

## Module: Introduction

### Page: Introduction

#### 0.1

##### **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. Our aim is to meet the energy needs of our 31m customers and deliver long-term value to over 680,000 shareholders. We are active at every stage of the energy chain and our worldwide workforce of over 40,000, helps us source, generate, process, store, trade, save, service and supply energy to homes and business across our chosen markets in the UK and North America. Our International Downstream business saves and supplies energy and provides related services like low carbon products and home energy solutions, through British Gas in the UK and Direct Energy in North America. Our International Upstream businesses, Centrica Energy and Direct Energy, deliver shareholder value and energy security through a balanced mix of gas and oil production, power generation and energy trading. Centrica Energy operates in the UK, Netherlands, Norway and Trinidad and Tobago while Direct Energy is focussed on North America. Our Centrica Storage business is a wholly owned subsidiary of Centrica, and stores gas supplies for the UK. The Rough storage facility is UK's largest, providing over 70% of the country's storage capacity.

Impact on climate change

Climate change is one of the single biggest global challenges. Greenhouse gas (GHG) emissions are a main driver of climate change, and we are therefore committed to minimising our environmental impact through the energy we generate and supply.

Our direct GHG emissions, defined in accordance with Scope 1 of the Greenhouse Gas Protocol, include those from sources owned or controlled by us such as power generation, gas production and storage, consumption of gas at our offices, as well as emissions from our fleet of commercial vehicles and company cars. Indirect GHG 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 like electricity sold to customers from wholesale markets and products and services purchased to run our business. The most significant emissions associated with the energy industry are derived not from our own emissions, but from gas and electricity consumed by customers under scope 3. Helping customers reduce their energy use and facilitate the move to a low carbon society is therefore key to combating climate change.

##### **Reducing impact**

As an integrated energy company, we play a pivotal role in helping tackle climate change by changing the way energy is generated and consumed. It is however important to balance the challenge of addressing climate change with other core priorities like ensuring a secure and affordable supply of gas and power for customers. As we continue to evolve the strategy of our business alongside the changing energy landscape, we must balance all three of these priorities in what we call 'the energy trilemma': keeping the lights on in an affordable way while reducing energy's impact on the climate.

Our corporate responsibility (CR) ambition is to be the most trusted energy company and in 2012, we continued to focus on our most material issues to address these challenges:

- Customer fairness - treating customers fairly with a focus on helping customers manage and reduce energy costs and providing support to vulnerable customers;
- Low carbon - addressing climate change by transforming the way customers consume energy and through decarbonising our power generation;
- Energy supply - securing future energy supplies in a reliable and sustainable way.

As part of our on-going response to climate change and the 'energy trilemma', our services businesses are helping customers reduce energy use by enabling them to become more energy efficient, generate their own energy through microgeneration technology, and use energy in a smarter way to improve energy-awareness and management. As Government policy and consumer demand trend towards a more holistic approach to low carbon energy services - services that combine energy supply, advice, products, and financing to make it easier for households and businesses to act on climate change - British Gas as Britain's largest energy supplier, installation and services business, is in a unique position to make a real difference. To strengthen this opportunity, we continue to grow our services business and develop the skills of our engineers to install and service new technologies to become the energy supplier of choice. We are also reducing our own GHG emissions by continuing to develop offshore wind farms and maintaining our 20% stake in low carbon nuclear energy, as well as reducing the carbon footprint of our property, fleet and travel.

At Centrica, we recognise the wider role we can play in combating climate change. Through our responsible procurement programme, we work with business partners to reduce the environmental impact of supply chains and engage local communities and young children to help future generations gain awareness about the importance of energy efficiency and how they can reduce their impact on climate change.

To improve environmental performance, we recognise the need to assess, quantify, measure and communicate our carbon impact in a robust and clear manner.

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## 0.2

### 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

Sun 01 Jan 2012 - Mon 31 Dec 2012

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**0.3****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                   |
| Rest of world            |

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**0.4****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(£)

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**0.6****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 and companies in the information technology and telecommunications 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@cdproject.net](mailto:respond@cdproject.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.cdproject.net/en-US/Programmes/Pages/More-questionnaires.aspx>.

## Module: Management [Investor]

### Page: 1. Governance

#### 1.1

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

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

#### 1.1a

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

Sam Laidlaw, Chief Executive - The Chief Executive has overall responsibility for climate change. He is a member of the Board, the Centrica Executive Committee and the Corporate Responsibility Committee and is therefore able to ensure that issues around climate change and low carbon are represented consistently at the highest level.

#### 1.2

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

Yes

#### 1.2a

**Please complete the table**

| Who is entitled to benefit from these incentives? | The type of incentives | Incentivized performance indicator  |
|---|------------------------|---|
| Corporate executive team                          | Monetary reward        | Leadership behaviour (including EMS implementation; completion of Environment strategy)     |
| Environment/Sustainability managers               | Monetary reward        | Delivery of Group environment plan (includes reductions in group internal carbon footprint) |
| Chief Executive Officer (CEO)                     | Monetary reward        | Leadership behaviour (including EMS implementation; completion of Environment strategy)     |

| Who is entitled to benefit from these incentives? | The type of incentives     | Incentivized performance indicator  |
|---|----------------------------|---|
| Other: corporate responsibility teams             | Monetary reward            | Delivery against environmental targets; Delivery of key climate change programmes in line with CR Committee approved KPIs   |
| Facility managers                                 | Monetary reward            | Improve energy efficiency and environmental performance of our estate   |
| Management group                                  | Monetary reward            | Delivery of environment plan within departments and visible leadership  |
| Facility managers                                 | Recognition (non-monetary) | Awards for best performing UK office sites on categories such as carbon, water & waste  |
| Other: Employees within British Gas New Energy    | Monetary reward            | Meeting our Energy Company Obligation targets to improve energy efficiency cost effectively; New business development in renewable heat and solar PV  |
| Other: Employees within British Gas Services      | Monetary reward            | New business development for Green Deal plans   |
| Other: Employees nominated by colleagues          | Recognition (non-monetary) | Employees can nominate colleagues for living our leadership behaviours – which includes a proactive approach to the environment   |
| Other: Renewables team                            | Monetary reward            | Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by role and may include: Lincs wind farm project delivery; Wind farm reliability; New wind farm consultation process          |
| Other: Power generation team                      | Monetary reward            | Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by role and may include: CCGT efficiency; Compliance with EU ETS; Delivery of new low carbon generation projects e.g. biomass |

## Page: 2. Strategy

### 2.1

**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

## 2.1a

### Please provide further details

i Scope of process - The Board is responsible for the Group's system of internal control & risk management & considers this to be fundamental to the achievement of the Group's strategic objectives. The work of the Board & its Committees are at the heart of our governance, risk & control framework. The Board & its Committees set objectives, performance targets & policies designed to achieve a balanced & transparent assessment of the risks facing the Group's operations & to measure the effectiveness of the key controls in place to manage them. The work of the Board is underpinned by clear delegations of authority, effective policies & procedures covering key areas of Group operation together with a set of business principles & processes which are communicated to our staff. Mechanisms are in place to ensure that strategic & operational risks, including carbon related risks, are identified & assessed & that the controls designed to manage such risks are operating effectively. These mechanisms are reinforced through regular performance management & business reviews. There is a programme of independent reviews by the internal audit function which is designed to cover the key processes & risks. Centrica's risk management processes continue to evolve & during 2012 the following improvements were implemented: Organisational changes including aligning a number of our risk, controls & audit functions to facilitate a more integrated approach to our risk & assurance activities (this will continue to evolve during 2013); the development & roll out of a risk universe, allowing for a more structured approach to risk identification; this includes specific reference to carbon-related risks; focus on High Impact Low Probability (HILP) risk identification, with all business units (BUs) updating & expanding upon their HILP registers for the Group's consideration; the publishing of a quarterly risk newsletter, covering both internal & external events, to identify emerging trends & to stimulate debate on changing or emerging risks which may be related to our current & future activities; The Group Risk Management Committee (GRMC) plays a pivotal role in the governance of risks. Each of Centrica's BUs has a Business Risk Management Committee or equivalent management committee whose role is to evaluate, report & advise on material risks & to consider the adequacy of controls & the actions planned to mitigate those risks. The most material risks are reported to GRMC so that it has a clear understanding of Centrica's aggregate risk profile & can ensure that control processes are in place for the monitoring & management of significant risks. The GRMC is chaired by the CEO & membership reflects that of the Centrica Executive Committee (CEC). In 2012, the GRMC met four times. At each of its meetings in 2012 the Audit Committee received a Group risk report, which provided an assessment of the key risks facing the Company & the adequacy of the associated controls.

ii How risks/opportunities are assessed at a company level - Material risks are also subject to review & challenge by expert groups. The Corporate Responsibility Committee (CRC) is authorised by the Board to review the effectiveness of the processes & controls for identifying & managing social & environmental risks & opportunities that could materially affect our performance & reputation. The CRC sets objectives, performance targets & policies for managing key risks & opportunities, which are monitored by the Board. Risks are discussed, agreed & monitored through a risk & control matrix that is reviewed annually by the CRC. Views on potential risks from external stakeholders are also incorporated at CRC meetings. We hold an annual strategy conference, during which the Board examines (amongst other topics) climate change-related opportunities in new markets, new technologies & potential investment opportunities. Due diligence is conducted to assess commercial viability, market landscapes & future regulation, before presenting strategies back to the Investment Sub-Committee. Once measures are agreed, BUs develop detailed strategies to maximise opportunities that are available & to model commercial returns.

iii How risks/opportunities are assessed at an asset level - Centrica's BUs are regularly confronted with risks & opportunities which have the potential to negatively or positively impact the assets, liabilities & financial position of the Group, or intangible assets such as brand & reputation. We have an integrated management process in place, which focuses on the identification, description, assessment, tolerance, control, reporting, monitoring & challenge of risks & opportunities. Individual risks are assessed with regard to their potential impact in financial terms & also non-financial factors including brand & reputation, legal & regulatory, customers, employees & HSE, together with the likelihood of the risk materialising. This quantitative & qualitative approach is mandated in the Group Risk Management Policy. For assessment, we use a 1-5 rating for both impact & likelihood with the rating calculated by multiplying impact by likelihood. Opportunities are identified using the same process as the strategic planning cycle at BU & project level. Further statistical modelling, scenario planning & commercial analyses are also used where relevant to supplement & provide the rationale for the 1-25 risk score.

iv Frequency of monitoring - The GRMC meets quarterly. As a minimum, BUs are required to review their current & emerging risks quarterly although high risk or heavily regulated Lines of Business often hold more frequently reviews.

v Criteria for materiality / priorities - Each identified risk from asset to company level is consistently assessed & reported according to the Group Risk Management Policy & assessment matrices. Overall risk ratings range from 1 to 25 for all risks. Financial impact scores are calibrated to a Group score relative to the BU's operating profit. In addition, HILP risks are considered separately both at the BRMC & GRMC meetings. Where residual areas of concern exist, further planned controls & mitigating actions are assigned owners & monitored at numerous levels towards their completion.

vi Results reported – Each quarter, a designated 'risk champion' coordinates line management assessment & reporting of that BU's risk profile. These reports are reviewed & challenged both at the BU BRMC meeting & also by the Group Risk team who provide the GRMC & the Audit Committee with regular updates on cross group trends & material changes in our business risk profile, including those climate change-related risks that might affect us at Group level. The operational assessments are supplemented by regular contact with the Group strategy team to ensure that our assessments also reflect the latest risks attaching to the delivery of our strategic priorities.

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## 2.2

### **Is climate change integrated into your business strategy?**

Yes

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## 2.2a

### **Please describe the process and outcomes**

i Business strategy influence - Our Board and Executive Committee reviewed our strategy throughout the year, including dedicated strategy meetings, which involved an in depth evaluation of the Group's strategy and the external context, including environmental policy, the economy etc. This process culminated in our new strategic direction, announced in Feb 2013.

ii Climate change influence on strategy - Climate change is a key influence on our strategy, both in terms of how we are developing our downstream business around energy efficiency services & our low carbon mix of power generation. Statutory emissions reductions targets have been set by the UK Govt & EU as well as targets for renewable energy in the UK. These legislative drivers, & the opportunities associated with them, play a major role in informing our strategy. Our power generation strategy is also shaped by our internal target to reduce our carbon intensity to 260gCO<sub>2</sub>/KWh by 2020, set in line with Govt commitments to deliver lower carbon power & secure energy supplies for the UK. We are committed to delivering on the energy efficiency targets set by the UK Govt & the imperative to reduce emissions from UK homes & business. While this reduces demand for our energy, it also presents opportunities to provide new services to help our downstream customers reduce their energy use. Together these contribute to our evolution from an energy supplier to a provider of energy services.

iii Short term strategy - In the short term (up to 5 years), we are consolidating our strengths in energy efficiency services, microgeneration & smart technology in our downstream business whilst continuing to develop our offshore wind capability upstream. Our downstream activities will help us to capitalise on opportunities such as the Green Deal & to deliver ECO (a mandatory energy efficiency scheme), while exploiting the energy reduction opportunities from our leadership position in the UK smart meter rollout. We are also driving emissions reductions in our own property, fleet & business travel.

iv Long term strategy - Downstream, our long-term strategic priority is to enable our customers to control their energy use in a simpler, smarter, more efficient way.

This plays to our strengths in the UK around energy efficiency, microgeneration & smart metering, enabling long-term growth as a provider of services as well as a supplier of energy. We continue to seek & progress opportunities on renewables & we see an on-going role for gas as the lowest carbon fossil fuel power source with flexibility needed to back-up intermittent wind. Gas still heats over 80% of Britain's homes & our gas investments are consistent with UK targets for low carbon generation. In North America, gas is making a major contribution to reducing emissions, displacing coal in power generation and oil in transport.

v Strategic advantage over our competitors - Customer carbon & energy efficiency services - Maintaining our market-leading position in energy efficiency goods & services will help us continue to grow. As Britain's largest energy retailer, we have enabled significant & cost-effective carbon savings in people's homes. On average, the annual savings we have enabled downstream have saved the equivalent of the emissions as a 1.8GW wind farm. We are the only supplier with our own insulation business, which currently employs around 900 people. We were the first Green Deal provider to offer Green Deal finance & our pilot, the Home Energy Plan, helped us to gain valuable insights before full scale implementation. We continue to be the leading provider of smart meters in the UK & to innovate around new smart products & services in both our UK & US markets.

Delivering a lower carbon intensive generation fleet - We continue to benefit from the advantage provided by our low carbon intensity fleet. We maintain interests in low carbon power generation through wind & nuclear & our development of long-term gas supplies enables us to balance the need to reduce carbon emissions while also securing energy for the UK. In 2012, we reduced our Group carbon intensity by 10% to 197gCO<sub>2</sub>/kWh. This was mainly due to strong performance from the nuclear power stations & the decision not to operate all of our gas-fired power stations in the UK due to poor market conditions.

Wind - We are a leading player in offshore wind farms in the UK, with interests in three operational farms & a fourth in the latter stage of construction & now generating power. We continue to develop projects, which we would progress with other development partners or investors. We expect our Lincs wind farm to be fully operational by the end of 2013, delivering 270MW, enough power to meet the annual needs of more than 200k typical households. Our proposed Race Bank offshore wind farm project off the coast of Norfolk received consent in July 2012 & is awaiting a final investment decision. This project has been consented for up to 580MW. We also have the rights to develop offshore wind farms in the Irish Sea Zone, which offers potential capacity of up to 4.2GW - enough to power around 3m homes.

Nuclear - We see nuclear as an important part of the energy mix, as a stable, low carbon source of baseload power. In 2012, nuclear accounted for 36% of our total Group generation based on an offtake & power purchase basis; two of our nuclear reactors received seven-year life extensions in 2012 & will now be able to continue to generate enough low carbon electricity for around two million homes until 2023.

Gas – Our vision is to become a world-class gas operator. In North America, gas is playing a major role in cutting emissions & securing supply for our growing US customer base. US emissions have fallen 7.7% since 2006, the largest reduction of all countries or regions, which is in part due to lower oil use in the transport sector & a shift from coal to gas for power generation. In the UK, gas provides an important energy source & within the carbon constraints, we want to continue to be a leading UK gas supplier.

vi Business decisions - Our new strategy was announced in Feb 2013 which reinforced our commitment to downstream energy efficiency & to maintain a low carbon power hedge, for example with renewables. In 2012, we created a new business, Connected Homes, to develop products & services that enable customers to use smart-enabled technology & better manage their energy. We also renewed our commitment to energy efficiency, insulating approximately 670k homes in 2012. In our services business, we have developed Energy Performance Contracts for business customers, where energy reductions are targeted & cost savings shared with the customer & we are leading in this new market.



2.2b

Please explain why not

2.3

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

- Direct engagement
- Trade associations
- Funding research organizations
- Other

2.3a

On what issues have you been engaging directly?

| Focus of legislation | Corporate Position | Details of engagement   | Proposed solution   |
|----------------------|--------------------|---|---|
| Energy efficiency    | Support            | We support the Govt's vision for the Green Deal & Energy Company Obligation (ECO), both of which are now in place. Working together, we believe these programmes can be transformational in delivering energy efficiency measures into Britain's homes & businesses. We have regular meetings with the Department of Energy & Climate Change (DECC) on both the Green Deal & ECO, as well as taking part in multiple technical working groups & responding to Government consultations. British Gas has been an early Green Deal supporter. We are a Green Deal Provider, offering Green Deal assessments & installations nationwide, & can arrange Green Deal finance. We have continued to engage at a detailed & practical level with Government in order to improve the Green Deal framework including on technical issues such as terms & conditions & warranty arrangements. We have also worked with Government & other stakeholders on broader issues such as creating an appropriate financial framework, including with a £10m investment in the Green Deal Finance Company, the cash back mechanism & sales practices. For ECO, we agree there | We want to streamline the Green Deal process & improve the customer experience. We are therefore seeking to work with DECC to improve the framework & ensure the programme is as attractive as possible for consumers. Whilst we are supportive of ECO we have some concerns with the current structure. We forecast ECO will cost 50% more than Government estimates & that higher costs will feed into higher customer bills. In addition, suppliers' ability to deliver early in volume has been hampered by delays in legislation, guidance & the availability of Green Deal finance. We therefore seek the inclusion of lofts & basic cavity wall insulations, as acceptable measures in the Carbon Emission Reduction Obligation (CERO) sub-target of ECO & an extension of ECO by 9 months. We welcome the creation of an ECO brokerage mechanism but believe better visibility of traded measures (the separation of hard to treat cavity & solid wall insulation) is urgently needed to keep costs for consumers down. |

| Focus of legislation                   | Corporate Position | Details of engagement   | Proposed solution  |
|--|--------------------|---|--|
|  |                    | <p>should be two primary aims: Reduce the heating bills of low income/vulnerable households by installing free or subsidised energy efficiency &amp; heating measures; provide support for technologies that fail to meet the Golden Rule, (whereby expected savings from measures repay costs) such as solid wall insulation. On ECO, our focus is ensuring that targets are deliverable for suppliers, affordable for consumers, &amp; sustainable for the supply chain, &amp; that the ECO brokerage mechanism develops as a cost-effective vehicle for delivering the Obligation.</p>   |  |
| Other: Electricity Market Reform (EMR) | Support            | <p>We supported the Government's recognition that the electricity market needs to be reformed in order to deliver decarbonisation &amp; security of supply objectives. We also supported the Carbon Price Floor which took effect in Apr 2013. We support the overall Electricity Market Reform (EMR) package &amp; have been engaging with Government through expert working groups, consultations &amp; regular meetings. One of the principles of our engagement with policymakers is based on recognition of the need to move to a low carbon economy. To help achieve this, companies need a supportive policy framework from Government. Putting a price on carbon is central to this but further interventions will also be necessary. The purpose of these policies must be clear &amp; the approach must remain market-oriented.</p>   | <p>The current proposed legislation for EMR is in line with our historical preferences &amp; any proposed changes are at a detailed level such as the legal frameworks, contract clauses &amp; payment model, which we are helping to inform alongside other stakeholders.</p>   |
| Other: Smart Meters                    | Support            | <p>We strongly support the rollout of smart meters to provide accurate &amp; transparent bills; detailed data to support bespoke energy efficiency advice; increased customer awareness of energy usage &amp; reduced energy consumption; &amp; the first step to smart homes &amp; smart grids. The UK Government has mandated that all homes must have smart meters installed by 2020 (this timeline was updated in April 2013 from the previous target of 2019). We are fully engaged on the smart meter roll out &amp; have led the industry in the installation of smart meters, having fitted 881,794 in UK homes &amp; businesses by the end of 2012. To support an effective roll out, we have fed back our learning on how to engage customers &amp; on technical issues around the meter &amp; data management systems as well as diverse other issues such as access to consumer data, industry design, customer benefits &amp; costs. We do this through regular direct meetings, industry working groups &amp; responding to consultations. We are also one of the four lead partners in CLNR, the UK's largest smart grid project with 14k customers. Over a three year period, the project will be trialling how smart meters &amp; decentralised energy can help make energy demand &amp; energy supply more flexible as well as creating smart enabled</p> | <p>In the UK, we are supportive of the proposed smart meter architecture including plans for a Central Delivery Body to champion &amp; communicate the switch to smart meters to the public, &amp; a Data Communications Company (DCC) to ensure full interoperability. We welcome recent confirmation from DECC that relevant smart meters installed in the Foundation stage of the roll-out will be protected, &amp; enrolled onto the DCC when in place. Given the consumer benefit in receiving appropriate energy efficiency advice with a smart meter, we think that there should be a greater opportunity to promote Green Deal propositions at the smart installation.</p> |

| Focus of legislation       | Corporate Position | Details of engagement   | Proposed solution                      |
|----------------------------|--------------------|---|--|
|                            |                    | homes to give customers more control over how they use & generate electricity. In North America, we shared our learning & customer insights from smart meter enabled products through direct meetings with regulators & legislators from different states & legislative bodies & through contributions at major industry conferences. In so doing we sought to highlight the impacts of load-shifting to off-peak periods & increased awareness of energy efficiency enabled through smart meters. In Texas, where smart meters are nearly fully deployed, we engaged with regulators, encouraging increased regularity & completeness of smart meter data to be provided by regulated utilities, who own the smart meters, to retail energy providers such as Direct Energy. |  |
| Mandatory carbon reporting | Support            | New legislation will require publicly listed companies based in the UK to report their greenhouse gas emissions annually, likely from February 2014. We have been reporting our total carbon emissions since 2006 & are well prepared for the new requirements. We responded to the Government consultation around their guidance for reporting & we have been a public supporter of mandatory carbon reporting as a device to raise awareness of the challenge of climate change within companies & we therefore welcome this development.   | We support mandatory carbon reporting. |

**2.3b**

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

Yes

2.3c

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?   |
|------------------------------|--|--|--|
| Renewable Energy Association | Mixed  | The REA was established in 2001, as a not-for-profit trade association, to represent British renewable energy producers & promote the use of renewable energy in the UK. The REA endeavours to achieve the right regulatory framework for renewables to deliver an increasing contribution to the UK's electricity, heat & transport needs. The REA's main objective is to secure the best legislative & regulatory framework for expanding renewable energy production in the UK. The REA is broadly aligned with the Committee on Climate Change (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, the views of the REA & British Gas are largely aligned. We support the Renewable Heat Incentive (RHI), feed-in-tariff & the use of building regulations to support 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 the responses differ in detail. We have worked closely together on accelerating the introduction of a domestic RHI for renewable heat. | We have representatives on the Board & chairing the On-site Renewables Group which covers the use of decentralised renewable energy systems for individual buildings, estates, communities & the commercial sector.  |
| RenewableUK                  | Consistent   | Their vision is for renewable energy to play a leading role in powering the UK, with a stated belief that wind, wave & tidal energy are essential for our future. As an island the UK has some of the best natural resources in the world for these technologies; RenewableUK (RUK) believes deploying them can generate significant power & benefit for the UK.   | Centrica has representation on the RUK Board (a position elected by the RUK members) & we are active members of strategy groups for Grid, Public Affairs & Economics & Markets. We also help to shape RUK's position through subgroups such as Offshore H&S, Consents & Licensing.   |
| Micropower Council           | Consistent   | The Micropower Council represents companies & organisations active in the microgeneration sector & campaigns on behalf of its members for a genuine mass market for small scale, low & zero carbon electricity & heat generating technologies.   | British Gas is a sponsoring member of the MPC & a member of their executive committee. We are represented on the Microgeneration Market Creation Group which focuses on the financial incentive schemes that will boost demand amongst consumers by making installation of microgeneration technologies an attractive economic proposition for private householders, social landlords & others. We are also involved in the Microgen Messaging Group which seeks to create clear |

| 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?   |
|-------------------|--|---|--|
|                   |  |   | & accessible consumer information on microgeneration technologies & the financial products & other support that is available to householders, landlords & business owners. |

2.3d

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

No

2.3e

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

Yes

2.3f

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

In 2012, British Gas supported the publication of a report by Oxford Economics called 'The Value of Smart Metering to Great Britain.' The report identified how smart meters could save the UK almost £14bn by 2030, reducing gas & electricity consumption by around 5%. This equates to an average estimated saving of £65.50 saving on consumers' bills. The report also stated that smart meters will put an end to estimated bills by sending energy suppliers exact meter readings automatically, meaning customers will only pay for the energy they use as they use it & its cost in pounds & pence. Customers will also be given a portable energy display which, for the first time, will tell them how much gas & electricity they are using & its cost in real time. Smart meters are also leading to innovations which will give customers the help they need to cut bills even further. This work is aligned with our UK industry leading position on smart meters, having fitted 881,794 in UK homes & businesses by the end of 2012, & supports our strategy for our downstream business to enable our customers to control their energy use in a simpler, smarter, more efficient way. British Gas also sponsored the IPPR report, 'Energy efficiency: Who pays and who benefits?' ECO is a new Government programme that aims to improve the energy efficiency of homes in Great Britain. The report assessed what those costs might be & how the benefits & costs will be distributed. The report's recommendations include: An early review to consider which measures are eligible under ECO; Government support for local authority involvement; close monitoring of suppliers' progress towards achieving the fuel poverty target in ECO to identify whether this target is deliverable & cost-effective; a pilot of the 'Low-Cost, Low-Efficiency Area' approach to targeting resources at fuel-poor homes. This report supports our focus on ensuring that ECO targets are deliverable for suppliers, affordable for consumers & sustainable for the supply chain.

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**2.3g****Please provide details of the other engagement activities that you undertake**

Through regular engagement, we can understand & better manage the issues which are most important to our stakeholders. We interact with our stakeholders in a variety of ways – from one-to one meetings & customer service calls to formal committees & workshops. For example, our Corporate Responsibility Advisory Group, which is made up of senior external stakeholders, provides feedback & challenge on our strategy & operations. Discussions in the Group are shared with the Corporate Responsibility Committee to ensure stakeholders can inform senior executives. Our approach to stakeholder engagement aims to: Understand stakeholder views; address current issues; source new ideas; identify opportunities; involve stakeholders in our activities; manage risks & impacts; provide early warning of future issues; & demonstrate accountability.

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**2.3h****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 & regulators in the UK, the US & Canada so we can contribute to the development of legislation & regulation, & manage any risks & opportunities presented to our business. The Centrica Policy Group (CPG) continued to meet on a regular basis during 2012, attended by the Board & Executive to discuss & agree Group-wide positions on key issues. Through this process we are able to ensure our external engagement on policy is aligned with our strategy. Any new approach to policy engagement is presented to, reviewed & approved by the CPG, ensuring consistency with our Group strategy including on issues relating to climate change. There were eight meetings of the Centrica Policy Group in 2012 spread throughout the year. These included discussions on topics such as ensuring Group-wide consistency across our policy positions, agreeing a narrative position about Centrica (including our position on climate change) & agreeing our approach to a 2030 power sector decarbonisation target.

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**2.3i****Please explain why you do not engage with policy makers**

3.1

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

Absolute and intensity targets

3.1a

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   |
|------|---|-------------------------|----------------------------|-----------|--|-------------|---|
| ICF1 | Other: Scope 1 + Scope 2 + Scope 3: business travel | 1.24%                   | 20%                        | 2007      | 116695                                   | 2015        | We use the term 'internal carbon footprint' to describe the carbon emissions from our 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. |
| ICF2 | Scope 1   | 0.52%                   | 18%                        | 2007      | 43408                                    | 2015        | In the UK, we aim to reduce the carbon emissions from our core fleet by approximately 18% by 2015 (baseline year: 2007). This equates to around 8,000 tonnes of CO2 by 2015, equivalent to taking almost 3,000 average private cars off the road. In 2012 we managed to reduce carbon emissions from the core fleet by 5.4% compared to 2011 exceeding our year-end target of 3.5% reduction  |
| ICF3 | Scope 1+2   | 0.27%                   | 10%                        | 2011      | 20822                                    | 2012        | UK Property CO2 reduction target of 10% of previous year's consumption. This relates to our main UK office gas and electricity emissions. A 3.6% reduction was achieved, so while the target was not met, a reduction was still achieved. By 2015 we hope to have reduced emissions from our main   |

| ID   | Scope   | % of emissions in scope | % reduction from base year | Base year | Base year emissions (metric tonnes CO2e) | Target year | Comment  |
|------|---|-------------------------|----------------------------|-----------|--|-------------|--|
|      |   |                         |                            |           |  |             | UK offices by around 50% from our 2007 baseline equating to approximately 15,000 tonnes of CO2.            |
| ICF4 | Other: Scope 1 + Scope 2 + Scope 3: business travel | 1.75%                   | 25%                        | 2007      | 81504                                    | 2015        | We are aiming to reduce our internal carbon footprint (property, fleet, business travel) by 25% in the UK. |

### 3.1b

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   |
|-----|--|-------------------------|----------------------------|---|-----------|--------------------------------|-------------|---|
| CI1 | Other: Scope 1 and Scope 3 (purchased goods) | 22%                     | 29%                        | Other: grammes CO2e per kilowatt hour (kWh) | 2008      | 9380023                        | 2012        | We set a target to achieve a UK carbon intensity of 270g CO2e/kWh by 2012. This target covers all UK emissions from our own power generation and that from site-specific contracts (i.e. where we know the source of supplied power and the carbon intensity of the facility providing the electricity but we are not the owners or operators). This supports our commitment to secure energy for our customers and grow our business with our policy of investing in lower carbon power. Our overall generation (using the definition of our own power generation and that from site-specific contracts) has slightly dropped since 2008 from 24.8TWh to 23.7TWh while our carbon intensity has reduced from 379g CO2e/kWh to 156g CO2e/kWh over that same period. |
| CI2 | Scope 1                                      | 88%                     | 34%                        | Other: grammes CO2e per kilowatt hour (kWh) | 2008      | 9531133                        | 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).  |



3.1c

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  |
|-----|---|--|---|--|--|
| CI1 | Decrease  | 38   | Decrease  | 6.1  | If output were to stay the same, the theoretical reduction in the Company's Scope 1 & 2 carbon emissions in 2012, as a result of the 2012 CI, is 38%. This is based on the power generation not changing but the generated power becoming cleaner. However in reality, the power generation became cleaner and less power was produced by our assets. Hence the percentage change on the absolute Scope 1 & 2 emissions as a result of changes to our UK power generation is in fact greater than that, at 45% If the output from our site specific power purchase contracts had stayed the same, the theoretical decrease in our Scope 3 emissions as a result of the lower 2012 CI is 6.1% based on our 2008 Scope 3 (significantly less as site specific power purchase contracts are a relatively small component of our Scope 3 emissions). |
| CI2 | Decrease  | 29   |   |  | If output were to stay the same and the carbon intensity achieves to 260g CO <sub>2</sub> /kWh in 2020 then there would be a 29% decrease in Scope 1 & 2 emissions compared to 2008. However, compared to 2008 our output is expected to have increased by 44% in 2020. This will reduce the emission saving of the target to 4.6%.  |

3.1d

Please provide details on your progress against this target made in the reporting year

| ID  | % complete (time) | % complete (emissions) | Comment   |
|-----|-------------------|------------------------|---|
| CI1 | 100%              | 100%                   | We have achieved our carbon intensity target, having reduced carbon intensity from 379g CO <sub>2</sub> e/kWh in 2008 to 156g CO <sub>2</sub> e/kWh in 2012. Our 2012 target was to achieve 270g CO <sub>2</sub> e/kWh.   |
| CI2 | 33%               | 100%                   | We have achieved our 2020 carbon intensity target with the 2012 CI (based on equity) being 200gCO <sub>2</sub> e/kWh. However, the current power generation market is considered atypical and not representative of future generation, with some of our power stations having been placed into temporary preservation. We predict that our gas fuelled generation |

| ID   | % complete (time) | % complete (emissions) | Comment   |
|------|-------------------|------------------------|---|
|      |                   |                        | will increase again and hence the 2020 target of 260g CO2e/kWh is still appropriate.  |
| ICF1 | 63%               | 100%                   | We are aiming for a 20% reduction in total on our 2007 baseline. We reduced emissions in our global internal carbon footprint (core property, fleet and travel) to 91,988 CO2 in 2012. This is a 21% reduction compared to 2007, hence exceeds the target. However a predicted upturn in the economies of our chosen markets is likely to increase emissions again before the 2015 hence we continue to work on our reduction activities to remain on target. |
| ICF2 | 63%               | 73%                    | In 2012 we reduced carbon emissions from the existing fleet by 5.4% compared to 2011, exceeding our year-end target of 3.5% decrease and taking us to 73% completion of the 2015 target.  |
| ICF3 | 100%              | 36%                    | We achieved a 3.6% (19,892 TCO2) reduction in emissions compared with our target of 10% reduction.  |
| ICF4 | 63%               | 84%                    | In 2012 we achieved a 21% reduction in our UK internal carbon footprint compared to our baseline of 2007. This equates to 84% completion of our 2015 target.  |

3.1e

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

3.2

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

Yes

3.2a

**Please provide details (see guidance)**

i How emissions were avoided - Commercialising services that reduce CO2 emissions is a key part of British Gas' core strategy. Three measures make the biggest reductions in a customer's gas use: wall insulation; energy efficient boilers & loft insulation. We have invested in our own insulation business & have an established central heating installation business to deliver these measures. We also have onsite renewables offerings which provide low carbon energy to our customers through solar panels heat pumps & small & medium scale biomass boilers; areas in which we see significant growth potential in the low carbon economy. British Gas customers with smart meters have already reduced their energy bills by an average of 1.6% & we have led the industry in the installation of smart meters, having fitted 881,794 by the end of 2012. In the US, Direct Energy has introduced time-of-use products using smart meters, which cut the overall demand on the grid at peak times & therefore reduce the need to turn on additional power plants (often gas-fired) to meet peak demand. Trials have shown customers can reduce peak demand by around 7% & overall consumption by 2.5%. Our renewable & low carbon generation (nuclear) helps avoid emissions among electricity users (our

customers' scope 2) by reducing the carbon intensity of the energy they use. In 2012, we reduced our global generation carbon intensity by 10% to 197g CO<sub>2</sub>/kWh. This was mainly due to strong performance from the nuclear power stations & a decision not to operate some of our gas-fired power stations in the UK due to poor market conditions. Of the power we generated in 2012 (including output from our own generation & from site-specific offtake contracts), 15.3% was from renewable sources & 35.9% was from nuclear, resulting in a total of 51.1% produced from low carbon sources. As we are able to generate & obtain through power purchase agreements a large proportion of our customers' requirements from lower carbon generation sources, our UK power generation carbon intensity (using the UK fuel mix disclosure for the period 1/4/2011 – 31/3/2012 made to Ofgem) is 330g CO<sub>2</sub>/kWh, considerably lower than the UK average at 430g CO<sub>2</sub>/kWh.

ii Estimate amount of emissions avoided- Over the past five years, the measures we installed through CERT & CESP will deliver 100m tonnes of carbon savings over the lifetime of the products. This is equivalent to the annual CO<sub>2</sub> emissions of around 21m UK homes. Of this, 45m tonnes of lifetime savings were achieved through insulating over 3m homes. We also install solar panels, heat pumps, & small & medium scale biomass boilers. Analysis by the consultancy, ERM, showed that by combining all the carbon saving activities we've installed between 2010 & 2012, we have saved some 7.4MtCO<sub>2</sub>e over that period. This assumes that all those products installed in 2010 are still saving carbon in 2011 & 2012, likewise for those installed in 2011 during 2012. This equates to an annual average of 2.5MtCO<sub>2</sub>e.CO<sub>2</sub> emissions avoided through our renewable & low carbon generation in 2012 was 8.8m tonnes, when compared to the UK grid average.

iii Methodology - Energy savings calculated for CERT using Ofgem's published guide to the kg CO<sub>2</sub> savings attributable to each measure in their Suppliers' Guidance & also for newer products with agreement with Ofgem based on the energy saving performance of that product. The products provided over the lifetime of the scheme included: domestic insulation jobs; energy efficiency products; energy efficient light bulbs; & other measures (e.g. DIY loft insulation, glazing, heat pumps& boilers). Analysis conducted by ERM calculated the decarbonising activities of the products & services British Gas installs in its downstream customer base by combining primary data from British Gas on the number of installations between 2010 & 2012 with publicly available credible secondary data on emissions factors & cost savings (including DEFRA, Ofgem & Energy Savings Trust). Where we use third party calculations (e.g. CERT) we use their emission factors & global warming potentials. In our own calculations we use the IPCC Global Warming Potentials (GWP) identified in Question 7.3, unless specified otherwise.

iv CERs/ERUs within the framework of CDM or JI (UNFCCC)-We offer green energy tariffs based on the principle of additionality & in accordance with Ofgem's best practice guidelines. Our Sustainable Energy tariff (electricity only) has 100% Levy Exemption Certificate (LEC) retirement based on the customer's actual consumption. In North America, green energy products are marketed for residential customers, such as 'New Leaf Energy', which is backed by Renewable Energy Certificates (RECs) from Texas wind farms. For commercial & industrial customers renewable energy plans are available that offset any percentage of the electricity with RECs.

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### 3.3

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

Yes

3.3a

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       | 2                  | 4943515  |
| To be implemented*        | 1                  | 3900459  |
| Implementation commenced* | 1                  | 260185   |
| Implemented*              | 14                 | 8999842  |
| Not to be implemented     | 2                  |  |

3.3b

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 Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|------------------------------------|--|--|--|--|----------------|
| Energy efficiency: Building fabric | Until the end of 2012, the UK's Carbon Emissions Reduction Target (CERT), which is a mandatory scheme, required suppliers such as British Gas to provide energy efficiency measures to households to deliver carbon savings. In 2012, we focused our efforts on providing professionally installed insulation. This helps to reduce our Scope 3 emissions. By the end of 2012, the official end of the CERT programme, British Gas had delivered energy efficiency products with equivalent lifetime carbon savings of 95.2m tonnes over the five-year period of CERT, 15m tonnes of which | 2500000  |  | 2200000000   | 4-10 years     |

| Activity type                  | Description of activity  | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|--------------------------------|--|--|--|--|----------------|
|                                | <p>were in 2012. In early 2013, we completed installation of measures that delivered the remaining 1.2m tonnes of CO2 savings, meeting the target in full. We over delivered on our targets for vulnerable customers in the Priority and Super Priority groups. We also participated in the UK Government's Community Energy Saving Programme (CESP), which has now concluded. CESP is an obligation on UK power generators and energy suppliers to install energy efficiency measures in areas of severe social deprivation over the 3 years from 2009-2012. CESP takes a 'community-by-community' and 'whole house' approach, working with local authorities and social housing providers to make an entire building or street more energy efficient, rather than just a single property or apartment. The action is helping to reduce our Scope 3 emissions. In 2012, we delivered 2.9m tonnes of equivalent carbon savings, up from 1.4m in 2011. Over the lifetime of scheme we focused on improving homes in 318 low-income communities with a high proportion of hard to treat housing. However, a number of factors prevented us from completing our obligation within the official time frame in the safest, most cost effective way. We expect to complete the remaining improvements by summer 2013. These schemes are helping to reduce our Scope 3 emissions.</p> |  |  |  |                |
| Low carbon energy installation | <p>We are building a 270MW offshore wind farm. Total investment in the Lincs project is expected to be approximately £800m (excluding offshore transmission – OFTO), with Centrica's share being £400m. Offshore construction at our Lincs wind farm, began in March 2011 with all 75 turbines now installed, 40 of which were in place by the end of 2012. The project is expected to be fully operational by the end of 2013. This is helping to reduce our Scope 1 emissions by increasing the renewable component of our generation. Our investment in renewables is not a mandatory requirement.</p>  | 260185   | 0  | 400000000  | 4-10 years     |
| Low carbon energy installation | <p>In 2009, we invested £2.3bn in a 20% stake in nuclear power producer EDF Energy Nuclear Generation, to increase the amount of low carbon baseload power available to our customers. Since our investment the nuclear reactors at Hinkley Point B in Somerset &amp; Hunterston B in North Ayrshire received 7-year life extensions in 2012. The stations will now be able to continue to generate enough low carbon electricity for around 2m homes until 2023. The extensions could save an estimated 1.4m tonnes CO2 when compared to the UK grid average and will help to reduce both our Scope 1 emissions (lower carbon power generation) and Scope 3 emissions (our investment means that we do not have to purchase as much energy on the market, which has a higher carbon intensity than our own generation). Our investment in nuclear is not a mandatory requirement.</p>   | 1400000  | 0  | 2300000000   | 4-10 years     |

| Activity type                  | Description of activity  | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|--------------------------------|--|--|--|--|----------------|
| Low carbon energy installation | <p>Our onsite renewable offerings range from microgeneration of low carbon energy for domestic customers to larger projects for commercial and industrial use. Proven methods include solar panels and renewable heating such as heat pumps or biomass boilers. Over recent years we have significantly expanded our ability to offer these solutions having invested £9.8m in acquiring businesses in Solar (Solar Tech, 2008), heat pumps (Cool Planet Technologies, 2010) and biomass heating (Econogy, 100% owned by 2011) and having continued to invest to expand activities in each area. In 2012 we installed solar panels in 682 buildings in 2012, collectively providing 6.2MW of power at peak capacity &amp; 114 small &amp; medium scale biomass boilers systems that have the capacity to generate a total of 14.6MWth. We also installed 1,033 heat pumps with a total capacity of 8.3MW. Together the solar, biomass&amp; heat pump measures installed in 2012 delivered equivalent lifetime carbon savings of 396,808 tonnes, which equates to annual carbon savings of 18727 tonnes. This helps to reduce our Scope 3 emissions and is not a mandatory obligation.</p>  | 18727  | 0  | 9800000  | 4-10 years     |
| Transportation: fleet          | <p>We continue to replace our commercial vehicles with more efficient 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 five year lifecycle. Our new 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 the UK, our 2012 fleet carbon reduction programme helped achieve a 4% reduction in emissions from our core van fleet compared with 2011. In total, almost 900 commercial vans were exchanged in 2012, mainly for more efficient versions. We achieve more than 40mpg for most of our small vans, even when working in urban areas, demonstrating our commitment to invest in the latest technology that improves fuel efficiency. We also expanded our trial of electric vans within our British Gas van fleet. Although we have tested five vehicles from different manufacturers, most of these are considered prototypes and our ambition to have more than 500 electric vans in our fleet by 2015 is heavily dependent on the availability of suitable market-ready models. We are soon hoping to place our first order of 40 Nissan electric vans six months prior to the official UK launch, which demonstrates our leadership in this area. The investment required is part of the on-going fleet replacement programme. Annual monetary savings are estimated. In North America, emissions in our core business fleet increased by 7% during 2012 due to an increase in business activity as the economy recovers. We continue to implement measures to improve our</p> | 120  | 70000  | 100000   | <1 year        |

| Activity type         | Description of activity   | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|-----------------------|---|--|--|--|----------------|
|                       | <p>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 283 vans in North America and over 8000 in the UK.</p>  |  |  |  |                |
| Transportation: fleet | <p>In 2007 we restricted the choice of company cars to those that emit a maximum of 200g CO2/km. Additionally in 2009, we re-engineered our company car policy to encourage our employees to choose cleaner vehicles through raising awareness and using financial incentives. These are voluntary initiatives which will reduce our scope 1 emissions and are expected to continue indefinitely. The changes 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 2012 average of 125g CO2/km. This has resulted in a reduction of almost 1,000 tonnes of CO2 in total over the period and a financial saving of more than £500,000 in fuel costs. This is ahead of the average for new cars sold in the UK of around 133g CO2/km reported in the trade press and of current European Commission targets for car manufacturers. In 2012, we also implemented a 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. This will help improve the efficiency of our company car fleet even further. We also continue to encourage staff to choose electric vehicles as a company car and have added the Vauxhall Ampera to our range alongside the Nissan Leaf. In addition to the three electric pool cars we operate, six members of staff have also chosen electric vehicles as their personal company cars, and we are enabling the switch by installing more charge points at selected offices. We do not run a relevant company car scheme in North America. The investment required is 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.</p> | 1500   | 850000   | 100000   | <1 year        |
| Behavioural change    | <p>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. GPS helps to calculate the most efficient routes, reducing mileage and fuel used. We anticipate this will reduce carbon emissions by a further 5% or 546 tonnes CO2e per year by 2014. We developed a Safe and Fuel Efficient Driving (SAFED) online training module aimed at educating our 13,000 commercial and</p>  | 60   | 35000  | 1570000  | <1 year        |

| Activity type                      | Description of activity  | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|------------------------------------|--|--|--|--|----------------|
|                                    | <p>company car drivers in how to drive in a more environmentally 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 2012, we delivered this targeted driver training that included fuel efficiency training to almost 1000 drivers. In addition, we gave Fleet induction training to 983 commercial vehicle drivers. These are all voluntary initiatives and expected to continue indefinitely. The investment required is a per annum figure and the annual monetary savings are based on estimated savings on fuel.</p>   |  |  |  |                |
| Other                              | <p>To deliver on our energy efficiency &amp; onsite renewables objectives, we need a team of people with the right skills &amp; expert knowledge. We are creating 'green collar' jobs in insulation, in-home advice, energy efficient boilers, renewable generation &amp; smart metering. We invested £17.5m in 2012 to deliver around 100,000 training days to 12,000 engineers, 2,160 of whom were trained in smart technology. In addition, our Green Skills Centre in Tredegar, Wales, provided 2,000 training days for more than 500 people. This is not a mandatory requirement but will give our business a competitive advantage. These skilled individuals will be better placed to advise customers, helping to reduce our Scope 3 emissions.</p>          |  |  | 17500000   | 1-3 years      |
| Energy efficiency: Building fabric | <p>We have established an insulation business in the UK, in 2010 acquiring Hillserve Ltd, a leading domestic insulation company. British Gas was the first UK energy company to offer free insulation to all customers and in 2012 insulated approximately 670,000 homes, achieving total lifetime carbon savings of at least 13.2m tonnes. This equates to annual carbon savings of 330,000 tonnes. Better insulation reduces customer energy use &amp; will help to reduce our Scope 3 emissions. It was not a mandatory investment to build an insulation business but it is part of our response to our obligation under the UK Government's Carbon Emissions Reduction Target (CERT).</p>   | 330000   | 5000000  |  | 1-3 years      |
| Energy efficiency: Building fabric | <p>British Gas has been an early supporter of the Green Deal, which will enable domestic &amp; commercial customers to invest in energy efficiency improvements, which qualify under the initiative, for no upfront outlay by spreading the cost through instalments on their energy bills. During 2012, we were heavily involved in the industry development of the Green Deal framework, whilst simultaneously (a) developing our Green Deal Provider launch plans, (b) continuing to learn from our GD trial 'Home Energy Plan' programme, and (c) ensuring our GD payment collection systems (the repayments are collected through the electricity bill) was fit for launch. As of April 2013, we have invested £15m in preparation for the Green Deal: £10m</p> |  |  | 15000000   | 4-10 years     |



| Activity type                        | Description of activity   | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|--------------------------------------|---|--|--|--|----------------|
|                                      | has been invested directly in the Green Deal Finance Company and the remainder spent developing our own offering and collection payment systems. We have had the largest share of Green Deal Cash Back applications (launched January 2013) and were the first Green Deal Provider to launch Green Deal Finance in April 2013 – both significant landmark achievements illustrating BG’s commitment to this area. Our activities in Green Deal will help to reduce our Scope 3 emissions.   |  |  |  |                |
| Behavioural change                   | Facilities: Our network of Green Teams coordinate activities at local sites to highlight key environmental messages to employees. This includes support for our major behavioural campaign each year to promote carbon reduction among employees within our scope 1, 2 and 3 emissions. British Gas Green Teams delivered the fifth Annual carbon reduction challenge, this year called the ‘Being Green Challenge 2012’. The aim of this year’s challenge was specifically to raise the awareness of Green Travel from the home to the office. The Challenge was based around communication with information & tips on a range of subjects including ‘getting off of the roads’, ‘public transport’ and ‘car sharing’. Site Green Teams rolled out specific green travel activities at their sites as well as capturing how customers in the building get to work at the beginning and then at the end of the campaign. Awards were presented to those sites and teams that demonstrated original ideas and increased green travel on their sites. These voluntary initiatives are expected to have an indefinite lifetime as we repeat them annually. | 20   | 10000  | 3000   | <1 year        |
| Energy efficiency: Building services | We have continued our programme of reducing the 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 2 carbon emissions from our core portfolio by 2015 compared to 2007. During 2012 we reduced our property emissions by over 1600 tonnes globally through methods including HVAC improvements, building energy management system enhancements, site rationalisation and good housekeeping. These are voluntary initiatives with lifetimes of between 1 and 5 years.  | 800  | 100000   | 1000000  | 4-10 years     |
| Low carbon energy installation       | We have continued our programme of reducing the carbon emissions associated with running our offices and depots through installing renewable generation on selected British Gas and Centrica buildings. This is part of our drive to halve the scope 2 carbon emissions from our core portfolio by 2015 compared to 2007. The voluntary infrastructure changes and low-carbon installations will reduce our Scope 2 emissions and are expected to last 10-20 years. During 2012 we reduced our  | 800  | 100000   | 2500000  | 4-10 years     |

| Activity type      | Description of activity   | Estimated annual CO2e savings (metric tonnes CO2e) | Annual monetary savings (unit currency - as specified in Q0.4) | Investment required (unit currency - as specified in Q0.4) | Payback period |
|--------------------|---|--|--|--|----------------|
|                    | property emissions by over 1600 tonnes globally through methods including photovoltaic, bio-fuel power generation and voltage optimiser installations.  |  |  |  |                |
| Behavioural change | Travel: 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 2012 we started to roll-out an upgraded web-conferencing platform in the UK and hope to complete this in 2013. In 2012 we held over 300,000 teleconferences and over 4000 video-conferences in the UK alone. We also continue to promote car-sharing software and have developed site Green Travel Plans to reduce business and commuting miles. These voluntary initiatives are helping to reduce our Scope 3 emissions and are re-promoted annually. | 280  | 150000   | 280000   | 1-3 years      |

### 3.3c

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

| Method  | Comment  |
|---|--|
| Compliance with regulatory requirements/standards | 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   | 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 to provide 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. |

| Method                                      | Comment  |
|---|--|
| Other                                       | <p>Our corporate strategy balances maintaining security of supply &amp; providing affordable energy with delivering a low carbon future. Core to our strategy for our downstream business is to enable our customers to control their energy use in a simpler, smarter, more efficient way. This means that the focus for the business model with our retail energy customers is shifting towards providing low carbon products and services for the smart connected home. These new revenue streams will offset potential decreases in demand driven by energy efficiency improvements in homes and businesses and the use of less fossil fuel intensive energy. Upstream, our corporate strategy is underpinned by a commitment to provide customers with energy security and lower carbon emissions. We now have a well-diversified power fleet with a distinctive low carbon mix. As the UK's generation mix evolves, with on-going tightening of the environmental regulations, the low carbon nature of our fleet will be particularly important. Our capital investment takes into account non-financial, social and environmental factors.</p>   |
| Employee engagement                         | <p>We have used training, fiscal incentives, upgraded systems and internal communications to promote greener behaviours. We have trained our drivers in efficient driving techniques and used fiscal incentives to encourage employees to choose less polluting vehicles. We upgraded video-conferencing technology and ran awareness campaigns to promote greener behaviours in our buildings. Our network of Green Teams coordinate activities at local sites and through them we hosted events at over 25 sites group-wide to celebrate World Environment Day 2012, using the opportunity to highlight key environmental messages to employees.</p>   |
| Dedicated budget for energy efficiency      | <p>In 2010 we dedicated a budget to a new insulation business to increase the speed and efficiency of a nationwide insulation rollout. We now operate nationally &amp; employ around 900 people. The insulation business is part of the wider capacity we have developed to deliver a range of services to enable our customers to control their energy use in a simpler, smarter, more efficient way. British Gas was the first UK energy company to offer free insulation to all customers &amp; in 2012 insulated approximately 670,000 homes. We also have a dedicated budget and programme to deliver our energy efficiency obligation under ECO; our focus is on delivering the programme in the most cost effective way in order to minimise the cost per tonne of CO2 saved.</p>   |
| Dedicated budget for low carbon product R&D | <p>We have created a new business, British Gas Connected Homes (BGCH), to develop products and services that enable customers to use technology to connect to their homes and better manage their energy. For instance, our personalised smart energy reports, which provide insights into customers' patterns of consumption by time period and appliance type, will be a new feature of our Connected Homes service in 2013. In 2012, British Gas launched Remote Heating Control, which allows customers to control their central heating, anywhere and anytime from a smartphone or broadband connection. This can enable more efficient energy management and contribute to reductions in consumption, leading to lower bills &amp; fewer emissions. Since its launch, Remote Heating Control has been installed in more than 15,000 homes in the UK. We also have existing businesses with dedicated budgets to develop and deploy low carbon products and services. Smart metering has its own business within British Gas and is expanding its operations with plans to integrate smart metering across other business areas. British Gas New Energy (BGNE) is building integrated renewable energy and energy efficiency services. It is a significant business in its own right with over 1300 employees &amp; annual turnover of £181m. It provides a base of expertise in the green energy sector to help home owners reduce their impact on the environment and grow our share of the market.</p> |
| Other                                       | <p>We are investing in the skills of our employees and new recruits to meet the needs of a low carbon economy. In 2012, we invested £17.5m to deliver around 100,000 training days to 12,000 engineers. The majority of training related to servicing and repair but it also included insulation &amp; smart metering – for instance, 2160 engineers were trained in smart technology. In addition, our Green Skills Centre in Tredgar, Wales, provided 2,000 training days for more than 500 people. The centre gives engineers across Wales the skills necessary to make homes more energy efficient. During 2012, more than 1,000 people were completing apprenticeships across Centrica, including 252 new apprentices working to become smart energy experts and 11 in our Centrica Energy power generation business.</p>   |

| Method | Comment   |
|--------|---|
| Other  | 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. |

3.3d

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

**Page: 4. Communication**

4.1

**Have you published information about your company'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 2012: Chief Executive's review (p9-17), British Gas operating review (p22-27), Centrica Energy operating review (p28-29), Centrica Storage (p30-31), Direct Energy (p32-35) Corporate Responsibility review (39-43), Principal risks and uncertainties (p44-50) Performance measures (p146-150), Non-financial key performance indicators (p150-151) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/1.%20Centrica_annual_report_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/1. Centrica_annual_report_2012.pdf</a>                   |
| In voluntary communications (complete)     | 2012 CR Performance Review – Corporate Responsibility Performance Review 2012 – Chief Executive's introduction (p1-4) and Low carbon (p15-26) section (NB this is online and a downloadable PDF)   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/2.%20CR_Review_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/2. CR_Review_2012.pdf</a>   |
| In voluntary communications (complete)     | 2012 Corporate responsibility reporting - download of environment data held in online data centre, which includes a breakdown of our GHG emissions (www.centrica.com/datacentre)   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/3.%20Centrica_Datacentre_Environment_2012.csv">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/3. Centrica_Datacentre_Environment 2012.csv</a> |
| In voluntary communications (complete)     | Our online News and Views page: Centrica Views has a series of blogs, CR updates, speeches, responses, and hot topics and tweets dedicated to discussing issues relating to carbon, energy efficiency and climate change; the attachment shows screenshots on these topics and interested stakeholders   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/4.%20News%20and%20Views%202012.docx">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/4. News and Views 2012.docx</a>                           |

| Publication                            | Page/Section reference   | Attach the document   |
|--|--|---|
|  | can comment on these online  |   |
| In voluntary communications (complete) | Sam Laidlaw, Centrica Chief Executive answers questions on the possible social, ethical and environmental impacts of the new corporate strategy (as part of our 2012 CR reporting - NB this is online)   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/5. News and Views 2012 - video.docx">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/5. News and Views 2012 - video.docx</a>   |
| In voluntary communications (complete) | Speech made by Mark Hanafin, Centrica Energy Managing Director on the UK and Norwegian relationship, how gas is an important part of our heritage and how it will feature in a low carbon future (September 2012 - NB this is online and a downloadable PDF) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/6. Mark_Hanafin_Norway_Britain_role_of_natural_gas_260912.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/6. Mark_Hanafin_Norway_Britain_role_of_natural_gas_260912.pdf</a>                                   |
| In voluntary communications (complete) | Consultation on greenhouse gas emissions reporting, draft regulations for quoted companies (July 2012 - NB this is online and a downloadable PDF)  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/7. Consultation_on_GHG_emissions_July_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/7. Consultation_on_GHG_emissions_July_2012.pdf</a>   |
| In voluntary communications (complete) | Centrica Position Statement on Climate change (July 2012 - NB this is online and a downloadable PDF)   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/8. Climate_change_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/8. Climate_change_2012.pdf</a>   |
| In voluntary communications (complete) | Centrica Position Statement on wind energy (July 2012 - NB this is online and a downloadable PDF)  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/9. Wind_energy_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/9. Wind_energy_2012.pdf</a>   |
| In voluntary communications (complete) | Centrica Position Statement on Homes of the Future (July 2012 - NB this is online and a downloadable PDF)  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/10. Home_of_the_future_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/10. Home_of_the_future_2012.pdf</a>   |
| In voluntary communications (complete) | British Gas' response to RHI Consultation on Interim Cost Control (April 2012 - NB this is online and a downloadable PDF)  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/11. British_Gas_response_RHI_Interim_cost_control_April_2012_Final_35KB.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/11. British_Gas_response_RHI_Interim_cost_control_April_2012_Final_35KB.pdf</a>       |
| In voluntary communications (complete) | Centrica's Chief Executive, Sam Laidlaw makes the keynote address during CERA Week, no the role of gas in Europe (March 2012 - NB this is online and a downloadable PDF).  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/12. CERA_Week_March_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/12. CERA_Week_March_2012.pdf</a>   |
| In voluntary communications (complete) | British Gas responds to the Green Deal and ECO consultation (January 2012 - NB this is online and a downloadable PDF)  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/13. Green_Deal_and_ECO_consultation_response_external_summary_January_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/13. Green_Deal_and_ECO_consultation_response_external_summary_January_2012.pdf</a> |
| In voluntary communications (complete) | A new report by Oxford Economics, the global economics consultancy highlights Centrica's wider economic and environmental impact in the UK (2012 – Hot topic - NB this is online and a downloadable PDF)   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/14. centrica_economic_impact_report_2012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor_CDP_2013/Shared_Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/14. centrica_economic_impact_report_2012.pdf</a>   |
| In voluntary communications (complete) | Smart meters – Hot topic (2012 - NB this is online only<br><a href="http://www.centrica.com/index.asp?pageid=1045&amp;topic=smartmetering">http://www.centrica.com/index.asp?pageid=1045&amp;topic=smartmetering</a>   |   |

| Publication                            | Page/Section reference   | Attach the document   |
|--|--|---|
| In voluntary communications (complete) | Tweets sent on Twitter, highlighting our reporting and views on climate change   | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/16.%20Twitter.docx">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/16. Twitter.docx</a>   |
| In voluntary communications (complete) | CEU Environmental Performance Review 2012  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/17.%20CEU%20Environmental%20Performance%20Review%202012.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-4.1-C3-IdentifyAttachment/17. CEU Environmental Performance Review 2012.pdf</a> |
| In voluntary communications (complete) | Progress against commitments (NB this is online and a downloadable PDF - <a href="http://www.centrica.com/files/pdf/centcr12_progress_against_commitments.pdf">http://www.centrica.com/files/pdf/centcr12_progress_against_commitments.pdf</a> ) |   |

## Module: Risks and Opportunities [Investor]

### Page: 5. Climate Change Risks

#### 5.1

**Have you identified any climate change risks (current or future) 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

5.1a

Please describe your risks driven by changes in regulation

| ID  | Risk driver                            | Description  | Potential impact                                       | Timeframe | Direct/<br>Indirect | Likelihood             | Magnitude<br>of impact |
|-----|--|--|--|-----------|---------------------|------------------------|------------------------|
| EMR | Uncertainty surrounding new regulation | The company is exposed to significant regulatory risk because we operate in highly regulated markets, where external policy decisions or changes to regulatory regimes or industry procedures could fundamentally affect our commercial operations. The UK Government continues to develop its Electricity Market Reform programme which began in 2010 and is currently going through primary legislation in Parliament. We have had on-going discussions with Government, industry, the Regulator and other stakeholders on all aspects of the policy. The risks are that the timing of Government's decisions and the shape of the resulting policies will not align with the timing of our investment decisions, nor create a framework within which we can make those investment decisions, affecting primarily our upstream operations. These risks persist as political questions about the affordability of low carbon investments in the context of an economic downturn continue to surface. We are working to secure an outcome which ensures the viability of investment in renewables. | Other: Increased capital cost and return on investment | Current   | Direct              | Likely                 | High                   |
| EE1 | Uncertainty surrounding new regulation | An appropriate enabling environment for energy efficiency, microgeneration & smart metering is critical to support the growth of our activities in these areas. The regulatory outlook for energy efficiency measures continues to look broadly positive, however certain risks remain. For the Green Deal there are particular risks around the high level of complexity of industry data flows as part of Green Deal financing as well as the possibility that the scheme does not continue to receive the requisite Government support & incentives to drive customer uptake. Whilst more stability has been introduced recently, subsidies for microgeneration technologies could also change. Feed-in tariffs (FITs), used predominantly for solar generation, were reduced in  | Other: Return on investment                            | 1-5 years | Direct              | About as likely as not | Medium                 |

| ID  | Risk driver   | Description  | Potential impact       | Timeframe | Direct/<br>Indirect | Likelihood             | Magnitude<br>of impact |
|-----|---|--|------------------------|-----------|---------------------|------------------------|------------------------|
|     |   | <p>2011 but have now entered a stable period with the UK Government providing more certainty on future subsidy levels. However there was uncertainty in the first half of the year around anti-dumping actions on solar panels which is likely to be clearer later in the year once the EU clarifies its policy. The commercial RHI is working effectively for small &amp; medium biomass but ineffectively for other technologies. A tariff review is planned in 2014 which may improve this. The domestic RHI, which has already been delayed, is also planned for April 2014 – there is a risk that it would be further deferred. Recent statements on smart meters have reaffirmed the Government’s support for the roll out to all UK homes although on a revised timescale to 2020 (previously 2019). This included the commitment that once installed, smart meters cannot be replaced by traditional ‘dumb’ meters - this provides more confidence for smart meter installation going forward. In the US, smart meters are deployed &amp; owned by regulated utilities &amp; not directly by Direct Energy – this reliance on third parties can cause uncertainties around the timeliness&amp; 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 retail plans can make it difficult for them to precisely track their usage &amp; corresponding savings. Having greater access to real-time data would provide the ability to offer enhanced products but currently this is dependent on the utility &amp; not a standard requirement.</p> |                        |           |                     |                        |                        |
| PL1 | General environmental regulations, including planning | <p>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 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</p>   | Increased capital cost | 1-5 years | Direct              | About as likely as not | Medium                 |



| ID   | Risk driver                       | Description  | Potential impact  | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|------|-----------------------------------|--|---|-----------|---------------------|------------|------------------------|
|      |                                   | negative impacts our operations may have and to make the most of the benefits.   |   |           |                     |            |                        |
| EE2  | Fuel/energy taxes and regulations | There is a risk that we fail to meet our legal obligations for the Energy Company Obligation (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. This could have the effect of increasing bills for our customers and making us less competitive.   | Increased operational cost  | Current   | Direct              | Likely     | Medium-high            |
| ERO1 | Cap and trade schemes             | There is a risk that we fail to meet the requirements of the EU Emissions Trading System, either through failing to secure proper verification of our emissions, or surrendering insufficient emission allowances to match the verified levels.  | Increased operational cost  | Current   | Direct              | Unlikely   | Medium-high            |
| ERO2 | Emission reporting obligations    | There is a risk that we fail to meet our obligations under various regional carbon programmes. Since purchasing gas producing assets in Wildcat Hills, we now have an obligation under Alberta Carbon, a carbon compliance market for emissions from natural gas production. The costs of purchasing credits are formed through the production of gas and they are recovered through product sales. In addition, Direct Energy also owns and operates three natural gas fired power plants in Texas. Each facility is obliged to report their carbon emissions to the Federal Government annually through an electronic reporting system. Currently no carbon emissions credits purchase is required therefore there is no financial impact to the business unit. However, if we do not comply there is potential for legal action and associated costs. | Other: Increased regulatory reporting burden  | Current   | Direct              | Likely     | Low-medium             |
| LR1  | Lack of regulation                | In North America, the prospects for any federal climate legislation have largely disappeared. Climate change action has slowed and is limited to specific states and provinces (California, RGGI in north eastern states). A liquid, large scale market in low carbon products and services is unlikely to develop in the next five years. The lack of regulation means that we do not have the  | Other: Insufficient support for developing market in low carbon products and services | 1-5 years | Direct              | Likely     | Low-medium             |

| ID | Risk driver | Description  | Potential impact | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|----|-------------|--|------------------|-----------|---------------------|------------|------------------------|
|    |             | certainty required for planning and investment purposes. |                  |           |                     |            |                        |

## 5.1b

**Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk and (iii) the costs associated with these actions**

EMR: i - Electricity generation from renewables is not currently commercially viable against fossil fuels without Govt support. Removal of this support would impact our investment decisions & the potential future new build costs. Any future change in regulation that is not covered by our contracts' Change in Law provision could also impact our returns. ii - Internally, an executive level Policy Group meets regularly to discuss & agree Group-wide positions on each key issue. Externally, we continue to engage with Govts & regulators & to build knowledge & trust in the business among wider stakeholder audiences. iii - The costs built into annual operational budgets.

EE1: i -Changes to the framework for the Green Deal (GD) could impact the £15m we have already invested in this area; structurally we also retain some long-term risk on individual GD loans, which can have terms of up to 25 years. As the UK leader on smart meters we have invested hundreds of millions of pounds installing more smart meters than any other supplier. Our renewable heat & solar businesses have projected annual combined revenues of between £40m-60m in 2013 & any delays or changes to Govt incentives such as RHI or FITs could impact those revenues. Govt estimates we will spend around £430m per year on our ECO obligation & changes in legislation could make it even more expensive to meet our targets. ii – We regularly engage with regulators & Govt to share our experiences & contribute to a more workable policy environment. Having proactively 'gone early' on GD we have shared our learning at a detailed level with Govt to improve the roll out. We have created a risk register & compliance matrices to manage complexity around GD finance. We manage our onsite renewables & insulation businesses carefully with a balanced mix of recruitment & 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 3rd-party contracts, the Govt brokerage market, contracts with local authorities & our own installation business. We have reduced our commercial risk around smart meters in the UK by having detailed business cases that we review periodically to adapt to any changes in market conditions. iii - Management actions built into annual operation budgets.

PL1: i -Planning is a major factor in the economics of major infrastructure projects & inquiries could substantially delay or stop new investments. In 2012, our proposed Docking Shoal offshore wind farm was refused consent by DECC over concerns about the potential impact on breeding Sandwich tern bird population. ii - We are engaging with the UK Govt & are supportive of plans to bring forward construction in new energy infrastructure. Formal & informal consultation forms a key part of the planning process. Stakeholder engagement for our proposed RB offshore wind farm played an important part in gaining consent for the scheme. For our proposed Rhiannon wind farm in the Irish Sea Zone we listened to the views of local communities at 12 formal consultation events in 2012. iii – In 2012, £0.4b was invested in developing our offshore wind projects which includes the contributions from our JV partners (exact figures are commercially confidential).

EE2: i - Govt estimates we will spend around £430m per year on our ECO obligation. If we were unable to deliver ECO within the estimated costs there is the risk that this cost will be greater & would increase the bills for our customers, making us less competitive. Failure to comply with ECO obligations could risk enforcement action which can lead to fines of up to 10% of global turnover but typically much lower figures designed to compensate for consumer detriment. ii - In 2010 we

acquired the cavity & loft installer Hillserve & external-wall insulation company ECL Contracts Ltd. This will help us deliver solid wall insulation for ECO & gives us commercial advantages including quality, cost control & a reduced reliance on 3rd party contractors. We are making good progress developing new propositions & systems to deliver ECO & we are already entering into contracts with 3rd parties. We also work closely with the heating & insulation industry & Govt to develop capacity, new technologies & best practice to increase cost effectiveness of delivery. iii - The Hillserve & ECL Contracts businesses were acquired for £5m & £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 business will increase our overall cost-effectiveness of ECO delivery.

ERO1: i - 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. ii - We manage this risk by ensuring a close match between our forecasted levels of emissions under the system & 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 expected running patterns in turn dependent on plant availability & 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 & retirement deadlines. iii - Costs are part of ongoing operational budgets.

ERO2: i - Under Alberta Carbon, Direct Energy met its 2012 obligation by purchasing the required carbon credits. Total compliance costs will continue to be steady as the emission credit market remains stable. ii - To help mitigate risks, carbon emission reporting & compliance requirements are met through a regular review & compliance assurance programme. iii - There are no specific costs.

LR1: i - The net financial implications to Direct Energy (DE) of current regulatory policies are unclear as legislation both imposes a cost (for all power/gas producers/sellers) & also an opportunity selling efficiency & related services. ii - We have built our Direct Energy business in a way that is not dependant on Govt incentives & new legislation to mitigate the risk of a lack of regulation supporting low carbon services. In 2012 DE continued to build on the platforms provided by the Clockwork & Home Warranty acquisitions, beginning with the penetration of Protection Plans into the Clockwork franchise network & developing new sales channels. iii – In 2010 DE acquired Clockwork for \$183m (£126m) & Home Warranty for \$48m (£30m) in 2011. On-going business development costs to build the platform will be built into operational budgets.

### 5.1c

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

| ID  | Risk driver                    | Description   | Potential impact                            | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|-----|--------------------------------|---|---|-----------|---------------------|------------|------------------------|
| SWE | Other physical climate drivers | 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 increased intensity of hurricanes in America. If severe weather events continue to increase in | Reduction/disruption in production capacity | Current   | Direct              | Unlikely   | Medium                 |

| ID | Risk driver                    | Description  | Potential impact   | Timeframe | Direct/<br>Indirect | Likelihood             | Magnitude<br>of impact |
|----|--------------------------------|--|--|-----------|---------------------|------------------------|------------------------|
|    |                                | frequency and intensity, our business could be at risk from increased 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 also on the coast and we have onshore substations for our offshore wind farms. Output from our wind farms can be affected by low wind speeds which could increase with higher levels of weather instability. Patterns of high pressure during hot spells can substantially reduce wind speeds and therefore output.  |  |           |                     |                        |                        |
| SL | Sea level rise                 | Rising sea levels present a 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 & 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 including a flood risk assessment. | Increased capital cost   | >10 years | Direct              | Exceptionally unlikely | Low                    |
| CT | Change in temperature extremes | 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 facilities. The efficiency and output of all gas turbines is affected  | Other: Reduction in production capacity / Increased operational cost | >10 years | Direct              | Exceptionally unlikely | Low                    |

| ID   | Risk driver                                   | Description  | Potential impact   | Timeframe | Direct/<br>Indirect        | Likelihood             | Magnitude<br>of impact |
|------|---|--|--|-----------|----------------------------|------------------------|------------------------|
|      |   | 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 & Lantage). Very low temperatures can also reduce efficiency if we have to deploy anti-icing systems on gas-fired stations.  |  |           |                            |                        |                        |
| AR   | Uncertainty of physical risks                 | Other companies are not yet reporting comprehensively on adaptation issues and therefore it is difficult to assess the impact of physical risks on our supply chain and other parts of our value chain. However, an interruption in the supply of key products such as chemicals necessary for running power stations could risk a reduction in output or shutdown. Resilience, continuity or contingency plans to adapt to the effects of climate change are to an extent dependant on other sectors and regulators. Uncertainties about inter-dependencies with other stakeholders and their adaptation plans are a barrier to implementing adaptation measures. | Increased operational cost   | 1-5 years | Indirect<br>(Supply chain) | Unknown                | Low-medium             |
| FR   | Change in precipitation extremes and droughts | Flooding of sites or access routes has been identified as one of the main risks from climate change to our gas fired power stations. However over the expected life of the assets, the risk remains low.   | Other: Reduction in production capacity / Increased operational cost | >10 years | Direct                     | Exceptionally unlikely | Low                    |
| DR   | Change in precipitation pattern               | 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. After assessment in 2011 we concluded that the risks from drought or water shortages as a consequence of climate change are low.  | Other: Reduction in production capacity / Increased operational cost | >10 years | Direct                     | Exceptionally unlikely | Low                    |
| CUS1 | Other physical climate drivers                | 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   | Increased operational cost   | Unknown   | Indirect<br>(Client)       | Unknown                | Low-medium             |

| ID   | Risk driver                    | Description  | Potential impact           | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|------|--------------------------------|--|----------------------------|-----------|---------------------|------------|------------------------|
|      |                                | 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, providing free energy efficiency advice and energy efficient products. In 2012 we supported 2.1m vulnerable households by providing such 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 in our British Gas Energy Trust, an independent charity which provides vulnerable customers with energy advice & grants. |                            |           |                     |            |                        |
| CUS2 | Snow and ice                   | Changing patterns of snowfall are a risk to our British Gas business. Extremes of cold weather increase the number of 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 2011/2012. This compares to the Winter quarter for 2011 which was the warmest last quarter on record and the number of engineer visits decreased correspondingly.  | Increased operational cost | Current   | Direct              | Unlikely   | Medium                 |
| SDF  | Change in temperature extremes | Physical changes related to climate change could reduce the accuracy with which we are able to forecast demand. As a business, we have to make hedging and pricing decisions based on our best view of seasonal weather demand. More extreme weather scenarios make these predictions about demand harder to get right leading to the company making too little or too much profit.  | Increased operational cost | Current   | Direct              | Unlikely   | Medium                 |

## 5.1d

**Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; and (iii) the costs associated with these actions**

SWE: i - 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 & 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. ii - Flood risk was an important consideration in the design of the stations, construction of the sea defences & 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 & through our meteorology teams & business continuity arrangements. We regularly undertake risk assessments on our gas fired power stations. For instance in 2012, we assessed our Killinghome & Barry stations & will be updating our operating plans in the event of flooding & managing any associated environmental hazards. iii - Flood risk costs incorporated into initial build costs & ongoing risk management.

SL: i - As it is the next generation of gas & 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. ii - We undertook a detailed assessment in 2011, concluding that the risks are low & we will undertake a flood risk assessment when investing in any new assets. iii - No additional cost for action.

CT: i - Higher temperatures can reduce both efficiency & output from power stations. We have assessed each power station for the effect a heatwave would have on output & efficiency. We are not able to report on financial implications because of the substantial uncertainties around the risk likelihood & magnitude. ii - We are working with DECC on sector resilience plans to mitigate & manage the impact of physical risks. We have also worked with the AEP in producing its sector response to report on adaptation by DEFRA. iii - Integrated into annual budgets.

AR: i - We have been working to identify key stakeholder relationships to help us understand our wider risks. Resilience, continuity or contingency plans to adapt to the effects of climate change are to an extent dependant on other sectors & regulators. ii - There are other industries also required to report which is helping to give adaptation issues a higher profile. We are involved in discussions focused on the uncertainties about inter-dependencies with other stakeholders & their adaptation plans through our trade association, Energy UK, & a working group on adaptation & resilience. iii - No additional cost for action.

FR: i - Heavy or sustained rainfall can lead to high river flow, river & land flooding, tidal surges & coastal flooding. Impacts include reduction in water quality due to suspended solids, site plant & equipment flooding, & flooding of access routes. In the worst cases sites have to be shut down until flood water has receded. Our 2011 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. ii - Improvements in our understanding of the risks & dependencies on other stakeholders such as the EA helps us to develop contingency plans. iii - Ongoing risk management costs integrated into existing budgets.

DR: i - There is strong evidence that precipitation patterns will change significantly during the 21st century with wetter winters & drier summers. Hazards such as water scarcity & 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. Additionally, there is a risk from tightening regulation & lowering of abstraction licence allowances. A worst case risk scenario may mean an impact of several million pounds. ii - All UK power stations have reviewed their water usage & taken action to reduce the consumption of water. For example, at our Brigg power station water efficiency has been improved by fixing underground leaks; at Langage we have created a rainwater harvesting project to reduce freshwater consumption; and at Humber, water usage on blow down has been reduced by 40%. iii - No additional costs, management actions incorporated within annual operational budgets.

CUS1: i - We spent over £500m supporting vulnerable customers in the last 3 years. There are potential risks for our employees failing to reach their place of work during cold weather with financial impacts arising from lost productivity. ii - In 2012 we helped 2.1m vulnerable UK households through free debt & payment

assistance; free energy efficiency advice, products & services; discounted tariffs & energy & household grants. We have a 5-year partnership with Shelter to help 1m households in the rented sector improve the standard of their homes. We manage increased health risks to employees through our business continuity plans & wider wellbeing programme. iii - In 2012 we contributed more than £223m supporting vulnerable customers

CUS2: i - Weather conditions can affect the number & cost of engineer call-outs & there are financial impacts if our employees are unable to make it to places of work. Cooler weather in 2012 led to a 12% increase in average domestic consumption & revenues of £9,121m in British Gas residential energy supply, against a consumption reduction of 23% in 2011 due to warmer weather. ii - 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 & maintenance inspection visits & caps on certain work in high risk areas. We have proactive employee plans to raise awareness of severe weather & encourage preparedness allowing employees to work from home, where possible. The majority of our power station sites hire 4x4 vehicles to support employees in getting to work on the site during adverse weather. iii - Costs for supporting our employees during poor weather events are built into operational budgets.

SDF: i -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 & prevailing market conditions. ii - We have engaged with the Met Office to ensure that the seasonal & 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. iii - The majority of our actions to mitigate the physical risks of climate change are part of business-as-usual risk mitigation.

5.1e

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

| ID  | Risk driver                 | Description  | Potential impact                  | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|-----|-----------------------------|--|-----------------------------------|-----------|---------------------|------------|------------------------|
| FEC | Changing consumer behaviour | The Group is exposed to the risk of falling energy consumption. The UK Government sees both domestic & 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. Continuing reduction in energy demand could, on a per customer basis, significantly reduce the overall demand from British Gas' energy customers. An Independent analysis of 40m British Gas meter readings over a 4 year period has shown a 22% decline in gas consumption, driven mainly by energy efficiency measures. The report | Reduced demand for goods/services | Current   | Direct              | Likely     | Medium-high            |



| ID | Risk driver   | Description  | Potential impact     | Timeframe | Direct/<br>Indirect | Likelihood             | Magnitude<br>of impact |
|----|---------------|--|----------------------|-----------|---------------------|------------------------|------------------------|
|    |               | <p>showed that customers who adopted measures such as insulation and energy efficient boilers saved an average of £322 each year and saw a 44% fall in their gas use between 2006 and 2010. This equates to a total average annual saving of £227m. Smart technology will also reduce demand for energy: In 2012, the economic forecasting consultancy Oxford Economics identified that smart meters could reduce gas and electricity consumption by around 5%. In 2012, our EnergySmart customers have cut gas use by 4% &amp; electricity use by 5%, reducing carbon emissions by approximately 255kg CO2. Our smart-enabled Remote Heating Control product is allowing customers to monitor and control their central heating system via the internet or smart phone. 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 &amp; varies across our chosen markets due to lower wholesale gas prices from indigenous shale reserves, weather variations and market factors.</p> |                      |           |                     |                        |                        |
| NT | Other drivers | <p>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 the 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. 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 Govt has set a target to install smart meters in every home by 2020 which is the most substantial roll out of new domestic energy infrastructure for some years. So there is substantial risk inherent in the required investment in our systems, people</p>   | Other: Profitability | 1-5 years | Direct              | About as likely as not | Medium                 |

| ID   | Risk driver                 | Description   | Potential impact                            | Timeframe | Direct/<br>Indirect | Likelihood           | Magnitude<br>of impact |
|------|-----------------------------|---|---|-----------|---------------------|----------------------|------------------------|
|      |                             | 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.   |   |           |                     |                      |                        |
| SK   | Other drivers               | There is a risk that we may lack the necessary skills among our employee base in the future that we need to take maximum advantage of a low carbon economy and keep up with demand for new technologies, including offshore wind, energy efficiency products and the UK smart grid.   | Reduction/disruption in production capacity | 1-5 years | Direct              | Likely               | Medium-high            |
| REP1 | Changing consumer behaviour | Maintaining a positive reputation for the Group is of vital importance to growing our business, to prevent losing customers to competitors, protecting profitability and limiting regulatory intervention. As a leading provider of low carbon 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 undermine 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. | Reduced demand for goods/services           | Current   | Direct              | Unlikely             | High                   |
| RC   | Other drivers               | 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 Trading Scheme (ETS) ended, and we now buy all the allowances for our power stations in the market. The   | Increased operational cost                  | Current   | Direct              | More likely than not | Medium                 |

| ID | Risk driver | Description  | Potential impact | Timeframe | Direct/<br>Indirect | Likelihood | Magnitude<br>of impact |
|----|-------------|--|------------------|-----------|---------------------|------------|------------------------|
|    |             | 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. |                  |           |                     |            |                        |

#### 5.1f

**Please describe (i) the potential financial implications of the risk before taking action; (ii) the methods you are using to manage this risk; (iii) the costs associated with these actions**

FEC: i - Continuing reduction in gas & electricity consumption could have a significant impact on the Group's profits without mitigating actions. Based on figures from an independent ERM report, since 2010 the low carbon products & services that we have installed have saved our customers an estimated 13.2TWh of energy (the calculation is based on the assumption that all of the carbon savings in the ERM report relating to heating & hot water are gas savings & all others are electricity savings). ii - Our shift in focus towards energy services is helping to reduce our reliance on revenue from energy supply only. We are the largest installer of energy efficiency products in the UK & the only UK energy supplier with our own insulation business. We are leading on the national rollout of smart meters in the UK & we have created a Connected Homes business to offer new smart-enabled products & services. British Gas is a keen early proponent of Green Deal (GD), holding the largest share of GD Cash Back claims to date, & the first company to launch GD Finance. We have 190 Energy Experts qualified to conduct GD surveys. iii - We have invested substantially in developing our EE services including: our British Gas' New Energy business with revenues of over £181m; We have invested £15m in GD to date; Govt estimates we will spend around £430m per year on our ECO obligation; The installation & maintenance of smart meters will cost British Gas & other leading energy suppliers an estimated £11.5bn.

NT: i Centrica & other leading energy suppliers will have the responsibility for the installation & maintenance of smart meters, at an estimated cost of £11.5bn. Uncertainties around smart meter technologies & the scale of implementation present both risks to the business, but also offer opportunities such as new smart-enabled products & service offerings. ii We have continued to build our capabilities in smart technologies: Following the 2010 acquisition of a 15.96% 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 & smart metering applications. We installed 881,794 smart meters in homes & businesses by the end of 2012. We have switched to SMETS-capable meters at the earliest opportunity & we are leading the industry in their deployment. iii Management costs for smart metering are built into annual operation budgets with an additional capital investment of €4.5m for a stake in PCC & the £5.7m stake in AlertMe.

SK: i - Lacking the necessary future skills among our employee base would impact our ability to grow our energy services business. There is a risk of lost income if

demand outstrips supply & a risk of enforcement action if we are unable to fulfil our ECO obligations which can lead to fines of up to 10% of global turnover but typically much lower figures designed to compensate for consumer detriment. To mitigate these risks we have invested in a dedicated training facility for our insulation installers & assessors & recently upgraded the facility to cover new products under ECO such as solid wall insulation. 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 Govt brokerage market & 3rd party contracts. ii - We have the largest insulation business in the UK with around 900 people & a New Energy business of over 1300 people. We are training engineers in low carbon skills & new technologies & have delivered around 100,000 training days to 12,000 engineers, 2160 of whom were trained in smart technology. We maintain the skills of our workforce through Green Skills Centre in Tredegar, Wales, which provided 2000 training days for more than 500 people in 2012. We also invest heavily in apprenticeships & currently employ 1,000 apprentices across the UK, 263 of which are smart meter apprentices. iii - We invested £17.5m in engineering training in 2012.

REP1: i - Brand & reputational damage arises through perceptions that energy companies are not proactively supporting or managing climate change issues. It is difficult to quantify brand risk but failure to fulfil our mandatory obligations could have negative reputational implications in addition to the risk of enforcement action. ii - We are differentiating ourselves as an energy services provider & improving our customer service delivery. We are the largest installer of energy efficiency products in the UK & insulated 670k homes in 2012. We have invested in our business systems to improve clarity of bills & smoothed the process of registering for online accounts. We now handle 13% more online transactions in 2012 than in 2011 & have 3m online customers. Consumer campaign group Which? awarded British Gas five stars for the clarity of our new bills & we have surpassed both our UK & US customer satisfaction targets, measured by our net promoter scores (NPS). We continue to deploy reputational improvement programmes & have been working on a trial in 2013 with a specialist reputation monitoring & analysis organisation to analyse media sources to help us better monitor corporate reputation & its drivers. lii - We have budgeted significant amounts to improve customer billing, management systems and frontline customer service training (specific costs are commercially confidential). In order to build trust with our customers we have implemented a 2 year £500m cost reduction programme across our businesses.

RC: i - The risk of rising investment costs for renewables projects demonstrates clear financial implications with individual projects delivered to date costing several hundred million pounds. Our capacity to borrow money may change as lenders consider carbon risk in the lending decision. 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. ii To mitigate the risks around pricing of carbon emissions, we produce our own forecasts of future carbon prices, with strong emphasis on credible high & low scenarios, as well as a 'central' view. We factor the economic costs of carbon into generation dispatch decisions & recover the costs via the energy sales arrangements. The exposure of our supply business to carbon prices via electricity prices is recognised & treated as another 'commodity exposure' that needs to be hedged within our commodity risk management procedures. iii - Costs in this area are commercially confidential.

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5.1g

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

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5.1h

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

5.1i

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: 6. Climate Change Opportunities

6.1

Have you identified any climate change opportunities (current or future) 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

6.1a

Please describe your opportunities that are driven by changes in regulation

| ID  | Opportunity driver       | Description  | Potential impact         | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact |
|-----|--------------------------|--|--------------------------|-----------|-----------------|------------|---------------------|
| EMR | Other regulatory drivers | The UK Government has launched a significant programme of Electricity Market Reform (EMR). This is intended to deliver new market arrangements that provide sufficient incentives for new low carbon generation in order to meet the UK's carbon and renewable targets while maintaining security of supply, in the most affordable manner. Key elements of the Government's proposals are: a carbon price floor, through an additional tax on the input fuels for power generation proportionate to their carbon emissions; revenue support for low carbon generation, through a contract for difference (CFD) against the wholesale price; capacity payments to ensure security of supply; and an Emissions Performance Standard for new | Investment opportunities | 1-5 years | Direct          | Likely     | High                |

| ID | Opportunity driver       | Description   | Potential impact                                | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact |
|----|--------------------------|---|---|-----------|-----------------|------------|---------------------|
|    |                          | <p>power plants. DECC has developed the operational framework for these schemes, which are now being legislated through an Energy Bill in Parliament. This reform programme is very important as it will be required to underpin the economics of generation investment in the UK (both low-carbon and fossil-fuel). The UK Government's recognition that the electricity market needs to be reformed in order to deliver decarbonisation &amp; security of supply objectives presents a substantial business opportunity for Centrica. Industry will invest given the right market framework and companies that get this right early can earn significant benefits through becoming world leaders in technologies and services and building supply chains.</p>   |   |           |                 |            |                     |
| EE | Other regulatory drivers | <p>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. Under CESP we focused on improving homes in 318 low-income communities with a high proportion of hard to treat housing, including measures such as solid wall insulation. CESP took a 'community-by-community' &amp; 'whole house' approach, which meant British Gas worked with local authorities and social housing providers to make an entire building or street more energy efficient, rather than just a single property or apartment. This approach optimises energy efficiency gains, is more cost effective and is often less disruptive to householders – learning and skills we take into future schemes and projects. The Green Deal, officially launched in Oct 2012, but in practice only available from the first half of 2013, will enable domestic and commercial customers to invest in energy efficiency improvements, which qualify under the initiative for no upfront outlay by spreading the cost through instalments on their energy bills. This principle has the potential to open up substantial opportunities for energy efficiency products in the future. British Gas</p> | Increased demand for existing products/services | Current   | Direct          | Likely     | High                |

| ID  | Opportunity driver       | Description  | Potential impact               | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact |
|-----|--------------------------|--|--------------------------------|-----------|-----------------|------------|---------------------|
|     |                          | <p>is a keen early proponent of Green Deal, holding the largest share of Green Deal Cash Back claims to date, and was the first company to launch Green Deal Finance in April 2013. 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 present exciting growth opportunities in energy efficiency, microgeneration &amp; efficient heating systems.</p>  |                                |           |                 |            |                     |
| SNT | Other regulatory drivers | <p>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 5MW and an additional payment for exporting electricity back to the grid, was reduced in 2011 but the UK Government has now provided more certainty on future subsidy levels. This incentive has created a market in solar installation and customers can achieve attractive returns on their investment, as the cost of solar panels and installation has started to decline. The renewable heat incentive (RHI) supports renewable heat technologies, such as biomass heating, currently for the non-domestic market. Its extension to domestic renewable heat installations has been delayed to April 2014. ECO will also be a strong driver for renewable heat projects, giving capital support to projects combining insulation and community heating that reduce demand while also providing renewable energy. In its heat strategy, published in April 2013, the UK Government envisages getting to around 90% of heat from non-fossil fuel sources by 2050, which could potentially transform the market for renewable heat. Smart meters provide potential significant commercial opportunities. They can</p> | New products/business services | Current   | Direct          | Likely     | High                |

| ID | Opportunity driver | Description  | Potential impact | Timeframe | Direct/Indirect | Likelihood | Magnitude of impact |
|----|--------------------|--|------------------|-----------|-----------------|------------|---------------------|
|    |                    | enable the creation of new propositions and tariffs, increased customer satisfaction and opportunities for engagement on other energy efficiency services. In the 2008 Energy Act, the UK Government made the decision to mandate smart meters and in April 2013 provided a revised timescale to roll them out to all homes 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 & ‘time-of-use’ plans. 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. The Institute for Electrical Efficiency estimates that 65m smart meters will be deployed in the US by 2015, opening up new customers to smart enabled products and services. |                  |           |                 |            |                     |

6.1b

**Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions**

EMR: i - Our strategy is to invest in low carbon generation. The financial implications of future investment run into several billion pounds in the next decade. For example, we are willing to commit £200m as a share of the investment in the proposed Race Bank offshore wind farm & are in discussion with a financial partner & the Govt concerning the economic framework. ii - We are deploying leading capabilities across the wind value chain. In 2012, we received first power from Lincs & expect it to be fully operational by the end of 2013, delivering 270MW; enough power to meet the annual needs of more than 200k typical households. Our proposed Race Bank offshore wind farm project off the coast of Norfolk received consent in July 2012 & is awaiting a final investment decision. This project has been consented for up to 580MW. We also have the rights to develop offshore wind farms in the Irish Sea Zone, which offers potential capacity of up to 4.2GW - enough to power around 3m homes. iii - Centrica's total investment in the Lincs project is expected to be approximately £400m out of a total £800m for the project.

EE: i - In 2013, CERT & CESP were replaced by ECO on which Govt estimates we will spend around £430m per year. Industry forecasts for the accompanying Green Deal market are very uncertain, but could be in the region of £200m per year. Both schemes will provide the opportunity to tap into new markets, leverage the energy efficiency capacity, skills & services we have built through CERT & CESP, & align with our strategy to be a leading energy services provider. ii - Through the CERT & CESP schemes we've invested £1.1 billion in delivering over 20m energy efficiency measures to improve homes & reduce energy bills. In 2012 we launched 19 CESP schemes across 17 low income areas, delivering 2.9m tonnes of equivalent carbon savings. We are the only major energy supplier to invest in our own insulation business, which now employs around 900 people. Our trial Green Deal (GD) programme, the Home Energy Plan, was launched in July 2011 &



helped us to gain valuable insights about how GD might operate once fully rolled out. Our initial GD activities (launched Jan 2013) have included a strong focus on helping customers to fit new, more efficient boilers, whilst undertaking a broader GD assessment process. This has been supported by the UK Govt's GD Cashback scheme, which provides customers with a one-off incentive payment after completion of a GD Plan boiler or insulation installation. We are leading on GD Cashback installations with 80% of market share & we were the first company to offer GD finance in April 2013. We have trained 190 Energy Experts qualified to conduct GD surveys or installations. By May 2013 we had conducted 8,116 GD assessments & 2,730 installation with a further 1,847 planned. Many of ECO's activities will focus on fitting solid wall insulation & hard to treat cavity wall insulation. In 2010 we acquired the cavity & loft installer Hillserve & external-wall insulation company ECL Contracts Ltd. These acquisitions will help us deliver against ECO & gives us commercial advantages including quality & cost control & a reduced reliance on 3rd party contractors. We are making good progress developing new propositions & systems to deliver ECO & we are already entering into contracts with 3rd parties. iii - The Hillserve & ECL Contracts insulation businesses were acquired for £5m & £4m, respectively. In both cases we have invested significant further sums to expand & grow our capabilities. We have invested £15m in GD to date – covering our £10m loan investment in the GD Finance Company & the development of our own GD Provider offering & Electricity Bill collection payment systems.

SNT: i - Increased uptake of smart meters & onsite renewables could mean a reduction in demand for our energy supplies. British Gas smart meter customers have already reduced their energy bills by an average of 1.6%. However, smart meters also present opportunities to offer relevant advice, enhance the customer experience & increase retention. Satisfaction levels for smart meter customers are consistently around 40% higher & complaints 40% lower than those with a standard meter. In the US the smart meter enabled product 'Free Saturday' has reduced customer attrition by 30%. For onsite renewables, regulation such as FIT, RHI & RHPP are likely to continue to drive opportunities. Based on internal estimates (intended to give an order of magnitude), by 2020 the domestic solar and renewable heat markets could be worth £1.5bn per year - £1bn for renewable heat & £0.5bn for solar – with additional potential for markets in associated services. ii - British Gas has led the industry on smart meters, having fitted 881,794 in UK homes & businesses by the end of 2012. A prime opportunity exists to engage customers in EE advice during smart meter installations. That's why we have brought our metering operations in-house & trained 100 account managers & more than 1,200 engineers on EE. However, consumer protection regulations have restricted the unique opportunity to provide tailored advice & promote other propositions such as the Green Deal. We have acquired stakes in AlertMe & PPC, & in 2012 created a new business, Connected Homes, to further develop smart enabled products & services. In North America, using smart meters we have created time-of-use products like 'Free Saturday' & 'Pick Your Free Day' which enable customers to save money & reduce demand on the grid at peak times. Our new prepaid product, Direct Energy Power-To-GoSM, has been popular in Texas, allowing customers to better manage their budgets while reducing energy consumption by up to 18%. We have continued to develop our onsite renewables business following previous acquisitions in solar (Solar Tech, 2008), heat pumps (Cool Planet, 2010) and biomass (Econergy 100% owned, 2011). In 2012, we installed solar panels in 682 buildings, collectively providing 6.2MW of power at peak capacity; 1,033 heat pumps with a total capacity of 8.3MW; & 114 small & medium scale biomass boilers systems that have the capacity to generate a total of 14.6MWth. Requirements in FITs & ECO for minimum standards in EE & insulation have created strong synergies between our EE & onsite renewable solutions. iii - Management costs for smart metering are built into annual operation budgets with additional capital investment of €4.5m for a stake in PCC & £5.7m stake in AlertMe. As part of this investment British Gas has signed a commercial agreement, potentially worth over £20m to deploy AlertMe products & services to customers in the UK. Since 2008 we have invested almost £10m in acquiring solar, biomass & heat pump businesses to build our capability on microgeneration technologies & have subsequently invested significantly in developing those businesses.

6.1c

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

| ID | Opportunity driver | Description | Potential impact | Timeframe | Direct/ Indirect | Likelihood | Magnitude of impact |
|----|--------------------|-------------|------------------|-----------|------------------|------------|---------------------|
|    |                    |             |                  |           |                  |            |                     |

6.1d

Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity and (iii) the costs associated with these actions

6.1e

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

| ID  | Opportunity driver          | Description  | Potential impact                                | Timeframe | Direct/ Indirect | Likelihood           | Magnitude of impact |
|-----|-----------------------------|--|---|-----------|------------------|----------------------|---------------------|
| CCB | Changing consumer behaviour | The market for low carbon products and services and new smart-enabled technologies is being driven by Government carbon reduction targets in the UK and by a variety of state, provincial or municipal laws and regulations in our North America markets. Concern about rising energy costs in the UK has also increased focus on reducing and managing energy consumption, further supporting a growing energy services market. We are capitalising on changing consumer behaviour towards energy saving and management 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 they present exciting commercial opportunities and a platform to continue to grow our energy efficiency and microgeneration businesses. British Gas is already the UK's largest provider of Green Deal finance plans and assessments. In the US new markets are opening and as a result we can offer green energy products as part of our portfolio to capture more of these customers for our Direct Energy business. The roll out of smart meters in the UK and in certain states in the US is providing opportunities to deliver a range of new smart-enabled propositions which themselves are influencing our customers' behaviour. For instance in the UK our personalised 'Smart Energy Reports' will soon be available to all customers with smart meters and will provide insights into their patterns of consumption by time period and appliance type. British | Increased demand for existing products/services | 1-5 years | Direct           | More likely than not | Medium              |

| ID   | Opportunity driver | Description   | Potential impact                                | Timeframe | Direct/ Indirect | Likelihood             | Magnitude of impact |
|------|--------------------|---|---|-----------|------------------|------------------------|---------------------|
|      |                    | Gas customers with smart meters have already reduced their energy bills by an average of 1.6%, and we expect this figure to rise when we launch our personalised smart energy reports. In the US, we have developed smart-enabled time-of-use products, such as our 'Free Saturday', which is improving customer retention, while also reducing demand on the grid during periods of peak energy consumption.   |   |           |                  |                        |                     |
| REP1 | Reputation         | 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. 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 customers in the UK score 40% higher in customer satisfaction (measured by net promoter scores) than standard customers and complain 40% less. 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.  | Increased demand for existing products/services | 1-5 years | Direct           | About as likely as not | Low-medium          |
| REP2 | Reputation         | Our approach gives us the necessary credibility to influence policy-making and our initiatives are helping to inform best practice approaches. Initiatives that have a positive reputational impact are also key to differentiating us from our competitors. British Gas' Green Streets was a ground-breaking project, helping Britain's communities to become greener. The results showed mutual benefits to customers, the environment and our business, with an average 25% reduction in energy use and 23% decrease in CO2. The 64 participating households reduced total CO2 over the year by around 89 tonnes. The project provided important information into consumer behaviour and the impact of low carbon and energy efficiency technologies and an IPPR report about the programme made specific recommendations to the UK Government in support of low carbon technologies, such as smart metering. The 2010 follow up project helped 14 communities around the UK | New products/business services                  | 1-5 years | Direct           | More likely than not   | Medium              |

| ID  | Opportunity driver | Description   | Potential impact              | Timeframe | Direct/ Indirect | Likelihood           | Magnitude of impact |
|-----|--------------------|---|-------------------------------|-----------|------------------|----------------------|---------------------|
|     |                    | <p>save &amp; generate their own energy through British Gas, supplying £2m worth of energy efficiency and microgeneration measures. We have announced a five year partnership with Shelter with the aim of helping one million households in the rented sector improve the standard of their homes. We also continue to work with a range of charity partners including NEA, CAB, Macmillan, Money Advise Trust and many other independent agencies to address issues such as fuel poverty, debt restructuring and energy efficiency. In February 2013, we also announced the creation of 1,000 12-18 month work placements for young people through our Transform partnership with Global Action Plan and JobCentre Plus focused on 'green' projects. In North America, Direct Energy has partnered with the Alliance to Save Energy in a 16-school energy efficiency education initiative launched in Sep 2011 for a period of two school years. Focused in the Pennsylvania area, the PowerSchools Program has made a real impact - for example, the North Penn PowerSave Schools reduced their electricity consumption by 25%, saving 5.7m kWh and avoiding in excess of \$1.1m in costs and preventing 5,600 metric tons of CO2 pollution. Supporting our local communities raises our credibility at a local level, putting us in a better position to partner with community organisations and identifying which low carbon technologies are most effective.</p> |                               |           |                  |                      |                     |
| EMP | Other drivers      | <p>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 able to attract, recruit and retain highly skilled employees which has in turn allowed us to increase our business activities and improve our credibility in the marketplace. The low carbon skills of our people are a key differentiator for us against our competitors.</p>   | Other: increased productivity | Current   | Direct           | More likely than not | Medium              |

**Please describe (i) the potential financial implications of the opportunity; (ii) the methods you are using to manage this opportunity; (iii) the costs associated with these actions**

CCB: i - We are developing products & services to meet the changing needs of our customers in the UK & North America including new efficient boilers, energy efficiency measures & smart-enabled products. Central heating installations revenue, which involves fitting energy efficient boilers for customers in the UK, reached £258m in 2012. Govt estimates we will spend around £430m per year on our ECO obligation. Industry forecasts for accompanying Green Deal (GD) market are very uncertain, but could be in the region of £200m per year. Our leading position in smart metering is helping us enhance our customer experience, increase retention & sell more smart-enabled products & services. ii - British Gas installs around 100k high efficiency domestic boilers each year, which can reduce heating bills by up to 40%. We are the only major energy supplier to invest in our own insulation business & we are a keen early proponent of GD, including being the first company to launch GD Finance. We have installed 881,794 smart meters in UK homes & businesses by the end of 2012 through our own in-house metering operations business & our new Connected Homes business has been created to capitalise on new opportunities in smart-enabled technology. In the US we have developed new time-of-use products & we are creating new green energy products, such as our 'New Leaf Energy', which is backed by Renewable Energy Certificates (RECs) from our Texas wind farm power purchase agreements & also our 'True Blue Texas Plan™', a 100% natural gas product sourced from Texas. iii - We have invested £15m in GD to date & management costs for smart metering are built into annual operation budgets with additional capital investment of €4.5m for a stake in PCC & £5.7m stake in AlertMe.

REP1: i - By building our reputation as a provider of low carbon products & services we have the opportunity to enhance our position in a number of significant markets. For instance, ECO will allow us to develop our capabilities in solid wall & hard to treat cavity wall insulation with the UK Govt estimating that we will spend around £430m per year on our ECO obligation. Industry forecasts for accompanying Green Deal (GD) market are very uncertain, but could be in the region of £200m per year. Based on internal estimates (intended to give an order of magnitude), by 2020 the domestic solar & renewable heat markets could be worth £1.5bn per year. We estimate that the low carbon technology & energy efficiency market could be worth tens of billions of pounds over the next decade. ii - We are the only major energy supplier to invest in our own insulation business, employing around 900 people & our acquisition of external-wall insulation company ECL Contracts is helping us to deliver our to ECO obligations by building our capability in solid wall insulation. We have continued to develop our onsite renewables business & in 2012, we installed solar panels in 682 buildings, collectively providing 6.2MW of power at peak capacity; 1,033 heat pumps with a total capacity of 8.3MW; & 114 small & medium scale biomass boilers systems that have the capacity to generate a total of 14.6MWth. Our involvement as one of four lead partners in CLNR puts us at the forefront of learning around microgeneration, EVs & smart grid technologies. Our investments in AlertMe & PCC are also helping us take a leading position in the Connected Home market. iii - We bought the insulation business, Hillserve, for £5m & the solid wall insulation business ECL Contracts for £4m in 2010. Since 2008 we have invested almost £10m in acquiring solar, biomass & heat pump businesses to build our capability on microgeneration technologies & have subsequently invested significantly in developing those businesses.

REP2: i - The potential market for community based schemes is significant, with annual spending on ECO set to be £430m. In the US, the PowerSchools initiative has been used by Direct Energy (DE) to leverage traditional media, social media, internal communications & goodwill building with North Penn School District, who will remain a DE Business customer partly due to the success of the initiative. The programme has supported the decision for Direct Energy to launch their own Eco Heroes programme within the district which will be solely DE branded. ii - Concluding in 2011, our Green Streets programme has meant we have invested in 14 community projects nationwide & gathered valuable insights into how to deliver low carbon technology to communities. Such schemes also enable us to build positive perceptions among stakeholders such as Govt, enhancing our credibility to deliver on our key obligations. One such obligation, CESP, which concluded in 2012, took a 'community-by-community' & 'whole house' approach, which meant British Gas worked with local authorities & social housing providers to make an entire building or street more energy efficient, rather than just a single property or apartment. We will take the skills & knowledge developed through these activities into future schemes & projects such as ECO. Our North American schools programme is helping to increase market opportunities & to build DE's reputation in this area. iii - Centrica makes significant contributions to the communities that we work in: Our investment in Green Streets was £2m & in 2012, we contributed more than £223m helping 2.1m vulnerable households in the UK. In North America our total spend on the PowerSchools programming was \$340,000 for two full school years of programming in 16 schools.

EMP: i - Our expertise in the installation of energy efficiency & 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. One such opportunity is the Green Deal (GD) -industry forecasts for the accompanying GD market are very uncertain, but could be in the region of £200m per year. Based on internal estimates (intended to give an order of magnitude), by 2020 the domestic solar & renewable heat markets could be worth £1.5bn per year with additional potential for markets in associated services. ii - In 2012 we delivered around 100,000 training days to 12,000 engineers, 2,160 of whom were trained in smart technology. Our Green Skills Centre in Tredegar, Wales, provided 2,000 training days for more than 500 people in 2012. In 2012 more than 1,000 people were completing apprenticeships across Centrica, including 252 new apprentices working to become smart energy experts. We have also trained 190 Energy Experts qualified to conduct GD surveys or installations. We have grown our insulation business to around 900 people & our New Energy business now has more than 1300 employees. iii - We invested £17.5m in training in 2012.

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#### 6.1g

**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**

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#### 6.1h

**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**

- i. The physical opportunities provided by climate change are not ones that we would consider significant at present.
- ii. 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. However, we have identified the following low-level opportunities associated with the physical impacts of climate change.
- iii. Possible opportunities reviewed:

By managing climate risk and weather risk effectively, we will be better positioned than our competitors which provides us with commercial opportunities. Our capabilities in energy efficiency, smart energy and other smart-enabled products and services such as Remote Control Heating 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 solutions such as the time-of-use tariffs that we have launched in our US markets.

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 (source: DEFRA). 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 are well-placed to deliver smarter energy use through home energy management systems, able to meet changing demand and circumstances in the future.

We cannot be specific about other opportunities available to us until the physical outcomes and Government responses to the physical manifestations of climate change 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.
- iv. The geographic areas considered: Primarily UK, United States of America & Canada – our core business areas.
- v. How far into the future they have been considered: Into the next decade.

6.1i

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

**Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading [Investor]**

**Page: 7. Emissions Methodology**

7.1

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) |
|-----------------------------------|--|--|
| Mon 01 Jan 2007 - Mon 31 Dec 2007 | 9503312  | 122713   |

7.2

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  |

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**7.2a****If you have selected "Other", please provide details below**

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 2012 we had our Scope 1 and 2 emissions publicly assured prior to inclusion in our CR report.

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

| <b>Gas</b>                  | <b>Reference</b>                               |
|-----------------------------|--|
| 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) |



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**7.4**

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

| Fuel/Material/Energy | Emission Factor | Unit | Reference |
|----------------------|-----------------|------|-----------|
|----------------------|-----------------|------|-----------|

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**Further Information**

Refer attached for all Emission Factors.

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**Attachments**

[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/CDP emission factors.xlsx](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/7.EmissionsMethodology/CDP%20emission%20factors.xlsx)

**Page: 8. Emissions Data - (1 Jan 2012 - 31 Dec 2012)**

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**8.1**

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

Equity share

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**8.2**

Please provide your gross global Scope 1 emissions figures in metric tonnes CO<sub>2</sub>e

7230344

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**8.3**

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

166476

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8.4

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

Yes

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8.4a

Please complete the table

| Source   | Scope   | Explain why the source is excluded  |
|--|---------|---|
| Fugitive and venting emissions from non operated offshore assets | Scope 1 | 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 less than 5% of the offshore assets total emissions. |

---

8.5

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<br>Assumptions<br>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 or the emissions of a similar platform where there is no ETS allowance. | More than 2% but less than or equal to 5% | Data Gaps<br>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. |

8.6

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

Third party verification or assurance complete

8.6a

**Please indicate the proportion of your Scope 1 emissions that are verified/assured**

More than 90% but less than or equal to 100%

8.6b

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

| Type of verification or assurance | Relevant standard                                | Attach the document   |
|-----------------------------------|--|---|
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Killingholme.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Killingholme.pdf</a>              |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Kings%20Lynn.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Kings Lynn.pdf</a>                |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Roosecote.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Roosecote.pdf</a>                    |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Barry.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Barry.pdf</a>                            |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Langage.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Langage.pdf</a>                        |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Peterborough.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 - Peterborough.pdf</a>              |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20Brigg.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 -Brigg.pdf</a>                             |
| Not applicable                    | European Union emissions trading system (EU ETS) | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu-ETS%20verified%20reports%202012%20-%20South%20Humber%20Bank.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/Eu- ETS verified reports 2012 -South Humber Bank.pdf</a> |

| Type of verification or assurance | Relevant standard | Attach the document   |
|-----------------------------------|-------------------|---|
| Limited assurance                 | ISAE3000          | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/centcr12_Assurance_Statement.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/centcr12_Assurance_Statement.pdf</a> |
| Limited assurance                 | ISAE3000          | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.6b-C3-RelevantStatement/centcr12_basis_of_reporting.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.6b-C3-RelevantStatement/centcr12_basis_of_reporting.pdf</a>   |

8.6c

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 |
|------------|--------------------------------------|-------------------|------------------------|
|            |                                      |                   |                        |

8.7

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

Third party verification or assurance complete

8.7a

Please indicate the proportion of your Scope 2 emissions that are verified/assured

More than 90% but less than or equal to 100%

8.7b

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

| Type of verification or assurance | Relevant standard   | Attach the document   |
|-----------------------------------|---|---|
| Limited assurance                 | ISAE3000  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.7b-C3-RelevantStatement/centcr12_Assurance_Statement.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/centcr12_Assurance_Statement.pdf</a>   |
| Limited assurance                 | ISAE3000  | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.7b-C3-RelevantStatement/centcr12_basis_of_reporting.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/centcr12_basis_of_reporting.pdf</a>   |
| Limited assurance                 | Verification as part of Carbon Trust standard certification | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Carbon%20Trust%20Standard%20Certification%20Letter%20-%20Centrica%20plc.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Carbon Trust Standard Certification Letter - Centrica plc.pdf</a>                       |
| Limited assurance                 | Verification as part of Carbon Trust standard certification | <a href="https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Centrica_Recertification_Assessment_Submission%20April%202012%20Final%20version.pdf">https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/Investor-8.7b-C3-RelevantStatement/Centrica_Recertification_Assessment_Submission April 2012 Final version.pdf</a> |

8.8

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

Yes

8.8a

Please provide the emissions in metric tonnes CO2

411

Further Information

Deloitte undertook public assurance of our total Scope 1 and 2 GHG emissions for the first time.  
The Carbon Trust Standard Certification is valid for a period of 24 months from 01/01/2012 until 31/12/2013.

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## Attachments

[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/centcr12\\_Assurance\\_Statement.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/centcr12_Assurance_Statement.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 -South Humber Bank.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-South%20Humber%20Bank.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Langage.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20- Langage.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Carbon Trust Standard Certification Letter - Centrica plc.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Carbon%20Trust%20Standard%20Certification%20Letter%20-%20Centrica%20plc.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 -Brigg.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-Brigg.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Killingholme.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-%20Killingholme.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Barry.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-%20Barry.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Roosecote.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-%20Roosecote.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/centcr12\\_basis\\_of\\_reporting.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/centcr12_basis_of_reporting.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Peterborough.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-%20Peterborough.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Centrica\\_Recertification\\_Assessment\\_Submission April 2012 Final version.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Centrica_Recertification_Assessment_Submission%20April%202012%20Final%20version.pdf)  
[https://www.cdproject.net/sites/2013/42/3042/Investor CDP 2013/Shared Documents/Attachments/InvestorCDP2013/8.EmissionsData\(1Jan2012-31Dec2012\)/Eu-ETS verified reports 2012 - Kings Lynn.pdf](https://www.cdproject.net/sites/2013/42/3042/Investor%20CDP%202013/Shared%20Documents/Attachments/InvestorCDP2013/8.EmissionsData(1Jan2012-31Dec2012)/Eu-ETS%20verified%20reports%202012%20-%20Kings%20Lynn.pdf)

## Page: 9. Scope 1 Emissions Breakdown - (1 Jan 2012 - 31 Dec 2012)

---

### 9.1

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

Yes

---

### 9.1a

Please complete the table below

| Country/Region | Scope 1 metric tonnes CO2e |
|----------------|----------------------------|
| United Kingdom | 3562081                    |
| North America  | 3307718                    |
| Rest of world  | 360544                     |

---

9.2

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

By activity

---

9.2a

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

| Business division | Scope 1 emissions (metric tonnes CO2e) |
|-------------------|--|
|-------------------|--|

---

9.2b

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

| Facility | Scope 1 emissions (metric tonnes CO2e) | Latitude | Longitude |
|----------|--|----------|-----------|
|----------|--|----------|-----------|

---

9.2c



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

| GHG type | Scope 1 emissions (metric tonnes CO2e) |
|----------|--|
|----------|--|

---

9.2d

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

| Activity             | Scope 1 emissions (metric tonnes CO2e) |
|----------------------|--|
| Power generation     | 5304789                                |
| Gas & oil production | 1834762                                |
| Vehicle fuel use     | 85850                                  |
| Office Fuel Use      | 4942                                   |

---

9.2e

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

| Legal structure | Scope 1 emissions (metric tonnes CO2e) |
|-----------------|--|
|-----------------|--|

---

**10.1**

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

Yes

---

**10.1a**

**Please complete the table below**

| 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 (MWh) |
|----------------|----------------------------|--|---|
| United Kingdom | 97026                      | 173457   | 119458  |
| North America  | 69249                      | 81143  | 0   |
| Rest of world  | 201                        | 964  | 0   |

---

**10.2**

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

By activity

---

**10.2a**

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

| Business division | Scope 2 emissions (metric tonnes CO2e) |
|-------------------|--|
|-------------------|--|

---

**10.2b**

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

| Facility | Scope 2 emissions (metric tonnes CO2e) |
|----------|--|
|----------|--|

---

10.2c

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

| Activity                         | Scope 2 emissions (metric tonnes CO2e) |
|----------------------------------|--|
| Office electricity               | 28197                                  |
| Operational imported electricity | 138279                                 |

---

10.2d

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

| Legal structure | Scope 2 emissions (metric tonnes CO2e) |
|-----------------|--|
|-----------------|--|

**Page: 11. Energy**

---

11.1

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

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

---

11.2

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        | 31847831 |
| Electricity | 255564   |
| Heat        | 0        |
| Steam       | 0        |
| Cooling     | 0        |

---

11.3

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

| Fuels             | MWh      |
|-------------------|----------|
| Natural gas       | 31338064 |
| Diesel/Gas oil    | 392463   |
| Residual fuel oil | 68       |
| Biodiesels        | 1346     |
| Motor gasoline    | 115490   |
| Other: Biomass    | 399      |

---

11.4

Please provide details of the electricity, heat, steam or cooling amounts that were accounted at a low carbon emission factor

| Basis for applying a low carbon emission factor | MWh associated with low carbon electricity, heat, steam or cooling | Comments  |
|---|--|---|
| Other   | 0  | 100% renewable electricity: Even though we purchased 119,458 MWh of 100% renewable electricity in 2012, we have taken the very conservative approach of applying the GRA 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: 12. Emissions Performance**

**12.1**

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

Decreased

**12.1a**

Please complete the table

| Reason                                  | Emissions value (percentage) | Direction of change | Comment   |
|---|------------------------------|---------------------|---|
| Emissions reduction activities          | 3.92                         | Decrease            | 3.88% decrease: Centrica had a 2012 target (set in 2008) to reduce the carbon intensity of (ours and our site specific purchase agreement) power generation to 260gCO <sub>2</sub> /KWh. This was achieved largely through our investment in low carbon (nuclear) and renewable (wind) power generation during the target period. In 2012 our (based on equity) nuclear generation increased, and while our wind generation went down slightly, our overall low carbon production increased compared to 2011. This has led to a further reduction in our Scope 1 and 2 emissions compared to 2011. This equated to a 324,202 tonne reduction in our absolute emissions compared to 2011 (3.88% decrease), had this power been generated by our gas fleet. 0.04% decrease: The emissions from our buildings have reduced as part of our on-going energy saving programme in the UK and an efficiency drive in North America resulting in less buildings being occupied. The company's buildings are largely included in our 2015 target of reducing our internal carbon footprint by 20% by 2015, based on a 2007 baseline. The combined percentage change relating to emissions reduction activities is a 3.92% decrease. |
| Divestment                              |                              |                     |   |
| Acquisitions                            |                              |                     |   |
| Mergers                                 |                              |                     |   |
| Change in output                        | 7.61                         | Decrease            | 1.09% decrease: Gas and oil production emissions have increased slightly. The energy use and associated emissions are dependent on the volume of and source of the production. Additionally, energy intensity can increase over time as reservoirs deplete. Gas and oil production volumes increased in 2012 compared with 2011. 8.73% decrease: Market forces in 2012 rendered some of our less efficient gas power stations uneconomical to run. Our total emissions associated with power generation have reduced of our absolute emissions by 12.61%. Allowing for the 3.88% reduction attributable to our emission reduction activities as described above), then 8.73% of our absolute emissions compared with 2011 can be attributable to market forces and the associated decrease in output. 0.03% increase: Our gross UK Fleet vehicle emissions have increased as a result of commercial fleet mileage increasing by approximately 4 million miles, a reflection of business need. The combined percentage change in output equates to a 7.61% decrease.   |
| Change in methodology                   |                              |                     | -   |
| Change in boundary                      |                              |                     | -   |
| Change in physical operating conditions |                              |                     | -   |
| Unidentified                            |                              |                     | -   |
| Other                                   |                              |                     | -   |

Please describe your gross 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  |
|------------------|--------------------|--------------------|-----------------------------|--|--|
| 0.00030949       | metric tonnes CO2e | unit total revenue | 15.6                        | Decrease                               | The 2012 financial intensity figure is 0.000309; this is a 15.6% reduction on 2011's intensity. A result of the Scope 1 and 2 emissions reducing by 11.5% while the revenue has increased by 4.8%. The company's increased focus on lower carbon products and services has helped enabled this continued decoupling of revenue and carbon emissions. |

12.3

Please describe your gross 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  |
|------------------|--------------------|--------------------|-----------------------------|--|--|
| 191              | metric tonnes CO2e | FTE employee       | 9.7                         | Decrease                               | The carbon/FTE intensity has decreased (improved) by 9.7% to 191tCO2e/FTE as a result of a 11.5% decrease in the carbon emissions and only a 2% decrease in the FTE numbers. |

12.4

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  |
|------------------|--------------------|---------------------|-----------------------------|--|--|
| 0.195            | metric tonnes CO2e | megawatt hour (MWh) | 11.5                        | Decrease                               | Centrica had set a target of 270gCO2/KWh by 2012 for power generation from our own assets and site specific contracts. This was comfortably achieved in 2012 with a carbon intensity of 197g CO2/kWh down from 220g CO2/kWh in 2011. This is largely attributed to a continued reduction in power generation from our gas power stations during 2012, reducing our gas sourced power by 25.5% compared to 2011. In addition, however, our low carbon power generation has increased with a 7.6% increase in our offtake of nuclear power from our 20% stake in EDF Energy Nuclear Generation and despite a 10% reduction in our renewable power offtake. |

### Page: 13. Emissions Trading

#### 13.1

Do you participate in any emissions trading schemes?

Yes

#### 13.1a

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 | Sun 01 Jan 2012 - Mon 31 Dec 2012 | 6734198              | 0                    | 3080838                                  | Facilities we own and operate |



**13.1b**

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

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 nine 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. In 2012, the allowances allocated exceeded our overall verified emissions; we have therefore returned zero for allowances purchased as our position was one of net sell.

**13.2**

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

Yes

**13.2a**

Please complete the table

| 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 retired | Purpose, e.g. compliance           |
|---------------------------------------|-------------------------------|--|-----------------------------------|---|--|-----------------|------------------------------------|
| Credit Origination                    | Other: Commercially sensitive | Specific Information is commercially sensitive | CDM (Clean Development Mechanism) | 90970                                     | 90970  | Yes             | Other: Trading / future compliance |
| Credit Origination                    | Other: Commercially sensitive | Specific Information is commercially sensitive |                                   | 38890                                     | 38890  | Yes             | Other: Trading / future compliance |
| Credit Origination                    | Other: Commercially sensitive | Specific Information is commercially sensitive | CDM (Clean Development)           | 1996354                                   | 1996354  | Yes             | Other: Trading / future compliance |

| 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 retired | Purpose, e.g. compliance |
|---------------------------------------|--------------|------------------------|----------------------------|---|--|-----------------|--------------------------|
|                                       |              |                        | Mechanism)                 |   |  |                 |                          |

**Page: 14. Scope 3 Emissions**

**14.1**

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

| Sources of Scope 3 emissions | Evaluation status        | metric tonnes CO2e | Methodology  | Percentage of emissions calculated using primary data | Explanation  |
|------------------------------|--------------------------|--------------------|--|---|--|
| Purchased goods and services | Relevant, calculated     | 25771              | 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. | 100%  | 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 (0.03%). There will be additional purchased goods and services in this category which we do not currently capture.                             |
| Capital goods                | Not relevant, calculated | 203000             | The emissions of the Lincs wind farm are calculated by extrapolating LCA work undertaken at another wind farm.   | 0%  | The Lincs wind farm turbines commenced installation in 2012. We have calculated the capital goods emissions associated with this wind farm based on industry data. There will have been other capital projects that were also installed in 2012 that we do not have emission data for. The upstream emissions associated |

| Sources of Scope 3 emissions                                      | Evaluation status                  | metric tonnes CO2e | Methodology   | Percentage of emissions calculated using primary data | Explanation   |
|---|------------------------------------|--------------------|---|---|---|
|   |                                    |                    |   |   | with the Lincs farm only equates to 0.2% of our Scope 3, hence 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               | 42631846           | 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 5yr Grid Rolling Averages for electricity purchased off the open market in the UK. In North America the carbon emissions are calculated using a National average fuel mix. The 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 x number of days at sea x DEFRA emission factor of the fuel used (fuel oil or natural gas). | 99%   | 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 (48%) 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 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 these emissions are included in our Scope 1 & 2 emissions. |
| Upstream transportation and distribution                          | Not relevant, calculated           | 38862              | Theses 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%  | 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 |                    | NA  |   | 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               | 11916              | 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  | 100%  | While this is only a small component of our Scope 3 emissions (0.02%). It is an area that we can influence and reflective of our commitment to reduce our own emissions. It's   |

| Sources of Scope 3 emissions               | Evaluation status                  | metric tonnes CO2e | Methodology   | Percentage of emissions calculated using primary data | Explanation   |
|--|------------------------------------|--------------------|---|---|---|
|  |                                    |                    | 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. |   | 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.   | 33%   | This is an immaterial (0.13%) component of our Scope 3 emissions, but is an area we can and do influence. There is a small risk associated with it in the form of local councils requiring plans at some UK sites to reduce employee car numbers. |
| Upstream leased assets                     | Not relevant, explanation provided |                    | NA  |   | Our reporting approach includes upstream leased assets in our Scope 1 & 2 emissions. Therefore not relevant.  |
| Investments                                | Not relevant, explanation provided |                    | NA  |   | Investments (outside of our Scope 1 & 2 emissions) are not a material for Centrica. This category is designed for investment companies such as banks and financial services.  |
| Downstream transportation and distribution | Not relevant, explanation provided |                    | NA  |   | This category is not relevant for Centrica. Being principally a gas, electricity and service provider, negligible quantities of our products are transported by third parties.  |
| 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               | 44820877           | 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%  | This is a relevant component of our scope 3 emissions in respect to its size (51% 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           | 466                | Calculated through multiplying the floor area of our leased assets by energy consumption conversion factors. These are based on typical   | 0%  | Centrica only leases a small number of properties (8). The emissions from these are estimated based on typical consumption  |

| Sources of Scope 3 emissions | Evaluation status    | metric tonnes CO2e | Methodology  | Percentage of emissions calculated using primary data | Explanation  |
|------------------------------|----------------------|--------------------|--|---|--|
|                              |                      |                    | consumption volumes for the type of facility. The estimated energy consumption is then multiplied by DEFRA emission factors.   |   | values. The emissions are immaterial, do not expose us to risk and hence are not relevant.   |
| Franchises                   | Relevant, calculated | 3195               | 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%  | 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. |
| Other (upstream)             |                      |                    |  |   |  |
| Other (downstream)           |                      |                    |  |   |  |

14.2

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

No third party verification or assurance

14.2a

**Please indicate the proportion of your Scope 3 emissions that are verified/assured**

14.2b

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

| Type of verification or assurance | Relevant standard | Attach the document |
|-----------------------------------|-------------------|---------------------|
|-----------------------------------|-------------------|---------------------|

14.3

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

Yes

14.3a

Please complete the table

| Sources of Scope 3 emissions  | Reason for change              | Emissions value (percentage) | Direction of change | Comment   |
|---|--------------------------------|------------------------------|---------------------|---|
| Purchased goods & services  | Change in output               | 24                           | Increase            | The offshored services have expanded resulting in increased office energy consumption.  |
| Capital goods   | Other: First year of measuring |                              |                     |   |
| Fuel- and energy-related activities (not included in Scopes 1 or 2) | Change in output               | 20                           | Increase            | In the UK we have reduced our own power generation and therefore need to purchase more from other power generators to supply our customers. In North America we continue to expand our customer base. |
| Other (upstream)  | Other:                         | 52                           | Increase            | In 2012 there was an increase in shipping activity supporting our offshore interests, including wells, platforms and wind farms. These ships are used for support, transfer of goods and surveys.     |

| Sources of Scope 3 emissions  | Reason for change              | Emissions value (percentage) | Direction of change | Comment   |
|-------------------------------|--------------------------------|------------------------------|---------------------|---|
| Waste generated in operations |                                |                              |                     | Not completed   |
| Business travel               | Other:                         | 1                            | Increase            | UK business air travel continues to increase for operational reasons. |
| Employee commuting            | Other: First year of measuring |                              |                     |   |
| Use of sold products          | Change in output               | 5                            | Increase            | Increased volumes of gas have been sold to our customers.             |

#### 14.4

**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

#### 14.4a

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

We believe that we must collaborate with our business partners to yield a sustainable approach to the management of resources and effectively operate a supply chain management system that regards environmental, social and economic imperatives, including GHG emissions.

i - Engagement with suppliers starts with us being clear that we expect our suppliers and business partners to understand and uphold our business principles, which include a commitment to protecting the environment. Our Group Responsible Procurement and Supplier Management Policy explains the conduct we expect of ourselves and our business partners, our operating standards and how we integrate these standards into our procurement and supplier management activities.

To extend these principles through our supply chain, we include corporate responsibility clauses in supplier contracts and work closely with our suppliers to explain, agree and embed these clauses from the outset. Subsequently, if underperformance is identified we seek to work with business partners that commit to a mutually agreed remediation plan. Our supplier management programme enables us to monitor performance in our supply chains through regular meetings with business partners.

ii - Alongside this we assess our supply chain activities to identify and prioritise risks, and check that business partners have in place processes to manage the social and environmental impact of their operations.

We are currently rolling out of a supply chain risk management process to our suppliers. This includes a supplier self-assessment tool which requires higher risk suppliers (all suppliers are analysed on sector, country and spend in order to prioritise our engagements) to report on a range of issues, explicitly including their carbon risks and carbon management approach. The enhanced information acquired through this process should enable us to identify more accurately the carbon emissions from our suppliers and the maturity of their environmental management systems. The information will enable us to better understand the risks and opportunities associated with the carbon emissions of our suppliers, as well as enabling us to work with our suppliers on improvement plans.

We are also in the early stages of working with suppliers to understand and measure the whole value chain carbon emissions associated with our core products, gas and power. The value chain of these core products will cover the vast majority of our Scope 3 carbon emissions and more importantly the most relevant ones. We liaise directly with those suppliers who already have developed carbon accounting to obtain their emissions associated with providing us with a service. Annually we complete the CDP supply Chain questionnaire to assist our suppliers

iii - These different approaches enable us to:

- 1) Better understand our Scope 3 emissions and therefore manage the risks and opportunities associated with them.
- 2) Enhance our supplier's knowledge and management of their carbon emissions.
- 3) Identify opportunities for reducing our Scope 3 emissions.

Through changes in customer behaviour and energy consumption we can make the greatest difference to our Scope 1, 2 and 3 carbon emissions, while saving our customer's money. Therefore, we are committed to helping our customers understand their environmental impact and help them reduce their carbon footprint. We provide many products and services that help them save energy (from smart meters to insulation), and reduce their carbon emissions (green tariffs, renewable microgeneration and supporting programmes such as Green Streets and the Government's Green Deal and ECO schemes). We also tell our customers about our own efforts to reduce our carbon emissions, including our carbon targets and exciting opportunities such as leading the move towards electric vehicles.

An indication of success in this area for our organisation is seeing a decoupling of our carbon emissions and our revenue. This is evident in our improving carbon intensity of revenue. Other indications of success are our customer's being able to be smarter with their energy consumption and reducing their carbon footprint.

Through the year, we will continue to roll out our supply chain risk management process with the aim of increasing our visibility of supply chain risks (including carbon risks) and putting in place control and improvement plans with top strategic and high risk suppliers. We will keep investigating the changes in our risk landscape to be responsive to new challenges and will seek to strengthen partnerships with best in class suppliers in order to innovate and continuously improve the social and environmental performance within our supply chain.

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**14.4b**

**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  |
|---------------------|------------------|--|
|                     |                  | We currently do not have information on the number of suppliers who are touched by the above approaches, however it is likely to be in the 0 – 10% range |

---

**14.4c**



**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                                  | The development of our risk based supplier self-assessment tool is to understand and manage the risks associated with individual suppliers. Where there is unacceptable risk, we can work with our suppliers to reduce that risk.  |
| Identifying GHG sources to prioritize for reduction actions | We are prioritising our whole value chain analysis on the activities that are associated with the majority of our Scope 3 emissions and that are core to our business. Through this approach, we aim to better understand our Scope 3 emissions, but also identify where there may be opportunities for carbon reduction activities. |

14.4d

Please explain why not and any plans you have to develop an engagement strategy in the future

**Module: Electric utilities**

**Page: Investor-EU0ReferenceDates**

**EU0.1**

**Reference dates**

EU0.1: 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 2016 if possible).

| Year ending | Date range                        |
|-------------|-----------------------------------|
| 2012        | Sun 01 Jan 2012 - Mon 31 Dec 2012 |
| 2011        | Sat 01 Jan 2011 - Sat 31 Dec 2011 |
| 2010        | Fri 01 Jan 2010 - Fri 31 Dec 2010 |

| Year ending | Date range                        |
|-------------|-----------------------------------|
| 2017        | Sun 01 Jan 2017 - Sun 31 Dec 2017 |

#### Further Information

Please note that 2017 figures are indicative only and represent publicly known developments, including the start of operations from the Lincs offshore wind farm. All other figures are assumed to stay the same as 2012 and do not recognise other future changes in the generation portfolio.

#### Page: Investor-EU1GlobalTotalsByYear

#### 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) |
|-------------|-------------------------|------------------|---|---|
| 2012        | 7731                    | 24671            | 4907607                                 | 0.20  |
| 2011        | 7731                    | 27401            | 6188921                                 | 0.23  |
| 2010        | 7731                    | 32925            | 8950009                                 | 0.27  |
| 2017        | 7776                    | 24116            | 4497885                                 | 0.19  |

#### Further Information

2017 figures are indicative only and include the Lincswind farm, in which we have a 50% equity share, being operational. The nuclear and gas power stations are based on 2012 values, however, the actual output of the gas power stations may vary dependent on the market forces in the reporting year.

#### Page: Investor-EU2IndividualCountryProfiles - Canada

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**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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/MWh) |
|-------------|-------------------------|------------------|--|---|
|-------------|-------------------------|------------------|--|---|

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**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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/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) |
|-------------|-------------------------|------------------|---|--|
|-------------|-------------------------|------------------|---|--|

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**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**

| Year ending | Nameplate capacity (MW) | Production (GWh) | Absolute emissions (metric tonnes CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/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) |
|-------------|-------------------------|------------------|---|--|
|-------------|-------------------------|------------------|---|--|

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**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) |
|-------------|-------------------------|------------------|--|--|
|-------------|-------------------------|------------------|--|--|

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**EU2.1**

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

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**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) |
|-------------|-------------------------|------------------|---|--|
|-------------|-------------------------|------------------|---|--|

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**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) |
|-------------|-------------------------|------------------|---|--|
|-------------|-------------------------|------------------|---|--|

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**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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/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**

| Year ending | Nameplate capacity (MW) | Production (GWh) | Absolute emissions (metric tonnes CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/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) |
|-------------|-------------------------|------------------|--|--|
|-------------|-------------------------|------------------|--|--|

**Page: Investor-EU2IndividualCountryProfiles - 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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/MWh) |
|-------------|-------------------------|------------------|--|---|
|-------------|-------------------------|------------------|--|---|

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**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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/MWh) |
|-------------|-------------------------|------------------|--|---|
|-------------|-------------------------|------------------|--|---|

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**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) |
|-------------|-------------------------|------------------|---|--|
| 2012        | 4344                    | 5806             | 2390160                                 | 0.41   |
| 2011        | 4344                    | 10451            | 4081694                                 | 0.39   |
| 2010        | 4344                    | 18883            | 7387661                                 | 0.39   |
| 2017        | 4000                    | 5806             | 2390160                                 | 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) |
|-------------|-------------------------|------------------|
| 2012        | 1890                    | 11915            |
| 2011        | 1890                    | 11074            |
| 2010        | 1890                    | 9700             |
| 2017        | 1890                    | 11915            |

---

**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) |
|-------------|-------------------------|------------------|
| 2012        | 191                     | 533              |
| 2011        | 191                     | 595              |
| 2010        | 191                     | 493              |
| 2017        | 580                     | 1113             |

---

**EU2.1i**

Other

| 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) |
|-------------|-------------------------|------------------|---|--|
| 2012        | 6234                    | 17721            | 2397197                                 | 0.14   |

| Year ending | Nameplate capacity (MW) | Production (GWh) | Absolute emissions (metric tonnes CO2e) | Emissions intensity (metric tonnes CO2e/MWh) |
|-------------|-------------------------|------------------|---|--|
| 2011        | 6234                    | 21525            | 4088233                                 | 0.19   |
| 2010        | 6234                    | 28583            | 7394378                                 | 0.26   |
| 2017        | 5890                    | 17721            | 2397197                                 | 0.14   |

## EU2.11

### 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) |
|-------------|-------------------------|------------------|--|--|
| 2012        | 6425                    | 18254            | 2397197                                    | 0.13   |
| 2011        | 6425                    | 22119            | 4088233                                    | 0.18   |
| 2010        | 6425                    | 26093            | 7394378                                    | 0.28   |
| 2017        | 6470                    | 18834            | 2397197                                    | 0.13   |

## Further Information

Figures for production, emissions and emission intensity based on equity from our assets (not output from our own generation and from site-specific offtake contracts, as in previous years).

2017 figures are indicative only and assume that the 270MW Lincs wind farm will be in operation, while the gas and nuclear asset generation is consistent with 2012. We have a 50% equity share in the Lincs wind farm, meaning the name plate capacity associated with our equity is half this.

### Notes:

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 2020 nuclear output from 2012. 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 2012 carbon emissions from nuclear were 7,036 tonnes.

EU2.1h: The values have been recalculated to show the UK renewable power generation from our assets only (by equity and not by offtake). This is different from previous years, where the values were based on offtake from our assets and assets where we had a site specific agreement. The 2017 value includes the operation

of the Lincs wind farm development.

EU2.1k: The table includes the minor carbon emissions resulting from the nuclear generation, as well as the CCGT generation.

**Page: Investor-EU2IndividualCountryProfiles - 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) |
|-------------|-------------------------|------------------|---|--|
| 2012        | 1306                    | 6417             | 2510410                                 | 0.39   |
| 2011        | 1306                    | 5282             | 2100688                                 | 0.40   |
| 2010        | 1306                    | 3849             | 1555631                                 | 0.40   |
| 2017        | 1306                    | 6417             | 2510410                                 | 0.39   |

---

**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 CO <sub>2</sub> e) | Emissions intensity (metric tonnes CO <sub>2</sub> e/MWh) |
|-------------|-------------------------|------------------|--|---|
|-------------|-------------------------|------------------|--|---|

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**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) |
|-------------|-------------------------|------------------|
|-------------|-------------------------|------------------|

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**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) |
|-------------|-------------------------|------------------|
|-------------|-------------------------|------------------|

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**EU2.1i****Other**

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

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**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) |
|-------------|-------------------------|------------------|---|--|
|-------------|-------------------------|------------------|---|--|

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**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) |
|-------------|-------------------------|------------------|---|--|
| 2012        | 1306                    | 6417             | 2510410                                 | 0.39   |
| 2011        | 1306                    | 5282             | 2100688                                 | 0.40   |
| 2010        | 1306                    | 3849             | 1555631                                 | 0.40   |
| 2017        | 1306                    | 6417             | 2510410                                 | 0.39   |

## EU2.1I

### 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) |
|-------------|-------------------------|------------------|--|--|
| 2012        | 1306                    | 6417             | 2510410                                    | 0.39   |
| 2011        | 1306                    | 5282             | 2100688                                    | 0.40   |
| 2010        | 1306                    | 3849             | 1555631                                    | 0.40   |
| 2017        | 1306                    | 6417             | 2510410                                    | 0.39   |

## 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

Note:

EU2.1d: 2017 figures are indicative only and assume no change in the generation portfolio for North America.

## 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 company 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              | 15.8%                | 20.6%               | 2014                      | The date of the future obligation is April 2013-Mar 2014. Our position in relating to meeting our obligations is information which will be formalised during October of this year. |
| Other: Renewable Portfolio Standards (Various) |                      |                     |                           | Our obligations vary from state to state across the US.  |

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#### EU4.1

Please give the contribution of renewable electricity to your company'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 |                 | 2% | The achieved power price (including ROCs) for renewables in 2012 was £105.7/MWh. The total generation for which we received revenue was 533GWh. This resulted in renewables contributing 2% of total Centrica EBITDA. |

#### EU4.2

Please give the projected contribution of renewable electricity to your company'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 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**

**Page: Sign Off**

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

Jeff Oatham  
Head of Corporate Responsibility  
Centrica

**CDP 2013 Investor CDP 2013 Information Request**