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Module: Introduction

Page: Introduction

CC0.1

Introduction
Please give a general description and introduction to your organization.

About

Centrica is top 30 FTSE100 company and our vision is to be the leading integrated energy company, with customers at our core. We must therefore keep our 30m customers' homes and businesses warm and well lit while delivering long-term value to around 700,000 shareholders. To achieve this, more than 36,000 of our employees source, generate, process, store, trade, save, service and supply energy across our chosen markets. Our International Downstream businesses supply energy and related services that give customers greater control over their energy consumption through low carbon, innovative products and home energy solutions provided by British Gas in the UK and Direct Energy in North America. Our International Upstream business, Centrica Energy, responds to market conditions by securing a balanced mix of gas and oil production as well as power generation and energy trading. Centrica Energy operates in the UK, Europe, North America and Trinidad and Tobago. Centrica Storage is a wholly owned subsidiary of Centrica which stores gas supplies for the UK.

Impact on climate change

We believe climate change is one of the biggest global challenges facing society today. We are therefore committed to minimising the carbon emissions from the energy we generate and supply. Our direct carbon emissions under Scope 1 include those from sources we own or control such as power generation, gas production and storage, as well as those from our property, fleet and travel. Indirect carbon emissions under Scope 2 arise from electricity purchased and consumed across our offices and assets. Scope 3 emissions are those we do not produce but are the result of the products and services we provide such as electricity and gas sold to customers from wholesale markets and the products and services purchased to run our business. It is the Scope 3 emissions that arise from our customers' gas and electricity usage that form the most significant component of our emissions. Helping customers reduce their energy use through the products and services we provide is therefore a key enabler to combat climate change.
Reducing our impact

As a leading integrated energy company, we play a pivotal role in tackling climate change by transforming the way energy is generated and consumed. However, while mitigating climate change is a core aspect of how we do business, it must also be balanced alongside other, often conflicting stakeholder needs: to provide affordable energy to our customers today and secure supplies of energy for the future.

As part of our on-going response to climate change, our downstream businesses are helping to make homes more efficient and providing customers with the tools and technology needed to better control and reduce their energy consumption. We are, for example, continuously developing our capabilities to deliver energy efficiency measures and empowering customer generation of low carbon energy through microgeneration products. We are using innovative technology to

influence energy to be used in a smarter way through remote control products like Hive Active Heating and smart-enabled offerings such as time-of-use tariffs, which can significantly improve energy-awareness and management. These products and services not only enable our customers to reduce their carbon impact, but also enable them to save money on their energy bills. As the UK's largest energy, installation and services provider, British Gas is working hard to lead Britain to a sustainable energy future by developing engineering skills required to install and service these new technologies.

We maintain interests in low carbon power generation through existing nuclear, wind and gas-fired assets including equity shares in five operational wind farms. As the lowest carbon fossil fuel, gas provides the flexibility to back-up intermittent generation such as wind and will remain an important part of the fuel mix even as more wind power comes online. We are also working to reduce the emissions associated with our offices, fleet and business travel.

We additionally recognise the wider role we can play in combating climate change in supply chains and communities. We work with our partners to raise and maintain high environmental standards in our supply chain through our responsible procurement programme and engage communities via dedicated educational programmes to ensure future generations use energy more sustainably.

CC0.2

Reporting Year
Please state the start and end date of the year for which you are reporting data.

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.
We request data for more than one reporting period for some emission accounting questions. Please provide data for the three years prior to the current reporting year if you have not provided this information before, or if this is the first time you have answered a CDP information request. (This does not apply if you have been offered and selected the option of answering the shorter questionnaire). If you are going to provide additional years of data, please give the dates of those reporting periods here. Work backwards from the most recent reporting year.

Please enter dates in following format: day (DD)/month(MM)/year(YYYY) (i.e. 31/01/2001).

Enter Periods that will be disclosed
Tue 01 Jan 2013 - Tue 31 Dec 2013

CC0.3

Country list configuration

Please select the countries for which you will be supplying data. This selection will be carried forward to assist you in completing your response.

Select country
United Kingdom
United States of America
Canada
Ireland

CC0.4

Currency selection

Please select the currency in which you would like to submit your response. All financial information contained in the response should be in this currency.

GBP(£)

CC0.6

Modules

As part of the request for information on behalf of investors, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors, companies in the oil and gas industry, companies in the information technology and telecommunications sectors and companies in the food, beverage and tobacco sectors should complete supplementary questions in addition to the main questionnaire.

If you are in these sectors (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.
If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx.

Module: Management

Page: CC1. Governance

CC1.1

Where is the highest level of direct responsibility for climate change within your organization?

Individual/Sub-set of the Board or other committee appointed by the Board

CC1.1a

Please identify the position of the individual or name of the committee with this responsibility

Sam Laidlaw, Chief Executive, has overall responsibility for Centrica's climate change impact. Issues associated with climate change and low carbon are represented consistently and at the highest level through his membership of the Board, the Centrica Executive Committee (CEC) and the Corporate Responsibility Committee (CRC).

CC1.2

Do you provide incentives for the management of climate change issues, including the attainment of targets?

Yes

CC1.2a

Please provide further details on the incentives provided for the management of climate change issues

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
Corporate executive team	Monetary reward	The Centrica Executive Committee is incentivised to embody behaviours that ensure compliance with Centrica's eight Business Principles, one of which is the commitment to protect the environment. This includes delivery of the Environmental Management System (EMS), environmental policy and strategy.
Environment/Sustainability managers	Monetary reward	Delivery of Group and Business Unit specific environment plan is incentivised, which includes reductions in Group internal carbon footprint, carbon intensity and total carbon emissions where applicable.
Chief Executive Officer (CEO)	Monetary reward	The Chief Executive is incentivised to embody behaviours that ensure compliance with Centrica's eight Business Principles, one of which is the commitment to protect the environment. This includes delivery of the EMS, environmental policy and strategy. The fulfilment of Centrica's internal carbon footprint 2015 target has also been linked explicitly to the Chief Executive's personal bonus scheme.
Other: Corporate Responsibility teams	Monetary reward	Delivery is incentivised for performance against environmental targets and key climate change programmes in line with CR Committee approved KPIs.
Facility managers	Monetary reward	Monetary reward is provided to improve energy efficiency and environmental performance of our property estate.
Management group	Monetary reward	Delivery is incentivised within departments and business units for visible leadership and compliance with our Business Principles, which includes the commitment to protect the environment.
Facility managers	Recognition (non-monetary)	Awards are provided for best performing UK office sites on categories such as carbon, water and waste.
Other: Employees within British Gas New Energy	Monetary reward	Incentives are provided for meeting our Energy Company Obligation targets which aim to improve energy efficiency in a cost-effective way.
Other: Employees within British Gas New Energy	Monetary reward	Incentives are dependent on new business development in non-ECO funded energy efficiency and renewable heat work for residential and commercial customers.
Other: Employees nominated by colleagues	Recognition (non-monetary)	Employees can nominate colleagues for living our leadership behaviours that incorporates a proactive approach to safeguarding the environment.
Other: Employees nominated by colleagues	Monetary reward	Employees in Direct Energy can nominate colleagues who exemplify core company values, including those championing the environment. Winners receive recognition alongside a prize of $150-$300 (£90-180).
Other: Renewables - operation teams	Monetary reward	Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by employee role and may include: Lincs wind farm project delivery and cost, wind farm reliability or new wind farm consultation process.
Other: Power Generation and Exploration and Production (E&P) -	Monetary reward	Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by employee role and may include: CCGT efficiency,

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator
operation teams		compliance with EU ETS, and management of greenhouse gas emissions from E&P operations.

Page: CC2. Strategy

CC2.1

Please select the option that best describes your risk management procedures with regard to climate change risks and opportunities

Integrated into multi-disciplinary company-wide risk management processes.

CC2.1a

Please provide further details on your risk management procedures with regard to climate change risks and opportunities

Frequency of monitoring	To whom are results reported	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Individual/Sub-set of the Board or committee appointed by the Board	UK Netherlands Norway North America Trinidad & Tobago	1 to 3 years	The Board is responsible for the system of risk management and internal controls. The system is considered fundamental to Centrica achieving its strategic priorities, including those related to climate change. The Board sets objectives, performance targets and policies to attain a balanced and transparent assessment of risks and to measure effectiveness of key controls to manage them. This is underpinned by clear delegations of authority and effective policies and procedures that span our core operations and include our Business Principles, which we communicate to our employees. We have processes in place for identifying, evaluating and managing key risks, including environmental, across the company.

Frequency of monitoring	To whom are results reported	Geographical areas considered	How far into the future are risks considered?	Comment
				Processes are reinforced through regular performance management and are subject to internal and external review. This enables us to enhance risk management activities and provides an independent assessment of the control framework's effectiveness.

CC2.1b

Please describe how your risk and opportunity identification processes are applied at both company and asset level

Identifying and understanding our most significant risks and developing strategies to mitigate them, is essential to managing our business responsibly. Climate change risks are effectively controlled through their inclusion within business risk management procedures. Each identified risk from asset to company level is consistently assessed and reported according to the Group Risk Management Policy, Standards and assessment matrices.

At a company level, the Corporate Responsibility Committee (CRC) is authorised by the Board to review the effectiveness of identifying and managing environmental risks and opportunities that could materially affect performance and reputation. The CRC sets objectives, performance targets and policies for managing key risks and opportunities, which are monitored by the Board. Risks are discussed, agreed and monitored quarterly through a risk and control matrix. We also hold an annual strategy conference during which the Board examines climate change related opportunities (amongst other topics) in new markets, technologies and potential investments. Due diligence to assess commercial viability, market landscapes and future regulation is then conducted before strategies are presented to the Investment Sub-Committee. Once measures are agreed, business units (BUs) develop detailed strategies to maximise opportunities and model commercial returns.

At an asset level, BUs are regularly confronted with risks and opportunities which have the potential to impact the Group's assets, liabilities, financial position and reputation. We have an integrated management process in place that focuses on the identification, assessment, tolerance, control, reporting, monitoring and challenges of these risks and opportunities.

CC2.1c

How do you prioritize the risks and opportunities identified?

Individual risks are prioritised by assessing potential financial and non-financial impacts alongside the likelihood of materialisation. A 1-5 impact and likelihood scale is used, with the overall rating (1-25) calculated through multiplying impact by likelihood. Financial impact relative to BU operating profit targets, are subsequently calibrated to produce a Group score. Further statistical modelling, scenario planning and commercial analyses provide an overall rating.
Each quarter, designated 'risk champions' coordinate an assessment of BU risk profiles, which incorporates climate change risks. Risks are then reported to a Business Risk Management Committee (BRMC) or equivalent to evaluate report and advise on the material risks as well as consider the adequacy of mitigating controls and actions.

The most material risks are reported to the Group Risk Management Committee (GRMC) to ensure it has a clear understanding of our aggregate risk profile and to make sure control processes for monitoring and managing significant risks are in place. High Impact/Low Probability risks are also considered separately by the BRMC and GRMC. The GRMC undertakes regular in-depth review of specific risks as appropriate and is chaired by the Chief Executive with wider members drawn from the CEC.

The Audit Committee receives a risk update as part of an overall integrated assurance report, which provides an assessment of key risks and the adequacy of controls. These reports, supplemented by management presentations and further discussions, enable it to track issues, monitor performance and ensure remedial action is taken if significant failings or weaknesses are identified.

The Board, CRC and CEC are responsible for identifying and prioritising opportunities. Dedicated strategy meetings occur throughout the year which evaluate the Group strategy in relation to the external economic, competitive, regulatory and policy context which includes opportunities relating to climate change.

CC2.1d

Please explain why you do not have a process in place for assessing and managing risks and opportunities from climate change, and whether you plan to introduce such a process in future

Main reason for not having a process	Do you plan to introduce a process?	Comment

CC2.2

Is climate change integrated into your business strategy?

Yes

CC2.2a

Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process

i Business strategy influence - The Board and Executive Committee review our strategy during the year, through dedicated strategy meetings that evaluate the Group strategy alongside the external context encapsulating the economic, competitive, regulatory and policy factors, including those related to climate change.

ii Climate change influence on strategy - Our strategy focuses on balancing the need to maintain security of supply, provide affordable energy and deliver a low carbon future. Legislative risks and opportunities associated with climate change such as emissions reduction and renewable targets set within the UK, North America and EU, significantly inform our strategy. For instance, our UK power generation strategy is informed by Government commitments to deliver lower carbon power and is linked to our internal target to reduce our carbon intensity to 260gCO2/KWh by 2020. Downstream, while our focus on delivering the UK Government's energy efficiency targets to reduce emissions from homes and businesses cuts demand for our energy, it also presents opportunities to deliver new services that help our customers reduce their energy use. This directly contributes to our evolution towards providing both energy supply and services to residential and business customers.

iii Short term strategy - In the short term, we are building on strengths in our downstream businesses including energy efficiency services, distributed generation and smart technology. This helps us capitalise on opportunities such as the Green Deal and Energy Company Obligation, while driving energy reduction opportunities from our leadership position in the UK smart meter roll-out. Since 2010, measures we installed in UK homes and businesses have saved over 9.8m tonnes of CO2e, equivalent to taking more than 668,000 cars off the road.

iv Long term strategy - Downstream, our long-term strategic priority is to give customers greater control over their energy use in a simpler, smarter and more efficient way. This aligns with our strengths in the UK around energy efficiency and smart metering, which supports our sustainable growth as a provider of services and a supplier of energy. In North America, Direct Energy is also giving customers increased control over energy through smart-enabled time-of-use and prepaid offerings. Also, gas has a central role in our long-term strategy. As the lowest carbon fossil fuel, gas provides the flexibility to back-up intermittent generation (e.g. wind) in power, and heats over 80% of Britain's homes. In North America, gas has contributed to reducing emissions by displacing coal in power generation and oil in transport.

v Strategic advantage over our competitors
Customer carbon and energy efficiency services - Maintaining our market-leading position in energy efficiency goods and services is a key strategic priority. As Britain's largest energy retailer, we have enabled significant, cost-effective carbon savings in homes. On average, annual emission savings we have enabled downstream are equivalent to that of a 1.8GW wind farm. We are also the only supplier with our own insulation business, employing around 750 people. We were the first energy company to offer Green Deal Finance and have been a major enabler of customers' Green Deal cashback claims. We are the leading provider of smart meters in the UK, having installed 1.3m by the end of 2013 since deployment began 2009. We are committed to maintaining this lead by creating new smart products and services in our UK and US markets. In 2013 for example, British Gas launched Hive Active Heating to help customers control heating and hot water

remotely which can facilitate carbon savings.

Low carbon products - Delivery of low carbon measures enables us to offer better value and a greater range of services as well as helping us meet mandatory obligations. During 2013, we installed 490 solar PV panels in the UK and signed contracts for 4,200 district heating connections (mostly biomass), which will have lifetime carbon savings of 267,000 tonnes.

Lower carbon intensive generation fleet - We maintain interests in low carbon power generation through existing nuclear, wind and gas-fired assets. In 2013, our Group generation carbon intensity remained at 200gCO2/KWh, one of the lowest of the major UK energy generators.

Wind - We are a leading operator of offshore wind farms in the UK, with 50/50 joint-venture interests in four operational offshore sites and one onshore, which together can power around 403,000 homes. In 2013, we completed our 270MW Lincs wind farm, providing enough power to meet the annual needs of over 200,000 homes. Our Race Bank offshore wind farm project did not receive a transitional feed in tariff from the UK Government and in December 2013, we took the decision to sell our interest in the project to DONG Energy, who will now take forward the construction phase of the project. We continue however to progress our option through our 50/50 joint-venture to develop offshore wind farms in the Irish Sea Zone, which has potential capacity of up to 4.2GW, enough to power around 3m homes.

Nuclear - As a stable, low-carbon baseload power source, nuclear is an important part of the energy mix. In 2013, nuclear accounted for 48.5% of our total Group generation on an equity basis. One of our reactors through our 20% stake in EDF Energy Nuclear Generation, Dungeness, is expected to receive a 10-year life extension in 2014 to enable generation until 2028.

Gas production and power generation – Gas has a key role to play in maintaining security of supply, providing affordable energy and delivering a low carbon future. Gas is transportable and widely available, helping us to secure future supplies and bring them to the UK at affordable prices. Because gas has the lowest carbon intensity of all fossil fuels, our gas developments and long-term supplies enable us balance the need to reduce carbon emissions while securing energy the UK needs. In 2014, we announced plans to review our gas-fired generation portfolio, including the potential release of capital from larger plants with funds possibly being recycled into upgrading a smaller plant.

vi Business decisions - Our new strategy was announced in 2013 which reinforced our commitment to downstream energy efficiency and helps us maintain a low carbon power hedge. In 2013, through Direct Energy's partnership with SolarCity, we committed to fund up to $50m to power businesses with renewable solar electricity.

CC2.2b

Please explain why climate change is not integrated into your business strategy

CC2.3

Do you engage in activities that could either directly or indirectly influence public policy on climate change through any of the following? (tick all that apply)

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

CC2.3a

On what issues have you been engaging directly with policy makers?

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Other: Electricity Market Reform (EMR)	Support	**Electricity Market Reform** We support the Government's overall Electricity Market Reform (EMR) package and continue to engage Government via expert working groups, industry consultations and meetings. As EMR policy development is now at an advanced stage, our engagement is focussed on ensuring policy details and legal provisions are sufficiently bankable and workable. We need EMR's key constituent parts; renewables contracts for difference (CfDs), the carbon price floor and the capacity market to work predictably and effectively. This will enable the energy industry to deliver the multi-billion pound investments needed to secure affordable and low carbon electricity supplies the UK needs.	We believe EMR policy is generally evolving in the right direction, with industry playing a key role ensuring policy details and legal provisions are workable. We continue to engage with Government, often through participation on industry workgroups, to refine any outstanding policy and legal details.
Other: Renewable Heat Incentive	Support	**Renewable Heat Incentive** We are supportive of the Renewable Heat Incentive (RHI) because we believe that incentivising technology such as biomass heating and air source heat pumps are essential drivers for commercial, industrial and domestic sectors to reduce their carbon emissions. However, to enable the RHI achieve its full potential, we	We propose greater support be provided under the RHI scheme that will enable increased adoption of renewable heating technologies in the most cost-effective way. It is also essential that the Government confirms the RHI budget from 2016 through to 2021 and we additionally believe there is scope to accelerate the rollout of lower cost non-domestic renewable heat in particular, beyond its current ambition. In doing so, RHI can not only potentially transform the market for renewable heat but also support the UK Government's

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		advocate for the implementation of some scheme improvements. For example, to ensure necessary long-term investments are made that will secure the delivery of renewable heating technology, it is essential the budget for all technologies be continued through to 2021.We also believe the RHI structure could be further improved to encourage the optimum sizing of technology (especially for biomass heating), which will help ensure the delivery of energy in the most cost-effective way. We are also supportive of extending the RHI to some technologies which currently do not meet the scheme's qualifying criteria, such as gas heat pumps. To facilitate the adoption of these proposals, British Gas has therefore engaged a number of stakeholders throughout 2013, including trade associations, the UK Government and DECC. British Gas has also advocated our proposed solutions through the submittal of three consultations to Government during 2013.	ambition to achieve around 90% of heat from non-fossil fuels by 2050, through improving attainment of low carbon living in existing and new buildings.
Energy efficiency	Support	**Green Deal and the Energy Company Obligation** We support the objectives of the Green Deal and the Energy Company Obligation (ECO), believing these programmes to have the potential to be transformational in delivering energy efficiency measures to Britain's homes. We engage regularly with the Department of Energy and Climate Change (DECC) on both programmes as well as taking part in multiple forums and responding to Government consultations. **Green Deal** British Gas has been an early supporter of the Green Deal and was the first to provide Green Deal finance. We are also a Green Deal assessor, provider and installer nationwide. However, improvements to the Green Deal should be made which will increase take-up and make the programme more successful. We have therefore continued to engage Government at a detailed and practical level to improve the delivery framework. Furthermore, we have conducted consumer research and led focus groups which DECC officials have been invited to observe in order to help improve collective	**Green Deal** We believe the Golden Rule needs to be significantly reformed for Green Deal finance to be successful. To achieve this, we propose a two-to-three-fold increase in finance available. Although DECC are due to consult on the Golden Rule, it is uncertain how much change can be delivered. We also believe DECC should reform Green Deal assessments to make them more flexible. Increased flexibility could reduce costs and improve the customer experience for both Green Deal and ECO, stimulating higher consumer participation. We have shared our legal advice on FCA regulatory aspects of the Green Deal with the Government and are working proactively with the Green Deal Finance Company on the necessary contractual amendments to ensure compliance across the whole industry. **ECO** We welcome the proposed changes to ECO in 2013, which we believe maximise the scheme by striking the right balance between ensuring delivery, keeping costs down on energy bills

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		understanding around the barriers of take-up. We also led cross-industry work that proposed changes to the Golden Rule (where the cost of financing cannot exceed the expected energy savings), and we anticipate DECC will consult on the subsequent proposals. We coordinated an additional cross-industry proposal to simplify Green Deal assessments, findings of which DECC have in part adopted within the new Green Deal incentive scheme. Engagement with Government and the Green Deal Finance Company has also occurred on various FCA regulatory issues. **ECO** We agree there should be two primary aims of ECO: first, to reduce heating bills of low income or vulnerable households by installing free or subsided energy efficiency and heating measures; and, secondly, to provide support for technologies that fail to meet the Golden Rule, such as solid wall insulation. Our engagement focus on ECO is to ensure its targets are deliverable for suppliers, affordable for consumers, sustainable for the supply chain, and that the ECO brokerage mechanism develops as an effective vehicle for delivering the obligation. In 2013, we engaged Government on these issues and completed a consultation on their proposed changes to ECO. We expect to receive confirmation of the ECO changes mid-year, 2014.	and providing certainty for the supply chain. We are keen to ensure that potential programme changes do not drive additional cost or complexity but instead remain within the parameters set out in DECC's December 2013 announcement on the future of ECO.
Other: Smart meters	Support	**Smart meters** **UK** We strongly support and are fully engaged on the roll-out of smart meters. We believe they can provide accurate and transparent bills, tailored energy efficiency advice, increased customer awareness to reduce energy usage, and provides the first step in the journey to smart homes and smart grids. The UK Government has mandated that smart meters are rolled out as standard by 2020. We have led the industry in the installation of smart meters, having fitted 1.3m in UK homes and businesses by the end of 2013.	**UK** We are supportive of the proposed smart meter architecture. By working with other industry participants, we have successfully created the Central Delivery Body (CDB), which is an independent organisation designed to champion and communicate the switch to smart meters to the public. The Government have also awarded a licence to the Data Communications Company (DCC), who will provide the UK's communication and data service infrastructure for all suppliers. We are currently working closely with the DCC, DECC and the industry, designing the systems and processes to facilitate mass roll-out due to commence in December 2015.

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		To support an effective roll-out, we have shared learnings through industry working groups, consultations and regular meetings with Government and other stakeholders. These include how to engage customers, data management systems, access to consumer data, industry design, customer benefits and costs. We have also been one of four lead partners in the Customer Led Network Revolution (CLNR) to facilitate learnings on smart. CLNR is the UKs largest smart grid project involving 14k customers over a three year period. Trials were conducted into how smart meters and decentralised energy can make energy demand and supply more flexible while at the same time, contribute to the creation of smart enabled homes to give customers more control over how they use and generate electricity. **North America** Direct Energy has continued to share learnings and customer insights from our innovative, smart enabled products through major industry conferences as well as meetings with regulators and legislators across different states and legislative bodies. This has enabled us to highlight the positive impacts of load-shifting to off-peak periods and show how increased energy awareness through smart meters helps customers reduce consumption. In Texas, we engaged regulators and other key stakeholders, to encourage regulated utilities who own the smart meters to provide increased regularity and completeness of smart meter data, to retail energy providers (REPs) so that we can maximise our smart offerings. Direct Energy is also working with policy makers to address privacy concerns around customer data. We additionally engage stakeholders in Illinois, Ohio, Massachusetts, and the District of Columbia on smart meter deployment and gaining access to smart data.	Prior to DCC 'Go-Live', we will continue to install the current industry standard specification metering equipment that will subsequently be migrated onto DCC systems in future years. We also believe there is consumer benefit in receiving appropriate energy efficiency advice with a smart meter. All our installers are therefore trained to provide relevant advice to customers upon meter installation. **North America** We believe it is critical that smart meter data be timely, accurate and consistent in order to allow REPs to offer innovative products using 15-minute interval usage data that will enable them to introduce energy saving products and applications for customers. In addition, Direct Energy is encouraging utilities to increase service levels as smart meter deployment completes to ensure optimal availability and quality of associated data. Direct Energy is also supportive of legislation which balances the protection of privacy interests with provision of innovative new energy products and applications.

CC2.3b

Are you on the Board of any trade associations or provide funding beyond membership?

Yes

CC2.3c

Please enter the details of those trade associations that are likely to take a position on climate change legislation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Energy UK	Consistent	**Energy UK** is the trade association for the energy industry. It represents over 80 members made up of generators, gas and electricity suppliers as well as other businesses operating in the energy industry. Energy UK and its members are committed to driving the sustainability agenda by reducing the sector's environmental impact in order to make a positive contribution to society, economy and environment. Together, the association has a range of initiatives underway to make these ambitions a reality.	Centrica is represented on the Board of Energy UK as well as being active members of working groups looking at, for example, power generation and environmental policy. We also currently chair the working group on Climate Change Adaptation. While views held within Energy UK on climate change issues are predominantly consistent with our own, there are occasional divergences such as on the best approach for smart meter roll-out in the UK. As the leader in the UK's smart meter deployment and a firm believer in their positive contribution to increasing customer control over energy use, we aim to influence and increase awareness of members on smart meters through the association.
Renewable Energy Association (REA)	Mixed	**The Renewable Energy Association (REA)** was established in 2001, as a not-for-profit trade association, to represent British renewable energy producers and promote renewable energy use in the UK. The REA endeavours to achieve the right regulatory and legislative framework to deliver an increased renewables contribution to the UK's electricity, heat and transport needs.	British Gas has representatives on the Policy Board and chairs the On-site Renewables Group which covers the use of decentralised renewable energy systems for individual buildings, estates, communities and the commercial sector.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		The REA is broadly aligned with the Committee on Climate Change's (CCC) view on a low carbon future albeit with a bigger role for biomass than foreseen by the CCC. Within the area of on-site generation, REA and British Gas views are largely aligned. We support the Renewable Heat Incentive (RHI), Feed-in-Tariff (FiT) and the use of building regulations to encourage low carbon buildings. For example, consultation responses on the RHI (four in the last year) have been broadly similar to those from British Gas, although they differ in detail. The material difference between REA and British Gas is that the former advocates mandatory 2030 Renewable Energy targets, whereas we believe carbon targets alone are cost optimal.	
Sustainable Energy Association (SEA)	Consistent	**The Sustainable Energy Association (SEA)** represents companies and organisations active in the microgeneration sector and campaigns on behalf of its members for a genuine mass market for small scale, low and zero carbon electricity and heat generating technologies. The SEA also aims to deliver a co-ordinated and balanced view on competing technologies in the UK. As an active deliverer of various low carbon microgeneration measures, we are supportive of this approach.	British Gas is a sponsoring member of the SEA and a member of the Executive Board. We also sit on various working groups, including those relating to domestic and non-domestic retrofit, regulations and standards. We provide input into consultation responses and in 2013, influenced SEA's position on Hybrid technology, Gas Heat Pumps and MicroCHP. We have also worked collaboratively with the SEA to influence policy around these technologies and the support provided by Government, securing support for FiT MicroCHP and advocating RHI support for gas heat pumps.
Solar Trade Association (STA)	Consistent	Affiliated to the REA, the **Solar Trade Association (STA)** represents the interests of manufacturers and installers of solar PV and solar thermal. The STA works with members to achieve the right regulatory framework and incentives to drive an increasing and sustainable contribution of solar to meet the UK's electricity and heating needs. British Gas believes solar, particularly large-scale solar installations, has an important	British Gas is on the board of the STA and represents the interests of the utility sector. Following engagement with the STA, we have successfully influenced their position on solar photovoltaic thermal (PV-T) systems to seek greater support under the Government's FiT and RHI schemes as well as encourage greater engagement from PV-T manufacturers in the UK solar industry to strengthen collective consultation

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		role to play in low-carbon UK generation and is therefore supportive of these aims. British Gas and STA's views also coincide on many other areas including pushing for more focussed requirements on safety and technical compliance across the industry to raise standards. The STA also undertakes policy development and provides advice and analysis to stakeholders, including the Government. To achieve change that delivers optimal advances for solar deployment, members of the STA work together on responses to various DECC consultations.	and lobbying. As a result, the STA are proposing a new sub-group to consider the value of this technology in greater detail.
Heating and Hot Water Industry Council (HHIC)	Consistent	The **Heating and Hot Water Industry Council (HHIC)** is committed to driving, supporting and promoting the sustained growth of the UK's residential heating and hot water industry. They inform and advise on these issues to tackle challenges and influence Government on how best to meet the 2020 and 2050 carbon targets. Membership is made up of heating manufacturers together with new renewable entrants to the market.	British Gas is a member of a number of working groups, including the Low Carbon Technology Group and the Micro CHP Group. We help to shape the HHIC's views though these groups on the future of heat technology in the UK.
Energy Manager Association (EMA)	Consistent	The **Energy Managers Association (EMA)** was established to bring cohesion to the Energy Management profession in order to help the UK meet its energy obligations, which include those relating to carbon reduction. To accomplish this, the EMA aims to establish a best practice approach to energy management that will improve the standing of the profession and drive it into the heart of British businesses. The EMA works closely with energy managers across the UK to influence policy and Government departments such as, DECC, DEFRA and BIS on future policy development to	British Gas is represented on the Board of the EMA and is an active member of working groups that focus for example, on Carbon Reporting, Training Standards, Behaviour Change and Industry Standards. As one of the leading companies delivering Energy Performance Contracts (EPCs) in the UK, we have used our involvement in the Association to influence and increase awareness of best practice EPC policy development. These policies will potentially become the standard to which all energy services companies will contract EPCs.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		function at optimal levels for practitioners.	
RenewableUK (RUK)	Consistent	**RenewableUK's (RUK)** vision is for renewable energy to play a leading role in powering Britain; believing that wind, wave and tidal energy are essential for a sustainable energy future. As an island, RUK advocates that the UK has some of the best natural resources in the world that can maximise the impact of these technologies - deploying them will therefore not only generate significant power but also bring wider societal and economic benefits for the UK. Centrica's views are aligned with those of the RUK and as a major player in the offshore wind sector, our interests are supported by the work of the RUK. To ensure further long-term investments in large-scale offshore wind and renewables, we both believe that the UK needs greater political and regulatory certainty on its investment and return frameworks.	Centrica has representation on the RUK's Board (a position elected by RUK members) and we are active members of strategy groups for Grid, Public Affairs, Economics and Markets. We also help shape RUK's position through subgroups such as Offshore Health and Safety as well as Consents and Licensing.
Offshore Wind Industry Council (OWIC)	Consistent	Established in 2013, the **Offshore Wind Industry Council (OWIC)** is a senior Government and industry forum that aims to drive development of the world-leading offshore wind sector in the UK. Its key purpose is to bring together Government and industry in order to find solutions to the barriers the UK Offshore Wind Industry face, and which have the potential to impede its viability and deliverability. In doing so, wind energy can maximise benefits to the UK economy and significantly lower energy's climate change impact through being a vital component of the UK energy mix. This will also help the UK meet its carbon targets and create a sustainable future. The OWIC is responsible for overseeing the implementation of the UK Government's Offshore Wind Industrial Strategy, and is the sponsoring body of the Offshore Wind Programme Board - a joint Government / industry body that aims to achieve cost reductions in offshore wind.	Centrica is a member of OWIC and influences their position by providing advice and guidance to help shape policy development using our experience of wind farm development.

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
		Membership comprises of government and public body representatives alongside senior executives from the development and supply chain community.	
Oil and Gas UK (OGUK)	Consistent	Sourcing and producing oil and gas is an industrial process that **Oil and Gas UK (OGUK)** and its offshore industry members recognise has an inevitable environmental impact, including those relating to climate change. To ensure we mitigate these impacts while balancing the benefits to society through having a secure energy supply, OGUK believes we must collectively work alongside Government and other stakeholders. OGUK aims to fully understand and effectively manage the environmental risks of the hydrocarbon lifecycle so that by 2015, stakeholders agree that the residual risks are effectively controlled and are acceptable.	Centrica is well represented across a broad spectrum of OGUK workgroups and forums. Most notably, we hold a seat on the influential Oil and Gas Operator Council. We are also represented across the full range of Environmental, Health and Safety workstreams. Through these engagements, we ensure that OGUK's aims and actions align as closely as possible with Centrica's own responsible approach to safeguarding the environment.

CC2.3d

Do you publically disclose a list of all the research organizations that you fund?

No

CC2.3e

Do you fund any research organizations to produce or disseminate public work on climate change?

Yes

CC2.3f

Please describe the work and how it aligns with your own strategy on climate change

In 2013, Direct Energy supported a statistical study conducted by DEFG (a specialised consulting firm focused on energy consumers), on the relationship between customers participating in prepayment energy plans and their corresponding level of consumption in North America. The report confirmed that prepaid energy plans have a significant effect on consumer behaviour, reducing average household electricity usage by up to 11%. The study supports the notion that shifting consumer energy consumption is highly effective with prepayment alongside regular communications that provide timely data with usage visually tied to monetary values to create meaning for the consumer. As the largest provider of prepay services in North America's competitive markets, Direct Energy's prepay offerings are fulfilling our strategic ambition to help customers reduce their emissions and give greater control over their energy usage and bills.

CC2.3g

Please provide details of the other engagement activities that you undertake

We believe that regular and meaningful stakeholder engagement is central to how we do business because it enables us to better understand and therefore manage issues most important to our stakeholders, and our business. By involving stakeholders in our activities, we can demonstrate our accountability and ensure the sustainability of our business by: Increasing our understanding of stakeholder views; addressing current issues; sourcing new ideas; identifying opportunities; securing early warnings of future issues; and lastly, managing risks and impacts.

Interaction with our stakeholders is conducted through a variety of methods from one-to-one meetings to formal committees and workshops, spanning a number of issues such as customer fairness to safeguarding the environment. For example, Centrica's Corporate Responsibility Advisory Group is made up of external representatives from stakeholders groups that are important to the business such as consumer rights experts to CR professionals. The Group meets three times a year to provide independent insight and challenge that informs our business strategy, policies and operations. In 2013, the Group provided feedback on issues which included the development of Centrica's CR Approach and management of interests in natural gas from shale. The British Gas Customer Board, made up of our customers, also provided feedback on our approach to the environment and climate change. To ensure learning is maximised, feedback from both Centrica's CR Advisory Group and the British Gas Customer Board are shared with senior executives at the Corporate Responsibility Committee.

Our British Gas microgeneration technology team also engage frequently with a range of stakeholders to bring new and innovative low carbon technologies to the UK market. The process of product identification, development and commercialisation includes sourcing products and forging new relationships with manufacturers and business entrepreneurs, conducting field trials and customer market surveys to ascertain the most suitable technologies for UK retrofit buildings in both residential and non-domestic sectors. Learning is also shared with Government to raise awareness of the benefit of new technologies and to ensure the right regulatory framework is in place to enable their adoption by consumers in the UK.

Centrica Energy project managers and issue specialists further engage key stakeholders to ensure each project fully assesses, understands and has plans in place to manage potential impacts, which form an essential part of the approval process throughout a project's lifecycle. These engagements can for example, include collaboration with environmental NGOs and local interest groups.

As part of our engagement with investors, we held two investor roundtables on natural gas from shale following our 25% stake in the Bowland exploration licence in Lancashire. Through engagement, we were able to outline our commitment to the responsible development of the project which can be demonstrated by the high standards set out in our operating principles for onshore natural gas exploration and extraction. We also shared our views on the important role natural gas from

shale could play helping secure future gas supplies important for the UK's energy mix, protecting against price volatility and generating new employment opportunities. Additionally, we have engaged the 'Aiming for A' group of investors during 2013 and are supportive of the principle of the initiative and ultimate goal of moving to a low carbon transition.

CC2.3h

What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Centrica engages with stakeholders, including government and regulators in the UK, US and Canada so we can actively contribute to the development of legislation and regulation as well as manage any risks and opportunities these present to our business. To make sure our external engagements are fully aligned with our climate change strategy, the Centrica Policy Group (CPG), attended by Executive Committee members, meet on a regular basis to discuss and agree Group-wide positions on key issues that include climate change related issues. Any new approach to policy engagement is presented, reviewed and approved by the CPG to ensure consistency with our Group strategy is achieved.

In 2013, five CPG meetings took place throughout the year. Topics discussed at the meetings included issues such as ensuring Group-wide consistency across our policy positions, the Government's Electricity Market Reform package as well as the EU's 2030 policy framework for climate and energy.

CC2.3i

Please explain why you do not engage with policy makers

Page: CC3. Targets and Initiatives

CC3.1

Did you have an emissions reduction target that was active (ongoing or reached completion) in the reporting year?

Absolute and intensity targets

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
Abs1	Other: Scope 1 + Scope 2 + Scope 3: business travel	1.04%	20%	2007	112869	2015	We use the term 'internal carbon footprint' to describe the carbon emissions from our core property energy use, company vehicles and business travel. The target is global but it does not cover emissions from power generation or oil and gas production, the reporting and management of which we treat separately. This internal target concentrates on those areas where the majority of our employees have the ability to influence results. This is important for engagement purposes and enables us to benchmark our operational performance against the majority of other businesses. Although the percentage of emissions appears immaterial when compared to our total scope 1, 2 and 3 footprint, our approach to managing the impacts in these areas enables us to innovate and trial new technologies, helping us to lead the consumer market and to engage our own employees in understanding environmental issues.
Abs2	Scope 1	0.46%	18%	2007	43408	2015	In the UK, we aim to reduce the carbon emissions from our core fleet by approximately 16% by 2015 (baseline year: 2007). This equates to around 7,000 tonnes of CO2 by 2015, equivalent to taking almost 2,600 average private cars off the road. By the end of 2013, we had achieved an overall reduction of 13% compared to 2007.
Abs3	Scope 1+2	0.25%	7.5%	2012	18768	2013	We have a UK Property CO2 reduction target of 7.5%, based on the previous year's consumption. This relates to our main UK office gas and electricity emissions. An 8.6% reduction was achieved, exceeding the target. By 2015 we hope to reduce the emissions from our main UK offices by around 50% from our 2007 baseline, equating to approximately 15,000 tonnes of CO2. By the end of 2013 we had reduced emissions by 44% from the baseline.
Abs4	Other: Scope 1	1.1%	25%	2007	77680	2015	We aim to reduce our internal carbon footprint (core property, fleet,

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
	+ Scope 2 + Scope 3: business travel						business travel) of our British Gas business by 25% compared to a 2007 base year.

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
Int1	Scope 1	92%	40%	Other: grammes CO2e per kilowatt hour (kWh)	2008	9923131	2020	We have set a target to achieve a Group carbon intensity of 260g CO2e/kWh by 2020. This target covers all emissions from our own power generation (by equity). Our carbon intensity value at the end of 2013 is 200gC02/KWh, which is ahead of target. This above target performance was anticipated because it partly reflects the poor market conditions for power. However, our intensity may increase over the coming years as market conditions recover which will mean our gas power stations generate more power.

CC3.1c

Please also indicate what change in absolute emissions this intensity target reflects

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	29			If output were to stay the same and carbon intensity achieves 260g CO2/KWh in 2020, there would be a 29% decrease in Scope 1 & 2 emissions compared to 2008. Our generation output is unlikely to be the same in 2020 as in 2008, due to the evolution of our power portfolio although it is not possible to predict the change with any accuracy due to the highly uncertain nature of the UK power market.

CC3.1d

For all of your targets, please provide details on the progress made in the reporting year

ID	% complete (time)	% complete (emissions)	Comment
Int1	42%	100%	In 2013, we exceeded our 2020 carbon intensity target of 260gCO2e/kWh (based on equity) by 60gCO2/kWh. However, the current power generation market is considered atypical and not representative of future generation, with some of our

ID	% complete (time)	% complete (emissions)	Comment
			power stations having been placed into temporary preservation. Our gas fuelled generation may well increase in future and thus the 2020 target of 260g CO2e/kWh is still appropriate. We will however keep the target under review due to the uncertainty in the UK market.
Abs1	75%	95%	We are aiming for a 20% total reduction on our 2007 baseline. In 2013, we reduced emissions in our global internal carbon footprint (core property, fleet and travel) by 19% compared to 2007, down to 91,464 CO2.
Abs2	75%	80%	In 2013 we saw a slight increase in carbon emissions from the existing fleet due to an increase in operational activity. This took performance to date to 80% completion of the overall 2015 target.
Abs3	100%	100%	We achieved an 8.6% reduction in emissions compared with our target of 7.5% reduction. NB: % complete emissions is 115% (unable to enter percentage in column to left due to CDP system constraints).
Abs4	75%	86%	In 2013 we achieved a 21.6% reduction in our British Gas internal carbon footprint compared to our baseline of 2007. This equates to 86% completion of our 2015 target.

CC3.1e

Please explain (i) why you do not have a target; and (ii) forecast how your emissions will change over the next five years

CC3.2

Does the use of your goods and/or services directly enable GHG emissions to be avoided by a third party?

Yes

CC3.2a

Please provide details of how the use of your goods and/or services directly enable GHG emissions to be avoided by a third party

i & ii How emissions were avoided - Commercialising services that reduce customer CO2 emissions is a key part of British Gas' core strategy. Three measures make the biggest reductions in customer gas use (customers' scope 1 emissions): wall insulation, loft insulation and energy efficient boilers. We deliver these measures through established central heating installation and insulation businesses. Provision of low carbon energy is delivered to customers through onsite renewables such as solar panels, heat pumps and small and medium scale biomass boilers (reducing customers' scope 1 & 2). Smart meters can also contribute to

carbon avoidance with British Gas smart meter customers having reduced their energy bills by an average of 2.2% for gas (customers' scope 1) and 1.9% for electricity (customers' scope 2) in 2013. We have led Britain's smart meter installation, installing around 1.3m by the end of 2013. In the US, Direct Energy has introduced time-of-use products using smart meters, lowering energy consumption by around 16% and cutting the overall demand on the grid at peak times, which reduces the need to turn on additional power plants to meet demand (customers' scope 2). Prepaid products in North America further help reduce electricity consumption by around 11% (customer's scope 2). The low carbon intensity of our renewable and nuclear power generation helps reduce electricity users' emissions (customers' scope 2). In 2013, we maintained our global generation carbon intensity at 200g CO2/kWh compared with 433gCO2/KWh (base year: 2008). Of the power we generated in 2013 (based on our equity share), 3% was from renewable sources and 48.5% from nuclear, resulting in a total of 52% produced from low carbon sources. While we generate our own low carbon power, we also obtain it though power purchase agreements (PPA) which has helped us fulfil 38% of our UK customers' energy needs from lower carbon generation sources. This means our UK power supply carbon intensity (using the UK fuel mix disclosure to Ofgem: period 1/4/12–31/3/13) is 379g CO2/kWh, considerably lower than the UK average of 470g CO2/kWh.

iii Estimate amount of emissions avoided - In the inaugural year of ECO, measures we installed in people's homes during 2013 will save 4.5 MtCO2e over their lifetime, while by the end of the scheme in 2017, we are mandated to deliver lifetime carbon savings of 21.1mt. Measures we installed through the CERT and CESP schemes which ended in 2013, will deliver 102.6 MtCO2e saved over the products' lifetime. We also install solar panels, heat pumps, and small and medium scale biomass boilers. The carbon savings British Gas has enabled through measures installed between 2010 - 2013, totals 9.8 MtCO2e, which equates to an annual average of 2.5 MtCO2e. Additionally, CO2 emissions avoided through our renewable and low carbon generation in 2013 was 8 MtCO2e, when compared to the UK grid average.

iv Methodology - ECO savings are calculated using industry approved software that converts lifetime carbon savings attributable to each measure to kg CO2 savings which is used in banking with Ofgem. Products included are loft, cavity and solid wall insulation, gas boiler replacement and repair, glazing, heat pumps as well as biomass boilers. Total downstream carbon savings of products British Gas has installed is calculated by combining primary data on the number of installations we made between 2010-2013 (where products installed since 2010 still have a carbon saving), with credible secondary data on likely energy and cost savings (e.g. Ofgem). Where third party calculations are used (e.g. CERT), their emission factors and global warming potentials are employed. In our own calculations we use the IPCC Global Warming Potentials (GWP) identified in Question 7.3, unless specified otherwise. Our analysis of smart meter customer consumption used the DECC and ONS approved methodology, on a sample of nearly 20k customers over a 2 year period, comparing consumption before and after smart meter installation.

v CERs/ERUs within the framework of CDM or JI (UNFCCC) - In the US, Direct Energy's 'New Leaf Energy' product, provides residential customers with 100% Green-e certified energy. Energy is contracted from our Texas wind farm PPA or the purchase of Renewable Energy Credits (RECs). We also sell Ecologo (UL) certified green power and RECs across Canada. For commercial and industrial customers, renewable energy plans are available that offset any percentage of electricity with RECs.

CC3.3

Did you have emissions reduction initiatives that were active within the reporting year (this can include those in the planning and implementation phases)

Yes

CC3.3a

Please identify the total number of projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	1	3902775
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	17	5601443
Not to be implemented	1	1040740

CC3.3b

For those initiatives implemented in the reporting year, please provide details in the table below

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
Energy efficiency: Building fabric	**Carbon Emissions Reduction Target (CERT)** CERT was a UK Government mandated scheme which required suppliers such as British Gas to deliver household carbon savings through energy efficiency measures. We completed the scheme in Q1 2013, having delivered products with equivalent lifetime carbon savings of 96.8m tonnes over a 5-year period. We over delivered on our targets for vulnerable customers in the Priority and Super Priority groups. **Community Energy Saving Programme (CESP)** We also participated in the UK Government's CESP programme which was an obligation on UK power generators and energy suppliers to install energy efficiency measures in areas of severe social deprivation between 2009 and 2012. However, a number of factors prevented completion of the obligation within the timeframe in the safest and most cost effective way so we instead met our target in full in 2013. Measures we installed through the scheme will deliver 5.8m tonnes of CO2 lifetime savings and has improved 318 low-income communities, a high proportion of which were hard-to-treat housing. **Energy Company Obligation (ECO)** To replace CERT and CESP, the UK Government introduced ECO which will run between 2013 and 2017. ECO mandates energy suppliers such as British Gas to fund professionally installed insulation and	370000**	44800000	1700000000	16-20 years	4 years	* The 8.3m tonnes of lifetime CO2 savings through CERT, CESP and ECO includes the additional carbon savings from the ECO Home Heating Cost Reduction Obligation sub target, which is usually reported to Ofgem in lifetime heating bill savings. As such, it differs to the previously reported total figure of 5.1m tonnes of lifetime CO2 emission savings. **CO2 reported savings in 2013 are lower than 2012 because installations have only been included if they were installed in 2013. Due to data constraints, the prior year reported figures reflected cumulative savings from previous year measures that remained active in 2012.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	boilers in residential homes to reduce energy use and carbon emissions, particularly homes that are fuel poor who can benefit from reducing their energy costs. We expect our costs to be over £1.7bn over the life of ECO. In 2013, British Gas delivered 8.3*m tonnes of lifetime CO2 savings through these mandatory schemes (ECO, CERT and CESP). This equates to annual savings of 370,000** tonnes of CO2. **Insulation** As part of our response to fulfil the UK mandatory energy efficiency obligations, British Gas has voluntarily invested in an insulation business in the UK and acquired Hillserve Ltd in 2010, a leading domestic insulation company. Recognising the importance of solid wall insulation for the UK's housing stock and our requirements under CESP and ECO, we also acquired ECL Contracts in 2010 and have since significantly grown the business. This has given us greater ability to manage delivery of our obligations while optimising the benefits to our customers and communities, in the most cost-effective way possible. These activities are helping reduce our Scope 3 emissions.						
Energy efficiency: Building fabric	**Green Deal** British Gas has been an early supporter of the Green Deal, which enables domestic and commercial customers to invest in energy efficiency improvements,	10000	1800000	25000000	4-10 years	11-15 years	In 2013, we undertook 12,000 private-funded Green Deal Assessments in addition to those

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	which qualify under the initiative, for no upfront outlay by spreading the cost through instalments on their energy bills. During 2013, we were heavily involved in the industry roll-out of the Green Deal. We were the first to launch Green Deal cashback in January 2013 and remain a clear leader in support for the initiative. We were also the first to launch the highly complex Green Deal finance offering in April 2013, remaining the clear market leader across most of 2013. The majority of our Green Deal Finance plans have been for 12-year borrowing, although some plans extend to the maximum 25 years. Our average Green Deal customer loan size is £1,300 which is equivalent to initial annual energy bill savings of £100. To date, we have invested £25m in the Green Deal, £10m of which was invested directly in the Green Deal Finance Company, while the remainder was spent on systems development, start-up losses for developing our own Green Deal Provider offering and collection payment systems. Our Green Deal Provider and Investment activities are not mandatory and will help reduce our Scope 3 emissions. For example, energy efficiency investments made through Green Deal in 2013 will save 10,000 tCO2e per year and reduce customers' total energy costs by £1.8m per year.						undertaken through ECO, to determine which energy efficiency measures are applicable for their property. We also remain the leader in Green Deal cash back and have enabled 8,500 customers claim £2.3m to fund their investments. Of this, 350 customers were supported to fund at least part of their investments through a Green Deal loan, helping them leverage £500k of finance.
Energy efficiency: Building services	**Centrica property – energy management** We have continued our programme of reducing the	755	88000	1000000	4-10 years	1-5 years	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	carbon emissions associated with running our offices and depots through energy management services at British Gas and Centrica buildings. This is part of our drive to halve the scope 1 and 2 carbon emissions from our core portfolio by 2015 compared to 2007. During 2013 we reduced our core UK property emissions by 1,572 tonnes in part through methods including enhanced lighting control, further works to implement advanced BEMS (building management system) controls and good housekeeping. These activities represent voluntary initiatives with lifetimes that range between 1 and 5 years.						
Low carbon energy installation	**Centrica property – renewable generation** In 2013, our bid to halve the scope 1 and 2 carbon emissions from our core portfolio by 2015 compared to 2007, continued with our programme of installing renewable generation on selected British Gas and Centrica buildings. During 2013 we reduced our core UK property emissions by 1,572 tonnes. This was achieved partly through an Energy Performance Contract (EPC) with British Gas Business. The EPC is the first of its kind to be used internally in the same way that we use them with external clients, and will run for a number of years. In 2013 the first 'tranche one' sites had significant capital investment made to achieve longer-term savings. Investments were made in technologies such as solar PV arrays, voltage optimisation and switching	817	108000	2500000	4-10 years	10-12 years	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	electric heating for efficient gas systems. Our new British Gas office in Oxford was opened in early 2013, replacing three older, less efficient buildings and also accommodating staff from other sites. The building includes several low/zero carbon schemes (solar PV, solar thermal and biomass boilers) and is performing well against its initial carbon targets, with approximately a third of its energy demand provided by renewable sources. The voluntary infrastructure changes and low-carbon installations will reduce our Scope 1 and 2 emissions and are expected to last 10-20 years.						
Low carbon energy installation	**Lincs offshore wind farm** In 2013 we opened the 270MW Lincs offshore wind farm. Total investment in the Lincs project is approximately £850m (excluding offshore transmission), with Centrica's share being £425m. This has helped reduce our Scope 1 emissions by increasing the renewable component of power generation. Our investment in renewables is not a mandatory requirement.	286992	0	425000000	4-10 years	20 years	No further details
Low carbon energy installation	**Renewable heat and solar products** Our onsite renewable offerings range from microgeneration of low carbon energy for domestic customers to larger projects for community, commercial and industrial use. Proven methods	29433	2766000	9800000	4-10 years	>25 years	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	include solar panels and renewable heating such as heat pumps or biomass boilers. We have invested over £9.8m to significantly expand our ability to offer these solutions by acquiring leading low carbon businesses that will enable us to deliver large-scale deployment and supports our fulfilment of mandatory carbon reduction obligations and renewable heat projects in the UK. For example, we have invested in the following technologies and companies - solar (Solar Technologies, 2008), heat pumps (Cool Planet Technologies, 2010) and biomass heating (Econergy, 100% owned in 2011). **Solar** - In 2013, we completed 490 installations of solar panels at homes, schools and businesses, collectively providing 7.4MWp of generation capacity. This was higher than 2012 (6.2MWp) due to a greater focus on larger scale commercial projects. **Biomass** - We also deployed 127 small and medium scale biomass boiler systems with capacity to generate 23MWth of renewable heat. Most of our 4,200 UK district heating connections contracted in 2013 were biomass, and will have lifetime carbon savings of 267,000 tonnes. **Heat pumps** - We installed 363 heat pumps with a total capacity of 3.5MW, a reduction on the 1,033 installed in 2012. This decrease was due to the business focusing on commercial and district heating in 2013 as well as a significant increase in 2012 as a result of British Gas delivering heat pumps as the						

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	energy delivery partner for the Customer-Led Network Revolution (CLNR). Together, the solar, biomass and heat pump measures installed in 2013 deliver equivalent lifetime carbon savings of 604,390 tonnes, which equates to annual carbon savings of 29,433 tonnes. These activities help reduce our Scope 3 emissions and do not constitute a mandatory obligation.						
Transportation: fleet	**Fleet** As the largest single component of our internal carbon footprint (related to property, fleet and travel), we continue to implement our fleet low-carbon roadmap and its various workstreams. A key element is replacing our commercial vehicles with increasingly efficient or smaller models, where possible, which helps reduce our Scope 1 emissions. This does not involve significant additional investment but is part of our rolling vehicle replacement programme and is a voluntary initiative which operates on a 5 year lifecycle. Our new UK vans have the latest generation Euro 5 emissions standard power plants and where possible we continue to downsize the engine capacity of our fleet. In total, over 2500 commercial vans were exchanged in our UK fleet in 2013, mainly for more efficient versions. Moreover, we are starting to utilise the data from the GPS installed in all our new vans and over 8000 of our existing vans, to calculate actual fuel consumption which further informs our vehicle	250	70000	100000	<1 year	5 year life cycle	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	assessment and selection processes. We achieve more than 40mpg for most of our small vans, and around 28mpg for large vans, even when working in urban areas, demonstrating our commitment to invest in the latest technology that improves fuel efficiency. Another key workstream is electric vans. In 2013 we made good progress trialling electric vans within our British Gas van fleet. We conducted the UK's largest ever electric commercial vehicle evaluation to date, which saw the 28 e-NV200s travel in excess of 60,000 miles between them. The trial was launched to assess how the vans performed in winter conditions during typical British Gas home services daily usage patterns and was such a success that some drivers were reluctant to hand-back their vans. We have now placed an order for 100 of the electric vans for delivery during 2014.Our ambition is to have 1300 electric vans in our fleet by 2017. In North America, we continued to implement measures to improve our efficiency in order to counter any growth in activity. We installed GPS tracking in new vans in our Canadian and US markets, which allows us to limit speed, monitor mileage and idle times, and better manage routing. We have now installed GPS in 1483 vans, up from 283 in 2012. The investment required is part of the on-going fleet replacement programme. Annual monetary savings are estimated.						
Transportation:	**Company cars**	103	150000	100000	<1 year	Continues	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
fleet	Our company car emissions reduction initiatives started in 2007 when we restricted the choice of company cars to those that emit a maximum of 200g CO2/km. We subsequently re-engineered our company car policy to encourage employees to choose cleaner vehicles through raising awareness and using financial incentives. In 2013, we embedded our new company car policy within British Gas that limits the choice of vehicles to a small number of fuel-efficient models, which are targeted to be below the 100g CO2/km emissions rate. In 2013 we placed a further 580 employees into these low-emission cars taking the total to over 600 employees on the new scheme. We also continue to encourage our people to choose electric vehicles (EV) as a company car. In 2013, we installed a further 22 EV charging stations at Centrica buildings, bringing the total to 38, so that employees can charge their EVs free of charge. These initiatives continue to impact our employees' car selection and the average tailpipe emissions across our UK company car fleet have fallen from 166g CO2/km, to a 2013 average of 120g CO2/km. This alone has resulted in savings of over 1,600 tonnes of CO2 in total since 2007 and a financial saving of more than £900,000 in fuel costs (based on 2013 mileage). Overall, these programmes enabled us to cut emissions from our company car travel by 2% in 2013 compared to the previous year. This means we have					indefinitely	

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	now reduced our annual emissions by 9% relative to our baseline year (2007). These are voluntary initiatives which will reduce our scope 1 emissions and are expected to continue indefinitely. We do not run a relevant company car scheme in North America. The investment required to do this is however part of our on-going company car policy review. The annual monetary savings are calculated by estimating the savings on fuel through the car policy changes.						
Behavioral change	**Fuel efficient driving** We have trained drivers in efficient driving techniques, used fiscal incentives to encourage employees to choose less polluting vehicles and provided video-conferencing technology to help reduce our Scope 1 emissions. We have continued to roll-out GPS to the fleet and now, virtually all our UK fleet are equipped with this technology. In 2013, we also installed GPS in an additional 1,200 of our North American vans which helps to calculate the most efficient routes, thereby reducing mileage and fuel used. We anticipate this will reduce carbon emissions by an average of 6% per year. We have also developed a Safe and Fuel Efficient Driving (SAFED) online training module aimed at educating our 13,000 commercial and company car drivers in how to drive in a more environmentally	228	1226000	1570000	<1 year	Continues indefinitely	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	friendly manner. We use a points-based system to profile our commercial vehicle drivers to identify those with low fuel efficiency and provide further training. In 2013, we delivered this targeted driver training that included fuel efficiency training to 37 drivers. In addition, we gave Fleet induction training to almost 1000 commercial vehicle drivers. These are all voluntary initiatives and are expected to continue indefinitely. The annual monetary savings are based on estimated savings on fuel.						
Behavioral change	**Employee behavioural change** Our network of Green Teams co-ordinate activities at sites to highlight key environmental messages to employees. In 2013, messaging was varied and localised - from waste prevention and recycling, reduction in carbon from travel and energy consumption - to locally sourced food. Many of our sites also celebrated World Environment day in June whereby activities included support from suppliers including catering companies, stationery suppliers to waste contractors. At our Centrica head office in Windsor, the theme of the day was saving energy and the objective was to ensure as many people as possible closed down their work stations properly – turning off all desktops, unplugging power packs/chargers and turning screens off. To encourage long-term behavioural change,	20	3000	3000	<1 year	1-3 years	No further details

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative, years	Comment
	electricity and carbon savings were communicated, together with the future potential if those behaviours were maintained.						
Behavioral change	**Travel reduction** We have video-conferencing equipment in all our business units and we have a rolling programme to promote remote working technology such as web-conferencing as an alternative to travel. In 2013 we completed the roll-out of an upgraded web-conferencing platform in the UK. In 2013, we held over 315,000 teleconferences and around 3,750 video-conferences, which contributed to a 1.5% reduction in UK emissions from air travel. We also continue to promote car-sharing software and have developed Green Travel Plans at key sites to reduce business and commuting miles. These voluntary initiatives are helping to reduce our Scope 3 emissions and are re-promoted annually.	100	110000	280000	1-3 years	Annual	No further details

CC3.3c

What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Compliance with regulatory requirements/standards	**Mandatory schemes** We are required to comply with the Renewables Obligation, Energy Company Obligation, the CRC Energy Efficiency Scheme and the EU Emissions Trading System. We have used the platforms provided by the legislation to underpin the strategic shift in our British Gas business towards energy and energy services (not just energy supply) and to reinforce our focus on investing in lower carbon power sources, including nuclear, offshore wind and efficient CCGT.
Other	**Price of carbon** Our investments in low carbon energy are not only driven by regulatory compliance, but also be the wider economics, including the price of carbon. For example, the Renewables Obligation does not require us to invest in wind farms but it helps generate an economic rationale for doing so. The carbon floor price in the UK provides an additional investment signal for low carbon generation to support the EU Emissions Trading Scheme price, which has dropped to very low levels.
Other	**Internal carbon emission reduction targets** We have set and published targets such as our internal carbon footprint target and carbon intensity target for our power generation. By achieving executive support for these commitments, this has helped to unlock investment into low carbon technologies and focus the business on initiatives to meet our goals. For example, we have invested in a number of technologies such as solar, Energy Performance Contracts and advanced building management systems to reduce our UK property emissions by 1,572 tonnes in 2013. We have also been able to lower our carbon intensity through investments made in lower carbon and renewable energy generation, demonstrated by our 270MW Lincs offshore wind farm having become fully operational in 2013. Together, these important reduction activities have enabled us to mitigate environmental impact arising from our scope 1 and 2 emissions.
Other	**Corporate strategy** Our corporate strategy balances maintaining security of supply, providing affordable energy while delivering a low carbon future. Core to our strategy for our downstream business is to enable customers to control their energy use in a simpler, smarter, more efficient way. This means the business model for our retail customers is evolving to provide both energy and low carbon products and services for the smart connected home. Our capital investment takes into account non-financial, social and environmental factors.
Dedicated budget for energy efficiency	**Dedicated budgets for low carbon technologies** British Gas has dedicated budgets for driving investment in low carbon and renewable technologies that will expand our business expertise and capabilities in order to optimise the benefits (scope 3 reduction and bill savings) that we bring to communities in the most cost-effective way. This investment has also significantly increased our ability to fulfil our mandatory

Method	Comment
	obligations under the UK Government's CERT, CESP and ECO schemes. In 2010 British Gas was given a dedicated a budget for the creation of a new insulation business to increase the speed and efficiency of a nationwide insulation roll-out, which now employs around 750 people. Part of this expansion included the acquisition of Hillserve Ltd in 2010, a leading domestic insulation business. We have additionally invested over £9.8m from our microgeneration budget to expand opportunities in this area which has been partly achieved through the acquisition of leading companies such as Solar Technologies in 2008 for solar, Econergy in 2011 for biomass and renewable heat as well as Cool Planet Technologies in 2010 for the deployment of heat pumps. We also have dedicated budgets and programmes to deliver our UK energy efficiency obligations in the most cost effective way in order to minimise the cost per tonne of CO2 saved. This has enabled us to complete our CERT and CESP obligations having delivered lifetime savings that total 102.6 MtCO2. Under our ECO budget for 2013, our commitments totalled around £410m and delivered measures that will save 4.5 MtCO2 over their lifetime. A dedicated budget is also available to support our commitment of the Green Deal in the UK. Since its inauguration in 2013, British Gas has secured a leading position in its roll-out, having invested £25m in order to help our customers make their homes more energy efficient and affordable through Green Deal assessments, cashback and finance loans.
Dedicated budget for low carbon product R&D	**Dedicated budgets for low carbon product R&D** We have created a new business, British Gas Connected Homes, to develop products and services that enable customers to use smart technology to connect their homes with the purpose of helping them better manage their energy. Our new brand, Hive by British Gas, was created in 2013 and has a dedicated budget to revolutionise the way society controls their homes using innovative and simple technology. Its first product, Hive Active Heating, gives customers the ability to control their heating and hot water remotely. This means customers can reduce wasted energy if, for instance, they leave their heating on when they are away from home. Giving customers the power to control their heating remotely as well as providing them with a detailed breakdown of their consumption can therefore promote a more efficient approach to energy management which can reduce consumption, carbon emissions and lower bills. Our personalised smart energy reports for smart meter customers also provide consumers with greater insights into their pattern of consumption by time period and appliance type, which empowers them to make more informed decisions about how they use and can reduce their energy consumption. We also have dedicated businesses and budgets to develop and deploy low carbon products and services. Our microgeneration technology team works with various stakeholders around the world to bring new and innovative low carbon technologies to market in the UK. The team source new products through engagement with business entrepreneurs and manufacturers while ascertaining product effectiveness via field trials and market research. Learning is also shared with Government to create the regulatory framework needed to ensure consumer adoption. Smart metering has its own business within British Gas and is expanding its operations with plans to integrate smart metering across other business areas. Additionally, British Gas New Energy (BGNE) is a significant business in its own right and is

Method	Comment
	working to integrate renewable energy and energy efficiency services. More than 1,000 BGNE employees provide expert advice to home owners that can help them reduce their impact on the environment and contribute to growing our share of the market.
Other	**Investing in low carbon skills** We are investing in the skills of our employees and new recruits to meet the needs of a low carbon economy. In 2013, we invested £17.7m to deliver around 69,000 training days to 12,000 engineers. The majority of training related to servicing and repair but also includes insulation, smart metering and solar. For instance, 329 engineers received over 1,970 training days at our Green Skills Centre in Tredegar, Wales. The Centre gives engineers the skills necessary to make homes more energy efficient and provide valuable advice to empower people to take greater control over their energy consumption. During 2013, more than1,200 people were completing apprenticeships across Centrica, including 358 new apprentices in British Gas who will help maintain our talent pipeline for delivering new and energy efficient measures in the future. In 2013, we also announced the creation of work placements to train young people not in education, employment or training, with green skills through our Transform programme that has been developed in partnership with Accenture and Global Action Plan. As part of the programme, 44 young people have been trained and 23 recruited to work in their local communities on projects that involve the installation of efficiency measures such as insulation and helping households make savings on their energy bills.
Employee engagement	**Engaging employees** We have used training, fiscal incentives, upgraded systems and internal communications to promote greener behaviours. We have trained around 13,000 drivers in efficient driving techniques, used financial incentives to encourage employees to choose less polluting vehicles and provided electric vehicle (EV) charging stations at 38 of our sites to make EV driving more convenient and affordable. We upgraded video-conferencing technology and ran awareness campaigns to promote greener behaviours at our buildings with more than 4,000 employees using video-conferencing during 2013. Our network of Green Teams coordinate activities at local sites and through them we hosted events at many of our sites across the Group to celebrate 2013's World Environment Day, using the opportunity to highlight key environmental messages and encourage sustainable behaviours.

CC3.3d

If you do not have any emissions reduction initiatives, please explain why not

Page: CC4. Communication

CC4.1

Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s)

Publication	Page/Section reference	Attach the document
In mainstream financial reports (complete)	Annual Report and Accounts 2013: Chairman's statement (p4-5), Chief Executive's review (p7-12), International Downstream operating review (p18-26), International Upstream operating review (p26-32),), Corporate Responsibility review (39-42), Principal risks and uncertainties (p42-48) Performance measures (p180-185), Non-financial key performance indicators (p185-151) (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/centar13_annualreport.pdf
In voluntary communications (complete)	2013 CR Performance Review – Chief Executive's introduction (p3-5) and Low carbon (p17-26) section, Non-financial key performance measures (p42-43). (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/CR_Review_2013 FINAL.pdf
In voluntary communications (complete)	2013 Corporate responsibility reporting - download of environment data held in online data centre, which includes a breakdown of our GHG emissions. (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Centrica_Datacentre_Environment.xls
In voluntary communications (complete)	Centrica Views has a series of blogs and CR updates on issues including climate change related issues such as GHG emissions, energy efficiency and low carbon products. Communications are sometimes linked to our core CR reporting in the CR Performance Review or posted online and tweeted. The attachment shows screenshots on these topics which interested stakeholders can comment online to facilitate a debate around these important issues. (NB: this is online)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Blogs and CR update screenprints.pdf

Publication	Page/Section reference	Attach the document
In voluntary communications (complete)	Sam Laidlaw, Centrica Chief Executive, answers questions on how we do business as part of our 2013 CR reporting. (NB: this is online and the transcript is downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/CR video transcript_576 2013.pdf
In voluntary communications (complete)	Speech made by Sam Laidlaw, Chief Executive, on the UK's energy challenge and the need to balance the conflicting needs of the energy trilemma, including decarbonisation, December 2013. (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Sam Laidlaw Spectator Energy Conference -2 Dec 2013.pdf
In voluntary communications (complete)	Interview with Andrew Brem, managing director of commercial and product development at the Connected Homes business of British Gas, in Computer Weekly on the virtues of the Connected Homes in monitoring and controlling energy usage, September 2013. (NB: this is online)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Andrew Brem interview.pdf
In voluntary communications (complete)	Centrica Position Statement on Energy Security, July 2013. (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Energy_Security_31_July_2013.pdf
In voluntary communications (complete)	Centrica Position Statement on Nuclear, March 2013. (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/Nuclear_power.pdf
In voluntary communications (complete)	United Nations Global Compact Principle 8 (page 4). (NB: this is online and downloadable)	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC4.1/UGNC_2013.pdf

Module: Risks and Opportunities

CC5.1

Have you identified any climate change risks that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Risks driven by changes in regulation
Risks driven by changes in physical climate parameters
Risks driven by changes in other climate-related developments

CC5.1a

Please describe your risks driven by changes in regulation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Uncertainty surrounding new regulation	**Energy Market Reform (EMR)** Our company is exposed to significant regulatory risk because we operate in highly regulated markets. As the level of regulation in the energy sector continues to increase, Government and regulatory decisions have an ever greater potential impact on our commercial operations. The UK Government is moving closer to implementation of its EMR programme, which was first proposed in 2010. EMR's key constituent parts are renewables contracts for difference (CfDs), a carbon price floor and the introduction of a	Other: Increased capital cost and/or reduction in investment	Up to 1 year	Direct	About as likely as not	High	Government has set a budget for its main renewable support schemes, which peaks at £7.6bn in 2020/21 (real 2012 prices). Around £3.6bn of this is required to support existing renewable generation, with around £4bn available for new renewable generation. A future adverse change in the amount of budget available for	Internally, an executive level Policy Group meets regularly to discuss and agree Group-wide positions on each key issue. Externally, we continue to engage with Government and regulators to support a stable investment climate. Finally, we engage with our wider stakeholders to build knowledge and trust in our business and	The costs are built into annual operational budgets – this includes staff costs of at least £250k for employees working on EMR and the capacity market.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	capacity market. We expect the first renewables CfD and capacity auctions to take place in 2014. The carbon price floor is already implemented, although the future level of the carbon price support rate was recently adjusted and may be subject to further change. EMR means both renewable and thermal generation investments rely on Government committing to their policy positions to achieve expected returns on capital. The possibility of future adverse changes in Government policy on EMR (e.g. budget cuts for renewable support or capacity payments, other unfavourable rule changes) poses a significant risk to investors in UK power generation. Adverse developments in EMR policy could lead to projects being rendered unviable, "stranded" at their development phase or could have the potential to reduce investment.						renewable support schemes (or particular renewable technologies) could render some projects unviable, and lead to some projects being "stranded" at their development phase.	sector.	
Uncertainty surrounding new regulation	**Uncertainty surrounding new regulation** An appropriate enabling environment for energy efficiency, solar, renewable heating & smart meters is critical to	Other: Return on investment	1 to 3 years	Direct	About as likely as not	Medium	Changes to the GD framework could impact the recovery of our £25m investment to date. As the UK leader on smart meters we	We continue to work closely with Govt and other industry stakeholders to help improve GD and drive its longer-term	Our renewable heat and solar businesses have annual fixed costs of around £8m. We have invested

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	support the growth of our activities in these areas. Consumer uptake for Green Deal (GD) Finance has been much lower than hoped by Govt. This is due in part to the complexity of the scheme and to lending restrictions under the Golden Rule. Most recently, the move of regulation of GD Finance from the OFT to the FCA, has also introduced significant extra compliance complexities & risks. Subsidies for microgeneration technologies could also change. Feed-in tariffs (FITs), used mostly for solar generation, were reduced in 2011 but have now entered a stable period with the UK Govt providing more certainty on future subsidy levels. However there was uncertainty in the first half of 2013 around EU anti-dumping actions on Chinese solar panel imports. While the position has been clarified, it is likely to have an on-going impact as the global market adapts to the changes. The commercial RHI is working effectively for small & medium biomass & is about to be increased (spring 2014) for commercial heat pumps & large scale biomass. The domestic RHI has now been launched (April 2014). With the forthcoming UK elections in 2015, there is a risk that a change in Govt could result in changes to GD, ECO, RHI or FITs that could have a detrimental						have invested hundreds of millions of pounds installing smart meters. Our renewable heat and solar businesses have projected annual combined revenues of £60m-70m in 2014; changes to Govt incentives could impact those revenues. Govt estimates we will spend around £410m per year on ECO, reducing to £300m per year if the proposed changes to ECO rules become law in H2 2014.	popularity. We have also created a risk register and compliance matrices to manage complexity around GD Finance. With the transfer to FCA regulation for GD Finance in April 2014, we have undertaken a detailed self-audit of our processes for FCA compliance, including a temporary pause of our operations. We manage our in-house renewable heat, solar and insulation businesses carefully with a balanced mix of recruitment and subcontracting to ensure that as we grow we have flexibility to respond to any changes in demand. We use a number of delivery channels to mitigate ECO costs including third-party contracts, the Govt brokerage market, contracts with local authorities and	significant resources including staff time worth around £280k per year ensuring that our GD activities are fully compliant for the new FCA regulatory regime. DE has annual staff costs of at least £125k committed to managing smart meter risks and provided around £11k towards a third-party study on smart meter accuracy and timeliness.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	impact on our business. Govt statements on smart meters have reaffirmed support for roll-out as standard by 2020 & their commitment that once installed, other than in exceptional circumstances, smart meters can only be replaced by equivalent or updated models. This provides more confidence for smart meter installation going forward. In the US, smart meters are deployed & owned by regulated utilities & not directly by Direct Energy. This reliance on third parties can cause uncertainties around the timeliness, accuracy & consistency of data which can impact the service we are able to provide to our customers. For instance, delays in data provided to customers on time-of-use (TOU) plans can make it difficult for them to precisely track their usage & savings. Having greater access to near real-time data would provide the ability to offer enhanced products but currently this is dependent on the utility & for the most part, is not a formal requirement.							our own installation business. In the UK, the smart business case is subject to a detailed review in line with our financial planning process and significant scale decisions are subject to internal due diligence processes managed by Finance and the Smart Leadership team and a twice annual review by the Centrica Executive Committee. DE has committed resources to pursue the delivery of timely and accurate interval data to support TOU products, as well as providing financial backing for a third-party study to analyse smart meter data accuracy to be used for advocacy purposes.	
General environmental	**Ineffective planning regime**	Increased capital cost	1 to 3 years	Direct	About as likely as not	Low	Planning is a significant factor in the economics	We are engaging with the UK Government	In 2013, £0.2b was invested in developing

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
regulations, including planning	An ineffective planning regime in the UK can make it difficult to achieve planning consent for the development of new assets, such as wind farms, affecting the ability to deliver on our investment. Formal consultation with local communities is part of the statutory planning application process for infrastructure projects including wind farms and is crucial to gaining consent. Community engagement is essential to demonstrate that we are listening and responding to local concerns. This approach allows us to investigate ways of mitigating the potentially negative impacts our operations may have and to make the most of the benefits.						of major infrastructure projects and inquiries could substantially delay or stop new investments. This can lead to additional construction costs of as much as 10%.	and are supportive of plans to bring forward construction in new energy infrastructure. Formal and informal consultation forms a key part of the planning process. During 2013, we sought views about our proposed Rhiannon offshore wind farm, with our joint venture partner DONG Energy, through five public information days on the island of Anglesey, as well as monthly drop-in sessions.	our offshore wind projects which includes the contributions from our JV partners.
Fuel/energy taxes and regulations	**Energy Company Obligation (ECO)** In the UK there is a risk that we fail to meet our legal obligations under ECO, which requires energy suppliers to improve the insulation of harder-to-treat properties in the domestic sector and to invest resources in reducing heating costs for vulnerable households. In addition to the risk of enforcement action, there is also the reputational damage of not meeting our target as well as the risk that forecasted costs for delivery are exceeded.	Increased operational cost	Up to 1 year	Direct	Likely	Medium-high	Govt estimates we will spend around £410m per year on ECO, reducing to £300m if the proposed changes to ECO rules become law in H2 2014. If we were unable to deliver ECO within the estimated costs there is the risk that this cost will be greater and would increase the bills for our customers, making us	In 2010, we acquired the cavity and loft installer Hillserve and external-wall insulation company ECL Contracts Ltd. This will help us deliver solid wall insulation for ECO and gives us commercial advantages including quality, cost control and a reduced	The Hillserve and ECL Contracts businesses were acquired for £5m and £4m, respectively. We have also invested heavily in training our energy efficiency workforce to undertake the changing requirements under ECO. Overall we anticipate that these investments in our

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	The Government is currently consulting on changes to ECO. We expect the changes to reduce the costs to deliver the obligation from H2 2014. We have already passed on these savings, reducing our gas and electricity prices for residential energy customers by an average of 3.2%; this is equivalent to £41 on average off an annual dual fuel bill. Changes to ECO not in line with our expectations or the costs of enforcement actions could have the effect of increasing bills for our customers and making us less competitive.						less competitive. Failure to comply with ECO requirements could risk enforcement action which can lead to fines of up to 10% of global turnover but are typically much lower figures.	reliance on third party contractors. We have made good progress developing new propositions and systems to deliver ECO and have entered a number of contracts with third parties. We also work closely with the heating and insulation industry and Government to develop capacity, new technologies and best practice to increase cost effectiveness of delivery.	business will increase our overall cost-effectiveness of ECO delivery.
Cap and trade schemes	**EU Emissions Trading Scheme** There is a risk that we fail to meet the requirements of the EU Emissions Trading Scheme (ETS), either through failing to secure proper verification of our emissions, or surrendering insufficient emission allowances to match the verified levels.	Increased operational cost	Up to 1 year	Direct	Unlikely	Medium-high	There are financial penalties associated with non-compliance of the EU ETS - these are triggered if insufficient allowances are retired in any 1 year for compliance purposes. For Centrica's assets we have processes in place to ensure we are always compliant, however, if for any reason we were not compliant, total non-compliance could result	We manage this risk by ensuring a close match between our forecasted levels of emissions under the system and our holding of valid emissions allowances throughout any year. The bulk of our emissions come from our power stations covered by the system: forecast levels of emissions are determined by	Management costs are dependent on the level of activity in any given year. We estimate the employee costs for carbon related management (cap and trade schemes, UK Carbon Price Floor and carbon analysis) to be in the region of £30-40k per year.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							in a fine of up to €250m (£205m).	expected running patterns in turn dependent on plant availability and relative fuel prices. We secure necessary carbon allowances to meet any individual power volume sale at the same time as power is sold, to mitigate any risk on exposure to carbon markets. We also have firm procedures for ensuring relevant actions are undertaken in a timely manner to meet verification and retirement deadlines.	
Carbon taxes	**Carbon pricing** The pricing of CO2 emissions has a direct impact on the economics of our power stations and the cost of electricity that we purchase from other generators. Due to the competitive nature of wholesale power markets, the price of power includes the full opportunity cost of CO2, irrespective of whether the allowances needed to offset emissions were purchased or given out free. We stopped receiving free allowances in April 2013, when the second phase of the EU Emissions	Increased operational cost	Up to 1 year	Direct	More likely than not	Medium	There is no set financial risk that could be calculated around our capacity to borrow or secure insurance as it is highly variable depending on the regulatory uncertainty and the market sentiment at a set time. However, the risk of rising investment costs for renewables projects demonstrates clear	To mitigate the risks around pricing of carbon emissions, we produce our own forecasts of future carbon prices, with strong emphasis on credible high and low scenarios, as well as a 'central' view. We factor the economic costs of carbon into generation dispatch decisions and recover	Management costs are dependent on the level of activity in any given year. We estimate the employee costs for carbon related management (cap and trade schemes, UK Carbon Price Floor and carbon analysis) to be in the region of £30-40k per year.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Trading Scheme (ETS) ended, and we now buy all the allowances for our power stations in the market. The outlook for the cost of carbon is uncertain as it is likely that the EU ETS will have to be reformed. A number of other measures are being considered at an EU and UK level which could affect the price of carbon if enacted including an EU 2030 carbon reduction target. A risk for the future is what the cost of CO2 will be and the impact this has on the relative economics of different forms of generation from renewables to fossil-fuelled to nuclear. Changes to carbon prices can also lead to changes in asset values and our hedged positions. Our capacity to borrow money may change as lenders consider carbon risk in their lending decisions. In addition, the conventional insurance market is not well set up to support the risks inherent in the development of new technologies or in fields at the forefront of engineering, such as the development of offshore wind farms. This can make insurance arrangements for innovations such as renewables projects more challenging.						financial implications with individual projects delivered to date costing several hundred million pounds.	the costs through energy sales arrangements. The exposure of our supply business to carbon prices via electricity prices is recognised and treated as another 'commodity exposure' that needs to be hedged within our commodity risk management procedures.	
Emission reporting obligations	**Canadian and US emission reporting obligations** There is a risk that we may fail to meet our provincial/state and federal regulatory	Other: Increased regulatory reporting burden or	Up to 1 year	Direct	Likely	Low-medium	Canada - In 2013, carbon offset requirements for our Wildcat Hills Gas Plant were 14,054 in offsets	Canada - To help mitigate risks, emission reporting and compliance requirements are met	Canada - Upstream emission reporting obligations are managed by one full time employee with

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	obligations for emissions reporting. Canadian provincial and federal emission reporting programmes for upstream oil and gas assets - Centrica Energy Canada reports Criteria Air Contaminants (CAC's) at the federal level as part of the National Pollutant Release Inventory (NPRI), an emission threshold based programme. No carbon offset credits are required for compliance at the federal level and the key principle of the NPRI is the public's "right to know" what substances are being released into the environment. There are two provincial regulations that relate to CO2e emissions for upstream oil and gas: Specified Gas Emitters Regulation (SGER) and the Specified Gas Reporting Regulation (SGRR). Since acquiring the Wildcat Hills Gas Plant in 2010, Direct Energy/Centrica has been participating in SGER. SGER is an Alberta-based carbon offset programme. Alberta based offset credits are used by large emitters to comply with the GHG emission reduction program. Offset credits are purchased from other sectors that have voluntarily reduced their emissions in Alberta. Reporting regulations for US power plants - In 2013, Direct Energy owned and operated three natural gas-fuelled power plants in the State of Texas. Each plant maintains site operating permits at the	regulatory enforcement action					and 211k CAD (£125k) in compliance costs. Failure to comply may result in a fine of not more than 500k CAD (around £300k) in the case of a corporation.	through a regular review of all applicable government regulations. We actively liaise with local government bodies to potentially forecast regulatory change. A third party verification process has been built into the GHG reduction programme to provide a reasonable level of assurance. Verification is used to test the validity of past data. The independent verifier may provide observations on areas for improvement.	estimated staff costs of around £70k.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	federal and state level. A Continuous Emissions Monitoring System (CEMS) is used to track air emissions at each plant. Data from this system is reported to the state environmental agency; Texas Commission on Environmental Quality (TCEQ). There were no notices of violations and/or enforcement actions reported for the year. Power plants also maintain federal permits as a generator of greenhouse gas emissions. An annual emissions inventory is reported to the federal Environmental Protection Agency quantifying emissions from the plants stationary sources. In January 2014, Direct Energy's power plants were sold, thereby eliminating the environmental impact and associated risks from the DE portfolio.								
Lack of regulation	**Lack of climate regulation** In the United States, the prospect for any federal climate legislation in the near term has largely disappeared. As a result, the US Environmental Protection Agency (EPA) has begun to issue carbon control regulations, sector by sector, using its statutory authority under the Clean Air Act. At the state level, climate change action remains slow and limited to specific states (California, RGGI in North Eastern states). At the industrial level, a market in low carbon products and services could	Other: Insufficient support for developing market in low carbon products and services	Up to 1 year	Direct	Likely	Low-medium	The net financial implications of current federal regulatory policies are unclear as the EPA's carbon control rules are not final.	We have built our Direct Energy business in a way that is not dependent on government incentives to mitigate the risk of a lack of regulation supporting low carbon services. Direct Energy leverages smart meters to provide energy efficiency advice and personalised reporting	On-going costs to develop low carbon and energy efficiency products and services are built into our operational budgets. For instance, it costs an estimated $400k USD (£244k) capital investment to develop Direct Energy's Free Day time-of-use products.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	slowly develop in the next couple of years depending on the EPA's final carbon control rules for existing power plants and other large industrial sources.							on a weekly basis to customers with smart meters in Texas. We also offer multiple time-of-use products to incentivise consumers to shift their usage to off-peak periods such as Saturday and Sunday. We bundle our energy with control based tools, such as the Nest and Meridian Smart Thermostats that enable customers who were not previously programming their schedule to reduce energy use by 10%. Our energy efficiency technologies give control to our customers and are paired with the heating, ventilation, and air conditioning services we offer such as seasonal tune-ups and maintenance that make it easy for our customers to have a more efficient home.	
Renewable	**Reduced forecasting accuracy due to**	Increased	Up to 1	Direct	Likely	Medium	Forecasting inaccuracy	In 2013, we	Over the past year,

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
energy regulation	**embedded renewable generation** UK Government climate change obligations have resulted in incentives for installed embedded generation and led to a significant expansion of decentralised generation. The primary technology is solar panels and by 2014, 1.8GW of capacity had been installed. New technologies are driving changes in customer behaviour, which without mitigation would increase costs related to the reduced accuracy of demand forecasting. Therefore investment in new modelling and data sources is required. Generation volumes are not metered, so rather than seeing the generation, we see lower demand. This 'pollution' of demand has made it more difficult to forecast accurately. Future factors linked to climate change obligations and reduction in demand forecasting accuracy are smarter settlement, time-of-use pricing, and other forms of decentralised microgeneration (wind, CHP, fuel cells).	operational cost	year				is extremely important, with cost of error ranging from £10m-£20m a year. This is expected to rise due to industry changes such as the power Significant Code Review, which will increase incentives for counterparties to balance positions and therefore increase the potential cost of forecasting inaccuracy.	developed a tool to forecast solar generation and the impact on demand. This has enabled us to mitigate around £1m of the risk. However, other technologies such as wind are likely to follow a similar trajectory and we will need to invest similar resources to mitigate these risks.	we have invested around £50k to develop and implement models to accurately forecast the impacts of solar generation.

CC5.1b

Please describe your risks that are driven by change in physical climate parameters

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate drivers	**Severe weather events** The main physical threats to our assets and operations are from the increased intensity and frequency of severe weather events and other changes to weather patterns. We believe that there is a connection between climate change and the intensity of severe weather events such as prolonged and heavy rainfall in the UK and greater intensity of hurricanes in America. If severe weather events continue to increase in frequency and intensity, our business could be at risk from higher insurance premiums. In addition, there are equity and commodity risks if supply of electricity is interrupted. For example, flooding in 2008 disrupted output at our Brigg and Killingholme power stations for a short duration. Coastal flooding is also a risk for our processing facilities at Morecambe and Easington, and for all the nuclear stations in which we have a 20% stake. Our Humber power station is additionally on the coast and we have onshore substations for our offshore wind farms. Output from our wind farms can be adversely affected by low wind and excessive wind speeds, which could increase with higher levels of weather instability. Patterns of high pressure during hot spells, excessively cold periods and still days can substantially reduce wind speeds and therefore output. Periods of extreme wind, where wind	Reduction/ disruption in production capacity	Up to 1 year	Direct	Unlikely	Medium	Weather related risks such as flooding can have a significant financial impact on our power stations. The actual figure would depend on which facility was affected and the condition of the market at the time the power station was switched off. A prolonged shutdown as a result of an event would be a significant financial cost to the business with impact of several million pounds.	Flood risk was an important consideration in the design of the stations, construction of the sea defences and continues to be an actively managed risk. We use the Environment Agency (EA) to identify assets at a higher risk of potential flooding in extreme circumstances and through our meteorology teams and business continuity arrangements. We regularly undertake risk assessments on our gas-fired power stations. During 2013, the Dungeness B nuclear plant was taken offline for two months as a precaution to ensure that its flood defences could protect the station from adverse weather. This was to improve the flood defence resilience and to undertake other	Flood risk costs incorporated into initial build costs and ongoing risk management.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	speeds reach in excess of 25m/s, also affects wind farm output as the machines automatically shut down to protect the equipment and integrity of the turbines. During the December 2013 storms, the grid connection was lost at the Dungeness nuclear power station, of which we own a 20% along with our JV partners and operators EDF, when debris caused a fault in the switch yard.							maintenance. The upgrading of the defences was designed to improve the protection of the station from a one in 1,000-year weather event to one that occurs every 10,000 years.	
Sea level rise	**Rising sea levels** Rising sea levels present a long-term threat to our operations. We have a 20% stake in EDF Energy Nuclear Generation's UK nuclear power stations, which are all located on the coast. Our gas-fired power station at Humber is also near to the coast. Climate change leading to sea-level rise and coastal erosion could impact operations at all these locations. However, some of these assets are approaching the end of their scheduled accounting lives, subject to the potential for life extensions. In 2011 we undertook a detailed assessment of the risks from sea level rise to our gas-fired power stations and concluded that the risk was low during the expected life of the stations and that it is the next generation of gas and power assets that are more likely to be exposed to long-term climate change impacts. Any new assets that we invest in will take account of the physical climate risks which could affect their design	Increased capital cost	>6 years	Direct	Exceptionally unlikely	Low	As it is the next generation of gas and power assets that are more likely to be exposed to the risk of sea level rise, it is not possible to put a value on the financial implications.	We undertook a detailed assessment in 2011, concluding that the risks are low and we will undertake a flood risk assessment when investing in any new assets. The sea defences of the Nuclear power plants, of which we have a 20% stake, have been reviewed following the Fukashima disaster and it was concluded that the defences need to be able to survive a once in 10,000 year event. In 2013, Dungeness B was taken offline to ensure that its flood	No additional cost for action.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	including a flood risk assessment.							defences could protect the station from adverse weather. This was to improve the flood defence resilience and to undertake other maintenance.	
Change in temperature extremes	**Unpredictable and adverse weather conditions** Increasingly unpredictable and adverse weather conditions such as warmer summers may increase pressure on gas supplies while at the same time affecting the efficiency of our power facilities. The efficiency and output of all gas turbines is affected by ambient temperature. As the ambient temperature rises, the efficiency and output of the gas turbine falls. This loss of efficiency is slightly more prevalent in air-cooled condensed plants, of which we have three in service (Peterborough, Barry and Langage). Very low temperatures can also reduce efficiency if we have to deploy anti-icing systems on gas-fired stations.	Other: Reduction in production capacity / Increased operational cost	>6 years	Direct	Exceptionally unlikely	Low	Higher temperatures can reduce both efficiency and output from power stations. An AEP (now Energy UK) paper in 2010 assessed what the impact of a heat wave could be on generation, based on a scenario assuming a uniform air temperature of 32°C across the UK. From the baseline data used in this report, the Centrica CCGT fleet would experience a drop of between 5-10% in maximum output.	We have worked with DECC on sector resilience plans to mitigate and manage the impact of physical risks and with Energy UK in producing its sector response to DEFRA's report on adaptation.	Integrated into annual budgets.
Change in precipitation extremes and droughts	**Flooding risk** Flooding of sites or access routes has been identified as one of the main risks from climate change to our gas-fired	Other: Reduction in production capacity /	>6 years	Direct	Exceptionally unlikely	Low	In the worst cases of flooding sites have to be shut down until flood water has receded. Our 2011	We address flood risk issues as part of our business-as-usual plans for our power stations, including in	Ongoing risk management costs integrated into existing budgets.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	power stations. Heavy or sustained rainfall can lead to high river flow, river and land flooding, tidal surges and coastal flooding. Impacts include reduction in water quality due to suspended solids, site plant and equipment flooding, and flooding of access routes. However over the expected life of the assets, the risk remains low.	Increased operational cost					Climate Change Adaptation Report identified flooding of sites as one of the main risks from climate change to our gas-fired power stations. Over the expected life of the assets, the risk remains low. A worst case risk scenario for water scarcity and drought affecting our power stations may mean an impact of several million pounds.	the aspects and impacts registers. Improvements in our understanding of the risks and dependencies on other stakeholders such as the Environment Agency help us to develop contingency plans.	
Change in precipitation pattern	**Drought risk** Our gas-fired power stations are at risk from drought as they require a reliable source of water for use in their boilers. Additionally, one of our sites (Brigg) requires freshwater for cooling. There is strong evidence that precipitation patterns will change significantly during the 21st century with wetter winters and drier summers. Hazards such as water scarcity and drought driven by precipitation patterns are likely to become more prevalent, posing a risk to power stations which rely on water supplies, especially fresh water, for cooling or boiler water. There is also a risk from tightening regulation and lowering of abstraction	Other: Reduction in production capacity / Increased operational cost	>6 years	Direct	Exceptionally unlikely	Low	A worst case risk scenario for water scarcity and drought affecting our power stations may mean an impact of several million pounds.	All UK power stations have reviewed their water usage and taken action to reduce the consumption of water. For example, at our Brigg power station, water efficiency has improved by fixing underground leaks; at Langage we have created a rainwater harvesting project to reduce freshwater consumption; while at Humber, water usage on blow down has	No additional costs, management actions incorporated within annual operational budgets.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	licence allowances. However, after assessment in 2011 we concluded that the risks from drought or water shortages as a consequence of climate change are low.							been reduced by 40%; and at Killinghome, maximum daily demand for water has declined approximately 20% through closer monitoring of the water treatment plant and taking it out of service based on percentage throughput.	
Other physical climate drivers	**Supporting vulnerable customers** We currently focus our resources for vulnerable customers on supporting them through cold winters in the UK, which could be more severe due to climate change. Our most vulnerable population are registered on an Industry Priority Services Register. This register ensures they will receive priority attention for reconnection or resumed supply in the event of a power outage. Our own internal policies also ensure that vulnerable customers are provided with appropriate products, services and support which enhance their quality of supply. For example, in 2013, we provided 1.8m vulnerable households with free energy efficiency advice, products and enhanced services. These services are available throughout the year, including summer months when the impact to the most vulnerable is less severe. We also invest	Increased operational cost	>6 years	Indirect (Client)	Unknown	Low-medium	We spent over £880m supporting vulnerable customers in the last 3 years.	By improving the energy efficiency of our customers' homes we can help to lower their bills and make them more resilient to colder winters in the future. In 2013, we helped 1.8m vulnerable UK households through free debt and payment assistance; free energy efficiency advice, products and services; energy rebates as well as energy and household grants. The energy efficiency measures we installed as part of the affordable warmth	In 2013, we contributed more than £380m supporting vulnerable customers.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	in our British Gas Energy Trust, an independent charity, which provides vulnerable customers with energy advice and grants.							obligation within ECO will cut heating costs by more than £950m for vulnerable customers. We also have a 5-year partnership with Shelter to help 1m households in the rented sector improve the standard of their homes by 2017.	
Other physical climate drivers	**Maintaining business continuity through snow, ice and extreme weather** Changing patterns of snowfall are a risk to our British Gas business. Extremes of cold weather increase the number of engineer callouts through contracts managed by British Gas Insurance Limited (BGIL) and place additional pressure and safety risks on our workforce. For example, during the sustained period of cold weather in winter 2012/13, British Gas completed record levels of breakdown visits, 11% higher than the winter period of 2011/12. This compares to the winter quarter for 2011 which was the warmest last quarter on record and the number of engineer visits decreased correspondingly. There were few instances of snow during	Increased operational cost	Up to 1 year	Direct	Unlikely	Medium	Weather conditions can affect the number and cost of engineer call-outs and there are financial impacts if our employees are unable to make it to places of work. To give an indication of the potential scale, one office was closed for four days due to a fire in an adjacent building rather than snow or ice. This led to costs of around £150k for the back-up site and other impacts on business operations.	British Gas has a Winter Contingency Plan to prepare for peak periods, where our businesses work together to ensure sufficient resources are available to cope with periods of high customer demand. BGIL manages callout risks by conducting annual or biennial safety and maintenance inspection visits and caps on certain work in high risk areas. We have proactive employee plans to raise awareness of severe weather and encourage preparedness allowing	We have dedicated members of staff managing business continuity including challenges around snow, ice and extreme weather, with associated staff costs of around £80k, Other teams such as Facilities and Security provide additional assistance such as site monitoring.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	the 2013/14 winter period. However, some significant difficulties were experienced with flooding which impacted both customer need and some of our operations. Our British Gas office in Staines was particularly impacted.							employees to work from home, where possible. The majority of our power station sites hire 4x4 vehicles to support employees getting to work during adverse weather. In the 2013/14 winter period, extensive flooding led to pro-active monitoring and risk management for a number of sites with one site being closed for a week, and meant that our business continuity plans were put into operation which included working from home and at alternative sites.	
Change in temperature extremes	**Reduced accuracy of demand forecasting** Physical changes related to climate change could reduce the accuracy with which we are able to forecast demand. Electricity cannot be stored and for each second of every day the National Grid match generation with customer demand. Being able to forecast customer demand accurately is key to making the most	Increased operational cost	Up to 1 year	Direct	Likely	Medium	During an extreme cold spell our peak load could increase by up to 10% (or up to 5% during a heatwave). We estimate that the potential cost of imbalance can exceed £500k per day, dependent upon underlying accuracy	We have engaged with the Met Office to ensure that the seasonal and diurnal changes that can be expected as a result of climate change are reflected in the 'seasonal normal' temperatures used in the long-term demand forecasting process.	The majority of our actions to mitigate the reduced accuracy with which we are able to forecast demand due to climate change are part of business-as-usual risk mitigation, which is estimated to cost

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	efficient decisions. Any mismatch between what our customers use and what we have brought is subject to a cost. If electricity suppliers do not buy enough electricity to meet our customers' needs in advance, an extra cost is incurred based upon the last minute and short balancing actions made by National Grid. Extreme weather can impact customer demand, making it less predictable and variable and thus increasing the mismatch between generation, demand and costs. During 2013 there were two weather events that had a material impact upon costs. March and April brought a spell of severe winter weather with snow and cold temperatures. The most severe wintry period was towards the end of March. For March and April, the cost of additional forecasting error exceeded £600,000. The St Jude Day Storm on 28 October 2013 battered the southern part of the UK and caused widespread disruption. The extent of the impact was difficult to predict and compared with a normal day, the cost of additional forecasting error was over £23,000. These events are expected to become more frequent.						and prevailing market conditions. During 2013 there were two weather events that had a material impact upon costs: Severe winter weather in March and April - £600,000; and the St Jude Day Storm in October - over £23,000.	We take regular advice from our meteorologist on weather impacts and use real time system margin information to optimise our forecast. We also factor in outage reports from network operators in our daily review of our forecast.	in excess of £100k per annum.

CC5.1c

Please describe your risks that are driven by changes in other climate-related developments

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated Financial Implications	Management method	Cost of management
Changing consumer behaviour	**Falling energy consumption** The Group is exposed to the risk of falling energy consumption. The UK Government sees both domestic and commercial energy efficiency as a key part of meeting its carbon targets, whilst energy policy in the US is typically state specific and therefore more fragmented. UK energy consumption has been falling since 2005, driven by improved energy efficiency and changing customer behaviour as a result of greater environmental awareness, reaction to price changes, improved energy tariff switching mechanisms, and the general economic downturn. These factors have significantly reduced the overall demand from British Gas' energy customers. Since 2009, British Gas customers have reduced their underlying energy consumption by 13% for gas and 9% for electricity. The 2013 National Energy Efficiency Data-Framework (NEED) report, which studies underlying nation-wide customer consumption patterns and is commissioned by DECC, shows that installing a new efficient boiler leads to an annual median reduction in gas consumption of nearly 11% whereas cavity wall insulation leads to a saving of nearly 9%.	Reduced demand for goods/services	Up to 1 year	Direct	Likely	Medium-high	Continuing reduction in gas and electricity consumption could have a significant impact on the Group's profits without mitigating actions.	Our shift in focus towards energy services is helping to reduce our reliance on revenue from energy supply only. We are the largest funder of energy efficiency measures in the UK and the only UK energy supplier with our own insulation business. We are leading the national roll-out of smart meters in the UK having already installed around 1.3m smart meters up until the end of 2013, and we have created a Connected Homes business to offer new smart-enabled products and services. British Gas is a keen early proponent of Green Deal, the largest enabler of Green Deal Cash Back, and the first company to launch Green Deal Finance. We have around 400 Energy Experts qualified to conduct Green Deal surveys.	Government estimates we will spend around £410m per year on our ECO obligation; we have invested £25m in GD to date; while the installation and maintenance of smart meters will cost British Gas and other leading energy suppliers an estimated £11.5bn.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated Financial Implications	Management method	Cost of management
	Smart technology will also reduce demand for energy; tracking the use of a control group of smart meter customers showed consumption savings of 2.2% for gas and 1.9% for electricity during 2013. Long-term UK gas demand will ultimately be driven by industry decisions around generation mix, the impact of Government climate change initiatives and economic growth. The decline in consumption in North America is more gradual than seen in the UK and varies across our chosen markets due to lower wholesale gas prices from indigenous shale reserves, weather variations and market factors.								
Other drivers	**Uncertainty over new technologies** The future success of the business will be dependent in part on our continuing to play a leading role in the introduction of new technologies and in implementing the necessary operational and organisational changes to meet the requirements of new markets. Whilst representing new opportunities, these developments also create threats to our future profitability. Uncertainty over new technologies poses a risk to the development of our energy efficiency and other low carbon related products and services which we expect to be key components of our downstream profitability. The lack of volume of installs and performance data evidence for new microgeneration technologies, are significant barriers for their introduction as	Other: Profitability	1 to 3 years	Direct	About as likely as not	Medium	Centrica and other leading energy suppliers will have the responsibility for the installation and maintenance of smart meters, at an estimated cost of £11.5bn. Uncertainties around smart meter technologies and the scale of implementation	We have continued to build our capabilities in smart technologies: Following the 2010 acquisition of a15.96% stake in AlertMe (a provider of home energy management services), in 2012, we acquired a stake in Power Plus Communications (PPC), a German based company that provides technology for smart grid and smart metering applications. We installed around 1.3m smart meters in homes and businesses by the end of 2013. We have switched to SMETS-capable meters at the earliest opportunity and are leading the industry in	Management costs for smart metering are built into annual operation budgets with an additional capital investment of €4.5m for a stake in PCC and the £10.8m stake in AlertMe.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated Financial Implications	Management method	Cost of management
	there is no formal process with Government to add new innovation to schemes such as RHI, FIT and Green Deal. For smart meters there is the risk of installed smart meters being stranded due to new technology and technical issues around signal coverage which may need to be resolved. The scale of implementation of new technologies also presents risks. The UK Government has set a target to install smart meters as standard by 2020 which is the most substantial roll-out of new domestic energy infrastructure for many years. So there is substantial risk inherent in the required investment in our systems, people and technology in order to fulfil this target. In the US, there is the risk that regulators could favour one smart meter technology over another, which could constrain the technology available to create new smart enabled products and services. The US market is already very fragmented with each state having its own energy rules and policies.						present risks to the business, but also offer opportunities such as new smart-enabled products and service offerings.	their deployment.	
Other drivers	**Low carbon skills shortage** In the future, there is a risk that we may lack the necessary skills among our employee base to take maximum advantage of a low carbon economy and	Reduction/disruption in production capacity	1 to 3 years	Direct	Likely	Medium-high	There is a risk of lost income if demand outstrips supply and a risk of	To mitigate these risks we have invested in our own insulation business in the UK with around 750 people and a dedicated training facility for our insulation installers	We invested £17.7m in engineering training in 2013.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated Financial Implications	Management method	Cost of management
	keep up with demand for new technologies, including offshore wind, energy efficiency products and the UK smart grid. Lacking the necessary future skills among our employee base would impact our ability to grow our energy services business.						enforcement action if we are unable to fulfil our ECO commitments, which can lead to fines of up to 10% of global turnover but typically much lower figures designed to compensate for consumer detriment.	and assessors. We have a diversified approach to managing our significant ECO target which includes accessing energy efficiency measures from our own installer base, local authority schemes, the Government brokerage market and third party contracts. We are training engineers in low carbon skills and new technologies and have delivered around 69,000 training days to 12,000 engineers. We maintain the skills of our workforce through a Green Skills Centre in Tredegar, Wales, which provided 1,970 training days to more than 500 people in 2013. We also invest heavily in apprenticeships and currently employ 1,200 across the UK.	
Changing consumer behaviour	**Brand and reputational damage** Maintaining a positive reputation for the Group is of vital importance to growing our business, preventing the loss of customers to competitors, protecting profitability and limiting regulatory intervention. As a leading provider of low carbon	Reduced demand for goods/services	Up to 1 year	Direct	Unlikely	High	Brand and reputational damage can arise through perceptions that energy companies are not proactively supporting or managing	We are differentiating ourselves as an energy services provider and improving our customer service delivery. In 2013 we delivered 236K energy efficiency measures. We are working in other ways to earn trust through	We have invested significant amounts to improve customer billing, management systems and frontline customer service

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated Financial Implications	Management method	Cost of management
	products and services, we are reliant on customer trust in our low carbon credentials and capabilities. A lack of trust could lead to reduced market share and profitability as well as restricting our ability to develop energy services offerings in response to declining energy demand. In addition, we could suffer significant reputational damage if our upstream portfolio is not regarded as environmentally responsible, impacting our ability to influence Government policy and undermining our 'licence to operate'. Maintaining our leadership response to pressing social and environmental challenges also helps to maintain our position as a major contributor to policy debates in the markets in which we operate. Failure to maintain our reputation with key stakeholders could lead to more direct intervention by Government or the regulator which could impact the Group's business activities.						climate change issues - however it is difficult to quantify brand risk. A lack of trust could impact our reputation as a leading provider of low carbon products and reduce our share in a range of markets, such as those for renewable heat and solar where we have businesses with projected annual combined revenues of £60m-70m in 2014.	transparency and support for vulnerable customers. For instance, British Gas simplified its tariffs in 2013 and we were the first supplier in the UK to proactively contact our residential customers with a personalised Tariff Check to show whether they could save money by moving to a different British Gas tariff. We brought in over 300 additional customer service advisors in 2013 to improve customer service and supported 1.8m vulnerable customers through initiatives such as the Warm Home Discount. We continue to deploy reputational improvement programmes and have been working with a specialist reputation monitoring and analysis organisation to analyse media sources to help us better monitor corporate reputation and its drivers.	training (specific costs are commercially confidential). In 2013, we contributed more than £380m supporting vulnerable customers.

CC5.1d

Please explain why you do not consider your company to be exposed to risks driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1e

Please explain why you do not consider your company to be exposed to risks driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC5.1f

Please explain why you do not consider your company to be exposed to risks driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

Page: CC6. Climate Change Opportunities

CC6.1

Have you identified any climate change opportunities that have the potential to generate a substantive change in your business operations, revenue or expenditure? Tick all that apply

Opportunities driven by changes in regulation
Opportunities driven by changes in other climate-related developments

CC6.1a

Please describe your opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other regulatory drivers	**Electricity Market Reform (EMR)** The UK Government is moving closer to implementation of its EMR programme, which was first proposed in 2010. EMR's key constituent parts are renewables contracts for difference (CfDs), a c arbon price floor and the introduction of a capacity market. We expect the first renewables CfDs and capacity auctions to take place in 2014. The carbon price floor is already implemented, although the future level of the carbon price support rate was recently adjusted and may be subject to further change. Whilst EMR carries political and regulatory risk, it could also enable billions of pounds of investments in new renewable generation (through the CfD) and thermal generation (through the capacity market) if Government remains committed to its policy positions. Provided final EMR design details are sufficiently bankable and workable, Centrica and others can bring forward new investment opportunities, in both renewable and thermal generation, that will aid the UK transition to low carbon, secure and affordable electricity supplies.	Investment opportunities	1 to 3 years	Direct	Likely	High	Government has set a budget for its main renewable support schemes, which peaks at £7.6bn in 2020/21 (real 2012 prices). Around £3.6bn is being utilised, with a further £4bn available to support new renewable generation projects. Government intends that around 100TWh, which is equivalent to 30% of UK electricity, will be generated from renewables by 2020.	We are deploying leading capabilities across the wind value chain. Our recently constructed 270MW Lincs offshore wind farm is now fully operational. We continue to develop potential future offshore wind projects in the East Irish Sea, where up to 4.2GW of offshore wind capacity could potentially be deployed.	Centrica's total investment in the now operational 270MW Lincs wind farm was approximately £425m out of a total £850m for the generation assets.
Other regulatory	**Developing capabilities through Government schemes**	Increased demand for	Up to 1 year	Direct	Likely	High	Industry forecasts for the Green Deal market	ECO will require us to deliver lifetime carbon	The Hillserve and ECL

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
drivers	Government energy efficiency schemes provide opportunities to develop new capabilities, products and services. The CERT and CESP schemes, which concluded at the end of 2012, enabled British Gas to build capacity at scale on energy efficiency, installing measures with lifetime carbon savings of around 100m tonnes. In early 2013, the Energy Company Obligation (ECO) was introduced which requires energy suppliers to improve the insulation of harder to treat properties in the domestic sector and to invest resources in reducing heating costs for vulnerable households. Many of the ECO activities will focus on fitting solid wall insulation and hard-to-treat cavity wall insulation. The scale of our market share (one third) allows us to invest in training and new technologies to take advantage of the current exciting growth opportunities in energy efficiency, microgeneration and efficient heating systems. The insulation products and services required to be installed under ECO complement British Gas energy efficiency and heating services. By using our in-house delivery to provide customers with cavity, solid wall and loft insulation and new efficient boilers, we can provide our customers with attractive, subsidised offers while delivering our mandated ECO commitment in the most cost effective way. British Gas has been a keen early	existing products/services					were originally forecast to be £200m per year, but to date volumes have been much lower – less than £10m. Both the ECO and Green Deal schemes have provided the opportunity to tap into new markets, leverage the energy efficiency capacity, skills and services we have built through CERT and CESP, and align with our strategy to be a leading energy services provider.	savings of 21.1mt by 2017. British Gas have in place a dedicate team to manage delivery of the target. We are the only major energy supplier to invest in our own insulation business, which now employs around 750 people. Our management team is focussed on delivering ECO at the most cost effective rate for our customers and using the scheme to maximise the benefits for British Gas customers. We continue to be a keen supporter of the Green Deal and in 2013, led the market in both Green Deal Cashback and Green Deal Finance. As well as our operational activities, we have consistently engaged with Government and industry partners to help push the Green Deal initiative forwards, and drive the much higher	Contracts insulation businesses were acquired for £5m and £4m respectively, in addition to the Econergy renewable heat business, with significant further sums added to expand and grow our capabilities in these sectors. We have invested £25m to date in the Green Deal, including our investment directly into the Green Deal Finance Company.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	proponent of Green Deal, holding the largest share of Green Deal Cash Back claims to date, and being the first company to launch Green Deal Finance in April 2013.							volumes that are required for the success of the scheme.	
Other regulatory drivers	**Support for new technologies** Legislation has been put in place in the UK to provide financial support for microgeneration, which has created opportunities for our business. The feed-in-tariff (FIT), which provides a payment for generating electricity through decentralised technologies under 5MWp and an additional payment for exporting electricity back to the grid, has helped to create a market in solar installation. A similar subsidy scheme is in place for larger scale solar developments over 5MWp; Government support in this case is currently via the Renewable Obligation (RO) mechanism. The Renewable Heat Incentive (RHI) supports renewable heat technologies, such as biomass heating, for the non-domestic market and was extended to domestic renewable heat installations in April 2014. ECO is a strong driver for renewable heat projects, giving capital support to projects combining insulation and community heating. In its heat strategy, published in April 2013, the UK Government envisages getting around 90% of heat from non-fossil fuel sources by 2050, which could potentially transform the market for renewable heat.	New products/business services	Up to 1 year	Direct	Likely	High	Smart meters present opportunities to enhance the customer experience and increase retention. Satisfaction levels for smart meter customers are around 40% higher than those with a standard meter. In the US the smart meter enabled product 'Free Saturday' has reduced customer attrition by 30%. Regulations such as FIT, RHI and ECO are likely to continue to drive opportunities for solar and renewable heating and the commercial market for both could be worth £4-5bn by 2020.	A prime opportunity exists to engage customers in EE advice during smart meter installations; British Gas has led the industry on smart meters, having fitted around 1.3m in UK homes and businesses by the end of 2013. We have acquired stakes in AlertMe and PPC, and created a new business, Connected Homes, to further develop smart enabled products and services. In North America, using smart meters we have created time-of-use products like 'Free Saturday' and 'Pick Your Free Day' which enable customers to save money and reduce demand on the grid at peak times. Smart	We have invested in smart metering through stakes in PCC (€4.5m) & AlertMe (£10.8m). Since 2008 we have invested almost £10m in acquiring solar, biomass & heat pump businesses. Our fixed costs for managing and delivering our renewable heat and solar businesses are approximately £8m per annum.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Smart meters provide potential significant commercial opportunities. They can enable the creation of new propositions and tariffs, increase customer satisfaction and opportunities for engagement on other energy efficiency services. In April 2013 the UK Government provided a revised timescale to roll-out smart meters as standard by 2020 – a likely total of 53m households. In North America, the introduction of smart meters in Texas and Pennsylvania has enabled Direct Energy to provide customers with prepayment and time-of-use plans. Prepayment plans help customers to proactively manage their energy consumption and enable 11% reductions in electricity usage on average per customer. Time-of-use plans cut the overall demand on the grid at peak times and therefore reduce the need to turn on additional fossil fuel power plants to meet peak demand. Direct Energy has also partnered with Honeywell and Nest to bundle energy plans with smart thermostats that provide customers with the ability to control and learn about their energy usage. The Institute for Electrical Efficiency estimates that 65m smart meters will be deployed in the US by 2015 (more than half of US homes), opening up new customers to smart enabled products and services.							thermostats offered as part of bundled products can educate customers on their energy usage. We have continued to develop our solar and low carbon heat businesses following previous acquisitions in solar (Solar Technologies, 2008), heat pumps (Cool Planet, 2010) and biomass (Econergy 100% owned, 2011). In 2013, we installed solar panels collectively providing 7.4MW of power at peak capacity, heat pumps (3.5MW total capacity) and small and medium scale biomass boilers systems (23MWth). Requirements in FITs and ECO for minimum standards in energy efficiency and insulation have created strong synergies between our energy efficiency, solar & low carbon heating solutions.	Direct Energy has invested an estimated $400k USD (£244k) to develop our Free Day time-of-use products.

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
								Our microgeneration technology team is investigating new technologies such as gas-fired and hybrid heat pumps, their commercial viability and engaging with Government about the incentives to bring them to market such as their inclusion in the RHI.	

CC6.1b

Please describe the opportunities that are driven by changes in physical climate parameters

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management

CC6.1c

Please describe the opportunities that are driven by changes in other climate-related developments

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behaviour	**Consumer behaviour change on energy saving** While Government regulation is a primary driver for the market for low carbon products and services, changing consumer behaviour is also an increasing factor. Concern about rising energy costs in the UK has focused further attention on reducing and managing energy consumption. Recent weather events across the US have increased public belief in climate change and raised awareness for consumers and businesses around their energy use and environmental footprint. We are capitalising on changing consumer behaviour towards energy saving by investing heavily in our chosen downstream markets. In the UK, the Green Deal and ECO will continue to increase awareness about energy reduction and provide a platform to continue to grow our energy efficiency and microgeneration businesses. The roll-out of smart meters in the UK is providing opportunities to	Increased demand for existing products/services	1 to 3 years	Direct	More likely than not	Medium	Government estimates we will spend around £410m per year on ECO while central heating installations revenue, which involves fitting energy efficient boilers for customers in the UK, reached £276m in 2013. Our leading position in smart metering is helping us enhance our customers' experience and increase retention. In the US our technology partner Opower has estimated consumer-driven behavioural energy efficiency programmes can save US consumers $2.2bn	British Gas installs around 100k high efficiency domestic boilers each year, which can reduce heating bills by up to 30%. We are the only major energy supplier to invest in our own insulation business and we are a keen early proponent of the Green Deal (GD), including being the first company to launch GD Finance. By the end of 2013 we had installed around 1.3m smart meters in the UK through our own in-house metering operations business and have created our new Connected Homes business to capitalise on new opportunities in smart-enabled technology. In the US, we developed new time-	We have invested £25m in GD to date and made capital investments of €4.5m for a stake in PCC and £10.8m for a stake in AlertMe to build our smart metering business. Direct Energy has agreed to fund up to $50m USD (£29.7m) as part of the Solar City deal and has already invested an estimated $400k USD (£244k) to develop our Free Day time-of-use products.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	deliver a range of new smart-enabled propositions which themselves are influencing our customers' behaviour. British Gas customers with smart meters have already reduced their energy bills by an average of 2.2% on gas consumption and 1.9% for electricity during 2013. We expect this figure to rise as we further develop our personalised Smart Energy Reports, which provide smart meter customers with insights into their patterns of consumption by time period and appliance type. New markets for low carbon products are also developing in the US and Canada. We have partnered with Honeywell and Nest to create new product offerings by combining energy supply with smart thermostats that provide our customers with the ability to control and learn about their energy usage. We also continue to expand the range of smart-enabled time-of-use products which are improving customer retention, while also reducing demand on the grid during periods of peak energy consumption. We are capitalising on demand for solar power through our partnership with SolarCity which enables us to provide solar						annually.	of-use products such as our 'Free Day' plans and green energy products, such as our 'New Leaf Energy', which is Green-e certified and backed by Renewable Energy Certificates (RECs) from our Texas wind farm power purchase agreements. In Texas, through our software partner, Opower, we have deployed our thermostat solution at scale and a new smart thermostat rate plan is available to all 700,000 of Direct Energy's residential customers in the state. In 2013, we installed our first commercial project for business customer BJ's Wholesale Club through our partnership with SolarCity. This included more than 1,600 solar panels that provide approximately 400 KW of generation capacity.	

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	electricity directly to commercial and industrial customers. In New York City, approximately 500-700 buildings per year are converting from oil to natural gas – we are partnering with these businesses to facilitate the conversion in conjunction with a commodity product offering. From 2011-2013 DE completed 36 contracts for 68 buildings and in 2014, our goal is 40 contracts for approximately 100 buildings.								
Reputation	**Differentiating our business through low carbon products and services** Our commitment to energy efficiency, microgeneration and smart metering gives us a significant opportunity to differentiate our businesses and to tap into growing markets for low carbon products and services. These include solar and renewable heat as well as energy efficiency measures driven through ECO and the Green Deal. Customers who have received energy efficiency and other low carbon products from us are often more likely to have a positive perception of the business and increased levels of satisfaction – for instance, smart meter	Increased demand for existing products/services	1 to 3 years	Direct	About as likely as not	Low-medium	The commercial market for renewable heat and solar could be worth £4-5bn by 2020. The UK Government estimates we will spend around £410m per year on ECO. Industry forecasts for the accompanying Green Deal (GD) market are very uncertain; to date less than £10m has been lent, but forecasts remain for around £200m per year, if various design constraints can be eliminated.	We are the only major energy supplier to invest in our own insulation business, employing around 750 people. We have continued to develop our solar and low carbon heat businesses and in 2013, we installed: Solar panels in 490 buildings, collectively providing 7.4MW of power at peak capacity; 363 heat pumps with a total capacity of 3.5MW; and 127 small and medium scale biomass boilers systems that have the capacity to	We bought the insulation business, Hillserve, for £5m and the solid wall insulation business ECL Contracts for £4m in 2010. Since 2008 we have invested almost £10m in acquiring solar, biomass and heat pump businesses. Our fixed costs for managing and delivering our renewable heat and solar businesses are approximately £8m per annum.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	customers in the UK score 40% higher in customer satisfaction (measured by Net Promoter Scores) than standard customers. In addition to improving our reputation through direct contact with customers, by leading on low carbon products and services we can also build our wider reputation as a company that is taking action on climate change and is at the forefront of the digital revolution of the energy industry.							generate a total of 23MWth. Our involvement as one of four lead partners in CLNR puts us at the forefront of learning around microgeneration, EVs and smart grid technologies. Our investments in AlertMe and PCC are also helping us take a leading position in the Connected Home market.	
Reputation	**Developing our reputation as a low carbon service provider** Having a positive reputation on the low carbon agenda gives us the necessary credibility to influence policy-making, to help inform best practice approaches and can differentiate us from our competitors. British Gas is committed to delivering on its obligations to help consumers reduce carbon emissions. In 2013, we installed more than 236k energy efficiency measures in the UK as part of our government requirements including ECO.	New products/business services	1 to 3 years	Direct	More likely than not	Medium	The potential market for community based schemes is significant, with annual spending on ECO set to be £410m per year.	By maintaining control of ECO delivery through our in-house businesses such as ECL and Econergy we have been able to develop award-winning regeneration schemes in collaboration with our social housing clients. These schemes bring together refurbishment programmes, insulation and renewable heating solutions to transform the living conditions of social housing tenants in some of the UK's	Our ECO commitments for 2013 totalled around £420m, some of which will be delivered in 2014. Since launching in 2012, Direct Energy's 'Reduce Your Use for Good' grants programme has awarded 115 grants totalling $288k (£175k), including $170k (£104k) in 2013.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	In addition, British Gas is the first supplier to go early in its smart meter roll-out, having already installed around1.3m in homes and businesses by the end of 2013, helping consumers have more control over their energy use. We are also committed to supporting innovation across the Industry, including the Low Carbon Network Fund (LCNF). As part of this, we partnered with Northern Powergrid, Durham Energy Institute and other partners in the Customer Led Network Revolution (CLNR), which trialled different combinations of technology, pricing structures and rewards to find the most effective way to reduce overall demand on the grid. £27m was invested in the project by the LCNF. Key partners contributed in different ways; for British Gas this was the supply of smart meters, low carbon technology (such as Air Source Heat Pumps) and costumer relationship/recruitment expertise. One aspect of the trial provided by British Gas was a time-of-use tariff, which provided customers with a financial incentive to shift their electricity demand away from network peaks. Another project we are about to embark upon is the Vulnerable							most deprived areas. In 2013, we began to deliver our commitments under ECO, installing measures that will save 4.5mt of CO2 emissions over their lifetime and cut heating costs by more than £950m for vulnerable customers. Participating in industry led funds and pilots will also help to strengthen the case for a move to low carbon technologies and metering. For instance, the latest CLNR trial offered more than 600 customers the potential for cheaper energy bills by shifting their energy-intensive household activities to times when demand on the grid is lower. Early results from the time-of-use trial have been very positive, with participating customers using ~3% less energy overall and demand for energy cut by 10% at peak times,	

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Customers and Energy Efficiency pilot in Tower Hamlets, aimed at fuel poor and vulnerable consumers. The first year will focus on maximising the benefits of smart meters with such customers. The second year will look at how they can benefit from a time-of-use tariff. In North America, our Reduce Your Use for Good programme helps non-profits reduce their energy consumption and be more energy efficient by awarding $2.5k (£1.5k) grants. Supporting our local community organisations raises our credibility at a local level, increasing the likelihood of being viewed as having a positive impact on the communities in which we operate.							reducing the burden on the power grid.	
Other drivers	**Attracting and retaining skills and talent** Skills development is key to building a successful low carbon energy business. By pursuing a leadership position in low carbon products and services and smart metering, we have been able to attract, recruit and retain highly skilled employees which has enabled us to increase our business activities and improve our credibility in the marketplace.	Other: Increased productivity	Up to 1 year	Direct	More likely than not	Medium	Our energy efficiency expertise allows us to capitalise on low carbon opportunities. One such opportunity is the Green Deal (GD) - industry forecasts for the accompanying GD market are very uncertain; to date less than £10m has	In 2013 we delivered around 69,000 training days to 12,000 engineers and there were more than 1,200 people completing apprenticeships across Centrica. We have also trained 400 Energy Experts to conduct GD surveys or installations. We have grown our insulation business to around	We invested £17.5m in training in 2012.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	The low carbon skills of our people are a key differentiator for us against our competitors. Our expertise in the installation of energy efficiency and microgeneration measures, along with our 12,000 engineers, enables us to capitalise on new opportunities related to downstream carbon reduction by new regulation or consumer behaviour change.						been lent, but forecasts remain for around £200m per year, if various design constraints can be eliminated. The commercial markets for renewable heat and solar are other such opportunities and could be worth £4-5bn by 2020.	750 people and our New Energy business now has more than 1000 employees.	

CC6.1d

Please explain why you do not consider your company to be exposed to opportunities driven by changes in regulation that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC6.1e

Please explain why you do not consider your company to be exposed to opportunities driven by physical climate parameters that have the potential to generate a substantive change in your business operations, revenue or expenditure

The opportunities provided by the physical changes related to climate change are not ones that we would consider significant at present.

Opportunities in this category are either not relevant to the company or not considered substantive. This is mainly because they are uncertain and low in our prioritisation compared to other opportunities considering our asset life and business planning timeframes. However, we have identified the following low-level opportunities associated with the physical impacts of climate change.

Possible opportunities reviewed

- By managing climate risk and weather risk effectively, we will be better positioned than our competitors, which provide us with commercial opportunities. Our capabilities in energy efficiency and smart energy put us in a strong position against our competitors to capitalise on the customer need for new energy management solutions. This opportunity to differentiate ourselves through the resilience of our downstream capabilities is a key message for our investor audience.

- Long-term changes to weather patterns will create challenges for our customers. While the possibility of milder winters will lead to a reduction in energy demand for heating, warmer summers will create increased demand for cooling during the day and night. This could lead to significant changes in patterns of demand. Our primary opportunity is to play a major role in helping our millions of customers adapt to the effects of climate change. This includes helping them to manage their changing demand patterns through energy management products such as the time-of-use tariffs and smart thermostats.

- The UK Government has stated its commitment to ensuring that society is adapting to the effects of climate change and identified its role as a coordinator in providing an environment conducive to adaptation. This could provide us with opportunities to expand our whole-house approach and to position ourselves as the preferred supplier able to meet new requirements in a holistic manner.

- We cannot be specific about other opportunities available to us until the physical impacts of climate change and Government responses become more certain. However, we anticipate that the infrastructure required to adapt to the unavoidable consequences of climate change, in both public and private sectors, will create further opportunities.

CC6.1f

Please explain why you do not consider your company to be exposed to opportunities driven by changes in other climate-related developments that have the potential to generate a substantive change in your business operations, revenue or expenditure

CC7.1

Please provide your base year and base year emissions (Scopes 1 and 2)

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
Tue 01 Jan 2008 - Wed 31 Dec 2008	10781982	113098

CC7.2

Please give the name of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

Please select the published methodologies that you use
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Other

CC7.2a

If you have selected "Other" in CC7.2 please provide details of the standard, protocol or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions

The other categories selected refer to the Defra Guidance on How to Measure and Report your GHG Emissions; IPIECA Petroleum Industry Guidelines for Reporting GHG Emissions; EU ETS and GRI Sustainability Reporting Guidelines.

We subscribe to best practice in environmental accounting and disclosure and apply the WRI and WBCSD Greenhouse Gas Protocol Initiative and GRI Sustainability Reporting Guidelines in our approach. In 2010 we produced a group procedure for environmental reporting, which sets out Centrica's reporting methodology based on the external publications in 7.2. We have calculated that over 95% of our activity data is directly measured, either by ourselves through methods such as continuous emissions monitoring or by third party service providers which record our consumption of their products and services. Where this is not possible we have calculated our performance using appropriate reference factors.

The data is submitted through an online data collection system. The submitters are personnel within the business units who are identified as having the best access to accurate data for specific indicators. The submitters are the 'owners' of the data but it is collated and quality assessed centrally at Group level. Where possible we use independently verified data such as EU ETS emissions and in 2013 we had our Scope 1 and 2 emissions publicly assured to ISAE 3000 prior to inclusion in our CR report.

CC7.3

Please give the source for the global warming potentials you have used

Gas	Reference
Other: Nitrous oxide	IPCC Second Assessment Report (SAR - 100 year)
Other: Methane	IPCC Second Assessment Report (SAR - 100 year)
Other: Carbon dioxide	IPCC Second Assessment Report (SAR - 100 year)
Other: Sulphur Hexafluoride	IPCC Second Assessment Report (SAR - 100 year)
Other: HCFC-22	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

Please give the emissions factors you have applied and their origin; alternatively, please attach an Excel spreadsheet with this data at the bottom of this page

Fuel/Material/Energy	Emission Factor	Unit	Reference

Further Information

Refer attached for all Emission Factors.

Attachments

https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/InvestorCDP2014/CC7.EmissionsMethodology/CDP emission factors.xlsx

Page: CC8. Emissions Data - (1 Jan 2013 - 31 Dec 2013)

CC8.1

Please select the boundary you are using for your Scope 1 and 2 greenhouse gas inventory

Equity share

CC8.2

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e

7031658

CC8.3

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e

114753

CC8.4

Are there are any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

CC8.4a

Please provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of Scope 2 emissions excluded from this source	Explain why the source is excluded
Fugitive and venting emissions from non-operated offshore assets. These emissions will include small quantities of natural gas that mainly consists of methane.	Emissions are not relevant	No emissions from this source	We do not currently collect fugitive and venting emissions from our UK offshore assets (gas and oil platforms) where we have equity but are not the operator. This is a practical approach that reflects the difficulty in obtaining this data and the materiality of the data. We estimate the excluded emissions are 0.1% of Centrica's Scope 1 emissions.
Acquisitions in our North American business.	Emissions excluded due to a recent acquisition	Emissions excluded due to a recent acquisition	Centrica acquired Suncor and Hess Energy Marketing assets in H2 2013; the emissions will be relevant, however as per our environmental reporting procedure, acquisitions are only included in the Group reporting after a full half year of reporting is available. This gives the acquisitions time to bed down and develop their environmental reporting requirements.

CC8.5

Please estimate the level of uncertainty of the total gross global Scope 1 and 2 emissions figures that you have supplied and specify the sources of uncertainty in your data gathering, handling and calculations

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
Less than or equal to 2%	Data Gaps Assumptions Data Management	Vehicle fuel use is mainly calculated based on submissions of mileage data and not actual volume used; Vehicle size and fuel type data is not always available; Some private mileage is captured along with business mileage from company fuel card users; Fugitive gas from pipes and equipment can only be calculated and not directly measured; In some cases, building gas consumption where it is a shared building or the actual consumption data is not available, the consumption is estimated based on personnel number, floor space or historical data; Where EU ETS emission data is unavailable for a non-operated offshore asset, the emissions are based on EU ETS allowance of a similar platform or its emissions where there is no ETS allowance.	More than 2% but less than or equal to 5%	Data Gaps Assumptions	Shared buildings sometimes have their electricity calculated based on proportion of building occupied; Some electricity for buildings has been estimated based on full-time equivalent employee occupancy. On a few sites, where current data has not been available, historical consumption has been used.

CC8.6

Please indicate the verification/assurance status that applies to your reported Scope 1 emissions

Third party verification or assurance complete

CC8.6a

Please provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Killingholme EUETS 2013.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	3
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Barry EUETS 2013.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Langage EUETS 2013.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	17
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Peterborough EUETS 2013.pdf	Page 17 & 21	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Brigg EUETS 2013.pdf	Page 16 & 20	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Humber EUETS 2013.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	16
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/assurance_statement.pdf	Page1-2	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/basis_of_reporting.pdf	Page 12-25, Total carbon emissions	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Carbon Standard Certification Letter - Centrica plc.pdf	Page 1-4	Verification as part of Carbon Trust standard certification	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Wildcat Hills_Statement of Certification 2013.pdf	Page 1	ISO14064-3	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Wildcat Hills_Statement of Verification 2013.pdf	Page 1	ISO14064-3	1

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/J6-A.pdf	All	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Morecambe EIS ETS.pdf	Page 2-7	European Union Emissions Trading System (EU ETS)	2
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Barrow Gas Terminals ETS verification 2013.pdf	Page 26	European Union Emissions Trading System (EU ETS)	5
Reasonable assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.6a/Sevan Hummingbird FPSO 250314.pdf	All	European Union Emissions Trading System (EU ETS)	1

CC8.6b

Please provide further details of the regulatory regime to which you are complying that specifies the use of Continuous Emissions Monitoring Systems (CEMS)

Regulation	% of emissions covered by the system	Compliance period	Evidence of submission

CC8.7

Please indicate the verification/assurance status that applies to your reported Scope 2 emissions

Third party verification or assurance complete

CC8.7a

Please provide further details of the verification/assurance undertaken for your Scope 2 emissions, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of Scope 2 emissions verified (%)
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.7a/assurance_statement.pdf	Page1-2	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.7a/basis_of_reporting.pdf	Page 12-25, Total carbon emissions	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC8.7a/Carbon Standard Certification Letter - Centrica plc.pdf	Page 1-4	Verification as part of Carbon Trust standard certification	13

CC8.8

Please identify if any data points other than emissions figures have been verified as part of the third party verification work undertaken

Additional data points verified	Comment
Year on year emissions intensity figure	The power generation carbon intensity includes a target to achieve 260gCO2/KWh by 2020. Progress against this target is included as part of the assurance.
Progress against emission reduction target	The Internal Carbon Footprint is a target to reduce the specified emissions by 20% by 2015 based on a 2007 baseline. Progress against this target is included in the third party assurance.

CC8.9

Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

Yes

CC8.9a

Please provide the emissions from biologically sequestered carbon relevant to your organization in metric tonnes CO2

2297

Further Information

8.6a: To ensure accuracy of our submission, a decimal place response has been provided for items listed that total below a 1% proportion of reported Scope 1 emissions verified: Barry and Brigg – 0.1%. Peterborough – 0.3% and Carbon Trust Standard Certification – 0.5%.

Deloitte undertook public assurance of our total Scope 1 and 2 GHG emissions, internal carbon footprint target and power generation carbon intensity for 2013. The Carbon Trust Standard Certification is valid for a period of 24 months from 01/01/2014 until 31/12/2015.

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

CC9.1

Do you have Scope 1 emissions sources in more than one country?

Yes

CC9.1a

Please break down your total gross global Scope 1 emissions by country/region

Country/Region	Scope 1 metric tonnes CO2e
United Kingdom	3793334
North America	2737228
Rest of world	501096

CC9.2

Please indicate which other Scope 1 emissions breakdowns you are able to provide (tick all that apply)

By activity

CC9.2a

Please break down your total gross global Scope 1 emissions by business division

Business division	Scope 1 emissions (metric tonnes CO2e)

CC9.2b

Please break down your total gross global Scope 1 emissions by facility

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude

CC9.2c

Please break down your total gross global Scope 1 emissions by GHG type

GHG type	Scope 1 emissions (metric tonnes CO2e)

CC9.2d

Please break down your total gross global Scope 1 emissions by activity

Activity	Scope 1 emissions (metric tonnes CO2e)
Power generation	4939251
Gas & oil production	2001929
Vehicle fuel use	83643

Activity	Scope 1 emissions (metric tonnes CO2e)
Office Fuel Use	6834

CC9.2e

Please break down your total gross global Scope 1 emissions by legal structure

Legal structure	Scope 1 emissions (metric tonnes CO2e)

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2013 - 31 Dec 2013)

CC10.1

Do you have Scope 2 emissions sources in more than one country?

Yes

CC10.1a

Please break down your total gross global Scope 2 emissions and energy consumption by country/region

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for CC8.3 (MWh)
United Kingdom	84587	185384	91284

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for CC8.3 (MWh)
North America	29911	93046	0
Rest of world	256	1056	0

CC10.2

Please indicate which other Scope 2 emissions breakdowns you are able to provide (tick all that apply)

By activity

CC10.2a

Please break down your total gross global Scope 2 emissions by business division

Business division	Scope 2 emissions (metric tonnes CO2e)

CC10.2b

Please break down your total gross global Scope 2 emissions by facility

Facility	Scope 2 emissions (metric tonnes CO2e)

CC10.2c

Please break down your total gross global Scope 2 emissions by activity

Activity	Scope 2 emissions (metric tonnes CO2e)
Office electricity	26619
Operational imported electricity	88135

CC10.2d

Please break down your total gross global Scope 2 emissions by legal structure

Legal structure	Scope 2 emissions (metric tonnes CO2e)

Page: CC11. Energy

CC11.1

What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

CC11.2

Please state how much fuel, electricity, heat, steam, and cooling in MWh your organization has purchased and consumed during the reporting year

Energy type	MWh
Fuel	32524960
Electricity	279486
Heat	0
Steam	0
Cooling	0

CC11.3

Please complete the table by breaking down the total "Fuel" figure entered above by fuel type

Fuels	MWh
Natural gas	31941738
Diesel/Gas oil	433680
Residual fuel oil	216
Biodiesels	930
Motor gasoline	147888
Other: Biomass	507

CC11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor in the Scope 2 figure reported in CC8.3

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0	100% renewable electricity: Even though we purchased 91,284 MWh of 100% renewable electricity in 2013, we have taken the conservative approach of applying the grid emission factor to it.

Further Information

For questions 11.1: As an energy company, interpreting this question presents challenges. Under one definition, virtually all operational spend may be deemed to have been spent on energy as that is the purpose of our business. However, to provide comparisons with other companies and industries, we have interpreted this as energy used in the running of our business. The figure provided is an approximate figure based on the electricity and heating used at our offices, imported electricity used at our power stations and petrol costs for our fleet. We have used an average price across our operations. We have not included the costs of natural gas used to generate electricity or the costs of electricity purchased from third party providers for supply to our customers. These are specific to our business as an energy company and involve commercially sensitive contracts. The amount of natural gas used and electricity purchased is published by us but not the costs.

Page: CC12. Emissions Performance

CC12.1

How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to the previous year?

Increased

CC12.1a

Please identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	4.28	Decrease	- Our 2020 carbon intensity target of 260gCO2/KWh for our power generation will be largely achieved through our investment in low carbon nuclear and wind power generation. In 2013, our nuclear and wind generation both increased compared to 2012. This equates to an equivalent of a 138,114t reduction in our absolute emissions compared to 2012 (1.93% decrease), had this power been generated by our gas fleet. - At our Morecambe Bay gas terminal two emission reduction initiatives were implemented in 2013. First, was a focus on reducing the volume of gas requiring flaring resulting in 13,261tCO2e being saved. The second initiative was to reduce the volume of fugitive Freon R22 lost to atmosphere resulting in 4,507tCO2e emissions being avoided compared to 2012. In total these two initiatives have resulted in 17,768t saved (0.25%). - The emissions from our buildings and vehicle fleet have reduced as part of our on-going carbon reduction programme to fulfil our target of reducing our internal carbon footprint by 20% by 2015, based on a 2007 baseline. The in-scope emissions reduced by 0.01%. - Our UK customer energy and carbon reduction initiatives have reduced our customers' demand for our gas production and power generation, which in turn reduces our Scope 1 and 2 emissions. We have calculated that for a given customer base, the initiatives have reduced our gas production emissions by 8,969t (0.13%) and our power generation emissions by 113,689t (1.59%). - In Texas, we have introduced prepayment plans to our customers enabling them to proactively manage their energy consumption. Studies show that on average prepayment customers reduce their electricity usage by 11%. This puts less demand on our Texan power stations, which in turn reduces our Scope 1 emissions. For a given customer base, the new prepaid accounts in 2013 reduced our Scope 1 emissions by 7,761t (0.11%). - Our EnergySmart product assists UK customers to reduce their energy consumption including in 2013 by providing a monitor to continually display their usage. For a given customer base, the estimated savings from customers who received a monitor in 2013 equates to an 18,830t reduction in our Scope 1 emissions from power generation (0.26%). - The combined percentage change in 2013 relating to emission reduction activities is a 4.28% decrease in our Scope 1 and 2 emissions.
Divestment	0	No change	N/A

Reason	Emissions value (percentage)	Direction of change	Comment
Acquisitions	0	No change	N/A
Mergers	0	No change	N/A
Change in output	4.53	Increase	- Gas and oil exploration and production emissions increased slightly in 2013. The associated emissions are dependent on the volume and source of the exploration and production, with 2013 production volumes increasing compared with 2012. The increase in emissions that can be attributed to change in output equate to 198,501 tonnes CO2e (2.78%). - Market forces in 2013 meant that our UK gas fuelled power stations were able to run more than they had in 2012. However the North American power stations ran less. The emissions that can be attributed to market forces in the power generation business are calculated as a 125,283 tonne increase (1.75% of total carbon emissions). - The combined percentage change in output equates to a 4.53% increase.
Change in methodology	0	No change	N/A
Change in boundary	0	No change	N/A
Change in physical operating conditions	0	No change	N/A
Unidentified	0.00	Increase	In addition to the above, the downstream parts of the business increased by 94 tonnes (0.001%). These cannot be attributed to anything specific, though parts of the business have continued to expand.
Other	0	No change	N/A

CC12.2

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per unit currency total revenue

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.000268955	metric tonnes CO2e	unit total revenue	19.7	Decrease	The 2013 financial intensity figure is 0.000269. This is a 9.7% reduction on 2012's intensity and is a result of our Scope 1 and 2 emissions rising marginally (0.25%) while our revenue increased by 11%. The reduction in emissions intensity by revenue is partly driven by our strategy of moving to a lower carbon mix of fuels for power generation (including gas, wind and nuclear) alongside our increased investment in activities with a lower carbon intensity such as gas exploration and production relative to power generation overall. Together this has enabled the continued decoupling of revenue and carbon emissions.

CC12.3

Please describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tonnes CO2e per full time equivalent (FTE) employee

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
193	metric tonnes CO2e	FTE employee	4.8	Increase	The carbon/FTE intensity value has increased by 4.8% to 193tC02e/FTE. This can mainly attributed to a reduction in the FTE (4.3%) while the carbon emissions have remained relatively stable (0.25% increase).

CC12.4

Please provide an additional intensity (normalized) metric that is appropriate to your business operations

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.20	metric tonnes CO2e	Other: MWh	0	No change	Centrica has set a 2020 target of 0.260 tC02/MWh (260gCO2/KWh) for power generation from our global assets, based on equity share. In 2013, our power generation carbon intensity was 0.200 tC02/MWh (200gCO2/KWh); no change from 2012. While this is lower than the 2020 target, our intensity may rise in the coming years should market conditions improve making it economic for our gas power stations to generate more power. The market remains uncertain however, and we continue to keep our 2020 target under review.

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

Please complete the following table for each of the emission trading schemes in which you participate

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
European Union ETS	Tue 01 Jan 2013 - Tue 31 Dec 2013	779450	2629769	3409219	Facilities we own and operate
Other: Alberta Greenhouse Gas Reduction Program	Tue 01 Jan 2013 - Tue 31 Dec 2013	0	14054	95882	Facilities we own and operate

CC13.1b

What is your strategy for complying with the schemes in which you participate or anticipate participating?

European Union ETS

The cost of carbon has become an important factor in all investment decisions taken by Centrica in the power and gas markets. We actively use all available methods to manage our exposure to the risk of rising carbon costs through abatement and emissions trading. Centrica has been actively trading in the EU Emissions Trading market for almost ten years and has also been active in the international carbon credit market. We aim to meet the cost of our CO2 emissions in the most economic manner for our customers and shareholders. Centrica believes that flexibility is important to help installations manage their carbon exposure. We are constantly looking to manage our carbon position using both abatement and carbon credits. Using the trading markets enables us to effectively manage cost exposures arising with regards to carbon pricing through the EU ETS. We also have in place robust procedures to ensure verification of our emissions and subsequent surrender of sufficient emissions allowances is carried out in line with the scheme requirements.

Alberta Greenhouse Gas Reduction Program

We have been active in the Alberta Greenhouse Gas Reduction Program since acquiring the Wildcat Hills Gas Plant in 2010. Emission reporting and compliance requirements are met through a regular review of all applicable government regulations. Professional consulting services are also employed to make recommendations for future events or procedures such as the design of an information or control system. A third party verification process has been built into the GHG reduction programme to provide assurance. Verification is also used to test the validity of past data and the independent verifier may provide observations on areas for improvement. Allowances are surrendered in line with the scheme requirements for our verified emissions.

CC13.2

Has your organization originated any project-based carbon credits or purchased any within the reporting period?

No

CC13.2a

Please provide details on the project-based carbon credits originated or purchased by your organization in the reporting period

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance

Further Information

13.1a, European Union ETS: For completeness, the allowances, purchases and verified emissions under the EU ETS for Centrica Storage Limited (CSL) have been included in the response in 13.1a in addition to those from our power generation and gas and oil exploration and production businesses. CSL allowances, purchases and verified emissions were not included in the response for 13.1a in the 2013 Centrica CDP Climate Change submission.
13.1a, Alberta Greenhouse Gas Reduction Program: Due to facility turn around (planned maintenance) the Wildcat Hills facility was shut down for approximately a month in 2013, dropping emissions below 100,000 tCO2e. Allowances required for compliance are based on emission intensity. We were unable to reduce our emission intensity by 12% therefore 14,054 offsets (allowances) were required for compliance.

Page: CC14. Scope 3 Emissions

CC14.1

Please account for your organization's Scope 3 emissions, disclosing and explaining any exclusions

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using primary data	Explanation
Purchased goods and services	Relevant, calculated	25084	Emission data provided from our offshored activities (S. Africa and India) and from our outsourced data centres. The emissions relate to building electricity and fuel use. Country specific emission factors are used (DEFRA sourced) to calculate the carbon associated with electricity use. Fuel use is calculated using DEFRA emission factors relevant to the fuel type.	31.00%	Offshored and outsourced emissions are the most relevant as they are a component of the outsourcing criteria. The size of the emissions is a small component of the total (0.02%). There will be additional purchased goods and services in this category which we do not currently capture.
Capital goods	Not relevant, calculated	319876	Calculated using the emissions relating to the raw materials used in the Capital Goods. The total wind farm emissions are pro-rated to reflect the two year development, with only one third of the activity occurring in 2013.	80.00%	The Lincs wind farm turbines commenced installation in 2012 and was completed at the end of 2013. We have calculated the capital goods emissions associated with this wind farm based on life cycle analysis of the wind farm components. There will have been other capital projects that were also installed in 2013 that we do not have emission data for. However the Lincs wind farm emissions indicate that capital goods emissions at 0.28% of our Scope 3 emissions are small in magnitude, with limited ability for us to influence.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	60654900	This relates to power purchased for resale to customers, but excludes traded power. The activity data is power sold (MWh). The associated carbon is based on site specific emissions where we have site specific contracts and 1yr Grid Rolling Averages for electricity purchased off the open market in the UK. In North America the carbon emissions are calculated using regional emission factors. The	99.00%	Centrica does not generate all the power that our customers require and hence we purchase power from third parties and resell it to our customers. This is one of our main sources (53.25%) of Scope 3 emissions and therefore very relevant to the company. This includes transmission and distribution losses associated with the power we purchase for resale. While Centrica does generate power, we do not

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using primary data	Explanation
			fuel use of the LNG tankers delivering LNG to the UK is also included in this category. It is calculated based on calculated daily fuel use multiplied by number of days at sea multiplied by DEFRA emission factor of the fuel used (fuel oil or natural gas).		capture the emission associated with the extraction and production of the fuels used for the generation of the power in our Scope 3 emissions, as we are an integrated company, meaning we extract and process fuel gas. Hence in the main these emissions are included in our Scope 1 and 2 emissions.
Upstream transportation and distribution	Not relevant, calculated	31493	These emissions are a combination of upstream transportation sources. Data from key logistics suppliers is provided by the service provider. We also collect data from our offshore support providers, including from supply and safety ships and helicopter transportation of personnel. The emissions are calculated by multiplying the fuel use activity data by DEFRA Emission factors.	100.00%	These emissions currently equate to <1% of our Scope 3 emissions and therefore are not relevant in terms of magnitude. Our influence over them is limited and they are not deemed an area that exposes us to risk.
Waste generated in operations	Not relevant, explanation provided	4718	We have estimated the associated emissions using DEFRA emission factors.	0.00%	While the company does generate waste, the carbon emissions associated with it are not considered relevant from a materiality perspective, relative to other scope 3 emissions.
Business travel	Relevant, calculated	12879	The business travel includes business flights and rail use, as well as employees using their own vehicles for business purposes (grey fleet). The flights and rail are calculated based on journey distance provided by our travel provider multiplied by DEFRA emission factors. Grey fleet emissions are based on expense claims, using a generic emission factor for car mileage.	100.00%	While this is only a small component of our Scope 3 emissions (0.01%), it is an area that we can influence and our associated emissions reductions activities are reflective of our commitment to reduce our own emissions. It's for this reason, that business travel is part of our internal carbon footprint target.
Employee commuting	Relevant, calculated	109809	Based on 2012 employee commuting surveys from 3 of our UK offices, extrapolated to all UK office employees.	0.00%	This is an immaterial (0.1%) component of our Scope 3 emissions, but is an area we can and do influence. There is a small business risk associated with it in the form of local councils requiring plans at some UK sites to reduce

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using primary data	Explanation
					employee car numbers.
Upstream leased assets	Not relevant, explanation provided		NA		Our reporting approach includes upstream leased assets in our Scope 1 and 2 emissions. Therefore not relevant.
Downstream transportation and distribution	Not relevant, explanation provided		NA		Investments (outside of our Scope 1 and 2 emissions) are not a material for Centrica. This category is designed for investment companies such as banks and financial services.
Processing of sold products	Not relevant, explanation provided		NA		As Centrica's primary products are electricity and gas that are used as end products, the emissions from the processing of sold intermediate products is not relevant to us.
Use of sold products	Relevant, calculated	52755493	These emissions are calculated based on the quantity of gas sold to residential and business customers (energy units) multiplied by the emission factor for natural gas.	100.00%	This is a relevant component of our scope 3 emissions in respect to its size (46.3% of our scope 3) and is relevant to the sector.
End of life treatment of sold products	Not relevant, explanation provided		NA		We sell negligible volumes of product relative to the quantity of gas, electricity and services we supply, therefore not relevant.
Downstream leased assets	Not relevant, calculated	1831	Calculated through multiplying the floor area of our leased assets by energy consumption conversion factors. These are based on typical consumption volumes for the type of facility. The estimated energy consumption is then multiplied by DEFRA emission factors.	80.00%	Centrica only leases a small number of properties (10). The emissions from all bar one (a larger property) are estimated based on typical consumption values. The emissions are immaterial, do not expose us to risk and hence are not relevant.
Franchises	Relevant, calculated	4113	The emissions have been based on the number of Dyno Franchisee vehicles and approximate number and size of franchisee buildings. These are then converted into energy use, (diesel and electricity respectively), using typical consumption values. The energy consumption is then converted into carbon emissions using DEFRA emission factors.	0.00%	Centrica operates the Dyno Franchise in the UK. While we do not currently track franchisee carbon emissions, we have estimated their emissions based on the franchisee vehicle and building numbers. The emissions are very small relative to the total scope 3 emissions. However, as a Franchisor it is an area that stakeholders might expect Centrica to have

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using primary data	Explanation
					some influence over. Contrary to the past approach, in 2013 no franchises were run in-house. This is reflected in the slight increase in emissions.
Investments	Not relevant, explanation provided		N/A		Centrica is not a financial organisation.
Other (upstream)					
Other (downstream)					

CC14.2

Please indicate the verification/assurance status that applies to your reported Scope 3 emissions

Third party verification or assurance complete

CC14.2a

Please provide further details of the verification/assurance undertaken, and attach the relevant statements

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of Scope 3 emissions verified (%)
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC14.2a/assurance_statement.pdf	Page 1-2	ISAE3000	1
Limited assurance	https://www.cdp.net/sites/2014/42/3042/Investor CDP 2014/Shared Documents/Attachments/CC14.2a/basis_of_reporting.pdf	Page 26-34, Internal carbon footprint (property, fleet and travel): Business travel component	ISAE3000	1

CC14.3

Are you able to compare your Scope 3 emissions for the reporting year with those for the previous year for any sources?

Yes

CC14.3a

Please identify the reasons for any change in your Scope 3 emissions and for each of them specify how your emissions compare to the previous year

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output	2.66	Decrease	The off-shored services have reduced their energy consumption.
Capital goods	Change in output	43.65	Decrease	Represents the estimated emissions associated with the capital goods for the completion of the Lincs wind farm. In 2013, there was approximately half the activity that there was in 2012 linked to capital goods for the completion of the Lincs wind farm.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	21.2	Increase	There was an increase in North American power purchased for resale; with less power generated and more customers, additional power had to be purchased. The UK also increased the power it purchased for resale.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	0.38	Decrease	Fuel and energy related activities - While emissions from our customers' use of our power purchased for resale increased overall, the customer energy reduction activities we implemented meant they did not increase as much.
Other (upstream)	Change in output	20.25	Decrease	Transport - In 2013, there was a decrease in shipping activity supporting our offshore interests, including wells, platforms and wind farms. These ships are used for support, transfer of goods and surveys.
Waste generated in operations	Other: First year of measuring			First year that the waste emissions have been estimated.
Business travel	Other: Organisational Restructure	8	Increase	UK business air travel continues to increase for operational reasons.
Downstream leased assets	Change in methodology	293	Increase	One large asset had been omitted from 2012 calculations but has been included in 2013 values.
Franchises	Other: Change in business model	29	Increase	A change in business model means all franchisees are now external, with none managed in-house as previously had been the case. This in turn has increased the franchisees' asset numbers e.g. vehicles.
Use of sold products	Change in output	18.14	Increase	Increased volumes of gas have been sold to our customers.
Use of sold products	Emissions reduction activities	0.45	Decrease	While the overall volumes of gas we have sold to customers has increased, the low carbon products and services we have provided to them such as installing insulation and new efficient boilers have reduced the potential

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
				increase.

CC14.4

Do you engage with any of the elements of your value chain on GHG emissions and climate change strategies? (Tick all that apply)

Yes, our suppliers
Yes, our customers

CC14.4a

Please give details of methods of engagement, your strategy for prioritizing engagements and measures of success

We collaborate with our business partners to better manage environmental, social and economic impacts and opportunities, including GHG emissions, as well as supporting our customers to reduce their emissions.

i Strategy for Prioritisation

Our strategy for supplier engagement is based on the potential supply chain risks and opportunities (R&O). Therefore while we undertake generic supply chain management strategies, we mainly focus on the suppliers who can have the greatest influence on our R&O:
1. For all suppliers, we set a minimum expectation through our supplier contracts with them
2. Potentially high risk suppliers are assessed to identify their actual Corporate Responsibility (CR) risk
3. Key suppliers are invited to take a collaborative approach to share best practice
4. Key product value chains are analysed to identify their R&O
5. For our customers, we offer solutions to reduce their carbon emissions and raise awareness

ii Methods of Engagement

1. Engagement with suppliers starts with us being clear that we expect them to uphold our business principles, which include a commitment to protecting the environment. To extend these principles through our supply chain, we include CR clauses in supplier contracts and if underperformance is identified we work with

business partners through a mutually agreed remediation plan. Our supplier management programme enables us to monitor performance in our supply chains through regular meetings with business partners.
2. We have a supply chain risk management process that includes a supplier self-assessment tool. This requires higher risk suppliers (based on sector, country and spend) to report on a range of issues, including their carbon risks and carbon management approach. This enables us to understand the R&O associated with them, including carbon related risks. Where a supplier is deemed to have scored inadequately we work with them to develop an improvement plan.
3. We work collaboratively with our key suppliers to understand and manage our supplier carbon chains. This includes our Responsible Procurement supplier forums that we hold annually to share best practice on a range of sustainability focus areas.
4. We have developed a methodology for calculating the whole value chain carbon emissions associated with our core products of gas and power. We have applied this approach to analyse the full carbon emissions associated with our latest wind farm development. Through understanding the emissions associated with the construction, operation and maintenance of the wind farm, we can identify the carbon 'hotspots' and work with the relevant suppliers on opportunities to reduce them.
5. By supporting customers to lower their energy consumption we can reduce the biggest source of carbon emissions related to our business, while saving our customer's money. We do this by making their homes more energy efficient by installing low carbon products such as insulation, solar panels and renewable heating. We also provide tools and technology so they can better understand and manage their energy use including smart meters, time-of-use plans and personalised smart energy reports.

iii Measuring Success

Success in our supply chain is measured in the following ways: Ensuring that all our suppliers agree to and understand the CR clauses in their supplier contracts; effectively identifying potential high risk suppliers and managing their actual risk; and seeing progressive improvement in our supplier's understanding and management of carbon, measured through periodic assessment. For example, during 2013, over 70 strategic suppliers completed a self-assessment questionnaire. Of those assessed, one supplier was deemed high risk and just over a quarter received a medium risk rating. As a result they are developing and implementing corrective action plans.

Success for our customers is them being able to be smarter with their energy consumption and reducing their carbon footprint. This can be measured through monitoring installation of low carbon products and services, calculating theoretical customer carbon savings and actual energy and carbon saving studies. Increased customer awareness of how they can reduce and control their energy usage is also a sign of success that can be demonstrated through customer surveys. We installed energy efficiency measures in the UK in 2013 which together will achieve total lifetime carbon savings of 8.3mt CO2 emissions, as part of our Government obligations. We are leading the rollout of smart meters, having installed nearly 1.3m in UK homes and business by the end of 2013. We also conducted a survey of British Gas smart meter customers which showed that 9 out of 10 now take simple steps to reduce energy use in the home.

CC14.4b

To give a sense of scale of this engagement, please give the number of suppliers with whom you are engaging and the proportion of your total spend that they represent

Number of suppliers	% of total spend	Comment
74	15%	We engage with our suppliers through our supply chain risk management process that includes a supplier self-assessment tool. This is based on a risk profile approach using criteria around country, sector and spend rather than focusing purely on our spend profile. Where a supplier is deemed to have inadequate performance we work with them to develop an improvement plan. We also engage with our suppliers during all contract negotiations by including corporate responsibility clauses in supplier contracts and working closely with them to embed these clauses from the outset. This is mandatory for all new suppliers or for those renewing an existing contract.

CC14.4c

If you have data on your suppliers' GHG emissions and climate change strategies, please explain how you make use of that data

How you make use of the data	Please give details
Use in supplier scorecards	Our risk based supplier self-assessment tool helps us to understand and manage the risks associated with individual suppliers including providing information about their carbon emission strategies, policies and procedures. Where there is unacceptable risk, we can work with our suppliers to reduce that risk.
Identifying GHG sources to prioritize for reduction actions	We have commenced carbon value chain analysis of some of our core products to understand all the emissions associated with them. This enables us to identify carbon hotpots where we can work with suppliers on emission reduction opportunities.
Stimulating innovation of new products	By requesting supplier carbon emissions and details of their progress against their targets, we are highlighting to our suppliers that the issue is, and continues to be, important to us as their customers. This customer demand can stimulate innovation and increased awareness of environmental criteria in products and services.

CC14.4d

Please explain why you do not engage with any elements of your value chain on GHG emissions and climate change strategies, and any plans you have to develop an engagement strategy in the future

Further Information

14.2a: Further decimal places have been provided below for 'Proportion of Scope 3 emissions verified (%)' to ensure accuracy of our response:
2013 Deloitte assurance statement - Proportion of reported Scope 3 emissions verified (%) is 0.01
2013 Basis of reporting - Proportion of reported Scope 3 emissions verified (%) is 0.01

Module: Sign Off

Page: CC15. Sign Off

CC15.1

Please provide the following information for the person that has signed off (approved) your CDP climate change response

Name	Job title	Corresponding job category
James Rushen	Group Head of Environment	Other: Other, Group Head of Environment

Module: Electric utilities

Page: EU0. Reference Dates

EU0.1

Reference dates

Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2018 if possible).

Year ending	Date range
2013	Tue 01 Jan 2013 - Tue 31 Dec 2013
2012	Sun 01 Jan 2012 - Mon 31 Dec 2012
2018	Mon 01 Jan 2018 - Mon 31 Dec 2018

Further Information

Please note that 2018 figures are indicative only and represent publicly known developments. All other figures are assumed to stay the same as 2013 and do not recognise other future changes in the generation portfolio.

Page: EU1. Global Totals by Year

EU1.1

In each column, please give a total figure for all the countries for which you will be providing data for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2013	7001	24825	4961630	0.20
2012	7731	24671	4928451	0.20
2018	6135	21413	5717031	0.27

Further Information

The 2013 capacity has changed as a result of the sale of Braes of Doune wind farm and the completion of Lincs wind farm. The 2012 values have been updated to reflect the final verified emissions. The 2018 values are an extrapolation of the assets held at the end of 2013. However, the actual output of the gas power stations may vary dependent on the market forces in the reporting year. The 2018 capacity and production have also been updated to incorporate the Whitegate CCGT following our acquisition of Bord Gais in 2014.

Page: EU2. Individual Country Profiles - Canada

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1i

Other

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1l

Total figures for this country
Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

Further Information

It is not applicable for Centrica to complete the Canada section.

Page: EU2. Individual Country Profiles - Ireland

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	0	0	0	0
2012	0	0	0	0
2018	440	2030	755401	0.372

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1i

Other

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	0	0	0	0
2012	0	0	0	0
2018	440	2030	755401	0.372

EU2.1l

Total figures for this country
Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	0	0	0	0
2012	0	0	0	0
2018	440	2030	755401	0.372

Page: EU2. Individual Country Profiles - United Kingdom

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

CCGT
Nuclear
Other renewables

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	3515	6311	2561227	0.41
2012	4344	5806	2412272	0.42
2018	3515	6311	2561227	0.41

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2013	1890	12035
2012	1890	11915
2018	1890	12035

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)
2013	290	753
2012	191	533
2018	290	1036

EU2.1i

Other

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	5405	18346	2567054	0.14
2012	6234	17721	2418041	0.14
2018	5405	18346	2567054	0.14

EU2.1l

Total figures for this country
Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	5695	19099	2567054	0.13
2012	6425	18254	2418041	0.13
2018	5695	19383	2567054	0.13

Further Information

2018 figures are indicative only. EU2.1d: A small component of this power is generated through open cycle generation, however all our UK power stations are CCGT design, and hence they have all been included in the above values. EU2.1e: The values assume no change in 2018 nuclear output from 2013. Please note there is a small quantity of carbon emissions as a result of nuclear power generation, but no opportunity to include in the table. The 2013 carbon emissions from nuclear were 5,827 tonnes. EU2.1h: The 2013 renewables nameplate capacity reflects our 50% equity share in the following wind farms: Lincs, Glens of Foudland, Barrow, Lynn and Inner Dowsing. Previously we reported the full capacity of those wind farms and not on an equity basis. EU2.1k: The table includes the minor carbon emissions resulting from the nuclear generation, as well as the CCGT generation.

Page: EU2. Individual Country Profiles - United States of America

EU2.1

Please select the energy sources/fuels that you use to generate electricity in this country

CCGT

EU2.1a

Coal - hard

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1b

Lignite

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1c

Oil & gas (excluding CCGT)

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1d

CCGT

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	1306	5726	2394576	0.42
2012	1306	6417	2510410	0.39
2018	0	0	0	0

EU2.1e

Nuclear

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1f

Waste

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1g

Hydro

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1h

Other renewables

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1i

Other

Please complete the following table for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1j

Solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)

EU2.1k

Total thermal including solid biomass

Please complete for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	1306	5726	2394576	0.42
2012	1306	6417	2510410	0.39
2018	0	0	0	0

EU2.1l

Total figures for this country
Please enter total figures for this country for the "year ending" periods that you selected in answer to EU0.1

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2013	1306	5726	2394576	0.42
2012	1306	6417	2510410	0.39
2018	0	0	0	0

Further Information

Centrica has in place Power Purchase Agreements (PPA) with wind farms, where we offtake the power. However, we do not have equity in these wind farms. Centrica sold its North American CCGT power stations at the end of 2013. Therefore there is no longer any North American power generation in our asset portfolio. EU2.1d: 2018 values are zero. This assumes there will be no change in our generation portfolio in North America.

Page: EU3. Renewable Electricity Sourcing Regulations

EU3.1

In certain countries, e.g. Italy, the UK, the USA, electricity suppliers are required by regulation to incorporate a certain amount of renewable electricity in their energy mix. Is your organization subject to such regulatory requirements?

Yes

EU3.1a

Please provide the scheme name, the regulatory obligation in terms of the percentage of renewable electricity sourced (both current and future obligations) and give your position in relation to meeting the required percentages

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
Other: UK - Renewables Obligation	20.6%	24.4%	2015	The date of the future obligation is April 2014-Mar 2015. Our position in relating to meeting our obligations is information which will be formalised during October of this year but Centrica remain fully compliant with the requirements of The Renewable Obligation.
Other: Renewable Portfolio Standards (Various)				Our obligations vary from state to state across the US.

Page: EU4. Renewable Electricity Development

EU4.1

Please give the contribution of renewable electricity to your organization's EBITDA (Earnings Before Interest, Tax, Depreciation and Amortization) in the current reporting year in either monetary terms or as a percentage

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA		1.40%	The achieved power price (including ROCs) for renewables in 2013 was £114.5/MWh. The total generation for which we received revenue was 753GWh. This resulted in renewables contributing 1.4% of total Centrica EBITDA.

EU4.2

Please give the projected contribution of renewable electricity to your organization's EBITDA at a given point in the future in either monetary terms or as a percentage

Please give:	Monetary figure	%	Year ending	Comment
Renewable electricity's contribution to EBITDA				This is commercially sensitive information.

EU4.3

Please give the capital expenditure (capex) planned for the development of renewable electricity capacity in monetary terms and as a percentage of total capex planned for power generation in the current capex plan

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development				These specific figures are commercially confidential.

Module sign off

Please enter the name of the individual that has signed off (approved) the response and their job title

Jim Rushen
Head of Environment
Centrica