



Working responsibly is a key part of our strategy. Our business model is centred on building a balanced portfolio of exploration, development and production assets within the oil and gas lifecycle.

We can only deliver value for our stakeholders by operating in a safe, secure and environmentally and socially responsible way. We manage our business activities in line with our core [Policies and Business Principles](#) of building respect, nurturing relationships and acting responsibly (the 3Rs) along with our Code of Business Ethics.

This section comprises our full Corporate Responsibility (CR) report 2016 and includes operations and activities detailed in our [Annual Report 2016](#). These pages reflect the 15 issues that are material to Cairn and our stakeholders. For their relative ranking, read more on [How we assess material issues](#).

If you have a comment or question regarding our CR reporting please [contact us](#).

CR reporting

Download 2016 Annual Report PDF 5.9MB

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CEO introduction

Simon Thomson

Our CEO talks about our activities in 2016 and plans for 2017.

[Read the statement](#)



Related links

- [Our responsible approach](#)
- [Prioritising key issues](#)
- [Operations](#)

Cairn in Senegal

Our new supply base became operational in 2016, and 22% of our workforce in Senegal was national.

[Read more on Cairn in Senegal](#)



Social investment

In Senegal, 233 individuals benefited from programmes to build local capacity, and we continued to develop our social investment programme in 2016.

[Read more on social investment](#)



Business relationships

We updated our CRMS in 2016, and our ABC e-learning module was completed by 91% of personnel in Edinburgh, London, Stavanger and Dakar.

[Read more on business relationships](#)



Society and communities

In 2016, our Board reviewed our policy position and the potential impact of: COP21 agreement, UK Modern Slavery Act and the UN SDGs.

[Read more on society and communities](#)



People

We increased incident management capability in our Dakar office through training and installation of control room facilities.

[Read more on people](#)



Environment

OSPAR audit conducted in 2016 and re-verification was recommended with no corrective actions.

[Read more on environment](#)





Cairn in Senegal

In 2012, Cairn embarked upon a frontier exploration drilling programme focused on the Atlantic Margin, which resulted in the discovery of oil in Senegal in 2014 - the largest global offshore oil discovery of 2014. Cairn has now completed two drilling programmes in Senegal with a third under way, and is focused on additional exploration and appraisal activity to further delineate this potentially significant resource base.

Cairn's strategy is to deliver value for our stakeholders from the oil and gas lifecycle. As part of this Cairn is committed to delivering lasting and positive social and economic benefits in country.

Delivering value for stakeholders in Senegal

Stakeholders are those affected by Cairn's activities including employees, communities, contractors and suppliers, and the government. Social and economic benefits include energy security, revenues from oil and gas activities, employment, development of infrastructure and social investment. As our operational activity in Senegal progresses so too does our level of its investment, which has both direct and indirect benefits for local stakeholders. Cairn's belief is that the discovery and development of sustainable oil production in Senegal would greatly benefit the national economy and therefore the local population. To date, Cairn has calculated a total of US\$330.3 million of capital expenditure invested through its activities in Senegal.

In order to deliver the Company's operational programmes in Senegal, Cairn has an office in Dakar and a recently built supply base in the international port of Dakar. This is part of Cairn's approach to operations in any country to deliver value in country by maximising local participation which includes employing local people and working with local companies wherever possible.

Working in the Dakar office

Saraou Kombo, Coordinator, Capricorn Senegal Limited, Dakar office

"I joined Cairn in December 2015 as co-ordinator in our Dakar office as the second phase of exploration and appraisal drilling started. Previously I spent a number of years working for the British Embassy in Senegal. This is the first time I have worked in the oil and gas industry. At first it seemed difficult, with so much new to learn, understanding how the industry works, new regulations and new faces to get to know. But new things are also exciting. I have been pleased to find that so much of how we worked in the embassy is also true in a UK company - the emphasis on anti-bribery and corruption, behaviours based on honesty and integrity, and compliance with rules and regulations.

A lot of my work has been focused on building good relationships with many of our stakeholders, communicating how we work with respect and responsibility. This is very important for the progress of Cairn in Senegal.

In Senegal, people are becoming excited about the recent discoveries and the benefits they could bring to our country, including new support industries, employment and improved education. Transparency in this new industry is therefore important for the country and initiatives like the EITI (Extractive Industries Transparency Initiative) are a good thing. There are high expectations that the oil and gas industry will bring social and economic growth and one of our biggest challenges is helping communities understand how the oil and gas industry works and the timescales and stages involved. I think the biggest challenge for the industry will be achieving our goals to the satisfaction of government, partners and communities and we are working hard to manage expectations.

Much of my role is concerned with facilitating these training initiatives and engaging with the local companies we work with, promoting our high standards of responsible working practices and helping to ensure they are met."

Given that oil and gas activities are relatively new to Senegal, local industry expertise is just starting to develop and, as such, developing capacity through training and education is a key part of our operations. Not only does this develop the opportunity to participate in the international oil and gas business but it is important for promoting working responsibly.

As part of this, in our Dakar office we have offered a number of training opportunities including English language training, health, safety and environment (HSE) training and organised visits to our headquarters in Edinburgh to reinforce our culture and to improve communications and cultural understanding.

We have provided training to more than 162 officers of the relevant regulatory authorities to support the oil and gas regulatory environment in Senegal. This training covered oil and gas industry awareness, HSE awareness, offshore safety, offshore emergency response including oil spill response, waste management and English language learning. We have also provided English language training to 46 technical students at the University of Dakar; this is part of our aim to build local participation for the future.

We have engaged local companies in logistics and supply base support, waste management services, aircraft handling services, transport services, fishing liaison, administration, accommodation and environmental and social consultancy services.



Working with the national oil company Petrosen

Mohamed Sonko and Daouda Tigampo

"We have both been working at Petrosen as geologists for more than three years, after studying in Morocco and Senegal respectively. We are a small team of eight geologists and two geophysicists and as the only national oil and gas company, we work with all the oil and gas companies operating in Senegal. Petrosen has been waiting for a significant discovery for many years and people are very excited about the recent discoveries made by Cairn and its joint venture partners. Local people are excited because they see the opportunities for using income from oil and gas activities to support our economy and industries such as agriculture and our education system. Our biggest challenge at work is learning all about the industry which our partners help us with. We have received much training in the last few years. One of the highlights was in 2014 when we went to London with Petrosen to visit a core lab. We have also received English language training through Cairn and the British Council. During 2016, we spent two weeks at Cairn's headquarters in Edinburgh trying to learn as much as possible in petrophysics, seismic data, modelling and software used in the industry. For us, drilling is the most exciting part of the oil and gas lifecycle, so we are looking forward to Cairn resuming drilling in 2017!"

Further exploration and appraisal drilling

Drilling offshore Senegal resumed in January 2017 as part of Cairn's third phase of the exploration and appraisal campaign in Senegal. As Cairn's activities in Senegal develop, acting responsibly in all our relationships with local stakeholders remains a key focus for the business in order to progress and deliver value from the significant resource base discovered offshore Senegal alongside Cairn's joint venture partners.

Read more on our [Social investment](#) activities and how we are [Sharing benefits in Senegal](#).

Read more on our [New supply base at Dakar port](#).

"A lot of my work has been focused on building good relationships with many of our stakeholders, communicating how we work with respect and responsibility."

Saraou Kombo
Co-ordinator, Capricorn Senegal Limited



Social investment

Targeted social investment is a big part of our activity in Senegal in keeping with our wider Group strategy to deliver value for all stakeholders. We seek to make a positive social impact in every area that we work.

Our Group Corporate Social Responsibility Policy states that Cairn 'will assist in the development of local community programmes where it operates, in consultation with local government, the public and stakeholders'. As part of this we have developed a social investment plan specific to Senegal that supports the four areas the business has identified for social investments across the Group: enterprise development; education and training; environment, health and well-being; and charitable giving and humanitarian aid.

As well as providing English language and oil and gas awareness training, we have also supported the following community projects:

the British Council's Great Entrepreneur project: a competition for local projects with training and coaching for the winner;

ECOBAG: a local business that collects plastic waste and recycles it into plastic pellets for onward sale; and

The Hunger Project: a women-led microfinance project.

During 2016, our social investment expenditure in Senegal amounted to US\$137,839.

Supporting local entrepreneurship – Great Entrepreneur competition

In 2015, we supported a project sponsored by the British Council called the Great Entrepreneur competition with a contribution of US\$30,000 which went towards the 2016 competition. This competition selects a shortlist of projects in Senegal whose sponsors are then given a range of training and coaching opportunities to build their business. From these an eventual winner is chosen. The aim of the competition is to promote opportunities for young entrepreneurs in Senegal and develop their skills to progress their ideas. This is in line with some of the attributes we look to promote among our own workforce, with one of the behaviours we require our staff to display being 'Be Entrepreneurial'.

In 2016, the winner of the competition was Marieme Mbaye from Greenwash Africa who was awarded 10 million francs (c. US\$14,000). Marieme co-founded Greenwash Africa, an ecofriendly carwash that uses no water, only biodegradable products, and that also cleans home furnishings. The aim of the business is to reduce water consumption and improve environmental awareness in Africa, as well as help street carwashers, thereby contributing to job creation. The goal is to grow the business to offer a service in other African countries, including Mali and Côte d'Ivoire. Since winning the Great Entrepreneur competition, Greenwash has increased its number of clients significantly due to the publicity it has received.

Supporting local business – ECOBAG

Cairn first became involved in the Great Entrepreneur competition through its support of the ECOBAG project, which won the Great Entrepreneur competition in 2014. ECOBAG collects plastic waste from neighbourhoods and recycles it into plastic pellets to sell on to producers of plastic products. The project promotes waste recycling and a community refuse collection system. Cairn committed to support ECOBAG in 2015 up to the value of \$25,000. Cairn's funding contributed to the purchase of machines to wash and crush the plastic waste in 2016. With our support, the founder of ECOBAG, Amy Mbengue, has succeeded in growing the business, increasing plastic pellet production from 1 to 3 tonnes per month and from employing five workers to taking on an additional 15 workers, 80% of whom are female.

Amy Mbengue, founder of ECOBAG

"I started ECOBAG at the end of 2014 with the aim of tackling the environmental problems facing Senegal, especially those caused by plastic. ECOBAG's objective is to develop a circular waste economy and to fight against youth unemployment. Cairn was a critical financial and nonfinancial support for ECOBAG helping me to build the business through the acquisition of new equipment.

I came up with the idea of ECOBAG in 2011. We were able to start the business almost four years later despite the many difficulties along the way. It was a big challenge for me. Today I feel a great sense of pride when I see my dream come true, even if there is still so much more I want to achieve with ECOBAG. My parents and my family feel great pride also.

The workers I employ have a job that allows them to take charge of themselves and which especially allows the empowerment of women.

My goal is to extend ECOBAG at a national, regional and international level but also to start the second phase of development."

Helping women in rural communities – The Hunger Project

The Hunger Project (THP) is a global, non-profit, organisation committed to ending hunger and poverty with sustainable, women-led solutions. We have supported THP in Senegal since 2015.



Senegal was the first country of intervention for THP in Africa which has been working there since 1991. In Africa, The Hunger Project works to build sustainable community-based programmes through Epicentres which are community buildings around which communities can organise and provide central services.

The epicentre brings together clusters of rural villages, giving villagers more influence with local government than a single village and increasing a community's ability to collectively utilise resources and access basic services. In Senegal, THP has been working with 10 [epicentres](#) that cumulatively serve a population of over 183,000 people from more than 200 villages.

Part of our support for THP goes towards its women-led microfinance programme that includes financial management training for the whole community, training facilitators, rural bank lenders and technical staff. The programme provides savings facilities and microloans for income-generating activities based around small-scale trading and farming.

With the funding received from Cairn of US\$55,300, THP has been able to run its microfinance programme (incorporating funding and capacity building) in all the Senegal epicentres. The focus is to develop the microloans programme into a genuinely member-owned and operated initiative, recognised by the government or regulatory body as a financial cooperative. THP's aim is to enable the rural epicentres to become self-reliant, and in 2016 one of the 10 epicentres in Senegal reached self-reliance. Cairn has committed to support THP in 2017 to assist further progress towards self-reliance for the remaining nine epicentres.

The Hunger Project

Madame Bolo Sow, Namarel Epicentre, Senegal

"I first became involved in the Namarel epicentre in 2012. With the advice of the manager of the rural bank of Namarel, I took out my first loan in order to generate income. I bought four sheep and after nine months of livestock farming I sold them at a profit. During the period I succeeded in paying off my credit and saving my profit before taking out a new loan. I continue to be involved in livestock activity but I am also now involved in trading detergent products in the villages and surrounding settlements, and with a new loan I have started to sell women's shoes ordered from Dakar. The Hunger Project is an organisation which really helps women, empowering them to take charge of their own affairs and giving them access to credit in isolated areas where there are no financial institutions."

"The workers I employ have a job that allows them to take charge of themselves which especially allows the empowerment of women."

Amy Mbengue
Founder of ECOBAG

"In Senegal, THP have been working with 10 epicentres that cumulatively serve a population of over 178,000 people and over 200 villages."

"With the advice of the manager of the rural bank of Namarel I took out my first loan in order to generate income."

Madame Bolo Sow
Namarel Epicentre, Senegal



Sharing benefits in Senegal

In 2015, world leaders committed to the UN Sustainable Development Goals (SDGs), which set out 17 prioritised areas ranging from ending poverty, ensuring access to energy, protection of ecosystems, addressing climate change and responsible working practices.

Although all SDGs may not be relevant to every company, we recognise a responsibility to look at our activities to identify both where our business adds value for society and where we may need to mitigate for potential negative impacts across environmental, social and governance (ESG) related issues.

In June 2016, we commissioned a review based on the SDGs to identify where relevant, any of our activities which could impact on or support any of these goals. This helped to inform our approach to delivering benefits for our stakeholders in Senegal and is set out in the three strands shown below.





<ul style="list-style-type: none"> • US\$5.1 million payments to the Senegalese Government • Part of EITI MSG 	<ul style="list-style-type: none"> • 22% of project staff in or offshore Senegal were Senegalese nationals 	
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Link to SDGS		
	Affordable and clean energy	
	Peace, justice and strong institutions	



New supply base at Dakar port

Establishing a permanent facility

In September 2016, we opened a new supply base on the quayside of Dakar port to better meet our increasing operational needs in Senegal. The new supply base gives us a number of operational advantages including a dedicated quayside, which means we are able to work uninterrupted in what is one of the biggest ports on the coast of West Africa. Its proximal location to our offshore acreage (approximately 60 nautical miles / 111 km in distance and six hours in travel time by vessel; helicopters transit from Dakar international airport with a flight time of around 25 minutes) is also a significant advantage. This new facility demonstrates our commitment to working in Senegal and our increasing investment in-country. Oil and gas is an emerging industry for Senegal and this is the first time that a dedicated, permanent supply base infrastructure has been built in Dakar port. The process took 18 months and was handled by our key local contractor Necotrans Senegal, a subsidiary of the international logistics and transport conglomerate Necotrans.

Working with Necotrans is part of our approach to maximising local content wherever we work. We employ, on a permanent basis, 16 Necotrans contractors, and much of our work on the base focuses on training them to support our operations as well as to enable them to participate in the oil and gas industry longer term.

The supply base is the main hub for our activities in Senegal and is the main point of contact for our many contractors during and in preparation for drilling. We store critical equipment on site, including oil spill response equipment, and carry out activities including loading and unloading of offshore support vessels that supply our drill ships. In the handling of this equipment and the management of these activities, specialist knowledge, oversight and a focus on safety at all times is required. As such one of our main focuses at the base is on Health, Safety and Environment (HSE).

Working with so many contractors means careful management and providing training to ensure our HSE standards are met. This is overseen by our experienced team of industry experts on site, which is made up of two supply base managers, two logistics supervisors and one HSE advisor. All contractors are inducted on arrival at the supply base in our ten 'Life Saving Rules', which they are obliged to apply and follow at all times and they are also required to attend morning meetings, pre-job 'toolbox talks', weekly safety review meetings and monthly 'Safety focus' meetings.

This supply base was built and operates to UK Oil & Gas guidelines. For many of those who are working with us, this is the first time they have had exposure to working in these types of conditions and they are acquiring valuable skills which we hope will benefit them in the future. As our key contractor, Necotrans personnel have been trained and mentored by our supply base team in basic yard operations, such as oil field inventory recognition, handling and inspection; boat loading; and discharging. We have also brought in external experts from, among others, North Sea Lifting, Oil Spill Response, St Johns Ambulance and the Dakar fire service to provide additional training.

Amadou Sakhir Gaye, Logistics Coordinator, Necotrans

"I have worked with Cairn since their first drilling campaign in Senegal in 2014. I first worked as an HSE supervisor within the logistics team but in 2015 I was promoted to logistics coordinator. Necotrans provides logistics support to Cairn in the port of Dakar and I am the key link between the two companies. I am in charge of a team of stevedores, crane operators, forklift truck operators, truck drivers and HSE supervisors who ensure Cairn's requests are met to their high standards – on time and in a safe manner.

Prior to working for Cairn I was a teaching assistant at a university, delivering HSE courses. As part of my BA, I had completed a dissertation on Corporate Social Responsibility but I had no oil and gas experience. As a result of my experience with Cairn I was able to complete my MA in Business Administration and HSE with a project on 'Risk Analysis in the Oil and Gas Industry'.

As an international oil and gas company Cairn has a lot of experienced people who are always happy to help me if I have any questions. This gives me confidence to do things I may not have done before because I can always find guidance. The support goes both ways, we work to deliver what Cairn needs and they help us to deliver it.

Training is a big part of our activities. We have received training in lifting, banksman and slinging, oil spill response, risk assessment, firefighting and first aid. One of the biggest focuses in our day-to-day work is on HSE and understanding that people are more important than the job. If we identify a hazard, a danger to anyone, we understand that we can stop the job we are doing at any time.

As a Senegalese I am excited about the oil and gas industry in Senegal because I think it is a great opportunity for my country. Of course, there are concerns that the development of this industry must be managed in a proper and transparent way, and our country's leaders know they need to listen to the needs and concerns of their people. It is an opportunity to create a new sector in the country's economy, a source of energy and jobs for the young. I am proud to be one of the Senegalese people involved in this new sector."

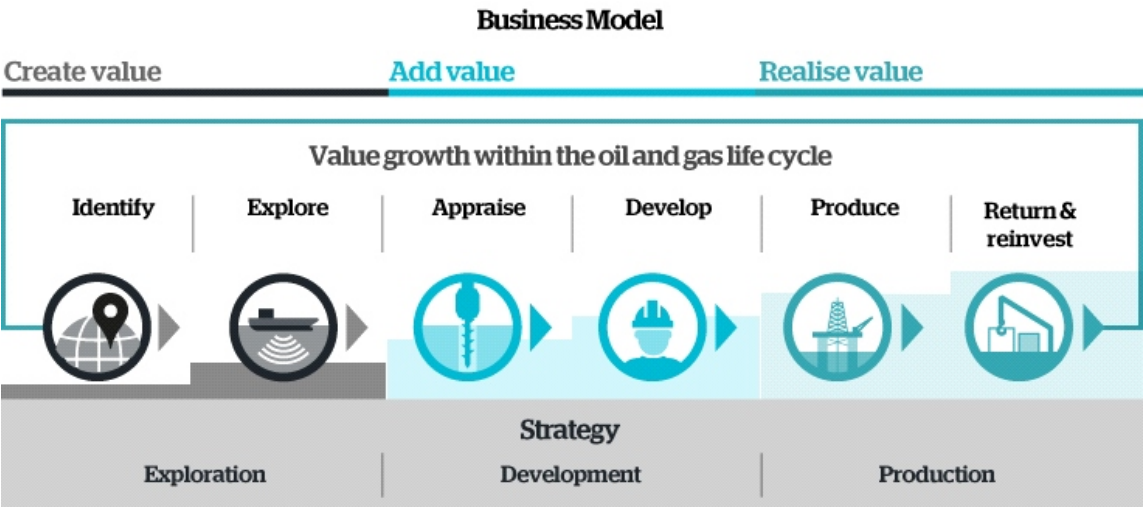
The supply base is the main hub for our activities in Senegal and is the main point of contact for our many contractors and our activities during and in preparation for drilling.



Our responsible approach

Cairn’s business model is to create, add and realise value for stakeholders through the exploration, development and production of oil and gas within a self-funding business model. Exploration creates material value for stakeholders and production provides the cash flow to sustain exploration and development.

We are committed to working responsibly as part of our strategy and this means working in a safe, secure, environmentally and socially responsible manner.



Business model

- Create value**
Cairn identifies assets it can add value to through exploration activity including 3D seismic and drilling as part of a focused exploration strategy. If successful, exploration activity can create material value.
- Add value**
In order to add value Cairn looks to progress existing exploration assets through the appraisal and development stages or can acquire new assets at this point in the oil and gas lifecycle.
- Realise value**
Cairn realises value by progressing development assets through to production and/or realising value through asset sales and either reinvesting the proceeds into the business to fund exploration and development activity or returning cash.

Strategy

To deliver value for stakeholders by building and maintaining a balanced portfolio of exploration, development and production assets. To maximise value, exploration is focused on frontier and emerging basins acreage from which the greatest value can be created. Cairn is currently focused on growing its Senegal resource base, and on progressing its North Sea developments to first oil and cash flow which is targeted in 2017.

Exploration



Frontier and emerging basin exploration acreage offshore Senegal, Morocco, the Republic of Ireland, Norway and Malta; mature exploration acreage in the UK and Norway.

Development

Non-operated interest in two development projects in the North Sea (Kraken and Catcher).

Production

Kraken and Catcher, two of the largest UK North Sea development projects, are targeting production in 2017.

Strategic objectives

Annual Key Performance Indicators (KPIs) identify the Company’s strategic objectives and how they can be met, enabling the Company to measure its delivery of strategy.

2017 strategic objectives

Deliver exploration and appraisal success

Purpose: Grow the resources and reserves

Portfolio management

Purpose: Active portfolio management and acreage optimisation

Deliver operational excellence

Purpose: In all 2016 activities

Maintain licence to operate

Purpose: Deliver value in safe, secure, environmentally and socially responsible manner

Deliver a sustainable business

Purpose: Maintain a self-funding business plan

Managing risk

Cairn has a robust risk management process in place to identify, monitor and mitigate risk and to identify opportunities. This means first determining risk appetite, and then identifying the key risks.

2016/2017 principal risks

Exploration and appraisal

Sustained low oil and gas price

Securing new venture opportunities

Health, safety, environment and security

Stakeholder reaction to operations

Fraud, bribery and corruption

Delay in Catcher and Kraken production start-up schedule

Operational and project performance

Reliance on JV operators for asset performance

Restriction on ability to sell CIL shareholding

Political and fiscal uncertainties

Access to internal or external funding

Staff recruitment and retention

Working responsibly

The ‘Maintain licence to operate’ KPI measures the Company’s ability to work responsibly and means delivering value in a safe, secure, environmentally and socially responsible manner. Working responsibly means identifying and managing issues that are material not only to the Company but also to stakeholders.

2016 material issues

Economics and funding

Contractors and supply chain

Ethics, anti-bribery and corruption and transparency

Social and economic benefit

Human rights

Major accident prevention and safety

Climate change, emissions and discharges

See our [CR objectives and KPIs](#)



Culture

Delivering value in a safe, secure, and environmentally and socially responsible manner for all stakeholders is a key part of our strategy and ensures we maintain our licence to operate.

At the heart of this is our culture which is based around a commitment to working responsibly. It is also measured through our people management process which incorporates certain behaviours identified as critical to ensuring this culture exists. A culture based on working responsibly means having the right values, principles and policies in place, that they are embedded throughout the organisation in our systems and processes and that they are upheld by our people. Our culture is underpinned by our core values, which are known as the 3Rs, building respect, nurturing relationships and acting responsibly.

3Rs		
Our Business Principles are based on these core values:		
Building Respect	Nurturing Relationships	Acting Responsibly
We act with respect for people, their communities, the environment, human rights and the law.	We act honestly, transparently and with integrity to develop strong, lasting relationships with all our stakeholders.	We behave fairly and ethically, and are accountable for our actions. We believe in, and act on, our responsibility to care for people, society and the environment.

These core values shape our Business Principles, our Code of Business Ethics and a number of Corporate Responsibility (CR) policies. The Business Principles identify the behaviours we expect and the Code of Business Ethics identifies the standards of business ethics and conduct which we expect. Both the Business Principles and the Code of Business Ethics must be applied not only by employees but by all other parties that work on the Company's behalf, including contractors, suppliers and partners. They are integrated into our systems and processes, of which the key ones include the CR Management System (CRMS), the Cairn Operating Standards, the Group Risk Management Procedure and the Internal Control and Assurance Framework.

See our [Policies and principles](#).

The behaviours we expect from our people are based on the 3Rs and are known as our High Performing Behaviours. They identify the behaviours we expect to see exhibited by our people in everything that we do, day to day. They are well promoted throughout the organisation and they ensure that everyone understands how they are expected to contribute to the success of the business. The behaviours are:

- Be Safe
- Be Entrepreneurial
- Be Focused
- Be a Leader
- Be Collaborative
- Be Open
- Be Empowered



To further ensure that these behaviours are adopted by our people and embedded in our culture, this year we included them as part of our performance management process with all individuals in the organisation measured on their performance against each of these behaviours.

This culture of working responsibly is also built upon global standards, which we uphold and which consequently inform how we deliver strategy. These standards are part of valuable, global initiatives that promote responsible corporate behaviour and working practices.

We uphold and support the 10 principles of the United Nations Global Compact (UNGC), an initiative for businesses committed to aligning their strategies with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption. We are also committed to working to International Finance Corporation (IFC)* Performance Standards on Social and Environmental Sustainability, which are in line with the UNGC principles.

The Board has ultimate responsibility for ensuring this culture of working responsibly exists within the organisation and our assurance processes help the Board to ensure this. We have three levels of assurance within the organisation: firstly, our values, policies and principles and our processes and systems with which all employees are required to comply; secondly, internal oversight of their application by key committees such as our Senior Leadership Team (SLT), which includes our Chief Executive, Chief Financial Officer and Chief Operating Officer; and thirdly, internal and external assurance audits and opinions. Our culture of working responsibly is at the very heart of this assurance process and embedded in our values, policies and principles.

The UN Global Compact

Cairn remains a signatory to the UNGC and we integrate the 10 universally accepted principles into our policies and Business Principles. We have made significant efforts to ensure these are applied in a meaningful manner in our operations, and engage our partners, contractors and stakeholders on these and in the way we conduct our business.

UN Sustainability Development Goals (SDGs)

In 2015, world leaders committed to the UN Sustainable Development Goals (SDGs), which set out 17 prioritised areas ranging from ending poverty, ensuring access to energy, protection of ecosystems, addressing climate change and responsible working practices. We recognise a responsibility to look at our activities to identify where both our business adds value for society and where we may need to mitigate for potential negative impacts across environmental, social and governance (ESG) related issues. See [Cairn in Senegal](#).

See also our [Memberships and partnerships](#).

**The IFC, a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector in developing countries.*



Policies and principles

Cairn’s Corporate Responsibility (CR)-related policies and principles include:

- [Business Principles PDF 513KB](#)
- [Health, Safety & Security \(HSS\) Policy PDF 84KB](#)
- [Environment Policy PDF 85KB](#)
- [Corporate Social Responsibility \(CSR\) Policy PDF 76B](#)

Our Business Principles and key policies

While we continue to adhere to all our Business Principles, the most recent updates have recognised the importance of the UN SDGs and the UK Modern Slavery Act (MSA).

Cairn’s 10 Business Principles

Overarching principle

We manage risk and seek to continually improve

Core principle

We behave honestly, fairly and with integrity

Behaving responsibly to people	Behaving responsibly towards the environment	Behaving responsibly to society
<ul style="list-style-type: none">• We develop the potential of our people.• We foster a workplace that respects personal dignity and rights, is non-discriminatory and provides fair rewards.• We provide a healthy, safe and secure working environment.	<ul style="list-style-type: none">• We take a precautionary approach and avoid, wherever possible, negative impacts on the environment and biodiversity.• We seek to minimise our use of resources.• We will prevent, or where that is not practical, minimise discharges to air, water and land.	<ul style="list-style-type: none">• We seek to make a positive social impact in every area in which we work.• We respect the rights and acknowledge the aspirations and concerns of the communities in which we work.



Memberships and partnerships

Partnerships with external organisations bring an opportunity to collaborate on projects and share best practice and lessons learned. Our membership of industry associations and international bodies allows us to influence new policies and procedures, and ensure we are up to date with the latest thinking and ideas around oil and gas exploration.

Organisation	Main areas of focus
UN Global Compact	The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption.
Extractive Industries Transparency Initiative (EITI)	The EITI is a global coalition of governments, companies and civil society working together to improve openness and accountable management of revenues from natural resources.
EITI – Senegal	The Senegalese Government announced its decision to join the EITI in 2012 and submitted its application in July 2013. The EITI board approved Senegal's EITI Candidature status on 17 October 2013.
International Association of Oil & Gas Producers (IOGP)	IOGP is a global forum in which members identify and share best practices to achieve improvements in every aspect of health, safety, the environment, security, social responsibility, engineering and operations. It was relaunched and rebranded as IOGP on its 40th anniversary in 2014.
Greenland Oil Industry Association (GOIA)	Representative body for operators in Greenland covering all issues, with particular focus on drilling, health, safety and environment, and communication.
Norwegian Oil and Gas Association (Norsk olje og gass)	Representative body for operators in Norway, with multiple subcommittees and work groups.
Irish Offshore Operators' Association (IOOA)	Representative organisation for the Irish offshore oil and gas industry. Its members are companies licensed by the Government to explore for, and produce, oil and gas in Irish waters.
Oil & Gas UK (O&GUK)	Representative body for oil companies and contractors in the UK, with multiple subcommittees, work groups, etc.
Oil Spill Response Ltd (OSRL)	Industry-owned cooperative that exists to respond effectively to oil spills wherever in the world they may occur. Its membership consists of over 160 environmentally responsible corporations. Supplementary membership of Subsea Well Intervention Services (SWIS), which includes Capping Stack System (CSS), Subsea Incident Response Toolkit (SIRT) and the global dispersant stockpile.
West and Central Africa Aerial Spraying and Surveillance Services (WACAF)	Provides supplementary and extended oil spill response services (Tier 2) along parts of West Africa including Senegal.
The Offshore Pollution Liability Association Ltd (OPOL)	All offshore operators currently active in exploration and production on the UK Continental Shelf (UKCS) are party to a voluntary oil pollution compensation scheme known as OPOL .
UK Oil & Gas Independents' Association (OGIA)	The Oil and Gas Independents' Association is a self-help group of 34 oil companies active in the UKCS.
Association of British Independent Oil and Gas Exploration Companies (BRINDEX)	BRINDEX seeks to promote the role played by British independent exploration and production (E&P) companies in maintaining a powerful and effective UK-based oil and gas industry.
UK Oil Industry Taxation Committee (UKOITC)	Represents tax professionals working in the UK oil and gas industry, and the accounting and legal professions.
Oil Industry Finance Association (OIFA)	Purpose is to discuss joint venture accounting issues of the UK's upstream oil and gas activities.
Oil Industry Accounting Committee (OIAC)	Focal point for UK upstream oil and gas companies in relation to all financial reporting matters.
Chartered Association of Corporate Treasurers	Latest practice information, news and best practice. Networking.





Prioritising key issues

In order to deliver our strategy, we set a series of strategic KPIs annually. There are elements of working responsibly in each of those KPIs with one of them, the Maintain Licence to Operate KPI, dedicated to working responsibly.

To achieve the Maintain Licence to Operate KPI, we have a series of Corporate Responsibility (CR) objectives that are set annually and grouped under four themes: Business Relationships, Society and Communities, People, and Environment.

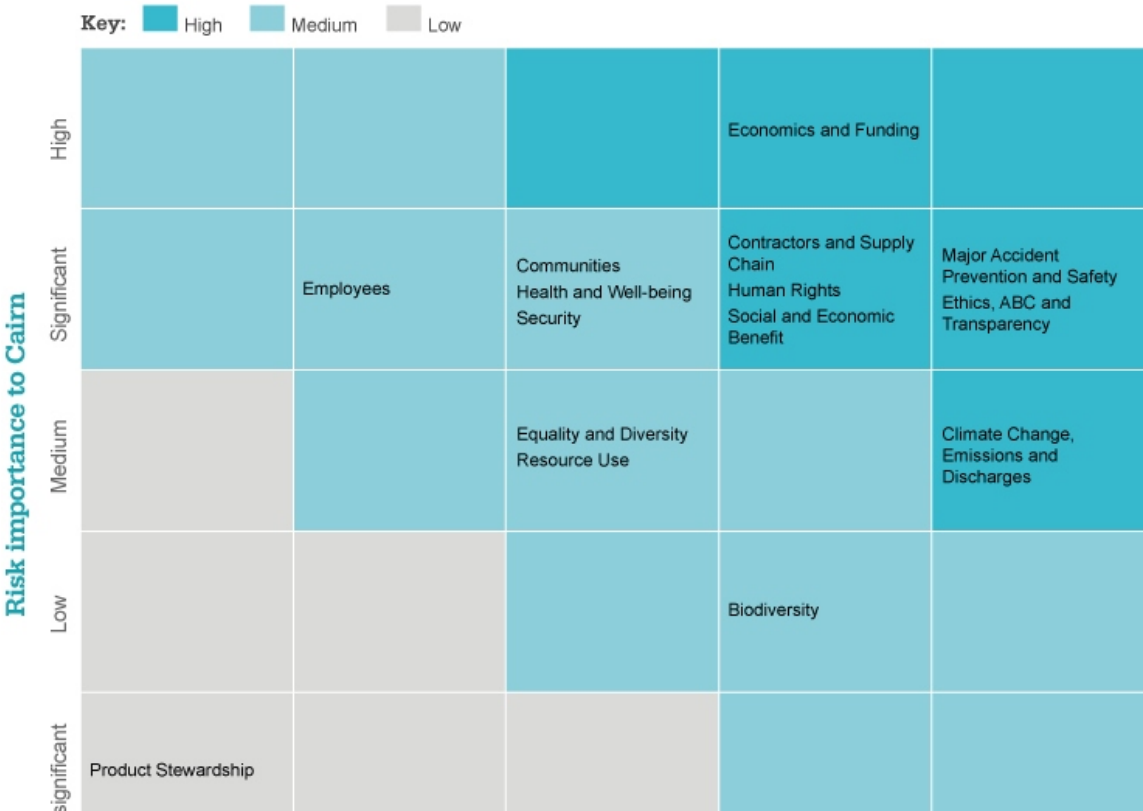
See our [CR objectives](#).

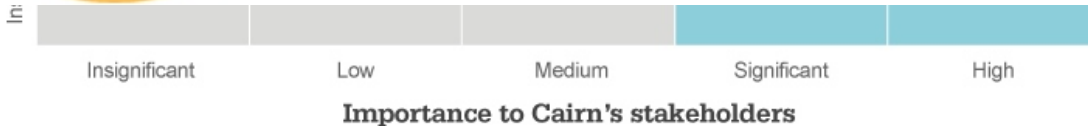
Our CR objectives are set from understanding our risks and material issues. We identify these through our risk management process, which determines the issues that are material to the business, and our stakeholder engagement processes, which identify those material to stakeholders.

The 15 potentially material issues are plotted on the materiality matrix below.

Seven issues were found to be highly classified to both Cairn and Cairn's stakeholders and thereby deemed material. These issues are analysed in detail in the [Annual Report](#), but all issues are discussed in this CR section.

Over the last year, we have seen an increasing emphasis on business ethics, human rights, climate change, and social and economic benefits for our business and stakeholders.





Business Relationships

Economics and Funding	High level of materiality	Funding Investment Reserves valuations and capital expenditures
Contractors and Supply Chain	High level of materiality	Culture and leadership Selection Competency, training and education
Ethics, ABC and Transparency	High level of materiality	Principles, policies, CRMS Risk and material issues Strategy and operations Accountability and responsibility Advocacy and lobbying Cairn ABC practices Contractors and suppliers Government and authorities Whistleblowing Communications Remuneration Tax and payments to government Fines and prosecutions Non-operated joint ventures and international investments

Society and Communities

Social and Economic Benefit	High level of materiality	Shared value Benefits and impacts to communities Local content Social investment Government relations
Human Rights	High level of materiality	Working conditions/T&Cs Freedom of association Modern slavery/security Complicity Grievance Non-discrimination
Communities	Medium level of materiality	Local community Stakeholders Indigenous peoples Local labour Community health Cultural heritage Displacement

People

Major Accident Prevention and Safety	High level of materiality	Asset integrity Major accident prevention Major oil spill prevention Workplace safety
Health and Well-being	Medium level of materiality	Workplace health Infectious diseases Well-being and health Support
Security	Medium level of materiality	Office Personnel Local assets Travel Cyber security



Employees	Medium level of materiality	Culture and leadership Selection Succession Workforce planning
Equality and Diversity	Medium level of materiality	Anti-discrimination Equal pay Equal opportunities and diversity

Environment

Climate Change, Emissions and Discharges	High level of materiality	Energy use and alternative sources GHGs Other emissions Flaring and venting Strategic carbon risk Discharges/disposals to water and land Spills Reuse, recycle and waste management Stranded assets
Biodiversity	Medium level of materiality	ESIA, environmental surveys and ecosystem services Biodiversity action plans
Resource Use	Medium level of materiality	Water abstraction and use Local resources Materials
Product Stewardship	Medium level of materiality	Oil and gas sales and impacts

Read more on our [Stakeholder engagement processes](#) and [How we assess material issues](#).

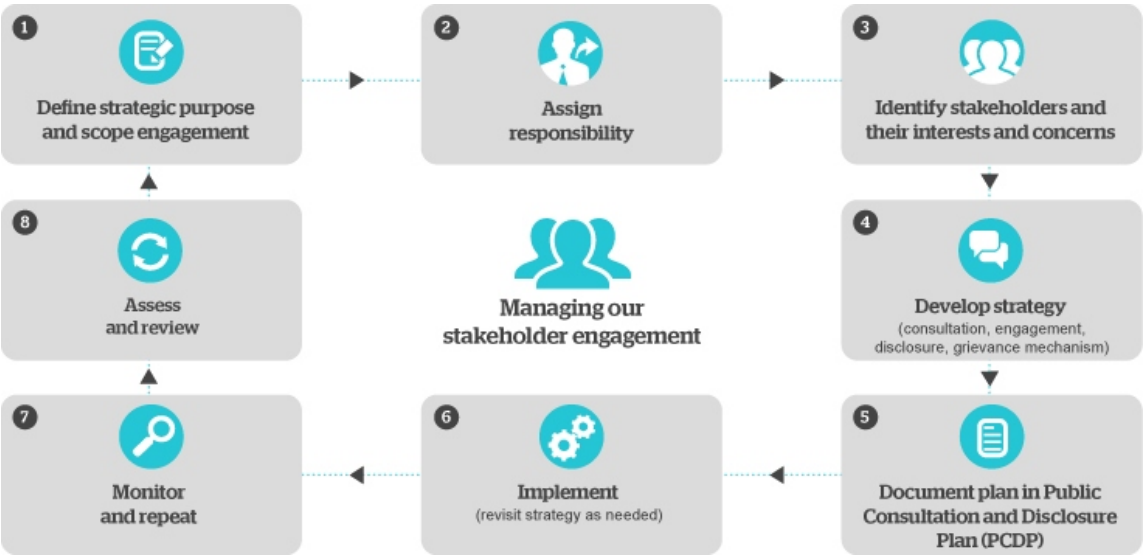


Stakeholder engagement processes

Delivering value for all stakeholders is at the core of our approach to working responsibly. Therefore, understanding who our stakeholders are and engaging with them to understand what their concerns and priorities are is important.

We have well-structured stakeholder engagement procedures in place at corporate and project level that enable us to identify and assess issues among our stakeholders and then address and respond to them. We do this through tailored engagement with specific stakeholders, disclosure of information and monitoring of stakeholder opinions and actions.

When considering a new project and involvement in a country where we have not worked previously, identifying our stakeholders is one of our priorities and we undertake a stakeholder identification exercise. We draw on the knowledge of our local staff, corporate staff and external agencies, partners and consultants to do this. Using this knowledge, we then develop a Public Consultation and Disclosure Plan (PCDP). PCDPs identify stakeholder concerns and issues, the materiality of issues and the associated risks to the business. This enables us to identify actions to mitigate those risks and this also forms part of the PCDP. Stakeholder engagement plans are bespoke to each project and regularly updated to reflect changing stakeholders and their concerns around a project.



Our stakeholder engagement model follows the principles of 'Materiality', 'Inclusivity' and 'Responsiveness' as defined in AccountAbility's AA1000 Accountability Principles Standard (AA1000 APS). AccountAbility is a global organisation providing solutions to challenges in corporate responsibility and sustainable development. This ensures that we engage with internal and external stakeholders, identify and assess our most important CR issues, and address and respond to them in a structured way.







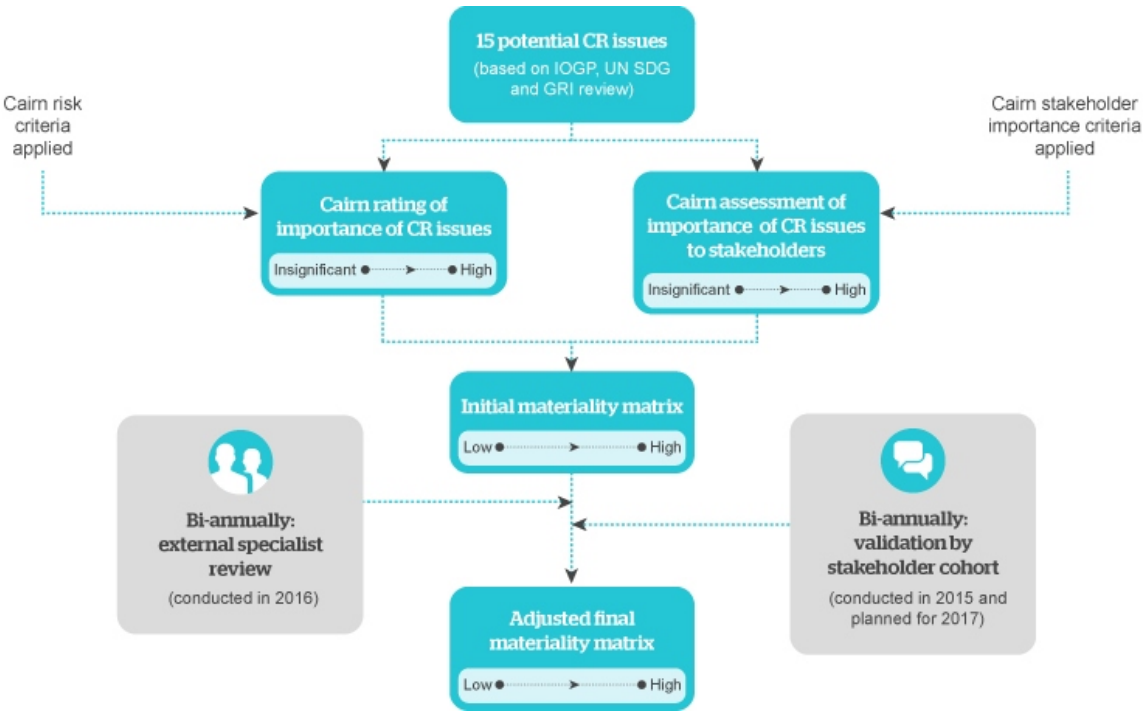
How we assess material issues

One of our CR objectives this year was to further improve the transparency of the methodology used to identify our material issues for the year. To do so we compiled a list of 15 potentially material issues to stakeholders based on IOGP, UN Sustainable Development Goals and GRI international reporting requirements. Each of those 15 issues has linked sub-issues each of which was ranked to indicate its level of importance to Cairn and to stakeholders (high, significant, medium, low, insignificant).

The importance to Cairn used the latest risk register and Cairn risk criteria. The worst-case sub-issue linked to an issue ranking was used as the overall ranking for the issue as a whole.

The rankings for importance to stakeholders were based on objective criteria, which include Cairn's experiences and communications with stakeholders during the course of the year. In 2015, a cohort of stakeholders was used to validate the stakeholder classifications; this will be repeated every other year based on specialist advice. See [2015 report: Stakeholder views on materiality](#).

An external specialist* reviewed the issues in 2016 and feedback on methodology and stakeholder expectations were incorporated with actions for improvement capture for CR Objectives.



We have grouped the [15 potential material issues](#) by [Business Principle](#).

*Julie McDowell, former head of Standard Life Sustainability Team.





CR objectives and KPIs

In order to deliver our business strategy, every year we set a series of Key Performance Indicators (KPIs).

There are elements of working responsibly in each of those KPIs, with one of them, the Maintain licence to operate KPI, dedicated solely to working responsibly.

To support achievement of the Maintain licence to operate KPI, we have compiled a series of Corporate Responsibility (CR) objectives. Our CR objectives are set annually and are grouped under four themes: **Business Relationships; Society and Communities; People; and Environment**.

Our CR objectives are set from an understanding of our material issues, against a backdrop of good practice, and are used as a measure of our performance to drive continuous improvement.

CR objectives are reviewed throughout the year by senior management to gauge progress, and are adjusted and updated as necessary. At the end of the year, they are used in assessing Group overall performance and are linked to internal incentives of our people, before being reset for the following year.

How did we do in 2016?

The table below summarises the CR objectives we set in 2016 and the progress we have made against these.

- KPI achieved by 2016 year end
- KPI partially achieved by 2016 year end
- KPI not met by 2016 year end

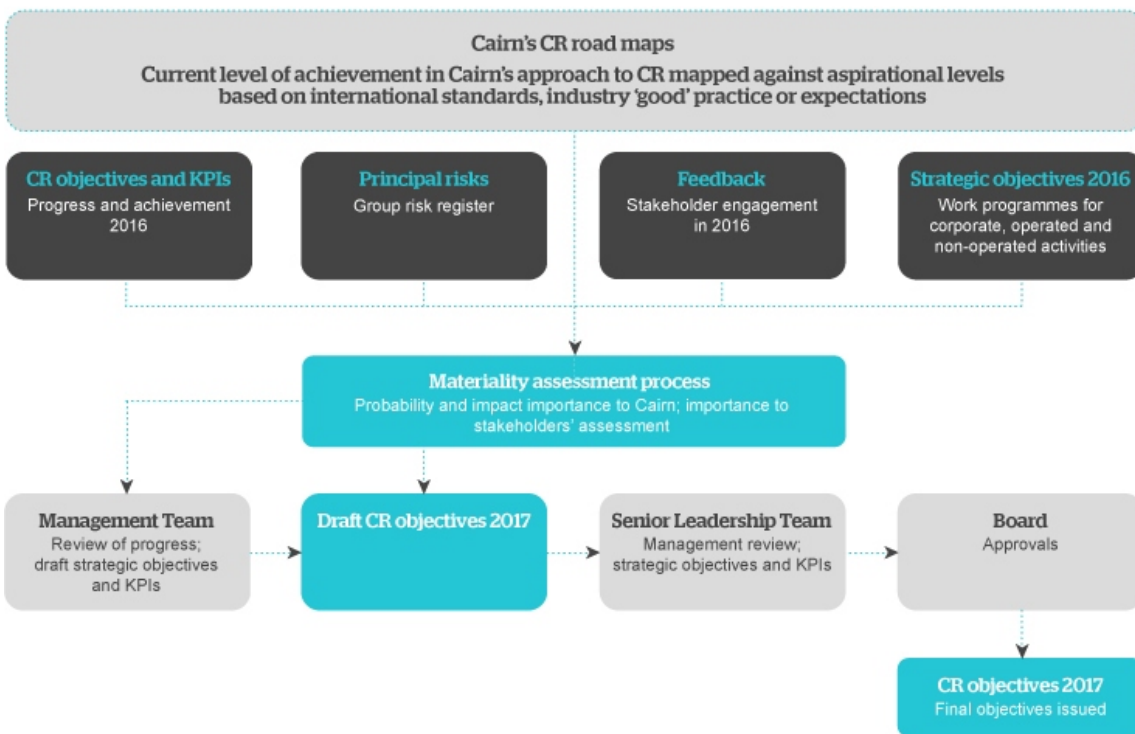
We continue to follow our process to set our 2017 CR objectives in order to maintain alignment with the Group's strategy. The process is informed throughout by our CR road maps, which are updated annually to reflect progress made, and to address any changes to international standards, industry best practice or expectations. The process is also shaped by stakeholder engagement, progress made in 2016, the 2017 work programme and the outcomes from the CR materiality assessment process.

2016 CR objectives highlights

CR objectives 2016	How did we do?	
Standards and leadership		
Corporate Responsibility Management System (CRMS)	We revised our Group CRMS in late 2015 and again in 2016 and we completed roll-out We revised our crisis and emergency procedures to improve the quality of response to new and existing scenarios We revised our business plan Our CRMS was re-verified against the requirement of OSPAR	
Non-operated practices	We continued to support our non-operated assets to meet good practice	
Business relationships		
Contractors and projects	We successfully completed our phase two drilling programme in Senegal, maintaining compliance with all requirements We improved our risk screening process and used it successfully in preparation for our phase three drilling campaign in Senegal We applied our Project Delivery Process (PDP) for phase three drilling in line with schedule	
HSE/CR communications	Our Annual Report and web pages were updated and we successfully reviewed our basis of reporting We failed to issue a planned CR communication document for Senegal	
Society and communities		
Human rights and ethics	We updated the Board on developments under the Modern Slavery Act, climate change agreements and the UN SDGs We refreshed our anti-bribery and corruption (ABC) policies and procedures and rolled out e-learning	
Social investment in Senegal	We continued developing our Social Investment Programme in Senegal (see Senegal feature) We developed a value indicator for use in annual reporting We ran Senegal employee engagement workshops but failed to run wider stakeholder workshops	
Our people		



People management	We updated our People Management Policy and Manual but failed to complete and roll it out	—
Traveller risk management	We improved our traveller management system and rolled it out	✓
Environment		
Climate change	We reviewed our risks arising from COP21 including general implications and asset reviews We presented outcomes to the Board	✓
Lagging indicators		
Lost Time Injury Frequency (LTIF)	We had one lost time accident (LTIF rate was 1.04)	✗
Total Recordable Injury Rate (TRIR)	We met our TRIR target of 2 (TRIR was 1.04)	✓
Oil spills	We didn't meet our oil spill benchmark of zero spills (four spills; total of 1.05 bbl oil spilled)	✗



2017 CR objectives

Business relationships

1. Economics and funding	Strengthen link between Corporate Responsibility Management System (CRMS) and business risk management Improve Corporate Responsibility (CR) risk register Annual CRMS audit Enhance CR content of Investment Proposals and support new ventures
2. Contractor and supply chain	Run contractor workshops in Senegal with themes including Life Saving Rules and Modern Slavery Act (MSA) Support other programmes planned across the Group
3. Ethics, ABC and transparency	Continue to improve our Code of Business Ethics and Business Principles Enhance the gifts and hospitality register Anti-bribery and corruption (ABC) training targeted at high-risk areas
Society and communities	
4. Social and economic benefit	Continue to develop our Impact Benefit Plan in Senegal Standardise our approach to impact benefit planning across the Group and linkage to the



UN SDGs

5. Human rights	Further develop Modern Slavery Act (MSA) safeguards Deliver MSA training Develop MSA statement for 2017
6. Communities	We will improve opportunities for local participation in the Senegal project and development of our local employees We will complete our CR brochure for Senegal
People	
7. Major accident prevention and safety	Implement safety campaigns linked to our Life-Saving Rules Further training of our crisis and emergency personnel, improve plans and perform exercises
8. Health and well-being	We will revisit our pandemic and infective disease planning We will update our Senegal health plans
9. Security	Security exercise will be run and we will continue to provide improved support to 'high-risk' travellers
10. Employees	We will complete and roll out our revised People Management Policy and Manual We will assess effectiveness of management training We will perform a Managing Talent audit
11. Equality and diversity	Determine implications arising from the development of the Equality Act
Environment	
12. Climate change, emissions and discharges	Continue to track risk arising from climate change treaties and legislation We will review our greenhouse gas (GHG) monitoring and accounting preparedness
13. Biodiversity	We will conduct a baseline survey for our Senegal unexplored offshore blocks and develop an Environmental and Social Impact Assessment (ESIA)
14. Resource use	We will perform an Energy Saving Opportunity audit
15. Product stewardship	We will support trading of non-operated asset production when it commences in 2017
Lagging indicators	
Lost Time Incidents	Our target will remain as 0 LTIs and LTIF of 0
Total Reportable Incidents	Our target will be a TRIR of <2
Oil spills	Our target will be zero oil spills to the environment



Business relationships

Behaving honestly, fairly and with integrity is central to Cairn's interactions. We comply with applicable legal, regulatory and licence requirements and strive to be consistent with international norms of behaviour.

We seek to demonstrate leadership throughout our business and in our relationships with others.

The way we behave is critical to accessing business opportunities, implementing our plans and obtaining funding.

2016 performance highlights

100% of all Investment Proposals submitted to the Board in 2016 included appropriate assessment of CR considerations.

CRMS met the requirements of OSPAR recommendation 2003/5.

91% of employees trained in Cairn's anti-bribery and corruption (ABC) policies and procedures.

US\$25.7 million paid to governments*.

Material issues

	Level of materiality
Economics and funding	High
Contractors and supply chain	High
Ethics, ABC and transparency	High

* Refunds from governments, in 2016, were US\$40.4 million.



Economics and funding

Maintaining Corporate Responsibility standards

The sustained low oil price continues to be one of our principal risks. This means that the business remains focused on delivering opportunities to cut costs across operations. However, in pursuing cost reductions in this environment, we do not compromise our commitment to working responsibly.

Investors continue to scrutinise not only our financial position but also our working responsibly practices, and we continue to communicate how we achieve this and how we manage Corporate Responsibility (CR) and the benefits of doing so. Our commitment to working responsibly, and our strong track record in this area, assists in retaining investment and securing opportunities when considering a new venture or licence application.

Evaluating new opportunities

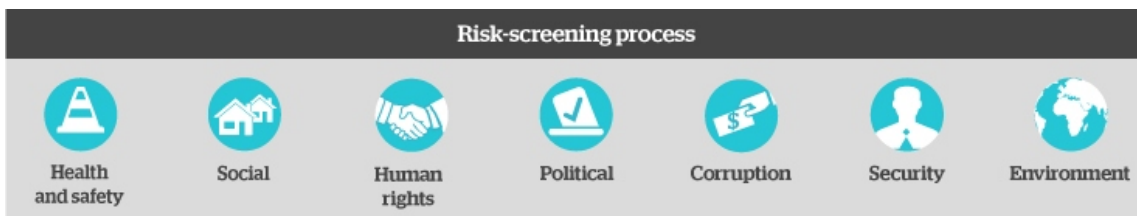
International investment features highly in our activities where we consider operating or where we may be a joint venture partner. To protect our investment, we continue to assess CR risks as part of our evaluation of a new relationship or a new location.

We continue to assess new venture opportunities within the context of our existing financial commitments to our key projects in Senegal and the North Sea and in a low oil price environment, which means restricted funding is an issue for the oil and gas industry as a whole. Some opportunities may be financially attractive, but unacceptable due to associated ethical, safety or environmental concerns.

Evaluation process for new ventures

Before entry into a new venture, we undertake a due diligence process to ensure we have confidence in the integrity and CR track record of the partners involved and understand the CR risks associated with the locations of interest. Through our Corporate Responsibility Management System (CRMS), we rigorously assess new venture opportunities. This consists of a phased process of evaluation using our Cairn Operating Standards to understand all aspects of risk associated with a new venture. From a CR perspective, we consider such risks in relation to the CRMS requirements and CR issues arising from the type of deal (e.g. new country entry, licence application, existing asset acquisition or company deal).

As part of this process we develop Investment Proposals (IPs) that identify and evaluate the risks associated with the investment; these risks include any CR-related concerns. All significant new venture projects require Board approval and are considered by the Board relative to strategy and risk appetite. All IPs submitted to the Board in 2016 included appropriate assessment of CR considerations.



Senegal

As an operator in Senegal, CR issues are fully integrated into the appraisal and exploration drilling programme, including working and engaging with the relevant regulators and local community stakeholders. We have sought and ensured continuity of permitting and ongoing improvements in understanding the community position, including increased social investment activities. High standards of operation, good governance and transparency help protect our licence to operate (see [Society and communities](#)).

In Senegal, we identified and implemented initiatives during the year to reduce our operational cost. These included extensive assessment of rig and other contractors to achieve the most cost-effective solution for further exploration and appraisal of our Senegal blocks in 2017. However, before commercial bids were assessed, CR and technical requirements had to be fulfilled.

In September 2016, we opened a new supply base in Dakar port to meet our operational needs. This supply base, which is developed to a UK regulatory standard, could have been completed at a lesser cost but at the expense of meeting the standards we set ourselves. Previously, our supply base arrangements were focused on a number of storage yards and shared facilities with associated hazardous road, access and handling issues, which contributed to the Lost Time Incident (LTI) we experienced in April (see [Major accident prevention and safety](#)). The new base not only reduces safety and environmental risks associated with our previous supply base arrangements, but also improves equipment handling and saves



time, a more cost-effective and safer solution (see [New supply base at Dakar port](#)).

UK and Norway

In some of our operations, such as in the UK North Sea and Norway, activities are carried out by partner organisations and we participate as a member of a joint venture. We also regularly assess the CR performance of our operating partners through partner operating and technical committees. Cairn's UK sector non-operated activities include the Catcher and Kraken development projects, which are both due to deliver first oil in 2017. These projects continued to progress in 2016 with ongoing development drilling, and fabrication and refit of the production vessels. Given that Cairn is not the operating party for either project, it is important to monitor and hold our partners accountable for both the delivery and the performance of these developments. We have continued to work very closely with our partners to enhance the performance of the contractors involved in the fabrication and refit of the floating production, storage and offloading (FPSO) installations.

Cairn engaged both of its partners for the Catcher and Kraken developments for this purpose and participated in safety case work, with the Kraken Safety Case being accepted by the UK regulator in October 2016 and the submission of the Catcher Safety Case to the regulator in January 2017.

Our joint venture partners in the North Sea, EnQuest and Premier Oil, were also diligent in delivering cost reductions on our Kraken and Catcher projects by taking advantage of improved contractor market conditions while maintaining a focus on safe delivery and working responsibly. We monitor this through formal joint venture meetings and special working groups, promoting our Business Principles and sharing lessons learned.

Cairn's UK and Norway region also continued to participate in a wide variety of non-operated assets. In Norway, we continued to fulfil our 'see to' responsibilities under the Norwegian regulatory requirements and participated as a non-operating partner in one well in 2016. We also applied for further licences in the Norwegian and the Barents Sea. In 2016, we were awarded operatorship of one block and non-operated interests in additional blocks in Norway (which has some of the most stringent HSE regulatory requirements).

International

We also continue to hold exploration interests in a number of other locations. Many are non-operated interests such as Western Sahara where no activities were undertaken in 2016. Planning for works in 2017 has commenced and the same rigour is being applied to manage cost without compromising our CR position.

We are considering potential for further work in the Republic of Ireland, where oil and gas operators are required to meet the high environmental management standards of the Oslo/Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). In 2016, we retained our OSPAR verification (to OSPAR Recommendation 2003/5); achieving this early protects our investment so we can move forward quickly if needed.

Objectives 2017

- Strengthen link between Corporate Responsibility Management System (CRMS) and business risk management
- Improve CR risk register
- Annual CRMS audit
- Enhance CR content of Investment Proposals and support new ventures

Strategic objectives

- Deliver exploration and appraisal success
- Deliver a sustainable business

Principal risks

- Operational and project performance
- Delay in Catcher and Kraken production start-up schedule
- Secure priority new venture opportunities
- Sustained low oil price
- Inability to access internal or external funding
- Fiscal stability and predictability



Contractors and supply chain

Contractors and our business

The relationships between Cairn and our contractors are paramount to safe and efficient operations. We consistently engage with all contractors to ensure our expectations are met in the services provided. This proactive approach has proved invaluable to the collaborative delivery of our ongoing operations.

Our business is highly reliant on the use of specialist contractors and suppliers, typically not retained in-house due to variation in demand and high cost, and as such they contribute to the delivery of our strategy. In 2016, 63% of our workforce were contractor personnel*, amounting to 64% of hours worked. Good management of contractors and suppliers, and ensuring they meet our high standards of responsible working practices, is therefore critical in maintaining those standards. Where we can, we seek to maximise local participation in the workforce and supply chain.



Note:
 1. This includes Cairn employees and other time-writing personnel who have been contracted for more than three months to an organisational position.

CR issues for our contractors

It is important that our contractors share our focus and culture on all aspects of health, safety and environment (HSE) and Corporate Responsibility (CR) to maintain our licence to operate. Experience, competence and demonstrating good performance are some of the key issues when it comes to choosing the right people to supply the provisions, equipment and services needed to help run our business. Cairn applies a rigorous selection process in choosing contractors, which is embedded in Cairn's Contractor Management Procedures and which includes assessing contractors' competency levels in HSE and related management systems (see [Supply chain management](#)).

During an offshore drilling campaign, a number of activities are undertaken that may pose significant HSE risks. These crucial processes include, but are not limited to, the rig, marine vessels, helicopters and supply base operations. In Senegal, this emphasis continued during the closure of the phase two appraisal and drilling programme in 2016, and during planning for the 2017 campaign (see [Major accident prevention and safety](#)).

Our robust anti-bribery and corruption (ABC) policies are of growing importance as we start to operate in new areas of the world.



We have a zero-tolerance approach to bribery and corruption (see [Ethics, anti-bribery and corruption and transparency](#)) and conduct risk-based due diligence on contractors, as detailed in our ABC procedures.

The UK Modern Slavery Act (MSA) came into force during the year, although we did not fall under its provisions in 2016. The implications of the Act mainly affect our supply chain and contractors in terms of measures to ensure forced labour does not occur within our operations. We are likely to fall within the Act in 2017 and so conducted an initial gap analyses in 2016; actions identified have been included in our CR objectives for 2017 (see [Human rights](#)).

Local contractors

Our recruitment policies seek to employ personnel local to our host countries where they are suitably qualified, and we encourage our contractors to do the same. We also give preference to local suppliers through our contracting and procurement policies and procedures where they are able to meet our CR requirements. In addition, we are looking to build local capacity through partnership with local organisations and academic institutions (see also [Social and economic benefit](#)). Our stakeholders continue to take an interest in opportunities for local contracting services and we anticipate that this interest will grow in the coming years. We are pleased to be able to report, in these early stages of the Senegal project, that local personnel in Senegal represented 22% of our workforce.

Total national and non-national contractors (%)

	2016
National	23
Not national	77

Read more on our [supply chain management](#).

Objectives 2017

- Run contractor workshops in Senegal with themes including Life Saving Rules and Modern Slavery Act (MSA)
- Support other programmes planned across the Group

** In the ARA 2016 this figure is 61%, due to slight change in methodology for calculating numbers of contractors.*

Strategic objectives

- Maintain licence to operate
- Deliver operational excellence

Principal risks

- Health, safety, environmental and security incidents
- Operational and project performance



Supply chain management

Rigorous contractor selection

Cairn’s Invitations to Tender (ITTs) set out our expectations and emphasise the requirement for all contractors to behave consistently with the Cairn Group Business Principles, our HSE and quality standards, corporate governance requirements, joint venture/partner agreements, and the need to adhere to legislative and regulatory requirements. All potential contractors must confirm their capability to comply, and we assess their ability to do so, which takes substantial planning and checking. We seek to promote use of local suppliers where possible but our standards must not be compromised.

We continue to consider responsible working in the entire contracting lifecycle, from selection and management of our contractors to applying lessons learned in new programmes. In 2016, our contractor selection process was reviewed at the end of the phase two drilling programme in Senegal and lessons learned were applied by further embedding CR matters, including human rights issues (see also [Human rights](#)), as pre-qualifying requirements for all key contractors. Based on International Association of Oil & Gas Producers (IOGP) good practice, the phase three contractor assessment process consisted of an initial review against key criteria and the issue of a CR questionnaire alongside ITTs. Returned ITTs were assessed to determine whether our standards were met. Contractors who passed this assessment progressed to the next round and were subject to further follow-up, including site visits to verify responses before further assessment and selection.

Effective management and control

We commissioned independent specialists to audit rigs, vessels and aviation before we contracted them for the phase three Senegal programme, to ensure effective management was in place before operations commenced in January 2017.

Some operational activities are managed directly by Cairn whereas others are the responsibility of the contractor, although the contractor remains accountable to Cairn at all times. For example, rig contractors perform drilling activities under agreed procedures whereas Cairn retains assurance processes such as reporting, performance measures, audits and reviews. The allocation of duties and responsibilities is part of our [Project Delivery Process](#) and bridging arrangements. These are in place to ensure our CR management systems and those of our contractors remain effective and clarify which party maintains primacy over an activity.

Monitoring during operations

During operations, conformance to our requirements and performance is measured using audit activities and maintaining regular engagement at various levels. Cairn recognises that leadership plays a vital role in embedding appropriate HSE behaviours in our organisation and expects the same attention from all contractors and service providers who undertake work on our behalf. Our HSE focus originates at the Board level and that commitment is communicated to all contractors throughout the project cycle.

Our contractor performance management process includes a number of contractor health, safety and environment KPIs. Key contractors are required to complete and deliver a regular scorecard detailing their HSE performance, which includes both leading and lagging indicators. We use this to assist in assessing whether they are meeting expectations, or their performance requires improvement or is unsatisfactory, in which case immediate action is taken.

Where Cairn is a minority joint venture partner and does not have operational control, we conduct due diligence and engage constructively with partners to ensure familiarity with the operator’s standards before an agreement to proceed on operations is made. This included significant input in support of our partners and their contractors in the Catcher and Kraken development projects (see [Economics and funding](#)).

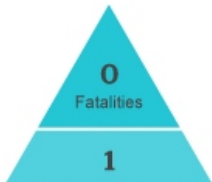
We continue to encourage our contractors where performance can be improved, including proactive engagement and follow-up of incidents and issues. In 2016, this included a comprehensive review of accident and emergency incidents during the construction of the Catcher and Kraken floating production, storage and offloading (FPSO) units. Findings from this review were shared with the Board, which allowed lessons to be learned and shared across the Group and between the similar development projects.

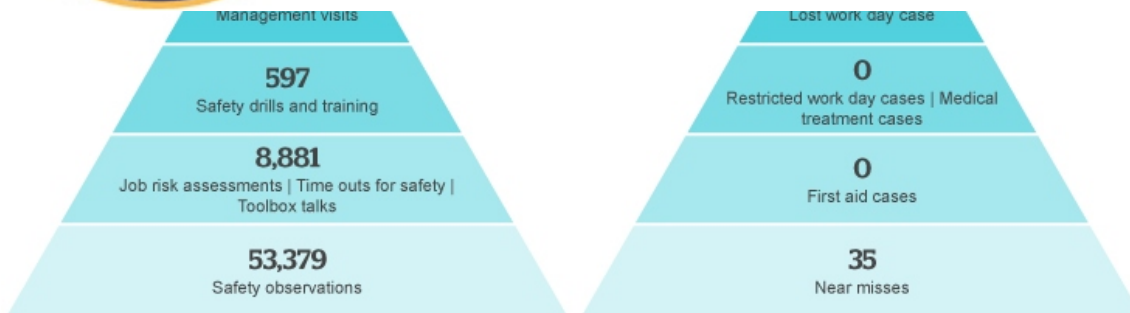
Health and safety triangles, Senegal operations October 2015 - June 2016

Number of preventative health and safety actions undertaken



Number of health and safety incidents that occurred





Planning for success in 2017

Overall in 2016, the hours worked were 0.96 million (0.62 million contractor hours), which rose from 0.67 million (0.47 million) in 2015. This was due to the completion of the second phase programme in Senegal and planning for 2017 compared to a shorter operational period in 2015.

For the 2015/16 Senegal exploration and appraisal drilling campaign, Cairn appointed ConocoPhillips (COP) as our well activities delegate. However, with the improvement in contractor availability (see [Economics and funding](#)) and the acquisition by Woodside Petroleum of COP's share in the licence, we decided to change our contracting model for the 2017 programme. Much of the second half of the year was spent evaluating contractors and preparing bridging arrangements to ensure the 2017 programme could commence in a timely manner and in accordance with our CR requirements. Our key contractors have worked hard to be in a position to satisfy our requirements and be 'drill ready' by early 2017.



Ethics, anti-bribery and corruption, and transparency

Our ability to do business relies on developing trust with our stakeholders, including investors, governments, business partners, suppliers and the broader society. This means we work in an ethical and transparent way and take a zero-tolerance approach to bribery and corruption.

Code of Business Ethics

We have a group Code of Business Ethics (the Code) whose purpose is to establish the standards of business ethics and conduct expected of everyone who carries out work for us or on behalf of us, including contractors. The Code is regularly updated, most recently in November 2016, along with our Business Principles, which identify the behaviours we expect from our personnel. Application of the Code throughout the business is ensured by the highest level of management, the Board. The Board's audit committee is responsible for appointing an internal auditor to regularly conduct internal audits of Cairn's compliance with the Code. All levels of management at Cairn, including executive and non-executive directors, regional directors, general managers and heads of departments, are responsible for ensuring consistent application of the Code. All personnel must abide by the Code and promote its use in all business activities. All employees are required to sign up to the Code as part of their employment conditions.

The Code includes our commitment to:

- legal and regulatory compliance;
- a zero tolerance approach to bribery and corruption;
- respecting human rights;
- not making contributions to political parties, organisations or individuals engaged in politics or political lobbying, as a way of obtaining advantage in business;
- providing a workplace free from discrimination and harassment; and
- financial integrity and reporting.

Whistleblowing procedure

Employees are encouraged to report any incident they believe may compromise our Code of Business Ethics. They can do this in a number of ways, including using a confidential phone line or speaking directly to their regional director. Where appropriate, the procedures can also facilitate an independent investigation of any matters raised. The Group's whistleblowing procedure was reviewed and approved by the Board in December 2015.

Cairn is now registered with the whistleblowing charity Public Concern at Work, which offers staff an alternative way of reporting an issue if they are not comfortable using internal procedures.

There were no reported incidents raised through the whistleblowing procedure in 2016.

KPIs

Incidents of non-compliance with the Code of Business Ethics

Employee dismissals for non-compliance with the Code of Business Ethics

Anti-bribery and corruption

Our anti-bribery and corruption management system (ABCMS) has been developed to manage such risks through all stages of the exploration and production lifecycle. Country- and Company-level anti-bribery and corruption (ABC) risk screening forms an important part of the decision-making process when entering new countries or negotiating with potential partners and major suppliers. We also subscribe to a number of due diligence tools, which enable us to complete comprehensive risk assessments of business partners, suppliers and other third parties.

As part of our ongoing commitment to establishing a culture of zero tolerance to bribery and corruption, in 2016 we required all personnel, including contractors, to complete a bespoke e-learning module to ensure their continued understanding and application of our ABC policies and procedures.

Employees trained in Cairn's anti-corruption policies and procedures (%)



Monitoring and responding to ethical issues

Throughout the year we track emerging ethical issues of importance to our business and the industry by monitoring emerging legislation, guidance and agreements; press commentary and stakeholder enquiries, and through focused stakeholder engagement. See our position with regards to [Western Sahara](#).

In 2016, we reviewed our potential contribution towards the UN Sustainable Development Goals (see [Sharing benefits in Senegal](#)), our readiness to report against the Modern Slavery Act 2015 (see [Human rights](#)) and the implications of the COP21 Climate Change agreement (see [Climate change review](#)).

Transparency

Cairn is committed to being open and transparent in all aspects of its business and this includes in its communications with stakeholders and in its reporting.

Communicating with shareholders

Shareholders are important stakeholders, and they are key to our funding position, consequently we invest significant resource in effective shareholder communications. We respond promptly to correspondence from shareholders and our website includes a dedicated [Investor relations](#) section.

To ensure the Board maintains an up-to-date understanding of the views of major shareholders, there is a focused and structured programme of regular shareholder dialogue. The Board is kept informed of any issues raised by shareholders through Board papers where shareholder concern is a standing agenda item, through feedback at pre-Board meetings and following significant announcements. In addition, we maintain an investor relations database, which details all meetings between Cairn and its investors.

Read more on [Transparency regarding reporting](#), [Remuneration](#) and [Government relations](#).

Objectives 2017

Continue to improve our Code of Business Ethics and Business Principles

Enhance the gifts and hospitality register

Anti-bribery and corruption (ABC) training targeted at high-risk areas

Strategic objectives

Maintain licence to operate

Principal risks

Negative stakeholder reaction to our operations

Fraud, bribery and corruption



Western Sahara

In 2016, a key focus of stakeholder enquiries and activity was our involvement in Western Sahara, although in 2016 we had no active operations in the region. We hold a 20% non-operated interest in the Boujdour Maritime contract area offshore Western Sahara with a commitment for 3D seismic to be acquired by 2020, which will be conducted by the operating partner, Kosmos Energy.

In June 2016, the Norway Government Global Pension Fund announced its decision to exclude both Cairn and Kosmos Energy from their fund. The decision on exclusion was made on the basis of the recommendation of the Council on Ethics. In October 2016, BMO Global Asset Management (an investment fund management organisation) decided, on the basis of the same report, to exclude Cairn from the investible universe of BMO's Responsible Fund range.

Western Sahara has been classified since 1961 as a "Non-Self-Governing Territory" by the United Nations. Both Morocco and the Saharawi Arab Democratic Republic claim Western Sahara as their sovereign territory. Cairn believes that hydrocarbon exploration offshore of the territory is consistent with international law. Resolution of the territorial status is not required for exploration as the UN 2002 Legal Opinion views Morocco as the territory's administering authority and as such it can issue permits for resource development. The UN continues to mediate a process to resolve the dispute between Morocco and the Saharawi Arab Democratic Republic. In 2013, Morocco's Economic, Social and Environmental Council, an independent constitutional body, launched intensive consultations in the region on how to properly manage the development of the region. Initial oil and gas industry activities in the area are focused solely on exploration and do not involve the removal of resources. The region remains economically underdeveloped. Cairn believes that the exploration for hydrocarbon resources will enhance economic development prospects for all people of the territory, with the possibility of greater private sector investment and job creation.

Responsible resource development can proceed in parallel with the UN-led discussions on the region's future and the 2002 UN Legal Opinion provides for resource development to co-exist with the political process, as long as any such resource development is conducted for the benefit of the people of the territory.

The Joint Declaration of Principles signed by Kosmos Energy and the Government of Morocco states that local populations will benefit efficiently, effectively and transparently from production of hydrocarbons if commercially viable reserves are discovered.



Transparent reporting

We are committed to responsible and transparent reporting and have been recognised for the quality of our work in this area: in 2014 and 2015, we were nominated by the Investor Relations Society in the Best Annual Report category among FTSE 250 companies, and in 2015 we were shortlisted for Best Audit and Risk disclosure in the FTSE 250 at the Institute of Chartered Secretaries and Administrators (CSA) Excellence in Governance Awards.

In 2016, our 2015 Annual Report was highly commended in the PwC Building Trust in Corporate Reporting Awards for 'excellence in reporting' in the FTSE 250. We apply global standards to ensure our reporting is of the highest quality. We use the Global Reporting Initiative (GRI)* Sustainability Reporting Standards at a 'Core' level. We follow the content principles of materiality, stakeholder inclusiveness, sustainability context and completeness; and its quality principles of balance, comparability, accuracy, timeliness, clarity and reliability.

We received a series of questions from the Financial Reporting Council (FRC) in response to the ClientEarth complaint in late 2016 alleging we had failed to adequately disclose climate change risks to our investors, along with routine questions in other areas. We responded in full to all FRC questions in January 2017.

In terms of transparency on climate change risk, in 2015 we judged the risk to Cairn business as "medium", based on exposures across the portfolio. This included consideration of the absence of production, the fully funded nature of non-operated developments, and the economic and social benefits to our countries of operation, such as Senegal, in combination with the status of external developments on climate change. We also acknowledged the rising importance of climate change to our stakeholders as "significant" and rising given the outcome of COP21. Our position was ground-truthed with a cohort of stakeholders, as reported in 2015, and the overall assessment of climate change in terms of CR materiality was rated as "medium" based on our assessment criteria. Consequently, we believe that at the close of 2015, the potential impact of climate change on the Company was fairly considered and appropriately represented in our 2015 Annual Report.

We normally report on climate change in the Working responsibly section of our Annual Report and on our website. This year is no exception and assessment of risk and CR materiality in 2016 is reported in the section on [Climate change, emissions and discharges](#).

**GRI is an international independent organisation that helps businesses, governments and other organisations understand and communicate the impact of business on critical sustainability issues, such as climate change, human rights, corruption and many others.*



Remuneration

Remuneration, and in particular executive pay, remains an issue of interest among our shareholders and wider society. The remuneration committee commenced a review of pay arrangements across the organisation during the course of 2015. This process has involved a critical examination of each element of executive compensation in the context of the following principles:

Alignment with strategy – our Remuneration Policy should actively support an alignment with the Company's strategy and business model and should incentivise executives to deliver our long-term strategic objectives for the benefit of shareholders.

Simplicity – our pay structures should be simple and transparent, thereby improving line of sight for participants and increasing clarity for investors.

Best practice – our remuneration arrangements should appropriately reflect shareholders' expectations and include best practice themes as they develop.

Against this background, the committee has formulated a new remuneration framework intended to provide a better balance between driving short-term performance and rewarding long-term success.

As part of the process surrounding the design of our new Directors' Remuneration Policy, we consulted extensively with the Company's major investors and their representative bodies in order to understand their views on our proposed changes. The final policy will be presented at this year's AGM on 19 May 2017, when shareholders will be asked to vote on the contents of the new Directors' Remuneration Policy.

Full details of the policy are set out in our 2016 [Annual Report](#).



Government relations

Payments to governments

Cairn supports transparency around how revenues from the natural resources extractive industry are used and the transparency of tax contributions and other payments to governments by oil and gas companies. Cairn reports payments to governments annually, which are published in its annual reports. This is in compliance with European Union (EU) legislation and as part of its voluntary commitment to the Extractive Industries Transparency Initiative (EITI), which it joined in September 2013. The EITI requires companies to publish what they pay to governments, and for governments to publish what they receive from companies. Under EITI regulations, payments are then validated and reconciled by an independent administrator appointed by a multi-stakeholder group. Norway, Senegal and the UK have all joined the EITI. No other countries in which Cairn operates have joined. We are actively participating in EITI working groups in Senegal.

As a listed company operating within the EU, the EU Accounting Directive applies to Cairn and requires companies to disclose certain payments to governments on a country-by-country basis.

As Cairn operates in various territories with diverse tax obligations and requirements, we are committed to ensuring that in every territory we comply fully with local tax rules and regulations. Cairn's Tax Policy does not permit any artificial tax planning and, in managing its tax affairs, the Group must align any planning with genuine commercial activity.

Payments required to be disclosed under the EU Accounting Directive are aligned to those required to be disclosed under UK EITI and comprise the following:

- production entitlements;
- taxes levied on income, production or profits (excluding VAT, personal income tax or sales tax);
- royalties;
- dividends; and
- signature, discovery and production bonuses.

As at 31 December 2015, Cairn's remaining holding in Cairn India Limited (CIL) was approximately 10%. The retroactive tax claim made by the Indian Tax Department is addressed in the Financial Review of the [2015 Annual Report](#).

As in previous years, we have disclosed our payments to governments. These disclosures 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, payroll taxes and social security costs.

Our EITI submission has been made to Companies House, a copy of which is available in the [Report on Payments to Governments \[PDF \(0.40Mb\)\]](#).

KPIs

Payments to government

Participation in public policy development and lobbying

The governments of the countries where we operate are key stakeholders due to the significance to our business of legislation, regulation and the awarding of new licences. Each asset within the business is responsible for engaging with our host governments and this is considered within each asset's Public Consultation and Disclosure Plan (see [Prioritising key issues – Stakeholder engagement processes](#)) and carried out in accordance with our core values and Business Principles. Cairn does not engage in party politics or make donations to political parties, candidates or lobbyists.

Cairn's participation in public policy development and lobbying is usually carried out through relevant industry bodies such as the International Association of Oil & Gas Producers (IOGP) or regional industry groups such as Oil & Gas UK, the Association of British Independent Oil Exploration Companies (BRINDEX), Irish Offshore Operators' Association (IOOA) and the Norwegian Oil and Gas Association (OLF).



Economics and funding

Investment proposals that covered results of CR due diligence

(%)

	2013	2014	2015	2016
Investment proposals	100	100	100	100

Note: Investment Proposals (IPs): In 2016 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).



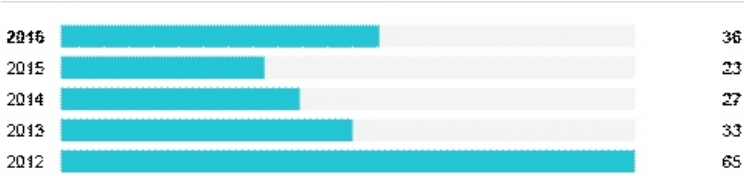
Contractors and supply chain

Total proportion of spending on local suppliers

Chart: Total proportion of spending on local suppliers

Table: Total proportion of spending on local suppliers

(%)



	2012	2013	2014	2015	2016
Cairn total	65	33	27	23	36

Note: Local suppliers are considered as 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 (NINEA number for example in Senegal).

Proportion of spending on local suppliers

(%)

	2012	2013	2014	2015	2016
Greenland	41	7	54	26	66
Ireland	NA	3	11	6	12
Malta	NA	28	7	31	0
Morocco	1	14	9	43	1
Nepal	0	98	42	NA	NA
Norway	79	59	93	94	96
Senegal	NA	1	11	5	18
Spain	81	87	87	100	51
United Kingdom	86	73	87	53	69

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

New supplier screening

(%)

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

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 corporate responsibility 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.





Ethics, anti-bribery and corruption

Ethics

Business ethics compliance
(number)

	2012	2013	2014	2015	2016
Incidents of non-compliance with Cairn's Code of Business Ethics	0	0	0	0	0
Employee dismissals resulting from non-compliance with Code of Business Ethics	0	0	0	0	0
Contracts cancelled in part due to concerns about contractors' ability/willingness to operate in line with business principles	0	0	0	0	0

Anti-bribery and corruption

Operations assessed for risks related to corruption
(number/%)

	2014	2015	2016
Cairn total	8/100	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 system 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/%)

	2014	2015	2016
Board members	7/100	9/100	9/100
Total employees	178/100	151/100	170/100
Total management grade employees	56/100	48/100	54/100
Total non-management grade employees	122/100	103/100	116/100
Total business partners*		12/75	20/87
Business partners – significant suppliers		11/85†	19/95
Business partners – joint venture partners		1/33‡	1/33

Note: Data on business partners communicated to on anti-corruption policies and procedures is only available for 2015 and 2016.

Note: Significant suppliers are defined as any that require approval from Cairn's Contracts Committee.

Note: †Only one of all the significant suppliers did not have Cairn's anti-bribery and corruption policies communicated to them. It was an IT infrastructure provider.

Note: ‡Cairn communicated its anti-bribery and corruption policies to the joint venture partner that was involved in operations. The others were non-operated partners who were given access to Cairn's anti-bribery and corruption policies.

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 Business Ethics Policy and its Business Principles. Consequently, these policy documents are 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.

Employees communicated to on anti-corruption policies and procedures, and country breakdown (number/%)

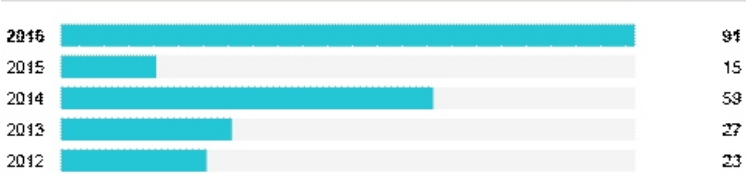
	2014	2015	2016
Greenland	1/100	NA	NA
Morocco	2/100	2/100	1/100
Norway	17/100	21/100	25/100
Senegal	NA	1/100	1/100
Spain	3/100	NA	NA
United Kingdom	155/100	127/100	143/100

Total employees trained in Cairn's anti-corruption policies and procedures

Chart: Total trained in Cairn's anti-corruption policies and procedures

Table: Total trained in Cairn's anti-corruption policies and procedures

(%)



(number/%)

	2012	2013	2014	2015	2016
Board members			0/0	7/78	9/100
Total employees	42/23	56/27	105/59	23/15	154/91
Total management grade employees	9/16	24/34	30/54	13/27	50/93
Total non-management grade employees	33/27	32/24	75/61	10/10	104/90

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

Note: The Board received anti-bribery and corruption training at the Board meeting in December 2016.

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/%)

	2014	2015	2016
Greenland	0/0	NA	NA
Morocco	0/0	0/0	0/0



Norway	6/35	0/0	24/96
Senegal	NA	0/0	1/100
Spain	0/0	NA	NA
United Kingdom	99/64	23/18	129/90

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.

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 3 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.

Note: 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 they only include business partners in Senegal, our only operational asset in 2016.

Anti-competitive behaviour
(number)

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



Transparency

Payments to governments

Total payments to governments
(US \$'000)

	2014	2015	2016
Licence, rental and entry fees	1,475	1,033	330
Infrastructure improvements	1,995	0	0
Corporate Income Tax	(66,000)	(51,865)	(35,468)
Withholding tax withheld on payments to group companies	4,029	333	0
VAT	(9,285)	(6,257)	(3,682)
Customs Duty	1,058	309	172
Training allowances	987	607	713
PAYE and NI	16,069	18,009	18,559
Withholding tax withheld on payments to third parties	28,051	10,095	4,244
Other	5,460	1,388	408

Payments to governments
(US \$'000)

	2014	2015	2016
Licence, rental and entry fees:			
Greenland	779	205	0
Ireland	214	68	113
Malta	146	551	0
Mauritania	136	61	0
Norway	37	0	105
Senegal	107	107	107
Spain	43	0	0
United Kingdom	13	41	6
Infrastructure improvements:			
Morocco	1,995	0	0
Corporate income tax:			
Ireland	0	0.3	0.1
Norway	(66,000)	(51,865)	(35,468)
Withholding tax withheld on payments to group companies:			
Morocco	4,029	333	0
VAT			
Ireland	(23)	17	(7)
Malta	0	(251)	0
Morocco	16	20	14
Norway	(2,024)	(1,533)	1,282
Spain	(170)	(105)	(26)
United Kingdom	(7,084)	(4,405)	(4,945)



Customs Duty			
Senegal	1,058	309	172
Training allowances:			
Greenland	539	0	268
Malta	38	0	0
Morocco	176	271	183
Senegal	200	200	200
Mauritania	34	136	62
PAYE and NI:			
Greenland	228	20	0
Morocco	154	29	26
Norway	3,794	2,714	3,085
Senegal	0	0	239
Spain	216	132	29
United Kingdom	11,677	15,114	15,179
Withholding tax withheld on payments to third parties:			
Greenland	0	236	0
Ireland	14	0	0
Morocco	14,495	1,011	93
Senegal	13,542	8,848	4,151
Other:			
Greenland	536	416	132
Ireland	245	0	0
Morocco	2,232	362	0
Nepal	0	516	0
Norway	2,343	58	(4)
Senegal	104	36	280

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 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.

Public policy

Political contributions

(£ pounds sterling)

	2012	2013	2014	2015	2016
Money paid to political parties and institutions	0	0	0	0	0

Compliance

Non-compliance with laws and regulations (excluding environmental)



		2012	2013	2014	2015	2016
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, it incurred 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 filling of annual tax summaries for 2013 and 2014.



Corporate governance

Board meetings that considered CR issues

(%)

	2013	2014	2015	2016
Cairn total	100	100	100	100

Note: Figures for board meetings that considered CR issues are only available for 2013 onwards.

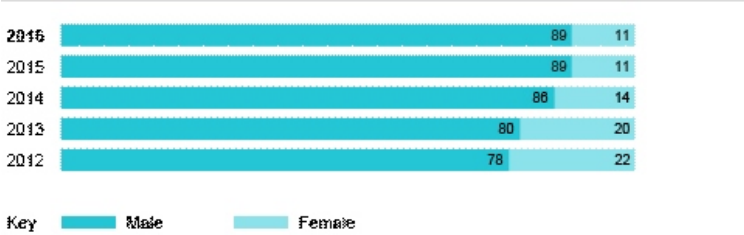
Note: The Board is ultimately accountable for ensuring Cairn meets our standards of Corporate Governance. It provides a leadership role in risk management and requires routine updates on CR related risks and performance. CR performance is a standing item on the Board agenda and the Board received a CR corporate and operational update at each Board meeting in 2016. 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 2016. A Board risk awareness workshop was held in December and the risk appetite statements approved. Detailed Board CR presentation sessions were held in May regarding Safety and in September to discuss CR policies and issues. This indicator measures the proportion of Board meetings that covered CR matters and is measured through inspection of CR reports and other CR related submissions.

Gender breakdown of Cairn’s board of directors

Chart: Gender breakdown of Cairn’s board of directors

Table: Gender breakdown of Cairn’s board of directors

(%)



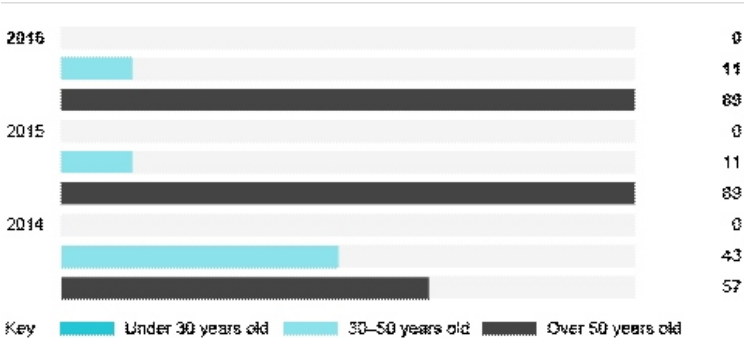
	2012	2013	2014	2015	2016
Male	78	80	86	89	89
Female	22	20	14	11	11

Age breakdown of Cairn's board of directors

Chart: Age breakdown of Cairn's board of directors

Table: Age breakdown of Cairn's board of directors

(%)



	2012	2013	2014	2015	2016
Under 30 years old			0	0	0
30–50 years old			43	11	11
Over 50 years old			57	89	89



Cairn's board members from minorities

(%)

	2012	2013	2014	2015	2016
Total			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.



Society and communities

We seek to make a positive social impact in every area that we work, to respect human rights, and to acknowledge the aspirations and concerns of local communities. In this way, we aim to maintain our social licence to operate and solidify our longer-term business success.

2016 performance highlights

- In Senegal:
 - opened a new supply base that demonstrates our commitment to working in Senegal and our increasing investment in-country;
 - continued to build local capacity in government, our partners and suppliers through programmes benefiting 233 individuals in 2016; and
 - Invested US\$137,839 in social investment programmes.
- The corporate charity committee donated over £215,000.
- Reviewed the potential impact to Cairn of the UK Modern Slavery Act and the UN Sustainable Development Goals.

Material issues

	Level of materiality
<u>Social and economic benefit</u>	High
<u>Communities</u>	Medium
<u>Human rights</u>	High

- £137,839**
total group social investment in 2016.
 - 162**
number of delegates attending institutional capacity building provided by Cairn in Senegal.
 - 46**
students provided with English language training in Senegal.
- See [Cairn in Senegal](#).



Social and economic benefit

Delivering social and economic benefit



Our strategy is to deliver value for our stakeholders through the oil and gas lifecycle. This means generating social and economic benefit through our presence in any given area. Our stakeholders are a broad group and there are many ways in which we can deliver value for them, both economic and non-economic. Our key stakeholders associated with a project include host governments, which grant our oil and gas licences and regulate our activities; communities affected by our operations; and those who work on our behalf, including personnel and contractors.

The economic contributions that can be associated with our activities include the following:

- Affordable energy for local populations through the discovery of oil and gas to meet energy demands while the world develops affordable lower carbon energy sources.
- Distribution of operating expenditure through exploration and appraisal phases of a project and through payments to our contractors and suppliers, including local and internationally based companies.
- De-risking state oil company investments by paying all exploration costs on behalf of state oil companies who are only required to invest if and when a commercial discovery is confirmed.
- Payments to our workforce, including local employees.
- Payments to government, which may include licence fees, taxes, duties and training allowances.
- Investment in local institutional and community development.

In addition, we make non-economic contributions that can lead to local benefits and include:

- Capacity building among our contractors and suppliers, in particular among local companies or individuals to help them meet the technical, health, safety and environment (HSE) and Corporate Responsibility (CR) standards required to work with us.
- Training and development of our local workforce.
- Sharing of technical knowledge (e.g. environmental, geological) with national and local authorities for the benefit of local communities.
- Capacity building within government institutions to develop understanding and knowledge of the oil and gas industry.
- Upholding high standards of governance, ethics and anti-corruption through, for example, our commitment to the UN Global Compact (UNGC) and the Extractive Industries Transparency Initiative (EITI).

Economic contributions 2016	Beneficiaries	Non-economic contributions 2016
Capital spend US\$428.4 million ¹	 Contractors & suppliers	Capacity building 25 trained
Staff costs US\$38.6 million ²	 Workforce	Training and development 36 average hours/employee



Social investment US\$137,839	 Communities	Knowledge sharing
Payments to government US\$25.7 million ³	 Government	Capacity building 162 trained EITI Support
Value growth	 Shareholders	

Notes:

1. Net share across the Group.
2. Excludes share-based payment charges which are non-cash.
3. Refunds from government, in 2006, were US\$40.4 million.

In June 2016, we commissioned a review based on the UN Sustainable Development Goals (SDGs) in relation to our activities and material issues. This helped to inform our approach to delivering benefits for our stakeholders in Senegal and is set out in what we call an Impact Benefit Plan. The plan outlines our objectives for delivering value to society in Senegal through our activities, our approach to achieving these, how we monitor our performance and how we communicate this to our stakeholders. The plan is arranged around three strands:

Supporting economic growth and good governance

Our current activities are supporting economic growth through inward investment in Senegal and the payment of taxes. In the short term, this is promoting improvements to infrastructure and economic activity. Assuming further project success, the generation of affordable energy will provide impetus to Senegal as a UN-designated 'Least Developed Country' and generate income that can promote investment in clean energy and broader benefits to society. In addition, we are supporting capacity building within the authorities governing the oil and gas industry and actively participating in the Extractive Industries Transparency Initiative (EITI) working groups in Senegal to promote stronger institutions in the country.

Promoting local participation

We are committed to maximising local Senegalese employees where we can. Our Procurement Policy encourages the use of local contractors wherever the right expertise is available, or where it can be developed without compromising our high standards and principles. We include local companies with the required competence in bid lists and request international contractors to consider the use of local subcontractors where possible. Where viable and within our capabilities, we will also look to promote the development of skills, capacity and standards of local businesses to be able to support our activities. In 2016, we continued to encourage capacity building of our local contractors and infrastructure to support our operations. In September 2015, we opened a new dedicated permanent supply base in Dakar port. This achievement was made possible through partnership with our local contractor Necotrans Senegal, a subsidiary of the international logistics and transport conglomerate Necotrans.

Social investment

We also seek to make a positive contribution to communities and vulnerable groups within our host countries through our social investment programmes, the main focus of these being on education, entrepreneurship and the development of health, well-being and self-reliance in rural communities.

More information about these programmes can be found in the [Cairn in Senegal](#) section.

Objectives 2017

Continue to develop our Impact Benefit Plan in Senegal

Standardise our approach to impact benefit planning across the Group and linkage to the UN SDGs

Strategic objectives

Maintain licence to operate

Principal risks

Negative stakeholder reaction to our operations



Charitable giving

We want to give something back to the communities in which we work, both through focused social investment and charitable donations.

The Cairn Charities Committee's primary focus is on distributing its annual budget among charities based in Edinburgh and the Lothians area, where Cairn is headquartered. The committee evaluates applications based on our selection criteria.

We also support local communities in regions where we are operationally active, through charitable donations and social investment. This activity is coordinated and managed in-country by the regional director.

All requests for funding are required to be submitted using our [application form \[0.14MB\]](#).

Selection criteria

Cairn looks to support charities that, first and foremost, share our core values of Respect, Relationships and Responsibility.

We act with **respect** for people, their communities, the environment, human rights and the law.

We act honestly, transparently and with integrity to develop strong, lasting **relationships** with all our stakeholders.

We behave fairly, ethically and are accountable for our actions. We believe in, and act on, our **responsibility** to care for people, society and the environment.

We also look to support charities that encourage the behaviours we value in our own organisation, such as teamwork, fostering individual potential and encouraging entrepreneurial spirit.

Cairn supports charities across a number of categories including young people, communities, health, environment, arts and culture, and education and learning.

Please note, Cairn does not fund the following:

charities with religious or political affiliations;

political parties;

places of worship;

labour unions;

organisations where there is a potential conflict of interest;

organisations that discriminate; or

individual sponsorship.



Communities

The people who may be impacted by our operations are one of our most important stakeholder groups, and we are keen to give them the opportunity to have their say about our activities.

Community engagement

We engage with local communities on issues including employment, community development, safeguarding the environment and livelihoods; using methods such as consultation meetings as part of Environmental and Social Impact Assessments (ESIAs), media briefings and public meetings. In Senegal, formal discussions have also been held with the regulators, National Technical Committee members, and regional and district authorities to discuss the performance of the previous operations and the proposed 2017 activities.

Our operated and non-operated assets are principally based offshore. As such, the potential for our activities to impact negatively on local communities is limited.

However, we recognised the potential for our activities to limit the ability of local fishermen to exploit the waters in which we work, through the short-term (typically one to two months) exclusion of fishing vessels from the waters (500 m) around our drilling rigs. We worked with local fishermen to minimise disruption through communication of our day-to-day and forward operations, and implemented a mechanism whereby they were able to provide us with feedback (see Grievances on our [Human rights](#) page). In addition, and as part of the development of our Impact Benefit Plan in Senegal (see [Cairn in Senegal](#)), we worked with The Hunger Project to engage with and identify specific challenges facing fishermen along coastal areas closest to our operations.

Managing social risks

We have recognised for some time that the effective management of social risks is critical to sound project development. To guide our approach to managing social risks, we have adopted a six-stage process, as illustrated below.



We assess potential social risks for all new major projects. Where challenging issues such as land acquisition, resettlement, water use, human rights, security and potential or perceived impacts on livelihoods are involved, we consult extensively with key stakeholders. This engagement helps us to identify and assess potential social impacts and utilise local knowledge in the formulation of plans to manage these impacts. Through this open process, we look to maximise shared economic and social benefits and forge strong ties with communities, government and business partners to lay the foundations for long-lasting relationships.

Objectives 2017



We will improve opportunities for local participation in the Senegal project and development of our local employees

We will complete our CR brochure for Senegal

Strategic objectives

Maintain licence to operate

Principal risks

Negative stakeholder reaction to our operations



Human rights

Respecting human rights is part of our commitment to delivering value for our stakeholders. We are committed to respecting human rights in all our activities and this commitment is embedded in our Business Principles and includes our support for the United Nations Universal Declaration of Human Rights (UDHR). Human rights is particularly important to certain key stakeholders, including our employees and communities in which we operate.

Respect for our employees

We believe that by promoting a work environment in which people are treated with dignity and respect, we can maintain a loyal, motivated and effective workforce. This includes ensuring fair and just rewards for employees' contributions and supporting opportunities for professional development.

We also have policies in place covering recruitment, grievance, harassment and equal opportunities, which seek to ensure that all current and potential employees are treated fairly. We expect our contractors to treat their employees in the same way.

We respect the rights of freedom of association and collective bargaining. Although we do not have any employees who are unionised or have any collective agreements in place, we do consult our workforce on organisational issues on a regular basis and through a variety of means. We respect those contract employees who work with us and their membership of unions, which we consider during our contracting activities.

Respect for communities

A fundamental respect for human rights is critical to maintaining good working relationships we have with the local communities with which we interact. Our Corporate Responsibility Management System (CRMS) sets out our approach to managing potential community impacts in accordance with the International Finance Corporation's (IFC) Performance Standard 5*, requiring the development of action plans in cases where activities could lead to economic or physical displacement.

Our operated and non-operated assets are principally based offshore. As such, the potential for our activities to impact negatively on the human rights of local communities is limited. In 2016, our drilling operations were carried out offshore Senegal, with relatively limited onshore support operations in established ports. No physical displacement of individuals or any identified economic displacement of individuals or communities resulted from our operations.

However, we recognised the potential for our activities to limit the ability of local fishermen to exploit the waters in which we work. We worked with local fishermen to minimise disruption through communication of our day-to-day and forward operations and implemented a mechanism whereby they were able to provide us with feedback. In addition, and as part of the development of our Impact Benefit Plan in Senegal (see [Cairn in Senegal](#)), we continue to work with an international non-governmental organisation (NGO) in Senegal to engage with and identify specific challenges facing fishermen along the coastal areas closest to our operations.

Our CRMS also recognises that our activities might be carried out on or affect the territories of indigenous and tribal peoples and that we must work towards achieving free, prior and informed consultation and, where appropriate, consent, on the use and management of natural resources in accordance with the IFC's Performance Standard 7**. In 2016, our operational activities were centred offshore Senegal with no effect on the territories of indigenous or tribal peoples.

Through our assessments of social and environmental risk and impact, we will also seek to understand any effects our operations may have on cultural heritage. Our CRMS requires us to protect and support cultural heritage by undertaking internationally recognised practices in accordance with the IFC's Performance Standard 8***.

Grievances

Occasionally, during the lifetime of a project, unforeseeable human rights or other stakeholder issues can arise. We provide and promote a 'Grievance procedure' by which individuals or representatives of communities affected by our operations can present their concerns and to which we aim to respond within 30 days.

Employees or contractors can also raise any concerns they might have around human rights, and indeed any other, issues through a variety of means including the Company's whistleblowing procedure.

In 2016, there were no reported grievances or breaches reported through the whistleblowing procedure.



Modern Slavery Act 2015

In 2016, the Modern Slavery Act (MSA) came into force in the UK. This Act requires companies with a turnover greater than £36 million to produce a statement of their assessment and management of their supply chain in respect of forced, compulsory, bonded and child labour or any form of human trafficking. Although Cairn was not required, under the Act's turnover qualification level, to produce a statement in 2016, preparations commenced to better understand the objectives and implications of the Act. We analysed our current Corporate Social Responsibility (CSR) policies and procedures against the requirements of the Act to identify any discrepancies. Although we do not foresee any major risks in this area, it has been discussed by the Board and our [CSR Policy has been adjusted](#). We have also started work to better assess any vulnerable areas within our supply chain and will implement any required improvements in 2017.

Read more on our ['rights aware' approach](#).

KPIs

Read more on our [Human rights performance](#).

Objectives 2017

Further develop Modern Slavery Act (MSA) safeguards

Deliver MSA training

Develop MSA statement for 2017

**IFC Environmental and Social Performance Standard 5 – Land Acquisition and Involuntary Resettlement. January 1, 2012.*

***IFC Environmental and Social Performance Standard 7 – Indigenous Peoples. January 1, 2012*

****IFC Environmental and Social Performance Standard 8 – Cultural Heritage. January 1, 2012*

Strategic objectives

Maintain licence to operate

Principal risks

Negative stakeholder reaction to our operations



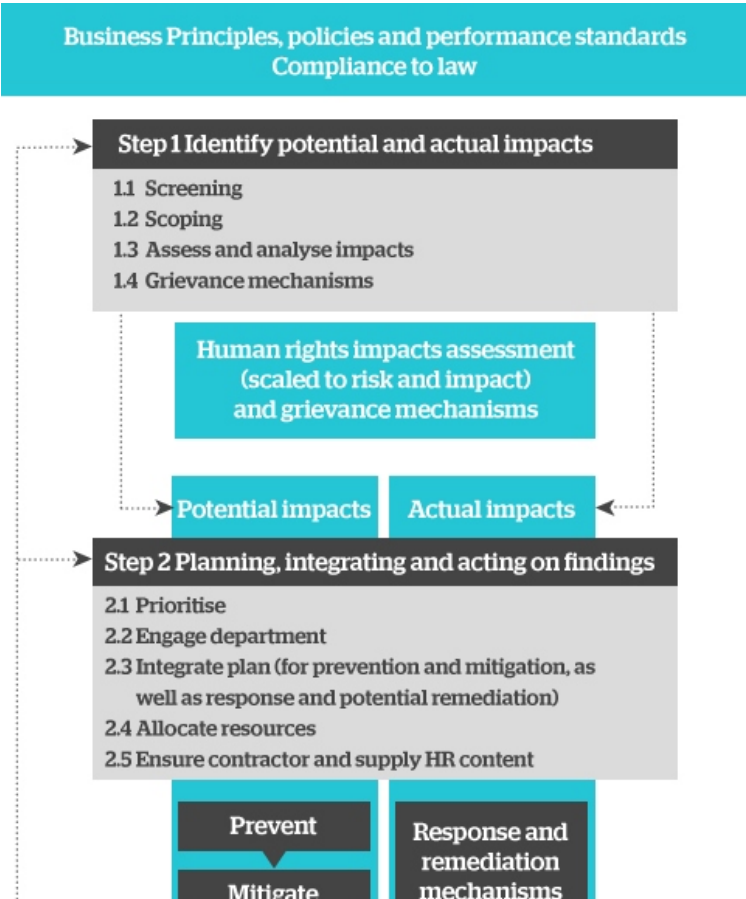
Our 'rights aware' approach

In order to ensure respect for human rights in all our activities, we have a human rights policy that is integrated in our Corporate Social Responsibility (CSR) Policy and requires us to respect and support internationally recognised human rights standards; identify, assess and manage human rights risks; and ensure that appropriate mechanisms are in place for those affected by our operations to raise and address grievances.

Our Corporate Responsibility Standard Operating Procedures and Human Rights Guidelines clarify what needs to be done, and the tools available to support implementation of our human rights policy across the business.

Over the years we have implemented a 'rights aware' approach, which means identifying potential human rights issues in our activities, assessing if we have influence over the issues and defining appropriate action to be taken by the business.

Our Human Rights Handbook contains guidance for managers on assessing human rights issues. This helps to ensure that human rights is one of the Corporate Responsibility (CR) risks considered at key stages of every project, and is reflected in our Project Delivery Process (PDP) (see [Safe drilling](#)). We use a five-step approach to identify and assess human rights issues in our sphere of influence.





Our guidelines are governed by the UDHR and the UN Guiding Principles on Business and Human Rights. They also take into account guidance from the International Petroleum Industry Environmental Conservation Association (IPIECA) and the European Union (EU).

Before entering a new country as an operator, we apply human rights screening as part of our comprehensive due diligence process. Before operating activities, we assess human rights impacts as part of an Environmental and Social Impact Assessment (ESIA) or, where necessary, we undertake a Human Rights Impact Assessment (HRIA). If, following these assessments, any potential human rights issues are identified, we consider the most effective way to manage them through engagement with potentially affected communities. When considering a non-operated joint venture, we identify and check any human rights issues and establish any risks requiring management by the operator before proceeding.



Social and economic benefit

Social investment

(£ pounds sterling)

	2012	2013	2014	2015	2016
Cairn total	343,920	343,139	354,558	426,867	95,694
Community development	0	0	101	56,274	42,689
Senegal	NA	0	101	56,274	42,689
Education	343,920	343,139	352,390	360,142	20,501
Greenland	343,920	343,139	108,782	0	0
Ireland	NA	NA	12,543	0	0
Morocco	0	0	60,705	178,783	0
Senegal	NA	0	170,360	181,359	20,501
Environment	0	0	1,240	10,452	6,248
Senegal	NA	0	0	10,452	6,248
Spain	0	0	1,240	0	0
National contractor training	NA	NA	NA	NA	7,858
Senegal	NA	NA	NA	NA	7,858
Other	0	0	827	0	18,397
Morocco	0	0	827	0	0
Senegal	NA	0	0	0	18,397

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. In 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' has been added in 2016. Previous contractor training payments were included under education.



Charitable giving

Charitable giving in the UK

(£ pounds sterling)

	2012	2013	2014	2015	2016
United Kingdom total	452,661	455,333	487,995	229,318	216,470
Children	265,000	280,000	280,750	108,333	106,480
Community development	54,500	41,500	53,500	15,000	31,600
Culture	28,500	18,000	21,500	35,000	40,000
Disaster relief	0	0	0	10,000	0
Education	40,500	41,378	65,133	10,000	15,000
Environment	20,000	17,000	20,000	15,000	15,000
Health	44,161	34,000	34,500	25,000	8,390
Other	0	23,455	12,612	10,985	0



Human rights

Human rights approach

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

	2014	2015	2016
Cairn total	0/0	1/14	2/22

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 corporate responsibility 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).

All operations are screened broadly for human rights issues at the investment proposal stage. In this indicator we include only those that make specific reference to human rights.

Note: None of the investment proposals approved in 2014 had particular human rights risks and so no specific human rights clauses were included in them. They were all UK or Norway investments.

Note: In 2015, one investment proposal included specific reference to human rights. Four others, although not counted in the data, made specific reference to our commitment to social responsibilities including local community rights, grievance procedures and local involvement / benefits.

Note: In 2016, two investment proposals included specific reference to human rights. Two others, although not counted in the data, included a section on local community issues and referenced Cairn's Public Communication & Disclosure Plan. The remaining five were UK or Norway investments.

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

	2014	2015	2016
Cairn total	5/62.5	2/50	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

Chart: [Employees trained on human rights policies and procedures](#)

Table: [Employees trained on human rights policies and procedures](#)

(%)



	2012	2013	2014	2015	2016
Cairn total	67	4	6	0	0

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 3 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)

	2012	2013	2014	2015	2016
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Cairn total	182	18	28	0	0
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CR and HR practitioners trained on human rights policies and procedures
(%)

	2013	2014	2015	2016
Cairn total	50	38	0	0

Note: CR (Corporate Responsibility) and HR (Human Resources) Practitioners are defined as employees or ‘other workers’ (contracted for more than 3 months to an organisational position) who are specialists in Corporate Responsibility or Human Resources.
Note: This figure is calculated using the number of CR and HR practitioners in place at the end of the year.

Grievances

Total human rights grievances and incidents of discrimination
(number)

	2012	2013	2014	2015	2016
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
(%)

	2012	2013	2014	2015	2016
Total employees covered by non-retaliation and grievance policy	100	100	100	100	100

Total labour practices grievances
(number)

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

Total impacts on society grievances
(number)

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

Note: A grievance was received regarding damage to fishing nets in connection with the offshore Senegal 3D seismic campaign in September 2015. The grievance was responded to within the 30 day target and was followed through in line with Senegal regulator procedures. Evidence to substantiate the claim was not presented and so the claim was resolved in 2016.





People

Cairn recognises that its people are the foundation for its success, and places great emphasis on attracting, engaging and retaining the right blend of talent across the business. We strive to provide an open, stimulating, safe and rewarding work environment to encourage high levels of staff engagement and drive strong performance at every level across the organisation. Our Company values of Respect, Relationships and Responsibility are at the very heart of this.

2016 performance highlights

- Increased incident management capability in our Dakar office through training and installation of full Incident Management Team control room facilities.
- Kraken Safety Case accepted by UK regulator in 2016.
- Introduced new internal security forum.
- Introduced a new business traveller protection system.
- 15 different nationalities were employed at Cairn.
- Re-accredited Investor in People (IIP).

Material issues

	Level of materiality
<u>Major Accident Prevention and Safety</u>	High
<u>Health and well-being</u>	Medium
<u>Security</u>	Medium
<u>Employees</u>	Medium
<u>Equality and diversity</u>	Medium



Major accident prevention and safety

Preventing major accidents and ensuring that our assets are fit to carry out their intended purpose – in this case, preventing escape of fluids or other hazardous substances from wells and equipment – remains a material issue industry wide. We ensure effective engineering control barriers are in place and maintain our capability to respond in the event of a major accident or emergency. As in previous years, our focus is on prevention, a key part of which includes the assurance of well design and contractors.

Our procedures are designed to protect the integrity of our assets and help ensure all our operations are carried out effectively and safely. All our operations comply with national and relevant international legislation. We adopt industry good practice based on UK regulatory standards and International Association of Oil & Gas Producers (IOGP) guidance and local regulations. These have also been used in the formulation of the Cairn Corporate Responsibility (CR) Standard Operating Procedures as part of the CR Management System (CRMS).

Prior to any work beginning, we undertake comprehensive audits of all the contractor vessels and drilling rigs we intend to use in our operations. These include compliance to standards and a review of their monitoring, inspection and maintenance procedures; and any shortfalls are reported and remedial actions followed up.

As part of our commitment to safety and the prevention of major accidents or hydrocarbon spills, we actively support and participate in initiatives established by IOGP.

Read more on [Safe drilling](#), [Emergency response planning](#) and [Occupational safety](#).

Objectives 2017

- Implement safety campaigns linked to our life-saving rules
- Further training of our crisis and emergency personnel, improve plans and perform exercises

Strategic objectives

- Maintain licence to operate

Principal risks

- Health, safety, environmental and security incidents



Safe drilling

Cairn’s reputation for responsible exploration is underpinned by a rigorous approach to well design and well control.

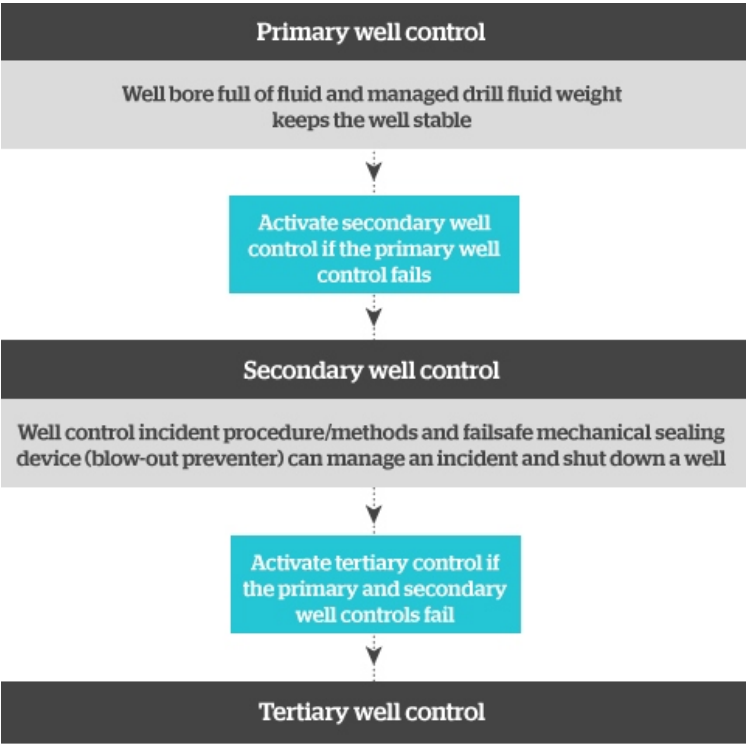
All our wells are engineered to the highest industry standards and are designed to comply fully with the requirements of the Cairn Well Engineering and Construction (WEC) standards and Corporate Risk Management System. Safe drilling is dependent on the development and implementation of multiple safety barriers, which are designed into our drilling programmes and verified by a series of rigorous internal and external WEC assurance processes.

Design – our wells are designed and assured to a level that exceeds requirements for the expected characteristics of the geological formations to be encountered. We apply our well design standards to ensure the appropriate materials are used and installation methods conform to recognised good industry standards. We also select drilling fluids to maintain well integrity and minimise impact on the environment.

Primary well control – we apply a dual barrier approach during drilling activities. This involves control measures designed to maintain fluids in the wellbore, including drilling-hole pressure evaluation and management, kick detection, kick tolerance management, fluid management, cementing practices, blow-out preventer (BOP) system testing and assurance. Testing of a BOP system is rigorous and conducted routinely on a defined schedule to ensure it remains functional. In the event of unsuccessful tests, we make safe the well and cease drilling until the problem is found and resolved, which can result in substantial lost time and cost. Despite this, we do not recommence drilling until completion of any required remedial work and, if necessary, specialist support to assure the BOP system is fully functional.

Secondary well control – this includes measures to prevent wellbore fluids escaping from the well, using a BOP. The BOP, which is usually installed on the wellhead at the seabed, is made up of a series of hydraulically operated rams and can be operated in an emergency from the rig or via the backup remotely operated vehicle (ROV) onboard a standby vessel that remains with the rig. The BOP is rated for pressures significantly in excess of those expected to be encountered in the exploration well.

Tertiary well control – these measures provide a third line of defence when formations cannot be controlled by primary and secondary measures, and cover well control options such as drilling of a relief well and use of a capping device.





Toolbox of methods to address a well releasing hydrocarbons: relief well; subsea 'cap and secure'; and oil spill contingency arrangements

Well engineering and construction – internal and external assurance processes

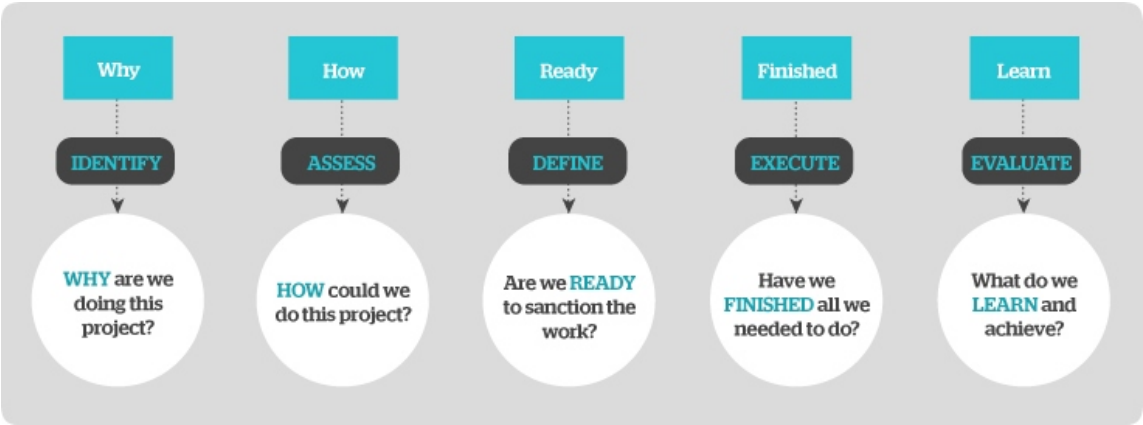
Internal	External
Cairn Project Delivery Process (PDP) gate reviews	Major hazard assessment
Project risk register	
Corporate risk management review	
Well Engineering and Construction Team competency assessment	Regulator and partner review
Inspection, testing, acceptance and induction of drilling rigs and vessels	Independent expert review of critical equipment and systems
Daily operational reviews	

Part of our assurance process is detailed in our Operating Standards and in the Project Delivery Process.

Project Delivery Process

Our Project Delivery Process (PDP) is the well-established method by which we can ensure we understand and can control risks at key stages in our projects. During the oil and gas lifecycle, the PDP helps us maintain focus on what is important to the Company and apply good practice through the application of local and international standards.

We use the Cairn PDP to manage Corporate Responsibility (CR) issues and apply these standards to all operated projects under our control. Specific project types (e.g. seismic, drilling) must meet defined criteria at designated 'stage gates'. Each stage gate has defined actions and deliverables, which must be available and signed off by a 'gatekeeper' who is independent of the project. In this way, project integrity and performance are reviewed throughout the process and, where they deviate from standards, corrective actions are identified and implemented.





Emergency response planning

We prepare for the very low possibility of a high-impact event, and have robust plans in place to manage potential incidents.

In advance of our Senegal drilling activities in 2015, we revised our Emergency Response Plan (ERP) to integrate with our contractors, and aligned and improved the Oil Spill Contingency Plan (OSCP). Likewise, and as part of our Management of Change process and in preparation for our 2017 campaign, we again revised the ERP and OSCP to ensure different rigs and vessel capabilities were taken into account. This information was also shared with the regulators in Senegal.

Oil spill in particular remains a high-profile stakeholder concern, and we remain committed to applying the IPIECA-IOGP Joint Industry Practice*, which continued to issue good practice guides in 2016. These are described in our Annual Report and Accounts 2015 and the Oil Spill Resources website, www.oilspillresponseproject.org/. This initiative is recognised across the industry as the most effective and up-to-date response guidance on oil spill.

We continued to invest heavily in memberships to gain access to specialist equipment managed by Oil Spill Response Limited (OSRL) during 2016 and this will continue in 2017. These memberships allow access to a toolbox of different response equipment and techniques, including mechanical containment and surface dispersant application systems, sub-sea systems, and aerial surveillance and dispersant spraying capability. Specialist sub-sea equipment includes the Sub-sea Incident Response Toolkit (SIRT), which enables debris clearance and application of dispersant at or near any well releasing hydrocarbons, and also improves mixing and efficiency of treatment and dispersal. This, in turn, improves amenability to biodegradation of spilled oil. We also have access to a Global Dispersant Stockpile, which consists of substantial amounts of commonly used dispersants that can be drawn on should our supplies run out.

Membership of the Capping Stack System (CSS) allows access to well-capping stacks situated at four strategic locations worldwide. These can be deployed to shut-in a well and prevent oil from escaping into the sea, at which point sub-sea dispersant is no longer needed. We continue to plan for relief well drilling as an option to address such an event. The nature of the response depends on numerous factors relating to logistics and effectiveness.

Changes to response capability

In 2016, we completed the second phase of our exploration and appraisal drilling programme in Senegal and commenced planning for the third phase. With a change in contracting arrangements for rigs, vessels and aviation, we required revision of our emergency response arrangements. This included increasing local capability in our Dakar office by improving the management of our Senegal Incident Management Team (IMT) and also improving the management of our Edinburgh-based Crisis and Emergency Response Team (CERT). We revised our Senegal Emergency Response and Oil Spill Contingency Plans and also made revisions to a number of documents previously submitted to Senegal regulators, including: Environmental and Social Impact Assessment; hazard study; hazardous installation document; and emergency plan description. In the Dakar office, we have an Emergency Coordination Centre from which the IMT operates; this centre was refitted to improve communications, including communication with our new supply base in Dakar and head office in Edinburgh, and improved communications technology.

We continued to run CERT and IMT exercises for various emergency scenarios during the year, increasing the range of potential situations to which our personnel may be exposed. Prior to commencing the third phase of our activities in Senegal, the IMT personnel were given role-specific training, including desktop training and a scenario-based exercise involving the drilling rig and the CERT. Our shore-based personnel and our vessel and helicopter crews were also given specialist training for oil spill management purposes. We also maintained our membership of the regional spill organisation, West and Central Africa Aerial Surveillance and Dispersant Spraying Services (WACAF).

Oil spills in 2016

In 2016, we experienced four minor spills with a total of 167 litres spilled to sea. They were the result of 'flare-out' incidents during well testing in the phase two drilling programme in Senegal. The incidents arose as a consequence of ineffective rig orientation to the prevailing weather, seawater salting of the flare nozzle and setting the water deluge too high. These issues were addressed early in the campaign and no further problems occurred.

Engaging with partners

We continued to work closely with our joint venture partners, in a non-operator capacity, on our Kraken and Catcher North Sea development projects and progressing them towards first oil and cash flow in 2017. This included working closely with the operators of both projects on the development of their Safety Cases. These documents demonstrate that safety and environmental critical risks of any installation (production platform or rig) have been reduced to As Low As Reasonably Practicable (ALARP). All fixed and mobile installations in the North Sea must hold a Safety Case, a requirement of the 2015 UK Offshore Installation (Offshore Safety Directive) (Safety Case) Regulations, which came into force following the implementation of the EU Offshore Safety Directive in 2015.

UK authorities required our partners in Kraken to submit a Safety Case. As a prudent partner, we supported and reviewed the development of the Safety Case information and document to assure ourselves of progress and completion, and also to identify lessons learned. Lessons learned from the process were shared with our partners for development of the Safety Case for the Catcher development. Such lessons learned will also prove helpful should a floating production, storage and offloading (FPSO) installation be the solution of choice in



Senegal, subject to legislation.

We continued to progress development of the management systems for our other operated and non-operated activities in the UK and Norway with ongoing dialogue with Norwegian regulators who require that non-operators assure themselves of the adequacy of their partner operating standards.

**The IPIECA-IOGP Oil Spill Response Joint Industry Practice (OSR-JIP) was set up to implement learning opportunities in respect of oil spill preparedness and response following the April 2010 well control incident in the Gulf of Mexico. As part of this effort, the OSR-JIP has produced more than 20 good practice guides. IPIECA is the global oil and gas industry association for environmental and social issues.*



Occupational safety

Our Senior Leadership Team (SLT) is responsible for embedding the CR approach and procedures across the Group. Applying them to our operating environment falls to the Management Team. We have set in place a safe system of work that employees and contractors must take responsibility for following closely.

Regional directors are responsible, at an operational level, for ensuring that operations adhere to our health, safety and environment (HSE) standards and procedures; that all risks are managed to As Low As Reasonably Practicable (ALARP) levels; and that plans are in place to manage risks. We have a robust incident management process that ensures incidents are recorded and investigated as required, and lessons are learnt. Assurance of the implementation of these standards is overseen by the most senior company personnel and performance updates are reported to the Board.

The importance given to CR performance is also recognised in Cairn's Remuneration Policy. The remuneration committee assigned a 15% weighting in the Group's 2016 key performance indicators (KPIs). In 2017, the CR element of the KPIs has been increased to 17% to include further emphasis on the People theme. Performance against the Group's KPIs is an important criterion for assessing the annual discretionary bonus and individual performance (see [CR objectives and KPIs](#)).

Management of occupational safety, which refers to the management of day-to-day safety hazards, uses a number of mechanisms to promote the implementation and effectiveness of working procedures. This includes management visits, audits, permit to work, toolbox talks, safety drills and training, all of which are monitored through our leading safety indicators. The lagging data below shows a Lost Time Injury* during April in which a member of our Senegal supply base contract crew suffered damage to three fingers as a result of entrapment during pipe handling. A thorough investigation was completed and findings were discussed by the Board in May, alongside incidents suffered in non-operated assets and in the industry as a whole. Our new supply base operations have been designed to reduce occupational safety risks (e.g. lifting) based on industry good practice and lessons learnt from our operations at our previous supply base locations (see [New supply base at Dakar port](#)).

In 2017, we are focusing on ensuring the safety systems continue to work effectively, with emphasis on implementing International Association of Oil & Gas Producers (IOGP) Life-Saving Rules, both within our CRMS and in practical field operations.

See also our [Culture](#) pages.

**An LTI is a fatal injury or any work-related injury that 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 (International Association of Oil & Gas Producers).*



Health and well-being

International health challenges

In common with other global businesses, health issues continue to represent a challenge to Cairn. In March 2016, the World Health Organization (WHO) terminated the Public Health Emergency of International Concern (PHEIC) regarding the Ebola virus disease outbreak in West Africa, in accordance with the International Health Regulations. Although it did not impact Senegal directly, the risk of business interruption due to travel restrictions has been greatly reduced.

In 2016, we saw the outbreak of the Zika virus threaten parts of South America and the Far East. However, our operational areas were not indicated as transmission locations. Senegal is regarded as a 'past transmission' zone without incidence since 2007 and consequently considered low risk.

Control measures

During our early planning process for work in Senegal, we continued to address health issues in West Africa for our people and this focus continued in 2016. The primary concern was, and remains, effective understanding and management of potential exposure to malaria.

Collaboration with the well activities delegate for the phase two programme was completed and we worked with our phase three contractors to assist in their preparedness. The online awareness malaria briefing session implemented in 2014 remains an integral part of pre-travel to Senegal, and Cairn continues to monitor the situation and manage our operations accordingly. We upgraded our online briefing materials in 2016, including our continued emphasis on endemic diseases such as the Zika virus, and also improved traveller briefing packs in other related respects.

Cairn constantly assesses threats to the health of personnel travelling on business to new locations and, where there is a risk from endemic diseases, provides appropriate advice and the support of healthcare insurance and clinical support.

Well-being

Staff wellness has continued to play an important role throughout 2016.

One of our largest focus areas was the undertaking of ergonomic assessments for all our staff and contractors in our Edinburgh office, following changes to the office layout. While the majority of staff had the correct ergonomic set-up, as a result of the assessments, we were able to ascertain where modifications were needed and make seating and desk adjustments where necessary.

Our annual optional health assessments remained available for all members of staff during 2016. This benefit has seen a high degree of usage since its initial roll-out in 2015 and has proved to be a well received employee benefit.

We also undertook several health and well-being awareness initiatives over the course of the year. These included 'Lunch and Learn' sessions on Healthy Eating, How to Manage Mental Health, Men's Health and Basic First Aid.

In addition, several staff participated in a sponsored cycle ride from Glasgow to Edinburgh, a 'Walk Around Scotland' competition and several company-arranged walks in support of our Healthy Heart theme over the summer months.

Other themes this year included Mental Health Awareness and Travel Health.

Objectives 2017

We will revisit our pandemic and infective disease planning

We will update our Senegal health plans

Strategic objectives

Maintain licence to operate

Principal risks



Health, safety, environmental and security incidents



Security

The current worldwide security environment is dynamic and Cairn recognises the need to adapt and innovate in order to mitigate identified and emerging threats and provide a duty of care to our people, assets, investments, reputation and data.

Cairn has built on the security improvements made in 2015 and introduced new measures, such as an internal security governance forum, and new technology that greatly enhance the well-being of our business travellers.

Procedures

In 2016, we built upon the Group security procedures to improve the steps taken to mitigate security risks in our operations. These also seek to ensure that standards of operations, equipment and training of personnel meet the requirements of the Voluntary Principles on Security and Human Rights and are in line with key UN guidelines.

The global security landscape has changed dramatically in recent years with the increase in terrorist-related attacks, including countries previously regarded as 'low risk'. This has prompted changes in approach to business travel risk assessment across the industry and maintenance of security around our operations. In 2016, we updated our travel health, safety and security procedure, strengthening travel risk assessments and travel management plans for trips to locations deemed to have heightened health, safety or security risks. Additional enhancements to the travel management of personnel were made and country-specific personal security guidance is now in place to protect our employees and contractors.

Implementation and monitoring

In 2016, we introduced a new business traveller monitoring system that allows all individual travellers to instantly notify or communicate with a third-party risk management consultancy if they find themselves caught up in an emergency security incident and to indicate to Cairn management when they have arrived at their set destination. This system is designed to further protect business travellers in an increasingly unpredictable world, and the importance of this was highlighted to all staff during a townhall staff meeting in October 2016.

Operations in Senegal are served by a local security consultancy that provides assistance in the event of an emergency or serious threat. An independent security review was conducted as part of the planning process for our Senegal operations in 2014 and 2015. We continued to assess all operational areas including Senegal for emerging threats during 2016 to ensure that our security provision meets industry standards. This process confirmed the suitability of our existing and new marine, base and aviation security arrangements. In addition, ahead of employees being deployed to Senegal and other key locations, Cairn commissioned a detailed security assessment to ensure security risks were fully identified. Some high-profile attacks in West African countries such as Mali and Burkina Faso occurred in 2016. In response, the Senegalese authorities tightened security measures and a review and update of the Dakar office and supply base security arrangement were carried out.

Cairn subscribes to a number of security risk monitoring systems that inform management of any planned events that may heighten security alertness, such as protests and demonstrations. This was used successfully in 2016 and no security incidents were experienced.

Cairn recognises the increasing convergence between physical and cyber-security management and this has led to the establishment of the internal Security Governance Forum (SGF). The forum will be used to communicate threats, strategies and security improvement plans and ensure a holistic and collaborative approach to security management throughout the Cairn Group.

We maintain an active role in the International Association of Oil & Gas Producers (IOGP) Security Committee, among others. This facilitates collaboration with industry members to provide good practice guidance and proactive discussion on the current security situation, and allows knowledge sharing across the international oil and gas community.

Objective 2017

Security exercise will be run and we will continue to provide improved support to 'high-risk' travellers

Strategic objectives

Maintain licence to operate

Principal risks

Health, safety, environmental and security incidents





Employees

We remain focused on supporting and incentivising our people in their delivery of Group strategy, while ensuring that a culture of working responsibly is embedded in everything they do in their pursuit of the Company’s **strategic objectives**.

We do this by ensuring we have the right people in place with suitable competencies, that they have the right training and development opportunities, and that appropriate systems and tools are at their disposal. We also insist that our people exhibit the high-performance behaviours we have identified as part of our culture of working responsibly. In pursuit of our strategy, we also need to make sure Cairn is an attractive place to work in order to retain talent and attract new talent, to ensure we are performing to the best of our abilities.

Read more on our [Focus on leadership](#), [Learning and development](#) and [External recognition of our people management](#).

Objectives 2017

- We will complete and roll out our revised People Management Policy and Manual
- We will assess effectiveness of management training
- We will perform a ‘Managing Talent’ audit

Strategic objectives

- Maintain licence to operate

Principal risks

- Staff recruitment and retention



Focused on leadership

We recognise that the actions and behaviours of senior leadership are key to our success. As such, throughout the year we focused on a number of initiatives designed to strengthen the skills of individuals in senior leadership and management positions as well as continuing to work on succession planning.

Senior Leadership Team 360° feedback

At Cairn, our Senior Leadership Team (SLT) comprises our Chief Executive, Chief Financial Officer, Chief Operating Officer, Director of Exploration and our regional directors, ensuring key management personnel convene at least six times a year to discuss delivery of strategy and provide leadership throughout the business. We understand that those on our SLT are role models for our core values of respect, relationships and responsibility (the 3Rs), the foundation of our high-performance behaviours. Championing these behaviours, along with clear and regular communication and clarity of strategy, remains fundamental to maintaining both a strong company culture and high level of employee engagement.

As a means of delivering against their goal of being role models – specifically in listening and personal development and showing commitment to acting upon feedback received from across the business – in 2016 each member of the SLT participated in a 360° feedback exercise. The aim of the exercise was to identify current strengths and areas for development – for individual leaders and for the leadership team as a whole. Each member was required to solicit feedback from a range of internal stakeholders with whom they interact, including their own line managers, their peers from across the Group and those reporting to them. Feedback was then provided to each SLT member on a one-to-one basis, with individual action plans derived from this. The next step, which we are now focusing on, is to review the feedback holistically to understand both strengths and areas for development for the team as a whole, and to communicate the feedback to staff across the Group.

Management Bootcamp

Work continued on our Management Bootcamp throughout 2016 with the aim of further developing the management skills of all our managers in the business to best deliver results through people by providing practical 'how to' management tips and techniques. The Bootcamp is structured to be energising, inclusive, challenging and thought-provoking. It considers the effect of behaviour on people and performance; the skills and tools needed to encourage the right behaviours, and how these will impact positively on the performance of Cairn's teams and business deliverables.

The programme consists of seven modules: Recognition and Feedback, Coaching, Building Relationships, Delegation and Empowerment, Developing Teams, Managing Change, and Managing Conflict. Delegates are also provided with a pre-course one-to-one coaching session to help set out their objectives for the course and to put the development into a personal context.

The feedback from those who have attended the course has been very positive.

"As the Management Bootcamp programme has been developed for Cairn based on feedback from managers within the business, the training sessions are targeted to cover areas relevant to our business right now and this is extremely beneficial following a period of significant change within the company. I like the short, modular in-house approach as this gives me an opportunity to take some time out of a busy schedule to focus on my professional development, which will be of benefit to me, my team and the company."

Managing succession planning

As part of our annual succession planning review, the Board of Directors was presented with an updated Group Succession Plan in June. The review confirmed that we had made good progress in several of the development areas identified through the prior year's succession planning, with the Group talent pool enhanced during the year through a combination of external resourcing and internal promotions.

While we recognise that some succession risks exist, the review provided a crucial means of identifying where the key focus areas are and the resource, skills and capability gaps that need to be addressed to mitigate these risks.

Other positive outcomes of the review included:

the new regional structure, as finalised in 2015, is working well;

staff retention remains strong, providing stability and consistency in the delivery of current and future projects;

we have been able to benefit from quality external talent, available as a result of the challenges being faced by the industry as a whole, and this has proved advantageous for us in building in-house capacity where our internal resource pool had historically been low; and



our Management Bootcamp programme will support the business in developing the future succession pipeline.



Learning and development

Learning and development is a key, ongoing part of our human resources activity and is clearly an important part of supporting our delivery of strategy.

During the year, we focused on two core learning and development initiatives. We held a technical conference focused on creating value for the business from exploration, a reflection of our Group strategy to deliver value for stakeholders by building and maintaining a balanced portfolio of exploration, development and production assets within the oil and gas lifecycle. We also ran an e-learning training course on anti-bribery and corruption (ABC), which all our staff were required to complete and pass. This ABC training course is part of ensuring our strategy to deliver value in a safe, secure, and environmentally and socially responsible manner, and was designed to further raise awareness and understanding of bribery and corruption. The training course covered all the key issues relating to bribery and corruption, including the UK Bribery Act 2010.

Technical conference: “From Volumes to Value”

In addition to our suite of annual geological fieldtrips, which included Utah, Ireland and one in the local Edinburgh area in 2016, the Company held its inaugural Technical Conference in September, which our geoscience, engineering, commercial and new ventures functions attended. The conference was designed to ensure alignment across the business, identify areas for improvement as part of our drive to continually improve in all we do. It explored sharing of knowledge and techniques across the geoscience, engineering, commercial, exploration and new ventures functions. The conference was hosted by Paul Mayland, Chief Operating Officer, and Richard Heaton, Director of Exploration. It was attended by over 60 members of staff, including our regional directors and staff based in our Stavanger and London offices.

The conference was focused around three key questions: *What are we doing well that we should continue doing?*, *In what areas could we improve?*, and *What conditions are required to achieve the above?* The questions were applied to the key technical disciplines of exploration of new ventures, asset/licence management; exploration and appraisal investment decisions; value creation; and data and tools. The findings based on discussion and feedback at the conference were recently presented to the Management Team with actions to be rolled out in 2017.

Equipping our people with the right tools

As well as having the right people in place and ensuring they have access to the right training to perform to the best of their abilities, we need to have the right tools in place. In late 2015, management requested a review of the suitability of our current day-to-day business procurement systems with a view to moving to a single group-wide business system. This was on the basis that multiple systems were in use across the Group that had the potential to create risks and process inefficiencies.

At the end of 2015, a project commenced to formally define, document and review Cairn’s Enterprise Resource Platform (ERP) requirements. In 2016, requirements were assessed against available platforms, future strategy, and the risks and process inefficiencies we had already identified. At the end of that review, a decision was reached to move to a single, new ERP more suited to Cairn’s current business. Work is under way to design and build the new system, with planned implementation during 2017.

Linking performance to strategy

We recognise the importance of linking the performance of our people to the delivery of strategy to ensure our people are aligned and incentivised in delivering our strategic objectives. Changes to our performance management process during the year included measuring high-performance behaviours, which further strengthen our working responsibly culture.

Revisions to Discretionary Cash Bonus scheme

In April, the Company rolled out enhancements to our performance management and related Discretionary Cash Bonus scheme. The Company wanted to adopt a standardised approach, ensuring consistency in how performance is assessed and rewarded through the application of a common, open and transparent system for all staff, irrespective of location.

The proposed solution was a powerful combination of:

- Group KPIs, which set out the strategic objectives for the company as a whole;
- project performance objectives, recognising the importance of collaboration within a team, collective problem solving to meet an objective and project management skills to deliver these objectives in a timely manner; and
- personal performance objectives, highlighting high-performing individuals who demonstrate the right behaviours consistently and work to the Group’s standards to achieve their objectives.

We believe the revisions will:



develop more cohesive teams that are clear on their annual objectives, through the implementation of a team performance element;

encourage, reward and emphasise the importance of project management, collaboration and teamwork; and

ensure that all staff have an element of their reward based on their own individual performance and merits, including their application of our high-performance behaviours and people management accountabilities.

Feedback so far from staff on the revisions has been positive.



External recognition of our people management

It is important to us to ensure we are managing people in the right way and in line with international standards. As such, we are pleased to have external validation in the form of accreditation from the internationally recognised standard Investors in People (IIP).

IIP is a global standard for people management held by over 14,000 organisations in 75 countries. The standard defines what it takes to lead, support and manage people well for sustainable results. We are delighted to have been an accredited IIP since 2004, and in April 2016, to have been re-accredited by an independent assessor from IIP Scotland. This accreditation identifies both what we are doing well and areas for improvement.

As part of the assessment, our assessor met with a randomly selected 10% of employees from across the Group and we were delighted that following her review, our assessor found that she was “satisfied beyond any doubt that Cairn Energy PLC continues to meet the requirements of the Investors in People Standard”.

The assessment found that there was a tremendous team spirit; a clear sense of company strategy and the Group KPIs with a focus on creating value; an understanding and appreciation of the new structure of the business into three defined geographical regions; and a clear sense of staff willing to share knowledge and information with each other so that they can continuously improve.

Other key areas of best practice highlighted by the assessment included the following:

Staff are very loyal to the Company and are committed to its future success. There is a sense of ownership and pride in working for the Company.

The Company is very clear on its future strategy and the business planning process is very sound.

The Company is very committed to the learning and development of its staff, and on-the-job training, including shadowing and informal coaching of staff, is of a high standard.

The Company's revised appraisal and informal feedback process is very solid.

Members of staff feel very valued and appreciated for the work they undertake. There is a strong culture of praise, thanks and encouragement.

Decision-making and team work are major strengths in the Company.

Members of staff believe that the Company is a great place to work.

The one key area for development highlighted by the assessment was a greater focus needed in the area of return on investment in learning and development, to be able to more fully appreciate the full impact of learning and development in the Company. This will be considered throughout 2017.



Equality and diversity

We are committed to equality and diversity, and understand the importance of a diverse workforce in broadening our skill base, bringing different approaches, perspectives and ideas, challenging norms and encouraging creativity, all of which support the business in delivering its strategy.

Our People Management Policy covers our approach to equality and diversity and how this is implemented in recruitment and selection, training and development, and remuneration and benefits. We also have policies on disability, religion and belief, and the treatment of those employed on a part-time basis. We collect data on the gender, nationality and disability of our appointed staff through our voluntary Equal Opportunities Form.

At year end 2016:

- 48% of Cairn staff were women;
- 10% of Cairn staff worked part-time;
- 100% of women returned to work following maternity/adoption leave and 100% of men returned following adoption/paternity leave;
- 16 different nationalities were employed at Cairn;
- 4% of the workforce had a disability;
- average age at Cairn was 43;
- 33% of management roles were held by women; and
- 1 member of the Board was a woman (11%).

Our approach to equality and diversity extends consistently to all our staff across the Cairn Group.

We are aware of the Gender Pay Gap Reporting requirements but we are currently under the threshold number of staff to be required to report.

Objective 2017

Determine implications arising from the development of the Equality Act

Strategic objectives

Maintain licence to operate

Principal risks

Staff recruitment and retention



Major accident prevention and safety

Spills

Total number of spills to the environment
(number)

	2012	2013	2014	2015	2016
Oil	0	0	0	1	3*
Fuel	0	0	0	0	1**
Chemical	1	0	0	1	0
Waste	0	0	0	0	0
Other	0	0	0	0	0

Note: *3 small spills of oil drop-out from the flare during testing on the SNE-3 well.

Note: **A small spill of diesel drop-out from the flare during testing on the SNE-3 well.

Total volume spilled to the environment
(barrels)

	2012	2013	2014	2015	2016
Oil	0.00	0.00	0.00	0.002	1.050
Fuel	0.00	0.00	0.00	0.00	0.001
Chemical	2.20	0.00	0.00	0.006	0.00
Waste	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00

Oil
(number/barrels)

	2012	2013	2014	2015	2016
Senegal	0/0.000	0/0.000	0/0.000	1/0.002	3/1.050

Fuel
(number/barrels)

	2012	2013	2014	2015	2016
Senegal	0/0.00	0/0.00	0/0.00	0/0.00	1/0.001

Chemical
(number/barrels)

	2012	2013	2014	2015	2016
Senegal	0/0.00	0/0.00	0/0.00	1/0.006	0/0.00
United Kingdom	1/2.20	0/0.00	0/0.00	0/0.00	0/0.00

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.

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

Process safety

Process safety events
 (number)

	2014	2015	2016
Drilling	0	0	0

Note:

Process Safety Event, Tier 1: an unplanned or uncontrolled loss of primary containment (LOPC) of any material including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen or compressed air) from a process, resulting in one or more of the following consequences:

- an employee, contractor or subcontractor lost work day injury and/or fatality;
- hospital admission and/or fatality of a third party;
- community evacuation or community shelter-in-place (officially declared by a local authority);
- fires or explosions resulting in greater than or equal to US\$25,000 of direct cost to the company;
- a pressure relief device discharge resulting in rain out, discharge to an unsafe location, on-site shelter-in-place, or a public protective measure, and in excess of the Tier 1 threshold quantities (detailed in API RP 754);
- a release of material greater than the threshold quantities as described in the Tier 1 table in the API RP 754, in any one-hour period.

Process Safety Event, Tier 2: a less severe event than in the Tier 1 criteria above, that results in one or more of the consequences listed below and is not reported in Tier 1:

- an employee, contractor or subcontractor recordable injury;
- a fire or explosion resulting in greater than or equal to US\$2,500 of direct cost to the company;
- a pressure relief device discharge resulting in rain out, discharge to an unsafe location, on-site shelter-in-place, or a public protective measure, and in excess of the Tier 2 threshold quantities (detailed in API RP 754);
- a release of material greater than the Tier 2 threshold quantities (detailed in API RP 754), in any one-hour period.

RP 754 is Recommended Practice 754, Process Safety Indicators for the Refining and Petrochemical Industries, April 2010 (available at [American Petroleum Institute website](#)).

IOGP guidance states that Tier 1 and Tier 2 process safety events are applicable to drilling and production activities only when operating 'in hole' or when 'connected to the process'. It lists various activities that are outside the scope of process safety event reporting and these include marine transportation unless connected to the facility or process, office and warehouse activities, and fuel/oil leaks involving other vehicles.

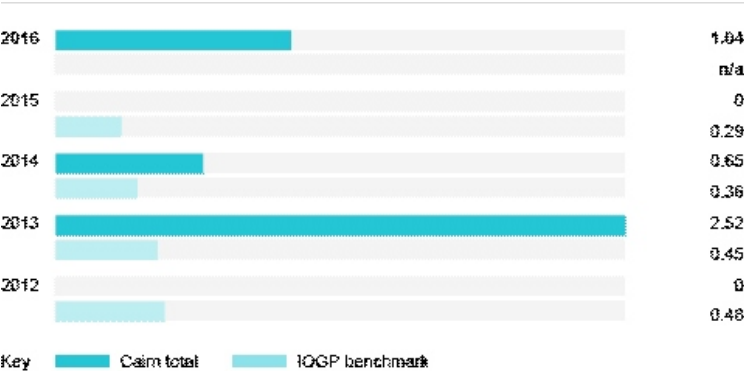
Occupational safety

Lost Time Injury Frequency (LTIF)

Chart: [Lost Time Injury Frequency \(LTIF\)](#)

Table: [Lost Time Injury Frequency \(LTIF\)](#)

(Lost time injuries per million hours worked)





Cairn total	0.00	2.52	0.65	0.00	1.04
Employees	0.00	0.00	0.00	0.00	0.00
Contractors	0.00	4.68	0.87	0.00	1.62
IOGP benchmark	0.48	0.45	0.36	0.29	NA

Note: Lost Time Injury Frequency 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 2016.

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 on-going production and other long-term operations.

Lost Time Injury Frequency (LTIF) and country breakdown

(Lost time injuries per million hours worked)

	2012	2013	2014	2015	2016
Greenland	0.00	0.00	0.00	0.00	0.00
Morocco	0.00	5.69	0.00	0.00	0.00
Senegal	NA	0.00	1.23	0.00	1.63
United Kingdom	0.00	0.00	0.00	0.00	0.00

Lost Time Injury Frequency (LTIF) and gender breakdown

(Lost time injuries per million hours worked)

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

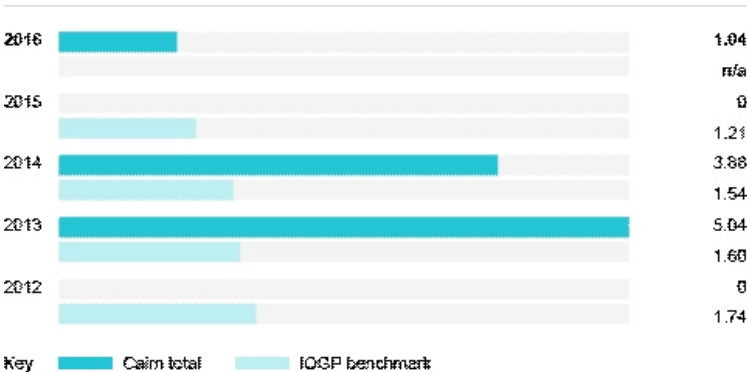
Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

Total Recordable Injury Rate (TRIR)

Chart: Total Recordable Injury Rate (TRIR)

Table: Total Recordable Injury Rate (TRIR)

(Total recordable injuries per million hours worked)



	2012	2013	2014	2015	2016
Cairn total	0.00	5.04	3.88	0.00	1.04
Employees	0.00	0.00	3.53	0.00	0.00
Contractors	0.00	9.37	4.33	0.00	1.62
IOGP benchmark	1.74	1.60	1.54	1.21	NA

Note: Total Recordable Injury Rate 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 2016.

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 on-going production and other long-term operations.

Total Recordable Injury Rate (TRIR) and country breakdown

(Total recordable injuries per million hours worked)

	2012	2013	2014	2015	2016
Greenland	0.00	0.00	0.00	0.00	0.00
Morocco	0.00	11.37	3.11	0.00	0.00
Senegal	NA	0.00	4.90	0.00	1.63
United Kingdom	0.00	0.00	3.07	0.00	0.00

Total Recordable Injury Rate (TRIR) and gender breakdown

(Total recordable injuries per million hours worked)

	2013	2014	2015	2016
Cairn total male/female	4.74/6.24	3.68/5.33	0.00/0.00	1.26/0.00
Morocco male/female	8.77/101.55	3.23/0.00	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
United Kingdom male/female	0.00/0.00	0.00/7.33	0.00/0.00	0.00/0.00

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

Total Lost Day Rate (LDR)

(Lost days per 200,000 hours worked)

	2013	2014	2015	2016
Cairn total for employees and contractors	6.30	14.63	0.00	4.18
Employees	0.00	0.00	0.00	0.00
Contractors	11.71	19.57	0.00	6.49

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

Lost Day Rate (LDR) and gender breakdown

(Lost days per 200,000 hours worked)

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

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

Total Recordable Injuries (TRI)

(number)

	2012	2013	2014	2015	2016
Cairn total	0	4	6	0	1
Morocco	0	4	1	0	0



Senegal	NA	0	4	0	1
United Kingdom	0	0	1	0	0

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

Total fatalities

(number)

	2012	2013	2014	2015	2016
Employees	0	0	0	0	0
Contractors	0	0	0	0	0
Third Party	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)

	2012	2013	2014	2015	2016
Cairn total	0	2	1	0	1
Morocco	0	2	0	0	0
Senegal	NA	0	1	0	1*
United Kingdom	0	0	0	0	0

Note: A Lost Work Day Case 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).

Note: *In April 2016, a stevedore trapped his fingers while slinging pipe at Cairn's shore base in Dakar. This resulted in a lost work day case with 20 days unfit for work.

Lost Work Day Cases (LWDC) and gender breakdown

(number)

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

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

Days unfit for work (lost work days)

(days)

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

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

(days)

	2012	2013	2014	2015	2016
Cairn total	0	25	113	0	20



Morocco	0	25	0	0	0
Senegal	NA	0	113	0	20
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
Cairn total male/female	14/11	113/0	0/0	20/0
Morocco male/female	14/11	0/0	0/0	0/0
Senegal male/female	0/0	113/0	0/0	20/0

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

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

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

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

Note: A Restricted Work Day Case 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, 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 lost work day case (LWDC).

Medical Treatment Cases (MTC) and gender breakdown
(number)

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

Note: Data has only been reported for 2013 onwards because gender data was not collected in our database prior to 2013.

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: Health and safety data includes employees and contractors unless 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 3 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 or a sub-contractor 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: 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.



Health and well-being

Total hours worked

(hours)

	2012	2013	2014	2015	2016
Employees ¹	306,178	366,232	390,096	274,473	341,745
Contractors ²	39,023	426,908	1,155,123	397,713	615,873

Hours worked by employees¹

(hours)

	2012	2013	2014	2015	2016
Greenland	2,952	3,048	1,752	NA	NA
Morocco	0	5,974	8,087	4,541	2,648
Nepal	6,264	3,176	NA	NA	NA
Norway	28,062	36,866	31,950	37,927	54,080
Senegal	NA	352	11,496	19,032	19,840
Spain	13,392	11,840	11,116	1,168	NA
United Kingdom	255,508	304,977	325,695	211,805	265,177

Hours worked by contractors²

(hours)

	2012	2013	2014	2015	2016
Greenland	29,307	69,189	0	0	0
Ireland	NA	NA	29,684	0	0
Malta	NA	NA	7,645	0	0
Morocco	9,716	345,815	313,736	0	0
Senegal	NA	11,904	804,058	397,713	591,887
United Kingdom	NA	NA	NA	NA	23,986

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 3 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 or a sub-contractor 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: 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 (<3 months) office-based contractors have been 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 2016 using a list of non-time-writing personnel and the schedule of a software implementation project.

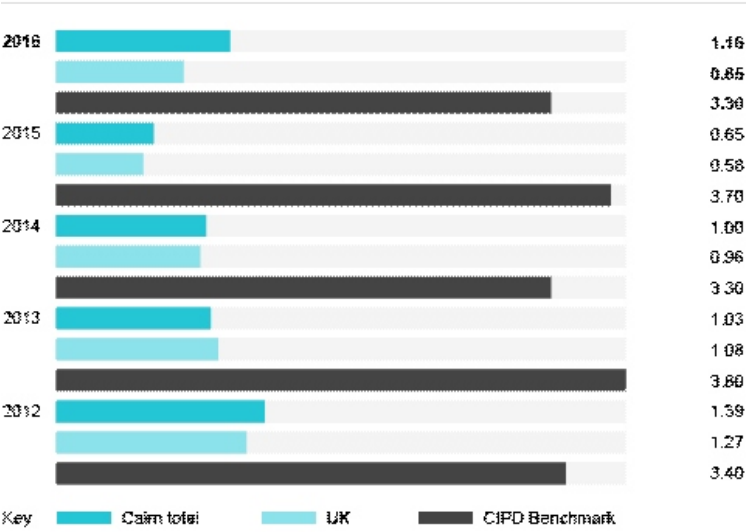
Total Absenteeism Rates

[Chart: Total Absenteeism Rates](#)

[Table: Total Absenteeism Rates](#)



(%)



	2012	2013	2014	2015	2016
Cairn total	1.39	1.03	1.00	0.65	1.16
United Kingdom	1.27	1.08	0.96	0.58	0.85
CIPD Benchmark	3.40	3.80	3.30	3.70	3.30

Note: This data covers employees only (and not 'other workers'/personnel who are contracted for more than 3 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 their 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.

Employee absenteeism and gender breakdown

(%)

	2013	2014	2015	2016
Cairn total/male/female	1.03/0.49/1.62	1.00/0.85/1.14	0.65/0.37/0.94	1.16/0.69/1.67
Greenland total/male/female	0.51/0.51/NA	0.00/0.00/NA	NA/NA/NA	NA/NA/NA
Norway total/male/female	0.77/0.54/1.10	1.68/1.51/1.91	1.11/0.63/1.59	3.05/1.84/4.58
Senegal total/male/female	NA/NA/NA	NA/NA/NA	0.00/0.00/NA	0.00/0.00/NA
Spain total/male/female	0.85/1.15/0.38	0.81/0.70/0.96	NA/NA/NA	NA/NA/NA
United Kingdom total/male/female	1.08/0.46/1.71	0.96/0.79/1.10	0.58/0.33/0.84	0.85/0.47/1.24

Note: Data has only been reported for 2013 onwards as gender data was not collected prior to 2013.



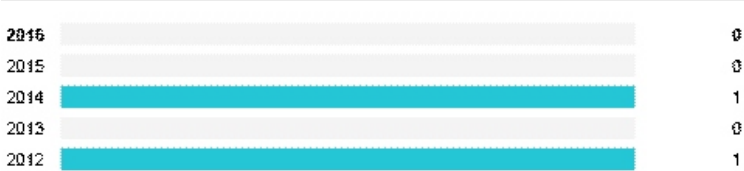
Security

Total security incidents

Chart: Total security incidents

Table: Total security incidents

(number)



	2012	2013	2014	2015	2016
Cairn total	1	0	1	0	0

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)

	2012	2013	2014	2015	2016
United Kingdom	1	0	1	0	0

Security personnel that received human rights training

(%)

	2012	2013	2014	2015	2016
Cairn total	0	0	0	0	0

Note: Data has been provided for individual countries where applicable health, safety and security activities or incidents have taken place.



Employees

Total employee training

Chart: Total employee training

Table: Total employee training

(average hours per employee)



	2012	2013	2014	2015	2016
Cairn total	36	42	18	41	36

Employee training and gender breakdown

(average hours per employee)

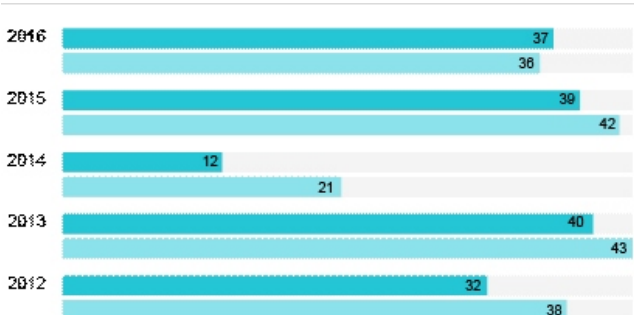
	2012	2013	2014	2015	2016
Cairn total	36	42	18	41	36
Cairn male/female	38/42	46/37	19/17	54/27	43/24
Greenland total	14	1	0	NA	NA
Greenland male/female	14/NA	1/NA	0/NA	NA/NA	NA/NA
Morocco total	NA	0	0	0	0
Morocco male/female	NA/NA	0/0	NA/0	NA/0	NA/0
Norway total	38	55	41	48	25
Norway male/female	38/38	42/73	38/46	55/40	6/21
Senegal total	NA	NA	NA	14	36
Senegal male/female	NA/NA	NA/NA	NA/NA	14/NA	36/NA
Spain total	72	74	13	NA	NA
Spain male/female	48/120	9/171	16/12	NA/NA	NA/NA
United Kingdom total	40	41	16	41	38
United Kingdom male/female	39/41	50/32	16/16	54/26	51/25

Total management and non-management training

Chart: Total management and non-management training

Table: Total management and non-management training

(average hours per employee)





Key ■ Management grade employees ■ Non-management grade employees

	2012	2013	2014	2015	2016
Management grade employees	32	40	12	39	37
Non-management grade employees	38	43	21	42	36

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.

Total performance and career development reviews

(% of employees)

	2012	2013	2014	2015	2016
Cairn total	91	100	100	100	100
Male	88	100	100	100	100
Female	93	100	100	100	100
Management grade employees		100	100	100	100
Non-management grade employees		100	100	100	100



Equality and diversity

Cairn workforce: a snapshot

(number)

	2013	2014	2015	2016
Cairn total				
Employees¹/other workers³/contractors²	207/74/539	178/49/707	151/46/435	170/63/405
Employees male/female	104/103	91/87	78/73	88/82
Other workers male/female	55/19	41/8	33/13	46/17
Contractors male/female	522/17	683/24	419/16	385/20
Greenland				
Employees/other workers/contractors	2/0/114	1/0/0	0/0/0	0/0/0
Employees male/female	2/0	1/0	0/0	0/0
Other workers male/female	0/0	0/0	0/0	0/0
Contractors male/female	110/4	0/0	0/0	0/0
Ireland				
Employees/other workers/contractors	NA/NA/NA	0/0/98	0/0/0	0/0/0
Employees male/female	NA/NA	0/0	0/0	0/0
Other workers male/female	NA/NA	0/0	0/0	0/0
Contractors male/female	NA/NA	93/5	0/0	0/0
Malta				
Employees/other workers/contractors	NA/NA/NA	0/0/41	0/0/0	0/0/0
Employees male/female	NA/NA	0/0	0/0	0/0
Other workers male/female	NA/NA	0/0	0/0	0/0
Contractors male/female	NA/NA	40/1	0/0	0/0
Morocco				
Employees/other workers/contractors	2/2/393	2/0/281	2/0/0	1/0/0
Employees male/female	1/1	0/2	0/2	0/1
Other workers male/female	1/1	0/0	0/0	0/0
Contractors male/female	382/11	271/10	0/0	0/0
Norway				
Employees/other workers/contractors	17/2/0	17/1/0	21/1/0	25/4/0
Employees male/female	10/7	11/6	11/10	14/11
Other workers male/female	2/0	1/0	1/0	2/2
Contractors male/female	0/0	0/0	0/0	0/0
Senegal				
Employees/other workers/contractors	0/2/32	0/6/287	1/9/435	1/8/389
Employees male/female	0/0	0/0	1/0	1/0
Other workers male/female	2/0	4/2	5/4	4/4
Contractors male/female	30/2	279/8	419/16	373/16
Spain				
Employees/other workers/contractors	5/1/0	3/0/0	NA/NA/NA	NA/NA/NA
Employees male/female	3/2	1/2	NA/NA	NA/NA
Other workers male/female	0/1	0/0	NA/NA	NA/NA



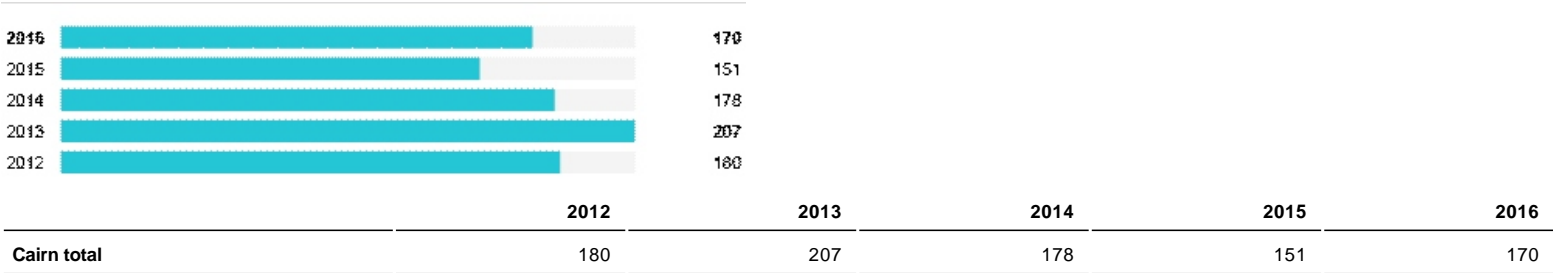
Contractors male/female	0/0	0/0	N/A/N/A	NA/NA
United Kingdom				
Employees/other workers/contractors	181/67/0	155/42/0	127/36/0	143/51/16
Employees male/female	88/93	78/77	66/61	73/70
Other workers male/female	50/17	36/6	27/9	40/11
Contractors male/female	0/0	0/0	0/0	13/3

Total employees¹

Chart: [Total employees](#)

Table: [Total employees](#)

(number)

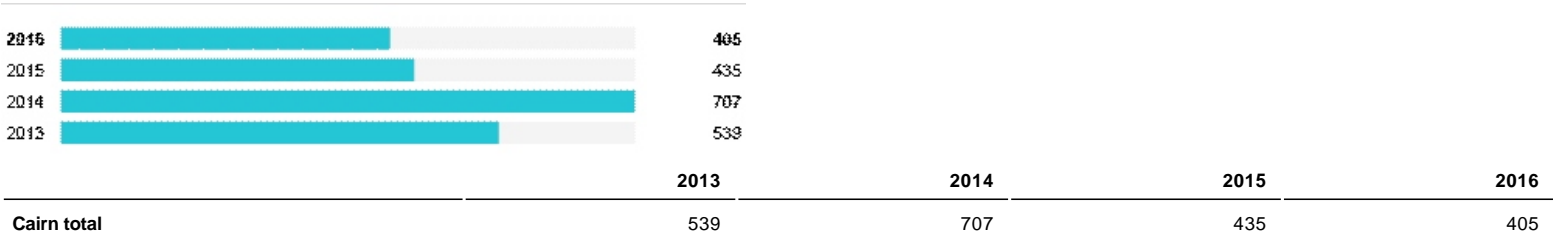


Total contractors²

Chart: [Total contractors](#)

Table: [Total contractors](#)

(number)



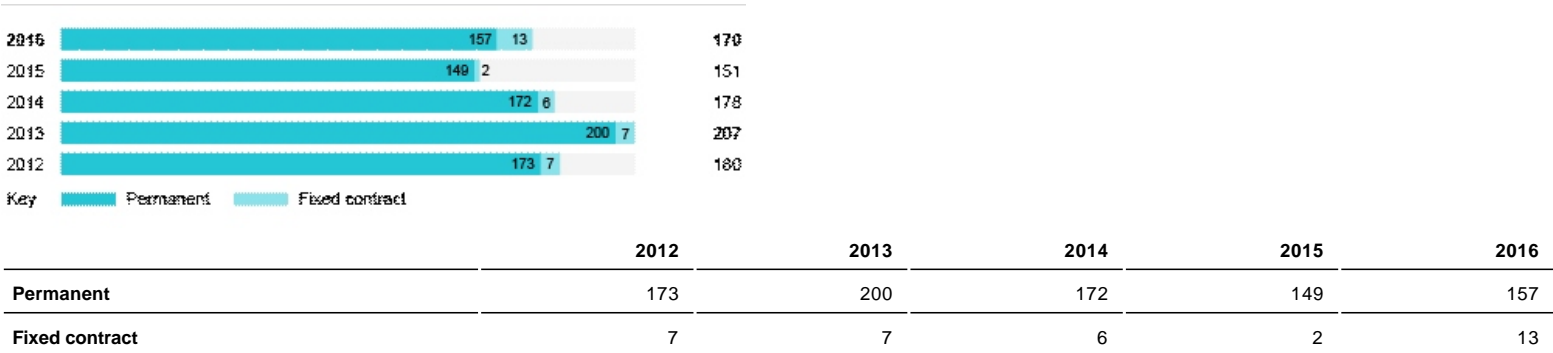
Contract types and gender breakdown

Employee¹ contract type totals

Chart: [Employee1 contract type totals](#)

Table: [Employee1 contract type totals](#)

(number)



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



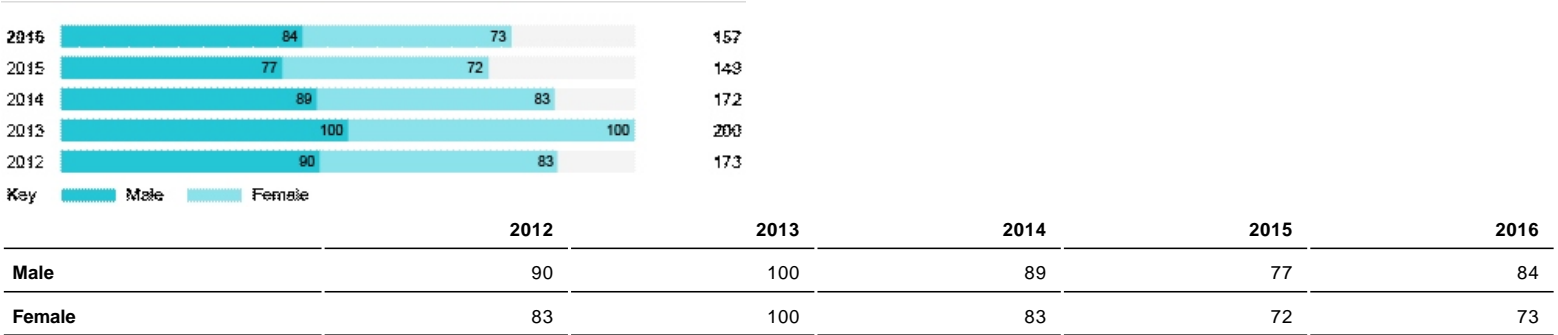
ends when a specific time period expires.

Permanent

Chart: Permanent

Table: Permanent

(number)

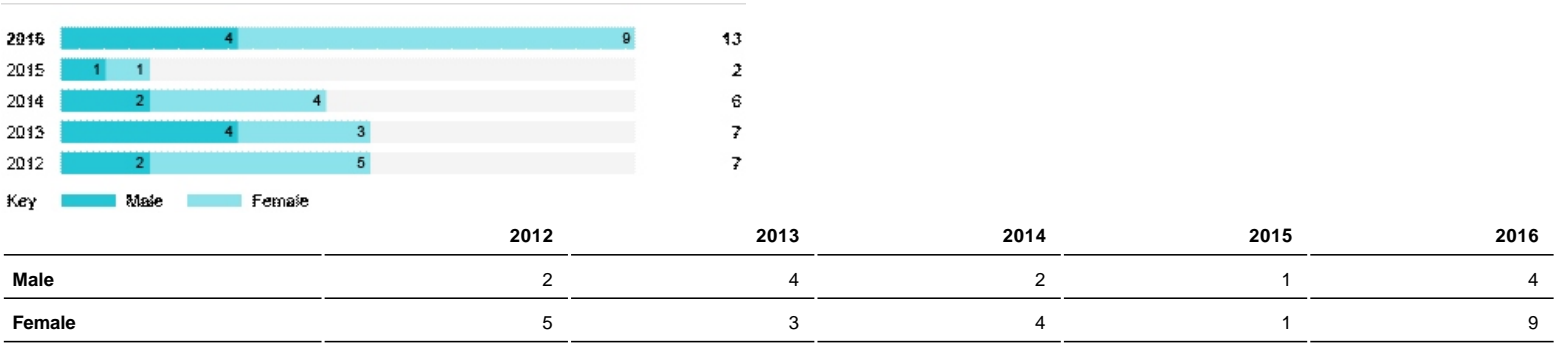


Fixed

Chart: Fixed

Table: Fixed

(number)



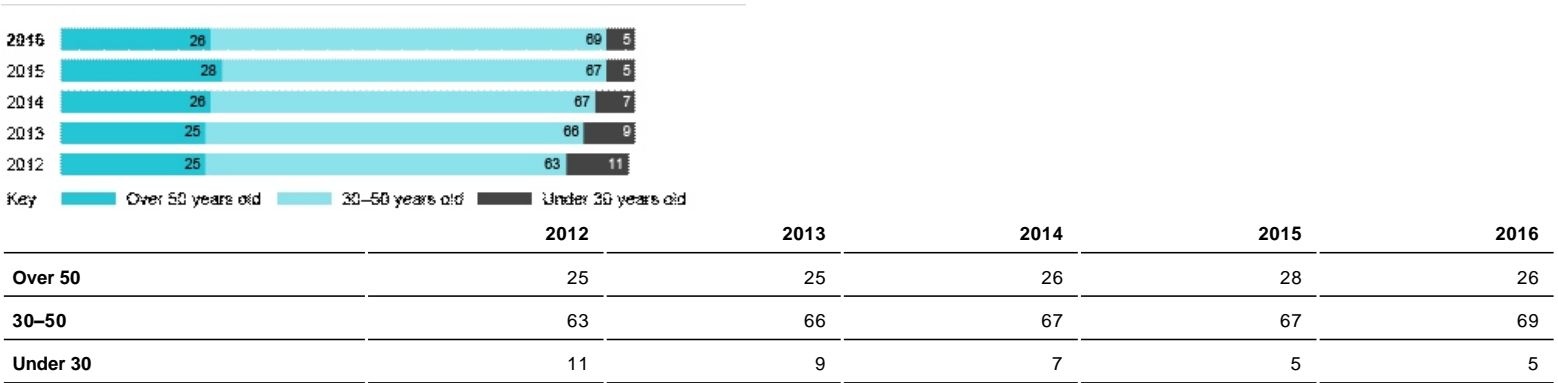
Employee age groups and gender breakdown

Employee¹ age group totals

Chart: Employee¹ age group totals

Table: Employee¹ age group totals

(%)



Over 50 years old



(%)

	2012	2013	2014	2015	2016
Cairn total/male/female	25/36/14	25/34/16	26/35/16	28/37/18	26/34/17
Greenland total/male/female	50/50/0	50/50/0	100/100/0	NA/NA/NA	NA/NA/NA
Morocco total/male/female	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Norway total/male/female	41/55/17	35/50/14	35/45/17	29/45/10	28/43/9
Senegal total/male/female	NA/NA/NA	NA/NA/NA	NA/NA/NA	100/100/0	100/100/0
Spain total/male/female	0/0/0	0/0/0	0/0/0	NA/NA/NA	NA/NA/NA
United Kingdom total/male/female	24/34/14	25/34/16	25/33/17	28/35/20	25/32/19

30-50 years old

(%)

	2012	2013	2014	2015	2016
Cairn total/male/female	63/51/76	66/56/77	67/56/78	67/54/82	69/58/80
Greenland total/male/female	50/50/0	50/50/0	0/0/0	NA/NA/NA	NA/NA/NA
Morocco total/male/female	0/0/0	100/100/100	100/0/100	100/0/100	100/0/100
Norway total/male/female	53/45/67	65/50/86	59/45/83	67/45/90	68/57/82
Senegal total/male/female	NA/NA/NA	NA/NA/NA	NA/NA/NA	0/0/0	0/0/0
Spain total/male/female	100/100/100	100/100/100	100/100/100	NA/NA/NA	NA/NA/NA
United Kingdom total/male/female	63/49/76	65/55/75	67/58/77	68/56/80	69/59/80

Under 30 years old

(%)

	2012	2013	2014	2015	2016
Cairn total/male/female	11/13/9	9/10/8	7/9/6	5/9/0	5/8/2
Greenland total/male/female	0/0/0	0/0/0	0/0/0	NA/NA/NA	NA/NA/NA
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	0/0/0	6/9/0	5/9/0	4/0/9
Senegal total/male/female	NA/NA/NA	NA/NA/NA	NA/NA/NA	0/0/0	0/0/0
Spain total/male/female	0/0/0	0/0/0	0/0/0	NA/NA/NA	NA/NA/NA
United Kingdom total/male/female	13/16/10	10/11/9	8/9/6	5/9/0	6/10/1

Minority groups

Employees¹ from minority groups

(%)

	2012	2013	2014	2015	2016
Cairn total	2	2	0	3	3

Minority groups and gender breakdown

(%)

	2012	2013	2014	2015	2016
Cairn total/male/female	2/1/3	2/1/4	0/0/0	3/1/4	3/1/5



Greenland total/male/female	0/0/0	0/0/0	0/0/0	NA/NA/NA	NA/NA/NA
Morocco total/male/female	0/0/0	0/0/0	0/0/0	0/NA/0	0/NA/0
Norway total/male/female	0/0/0	0/0/0	0/0/0	0/0/0	0/0/0
Senegal total/male/female	NA/NA/NA	NA/NA/NA	NA/NA/NA	0/0/0	0/0/NA
Spain total/male/female	0/0/0	0/0/0	0/0/0	NA/NA/NA	NA/NA/NA
United Kingdom total/male/female	3/1/4	3/1/4	0/0/0	3/2/5	4/1/6

Managerial and non-managerial grade employees

Total managerial employees¹ and gender breakdown

Chart: Total managerial employees¹ and gender breakdown

Table: Total managerial employees¹ and gender breakdown



Key Male (%) Female (%)

		2012	2013	2014	2015	2016
Cairn total	(number)	56	71	56	48	54
Male	(%)	71	72	75	75	67
Female	(%)	29	28	25	25	33

Note: Management 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.

Managerial employees¹ and gender breakdown

(%)

	2012	2013	2014	2015	2016
Greenland male/female	100/0	100/0	0/0	NA/NA	NA/NA
Morocco male/female	0/0	50/50	0/100	NA/0	NA/0
Norway male/female	67/33	67/33	67/33	67/33	71/29
Senegal male/female	NA/NA	NA/NA	NA/NA	100/0	100/0
Spain male/female	100/0	100/0	100/0	NA/NA	NA/NA
United Kingdom male/female	70/30	72/28	77/23	76/24	65/35

National and expatriate employees

Total national and expatriate employees¹

(%)

		2012	2013	2014	2015	2016
Employee total	(number)	180	207	178	151	170
National	(%)	99	99	99	98	98
Expatriate	(%)	1	1	1	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

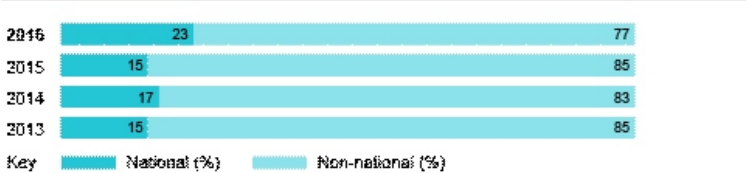


employed by the local Cairn office.

Total national and non-national contractors²

Chart: Total national and non-national contractors²

Table: Total national and non-national contractors²



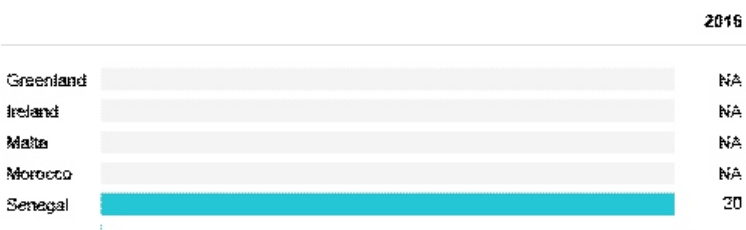
		2013	2014	2015	2016
Contractor total	(number)	539	707	435	405
National	(%)	15	17	15	23
Non-national	(%)	85	83	85	77

Contractors² that are national

Chart: Contractors² that are national

Table: Contractors² that are national

(%)



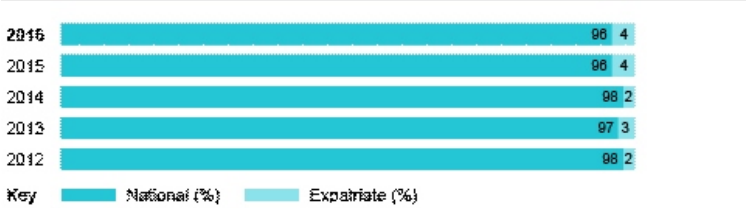
	2013	2014	2015	2016
Greenland	11	NA	NA	NA
Ireland	NA	19	NA	NA
Malta	NA	0	NA	NA
Morocco	18	23	NA	NA
Senegal	3	13	15	20

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

Total national and expatriate managerial employees¹

Chart: Total national and expatriate managerial employees¹

Table: Total national and expatriate managerial employees¹



		2012	2013	2014	2015	2016
Managerial employee total	(number)	56	71	56	48	54
National	(%)	98	97	98	96	96
Expatriates	(%)	2	3	2	4	4

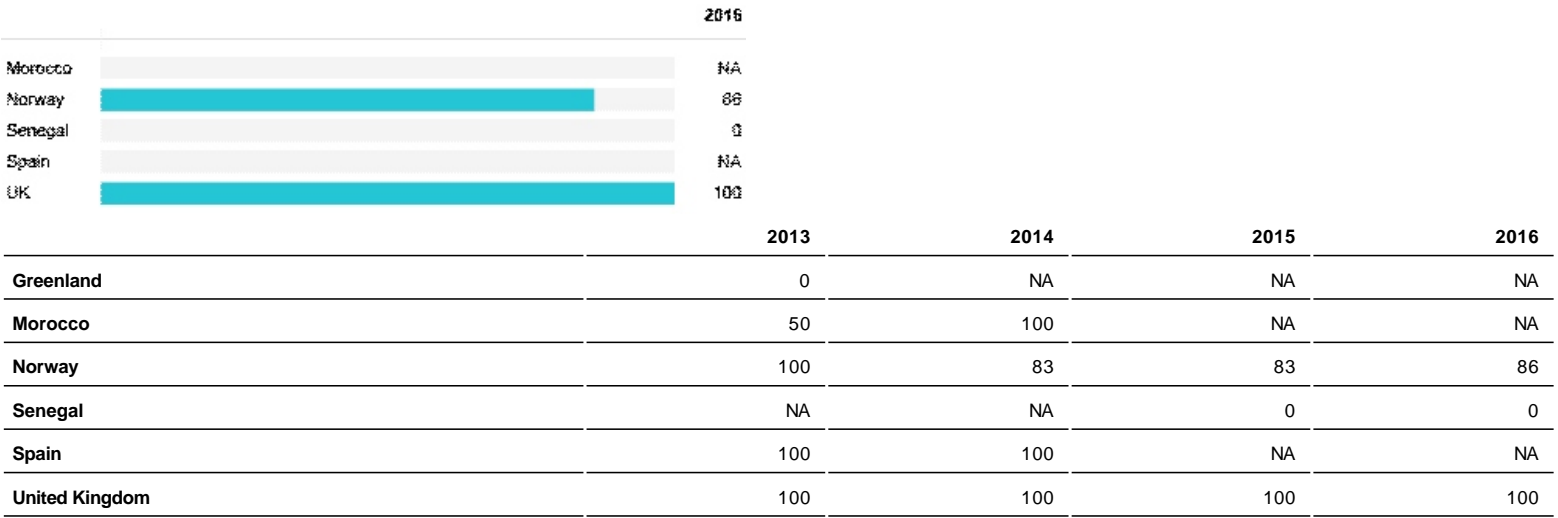


Managers hired from the local population

Chart: [Managers hired from the local population](#)

Table: [Managers hired from the local population](#)

(%)



Note: This data covers employees and not contractors.

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.

1. An employee is 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 3 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 sub-contractor 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 2016.

- Short-term (less than 3 months) office-based contractors: Data on numbers of short-term office contractors was collected for the first time in 2016. It came from three sources:
- i. A list of Dakar office-based contractors who are not included in Cairn's employee and long-term contractor workforce (individuals who time-write) data was supplied by Cairn's Human Resources department. This was cross checked against time-sheets supplied by Cairn's Dakar Office at the end of each month and those individuals who had not already been captured were included in short-term contractor data.
 - ii. A list of non-time-writing personnel was supplied by Cairn's finance department at the end of 2016. 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.
 - iii. A schedule of contractor personnel currently working on a major software (Unit4) implementation project at Cairn was supplied at the end of 2016. 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 are 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 are not available monthly are 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 3 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 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.

New hires

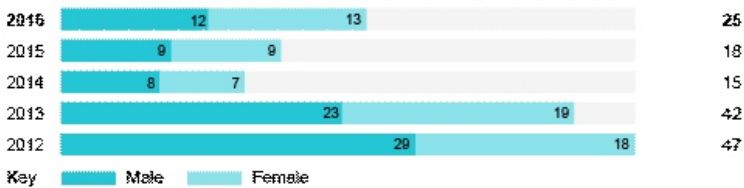
Total new hires and gender breakdown

Chart: [Total new hires and gender breakdown](#)

Table: [Total new hires and gender breakdown](#)



(number)



	2012	2013	2014	2015	2016
Male	29	23	8	9	12
Female	18	19	7	9	13

New hires and gender breakdown

(number/%)

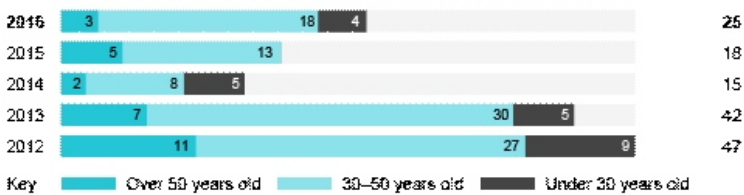
	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cairn total	29/32	18/20	23/22	19/18	8/9	7/8	9/12	9/12	12/14	13/16
Morocco	NA/NA	NA/NA	0/0	1/100	0/0	1/50	0/0	0/0	0/0	0/0
Norway	12/109	6/100	1/10	1/14	3/27	0/0	5/45	6/60	3/21	1/9
Senegal	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	1/100	0/0	0/0	0/0
Spain	2/50	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
United Kingdom	15/21	12/15	22/25	17/18	5/6	6/8	3/5	3/5	9/12	12/17

Total new hires and age group breakdown

[Chart: Total new hires and age group breakdown](#)

[Table: Total new hires and age group breakdown](#)

(number)



	2012	2013	2014	2015	2016
Total	47	42	15	18	25
Over 50	11	7	2	5	3
30-50	27	30	8	13	18
Under 30	9	5	5	0	4

New hires and rate of new hires - over 50 years old

(number/%)

	2012	2013	2014	2015	2016
Cairn total	11/24	7/13	2/4	5/12	3/7
Norway	7/100	0/0	0/0	2/33	1/14
Senegal	NA/NA	NA/NA	NA/NA	1/100	0/0
Spain	0/0	0/0	0/0	0/0	0/0
United Kingdom	4/11	7/16	2/5	2/6	2/6



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

	2012	2013	2014	2015	2016
Cairn total	27/24	30/22	8/7	13/13	18/16
Morocco	0/0	0/0	1/50	0/0	0/0
Norway	11/122	2/18	2/20	9/64	2/12
Spain	2/33	0/0	0/0	0/0	0/0
United Kingdom	14/15	27/23	5/5	4/5	16/16

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

	2012	2013	2014	2015	2016
Cairn total	9/45	5/28	5/38	0/0	4/44
Norway	0/0	0/0	1/100	0/0	1/100
Spain	0/0	0/0	0/0	0/0	0/0
United Kingdom	9/45	5/28	4/33	0/0	3/38

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

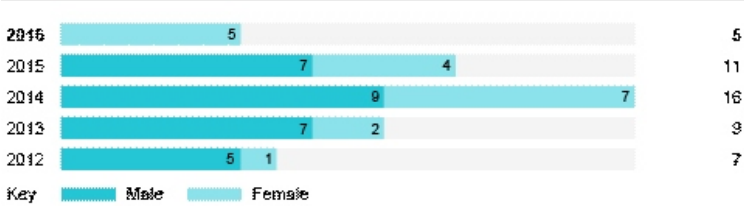
Turnover

Total employees leaving employment and gender breakdown

Chart: [Total employees leaving employment and gender breakdown](#)

Table: [Total employees leaving employment and gender breakdown](#)

(number)



	2012	2013	2014	2015	2016
Cairn total	6	9	16	11	5
Male	5	7	9	7	0
Female	1	2	7	4	5

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

	2012		2013		2014		2015		2016	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Cairn total	5/5	1/1	7/7	2/2	9/10	7/8	7/9	4/5	0/0	5/6
Norway	1/9	0/0	2/20	0/0	3/27	1/17	5/45	2/20	0/0	0/0
Senegal	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	NA/NA	0/0	NA/NA	0/0	NA/NA
Spain	0/0	0/0	1/33	0/0	0/0	0/0	NA/NA	NA/NA	NA/NA	NA/NA



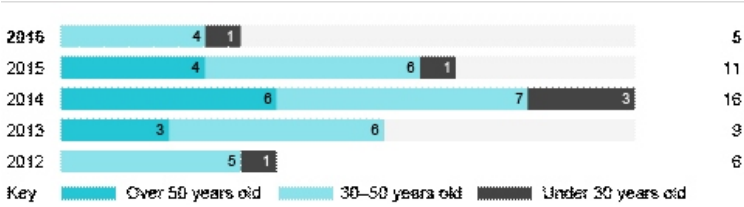
United Kingdom 4/5 1/1 4/5 2/2 5/6 6/8 2/3 2/3 0/0 4/6

Total employees leaving employment and age group breakdown

Chart: Total employees leaving employment and age group breakdown

Table: Total employees leaving employment and age group breakdown

(number)



	2012	2013	2014	2015	2016
Cairn total	6	9	16	11	5
Over 50 years old	0	3	6	4	0
30-50 years old	5	6	7	6	4
Under 30 years old	1	0	3	1	1

Turnover and rate of turnover - over 50 years old

(number/%)

	2012	2013	2014	2015	2016
Cairn total	0/0	3/0	6/0.1	4/0.1	0/0
Norway	0/0	1/0	3/0.5	3/0.5	0/0
Senegal	NA/NA	NA/NA	NA/NA	0/0	0/0
Spain	0/0	0/0	0/0	NA/NA	NA/NA
United Kingdom	0/0	2/0	3/0.1	1/0.03	0/0

Turnover and rate of turnover - 30-50 years old

(number/%)

	2012	2013	2014	2015	2016
Cairn total	5/4	6/4	7/6	6/6	4/3
Morocco	0/0	0/0	1/50	0/0	1/100
Norway	1/11	1/9	1/10	4/29	0/0
Spain	0/0	1/20	0/0	NA/NA	NA/NA
United Kingdom	4/4	4/3	5/5	2/2	3/3

Turnover and rate of turnover - under 30 years old

(number/%)

	2012	2013	2014	2015	2016
Cairn total	1/5	0/0	3/23	1/14	1/11
Norway	0/0	0/0	0/0	0/0	0/0
Spain	0/0	0/0	0/0	NA/NA	0/0
United Kingdom	1/5	0/0	3/25	1/17	1/13

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

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



Parental leave and retention

Total parental leave and retention rates

		2012	2013	2014	2015	2016
Employees entitled to parental leave	(number)	180	207	178	151	143
Employees entitled to parental leave: male/female	(number)	92/88	104/103	91/87	78/73	73/70
Employees that took parental leave	(number)	13	17	20	10	12
Employees that took parental leave: male/female	(number)	7/6	4/13	7/13	3/7	5/7
Employees that returned to work after parental leave	(number/%)	13/100	9/100	13/76	9/90	8/100
Male employees that returned to work after parental leave	(number/%)	7/100	4/100	7/100	3/100	5/100
Female employees that returned to work after parental leave	(number/%)	6/100	5/100	6/60	6/86	3/100
Total employees that returned to work after parental leave who were still employed 12 months after return to work	(number/%)	13/100	8/100	7/78	13/100	3/100
Male employees that returned to work after parental leave who were still employed 12 months after return to work	(number/%)	7/100	4/100	2/50	7/100	1/100
Female employees that returned to work after parental leave who were still employed 12 months after return to work	(number/%)	6/100	4/100	5/100	6/100	2/100

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 3 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

Protecting the environment is a high priority, and therefore we have introduced a robust series of procedures to avoid and minimise the impact of our operations.

Through our Corporate Responsibility Management System (CRMS), environmental considerations are taken into account at every stage of the oil and gas lifecycle, from identification of opportunities to production and return. We use a precautionary approach, and one we believe is best in safeguarding the areas in which we work. Our operations also take into account the legal and regulatory requirements of the countries in which we operate, and we cooperate fully with all government regulatory bodies.

While we apply all local regulations, our CRMS requires us to consider industry good practice; for example, International Association of Oil & Gas Producers (IOGP) guidelines and UK Continental Shelf (UKCS) custom and practices, especially in locations with no local regulations. We aim to meet the expectations of investors and shareholders in relation to the environmental impacts of our business.

2016 performance highlights

Review of implications arising from the UN Intergovernmental Panel on Climate Change (IPCC) Conference of the Parties (COP21) presented to the Board.

A further addendum to our 2014 Senegal Environmental and Social Impact Assessment (ESIA) was developed for the 2017 campaign to take into account proposed changes; mitigations were identified and implementation commenced. Our appraisal drilling campaign offshore Senegal received approval from the Senegal National Technical Committee set up by the Senegal Ministry of Environment and Sustainable Development (Department for the Environment and Classified Installations) in November 2016.

The Senegal drilling Project Risk Study and Dossier for Installations Classified for Environmental Protection (ICPE, covering dangerous operations, equipment and substances) and the Plan of Internal Operations (POI, emergency preparedness and response strategy) were all updated to support the amended ESIA.

Material issues

	Level of materiality
<u>Climate change, emissions and discharges</u>	High
<u>Biodiversity</u>	Medium
<u>Resource use</u>	Medium
<u>Product stewardship</u>	Low



Climate change, emissions and discharges

Our approach to climate change

Our oil and gas exploration and production activities are carbon intensive and our approach to climate change continues to include:

GHGs measuring and reporting;

further consideration of climate change risks and opportunities associated with all our projects;

promoting efficient use of energy in our activities and, wherever possible, including efficient and timely completion of projects;

integrating climate change considerations and potential costs into investment decisions;

stakeholder engagement; for example, through participating in industry associations, on mitigation and adaptation to climate change measures; and

contribution to local programmes that address environmental and social impacts within our sphere of control and reasonable influence.

See also our [Climate change review](#).

Our GHG emissions

Greenhouse gases (GHGs) form a part of our operational environmental footprint. We monitor and manage the GHGs emitted during our activities and disclose them in accordance with industry requirements and standards. In 2016, we conducted a thorough review of the methods and factors used in the calculation of our GHG emissions, and corrections were made in line with best practice.

We disclose on an 'operational control' basis, which means we report emissions from those assets that are operated by us and not those controlled by our partners. With no operated production facilities in 2016, our direct GHG emissions occurred primarily from the combustion of fuel on the rig, vessels and aviation, and from flaring during testing, in relation to the completion of the second phase of the appraisal and exploration programme in Senegal.

Our GHG emissions over five years show that they are heavily dependent on the level of operational activity in any given period. Our emissions levels in absolute terms vary with the length of operations and operational requirements, which are often also influenced by safety considerations (e.g. vessel or rig selection to meet specific operational requirements).

The varying levels of operational activity make it very difficult to identify a baseline and set targets for total GHG reduction over time.

Our GHG emissions intensity is calculated per thousand hours worked, as this provides a direct relationship with our activity. Factors such as the nature of the work in hand (i.e. drilling or seismic survey), environmental conditions and distances between operations and logistic support bases have further significant influences on the intensity of GHG emissions. We strive to reduce the footprint of our activities by operating efficiently and quickly but not to the detriment of safety.

The quantity of GHG emissions from our activities reduced in 2016 from 2015 despite an increase in hours worked. Consequently, GHG intensity per thousand hours worked has improved substantially.

RPS was appointed to provide independent verification of greenhouse gas (GHG) emissions reported in the Annual Report and Accounts 2016 and [this CR Report](#).

Emissions, discharges and waste performance

In March 2016, we completed the second phase of our exploration and appraisal programme in Senegal and commenced planning for the third phase, which started in 2017. As such, our operations in 2016 were relatively limited in terms of emissions, discharges and wastes. We expect emissions, discharges and wastes to be broadly similar to 2016 based on an anticipated programme of two firm wells in 2017. However, the third phase programme includes a number of optional wells, which, if executed, would increase our emissions, discharges and waste profile. It remains difficult to set specific reduction targets when levels of activity vary from year to year, but we are committed to minimising our environmental impact from operations and to reporting fully and transparently on this matter.

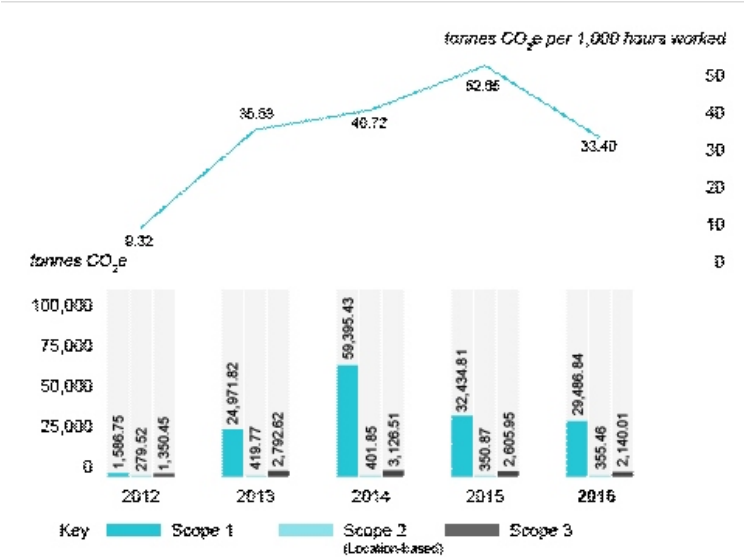
At the end of the second phase of the exploration and appraisal campaign in Senegal, unanticipated residual wastes from the drill rig tanks required specific treatment as hazardous waste in accordance with EU classification. We achieved successful treatment by filter press and dry residues were packaged and sent ashore, prior to onward shipment to Spain under the Basel Convention due to the absence of suitable waste management sites in Senegal.

The majority of Cairn's waste is produced by contractors, so our priority for 2016 was to ensure our Waste Management Plan was followed and remains robust while planning for the 2017 programme.



In 2016, we generated 245 tonnes hazardous and 381 tonnes non-hazardous waste. 40% of our total waste was recycled or reused (see performance data [Discharges](#)).

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



See performance data [Climate change and emissions](#).

Oil discharges

We experienced four minor spills of hydrocarbon in 2016, which arose from “flare-out” incidents during well testing in the phase two drilling programme in Senegal. These arose as a consequence of ineffective rig orientation to the prevailing weather, seawater salting of the flare nozzle and setting the water deluge too high. These issues were addressed early in the campaign and no further problems occurred. A total of 167 litres we spilled to sea, however, the oil dispersed and evaporated rapidly and was considered to have a low environmental impact. All escapes were reported to the authorities.

See also [Emissions, discharges and waste management](#).

Objectives 2017

- Continue to track risk arising from climate change treaties and legislation
- We will review our greenhouse gas (GHG) monitoring and accounting preparedness

Strategic objectives

Maintain licence to operate

Principal risks

- Health, safety, environmental and security incidents
- Operational and project performance



Climate change review

Our industry as a whole recognises the potential risks as global energy transitions to a less carbon intense economy.

This includes issues such as the potential for future restriction of funding, shareholder position and stranded assets. We also recognise that balancing the need for energy and reducing GHG emissions will require efficient use of energy and the full utilisation of both conventional and innovative sources of energy into the foreseeable future, particularly if this is to remain affordable and accessible in developed and developing countries. Other global factors too remain important in relation to our industry including growing demand for energy and provision of energy security in individual countries.

The International Energy Agency (IEA) World Energy Outlook 2016 considers a number of transition scenarios to a low carbon economy, the most challenging of which (IEA 450) restricts global temperature rise to 1.5°C. In this instance nearly 60% of the power generated in 2040 is projected to come from renewables, almost half of this from wind and solar photovoltaics. Even in this scenario, IEA considers there to be 'no reason to assume widespread stranding of upstream oil assets, as long as governments give clear signals of their intent and pursue consistent policies to that end'. IEA goes on to indicate that 'Investment in developing new upstream projects is an important component of a least-cost transition, as the decline in output from existing fields is much larger than the anticipated fall in demand'.

One of our 2016 Corporate Responsibility (CR) objectives was to further examine the implications arising from the UN Intergovernmental Panel on Climate Change (IPCC) Conference of the Parties, which took place in Paris at the end of 2015 (COP21), as described in our [Annual Report and Accounts 2015](#). We have followed the progress of ratification during 2016 by major GHG-emitting countries such as the USA and China, among others, and we recognise that climate change issues present potential risks to our future activities. In 2016, we conducted a review to better understand those potential risks.

This included a review of the Intended Nationally Determined Contribution (INDC)* reports for all locations in our portfolio. Potential strategic issues include emissions control restrictions (e.g. trading and permitting, levies), potential for stranded assets, securing access to finance, licence to operate, and adaptation by countries and communities (e.g. due to rising sea levels, or change in environmental conditions affecting communities) to the impact from climate changes. Our review was presented to the Board in September and actions for inclusion in our 2017 CR objectives were identified. Climate change in the context of the oil and gas industry is further discussed in the Industry Overview section of our [Annual Report and Accounts 2016](#).

Cairn continues to track risk in all locations in which we operate, including climate change, and believes that for the foreseeable future oil and gas will be important in the energy mix to meet demand and will be of particular benefit for wealth generation and delivery of affordable energy if managed in an ethical manner. In November 2016, COP22 was held in Marrakech, Morocco, and outcomes from this are under review and actions are included in our 2017 CR objectives.

We acknowledge the rising importance of climate change to some of our stakeholders and, in 2016, we have assessed this as "high" within our CR materiality assessment (see [Materiality matrix](#)). This year, we have continued to judge the risk to the Cairn Business from climate change as "medium" based on exposures across the portfolio, which cover mature basins and developing locations.

Mature basins

In areas where the oil and gas industry is considered mature, such as the UK and Norway, there is clear legislation around climate change and the oil and gas industry, including EU Emissions Trading Scheme Regulations** with ongoing emission reduction targets by individual countries and collectively by the EU. As such, the climate change risks pertaining to our assets in the UK and Norway, which include our non-operated development projects Kraken and Catcher, are well understood. Future exploration in the UK and Norway appears to be secure against the background of UK and Norwegian reduction commitments and cost of carbon (carbon allowances are allocated under trading schemes to restrict emissions; allowances can be traded at market rate). A short-term challenge is economic downturn and its impact on oil price, with implications for the industry as a whole (see [Economics and funding](#)). Ongoing monitoring of risk will be required as these mature locations seek to continue oil and gas activity and reduce emissions simultaneously while providing energy security in an affordable manner.

Access to funding is not seen as an issue in the short to medium term given government policies and known legislation and timescales for the sector; indeed, our Kraken and Catcher non-operated developments remain fully funded. In the short term, the marginal cost of carbon is not seen as a significant issue, although it may play a part as assets age and production declines in the medium to long term, precipitating a marginally earlier decision to cease production. We do not foresee funding or carbon cost as impacting shareholder value overall in our mature area portfolio at the end of 2016.

The likelihood of stranded assets due to climate change in mature areas is not regarded as an issue in the short or medium term. There continues to be considerable promotion of exploration and production in mature areas due to the benefits, including economic and social, and recognition that the transition will take some decades. In the short to medium term, asset risks such as proximity to infrastructure and size of discovery outweigh most other risks to project viability and delivery of shareholder value. Longer-term climate change is also likely to drive innovation and improvement in equipment, including during the design and selection stages of projects to remove and optimise emissions. For example, long-term innovation may take the form of low emissions technology and carbon capture. We do not use an internal cost of carbon on the basis that it is not material to our projects at this time but we continue to factor costs into our due diligence and investment proposal processes as necessary; it is an area we continue to monitor to ensure we understand trends and



implications.

Given that much of the UK's health, safety and environment (HSE) related legislation is based on EU Regulations and Directives, including the area of climate change, the UK's exit from the EU following the 2016 referendum has also been identified as an event to monitor. This may impact not only climate change issues but other CR issues of interest, as the details of 'Brexit' become clearer.

Senegal and developing locations

Transition risks in developing locations are closely tied to the need for economic growth to provide local benefits, such as employment and social and economic development. Such countries tend to have much lower aspirations in terms of carbon reduction and will be dependent on investment funds. Market-based mechanisms also tend to play a less central role (e.g. projects under the Clean Development Mechanism of the Kyoto Protocol). Access to investment for companies is often linked with demonstrating a responsible position (in terms of both environmental and social performance; e.g. under IFC Guidance). Again, short- to medium-term stranded assets are unlikely to be a significant issue in respect of climate change alone. There are likely to be other more significant issues, such as cost of delivery of a project in remote or poor infrastructure areas, that will affect the overall value of the project.

At the end of 2016, our principal asset of this type is the Senegal appraisal and exploration project. The project is still relatively early in the value chain but has substantial potential both economically and socially for Senegal. Development and delivery will be less than 10 years, and in the medium term the climate change risks relating to investment, stranded assets and carbon cost are considered low. This is due to the need for development in-country and affordable, reliable energy in Senegal linked to its status as a "United Nations Least Developed Country".

In 2016, we reviewed the potential risks, status under the Kyoto Protocol and the Intended National Determined Contributions (INDCs) submitted as part of COP21 in developing locations in which we have an interest, such as Senegal. Senegal aims to generate income to improve infrastructure and deliver benefits to communities and society. The Senegal National Committee on Climate Change has identified priorities, such as the energy sector, describing mitigation and adaption aspects from a climate change perspective. Key actions identified the replacement of solid fuels, rural electrification, use of renewable energy sources and infrastructure improvement in particular. A successful oil and gas industry could assist in generating significant income, which could aid country development, provide affordable energy, inward investment in the medium term and reduce reliance on solid fuels.

Physical risks

Physical risks arising from climate change include the potential for extreme weather, sea level rise and water scarcity. The likelihood of impact on Cairn business, as with other companies, is highly location and infrastructure specific. In terms of our infrastructure, as at the end of 2016 Cairn had no permanent installations; almost all our activities involved offshore mobile equipment.

Local people in our areas of activity may be adversely affected by sea-level rise or degradation in fishing quality/quantity, availability of water or farming. These are social issues that are essentially in the government domain; however, Cairn has a long history of both social responsibility and social investment. For example, water supply issues in India in the location of our land operations were the subject of a major aquifer management programme developed by Cairn.

We received a series of questions from the Financial Reporting Council (FRC) in response to the ClientEarth complaint in late 2016 alleging we had failed to adequately disclose climate change risks to our investors along with routine questions in other areas. We responded in full to all FRC questions in January 2017 and consider our position presented in our 2015 report to be fair and reasonable.

**Countries across the globe adopted a historic [international climate agreement](#) at the UN Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP21) in Paris in December 2015. In anticipation of this moment, countries publicly outlined what post-2020 climate actions they intended to take under the new international agreement, known as their Intended Nationally Determined Contributions (INDCs). The climate actions communicated in these INDCs largely determine whether the world achieves the long-term goals of the Paris Agreement: to hold the increase in global average temperature to well below 2°C, to pursue efforts to limit the increase to 1.5°C and to achieve net zero emissions in the second half of this century.*

***The EU Emissions Trading Scheme Regulations require regulated activities such as many offshore installations to restrict emissions of carbon (as carbon dioxide and methane emissions, among others). This is achieved by allocation of allowances that must be maintained and surrendered in line with strict requirements of the regulations.*



Emissions, discharges and waste management

For offshore activities, we carefully manage emissions to air and discharges into the sea. Sewage, organic kitchen waste, bilges and contaminated drainage water are all treated and discharged in strict compliance with the International Convention for the Prevention of Pollution from Ships (MARPOL).

Our exploration activities generate different volumes and types of waste, including oil-contaminated wastes, chemical wastes, non-hazardous wastes from office and domestic operations, and clinical wastes from medical facilities offshore. Our management of wastes is in line with internationally accepted best practices, and legal requirements and 'duty of care' standards remain our priority.

All wastes generated during offshore support operations (i.e. ship-based activities excluding drilling) are managed in accordance with MARPOL 73/78 requirements. Wastes that cannot be discharged at sea or incinerated offshore are segregated and transferred to shore for further treatment and disposal.

In Senegal, we continue our partnership with an international waste service provider to ensure that:

- the waste management options in-country are well understood prior to start-up of operations;
- local facilities and service providers have been audited and, where gaps are identified, plans are put in place to meet our requirements;
- the Waste Management Plan was informed by the findings from in-country reviews and audits;
- daily supervision of the waste management activities is set up for the duration of operations and a cradle-to-grave approach is followed through for each waste stream;
- hazardous wastes, which cannot be treated locally in Senegal, are transferred to suitable treatment and disposal facilities outside Senegal and in full compliance with international law, including the Basel Convention; and
- records of wastes and their treatment and disposal routes are maintained at all times.

On completion of exploration and appraisal activities, all waste management facilities used in the course of the project are subject to a close-out audit and final disposal.



Biodiversity

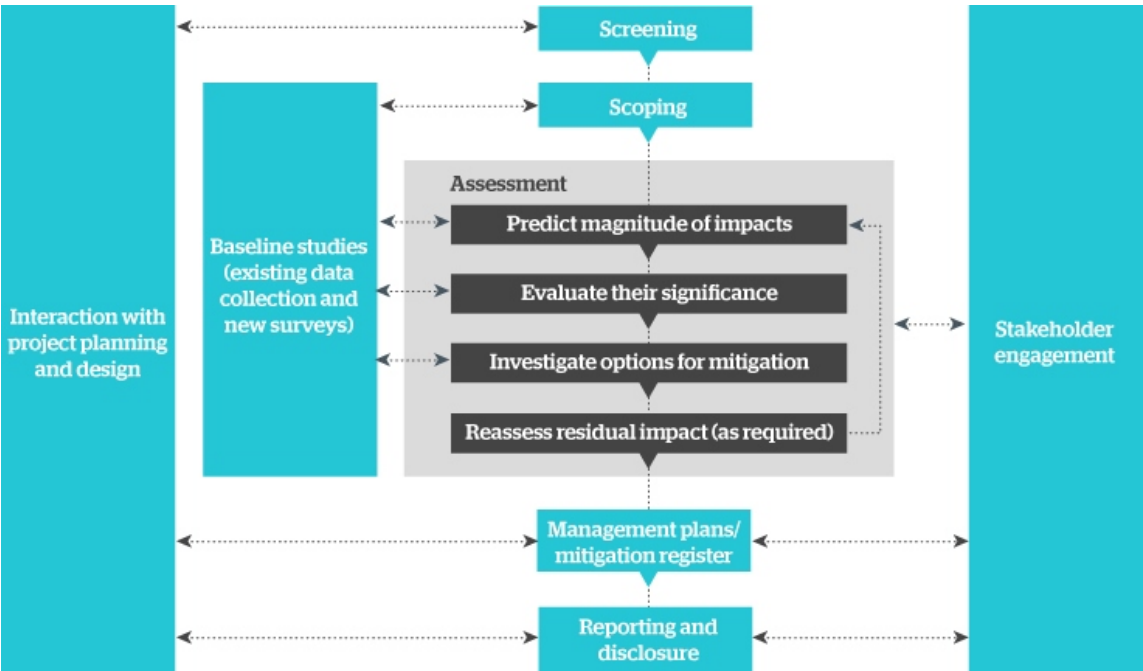
Global awareness of biodiversity has increased dramatically in recent years. As a result, there is more understanding of the many issues that threaten it. This places a greater onus on businesses like Cairn to recognise the impact that our activities may have on biodiversity, and to commit to protecting it in the regions in which we operate.

Biodiversity framework and guidance

Oil and gas exploration and development activities have the potential to affect biodiversity both on land and in the marine environment. Our commitments and principles related to biodiversity are laid out in our Business Principles and our Environment Policy. For example, Cairn does not explore, develop or enter into joint ventures in UNESCO World Heritage sites. Moreover, we take a precautionary approach, believing that where there are threats of serious or irreversible damage, even where such damage is not scientifically certain, cost-effective damage-prevention measures should still be taken.

We take our responsibilities very seriously for all operations that may affect critical habitats, protected areas and/or the welfare of local communities relying on ecosystem services. We undertake extensive due diligence of potential biodiversity impacts, and engage with relevant technical specialists, government departments and non-governmental organisations (NGOs), along with local stakeholders. Such dialogue helps us by guiding our subsequent mitigation activities.

Cairn assesses potential biodiversity impacts early on and at all stages of project development, from asset acquisition through to decommissioning. We assess direct impacts as well as the potential cumulative and indirect impacts of operations on biodiversity, and we consider these impacts in the wider context (i.e. beyond the immediate physical footprint of the asset). This entails an Environmental and Social Impact Assessment (ESIA) and includes consideration of the supply chain for primary products. Any project in which significant potential impacts to biodiversity are identified undergoes additional studies and a formal assessment. These will demonstrate how potential impacts have been managed.



We develop asset and site-specific Environmental and Social Management Plans that integrate biodiversity. Cairn also develops Biodiversity Action Plans where there is a significant risk to biodiversity or a measurable benefit for targeted biodiversity conservation action(s). Cairn ensures appropriate resources and expertise to manage biodiversity risks and impacts,



and commissions external specialists as necessary.

When identifying, assessing and managing biodiversity risks and impacts, we follow the requirements outlined in the International Finance Corporation's Performance Standard 6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources), and other internationally accepted good industry practice.

Our Biodiversity Framework sets out a common approach, with processes and deliverables that apply to all Cairn's business and operations. The framework is owned and governed by the highest level of management within Cairn, and implemented locally in accordance with our Project Delivery Process (PDP) (see [Major accident prevention and safety](#)).

In 2016, the revised IPIECA-IOGP guidance on biodiversity was produced and this is being considered as part of the revision of our own guidance, which is ongoing. This includes Biodiversity and Ecosystem Services (BES) and is acknowledged by the UN Global Compact (UNGC) and by the International Union for the Conservation of Nature (IUCN) in their publications.

Impact assessments

Senegal

Phase two appraisal and exploration drilling was completed in Senegal in 2016 and Cairn commenced planning for phase three in Q2 2016. To do so we again revisited our Sangomar Deep ESIA and developed a further addendum to take into account changed rig and other significant developments in this next phase. At the same time, we reported our phase two performance to the Senegal regulator, as agreed with them, without significant issue or incident.

Our consultation continued with key stakeholders and the Senegal National Technical Committee (NTC) was convened in November 2016 to review the phase three ESIA addendum. Minor modifications were identified and incorporated to ensure the revised Environmental and Social Management Plan for phase three incorporated required changes and improvements. The NTC also considered the Project Risk Study, the supporting dossier for classified installations and Plan of Internal Operations, which were also revised for the new programme.

Mitigation measures were implemented as part of the amended ESIA. We revised all associated operational documentation, including the Corporate Responsibility (CR) Plan, Waste Management Plan and base operating manual.

Other Senegal activities

In 2016, we commenced planning activities for potential drilling on our Rufisque and Sangomar Offshore blocks. Rufisque block in particular has areas that present different environmental challenges, most notably the shallower water and proximity to the mainland. This gives potential for different environmental habitats and interaction with communities, not least local artisanal fishermen.

Planning was completed for environmental baseline survey work over these blocks in order to ensure representative sampling and analysis could be conducted and the results fed into a new ESIA for any works in these blocks. This sampling is planned for 2017, along with ESIA development.

In addition, early works commenced to support conceptual development activities in the event that the appraisal work is sufficiently strong to allow commerciality to be declared. This work will likewise include baseline and ESIA studies to ensure submissions can be made in a timely manner.

Objective 2017

We will conduct a baseline survey for our Senegal unexplored offshore blocks and develop an Environmental and Social Impact Assessment (ESIA)

Strategic objectives

Maintain licence to operate

Principal risks

Health, safety, environmental and security incidents

Operational and project performance



Resource use

Cairn continues to be mindful of the resources we use in our activities. These mainly consist of energy, seawater, and solids and liquids in drilling activities. We also use local resources such as food and water for our personnel in-country.

Energy use

For our offshore activities, the majority of our energy sources are hydrocarbon fuels such as marine diesel. Where possible, Cairn gives preference to low sulphur diesel sources, although for our operations in Senegal low sulphur fuel options are not available, nor are they south of Las Palmas. By contrast, the supplier is local and therefore economic benefits accrue locally, and the supplier used in the Dakar terminal operates a high-quality management system with good infrastructure (see [Climate change, emissions and discharges](#)).

In mid-2017, due to increased turnover, we are likely to fall within the requirements of the UK Energy Saving Opportunity Regulations. Consequently, a compliance programme will be instituted in early 2017 to address this.

Water management

At Cairn, we appreciate that our business both impacts and depends on water resources close to our operations, while recognising that access to clean water by communities is a key human right and of importance to local communities and the environment. We have had a water resource strategy in place for some years, which covers:

- monitoring and assessing the need for fresh water abstraction and use, and potential impacts on fresh water resources of our operations;
- investigating ways to improve our freshwater management processes;
- identifying, evaluating and implementing improvement measures to reduce impacts on fresh water; and
- enhancing reporting of our freshwater resources management.

In our present exploration and appraisal activities offshore, our use of fresh water is very limited and some seawater is used in drilling fluid formulation. Given the level of our activities in 2016, there was very limited local impact from those materials abstracted and used in our Senegal drilling activities. Dakar is a major West African port and a local focus of food importation. Cairn and our contractors source food locally, which adds to the local economy without adverse environmental impact.

Chemical management

Our business also requires the use of chemicals and some solids. Chemical formulation for drilling fluids for our exploration campaigns undergoes rigorous selection to ensure well safety and minimisation of impacts on the environment.

We identify and assess the potential risks and impacts of chemicals as part of the Environmental and Social Impact Assessments (ESIAs) we carry out before starting new operations (see [Biodiversity](#)). We have a stringent approach to chemical selection and waste management.

Cairn manages chemicals in accordance with the Oslo/Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR). It is an internationally recognised mechanism, developed by 15 governments of the western coasts and catchments of Europe, together with the European Union. In Senegal, we continue to track and support the development of harmonised chemical selection and disposal practices under the Abidjan Convention, which seeks to coordinate chemical and discharge management standards along the west coast of Africa. The convergence towards the OSPAR approach is welcomed by Cairn to implement good practice in the region.

We continued using water-based drilling fluids during exploration and appraisal drilling in Senegal in 2016 but chose a formulation in line with the Best Practicable Environmental Option (BPEO) approach. This allowed us to minimise the use and discharge of chemicals classified as candidates for substitution under the OSPAR system, reducing the potential for adverse effects on marine wildlife while maintaining the safety of drilling operations and minimising potential for well control incidents.

Every chemical used in the Senegal exploration campaign was checked for its suitability for the drilling programme before submission for approval by the regulatory authority.

Objective 2017

We will perform an Energy Saving Opportunity audit



Strategic objectives

Maintain licence to operate

Principal risks

Health, safety, environmental and security incidents

Operational and project performance



Product stewardship

In 2016, Cairn had no production via operated or non-operated installations or fields. Consequently, product stewardship is not an issue at the end of 2016. However, 2017 sees the start of the culmination of our portfolio rebuild with the start-up of production of our non-operated assets Kraken and Catcher.

Although the primary focus of stewardship of product from these assets will remain with the operator, it is important to Cairn to ensure that any product over which we have an influence, share or may control is handled properly.

This means ensuring that high standards of management is maintained and transfer of product between floating production, storage and offloading (FPSO) units and customers is conducted using appropriate and well-managed standards. In addition, trading of product needs to be conducted transparently.

Objective 2017

We will support trading of non-operated asset production when it commences in 2017

Strategic objectives

Maintain licence to operate

Principal risks

Health, safety, environmental and security incidents

Negative stakeholder reaction to our operations



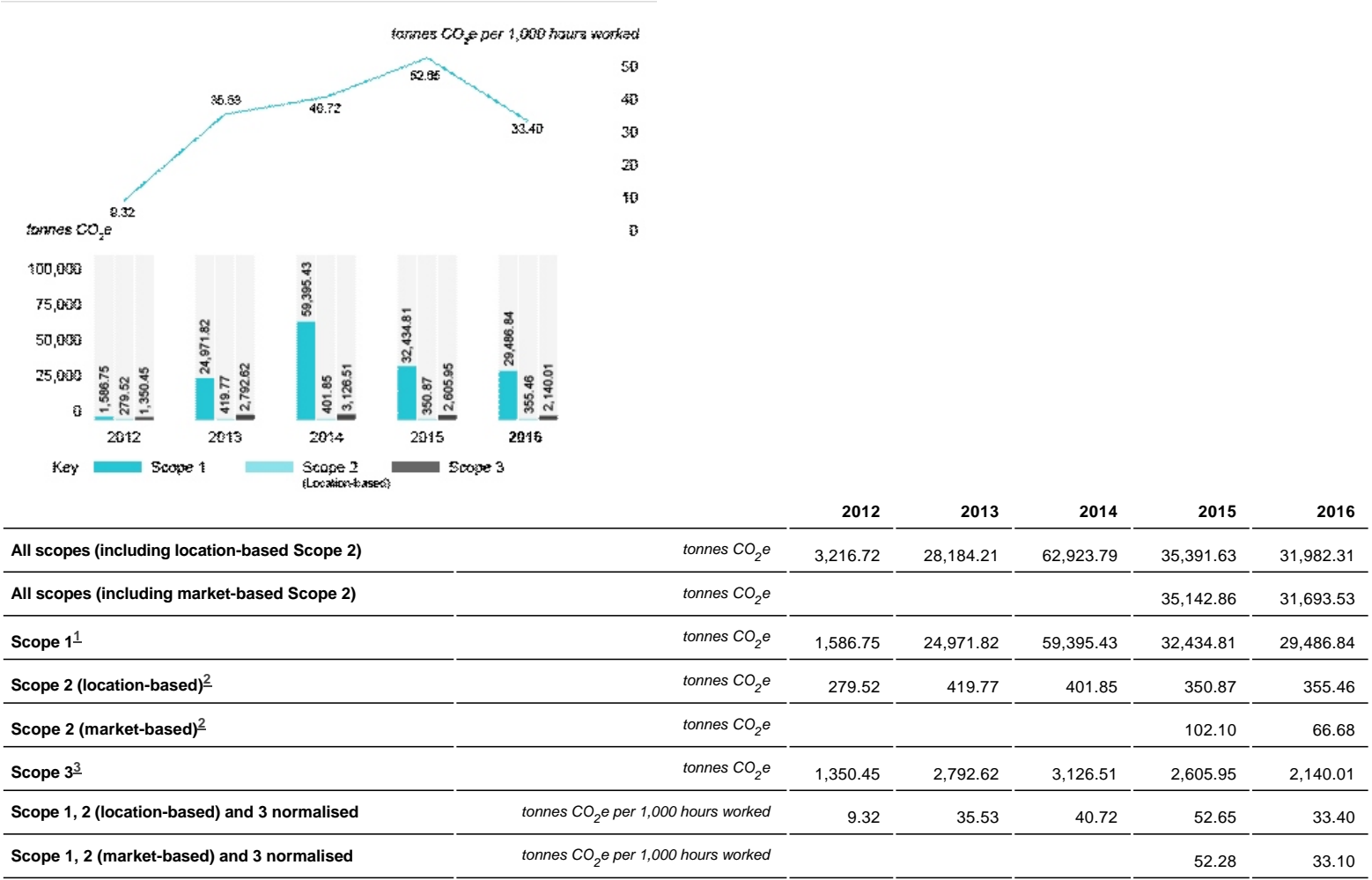
Air emissions

Direct and indirect air emissions

Total absolute and normalised GHG emissions (scopes 1, 2 and 3)

Chart: Total absolute and normalised GHG emissions (scopes 1, 2 and 3)

Table: Total absolute and normalised GHG emissions (scopes 1, 2 and 3)



Direct air emissions

Absolute and normalised direct GHG emissions (scope 1¹)

(tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2012	2013	2014	2015	2016
Cairn total	1,586.75/ 4.60	24,971.82/ 31.48	59,395.43/ 38.44	32,434.81/ 48.25	29,486.84/ 30.79
Greenland	604.01/ 18.72	5,741.76/ 79.49	2.22/ 1.27	0.00/ 0.00	0.00/ 0.00
Ireland	NA/ NA	NA/ NA	4,760.54/ 160.37	0.00/ 0.00	0.00/ 0.00
Malta	NA/ NA	NA/ NA	498.70/ 65.23	0.00/ 0.00	0.00/ 0.00
Morocco	972.47/	18,844.61/	12,923.29/	0.00/	0.00/



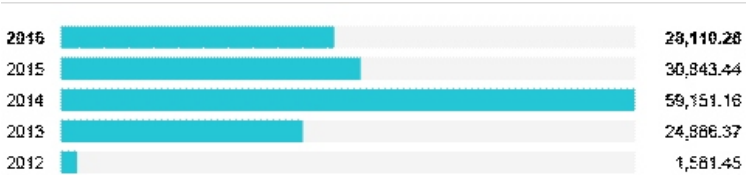
	100.09	53.57	40.16	0.00	0.00
Nepal	6.42/ 1.03	0.04/ 0.01	NA/ NA	NA/ NA	NA/ NA
Norway	0.00/ 0.00	0.03/ 0.00	0.23/ 0.01	0.00/ 0.00	0.00/ 0.00
Senegal	NA/ NA	382.68/ 31.22	41,207.84/ 50.53	32,434.81/ 77.83	29,486.84/ 48.20
Spain	3.85/ 0.29	2.70/ 0.23	2.62/ 0.24	NA/ NA	NA/ NA

Total CO₂ emissions

[Chart: Total CO₂ emissions](#)

[Table: Total CO₂ emissions](#)

(tonnes)



	2012	2013	2014	2015	2016
Cairn total	1,581.45	24,886.37	59,151.16	30,843.44	28,110.28

CO₂ emissions

(tonnes)

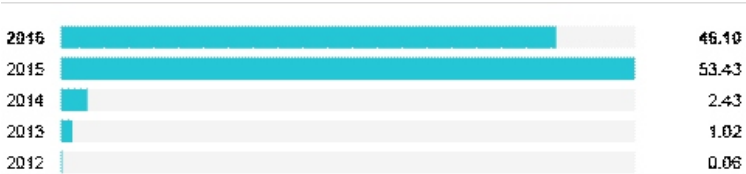
	2012	2013	2014	2015	2016
Greenland	602.21	5,721.68	2.21	0.00	0.00
Ireland	NA	NA	4,698.74	0.00	0.00
Malta	NA	NA	496.94	0.00	0.00
Morocco	969.20	18,780.52	12,880.02	0.00	0.00
Nepal	6.40	0.04	NA	NA	NA
Norway	0.00	0.03	0.23	0.00	0.00
Senegal	NA	381.41	41,070.41	30,843.44	28,110.28
Spain	3.84	2.69	2.61	NA	NA

Total CH₄ emissions

[Chart: Total CH₄ emissions](#)

[Table: Total CH₄ emissions](#)

(tonnes)



	2012	2013	2014	2015	2016
Cairn total	0.06	1.02	2.43	53.43	46.10

CH₄ emissions

(tonnes)

	2012	2013	2014	2015	2016
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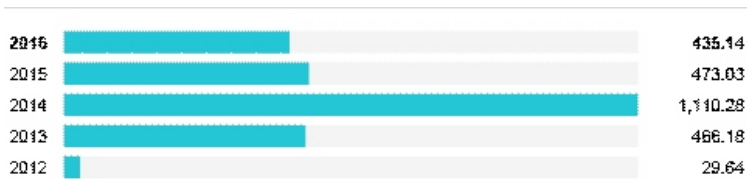
	2012	2013	2014	2015	2016
Greenland	0.02	0.24	0.00	0.00	0.00
Ireland	NA	NA	0.19	0.00	0.00
Malta	NA	NA	0.02	0.00	0.00
Morocco	0.04	0.77	0.53	0.00	0.00
Senegal	NA	0.02	1.69	53.43	46.10

Total NO_x emissions

[Chart: Total Total NOx emissions](#)

[Table: Total Total NOx emissions](#)

(tonnes)



	2012	2013	2014	2015	2016
Cairn total	29.64	466.18	1,110.28	473.03	435.14

NO_x emissions

(tonnes)

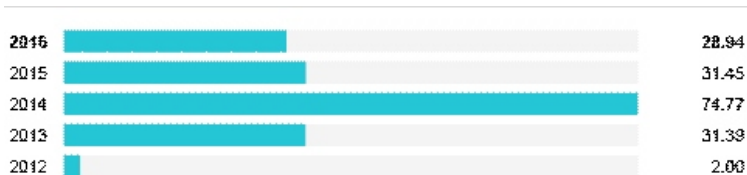
	2012	2013	2014	2015	2016
Greenland	11.28	107.24	0.04	0.00	0.00
Ireland	NA	NA	88.18	0.00	0.00
Malta	NA	NA	9.33	0.00	0.00
Morocco	18.17	351.73	241.85	0.00	0.00
Nepal	0.12	0.00	NA	NA	NA
Senegal	NA	7.16	770.82	473.03	435.14
Spain	0.08	0.05	0.05	NA	NA

Total SO₂ emissions

[Chart: Total SO2 emissions](#)

[Table: Total SO2 emissions](#)

(tonnes)



	2012	2013	2014	2015	2016
Cairn total	2.00	31.39	74.77	31.45	28.94

SO₂ emissions

(tonnes)

	2012	2013	2014	2015	2016
Greenland	0.76	7.22	0.00	0.00	0.00



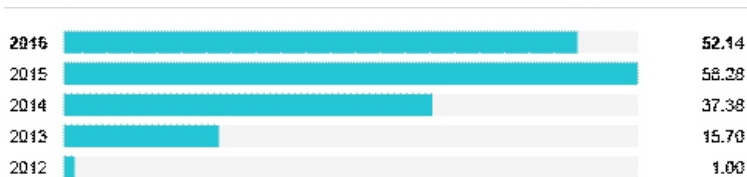
Ireland	NA	NA	5.94	0.00	0.00
Malta	NA	NA	0.63	0.00	0.00
Morocco	1.22	23.69	16.29	0.00	0.00
Nepal	0.01	0.00	NA	NA	NA
Senegal	NA	0.48	51.91	31.45	28.94
Spain	0.01	0.00	0.00	NA	NA

Total VOCs

Chart: Total VOCs

Table: Total VOCs

(tonnes)



	2012	2013	2014	2015	2016
Cairn total	1.00	15.70	37.38	58.28	52.14

VOCs

(tonnes)

	2012	2013	2014	2015	2016
Greenland	0.38	3.61	0.00	0.00	0.00
Ireland	NA	NA	2.97	0.00	0.00
Malta	NA	NA	0.31	0.00	0.00
Morocco	0.61	11.84	8.14	0.00	0.00
Senegal	NA	0.24	25.95	58.28	52.14

Note: 2015 figures for NO_x, SO₂ and VOCs have been restated to incorporate flaring data that was not available when we produced our 2015 end of year reports.

Note: In addition, changes have been made to a number of data points over the years 2012-2015. When we carried out a review of our Scope 1 GHG emissions calculations in 2016 to ensure they reflected best practice and utilised the most appropriate and up-to-date factors available, we made some minor changes to the conversion factors we use from the 'Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry' (American Petroleum Institute (API) 2009) by selecting ones that align more accurately to the fuel types we use. These changes affected the NO_x, SO₂ and VOCs data in addition to the GHG related air emission data so we are restating it here.

Indirect air emissions

Absolute and normalised GHG emissions from purchased electricity (location-based scope 2²)

(tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2012	2013	2014	2015	2016
Cairn total	279.52/0.81	419.77/0.53	401.85/0.26	350.87/0.52	355.46/0.37
Greenland	14.39/0.45	17.96/0.25	11.34/6.47	0.00/0.00	0.00/0.00
Morocco	0.00/0.00	4.69/0.01	4.96/0.02	2.79/0.62	0.69/0.26
Norway	1.60/0.06	1.48/0.04	1.30/0.04	8.46/0.22	13.81/0.26
Senegal	NA/NA	1.87/0.15	22.09/0.03	27.19/0.07	31.95/0.05
Spain	16.19/1.21	17.06/1.44	13.37/1.20	NA/NA	NA/NA
United Kingdom	247.34/0.97	376.72/1.24	348.79/1.07	312.42/1.48	309.02/1.07



Absolute and normalised GHG emissions from purchased electricity (market-based scope 2^a)
(tonnes CO₂e/tonnes CO₂e per 1,000 hours worked)

	2015	2016
Cairn total	102.10/0.15	66.68/0.07
Morocco	2.79/0.62	0.69/0.26
Norway	43.21/1.14	34.05/0.63
Senegal	27.19/0.07	31.95/0.05
United Kingdom	28.90/0.14	0.00/0.00

Total absolute and normalised GHG emissions from business travel (scope 3^a)

	2012	2013	2014	2015	2016
Business travel (tonnes CO ₂ e/tonnes CO ₂ e per 1,000 hours worked)	1,350.45/ 3.91	2,792.62/ 3.52	3,126.51/ 2.02	2,605.95/ 3.88	2,140.01/ 2.23
Air travel (tonnes CO ₂ e)	1,342.63	2,783.67	3,117.61	2,601.65	2,136.96
Rail travel (tonnes CO ₂ e)	7.81	8.95	8.91	4.31	3.06

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

Note: 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). All GHG emissions are reported in tonnes of carbon dioxide equivalent (CO₂e).

1. **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:

- o 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 in 2016: 78%);
- o flaring during well testing (proportion of total Scope 1 GHG in 2016: 22%); and
- o incineration of waste on marine vessels (proportion of total Scope 1 GHG in 2016: 0.001%).

In 2016 we carried out a review of our Scope 1 GHG emissions calculations to ensure they reflect best practice and utilise the most appropriate and up-to-date factors available. As a result, we updated to the latest published Global Warming Potentials (GWPs) for CO₂, CH₄ and N₂O from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), having used the Second Assessment Report (SAR) GWPs previously. We also made some minor changes to the emission factors we use from the 'Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry' (American Petroleum Institute (API) 2009) by selecting ones that align more accurately to the fuel types we use. Finally, we introduced an additional two categories to our waste incineration data. We applied these changes across all our Scope 1 GHG data, past and present. The changes were not material but we are nevertheless restating all Scope 1 GHG figures in this 2016 report.

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.

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 2016). 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 2016. 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).

We have updated our 2015 Scope 1 GHG emissions figure to incorporate flaring data that was not available when we produced our 2015 end of year reports. Our 2015 normalised GHG emissions have increased in line with this. Note: 2015 flaring data was included in Cairn's 2016 'Half Year Corporate Responsibility Update' but has since been recalculated with amended gas densities and is restated in this report.

Waste incineration

A small amount of non-hazardous waste was incinerated on one of the marine vessels supporting drilling operations in 2016. 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 usually based on estimates however this represents a tiny amount compared to overall emissions (<0.001 tonnes CO₂e).

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 emissions:** electricity indirect emissions are from the generation of purchased electricity consumed by the Company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the Company.

Our Scope 2 Emissions arise from:

- o 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) Report 'CO₂ emissions from Fuel Combustion Highlights' (2013 edition), p110-112 'CO₂ emissions per kWh from electricity generation'. 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) 2015. For the market-based method we use emission factors, where available, in the following order of preference:

1. Supplier-specific emission factors - obtained from Cairn offices' electricity suppliers.
2. Residual mix emission factors - obtained from the RE-DISS II document 'European Residual Mixes 2014', last updated in June 2015.
3. 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 Morocco and 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.

Our Scope 2 GHG figures for all years have been very marginally adjusted in 2016 (maximum figure change of 0.34 tonnes CO₂e) due to slight adjustments that were made to the units of measure conversions in our database.

Estimates and uncertainties

Most of our electricity and district heating and cooling (Norway only) consumption happens in our head office in Edinburgh (75% of our total electricity, district heating and cooling in 2016), followed by Stavanger, London and Dakar (12%, 7% and <6% of total respectively). Electricity consumption for the Edinburgh, London, Dakar and Rabat (0.1% of total) offices is taken from meter readings. The figure for the London office covers October 2015 to October 2016 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.

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 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 business travel, including air and rail travel, but not tube travel. 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 (new for 2016)), 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 2016 emission factors for 2016 data (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).

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.

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 2016, 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-hours work day basis.

Hours worked by short-term (less than three months) office-based contractors have been 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 2016 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 per 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 2016 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 [here](#).



Discharges

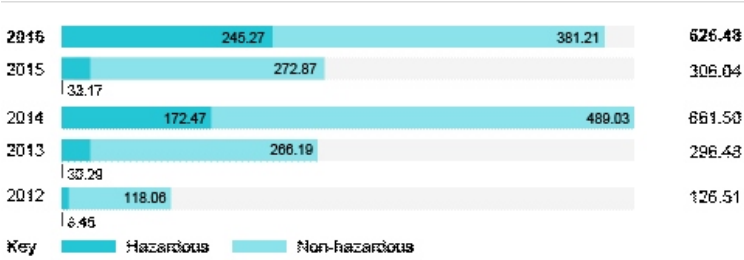
Waste

Total hazardous and non-hazardous waste

Chart: Total hazardous and non-hazardous waste

Table: Total hazardous and non-hazardous waste

(tonnes)



	2012	2013	2014	2015	2016
Total hazardous and non-hazardous	126.51	296.48	661.50	306.04	626.48
Hazardous	8.45	30.29	172.47	33.17	245.27
Non-hazardous	118.06	266.19	489.03	272.87	381.21

Total regulated hazardous waste quantities by disposal method

(tonnes)

	2012	2013	2014	2015	2016
Incineration or used as fuel	0.00	2.38	112.24	20.25	204.51
Recycling	0.09	21.36	52.78	8.24	12.35
Reuse	0.00	0.00	0.00	1.03	18.37
Landfill	0.00	0.02	0.96	3.50	1.85
On-site storage	0.00	0.00	1.17	0.14	0.01
Unspecified disposal	8.36	6.53	5.32	0.00	8.18

Total regulated non-hazardous waste quantities by disposal method

(tonnes)

	2012	2013	2014	2015	2016
Composting	1.61	0.98	0.44	1.02	1.40
Incineration or used as fuel	5.37	62.49	30.66	7.56	27.79
Recycling	57.42	97.22	181.63	94.64	186.77
Reuse	0.00	0.00	67.52	23.35	35.17
Landfill	50.17	73.41	136.96	137.70	112.79
On-site storage	0.00	0.00	2.60	0.00	0.00
Unspecified	3.50	32.08	69.21	8.61	17.30

Hazardous and non-hazardous waste

(tonnes)



	2012	2013	2014	2015	2016
Greenland hazardous	8.21	2.02	0.00	0.00	0.00
Greenland non-hazardous	8.77	45.14	0.40	0.00	0.00
Ireland hazardous	NA	NA	14.15	0.00	0.00
Ireland non-hazardous	NA	NA	12.10	0.00	0.00
Malta hazardous	NA	NA	0.00	0.00	0.00
Malta non-hazardous	NA	NA	3.64	0.00	0.00
Morocco hazardous	0.00	27.58	46.14	0.00	0.00
Morocco non-hazardous	1.27	106.32	79.24	1.00	0.50
Nepal hazardous	0.00	0.00	NA	NA	NA
Nepal non-hazardous	2.07	1.00	NA	NA	NA
Norway hazardous	0.00	0.05	0.00	0.15	0.08
Norway non-hazardous	1.12	1.14	1.38	2.94	4.35
Senegal hazardous	NA	0.36	111.99	32.52	242.21
Senegal non-hazardous	NA	3.35	254.57	150.81	272.58
Spain hazardous	0.00	0.00	0.01	NA	NA
Spain non-hazardous	0.33	0.33	0.49	NA	NA
United Kingdom hazardous	0.24	0.29	0.19	0.49	2.98
United Kingdom non-hazardous	104.50	108.90	137.21	118.12	103.78

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.

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 other. 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-based 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. 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.

Water effluent and discharges to water

Water effluent discharged to surface

(m³)

	2012	2013	2014	2015	2016
Cairn total	230	2,851	22,452	1,758	2,529



Greenland	142	1,094	0	0	0
Ireland	NA	NA	438	0	0
Malta	NA	NA	120	0	0
Morocco	88	1,717	6,172	0	0
Senegal	NA	40	15,722	1,758	2,529

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

	2012	2013	2014	2015	2016
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	0.00/0.00/ 0.00

Note: There has been no hydrocarbon production since 2010.

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 estimation as vessels do not often have discharge metres.

Note: Data has been provided for individual countries where there has been relevant water consumption or effluent and discharges to water.



Resource use

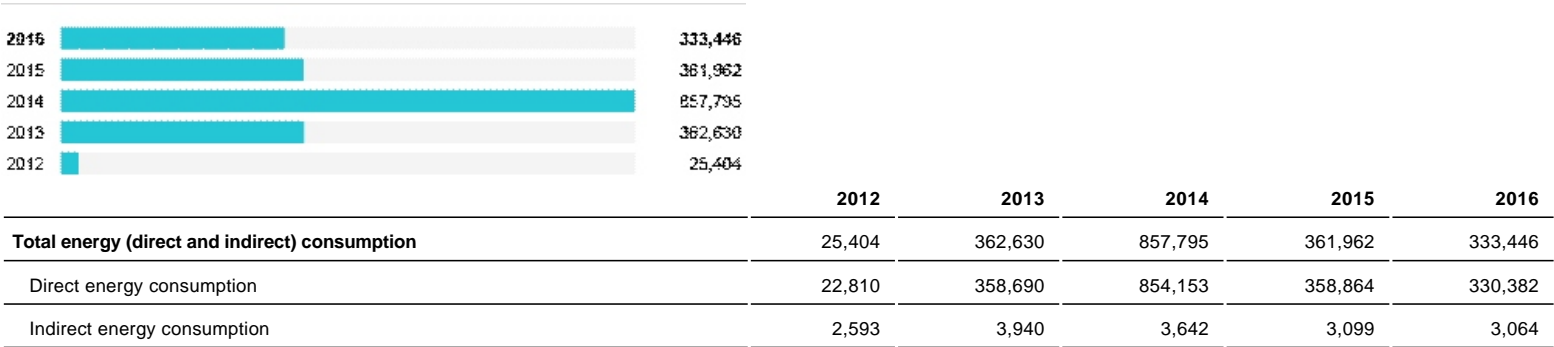
Energy consumption

Total direct and indirect energy consumption

Chart: [Total direct and indirect energy consumption](#)

Table: [Total direct and indirect energy consumption](#)

(GJ)



Note: The 'Total energy (direct and indirect) consumption' and 'Indirect energy consumption' figures for 2015 have been corrected to include district heating and district cooling data.

Note: Direct energy consumption figures are being restated for all years because in 2016 we carried out a review of our Scope 1 GHG emissions calculations and this resulted in us updating our default energy conversions which are used to calculate GJ of fuel from tonnes of fuel consumed. The figures have all increased; the total figures by a maximum of 14%.

Direct energy consumption by primary source

Aviation gas

(GJ)

	2012	2013	2014	2015	2016
Cairn total	0	5,554	10,949	1,868	3,755
Greenland	0	0	0	0	0
Morocco	0	5,553	6,642	0	0
Senegal	NA	0	4,307	1,868	3,755

Diesel

(GJ)

	2012	2013	2014	2015	2016
Cairn total	185	1	803	822	1,516
Greenland	145	0	0	0	0
Ireland	NA	NA	50	0	0
Morocco	0	0	41	0	0
Nepal	39	1	NA	NA	NA
Senegal	NA	0	712	822	1,516

Fuel oil (marine diesel)

(GJ)

	2012	2013	2014	2015	2016
Cairn total	22,481	352,609	841,848	356,145	325,039



Greenland	8,461	82,398	0	0	0
Ireland	NA	NA	67,752	0	0
Malta	NA	NA	7,171	0	0
Morocco	13,968	264,708	179,195	0	0
Nepal	52	0	NA	NA	NA
Senegal	NA	5,504	587,730	356,145	325,039

Gasoline (petrol)

(GJ)

	2012	2013	2014	2015	2016
Cairn total	71	475	498	28	72
Greenland	71	65	33	0	0
Morocco	0	409	346	0	0
Senegal	NA	0	119	28	72

Heating oil

(GJ)

	2012	2013	2014	2015	2016
Cairn total	0	1	3	0	0
Norway	0	1	3	0	0

Natural gas

(GJ)

	2012	2013	2014	2015	2016
Cairn total	74	52	52	0	0
Spain	74	52	52	NA	NA

Indirect energy (purchased electricity³) consumption

(GJ)

	2012	2013	2014	2015	2016
Cairn total	2,593	3,940	3,642	2,978	2,851
Greenland	144	205	130	0	0
Morocco	0	23	24	14	3
Nepal	13	6	NA	NA	NA
Norway	346	409	360	272	158
Senegal	NA	10	115	142	167
Spain	245	211	165	NA	NA
United Kingdom	1,846	3,075	2,847	2,550	2,523

Indirect energy (district heating) consumption

[Chart: Indirect energy \(district heating\) consumption](#)

[Table: Indirect energy \(district heating\) consumption](#)

(GJ)



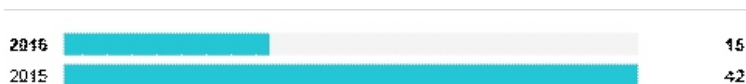
	2015	2016
Cairn total	78	199
Norway	78	199

Indirect energy (district cooling) consumption

[Chart: Indirect energy \(district cooling\) consumption](#)

[Table: Indirect energy \(district cooling\) consumption](#)

(GJ)



	2015	2016
Cairn total	42	15
Norway	42	15

Note: Data has been provided for individual countries where there has been relevant energy consumption.

- Most of our electricity consumption happens in our head office in Edinburgh (81% of our total electricity in 2016), followed by London (8%), Dakar (6%), Stavanger (5%) and Rabat (<1%). Electricity consumption for the Edinburgh, London, Dakar and Rabat offices is taken from meter readings. The figure for the London office covers October 2015 to October 2016 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.

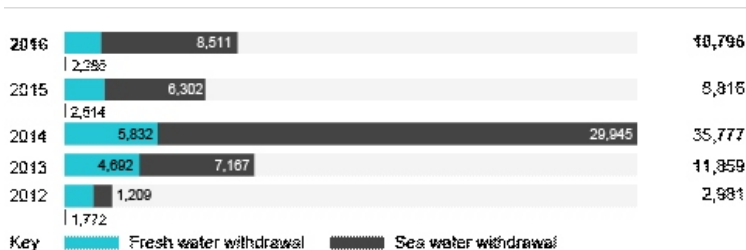
Water consumption

Total water withdrawal

[Chart: Total water withdrawal](#)

[Table: Total water withdrawal](#)

(m³)



	2012	2013	2014	2015	2016
Cairn total	2,981	11,859	35,777	8,816	10,796
Fresh water	1,772	4,692	5,832	2,514	2,285
Sea water	1,209	7,167	29,945	6,302	8,511

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

Total water withdrawal by source

(m³)

	2012	2013	2014	2015	2016
Fresh water					
Municipal water supplies or other water utilities	1,711	4,670	5,686	2,452	2,157



Groundwater sources	26	13	0	0	0
Another organisation's waste water	0	0	0	0	0
Unspecified sources	36	9	146	62	128
Sea water					
Surface water sources	1,209	7,167	29,945	6,302	8,511

Fresh water withdrawal sources

Municipal water supplies or other water utilities

(m³)

	2012	2013	2014	2015	2016
Greenland	138	1,645	5	0	0
Ireland	NA	NA	77	0	0
Morocco	0	1,477	1,439	59	46
Nepal	17	9	NA	NA	NA
Norway	145	143	150	291	273
Senegal	NA	103	2,948	1,195	996
Spain	96	71	72	NA	NA
United Kingdom	1,315	1,222	995	907	842

Groundwater

(m³)

	2012	2013	2014	2015	2016
Nepal	26	13	NA	NA	NA

Unspecified

(m³)

	2012	2013	2014	2015	2016
Greenland	4	0	0	0	0
Malta	NA	NA	131	0	0
Morocco	0	2	3	0	0
Senegal	NA	7	12	62	128
United Kingdom	32	0	0	0	0

Sea water withdrawal sources

Surface water

(m³)

	2012	2013	2014	2015	2016
Greenland	1,060	0	0	0	0
Ireland	NA	NA	391	0	0
Malta	NA	NA	2	0	0
Morocco	149	6,710	8,337	0	0
Senegal	0	457	21,215	6,302	8,511





Environmental compliance, grievances and expenditure

Non-compliance with environmental laws and regulations

Cairn total

		2012	2013	2014	2015	2016
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)

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

Environmental protection expenditure and investments

(£ pounds sterling)

	2014	2015	2016
Prevention and environmental management	4,163,358	966,402	1,280,276
Waste disposal, emissions treatment, and remediation	302,088	148,545	189,231

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 was included. Some expenditure may have been omitted as it is not always easily recognisable in the invoice records as environmental-related.



Biodiversity

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

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 during 2016 (SNE-3, SNE-4 and BEL-1).</p>	<p>Saloum Delta Biosphere Reserve and National Park (onshore at least 85km away). The biosphere reserve comprises 72,000 hectares of marine areas, 23,000 hectares of flooded areas, and 85,000 hectares 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, 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>No activities in 2016.</p>	<p>Ramsar site Saloum Delta Biosphere Reserve and National Park (43km on shore 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.</p> <p>No activities in 2016.</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 E.U. 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 (SAC) 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>
Offshore Malta 1, 2 and 3 (Area Licence 3)	<p>Acreage spread from the east of Malta, through north to the west.</p> <p>No activities in 2016.</p>	<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)	<p>Lies approximately 150km south and east of the Shetland Islands.</p> <p>No activities in 2016.</p>	<p>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.</p>
Norway PL842 and PL856	<p>PL842 lies offshore some 300km north of Trondheim.</p> <p>Licence acquired in 2016, no activities.</p> <p>PL856 lies offshore approximately 250km north east of Hammerfest.</p> <p>Licence acquired in 2016, 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>
Pitu offshore Greenland, licence 2011/13	<p>Lies approximately 150km north west of Upernavik in the high Arctic. The block lies between 25km and 45km offshore at its nearest point in Baffin Bay.</p>	<p>No Ramsar sites lie within the block. The Melville Bay Nature Protection Area is situated to the north of the licence block and was designated primarily to protect polar bears. Although a nature protection area, traditional hunting is allowed in</p>

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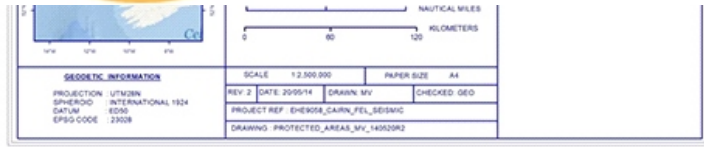


Figure 3: Protected areas in Malta, Gozo

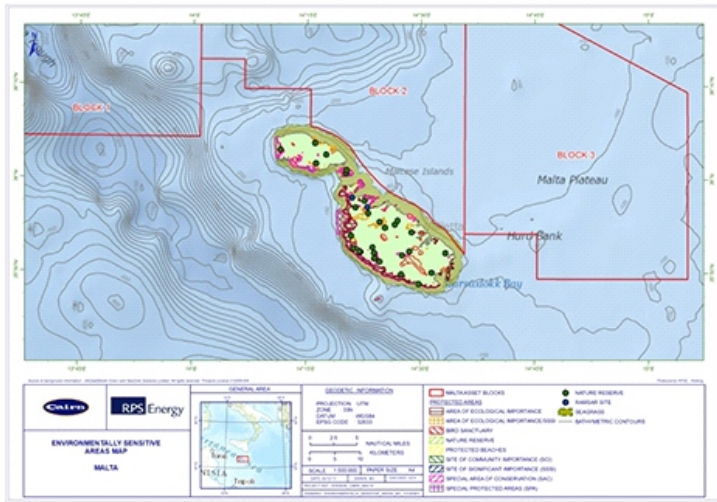
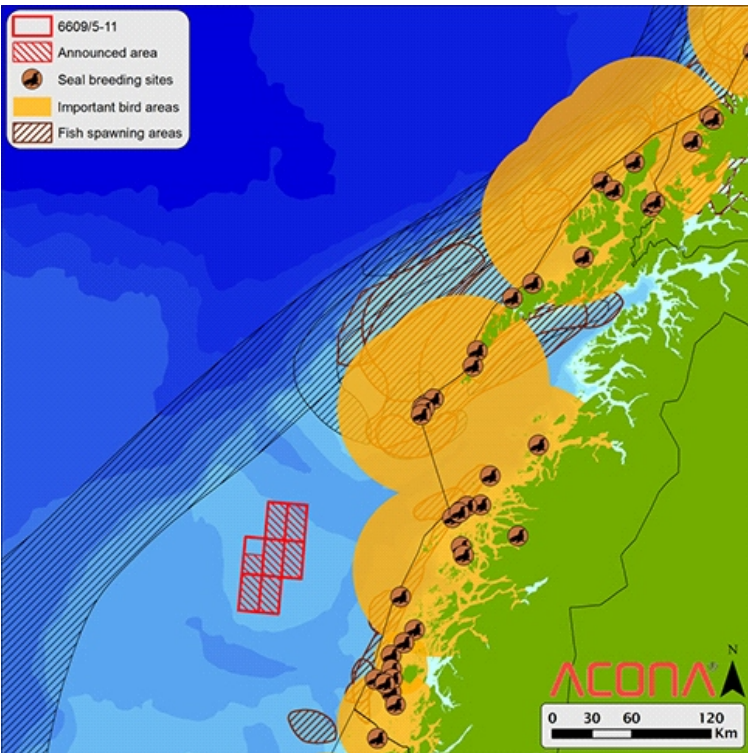


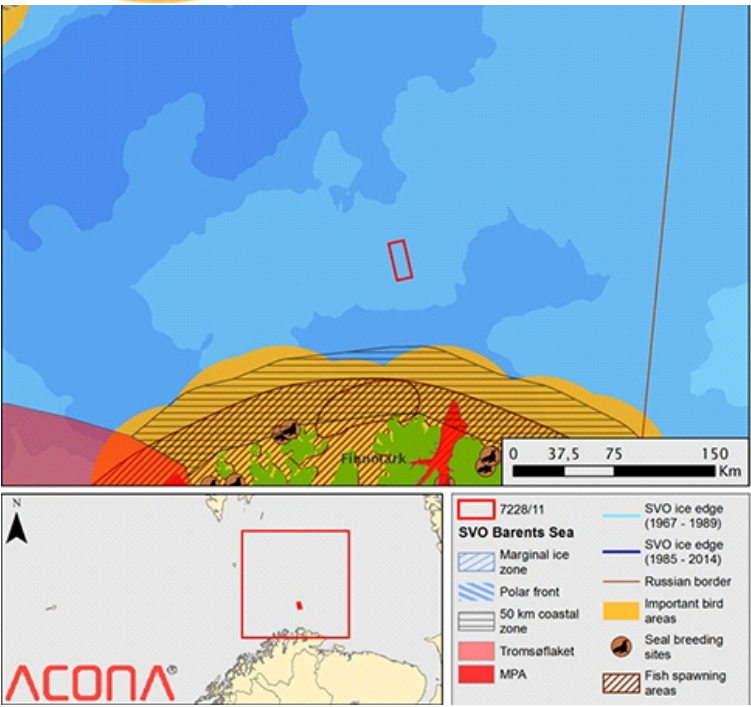
Figure 4: Protected areas offshore Norway (PL842)



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.

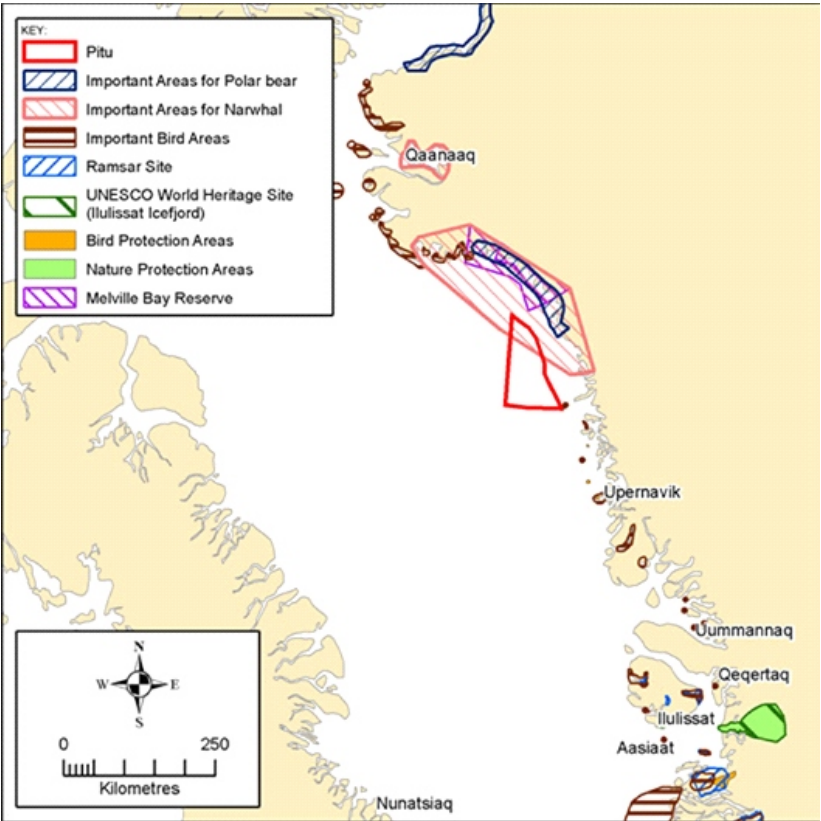
Figure 5: Protected areas offshore Norway (PL856)





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

Figure 6: Protected areas offshore Greenland



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 were	No significant direct or indirect impacts on biodiversity were identified during the ESIA process undertaken for operations in Senegal. Water-based chemicals were



identified due to smothering by drill cuttings and from the discharge of drilling fluids.

selected as drilling fluids to pose little or no risk (PLONOR) and to be the least toxic in order to maintain function and safety. A minor oil spill due to flare-out occurred in 2016; rapid dispersion and evaporations resulted in minor temporal impact only.

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	3D seismic completed in 2015. Initial planning for benthic survey in 2016 only.	NA
Spanish Point (FEL 2/04), Spanish Point (FEL 4/08) North and FEL 1/14 Porcupine Basin, offshore Republic of Ireland	Initial planning for a potential multi-client 3D survey in 2017. No activities.	NA
Offshore Malta 1, 2 and 3 (Area Licence 3)	No activities in 2016.	NA
UK offshore Scylla, licence P2149 (block 9/6)	No activities in 2016.	NA
Norway	Licence awarded in 2016, no activities.	NA
Pitu offshore Greenland, licence 2011/13	No activities in 2016.	NA

*No operations occurred on other licences

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 2016 exploration drilling campaigns and seismic programmes.

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.	<p>Days on location of the Mobile Offshore Drilling Unit (MODU) were kept to a minimum.</p> <p>Operational and maintenance procedures on the MODU aimed to optimise the efficiency of equipment and schedule of operations.</p> <p>Vessel and helicopter movements were optimised by careful planning and avoiding environmentally sensitive areas and periods.</p> <p>Circling or hovering over marine mammals or sites identified as sensitive for seabird colonies were prohibited.</p>
	Potential for obstruction to fishing operations due to presence of exclusion zone around the MODU (loss of access to fishing ground) or by seismic vessels. Economic costs to fisheries.	<p>A safety exclusion zone was maintained at 500m from the MODU.</p> <p>A vessel was on stand-by at all times, monitoring transit/fishing vessels within the area and maintaining the exclusion zone.</p> <p>Early-warning radar and communication systems on board the stand-by vessel and MODU were used to identify and communicate with any approaching vessels.</p> <p>Liaison with the shipping and fishing authorities and other fishing groups had been maintained.</p> <p>The shipboard emergency response plans of the MODU and supply/support vessels had been verified by Cairn for adequacy to respond to the potential collision threat.</p> <p>Use of 'chase' vessels to warn fishing vessels regarding approach of a seismic vessel in addition to pre-notifications and liaison with fishing organisations.</p>
	Potential land take, increased use of local/limited infrastructure, services, accommodation facilities and resources,	Local disturbance was minimised by use of existing facilities, optimisation of supply/support and crew change operations.



increased air, marine and onshore traffic due to presence of onshore logistic base and support activities.

Local employment and use of available services/resources was 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.

Site survey had confirmed the absence of sensitive features at the proposed location. The rig used in 2016 was dynamically positioned and therefore was not anchored.

Discharge of drill cuttings to seabed caused localised smothering of benthic fauna.

Emissions to air.

Main power generation equipment had been 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 so as to minimise duration and ensure efficient operations.

The design of any well test programme is optimised to minimise quantities of oil and gas flared.

Use of high efficiency combustion equipment during well test operations reduces GHG potential and oil drop out. Some oil drop out was experienced early in the Senegal testing but this was resolved with limited discharge.

Waste management.

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 wastes, including any oil recovered from the slops tank or drains, had been transferred to shore for further shipment and/or disposal at appropriate licensed facilities.

All waste transfers had been logged and recorded in shipboard logs and transfer notes.

No unauthorised waste materials had been discharged to sea.

All wastes had been managed and disposed of according to the Waste Management Plan, the Duty of Care and based on EU definitions and legislation.

Contamination of soil/groundwater and visual impact due to onshore disposal.

Use of authorised, assessed and properly managed waste-handling facilities onshore.

Shipment and disposal by specialised and registered waste-handling contractors.

Medical waste had been incinerated at the approved facilities onshore.

Waste oils had been transferred to the approved facilities onshore.

Specific hazardous wastes in Senegal were identified to have no appropriate disposal point in country. These were managed in accordance with the Basel Convention on transfrontier shipment of such wastes.

Marine pollution due to discharges to sea.

Sewage from MODUs and support vessels had been 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 had been 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 had been required for operational or safety reasons, their use and discharge was strictly monitored and minimised to the greatest extent possible, and approved by the country regulator.

Bilges and contaminated drainage water had been 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.

Flare-out resulted in minor discharge of oil to sea, rapid dispersion and evaporation gave temporal minor impact only.

Non-routine operations	Marine pollution from a large fuel spill due to vessel collision or re-fuelling incident.	<p>A safety exclusion zone was maintained at 500m from the MODU.</p> <p>A vessel was on stand-by at all times, monitoring transit/fishing vessels within the area and maintaining the exclusion zone.</p> <p>Early-warning radar and communication systems on board the stand-by vessel and MODU were used to identify and communicate with any approaching vessels.</p> <p>Liaison with the shipping and fishing authorities and other fishing groups had been maintained.</p> <p>The shipboard emergency response plans of the MODU and supply/support vessels had been verified by Cairn for adequacy to respond to the potential collision threat.</p> <p>Strict refuelling procedures.</p> <p>Port Contingency Plans.</p> <p>Tier 1 response kit onboard MODU, stand-by vessels and port facilities, supplemented by shoreline response package.</p> <p>Personnel trained in spill response.</p> <p>Vessel collision and refuelling incident scenario covered in the Oil Spill Contingency Plan.</p>
	Uncontrolled release of reservoir fluids (hydrocarbons) during the well blow-out.	<p>Drilling activities followed established drilling safety and design standards to minimise the risk of well-control loss. Includes independent verification of well designs.</p> <p>A shallow gas survey was undertaken.</p> <p>Experienced crew trained in well-control techniques and supervised.</p> <p>Emergency drills were held regularly.</p> <p>Well design and construction were reviewed by an independent Well Examiner.</p> <p>Blow-out preventer in place and regularly maintained and tested.</p> <p>Tiered emergency response plans, OSCP and oil spill response equipment were in place.</p>

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	<p>Approximately 85km from the nearest coast, in water depths ranging from 800m to 2,000m.</p> <p>Appraisal and Exploration Drilling (SEN-2, SNE-3 and BEL-1).</p>	<p>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).</p>
Senegal, Sangomar offshore and Rufisque	No operations in 2016	NA



blocks

Porcupine Basin, offshore Republic of Ireland	No operations in 2016	NA
Offshore Malta 1, 2 and 3 (Area Licence 3)	No operations in 2016	NA
UK offshore Scylla, licence P2149 (block 9/6)	No operations in 2016	NA
Norway PL842 and PL856	No operations in 2016	NA
Pitu offshore Greenland, licence 2011/13	No operations in 2016	NA

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

Cairn activities in 2016 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.



Reporting

Reporting period

This report covers Cairn’s global operations from 1 January to 31 December 2016.

Reporting standards

Cairn reports its 2016 Corporate Responsibility (CR) information in accordance with AccountAbility’s AA1000 Accountability Principles Standard (AA1000 APS) founding principles of inclusivity, materiality and responsiveness. This ensures that we engage with internal and external stakeholders, identify and assess our most important CR issues, and address and respond to them in a structured way.

We also use the Global Reporting Initiative (GRI) Standards (Core option). We follow its content principles of materiality, stakeholder inclusiveness, sustainability context and completeness; and its quality principles of balance, comparability, accuracy, timeliness, clarity and reliability.

Scope and boundaries

We report on an ‘operational control’ basis, which means that we report on those assets and activities over which we have operational control in terms of CR policies and practices during 2016, irrespective of the licensed operating party. We exclude data where we are not controlling operations, but consider risks associated with our partners’ position and their control of such activities. In line with this, our 2016 CR information covers Cairn’s head office in Edinburgh, other offices in the UK, Norway, Senegal and Morocco (until April 2016 when the Rabat office closed), and field operations in Senegal.

The report excludes the performance of non-operated joint venture activities and the performance of Cairn India (Cairn Energy has around a 10% shareholding and is not involved in management of activities).

Data and performance indicators

We measure our performance against set Key Performance Indicators (KPIs), which are aligned with the strategy and operational programme of the Company and revised annually. The KPIs in 2016 were set based on strategic business objectives and fell into these categories:

- Deliver exploration and appraisal success;
- Portfolio management;
- Deliver operational excellence;
- Maintain licence to operate; and
- Deliver a sustainable business.

Detailed CR objectives and KPIs are included under the ‘maintain licence to operate’ objective and CR KPIs amount to 15% of the total indicator score of performance across the Group as a whole in 2016, with two thirds of that total covering ‘leading’ indicators (proactive improvement activities, e.g. training) and the remaining third ‘lagging’ indicators (reactive values, e.g. Lost Time Injury Frequency).

CR KPIs and a wide variety of data are collected over a range of topics within the areas of environment, health and safety, security, communities and employees. Data is used for monitoring and reporting processes, and it is maintained in a specialist database. This database records data by geographical region, and defines the KPIs to be measured and the frequency in which data should be recorded. Data entry and approval are tracked within the database.

Our incident and accident data is recorded in a separate incident reporting system that stores all relevant details and emails defined individuals, including senior managers, across the business to keep them informed of progress with the reporting, and triggers investigation and follow-up of an incident depending on its nature.

We use definitions set by the GRI and International Association of Oil and Gas Producers (IOGP) to provide comparable and credible data that can be benchmarked against our peers in the oil and gas sector.

Data is collected from our offices and from our field operations, which includes each individual rig, vessel, aviation company and shore base involved. The field operations data is usually provided by the contractors that Cairn takes on for the project (e.g. the rig, vessels, aviation). These contractors are informed about Cairn’s KPI requirements in advance of the work as part of the contracting process and receive detailed instructions about the data needed. The instructions include definitions of the KPIs, instructions about reporting and methods (e.g. waste reporting with volume-to-mass conversion factors), and information on incident reporting. The data is collected from field operations on a monthly basis. Data is



entered directly into our database via an online connection where possible and is otherwise submitted via Excel spreadsheets. Data is queried through the database and via email communications between Cairn's head office and the data providers in their different locations.

We update our methodologies on a regular basis and any factors used are reviewed annually. For example, when improved methodologies are identified, there are developments in best practice or emission factors are updated.

Baseline data

We report historical data from all our activities over the last five years. Levels of activity at Cairn vary considerably from year to year and for this reason we do not have a fixed baseline.

Uncertainties and estimates

While we make every effort to ensure our data is as accurate as possible, it is not possible or practical to measure all data exactly. Where this is the case, e.g. obtaining electricity consumption data for a small office that is part of a larger building, or recording water effluent from an office or vessel that has no water outflow meter, then we use accepted estimation methodologies that may involve the use of conversion factors, e.g. calculating office data as a proportion of the figures for the whole building; using volume-to-mass conversion factors for calculating tonnage of waste; calculating GHG emissions. We highlight these methodologies in our data.

Targets

We recognise the importance of targets in driving performance improvements. Cairn sets corporate objectives at the start of each year, and these include some health, safety and environment (HSE)-related KPIs, e.g. spills, Total Recordable Injury Rate (TRIR) and HSE Leading Performance Indicator targets. When Cairn owned operated producing assets, it used to have Group greenhouse gas (GHG) emission targets normalised against production. This was not a meaningful target in 2016, as Cairn does not have operated producing assets. It is also hard to forecast, or set targets for, annual GHG emissions from our operated exploration activities as these operations can change significantly from year to year depending on location and scale of activity.

[Reporting guidelines for 2016 Key Performance Indicators](#) provides a methodology and definitions for selected KPIs from subject areas that were assessed through our materiality process to be the most important to Cairn and its stakeholders.



Reporting guidelines for 2016 Key Performance Indicators

The Key Performance Indicators (KPIs) that we are reporting for 2016 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 risks in four different areas: 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 Corporate Responsibility (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
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
	17	Other spills – number and volume
Climate change, emissions and discharges	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

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

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

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

Definition

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 are then reviewed to identify which corporate responsibility 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 corporate responsibility 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

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

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

Investment Proposals (IPs): in 2016, 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

5. Number of contractors

Definition

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 2016.

Short-term (less than 3 months) office-based contractors

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

A list of Dakar office-based contractors who are not included in Cairn’s employee and long-term contractor workforce (individuals who time-write) data was supplied by Cairn’s Human Resources department. This was cross-checked against time-sheets supplied by Cairn’s Dakar Office at the end of each month and those individuals who had not already been captured were included in short-term contractor data.



A list of non-time-writing personnel was supplied by Cairn's Finance department at the end of 2016. 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 currently working on a major software (Unit4) implementation project at Cairn was supplied at the end of 2016. 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

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

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: as from 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

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

Definition

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. While all significant investments are screened broadly for human rights issues at the IP stage, only those that make specific reference to human rights are counted as having undergone human rights screening.

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

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

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. 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 have been 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 2016 using a list of non-time-writing personnel and the schedule of a software implementation project.

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.

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

Definition

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

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

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 emissions (GHG) – Scopes 1, 2 and 3 and GHG 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). All GHG emissions are reported in tonnes of carbon dioxide equivalent (CO₂e).

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 in 2016: 78%);

flaring during well testing (proportion of total Scope 1 GHG in 2016: 22%); and

incineration of waste on marine vessels (proportion of total Scope 1 GHG in 2016: 0.001%).

In 2016 we carried out a review of our Scope 1 GHG emissions calculations to ensure they reflect best practice and utilise the most appropriate and up-to-date factors available. As a result, we updated to the latest published Global Warming Potentials (GWPs) for CO₂, CH₄ and N₂O from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), having used the Second Assessment Report (SAR) GWPs previously. We also made some minor changes to the emission factors we use from the 'Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry' (American Petroleum Institute (API) 2009) by selecting ones that align more accurately to the fuel types we use. Finally, we introduced an additional two categories to our waste incineration data. We applied these changes across all our Scope 1 GHG data, past and present. The changes were not material, but we are nevertheless restating all Scope 1 GHG figures in this 2016 report.

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.

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 2016). 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 2016. 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).

We have updated our 2015 Scope 1 GHG emissions figure to incorporate flaring data that was not available when we produced our 2015 end-of-year reports. Our 2015 normalised GHG emissions have increased in line with this. Note: 2015 flaring data was included in Cairn's 2016 'Half Year Corporate Responsibility Update', but has since been recalculated with amended gas densities and is restated in this report.

Waste incineration

A small amount of non-hazardous waste was incinerated on one of the marine vessels supporting drilling operations in 2016. 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 usually based on estimates; however, this represents a tiny amount compared to overall emissions (<0.001 tonnes CO₂e).

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.

Scope 2 GHG emissions

Definition

Scope 2 emissions: electricity indirect emissions are from the generation of purchased electricity consumed by the Company. Purchased electricity is defined as electricity 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) Report 'CO₂ emissions from Fuel Combustion Highlights' (2013 edition), pp110–112 'CO₂ emissions per kWh from electricity generation'. 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) 2015.

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

1. Supplier-specific emission factors – obtained from Cairn offices' electricity suppliers.
2. Residual mix emission factors – obtained from the RE-DISS II document 'European Residual Mixes 2014', last updated in June 2015.
3. 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 Morocco and 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.



Our Scope 2 GHG figures for all years have been very marginally adjusted in 2016 (maximum figure change of 0.34 tonnes CO₂e) due to slight adjustments that were made to the units of measure conversions in our database.

Estimates and uncertainties

Most of our electricity and district heating and cooling (Norway only) consumption happens in our head office in Edinburgh (75% of our total electricity, district heating and cooling in 2016), followed by Stavanger, London and Dakar (12%, 7% and <6% of total respectively). Electricity consumption for the Edinburgh, London, Dakar and Rabat (0.1% of total) offices is taken from meter readings. The figure for the London office covers October 2015 to October 2016 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.

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

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 business travel, including air and rail travel, but not tube travel. 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 (new for 2016)), 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 2016 emission factors for 2016 data (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 exemption. 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).

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.

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 2016, 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

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 other. 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. 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.



Recognition and awards

We continue to benchmark our health, safety and environmental (HSE) performance by participating in annual surveys carried out by the International Association of Oil & Gas Producers (IOGP). The IOGP has been collecting safety and environmental data on a voluntary basis from its member companies globally for many years, compiling the largest database of HSE performance in oil and gas exploration and production. IOGP produces annual reports that provide trend analysis and benchmarking, and identify areas and activities that can improve performance.

We also work with organisations such as FTSE4Good, the CDP and the research agency Vigeo Eiris, which assesses and reports on a wide range of environmental, social and governance (ESG) issues for the investment community.

To ensure we stay current and keep pace with the latest good practice reporting mechanisms, we routinely look at and review how our sector leaders and peers report. We are continually seeking ways to improve transparency and integration of CR issues in our Annual Report and to better demonstrate value to our stakeholders.

In 2016, our 2015 Annual Report was highly commended in the PwC Building Trust in Corporate Reporting Awards for 'excellence in reporting' in the FTSE 250.



GRI Index

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards: Core option. It follows the GRI’s content principles of materiality, stakeholder inclusiveness, sustainability context and completeness; and its quality principles of balance, comparability, accuracy, timeliness, clarity and reliability.

The GRI Sustainability Reporting Standards offer two options for preparing a sustainability report ‘in accordance’ with the Guidelines: the Core option and the Comprehensive option. The options do not relate to the quality of the report or to the performance of the organisation but allow the organisation to choose a level of disclosure that is appropriate to its reporting needs.

Cairn reported against the G4 Guidelines Core level in 2014 and 2015, having previously reported to the G3.1 Guidelines. In 2016, Cairn transitioned to the GRI Standards. The Standards include all the main concepts and disclosures from G4, with changes mostly involving structure and format.

Cairn updated its materiality matrix for 2016, identified its material GRI topics, agreed the reporting boundaries for each aspect, and identified the standard disclosures and specific standard disclosures (management approach and indicators) that it needed to report against in 2016. Cairn has updated the methodologies for reporting in accordance with good practice and these methods are referred to where appropriate.

Cairn used the following GRI documents in preparing its 2016 report:

GRI Standard per reported topic as listed in the GRI Index

GRI G4 Sector Disclosures – Oil and Gas.

[Download GRI Index PDF](#) 132KB



UN Global Compact

Cairn is a signatory to the United Nations Global Compact (UNGC), a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption.

Participation in the UNGC sends a strong signal to investors that companies are both alert to the business implications of environmental, social and governance (ESG) issues and are taking active steps within their strategy and risk management to address such issues.

This responsibility section of our website presents the annual Communication on Progress on our performance against the UNGC Principles as part of that commitment.



Statement of continued support to the UNGC see [CEO statement](#).

Responsibility section links		
Human Rights:		
Principle 1	Businesses should support and respect the protection of internationally proclaimed human rights; and	Our responsible approach , Human rights , Our 'rights aware' approach
Principle 2	make sure that they are not complicit in human rights abuses.	Contractors and supply chain , Ethics , anti-bribery and corruption , and transparency , Human rights , Communities , Security
Labour standards:		
Principle 3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	Our responsible approach , Culture , Human rights
Principle 4	the elimination of all forms of forced and compulsory labour;	Our responsible approach , Culture , Human rights
Principle 5	the effective abolition of child labour; and	Our responsible approach , Culture , Human rights
Principle 6	the elimination of discrimination in respect of employment and occupation.	Ethics , anti-bribery and corruption , and transparency , Equality and diversity
Environment:		
Principle 7	Businesses should support a precautionary approach to environmental challenges;	Culture , Economics and funding , Environment , Biodiversity
Principle 8	undertake initiatives to promote greater environmental responsibility; and	Cairn in Senegal , Social and economic benefit , Communities
Principle 9	encourage the development and diffusion of environmentally friendly technologies.	Safe drilling , Emergency response planning
Anti-Corruption:		
Principle 10	Businesses should work against corruption in all its forms, including extortion and bribery.	Our responsible approach , Culture , Ethics , anti-bribery and corruption , and transparency



[Homepage](#) / [Responsibility](#) / [Reporting](#) / [External assurance](#)

External assurance

Limited assurance of our 2016 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 for download.

[Download GHG Verification Statement](#) 930KB



Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

AA1000

International Assurance Standard for measuring and reporting ethical performance. The AccountAbility Principles Standard 2008 (AA1000APS) is based on the principles of inclusivity, materiality and responsiveness, which means the collaborative participation of stakeholders and organisations in defining and achieving 'an accountable and strategic response to sustainability' issues

ABC

Anti-Bribery and Corruption

ABCMS

Anti-Bribery and Corruption Management System

ALARP

As Low as Reasonably Practicable

API

American Petroleum Institute

B

BAP

Biodiversity Action Plan

Board

The Board of Directors of Cairn Energy

BOEMRE

Bureau of Ocean Energy Management, Regulation and Enforcement

BOP

Blow-Out Preventer

BRINDEX

Association of UK Independent Oil and Gas Exploration Companies

BRMS

Business Risk Management System

Business Principles Group CR

Business Principles that describe Cairn's fundamental values and approach to managing CR issues in its business

C

Cairn



The Company and/or its subsidiaries as appropriate

Cairn (excluding Cairn India)

The Company and/or its subsidiaries excluding Cairn India Limited and/or its subsidiaries

Cairn India

Cairn India Limited and/or its subsidiaries as appropriate

CAVA

Cairn Adding Value Award

CEO

Chief Executive Officer

CFO

Chief Financial Officer

CHARM

Chemical Hazard and Risk Management

CO₂

Carbon dioxide – a greenhouse gas

CO₂e

Carbon dioxide equivalent

Company

Cairn Energy

COO

Chief Operating Officer

COP

Intergovernmental Panel on Climate Change, Conference of the Parties

CR

Corporate Responsibility

CRMS

Corporate Responsibility Management System

Critical Path Analysis

Analysis of key tasks which may cause a project to fail or be adversely affected in terms of delivery

CRR

Corporate Responsibility Report

CSR

Corporate Social Responsibility

CSS

Capping Stack System



D

DECC

Department of Energy and Climate Change

DEEC

Direction de l'Environnement et des Établissements Classés (English: Directorate of Environment and Classified Establishments; Senegal)

E

E&P

Exploration and Production

EAA

Environmental Area Assessment

EAC

(House of Commons) Environmental Audit Committee

EBL

Environmental Baseline Survey

EEMS

European Environmental Monitoring System

EIA

Environmental Impact Assessment – a study assessing the environmental impact of a proposed activity or a major change proposed to current activity, which concludes with a management plan for the control of any identified significant impacts

EIRIS

Ethical Investment Research and Information Service

EITI

Extractive Industries Transparency Initiative

ERP

Emergency Response Procedures

ESG

Environmental, Social and Governance

ESIA

Environmental and Social Impact Assessment

ET

Executive Team

EU

European Union

EVP



Employee Value Proposition

F

Float Analysis

the amount of time that a task in a project network can be delayed without causing a delay to subsequent tasks or the project as a whole

G

GHG

Greenhouse gas – six greenhouse gases are listed in the Kyoto Protocol (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride); carbon dioxide and methane are the most significant to Cairn's activities

GOIA

Greenland Oil and Gas Industry Association

GRI

Global Reporting Initiative

Group

Cairn Energy and/or its subsidiaries as appropriate

H

HASSMAR

La Haute Autorite Charge de la Coordination de la Securite Maritime (Senegalese maritime safety and emergency response authority)

HAZID

Hazard identification

HR

Human Resources

HRIA

Human Rights Impact Assessment

HSE

Health, Safety and Environment

HSES

Health, Safety, Environment and Security

HSS

Health, Safety and Security

I

IBA



Impact Benefit Agreement

IEA

International Energy Agency

IFC

International Finance Corporation, a member of the World Bank Group

IIP

Investors in People

IMO

International Maritime Organisation. The IMO is the United Nations' agency responsible for improving maritime safety and preventing pollution from ships

IOGP

International Association of Oil & Gas Producers – a worldwide association of oil and gas companies involved in exploration and production of hydrocarbons

IOOA

Ireland Offshore Operators Association

IP

Investment Proposal

IPCC

Intergovernmental Panel on Climate Change

IPIECA

International Petroleum Industry Environmental Conservation Association

ISO 26000

International Standard for Guidelines for Social Responsibility

IT

Information Technology

IUCN

International Union for Conservation of Nature

J

JIP

Joint Industry Project

JNCC

Joint Nature Conservation Committee

JV

Joint venture

K



km

Kilometres

KPI

Key Performance Indicator

L

LPI

Leading Performance Indicator – indicator of activity used to assist in preventing or reducing the occurrence of an undesirable event (e.g. training)

Lagging Performance Indicator

indicator which gives information about change after an undesirable event has happened (e.g. lost time incident frequency rate)

LRP

Livelihoods Restoration Plan

LTI

Lost Time Injury – a fatality or Lost Work Day Case

LTIF

Lost Time Injury Frequency – the number of Lost Time Injuries (fatalities + Lost Work Day Cases) recorded for a group of workers per million hours worked

LWDC

Lost Work Day Cases – 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)

M

m³

cubic metres

MARPOL

International Convention for the Prevention of Pollution from Ships

MMO

Marine Mammal Observer

MODU

Mobile Offshore Drilling Unit

MT

Management Team

MTC

Medical Treatment Case – 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



N

NGO

Non-governmental organisation

NOx

A mixture of oxides of nitrogen – emission of these gases can contribute to acid rain and other air-quality problems

O

OCNS

Offshore Chemical Notification Scheme

OLF

Norwegian Oil and Gas Association

ONHYM

Morocco's Office National des Hydrocarbures et des Mines

OSPAR

OSPAR is the mechanism by which 15 governments of the western coasts and catchments of Europe, together with the European Community, cooperate to protect the marine environment of the North-East Atlantic

OSPCP

Oil Spill Prevention and Contingency Plan

OSCP

Oil Spill Contingency Plan

OSRL

Oil Spill Response Limited

P

PCDP

Public Consultation and Disclosure Plan

PDP

Project Delivery Process, the Company's Project Delivery Process, or 'gated process' sets out the project requirements at key stages of each project and ensures that project CR requirements, risks and mitigation measures are understood at each decision point

PLONOR

Chemicals which Pose Little or No Risk

PPE

Personal Protective Equipment

Precautionary approach

An expression of a need by decision-makers to anticipate harm before it occurs. It is the responsibility of a proponent of an activity to establish that it will not (or is very unlikely to) result in significant harm



R

RAP

Resettlement Action Plan

RWDC

Restricted Work Day Case – 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, 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 Lost Work Day Case (LWDC).

S

SEA-PT

Shannon Estuary Anti-Pollution Team

SIA

Social Impact Assessment

SIRT

Sub-sea Incident Response Toolkit

SLT

Senior Leadership Team, consisting of a senior members the Management Team and the full Executive Team

SO₂

Sulphur dioxide – emission

Social Investment

Pro-active contributions or actions taken by Cairn to help bring benefits to communities where we operate

SOP

Standard Operating Procedure

SO_x

A mixture of oxides of sulphur

SWD

Seismic While Drilling

T

TRI

Total Recordable Injuries – the sum of fatalities + Lost Work Day Cases + Restricted Work Day Cases + medical treatment cases

TRIR

Total Recordable Injury Rate – the number of recordable injuries per million hours worked



U

UDHR

Universal Declaration of Human Rights

UK

United Kingdom

UN

United Nations

UNGC

United Nations Global Compact – a strategic policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption

UNESCO

United Nations Educational, Scientific and Cultural Organization

V

VPSHR

Voluntary Principles on Security and Human Rights

W

WBM

Water-Based Drilling Fluids (water-based mud)

WMC

Well Management Contractor

WEC

Well Engineering and Construction

WWF

World Wide Fund for Nature



[Homepage](#) / [Responsibility](#) / [Contact details](#)

Contact details

We welcome your views, comments and suggestions on our CR activities and this CR Report. Your feedback is important to us, and will help to improve our reporting and inform our CR strategy.

To contact us please [email our CR Team](#).