of the water.

Total water withdrawal by source (m³)

	2013	2014	2015	2016	2017
Freshwater					
Municipal water supplies or other water utilities	4,670	5,686	2,452	2,157	19,338
Groundwater sources	13	0	0	0	0
Unspecified sources	9	146	62	128	31
Seawater					
Surface water sources	7,167	29,945	6,302	8,511	11,140

Freshwater withdrawal sources

Municipal water supplies or other water utilities (m³)

	2013	2014	2015	2016	2017
Greenland	1,645	5	0	0	0
Ireland	n/a	77	0	0	0
Morocco	1,477	1439	59	46	0
Nepal	9	n/a	n/a	n/a	n/a
Norway	143	150	291	273	287
Senegal	103	2948	1,195	996	17,193
Spain	71	72	n/a	n/a	n/a
United Kingdom	1,222	995	907	842	1,858

Groundwater (m³)

	2013	2014	2015	2016	2017
Nepal	13	n/a	n/a	n/a	n/a

Unspecified (m³)

	2013	2014	2015	2016	2017
Malta	n/a	131	0	0	0
Morocco	2	3	0	0	0
Senegal	7	12	62	128	31

Seawater withdrawal sources – surface water (m³)

	2013	2014	2015	2016	2017
Greenland	0	0	0	0	0
Ireland	n/a	391	0	0	0
Malta	n/a	2	0	0	0
Morocco	6,710	8,337	0	0	0
Senegal	457	21,215	6,302	8,511	11,140

Environmental compliance, grievances and expenditure

Non-compliance with environmental laws and regulations Cairn total

	2013	2014	2015	2016	2017
Incidents (number)	0	0	0	0	0
Non-monetary sanctions (number)	0	0	0	0	0
Monetary value of significant fines (£'000 pounds sterling)	0	0	0	0	0

Environmental impact grievances (number)

	2013	2014	2015	2016	2017
Filed	-	0	0	0	0
Filed and addressed	-	0	0	0	0
Filed, addressed and resolved	-	0	0	0	0
Filed prior to reporting period but resolved during reporting period	-	0	0	0	0

Environmental protection expenditure and investments (£ pounds sterling)

	2013	2014	2015	2016	2017
Prevention and environmental management	-	4,163,358	966,402	1,280,276	2,950,022
Waste disposal, emissions treatment, and remediation	-	302,088	148,545	189,231	113,278

Note: These are approximate figures. We are developing our methodology for obtaining these figures and this has changed from 2014 to what we think is a more robust methodology now:

- In 2014 we obtained figures from purchase orders and did not include in-house expertise (employees and 'other workers'/long-term office-based consultants).
- From 2015 onwards we obtained figures from records of invoices booked in the reporting year (UK, Senegal and Greenland). An estimate for in-house expertise is included. It is possible that some expenditure is omitted as it is not always easily recognisable in the invoice records as environmental-related.

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Biodiversity

Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

a. We report the following information for each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas:

- Geographic location.
- Subsurface and underground land that may be owned, leased, or managed by the organisation.

- Position in relation to the protected area (in the area, adjacent to, or containing portions of the protected area) or the high biodiversity value area outside protected areas:
 - » type of operation (office, manufacturing or production, or extractive);
 - » size of operational site in km²;
 - » biodiversity value characterized by:
 - the attribute of the protected area or high biodiversity value area outside the protected area (terrestrial, freshwater, or maritime ecosystem);
 - listing of protected status (such as IUCN Protected Area Management Categories (67), Ramsar Convention (78), and national legislation).

Area of operations	Geographical location; type of operation	Protected areas (distance to licence block, status)
Senegal, Sangomar deep offshore	<p>Approximately 85km offshore from the nearest coast, in water depths ranging from 800m to 2,000m.</p> <p>Appraisal and exploration drilling and well testing during 2017 (SNE-5, SNE-6, VR-1, FAN South-1 and SNE North-1).</p>	<p>Saloum Delta Biosphere Reserve and National Park (onshore at least 85km away). The biosphere reserve comprises 72,000ha of marine areas, 23,000ha of flooded areas, and 85,000ha of terrestrial islands. The National Park, which forms part of a UNESCO World Heritage Site and a Ramsar Convention site, lies within a 180,000ha biosphere reserve.</p> <p>Other protected areas in the vicinity include Magdalen Islands National Park, Goree Island, Popenguine Natural Reserve, Joal-Fadiouth Protected Marine area, Protected Marine area of Bamboung, Protected Marine area of Abene and Lower Casamance National Park.</p> <p>See Figure 1.</p>
Senegal, Sangomar offshore and Rufisque blocks	<p>Blocks run from shore south of Dakar to Joal-Fadiouth to the south and offshore to border Sangomar Deep.</p> <p>Water depths from 20m in near-coastal waters to 1,500m over approximately 2,300km² area.</p> <p>Environmental baseline survey carried out in 2017.</p>	<p>Ramsar site Saloum Delta Biosphere Reserve and National Park (43km onshore to east – see above). Magdalen Islands National Park (21km north), Langue de Barbarie National Park (20km north) and Popenguine Nature Reserve 15km to north-east. Other areas include Cap Vert, Joal-Fadiouth and La Petite Côte International Bird Areas. Protected Marine areas of Kayar (Grand Côte) and Saint Louis.</p> <p>See Figure 1.</p>
Spanish Point (FEL 2/04), Spanish Point (FEL 4/08) North and FEL 1/14 Porcupine Basin, offshore Republic of Ireland	<p>Approximately 130km offshore off the west coast of the Republic of Ireland. No activities in 2017.</p>	<p>There are three offshore Special Areas of Conservation (SACs) in the locale of the survey area (Figure 2: Protected areas offshore Ireland). The closest is the Hovland Mound site.</p> <p>The Hovland Mound site has been selected as a Special Area of Conservation for reefs (biogenic), a habitat that is listed on Annex I of the EU Habitats Directive.</p> <p>The Hovland Mound Province is located on the northern margins of the Porcupine Seabight, approximately 7.45km from the survey area and 130km west of the south-west Irish coast. Other coastal sites are over 150km to the east. Special Areas of Conservation and candidate SACs are over 130km east. These include Lower River Shannon, West Connacht Coast (cSAC), Basket Islands and Roaringwater Bay and Islands. Designated Marine Protected Areas are considerable distances away with the exception of Hovland Mound (see Figure 2).</p>

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Area of operations	Geographical location; type of operation	Protected areas (distance to licence block, status)
Offshore Malta 1, 2 and 3 (Area Licence 3)	Acreage spread from the east of Malta, through north to the west. No activities in 2017.	<p>Malta has a large number of protected areas under national and international designations (Figure 3: Protected areas in Malta, Gozo). These include six relatively recently designated Marine Protected Areas that cover 80% of the seagrass meadows in the shallow waters around the islands.</p> <p>These protected areas are in-shore or on land and at their closest are approximately 1.9km (1 nautical mile) from the closest point on the survey area, outside Cairn's licensed area of activity. See Figure 3.</p>
UK offshore Scylla, licence P2149 (block 9/6)	Lies approximately 150km south-east of the Shetland Islands. No activities in 2017.	Strategic Environmental Assessment (SEA2) available for area. SEA2 indicates blocks are important for some marine mammals including harbour porpoise. No immediate Marine Protected Areas known near the location, although some features are located over 100km to the south including Braemar Pockmarks (SAC), Central Fladen Nature Conservation MPA situated some distance to the south-west and Pobie Bank Reef and other features adjacent to the Shetland Coast.
Norway PL842 and PL856	<p>PL842 lies offshore some 300km north of Trondheim. Licence acquired in 2017, no activities.</p> <p>PL856 lies offshore approximately 250km north-east of Hammerfest. Licence acquired in 2017, no activities.</p>	<p>PL842: No Ramsar sites lie within the block. Several Ramsar sites occur along the Norwegian coast; however, nearest landfall to PL842 is approximately 150km to the south-east. OSPAR Marine Protected Areas lie approximately 200km south (Sularevet), 130km south-south-east (Inverryggen) and 170km east (Rostrevet). These are cold-water coral reef areas. Other sensitive areas are shown in Figure 4.</p> <p>PL856: No Ramsar sites lie within the block. The nearest OSAR Marine Protected Area appears to be Korallen, an area of cold-water coral 250km south-east of the block. Other sensitive areas are shown in Figure 5.</p>

Figure 1: Protected areas offshore Senegal

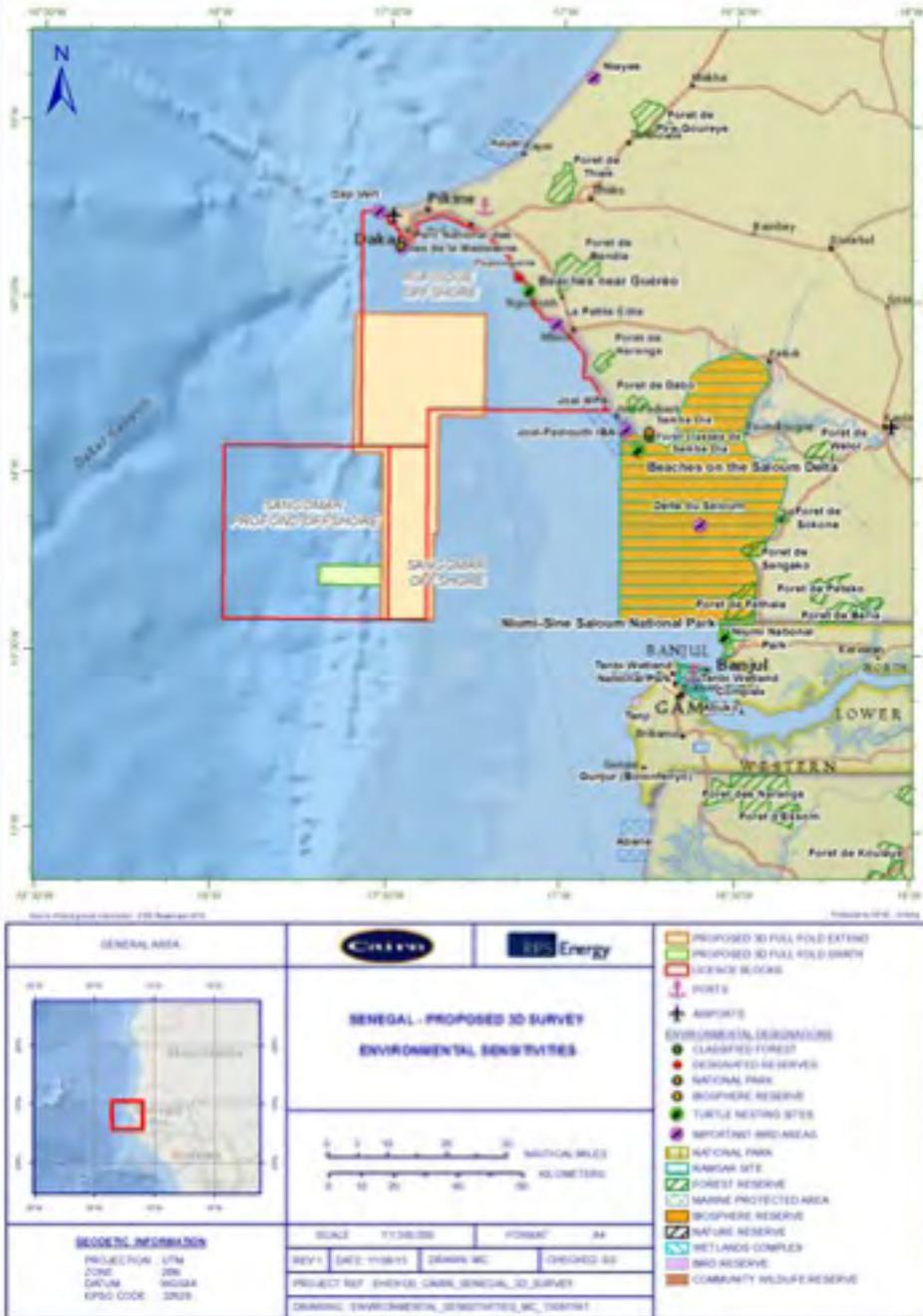


Figure 2: Protected areas offshore Ireland

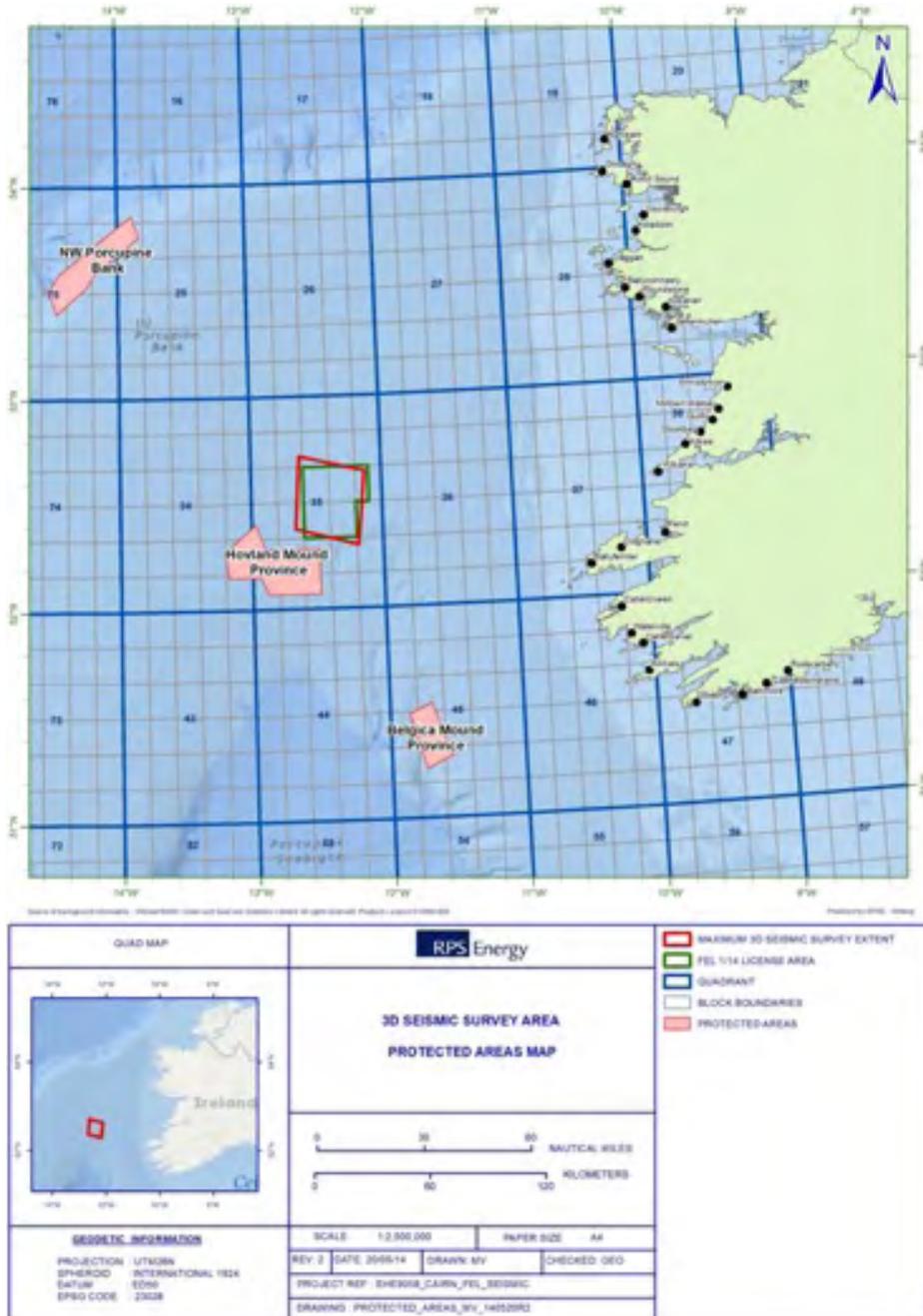


Figure 3: Protected areas in Malta, Gozo

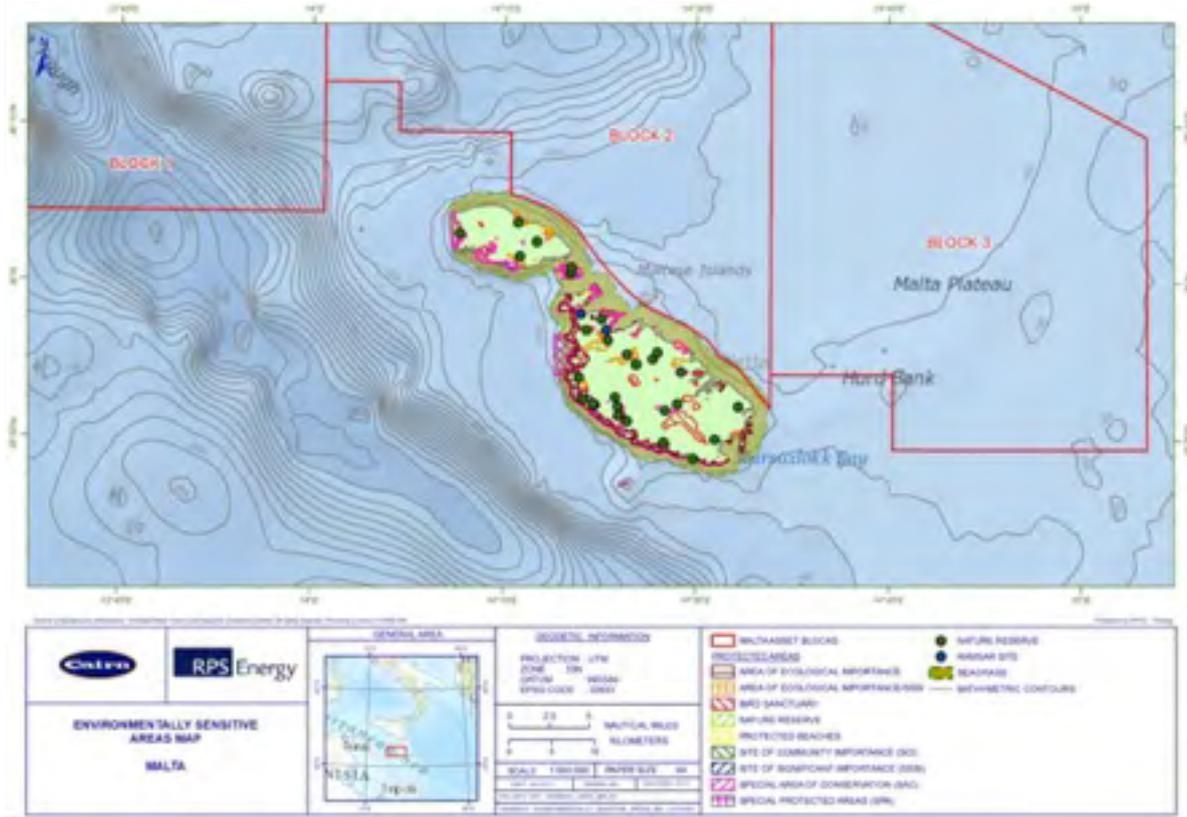
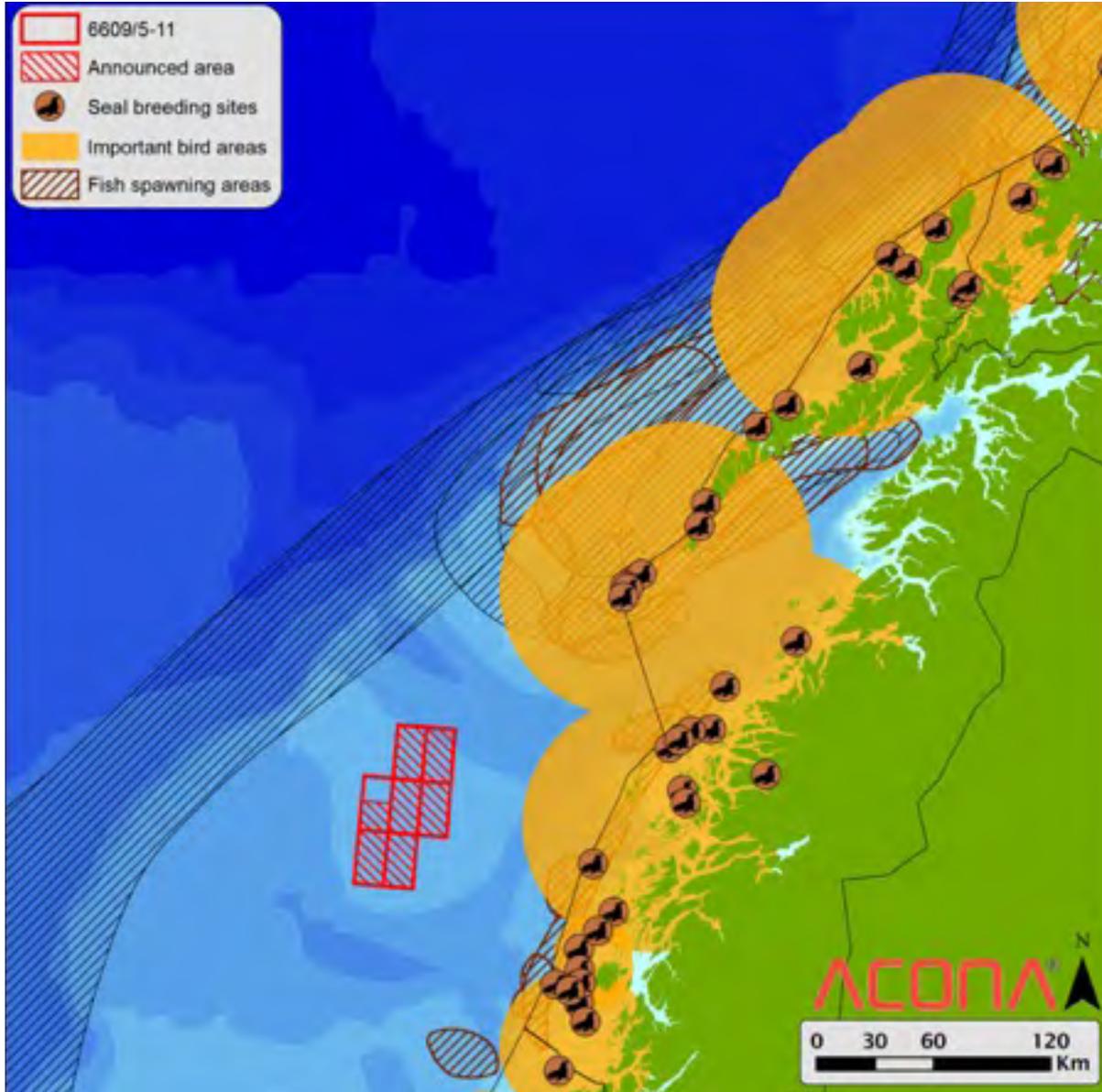


Figure 4: Protected areas offshore Norway (PL842)



Vulnerable biological resources in the analysis area of blocks 6609/5-11. The announced area for the APA 2015 (awarded 2016) is outlined in hatching. Spawning areas to fish species that are included in the overall vulnerability calculations are shown in brown, while remaining spawning areas are shown in black.

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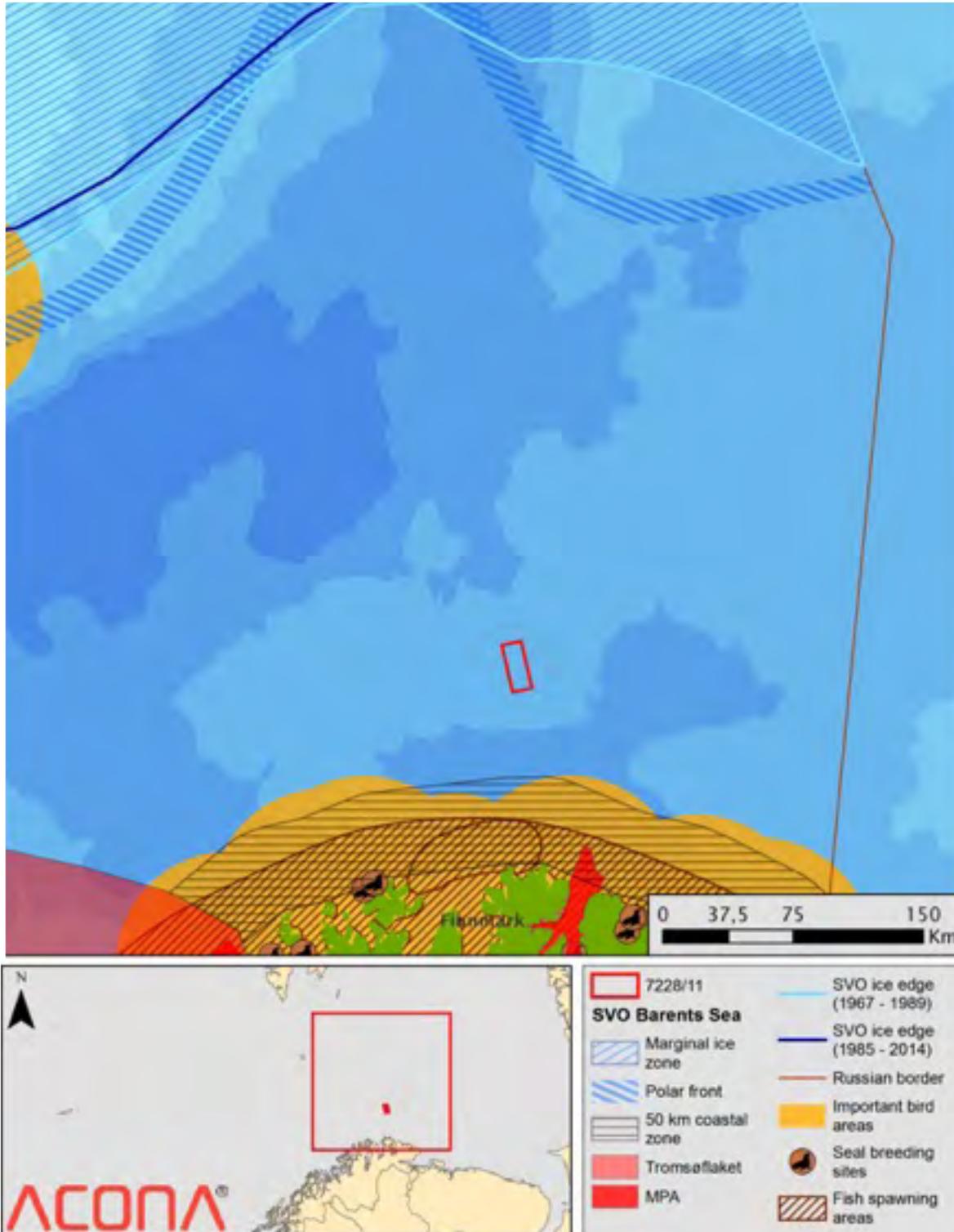
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Figure 5. Protected areas offshore Norway (PL856)



Vulnerable areas and/or biological resources in the analysis area of Princess (PL856) – block 7228/11

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Description of significant impacts of activities, products and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas

Area of operations	Nature of significant direct or indirect impacts on biodiversity	Significant direct or indirect impacts on species
Senegal, Sangomar Deep Offshore	Potential for direct impacts on the biodiversity of the benthic environment in the vicinity of the Sangomar Deep wells was identified due to smothering by drill cuttings and from the discharge of drilling fluids.	No significant direct or indirect impacts on biodiversity were identified during the ESIA process undertaken for operations in Senegal. The majority of WBM chemicals are considered as Pose Little Or No Risk (PLONOR) chemicals. Where non-PLONOR chemicals were required for operational or safety reasons, their use and discharge were strictly monitored and minimised to the greatest extent possible, and approved by the country regulator. Otherwise, discharges were kept to a practical minimum during drilling. Localised smothering of non-mobile benthic organisms in the immediate vicinity of the well was anticipated and observed but no overall direct or indirect impact on biodiversity occurred.
Senegal, Sangomar offshore and Rufisque offshore blocks	Environmental baseline survey was undertaken in 2017.	n/a
Spanish Point (FEL 2/04), Spanish Point (FEL 4/08) North and FEL 1/14 Porcupine Basin, offshore Republic of Ireland	No activities in 2017.	n/a
Offshore Malta 1, 2 and 3 (Area Licence 3)	No activities in 2017.	n/a
UK offshore Scylla, licence P2149 (block 9/6)	No activities in 2017.	n/a
Norway	No activities in 2017.	n/a

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Habitats protected or restored

The impacts from Cairn drilling operations on the environment and biodiversity in Senegal were, although measurable, very limited in scale and localised. No habitats required restoration following completion of drilling activities.

The following measures were implemented, or planned for implementation, during the 2017 exploration drilling campaigns.

Activity	Potential impact	Mitigation/protection measures
Routine drilling operations	Potential disturbance and behavioural changes in fish, marine mammals and reptiles due to increase in background marine noise levels from drilling operations.	<ul style="list-style-type: none"> Days on location of the Mobile Offshore Drilling Unit (MODU) were kept to a minimum. Operational and maintenance procedures on the MODU aimed to optimise the efficiency of equipment and schedule of operations. Vessel and helicopter movements were optimised by careful planning and avoiding environmentally sensitive areas and periods. Circling or hovering over marine mammals or sites identified as sensitive for seabird colonies was prohibited.
	Potential for obstruction to fishing operations due to presence of exclusion zone around the MODU (loss of access to fishing ground). Economic costs to fisheries.	<ul style="list-style-type: none"> A safety exclusion zone was maintained at 500m from the MODU. A vessel was on standby at all times, monitoring transit/fishing vessels within the area and maintaining the exclusion zone. Early-warning radar and communication systems on board the standby vessel and MODU were used to identify and communicate with any approaching vessels. Liaison with the shipping and fishing authorities and other fishing groups was maintained. The shipboard emergency response plans of the MODU and supply/support vessels were verified by Cairn for adequacy to respond to potential collision threats.
	Potential land take, increased use of local/limited infrastructure, services, accommodation facilities and resources, increased air, marine and onshore traffic due to presence of onshore logistic base and support activities.	<ul style="list-style-type: none"> Local disturbance was minimised by use of existing, dedicated facilities, optimisation of supply/support and crew change operations. Local employment and use of available services/resources were maximised to benefit local population and businesses. Local content strategy was implemented. Stakeholder engagement strategy was developed and implemented, and included a grievance mechanism to ensure that any concerns or issues were addressed in a timely manner.
	Disturbance of seabed habitats and associated fauna due to placement of seabed equipment.	<ul style="list-style-type: none"> Site survey had confirmed the absence of sensitive features at the proposed location. The rig used in 2017 was dynamically positioned and therefore not anchored. Discharge of drill cuttings to seabed caused localised smothering of benthic fauna.
	Emissions to air.	<ul style="list-style-type: none"> Main power-generation equipment was well maintained and operated. Contracted vessels were required to control fuel use, maintain equipment, manage energy and optimise voyage management, wherever possible. All drilling activities were planned to minimise duration and ensure efficient operations. The design of any well test programme was optimised to minimise quantities of oil and gas flared. High-combustion-efficiency burners were used during the well test operations to prevent oil drop out.
	Waste management.	<ul style="list-style-type: none"> All vessels and bases had a Waste Management Plan and a waste record book where waste volumes, types and disposal routes were recorded. Cairn enforced strict segregation and containment of waste. All solid waste, including any oil recovered from the slops tank or drains, was transferred to shore for further shipment and/or disposal at appropriate licensed facilities. All waste transfers were logged and recorded in shipboard logs and transfer notes. No unauthorised waste materials were discharged to sea. All waste was managed and disposed of according to the Waste Management Plan, the Duty of Care and based on EU definitions and legislation.

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Activity	Potential impact	Mitigation/protection measures
	Contamination of soil/ groundwater and visual impact due to onshore disposal.	<ul style="list-style-type: none"> • Use of authorised, assessed and properly managed waste-handling facilities onshore. • Shipment and disposal by specialised and registered waste-handling contractors. • Medical waste was incinerated at the approved facilities onshore. • Waste oils were transferred to the approved facilities onshore. • Specific hazardous wastes in Senegal were identified to have no appropriate disposal point in the country. These were managed in accordance with the Basel Convention on transfrontier shipment of such wastes.
	Marine pollution due to discharges to sea.	<ul style="list-style-type: none"> • Sewage from MODUs and support vessels was treated and discharged in strict compliance with MARPOL requirements (Annex IV Prevention of Pollution by Sewage from Ships). • Organic kitchen waste was treated and discharged to sea in strict compliance with MARPOL requirements (Annex V Prevention of Pollution by Garbage from Ships). • Water-based mud (WBM) only was used by Cairn for the drilling campaign in Senegal and drill cuttings were treated prior to being discharged to sea under approval from the regulatory authority. • Drilling fluids were re-circulated and unused, but pre-mixed drilling fluids were retained on the MODU for use on subsequent wells by Cairn. • No discharge of hydrocarbon-contaminated cuttings or drilling fluids to sea. • The majority of WBM chemicals are considered as Pose Little Or No Risk (PLONOR) chemicals. Where non-PLONOR chemicals were required for operational or safety reasons, their use and discharge were strictly monitored and minimised to the greatest extent possible, and approved by the country regulator. • Bilges and contaminated drainage water were treated and discharged in strict compliance with MARPOL requirements (Annex I Regulations for the Prevention of Pollution by Oil). • Ballast discharges complied with IMO guidelines.
Non-routine operations	Marine pollution from a large fuel spill due to vessel collision or refuelling incident.	<ul style="list-style-type: none"> • A safety exclusion zone was maintained at 500m from the MODU. • A vessel was on standby at all times, monitoring transit/fishing vessels within the area and maintaining the exclusion zone. • Early-warning radar and communication systems on board the standby vessel and MODU were used to identify and communicate with any approaching vessels. • Liaison with the shipping and fishing authorities and other fishing groups was maintained. • The shipboard emergency response plans of the MODU and supply/support vessels were verified by Cairn for adequacy to respond to the potential collision threat. • Strict refuelling procedures. • Port Contingency Plans. • Tier 1 response kit onboard MODU, standby vessels and port facilities, supplemented by shoreline response package. • Personnel trained in spill response. • Vessel collision and refuelling incident scenario covered in the Oil Spill Contingency Plan.
	Uncontrolled release of reservoir fluids (hydrocarbons) during the well blow-out.	<ul style="list-style-type: none"> • Drilling activities followed established drilling safety and design standards to minimise the risk of well-control loss. Included independent verification of well designs. • A shallow gas survey was undertaken. • Crew was experienced, trained in well-control techniques and supervised. • Emergency drills were held regularly. • Well design and construction were reviewed by an independent Well Examiner. • Two blow-out preventers were available and regularly maintained and tested. • Tiered emergency response plans, OSCP and oil spill response equipment were in place.

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Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk

Area of operations	Geographical location; type of operation	IUCN Red List species
Senegal, Sangomar Deep offshore	Approximately 85km from the nearest coast, in water depths ranging from 800m to 2,000m. Appraisal and exploration drilling and well testing 2017 (SNE-5, SNE-6, VR-1, FAN South-1 and SNE North-1).	Our ESIA indicated five marine turtle species have been recorded in Senegal waters and nesting in the Saloum Delta and around the Cape Verde peninsula: the hawksbill turtle (<i>Eretmochelys imbricata</i>) and the leatherback turtle (<i>Dermochelys coriacea</i>), both critically 'endangered'; green turtle (<i>Chelonia mydas</i>) and loggerhead turtle (<i>Caretta caretta</i>), both 'endangered' on the IUCN Red List of Threatened Species, and the Olive Ridley turtle (<i>Lepidochelys olivacea</i>). The nesting periods of green and leatherback turtles overlap with the time of the proposed drilling operations (March, and December to February respectively).
Senegal, Sangomar offshore and Rufisque blocks	No operations in 2017	n/a
Porcupine Basin, offshore Republic of Ireland	No operations in 2017	n/a
Offshore Malta 1, 2 and 3 (Area Licence 3)	No operations in 2017	n/a
UK offshore Scylla, licence P2149 (block 9/6)	No operations in 2017	n/a
Norway PL842 and PL856	No operations in 2017	n/a

Number and percentage of significant operating sites in which biodiversity risk has been assessed and monitored

Cairn activities in 2017 were assessed as not requiring development of project-specific Biodiversity Action Plans (BAPs) – all biodiversity-related mitigation measures were incorporated into the Environmental & Social Management Plans (ESMPs).

Location	Area of operations	Percentage of operating sites assessed for biodiversity risks	Significance of biodiversity risks	BAPs implemented and monitored
Senegal, Sangomar Deep	2,781km ²	100%	Low risk to biodiversity from routine operations.	No BAP developed; biodiversity-protection measures incorporated into ESMP and monitored as part of operational performance.

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Reporting guidelines for 2017 Key Performance Indicators

The Key Performance Indicators (KPIs) that we are reporting for 2017 were drawn from our materiality process and overall business objectives. They align with the Global Reporting Initiative (GRI) Standards. Here, we provide a methodology and definitions for selected KPIs from subject areas that were assessed to be the most important to Cairn and its stakeholders, as follows:

Material issue	KPI no.	Key Performance Indicator
Economics and funding		Covered in Annual Report and Accounts (accounts, reserves)
Contractors and supply chain	1	Percentage of new suppliers that were screened for Corporate Responsibility (CR) risks in four different areas: <ul style="list-style-type: none"> • Labour practices. • Environmental. • Impacts on society. • Human rights.
Ethics, anti-bribery and corruption, and transparency	2	Percentage of employees trained in Cairn's anti-corruption policies and procedures
	3	Payments to governments
	4	Investment proposals that covered results of CR due diligence
Social and economic benefit	5	Number of contractors
	6	Percentage of contractors that are national
	7	Social investment
Human rights	8	Percentage of employees trained in policies and procedures relating to human rights
	9	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening

Material issue	KPI no.	Key Performance Indicator
Major accident prevention and safety	10	Number of fatalities
	11	Lost Time Injury Frequency (LTIF)
	12	Total Recordable Injury Rate (TRIR)
	13	Oil spills – number and volume
	14	Fuel spills – number and volume
	15	Chemical spills – number and volume
	16	Waste spills – number and volume
Climate change, emissions and discharges	17	Other spills – number and volume
	18	Greenhouse gas emissions (GHG) – Scopes 1, 2 and 3, and GHG normalised to total employee and contractor hours worked
	19	Total mass of waste by type and disposal method
Security	20	Number of security incidents
Biodiversity	21	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

For each of these KPIs we provide a definition and an explanation of the methodology used in collecting the data, where appropriate.

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1. Percentage of new suppliers that were screened for CR risks in four different areas:

- **Labour practices.**
- **Environmental.**
- **Impacts on society.**
- **Human rights.**

Definition and methodology

New supplier: for the purposes of this indicator, we are assessing the new suppliers that require approval from Cairn's Contracts Committee.

This data is compiled by reviewing Cairn's Contract Committee records to identify new suppliers that Cairn selected during the reporting year. Tender and contract documentation for those suppliers is then reviewed to identify which CR risks are covered in the screening process for each one. Note: all suppliers are included in the figures regardless of whether or not they are considered likely to present CR risks. For example, data-processing companies and suppliers of materials are included in the figures.

Calculation

Number of new suppliers that Cairn selected during the reporting year that were screened for CR risks in each of the four key areas/number of new suppliers that Cairn selected during the reporting year x 100

2. Percentage of employees trained in Cairn's anti-corruption policies and procedures

Definitions and methodology

Employee: person employed by, and on the payroll of, Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Cairn has a lot of other individuals who work on its behalf in the office. Those who are contracted for more than three months to an organisational position are categorised as 'other workers'. These individuals are included as employees for the purposes of reporting health and safety statistics, but are not included in this training data.

Cairn's anti-corruption policies and procedures: Cairn has a well-established anti-bribery and corruption management system and procedures which look to mitigate the risks of bribery or corruption in the supply chain and when considering new investment opportunities.

Calculation

Number of employees trained in Cairn's anti-corruption policies and procedures/total number of employees x 100.

3. Payments to governments

Definition and methodology

Payments to governments: any payments made to governments.

Figures for any payments made to governments during the reporting year are collated by Cairn's Finance department at the end of each calendar year. Payments are listed by country under the following categories:

- Licence, rental and entry fees.
- Infrastructure improvements.
- Corporate income tax.
- Withholding tax withheld on payments to group companies.
- VAT.
- Customs duty.
- Training allowances.
- PAYE and NI.
- Withholding tax withheld on payments to third parties.
- Other.

In the interests of transparency, we cover operated as well as non-operated assets for this indicator. Gross payments are disclosed for assets that Cairn operates and net payments are disclosed for Cairn's non-operated assets. Negative figures in the data reflect refunds received. Figures disclosed represent a net of payments and refunds.

Cairn reports these figures in support of two transparency initiatives, namely the European Union Accounting Directive and the Extractive Industries Transparency Initiative (EITI). The figures include both payments to government included in our EITI reporting, such as corporate income tax, licence fees and withholding tax suffered, and additional payments made including VAT and payroll taxes, and social security costs.

4. Investment proposals that covered results of CR due diligence

Definition and methodology

Investment Proposals (IPs): in 2017, Cairn required that any new investment with a net expenditure in excess of US\$1 million should be assessed against specified investment criteria, which include an assessment of the potential CR risks involved with the opportunity. For those investment opportunities that are taken forward to the Board for approval, an IP is required which summarises the outcome of the review (including the CR assessment), the recommended terms of the offer and how the opportunity would be managed in the event of success. These IPs are signed off by all functional department heads, the Chief Operating Officer (COO) on behalf of the Management Team (MT) and the Chief Executive Officer (CEO) on behalf of the Executive Team (ET).

This indicator measures the proportion of IPs approved in the reporting year that covered the results of CR due diligence. Figures are compiled by reviewing all investment proposals approved in the reporting year.

Calculation

Number of IPs approved in the reporting year that covered the results of CR due diligence/number of IPs approved in the reporting year x 100.

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5. Number of contractors

Definition and methodology

Contractor: someone contracted to work on Company business on a temporary basis in field-based positions, a subcontractor through another company, or someone contracted to work on Company business for less than three months in an office-based position. These people are not paid directly by Cairn but through their employing organisation.

Field-based contractors

Many field-based contractors work on rotation (back to back), e.g. one month on, one month off, so it is not practical or meaningful to give the total number of individuals who have worked as contractors on Cairn projects throughout the year. Instead, we provide the total number of contractor positions during the reporting year.

Short-term (less than three months) office-based contractors

Data on numbers of short-term office contractors was collected for the first time in 2016. This data comes from three sources:

- Figures for Dakar office contractors are obtained monthly in the form of timesheets. This data is cross-checked against Cairn's employee and long-term contractor workforce data to ensure there is no double counting.
- A list of non-time-writing personnel is supplied by Cairn's Finance department at the end of the year. This list was cross-checked against employee and long-term contractor workforce data, and contractor data from Senegal, to ensure that the personnel were not double-counted.
- A schedule of contractor personnel who worked on a major software (Unit4) implementation project at Cairn was supplied in 2017. This was cross-checked against the non-time-writing personnel list to ensure there was no duplication.

Data on numbers of field-based contractors and some short-term office-based contractors is collected and entered into the database each month. At the end of the year, the highest monthly figures are taken from each vessel/rig/base/office and these are added together to give the total number of contractors. Short-term office-based contractor data that is not available monthly is entered into the database at the end of the year and the average monthly figure is used for the number of contractors in this case.

Note: office-based contractors who work on Company business on longer-term projects (three or more months) are captured in a separate long-term contractor or 'other worker' category together with the employee data, and are not included in the contractor numbers.

Estimates and uncertainties

An occasional day worker, who is on a project very briefly, might be omitted from the total contractor numbers.

The number of contractors is not an exact number of individuals. It is calculated as either the maximum or the average (depending on how the data is collected) monthly number of contractors for each vessel/rig/base/office.

6. Percentage of contractors that are national

Definitions and methodology

National (contractor): from the country of operation, i.e. having the nationality (born or naturalised) of that country.

Non-national (contractor): not from the country of operation, i.e. not having the nationality of that country.

This data is collected for the purpose of measuring Cairn's impact on the communities in which we work and the definitions are simply regarding whether a contractor is from the country of operation or not.

When contractor numbers are collected each month, the numbers that are national and non-national are provided. At the end of the year, the same monthly figures that are used to calculate the number of contractors are used to calculate the number of national contractors.

Estimates and uncertainties

When recording numbers of short-term office-based contractors (e.g. the non-time-writing personnel list and the Unit4 personnel list), it is not always known whether these contractors are national or non-national as these details are not currently recorded. In such cases, we assume the contractors are national.

Calculation

Number of national contractors/total number of contractors x 100.

7. Social investment

Definition and methodology

Cairn defines social investment as 'pro-active contributions or actions taken by Cairn to help bring benefits to communities where we operate'. These may include community development projects, capacity-building within national institutions and developing skills within local businesses.

Figures for social investment are collated from the following sources:

- social investment budget expenditure of an operating asset, collated by the Health, Safety and Environmental (HSE) department;
- skills and awareness training provided to local businesses through operations from data supplied by the Logistics department and local HSE departments; and
- corporate charities committee budget, collated by the Corporate Affairs department.

Note: since 2016, payments made to governments for training allowances payable under licensing agreements have been excluded.

8. Percentage of employees trained on policies and procedures relating to human rights

A definition for employee is given above under KPI no. 2.

Calculation

Number of employees trained on policies and procedures relating to human rights/number of employees x 100.

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9. Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening

Definition and methodology

A significant investment agreement is defined as one that requires Board approval. This equates to one with a net expenditure in excess of US\$1 million.

Significant investment agreements and contracts are assessed against specified investment criteria, which include an assessment of the potential CR risks, including human rights, involved with the opportunity. The IP summarises the outcome of the review (including the CR assessment), the recommended terms of the offer and how the opportunity would be managed in the event of success. These IPs are signed off by all functional department heads, the Chief Operating Officer (COO) on behalf of the Management Team (MT) and the Chief Executive Officer (CEO) on behalf of the Executive Team (ET).

Data for this indicator is compiled by reviewing all IPs that were approved in the reporting year.

All operations are screened broadly for human rights issues at the IP stage. In this indicator we include only those agreements, finalised in the reporting year, that make specific reference to human rights.

Calculation

Number of IPs approved in the reporting year that make specific reference to human rights/number of IPs approved in the reporting year x 100.

10. Number of fatalities

Definition and methodology

Fatalities: cases that involve one or more people who died as a result of a work-related incident or occupational illness (International Association of Oil and Gas Producers (IOGP)).

We report employee, contractor and third-party fatalities.

Records of incidents including fatalities are kept in our online incident reporting system. Contractors are required to report all incidents to Cairn management as soon as possible after the event, and the details are logged into our incident reporting system, which keeps key personnel informed, by email, about progress with the reporting and investigation.

11. Lost Time Injury Frequency (LTIF) – employees and contractors

Definitions and methodology

LTIF: the number of lost time injuries (fatalities + lost work day cases) per 1,000,000 hours worked (IOGP).

Employee: person employed by and on the payroll of Cairn. Persons employed under short-service contracts are included as Cairn employees provided they are paid directly by Cairn. Cairn has a lot of other individuals who work on behalf of Cairn in the office. Those who are contracted for more than three months to an organisational position are categorised as 'other workers' and these individuals are included as employees for the purposes of reporting health and safety statistics, including hours worked. They are not paid directly by Cairn but through their employing organisation.

Contractor: someone contracted to work on Company business on a temporary basis in field-based positions, a subcontractor through another company, or someone contracted to work on Company business for less than three months in an office-based position. These people are not paid directly by Cairn but through their employing organisation. We record contractor work-related activities in line with IOGP definitions of mode 1 and mode 2 contractors; mode 3 are excluded as per the IOGP guidelines.

Records of all incidents, including fatalities and lost work day cases, are kept in our online incident reporting system. Contractors are required to report all incidents to Cairn management as soon as possible after the event, and the details are logged into our incident reporting system, which keeps key personnel informed, by email, about progress with the reporting and investigation.

Hours worked are collected for employees and for contractors. Employee hours are derived primarily from Cairn's time-writing system that UK and Norway employees use to log their working hours. For Senegal and Morocco employees, hours worked are estimated based on the number of working days in the month and the standard working hours. Employee hours include hours worked by 'other workers' as these are captured in the time-writing system. Cairn's Human Resources department compiles the figures and enters them into the database each month.

Hours worked by field-based contractors are collected monthly, together with other HSE KPI data, from each vessel, rig, aircraft and shore base. For offshore workers, the hours are often calculated on a 12-hour work day basis.

Hours worked by short-term (less than three months) office-based contractors were collected for the first time in 2016. Figures for Dakar office contractors were obtained monthly in the form of timesheets. The remaining figures are compiled at the end of the year using a list of non-time-writing personnel and the schedule of a software implementation project, and had to be estimated in some cases.

Estimates and uncertainties

Hours worked by field-based contractors are often calculated on a 12-hour work day basis rather than being a precise log of time worked.

Hours worked by short-term office contractors, other than those in the Dakar office, were estimated, largely based on discussion with people in the Edinburgh office.

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12. Total Recordable Injury Rate (TRIR) – employees and contractors

Definition and methodology

TRIR: the number of recordable injuries (fatalities + lost work day cases + restricted work day cases + medical treatment cases) per 1,000,000 hours worked (LOGP).

See above (KPI no. 11) for definitions of employees and contractors and for details of how incidents are recorded and how 'hours worked' are calculated.

13–17. Spills to the environment – number and volume

We report spills according to the categories provided by the GRI: oil, fuel, chemical, waste, other.

Definitions and methodology

Oil: crude oil.

Fuel: diesel, gasoline, kerosene, heating oil, aviation fuel.

Chemical: any other raw material or ancillary.

Waste: any material (solid, liquid, gas) that is introduced into the work location as a product of the work but that fulfils no further useful purpose at that location.

Other: other material not included in categories above.

Note: if something fits into more than one category, we report against the category that provides the most information, e.g. chemical rather than waste when reporting waste chemicals.

We collect figures on the number of spills in the following size categories: less than 1 barrel; between 1 and 10 barrels; between 10 and 100 barrels; and greater than 100 barrels. We also record the actual volume spilled.

We report figures on spills to the environment, but also collect data on spills contained before reaching the environment for monitoring purposes.

Estimates and uncertainties

Spill volume is usually based on an estimate.

18. Greenhouse gas (GHG) emissions – Scopes 1, 2 and 3 and normalised to total employee and contractor hours worked

We report our GHG emissions in accordance with the GHG Protocol Corporate Accounting and Reporting Standard (World Resources Institute/World Business Council for Sustainable Development). We use the latest published 100-year Global Warming Potentials (GWPs) for CO₂, CH₄ and N₂O from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5). All GHG emissions are reported in tonnes of carbon dioxide equivalent (CO₂e). We report five years of data from a baseline of four years earlier.

SCOPE 1 GHG EMISSIONS

Definition and methodology

Scope 1 emissions: direct GHG emissions which occur from sources that are owned or controlled by the Company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.

At present, Cairn is undertaking exploration activities only. We are not operating any production assets. Our Scope 1 emissions arise from:

- fuel combustion during offshore rig, marine vessel and aircraft operations as well as a very small amount during use of land-based vehicles (proportion of total Scope 1 GHG emissions in 2017: >69%) and for Edinburgh office heating;
- flaring during well testing (proportion of total Scope 1 GHG emissions in 2017: 30%); and
- incineration of waste on marine vessels (proportion of total Scope 1 GHG emissions in 2017: <0.5%).

Fuel combustion

The rig, vessels and helicopters keep a daily log of fuel usage and each provides us with a total figure for fuel consumption, in litres, at the end of each month. Fuel consumption figures for land-based vehicles (<0.5% of total fuel consumption) are partly drawn from accurate fuel consumption records and partly from estimates when exact fuel usage is impractical to track.

Natural gas combustion for Edinburgh office heating is reported for the first time this year as this data was not available before 2017. The figure is calculated as a proportion of the natural gas usage for the whole building.

A fuel density figure is used to convert litres of fuel into tonnes. The fuel density is provided by the rig, vessels or helicopter operator when available (most of the time in 2017). Otherwise, a typical density is used from API 2009. Figures in tonnes are then converted into CO₂e using emission factors for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from the API Compendium 2009.

Flaring

Flaring was carried out during well testing in 2017. The volume of oil and gas flared was measured and converted into mass (tonnes) using densities obtained from well test samples that were analysed in the laboratory. Scope 1 GHG emissions (tonnes of CO₂e) were then calculated using emission factors from EEMS (Environmental Emissions Monitoring System) Atmospheric Emissions Calculations, 2008 (Table 10.1).

Waste incineration

Some waste oil and non-hazardous waste was incinerated on the rig and marine vessels supporting drilling operations in 2017. Scope 1 GHG emissions (tonnes of CO₂e) arising from waste incineration are calculated using emission factors from the GHG Protocol 2014.

Estimates and uncertainties

Petrol and diesel consumption for land-based vehicles at shore bases/offices was partly estimated. This represents less than 0.5% of fuel consumption during operations in Senegal and overall. The mass of waste incinerated on board vessels is partly calculated using volume-to-mass conversions; however, this represents a small amount compared to overall Scope 1 GHG emissions (<0.5 tonnes CO₂e). Natural gas combustion for heating Cairn's Edinburgh office is calculated as a proportion of the natural gas usage for the whole building.

We use the most applicable emission factors available, but there will always be a small margin of error from these as they may not match fuel type exactly.

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SCOPE 2 GHG EMISSIONS

Definition and methodology

Scope 2 emissions: electricity and district heating/cooling indirect emissions are from the generation of purchased electricity and district heating/cooling consumed by the Company. Purchased electricity and district heating/cooling is defined as electricity and district heating/cooling that is purchased or otherwise brought into the organisational boundary of the Company.

Our Scope 2 emissions arise from:

- use of electricity in all our offices and a small amount of district heating and cooling in our Stavanger office.

We report Scope 2 emissions in line with GHG Protocol Scope 2 Guidance, i.e. in two ways: according to a location-based method and a market-based method. (Transmission and distribution losses are excluded.)

For the location-based method, we use emission factors from the International Energy Agency (IEA) (updated to IEA 2016 in 2017). These are grid average emission factors for each country. For district heating and cooling, we use location-based emission factors from the UK Department for Environment, Food & Rural Affairs (Defra) (updated to Defra 2017 emission factors in 2017).

For the market-based method we use emission factors, where available, in the following order of preference:

- Supplier-specific emission factors – obtained from Cairn's offices' electricity suppliers.
- Residual mix emission factors – obtained from the Association of Issuing Bodies (AIB) document 'European Residual Mixes 2016'.
- Location-based emission factors. These are the same IEA and Defra emission factors that we use for calculating location-based emissions.

Supplier-specific emission factors were requested from the electricity suppliers of all of Cairn's offices but were only available for the Edinburgh and London offices. Market-based Scope 2 figures for Norway were calculated using the residual mix emission factor for Norway. For Senegal, there were no residual mix factors available, so the location-based factors were used.

We are unable to obtain supplier-specific emission factors for years prior to 2015 so all Scope 2 data prior to 2015 is calculated according to the location-based method.

Estimates and uncertainties

Most of our electricity and district heating and cooling (Norway only) consumption happens in our head office in Edinburgh (71% of our total electricity, district heating and cooling in 2017), followed by Stavanger, and London and Dakar (13%, 8% and 8% of total respectively). Electricity consumption for the Edinburgh, London and Dakar offices is taken from meter readings. The figure for the London office covers October 2016 to October 2017 because fourth-quarter figures are not available in time for this report. Electricity consumption for the Stavanger office is calculated as a proportion of the overall building consumption, although the 2017 figure is the 2016 figure + 5% as the data was not available in time for end-of-year reporting.

There is always a degree of inaccuracy in emission factors. Also, there is no electricity emission factor available for Greenland, so we used the Denmark factor instead.

SCOPE 3 GHG EMISSIONS

Definition and methodology

Scope 3 emissions: Scope 3 emissions are a consequence of the activities of the Company, but occur from sources not owned or controlled by the Company.

Cairn currently reports Scope 3 emissions from two sources: 1) business travel (business travel well-to-tank emissions are excluded) including air and rail travel but not tube travel (99% of total Scope 3 GHG emissions in 2017); and 2) electricity transmission and distribution losses (1% of total Scope 3 GHG emissions in 2017). Other Scope 3 emissions, e.g. supply chain and employee commuting, are excluded.

For calculating Scope 3 (business travel) GHG emissions, we use the Defra methodology, including its recommendation to include an uplift for the influence of radiative forcing in air travel emissions. This uplift ensures that the maximum climate impact of an organisation's travel habits is captured. In our air travel GHG emissions calculations, we use journey type (domestic, short haul, long haul and international), seat class (economy, premium economy, business, first) and distance travelled. In our rail travel GHG emissions calculations, we use rail type (national rail, international rail) and distance. We updated to the latest Defra 2017 emission factors in 2017 (see <http://www.ukconversionfactorscarbonsmart.co.uk/>).

It is Cairn policy that all travel for Edinburgh- and London-based staff, and usually the smaller offices, is booked using its corporate travel agent, HRG, except under special exception. As a result of this, the majority of our travel data is obtained in a report from HRG and includes details on journey type, seat class and kilometres travelled. Travel data is also obtained from Cairn's travel provider in Norway, from a travel expense claim report from Edinburgh's accounts department, and through communication with executive assistants in all Cairn's offices. Where journey kilometres are not provided with the data, they are obtained from internet resources, e.g. airmilescalculator.com, travelmath.com and virgintrainseastcoast.com (carbon calculator).

For calculating Scope 3 (electricity transmission and distribution losses) GHG emissions we use Defra 2017 emission factors. We are reporting Scope 3 (electricity transmission and distribution losses) GHG emissions for the first time in 2017.

Estimates and uncertainties

Not all HRG flight data can be broken down into flight sectors with the corresponding seat class, so there is a degree of uncertainty in this, e.g. GHG emissions for some of the domestic flight sectors may be calculated using short- or long-haul flight emission factors.

Travel data obtained from travel expenses does not always show whether a journey is single or return, so this sometimes has to be assumed. In addition, the seat class of these flights is not shown; however, flights booked outside the HRG system are usually with budget airlines, so the majority are known to be economy class. These flights are not broken down into sectors, but the majority are domestic or short-haul/European flights which are only one flight sector.

For rail travel data obtained from travel expenses, some of the journey distances are based on estimates.

Travel data provided by Cairn's travel provider in Norway (Berg-Hansen) does not include train journeys, so an estimate has to be made for these.

Occasional flights/train journeys booked by individuals, based in Cairn's offices outside the UK, might get missed; however, this is considered minimal.

The estimates and uncertainties that apply to Scope 2 data also apply to Scope 3 electricity transmission and losses data.

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GHG NORMALISED TO TOTAL EMPLOYEE AND CONTRACTOR HOURS WORKED

To meet UK reporting requirements, GHG emissions need to be reported normalised to an appropriate performance measure representative of the business. As Cairn did not have revenue or operated production facilities in 2017, or in the previous four years, and activities were of an exploration nature only (i.e. exploration drilling and associated activity), its GHG emissions have been normalised to total employee and contractor hours worked. They are presented as tonnes of CO₂e per 1,000 hours worked.

See above (KPI no. 11) for an explanation of how hours worked are calculated/compiled.

Calculations

All Scopes GHG x 1,000/total hours worked =
All Scopes GHG per 1,000 hours worked

Scope 1 GHG x 1,000/total hours worked =
Scope 1 GHG per 1,000 hours worked

Scope 2 GHG x 1,000/total hours worked =
Scope 2 GHG per 1,000 hours worked

Scope 3 GHG x 1,000/total hours worked =
Scope 3 GHG per 1,000 hours worked

19. Total mass of waste by type (hazardous/non-hazardous) and disposal method

Definitions and methodology

Hazardous waste: all waste that is defined as hazardous, toxic, dangerous, listed, priority, special or some other similar term as defined by an appropriate country, regulatory agency or authority. We use the European Union (EU) definitions and waste codes.

Non-hazardous waste: industrial wastes resulting from Company operations, including process and oil field waste (solid and liquid) disposed of either on-site or off-site. Includes refuse and other office waste, commercial (e.g. retail) or packaging-related waste. Excludes hazardous waste as defined above.

Disposal method: the method by which the waste is disposed. This is split into the following categories in line with GRI reporting requirements: reuse, recycling, composting, incineration, landfill, on-site storage and unspecified. Waste data, including information on disposal method, is provided by our waste disposal contractors where applicable, or by contractors who are responsible for waste generated during short-term operations. We use EU definitions and codings.

We generate waste during rig, marine vessel and shore base operations, as well as from our offices in the UK and other locations.

Waste from field-based operations

Waste generated during field-based operations (including offshore waste – except where offshore treatment is allowed such as waste incineration under the International Convention for the Prevention of Pollution from Ships (MARPOL)) – is transferred to shore-based waste disposal facilities and waste transfer notes are used to record and track each transfer as part of our 'Duty of Care'. Waste figures are submitted to Cairn at the end of each month by the vessels themselves (in the case of short-term operations such as seismic) or by the waste disposal contractor (in the case of longer-term operations such as current drilling operations in Senegal). This data is then checked and entered into our database, split by hazardous/non-hazardous and by disposal method.

Waste figures are reported in tonnes. We ask our contractors to weigh waste wherever possible and report by mass (tonne, kg). Where this is not possible, tonnage is calculated by multiplying the volume of waste by a conversion factor. We provide contractors with a set of standard conversion factors from Waste & Resources Action Programme (WRAP), a non-government organisation working with UK Governments, the EU and other funders, to help deliver their policies on waste prevention and resource efficiency (see www.wrap.org.uk).

Office waste

Waste data is collected from our offices at the end of each year. This covers all types of waste including general office waste, controlled waste and recycling waste, e.g. paper and toner cartridges. Figures for Cairn's head office in Edinburgh are received from the waste contractors that service the building, and are partly estimated. Figures for Cairn's Stavanger office are obtained from the building managers, although 2017 data had to be estimated (2016 figure + 5%) as figures were not yet available in time for end of year reporting. For both these offices, some figures are calculated as a proportion of the overall building. For other offices, waste figures are estimated using per person per month Edinburgh office figures.

Estimates and uncertainties

There is a degree of uncertainty in the volumes of waste measured and in the conversion factors used to convert volume to tonnes, and these will arise from the method used.

Waste figures for offices are, for the most part, estimated as a proportion of the overall building or using per person per month Edinburgh office figures.

20. Number of security incidents

Definition and methodology

Security incident: any fact or event which could affect personal or organisational security.

We break security incidents down into incidents against employees, incidents against contractors, incidents against security personnel, incidents against assets and incidents involving threat or extortion.

Records of all incidents, including security incidents, are kept in our online incident reporting system. Contractors are required to report all incidents to Cairn management as soon as possible after the event, and the details are logged into our incident reporting system, which keeps key personnel informed, by email, about progress with the reporting and investigation.

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21. Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas

Definitions and methodology

Protected area: a geographically defined area that is designated, regulated, or managed to achieve specific conservation objectives.

Area of high biodiversity value: area not subject to legal protection but recognised for important biodiversity features by a number of governmental and non-governmental organizations. These include habitats that are a priority for conservation (often defined in National Biodiversity Strategies and Action Plans prepared under the UN 'Convention on Biological Diversity'. Several international conservation organizations have identified particular areas of high biodiversity value.

Cairn assesses the geographical area of its blocks in detail before acquisition as part of its due diligence process and in further detail when it carries out impact assessments in advance of any operational activity. Environmental impact assessments are carried out by third party specialist consultants to ensure a neutral and independent stand point and are normally informed by dedicated environmental baseline surveys. These involve an assessment of biodiversity and ecosystem services issues, during which any protected areas and other areas of high biodiversity value are identified. Cairn's blocks are mapped alongside protected areas and other environmentally sensitive areas using GIS mapping tools.

Cairn presents this data for all of its operated blocks. For each area of operation, a description is given of the geographical location, the type of operation and brief details of any terrestrial or aquatic protected areas or high biodiversity areas in the area (including approximate distance to our block). Maps are included to illustrate this information.