

Module: Introduction**Page: Introduction**

CC0.1**Introduction**

Please give a general description and introduction to your organization.

About

Energy plays a vital role in the lives of millions of individuals, families and businesses every day – from keeping our homes warm and well lit to manufacturing the products we rely on every day. Centrica is committed to securing reliable and competitive energy supplies our customers need, responsibly. This can be demonstrated by our vision to be the leading integrated energy company, with customers at our core.

To achieve this, our 37,500 employees work hard at every stage of the energy value chain - from sourcing and generating to servicing and supplying energy in our chosen markets. Our International Downstream businesses supply energy and related services that give customers greater choice and control over their energy through innovative, low carbon products and services provided by British Gas in the UK, Direct Energy in North America and Bord Gáis Energy in the Republic of Ireland. Our International Upstream business, Centrica Energy, responds to market conditions by delivering a balanced mix of gas and oil production, power generation and energy trading. Centrica Energy operates in the UK, Europe, Canada and Trinidad and Tobago. Centrica Storage is a wholly owned subsidiary of Centrica which stores and processes gas supplies for utilities, traders and producers in the UK.

Impact on climate change

Climate change is one of the biggest global challenges facing society and as an energy company we believe that we have an important role to play in limiting energy's impact on the environment which includes contributing to carbon emission reduction targets set at a national and international level. We are therefore committed to minimising the carbon emissions from the energy we generate and supply. Our direct carbon emissions under Scope 1 include those from sources we own or control such as power generation, gas production and storage, as well as those from our property, fleet and travel. Indirect carbon emissions under Scope 2 arise from electricity purchased and consumed across our offices and assets. Scope 3 emissions are those we do not produce but are the result of the products and services provided, such as electricity and gas sold to customers from wholesale markets and the products and services purchased to run our business. It is however the Scope 3 emissions that arise from customers' gas and electricity usage, which form the biggest source of emissions associated with our business which is why we are focusing on helping customers reduce their use through our innovative products and services.

Reducing our impact

We can play a vital role tackling climate change by transforming the way energy is generated and consumed. Our focus on mitigating climate change must however also be balanced alongside providing affordable energy our customers need today, while securing energy supplies for tomorrow too.

As part of our on-going response to climate change, our downstream businesses are helping make homes more efficient and providing customers with the tools and technology needed to better control and cut their energy consumption. We are continuously developing our capabilities to deliver energy efficiency measures and empowering customer generation of low carbon energy through microgeneration products. We are also investing in innovative technology to enable customers to use energy in a smarter way through remote control products like Hive Active Heating and smart-enabled offerings such as time-of-use tariffs which can give greater insights into usage and promote better energy management. These products and services not only enable our customers to reduce their carbon impact, but help them save money on their energy bills. As the UK's largest energy, installation and services provider, British Gas is working hard to lead Britain to a sustainable energy future by developing engineering skills required to install and service these new technologies.

As we transition to a lower carbon energy future, gas remains at the centre of our energy strategy, supported by ongoing commitments in nuclear and renewable generation. This is because gas is the lowest carbon fossil fuel, provides an increasingly important back-up to renewables and is more affordable than most other energy sources. We are also working to reduce the emissions associated with our offices, fleet and business travel.

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

CC0.2

Reporting Year

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

The current reporting year is the latest/most recent 12-month period for which data is reported. Enter the dates of this year first.

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

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

Enter Periods that will be disclosed

Wed 01 Jan 2014 - Wed 31 Dec 2014

CC0.3**Country list configuration**

Please select the countries for which you will be supplying data. If you are responding to the Electric Utilities module, this selection will be carried forward to assist you in completing your response.

Select country
United Kingdom
United States of America
Canada
Ireland
Norway
Netherlands
Trinidad and Tobago

CC0.4**Currency selection**

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

GBP(£)

CC0.6**Modules**

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

If you are in these sector groupings (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will not appear below but will automatically appear in the navigation bar when you save this page. If you want to query your classification, please email respond@cdp.net.

If you have not been presented with a sector module that you consider would be appropriate for your company to answer, please select the module below. If you wish to view the questions first, please see <https://www.cdp.net/en-US/Programmes/Pages/More-questionnaires.aspx>.

Further Information**Module: Management****Page: CC1. Governance**

CC1.1

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

Board or individual/sub-set of the Board or other committee appointed by the Board

CC1.1a

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

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

CC1.2

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

Yes

CC1.2a

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

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
Environment/Sustainability managers	Monetary reward	Emissions reduction target	Delivery of Group and Business Unit specific environment plans are incentivised, which includes reductions in Group internal carbon footprint, carbon intensity and total carbon emissions where applicable.
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	In 2014, Centrica's internal carbon footprint target was linked explicitly to the Chief Executive's personal bonus scheme.
Other: Corporate Responsibility teams	Monetary reward	Other: Climate change related projects	Delivery is incentivised for performance against environmental and climate change programmes, which are aligned with CR Committee approved KPIs.
Facility managers	Recognition (non-monetary)	Efficiency target	Awards are provided for the best performing site with regards to energy, water and waste.
Other: Employees within British Gas Energy Efficiency	Monetary reward	Efficiency project	Incentives are provided for meeting our Energy Company Obligation targets which aim to improve energy efficiency in a cost-effective way. Development of non-ECO funded energy efficiency and renewable heat for residential and commercial customers is also encouraged via monetary rewards.
Other: Employees nominated by colleagues	Recognition (non-monetary)	Other: Environmental recognition	Employees in Centrica Energy can nominate colleagues for living our leadership behaviours. The Corporate Responsibility prize recognises a proactive approach to safeguarding the environment.
Other: Employees nominated by colleagues	Monetary reward	Other: Environmental recognition	Employees in Direct Energy can nominate colleagues who exemplify core company values, including those championing the environment. Individuals or teams selected as winners receive recognition alongside a prize of US\$2,500 (£1,674).
Other: Renewables - operation teams	Monetary reward	Efficiency target	Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by employee role and may include wind farm performance reliability and asset integrity.
Other: Power Generation and Exploration and Production (E&P) -	Monetary reward	Efficiency target	Incentive targets are a combination of business profit and individual performance measures. Individual performance targets are determined by employee role and

Who is entitled to benefit from these incentives?	The type of incentives	Incentivized performance indicator	Comment
operation teams			may include combined-cycle gas turbine (CCGT) efficiency, compliance with EU Emissions Trading System (EU ETS) and management of greenhouse gas emissions from Exploration and Production operations.

Further Information

Page: CC2. Strategy

CC2.1

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

Integrated into multi-disciplinary company-wide risk management processes

CC2.1a

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

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
Six-monthly or more frequently	Board or individual/sub-set of the Board or committee appointed by	UK, Republic of Ireland, Netherlands, Norway, North America, Trinidad	1 to 3 years	The Board is responsible for determining the nature and extent of the company's principal risks and opportunities it accepts, including those related to climate change.

Frequency of monitoring	To whom are results reported?	Geographical areas considered	How far into the future are risks considered?	Comment
	the Board	& Tobago		The Board and its committees set objectives, performance targets and policies to attain a balanced and transparent approach to the management of these risks and opportunities, supported by a sound system of risk management and internal control. This is underpinned by a clear delegation of authority and effective policies and procedures that span our core operations and include our Business Principles, which we embed via communication with employees. We also have processes in place for identifying, evaluating and managing risks across the company. These processes are subject to regular internal and external review which enables us to continually enhance risk management activities and provide an independent assessment of the control framework's effectiveness.

CC2.1b

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

Identifying and understanding our principal risks and developing strategies to mitigate them, is essential to managing our business responsibly. Climate change risks are managed through their inclusion within business risk management processes and procedures. Each identified risk, from individual asset to company level, together with the related controls, are consistently assessed and reported according to Group Risk Management Policy, Standards and Guidelines.

At an asset level, Business Units are confronted with risks and opportunities which have the potential to impact the Group's assets, liabilities, financial position and reputation. We have a risk management process in place designed to ensure these risks and opportunities are accurately identified, assessed, adequately controlled and subject to regular reporting, monitoring and challenge.

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

CC2.1c

How do you prioritize the risks and opportunities identified?

At least quarterly, every Business Unit reviews the internal and external environment for new and emerging risks or changes to known and existing risks, including climate change risks, which could impact business objectives. Risks are reported to a Business Risk Management Committee (BRMC) or equivalent which evaluates, challenges and advises on material risks and considers the adequacy of mitigating controls.

Risks are prioritised by assessing potential financial and non-financial impacts alongside the likelihood of materialisation. A 1-5 impact and likelihood scale is used with the overall rating (1-25) calculated through multiplying impact by likelihood. Financial impacts relative to the business' operating profit targets are calibrated to produce a Group score. Further statistical modelling, scenario planning and commercial analyses are carried out as necessary.

The most material risks are reported to the Group Risk Management Committee (GRMC) to ensure a clear understanding of our aggregate risk profile and the effectiveness of related controls. High Impact/Low Likelihood risks are also considered and regular, in-depth review of risks undertaken at both Business Unit and Group as appropriate. The GRMC is chaired by the Chief Executive and membership includes all CEC members.

The Audit Committee receives a risk update as part of an overall Group Assurance paper which includes an assessment of our principal risks and the adequacy of associated controls. These reports, supplemented by management discussions, enable it to track issues, monitor performance and ensure remedial action is taken if significant failings or weaknesses are identified.

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

CC2.1d

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

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

CC2.2**Is climate change integrated into your business strategy?**

Yes

CC2.2a**Please describe the process of how climate change is integrated into your business strategy and any outcomes of this process**

i Business strategy influence - The Board and CEC have dedicated meetings throughout the year to review the Group strategy alongside the external context encapsulating economic, competitive, regulatory and policy factors. Changes in climate policy are routinely reviewed and combined with information from regulatory and operational teams to help the CEC understand the risks and opportunities associated with low carbon markets, predominantly in the UK and US. In 2015, we also explored climate change related risks and opportunities as part of our Strategic Review.

ii Climate change influence on strategy - Our strategy focuses on balancing the needs of security of supply, affordable energy and a low carbon future. Legislative risks and opportunities associated with climate change, such as emissions reduction and renewable targets set within the UK, North America and EU, significantly inform our strategy. For example, our UK power generation strategy is informed by Government commitments to deliver lower carbon power and is linked to our internal target to reduce carbon intensity to 260gCO₂/KWh by 2020. While our focus on delivering energy efficiency targets to reduce emissions from homes and businesses cuts demand for energy, it also presents opportunities to deliver new products and services to help customers reduce energy use.

iii Short term strategy - In the short term, we are building on strengths in our downstream businesses including energy efficiency services, distributed generation and smart technology. This helps us capitalise on opportunities arising from Government climate policies as well as the increasing demand for low carbon services from customers. We continue to innovate in these areas through our leading position in smart metering and remote heating controls in the UK alongside our entry into the US residential solar market.

iv Long term strategy - Our long-term strategic priority downstream is to give customers greater choice and control over their energy use by making energy management simpler and smarter. This aligns with our strengths in the UK around energy efficiency and smart-enabled products which supports our sustainable growth as a provider of services and a supplier of energy. In North America, we are also giving customers increased control over energy through smart-enabled time-of-use and prepaid offerings. Upstream, gas continues to have a central role in our strategy. Gas is the lowest carbon fossil fuel, provides the flexibility to back-up intermittent renewable generation and is more affordable than most other energy sources. In North America, gas has also contributed to reducing emissions by displacing coal.

v Strategic advantage over our competitors

Energy efficiency services - Maintaining our market-leading position in energy efficiency goods and services is a key strategic priority which enables us to differentiate our business from the competition by being able to offer a range of services beyond the supply of gas and electricity. As Britain's largest energy supplier, we have enabled significant, cost-effective carbon savings in homes, which we calculate are equivalent to the annual emissions of 2.6m homes since 2010. We are also the only supplier with our own insulation business and are leaders of the smart meter roll-out in the UK having installed 1.7m by the end of 2014. We are committed to maintaining this advantage by creating new smart products and services. Smart meter customers can benefit from personalised smart energy reports which provide greater insights into the pattern and type of consumption, enabling more informed decisions about how they use and reduce energy

consumption. In 2013, British Gas launched Hive Active Heating to help customers control heating and hot water remotely, which can facilitate carbon and cost savings. In conjunction with our smart-enabled energy tariffs, we also offer smart thermostats to our US customers.

Low carbon products - Delivery of low carbon measures enables us to offer better value and a greater range of services, which also aids fulfilment of our mandatory obligations. During 2014, we installed 280 solar PV panels in the UK and signed contracts for 2,500 district heating connections which will deliver lifetime savings of more than 145,000tCO₂. Following our entry into the US residential solar market in July 2014, we were able to offer solar to customers for the first time, carrying out 600 installations. This investment aligns with our vision of using new technology and innovation to help our customers gain greater control over their energy use.

Low carbon generation fleet - We maintain interests in gas-fired power stations and low carbon power generation through existing nuclear and wind investments. This enabled us to have one of the lowest carbon intensities among major UK power generators in 2014, having reduced our carbon intensity by 23% to 154gCO₂/KWh.

Wind – Wind supports our commitment to reduce our power generation carbon emissions. We have 50/50 joint-venture interests in one onshore and three offshore wind farms, which are capable of powering nearly 350,000 homes.

Nuclear - Nuclear provides an important part of our energy mix. It accounted for 50.8% of our total UK generation and unlike wind, provides a stable low carbon baseload power. Through our 20% stake in EDF Energy Nuclear Generation, seven nuclear plants were operating under life extensions in 2014 which powered 11m homes. Based on our equity share, this avoided 3.6mtCO₂ had the electricity been generated by prevailing UK fossil fuel mix.

Gas production and power generation – Gas has a key role to play in maintaining security of supply, providing affordable energy and supporting the transition to a lower carbon future. Gas is widely available, more affordable than most other energy sources and is the lowest carbon fossil fuel. Our two largest and most efficient gas fired power stations – Langage and Humber – were successful in the UK Government's 2014 capacity auction. Unfortunately, our five smaller power stations were unsuccessful and consequently, there is substantial economic pressure on the future viability of these sites.

vi Business decisions - Our strategy announcement in 2013 reinforced our commitment to downstream energy efficiency and helps us maintain a low carbon power hedge. In 2014, we made the decision to enter the growing US residential solar market via the US\$55m (£34m) acquisition of Astrum Solar so that we can provide renewable solar power to our domestic customers, reducing their carbon emissions. We also took the decision to maintain our investment in developing new smart-enabled heating and energy efficiency products which ensured our continued delivery on our strategy. These decisions were taken on the basis that we expect the market for microgeneration and energy efficiency to grow, due in part to government and consumer desire to reduce energy's impact on climate change.

CC2.2b

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

CC2.2c

Does your company use an internal price of carbon?

Yes

CC2.2d

Please provide details and examples of how your company uses an internal price of carbon

Our power generation operations in the UK, Republic of Ireland and some of our upstream oil and gas assets such as those in the North Sea and Netherlands are currently subject to the EU Emission Trading System (ETS) carbon price and/or the UK carbon price floor, which are set at a European and UK level respectively. In 2014, the combined impact of EU ETS carbon price and UK carbon price floor was around £13/tCO₂e. The costs mostly apply to our scope 1 emissions from gas-fired power generation and are reflected in the traded price of electricity.

We produce internal forecasts of both the EU ETS carbon price and the UK carbon price floor as far out as 2035. These projected carbon prices are used for near-term forecasts of business performance as well as longer-term forecasts, which are factored into new capital investment decisions for which these carbon prices apply.

We support the use of carbon prices as a mechanism for incentivising decarbonisation. This is because we believe that if carbon pricing mechanisms continue over the long term, it will impact attractiveness of investment opportunities by providing financial incentives to grow lower carbon generation. For example, following a previously volatile EU ETS carbon price, we forecast an upward trajectory in carbon prices in the future which will impact the viability of high carbon power investments such as coal, versus lower carbon power investments in gas, nuclear and renewable energy.

CC2.3

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

Direct engagement with policy makers
Trade associations
Funding research organizations
Other

CC2.3a

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

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
Other: Electricity Market Reform (EMR)	Support	<p>Electricity Market Reform</p> <p>We support the Government's overall Electricity Market Reform (EMR) package and continue to engage Government via expert working groups, industry consultations and meetings.</p> <p>As EMR policy development is now at an advanced stage with implementation underway, our engagement is focused on ensuring policy details and legal provisions are sufficiently workable.</p> <p>We need EMR's key constituent parts; renewables contracts for difference (CfDs), the carbon price floor and the capacity market to work predictably and effectively. This will enable the energy industry to deliver the multi-billion pound investments needed to secure affordable and low carbon electricity supplies the UK needs.</p>	<p>We believe EMR policy is generally evolving in the right direction with industry playing a key role ensuring policy details and legal provisions are workable. We continue to engage with Government, often through participation on industry workgroups, to refine any outstanding policy and legal details.</p>
Other: Renewable Heat Incentive (RHI)	Support	<p>Renewable Heat Incentive</p> <p>We continue to support the Renewable Heat Incentive (RHI) because we believe that incentivising technologies such as biomass heating, air source heat pumps and hybrid systems is an essential driver for commercial, industrial and domestic sectors to reduce their carbon emissions. The RHI is a crucial mechanism to support market growth in these technologies. However, issues remain that prevent the RHI achieving its full potential so we continue to advocate for the implementation of scheme improvements. This includes the necessity of budget being available through to 2021 for the long-term investments required to secure the delivery of renewable heating technology.</p> <p>We also believe the RHI should be extended to recognise other important technologies which are classified as renewable under the EU Renewable Energy Directive, in particular gas heat</p>	<p>We propose greater support be provided under the RHI scheme to enable increased adoption of renewable heating technologies, in the most cost-effective way. In particular, we would like to see greater flexibility in financing options which include third party financing, to stimulate growth in the sector. It is also essential that the Government confirms the RHI budget from 2016 through to 2021 and we further believe there is scope to include additional technologies, such as gas heat pumps, which have the potential to deliver significant consumer benefits. In doing so, RHI can not only potentially transform the market for renewable heat but also support the UK Government's ambition to achieve around 90% of heat from non-fossil fuels by 2050, through improving attainment of low carbon living in existing and new buildings.</p>

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		<p>pumps. Following extensive industry engagement with the Department of Energy and Climate Change (DECC), this has resulted in a successful Market Potential Review for gas heat pumps and we are pursuing the Value for Money assessment which DECC is now undertaking.</p> <p>To facilitate the adoption of these proposals, British Gas has continued extensive engagement with stakeholders at a UK and European level including trade associations and the UK Government. We have also engaged key officials and responded to various consultations throughout 2014. We additionally completed a 'Heat 4U Gas Heat Pump' trial, which was part-funded by the EU and were speakers at DECC's IEA Heat Pump Conference, which focused on advances in gas heat pump and hybrid technologies.</p>	
Other: Feed-in Tariff (fFIT)	Support	<p>Feed-in Tariff</p> <p>The Feed-in Tariff (FIT) has been essential to the growth of distributed electrical generation in the UK. We therefore support ongoing developments in the scheme to enable long-term certainty for market growth and investment in both solar PV and micro CHP.</p> <p>Solar has benefitted hugely from the FIT, contributing to the sector's significant growth in recent years. However, more can still be done and throughout 2014, we advocated for changes to remove barriers to entry and increase the viability of commercial rooftop solar.</p> <p>We have responded to a number of consultations over the period and showcased the benefits of solar through visits to our solar installations by key policy and Government decision makers. FIT has also played a role in the development of micro CHP, which we support. While only a few products have reached the market so far, the availability of a FIT for this technology is critical to their development and we believe it is vital that products nearing market continue to be supported by the scheme. We have engaged Government directly to ensure they are aware of product developments and the market</p>	<p>DECC are undertaking a formal review of the FITscheme in 2015 and we believe an essential outcome would be that support for key technologies such as solar PV and micro CHP, are not undermined and that a long-term support plan is implemented to enable value for money technologies to grow and reach a point where subsidies are no longer required.</p> <p>To do this, our proposals include maintaining a single rate FIT for micro CHP alongside a degression formula, which enables economic returns to remain stable as installation and manufacturing costs fall, until we reach the point where subsidies are no longer required.</p> <p>Direct engagement with Government has been encouraging and we will continue our proactive engagements throughout the FIT review process. Government passed legislative solutions in early 2015 which we advocated for and which provide further non-financial support for solar PV, particularly in the commercial rooftop market. These include allowing a PV system to move buildings and retain the same FIT rate as well as permitted development for rooftop installations totalling up to 1MW. These are significant simplifications for customers.</p>

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		<p>potential for the UK. We have also worked closely with industry stakeholders in trade associations and at external meetings to ensure technological progress is recognised as widely as possible in order to create a climate for expansion.</p>	
Energy efficiency	Support	<p>Green Deal and the Energy Company Obligation</p> <p>We support the objectives of the Green Deal and the Energy Company Obligation (ECO), believing these programmes to have the potential to be transformational in delivering energy efficiency measures to Britain’s homes. We engage regularly with DECC on both programmes, as well as taking part in multiple forums and responding to Government consultations.</p> <p>Green Deal</p> <p>British Gas has been an early supporter of the Green Deal and was the first to provide Green Deal finance. We are also a Green Deal assessor, provider and installer nationwide. However, improvements to the Green Deal should be made which will increase take-up and make the programme more successful. We have therefore continued to engage Government at a detailed and practical level to improve the delivery framework. Furthermore, we have conducted consumer research and led focus groups which DECC officials have been invited to observe in order to help improve collective understanding around the barriers of take-up. We also led cross-industry work that proposed changes to the Golden Rule (where the cost of financing cannot exceed the expected energy savings). We coordinated an additional cross-industry proposal to simplify Green Deal assessments, findings of which DECC have in part adopted within the new Green Deal incentive scheme. Engagement with Government and the Green Deal Finance Company has also occurred on various FCA regulatory issues.</p> <p>ECO</p> <p>We agree there should be two primary aims of ECO - first, to reduce heating bills of low income or vulnerable households by</p>	<p>Green Deal</p> <p>We believe the Golden Rule requires significant reform for Green Deal finance to be successful. To achieve this, we believe there would need to be a two-to-three-fold increase in finance available. We are however doubtful that this level of reform can be delivered within the current Green Deal framework.</p> <p>We also believe DECC should reform Green Deal assessments to make them more flexible. Increased flexibility could reduce costs and improve the customer experience for both Green Deal and ECO, stimulating higher consumer participation.</p> <p>We have shared our legal advice on FCA regulatory aspects of the Green Deal with the Government and are working proactively with the Green Deal Finance Company on the necessary contractual amendments to ensure compliance across the whole industry.</p> <p>ECO</p> <p>We welcome the changes implemented for ECO during 2014, which we believe strike the right balance between ensuring delivery, keeping costs down on energy bills and providing certainty for the supply chain. We do however believe there are several policy solutions that could make ECO work more effectively in the future.</p> <p>In the short term, we would like to see the administrative burden of the programme reduced. This adds significant costs to the process and is money which could be spent on energy efficiency measures. In the long term, we think ECO should be moved away from bills into general taxation which is a far less regressive model. If a supplier obligation is however retained,</p>

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		<p>installing free or subsidised energy efficiency and heating measures and secondly, to reduce carbon emissions from all households, including those who are able-to-pay. Our engagement focus on ECO is to ensure its targets are deliverable for suppliers, affordable for consumers, sustainable for the supply chain and that the ECO brokerage mechanism develops as an effective vehicle for delivering the obligation. In 2014, we engaged the UK Government on these issues and participated in a consultation on implementing proposed changes to ECO.</p>	<p>we believe there is a need for improved data sharing and proxies to enable us to effectively target those most in need of support.</p>
Other: Smart meters	Support	<p>Smart meters</p> <p>UK</p> <p>We strongly support and are fully engaged on the roll-out of smart meters. We believe they can enable accurate and transparent bills, tailored energy efficiency advice, increased awareness to reduce energy use as well as providing the first step in the journey to smart homes and smart grids.</p> <p>The UK Government has mandated that smart meters are rolled-out as standard by 2020. We have led the industry in the installation of smart meters, having fitted 1.7m in UK homes and businesses by the end of 2014.</p> <p>To support an effective roll-out, we have shared learnings through industry working groups, consultations and regular meetings with Government and other stakeholders. These include how to engage customers, how to shape data management systems, the handling of consumer data, delivering optimal industry design and maximum consumer benefits.</p> <p>We have been leading jointly with UK Power Networks on ‘energywise’, which aims to facilitate learnings on smart for vulnerable customers. ‘energywise’ is a 3-year smart grid project involving 550 homes in Tower Hamlets. Trials will be conducted to understand how smart meters and decentralised energy can make demand and supply more flexible, while</p>	<p>UK</p> <p>We are supportive of the proposed smart meter architecture. We worked with other industry participants as part of the creation of Smart Energy GB, an independent organisation designed to champion and communicate the switch to smart meters to the public. The Government-appointed, Data Communications Company (DCC), are making good progress towards completion of its systems, of which we will be an early and active participant in testing to ensure they work at optimal levels.</p> <p>Prior to DCC ‘Go-Live’, we will continue to install the current industry standard specification metering equipment that will subsequently be migrated onto DCC systems. This strategy has ensured the early delivery of consumer benefits and has proved particularly important given DCC’s delay on completing their infrastructure. We also believe there is consumer benefit in receiving appropriate energy efficiency advice with a smart meter. All of our smart meter engineers are therefore trained to provide relevant advice to customers upon meter installation. We will continue to work with both Government and industry to guarantee that as many of our customers as possible, are eligible for a smart meter in the coming years.</p> <p>North America</p> <p>We believe it is critical that smart meter data be timely, accurate and consistent. This will enable REPs to offer innovative products using 15-minute interval usage data that will empower</p>

Focus of legislation	Corporate Position	Details of engagement	Proposed legislative solution
		<p>contributing to the creation of smart-enabled homes. The project is the first smart grid project to focus on the impact of pre-payment smart meters as well as customers living in flats.</p> <p>North America</p> <p>Direct Energy continued to share learnings and customer insights from our innovative, smart-enabled products through major industry conferences as well as at meetings with regulators and legislators across different states and legislative bodies. This has enabled us to highlight the positive impacts of load-shifting to off-peak periods and show how increased energy awareness helps customers reduce consumption.</p> <p>In Texas, we continue to engage regulators and other key stakeholders to encourage regulated utilities who own the smart meters, to provide increased regularity and completeness of smart meter data to retail energy providers (REPs) so that we can maximise our smart offerings.</p> <p>Direct Energy is also working with policy makers to address privacy concerns around customer data. We additionally engage stakeholders in Illinois, Ohio, Massachusetts and the District of Columbia on smart meter deployment as well as gaining access to smart data.</p>	<p>the introduction of energy saving products and applications for customers. In addition, Direct Energy is encouraging utilities to increase service levels as smart meter deployment completes, to ensure optimal availability and quality of associated data. Direct Energy is also supportive of legislation which balances the protection of privacy interests with provision of innovative new energy products and applications.</p>

CC2.3b

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

Yes

CC2.3c

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

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Energy UK	Consistent	<p>Energy UK is the trade association for the energy industry. It represents over 80 members made up of generators, gas and electricity suppliers as well as other businesses operating in the energy industry.</p> <p>Energy UK and its members are committed to driving the sustainability agenda by reducing the sector's environmental impact, which can be demonstrated by a component of Energy UK's vision being for the UK to have, 'a more decarbonised energy supply and one that is secure, diverse and affordable with greater local heat and power...'. In turn, this will contribute to the industry making a positive contribution to society, economy and the environment. Together, the association has a range of initiatives underway to make these ambitions a reality.</p>	<p>Centrica is represented on the Board of Energy UK as well as being active members of working groups looking at for example, power generation and environmental policy. We also currently chair the working group on climate change resilience and adaptation.</p> <p>While views held within Energy UK on climate change issues are predominantly consistent with our own, there are occasional divergences which include the best approach for smart meter roll-out in the UK. As the leader in the UK's smart meter deployment and a firm believer in their positive contribution to giving customers greater control over their energy use and costs, we aim to influence and increase awareness of members on smart meters through the association. For example, our trials of time-of-use tariffs showed that household peak demand could be reduced by 9.7% and scaling this up could avoid Britain needing to build more than 2GW of generation capacity.</p>
Renewable Energy Association (REA)	Mixed	<p>The Renewable Energy Association (REA) was established in 2001 as a not-for-profit trade association, to represent British renewable energy producers and promote renewable energy use in the UK. The REA endeavours to achieve the right regulatory and legislative framework to deliver an increased renewables contribution to the UK's electricity, heat and transport needs.</p> <p>The REA is broadly aligned with the Committee on Climate Change's (CCC) view on a low carbon future, albeit with a bigger role for biomass than foreseen by the CCC. Within the area of on-site generation, REA and British Gas' views are</p>	<p>British Gas has representatives on the Solar Board, Wood Heat Association Board which covers biomass and the On-site Renewables Board that focuses on the use of decentralised renewable energy systems for individual buildings, estates, communities and the commercial sector. We also speak at events on behalf of the REA.</p>

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?
		<p>largely aligned. We support the RHI, FiT and the use of building regulations to encourage low carbon buildings. For example, consultation responses on the RHI have been broadly similar to those from British Gas, although they differ in detail.</p> <p>The material difference between REA and British Gas is that the former advocate for mandatory 2030 renewable energy targets, whereas we believe carbon targets alone are cost optimal.</p>	
Sustainable Energy Association (SEA)	Consistent	<p>The Sustainable Energy Association (SEA) represents companies and organisations active in the microgeneration sector and campaigns on behalf of its members for a genuine mass market for small scale, low and zero carbon electricity and heat generating technologies. The SEA also aims to deliver a co-ordinated and balanced view on competing technologies in the UK.</p> <p>As an active deliverer of various low carbon microgeneration measures, we are supportive of this approach.</p>	<p>Throughout 2014, British Gas was a member of the Executive Board. We also sat on various working groups, including those relating to domestic and non-domestic retrofit, regulations and standards.</p> <p>Through our board level involvement and by contributing to SEA consultation responses and position papers in 2014, we influenced SEA's position on hybrid technology, gas heat pumps, micro CHP and energy efficiency. As a result, SEA now advocate for inclusion of FiT support for micro CHP and gas absorption heat pumps in the RHI.</p> <p>We have also worked collaboratively with the SEA to influence policy around these technologies and the support provided by Government, advocating specifically for RHI support for gas heat pumps.</p>
Heating and Hot Water Industry Council (HHIC)	Consistent	<p>The Heating and Hot Water Industry Council (HHIC) is committed to driving, supporting and promoting the sustained growth of the UK's residential heating and hot water industry. They inform and advise on these issues to tackle challenges and influence Government on how best to meet the 2020 and 2050 carbon targets.</p> <p>Membership is made up of heating manufacturers together</p>	<p>British Gas is a proactive member, participating in the Low Carbon Technology, Micro CHP and Hybrid working groups, including chairing the micro CHP Technical Group. Through helping inform and shape the HHIC's position, we contribute to industry responses and consultations on government, regulatory and standards while developing initiatives that support the introduction on innovative renewable heating technologies in the UK.</p>

Trade association	Is your position on climate change consistent with theirs?	Please explain the trade association's position	How have you, or are you attempting to, influence the position?
Energy Manager Association (EMA)	Consistent	<p>with new renewable entrants to the market.</p> <p>The Energy Managers Association (EMA) was established to bring cohesion to the Energy Management profession in order to help the UK meet its energy obligations, which include those relating to carbon reduction.</p> <p>To accomplish this, the EMA aims to establish a best practice approach to energy management that will improve the standing of the profession and drive it into the heart of British businesses.</p> <p>The EMA works closely with energy managers across the UK to influence policy and Government departments such as DECC, Department for Environment, Food and Rural Affairs (DEFRA) alongside Department of Business, Innovation and Skills (BIS) on future policy development to function at optimal levels for practitioners.</p>	<p>We are represented on the Board of the EMA and provide input on carbon reporting, training standards, behaviour change and industry standards.</p> <p>As one of the leading companies delivering Energy Performance Contracts (EPCs) in the UK, we have used our involvement in the Association to influence and increase awareness of best practice EPC policy development.</p>
Association for Decentralised Energy (ADE)	Consistent	<p>The Association for Decentralised Energy (ADE) is an advocate of an integrated approach to delivering energy locally, designed around the needs of the user.</p> <p>As an industry leader, the ADE brings together interested parties from across the sector to develop a sustainable environment for combined heat and power, district heating and cooling technologies as well as demand-side energy services. Being an advocate for the proliferation of decentralised energy generation, our views are consistent with those of the ADE.</p>	<p>British Gas is a member of ADE and we work with them to promote district heating and create the policy environment to encourage growth in this sector.</p>
RenewableUK (RUK)	Consistent	<p>RenewableUK's (RUK) vision is for renewable energy to play a leading role in powering Britain; believing that wind, wave and tidal energy are essential for a sustainable energy future. As an island, RUK advocates that the UK has some of the best natural resources in the world that can maximise the impact of these technologies and deploying them, will not only</p>	<p>Centrica is an active member of strategy groups for Grid, Public Affairs, Economics and Markets.</p> <p>We also help shape RUK's position through subgroups such as Offshore Health and Safety as well as Consents and Licensing.</p>

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?
		<p>generate significant power but also bring wider social and economic benefits for society.</p> <p>As a substantial player in the UK offshore wind sector, our views and interests are largely aligned with the work of the RUK. We do however also believe in the necessity of having renewable generation supported by a diverse fuel mix such as gas and nuclear, in order to secure both an affordable and reliable back-up to a sometimes intermittent renewable energy generation.</p>	
Oil and Gas UK (OGUK)	Consistent	<p>Sourcing and generating oil and gas is an industrial process that inevitably has some degree of impact on the environment. The challenge is to balance this with the benefits society can receive from having a competitive and secure energy supply. To help understand this balance, Oil & Gas UK (OGUK) aims, 'To understand and manage the environmental risks of the hydrocarbon lifecycle so that, by 2015, stakeholders agree that the residual risks are acceptable.' This means that the energy industry will undertake work necessary and collaborate with Government and wider stakeholders to mitigate adverse impacts, so that by 2015, we can agree with stakeholders that the environmental risks are at a level of no concern.</p> <p>Our views are consistent with those of OGUK, demonstrated by our commitment to operate to the highest operating standards wherever we work in the world to ensure we maximise the positive contribution our presence can make in society while negating the negative.</p>	<p>Centrica is well represented across a broad spectrum of OGUK workgroups and forums. Most notably, we hold a seat on the influential Oil and Gas Operator Council and are members of the OGUK Board, which sets the association's position on policy matters.</p> <p>We are also represented across the full range of Environmental, Health and Safety workstreams. Through these engagements, we ensure that OGUK's aims and actions align as closely as possible with Centrica's own responsible approach to safeguarding the environment.</p>

CC2.3d

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

No

CC2.3e

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

Yes

CC2.3f

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

We published our Energy Choices report in 2014, which outlines a range of options that could help the UK meet its climate change targets in a more cost-effective way. To do this, we conducted a year-long study with the support of energy consultants Barringa Partners LLP, using publicly available data primarily sourced from the Department of Energy and Climate Change, National Grid and the Committee on Climate Change.

Our research was motivated by our desire to meet the UK's climate change targets and secure future energy supplies in a way that does not load unnecessary, additional costs onto households and businesses. At a time when UK energy policy continued to be at a decision point, we wanted to explore alternative pathways for future UK energy policy to 2030 and beyond.

We found that by pursuing three very simple principles, we could potentially save £96bn of the current estimated costs by 2030 without lowering UK ambitions on decarbonisation, which translates into savings that total £100 each year on household energy bills. This could be achieved by prioritising the most cost-effective, lowest-regret (risk) technologies and energy sources, setting simpler and more cost-effective decarbonisation targets while supporting those most affected by energy costs.

The report has enabled us to advocate for an alternative pathway for achieving the 2030 targets through our engagement with key stakeholders including the UK Government. The findings have also helped us re-evaluate and re-confirm our own strategy, particularly around focusing on cost-effective energy efficiency measures in homes and businesses. For example, we remain fully committed to being leaders in the smart meter roll-out and have trialled a demand-response tariff, which we aim to bring to market in 2015.

CC2.3g

Please provide details of the other engagement activities that you undertake

We believe that regular and meaningful stakeholder engagement is important because it enables us to better understand and therefore manage issues most important to our stakeholders, and our business. By involving stakeholders in our activities, we can demonstrate our accountability, increase our understanding of their views, identify opportunities as well as manage risks and impacts more effectively. Our engagement is mainly as an individual company rather than as a group of companies.

Stakeholder interactions are conducted through a variety of methods from one-to-one meetings to formal committees and workshops, spanning issues such as customer service to safeguarding the environment. For example, the British Gas Customer Board met quarterly during 2014 to provide feedback on our approach to smart pay as you go meters and the company's energy efficiency offerings amongst other topics. To ensure learnings are maximised and resultant action taken, feedback from the Board is shared with senior executives. We have continued to engage with the 'Aiming for A' group of investors around how we can maintain our leadership position for action and disclosure on climate change as we transition to a lower carbon future.

Extensive engagement has also taken place regarding our Energy Choices report, which outlines a range of options for how the UK can help meet its climate change targets while potentially saving up to £96bn for households and businesses by 2030. At a time when UK energy policy is at a decision point, with a series of policy decisions due to be made that could fundamentally change the shape of our energy system, we have been able to deepen the debate by engaging stakeholders which include the Government, and offering ideas and solutions such as prioritising the most cost-effective, lowest-regret (risk) technologies and energy sources to help deliver our carbon commitments while limiting the cost-challenges for consumers.

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

Centrica engages social enterprises through its backing of Ignite, the UK's first corporate impact investment fund, which will invest £10m over 10 years alongside our people's expertise to grow positive social and environmental impacts. Our £1.2m partnership with National Energy Action is also helping local authorities and front line organisations develop bespoke action plans that enable communities to use energy more efficiently in order to tackle fuel poverty and climate change. As part of the partnership, we have teamed up with the Department of Energy and Climate Change to develop and launch the Community Action Awards, which recognise innovative projects that help disadvantaged and marginalised communities reduce energy costs and carbon emissions. Our flagship education programme, Generation Green, is also engaging around 13,000 schools with educational experiences that drive sustainable behaviour. The 10 schools who benefitted from energy efficiency and solar makeovers during 2014, will collectively save around 400tCO₂ annually.

Centrica Energy is also actively seeking ways to create a more open and honest debate with local communities about energy. The debates were motivated by recognition that public trust in the UK energy sector remains low and people feel like they are not consulted on decisions that affect them. Through a series of conversations, Managing Director of Centrica Energy, Mark Hanafin, spoke to people about their energy concerns and the difficult choices we must all make for the future. Discussion focused on balancing competing issues which included profits and securing affordable energy supplies in a way that limits our impact on climate change.

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

CC2.3h

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

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

Similar to previous years, ensuring Group-wide consistency across our policy positions was central to each of the four CPG meetings that took place during 2014. Specific topics discussed at the meetings included those relating to climate change such as the Wood Review on North Sea oil and gas, EU state aid, gas codes and the energy policies of political parties. Centrica has also implemented a monthly forum bringing together the policy and public affairs teams from across the business to ensure full alignment of policy positions in-between the formal CPG meetings.

CC2.3i

Please explain why you do not engage with policy makers

CC2.4

Would your organization's board of directors support an international agreement between governments on climate change, which seeks to limit global temperature rise to under two degree Celsius from pre-industrial levels in line with IPCC scenarios such as RCP2.6?

Yes

CC2.4a

Please describe your board's position on what an effective agreement would mean for your organization and activities that you are undertaking to help deliver this agreement at the 2015 United Nations Climate Change Conference in Paris (COP 21)

At Centrica, we are fully committed to tackling climate change and we are also deeply conscious of the cost-of-living challenge facing many of our customers. An effective outcome of the 2015 UN Climate Change Conference would therefore be an agreement that enables us to continue to progress towards a more sustainable society, but to do so in an affordable way.

That is why at a time when our sector and Britain are at a key decision point, we have actively explored pathways for a future UK energy policy to 2030 and beyond, enabling us to offer ideas and solutions for delivering meaningful and cost-effective carbon savings.

One of the ways we have done this is by conducting research with the support of energy consultants Barringa Partners LLP, to outline a range of 'Energy Choices' for helping the UK meet its climate change targets in a more affordable way.

We believe the solutions lie in three critical areas:

i. Prioritise the lowest cost, lowest regret (risk) technologies by:

- Reprioritising support in the power sector by for example, encouraging coal-to-gas switching and continuing to support new nuclear projects provided they are delivered as cost-effectively as possible.
- Focusing on cost-effective energy efficiency measures in homes and businesses, which include maximising loft and cavity wall insulation, continuing to roll-out smart meters and supporting the development of demand-response offerings.
- Realising the potential from renewable heating by capturing opportunities heat pumps can provide, particularly in the commercial sector and delivering sustainable biomass.
- Unlocking low regret options in transport by ensuring minimum efficiency standards for cars and enabling natural gas fuelled Heavy Goods Vehicles.

ii. Set simple and cost-effective decarbonisation targets – Focus on achieving carbon budgets to deliver 2050 targets but without 'front-loading' effort and deprioritising sub-targets.

iii. Support those most impacted by the cost – Fund decarbonisation in a fairer way, which includes shifting costs from energy bills to general taxation and adequately supporting energy intensive industries.

An agreement which supported some of these findings would enable us to put our customers' needs at the forefront of our business. It would also mean that we maintain our focus on delivering innovative products and energy efficiency services while investing in gas as a key transition fuel on our journey towards a lower carbon future. Gas is the lowest carbon fossil fuel, is more affordable than most other energy sources and provides an important back-up to intermittent renewable energy.

These findings are helping us prepare for the future. To do this, we are currently undertaking a strategic review of the business which will articulate the role we intend to play in support of the challenges of limiting energy's environmental impact while ensuring it remains affordable. Our strategy will be announced at the end of July 2015, at which point, we will be in a strong position to prepare for our contribution to deliver the agreements reached at the UN Climate Change Conference.

Further Information

Page: CC3. Targets and Initiatives

CC3.1

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

Absolute and intensity targets

CC3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
Abs1	Other: Scope 1 + Scope 2 + Scope 3: business travel	1.13%	20%	2007	108437	2015	We use 'internal carbon footprint' to describe the carbon emissions from our core property, fleet and 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. The 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 appear 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, which help us lead the consumer market and engage our own employees in understanding and mitigating environmental issues.

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
Abs2	Scope 1	0.63%	16%	2007	43408	2015	In the UK, we aim to reduce the carbon emissions from our core fleet by approximately 16% by 2015 (baseline year: 2007). This equates to around 7,000tCO2 by 2015, equivalent to taking almost 2,600 average UK cars off the road. By the end of 2014, we had achieved an overall reduction of 15% compared to 2007.
Abs3	Scope 1+2	0.43%	5%	2013	16594	2014	We have a UK property carbon reduction target of 5%, based on the previous year's consumption. This relates to our main UK office gas and electricity emissions. While power use was reduced by 7% and gas by 9% compared to the previous year, emissions associated with our offices rose by 1% due to the worsening carbon content of the UK's grid emissions. By 2015 we hope to reduce the emissions from our main UK offices by around over 46% from our 2007 baseline, equating to around 14,000tCO2. By the end of 2014, we had reduced emissions by 43% from the baseline.
Abs4	Other: Scope 1 + Scope 2 + Scope 3: business travel	1.1%	25%	2007	77680	2015	We aim to reduce our internal carbon footprint (core property, fleet, business travel) of our British Gas business by 25% compared to a 2007 base year.

CC3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
Int1	Scope 1	92%	40%	Other: grammes	2008	9923131	2020	We have set a target to achieve a Group carbon intensity of 260gCO2e/kWh by 2020. This target covers all emissions from our

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
				CO2e per kilowatt hour (kWh)				own power generation (by equity). Our carbon intensity at the end of 2014 was 154gCO2/KWh, which is ahead of target. This above target performance was anticipated because it partly reflects the poor market conditions for power alongside a change in our generational portfolio. However, our carbon intensity may increase over the coming years should market conditions recover enabling our gas-fired power stations to generate more power.

CC3.1c

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

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comment
Int1	Decrease	38	No change	0	If output were to remain at the same level as 2008 and carbon intensity achieves 260gCO2/KWh in 2020, there would be a 38% decrease in our scope 1 and 2 emissions compared to 2008. Although our generation output is unlikely to be the same in 2020 as in 2008 due to the evolution of our power generation portfolio, it is not possible to predict the change with any accuracy because of the highly uncertain nature of the power market.

CC3.1d

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

ID	% complete (time)	% complete (emissions)	Comment
Int1	50%	100%	In 2014, we exceeded our 2020 carbon intensity target of 260gCO ₂ e/kWh (based on equity) by 106gCO ₂ /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 whilst others were sold. We are reassessing the target in 2015 to better reflect changes in our generation portfolio and now that there is more certainty following the UK capacity market auctions.
Abs1	88%	100%	We are aiming for a 20% total reduction on our 2007 baseline. In 2014, we reduced emissions in our global internal carbon footprint (core property, fleet and business travel) by 25% compared to 2007, totalling 80,288tCO ₂ .
Abs2	88%	93%	Our annual carbon reductions in 2014, took performance to 93% completion of the overall 2015 target.
Abs3	100%	0%	In 2014, we achieved a 1% increase in office emissions compared with our target of 5% reduction, which was largely due to a worsening of the carbon content of the UK grid.
Abs4	88%	100%	By the end of 2014, we achieved a 25% reduction in our British Gas internal carbon footprint compared to our baseline of 2007. This performance means we have achieved our 2015 target of 25% reduction ahead of schedule.

CC3.1e

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

CC3.2

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

Yes

CC3.2a

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

i & ii How emissions were avoided - Commercialising services that reduce customer carbon emissions is a key part of British Gas' core strategy. Three measures make the biggest reductions in customer gas use (customers' scope 1 emissions): wall insulation, loft insulation and energy efficient boilers. We deliver these measures through established central heating installation and insulation businesses. Provision of low carbon energy is delivered to customers through onsite renewables such as solar panels, heat pumps and small and medium scale biomass boilers (reducing customers' scope 1 & 2). Smart meters can also contribute to carbon avoidance with British Gas smart meter customers having reduced their energy bills by an average of 2% for both gas (customers' scope 1) and electricity (customers' scope 2) in 2014. We have taken a leadership position in the UK's smart meter roll-out, installing over 1.7m by the end of 2014. Direct Energy has introduced a tariff with a learning thermostat that can enable customers to save up to 20% on their heating and cooling bills. They also continue to offer time-of-use (TOU) products to cut the overall demand on the grid at peak times, reducing need to turn on additional power plants (customers' scope 2). TOU customers on the Free Power Saturday tariff can, for example, save approximately 16% on energy during the discounted day while the introduction of a Reduce Your Use Rewards programme can enable savings of 5% on monthly energy bills if they lower usage during a high peak event. Prepaid products in North America additionally help reduce electricity consumption by around 11% (customer's scope 2).

The low carbon intensity of our renewable and nuclear power generation helps reduce electricity users' emissions (customers' scope 2). In 2014, our power generation carbon intensity continued to decline to 154gCO₂/kWh, compared with 433gCO₂/kWh (base year: 2008). Of the power we generated in 2014 (based on our equity share), 4.6% was from renewable sources and 56.4% from nuclear, resulting in a total of 61% produced from low carbon sources. We also continue to purchase a substantial amount of renewable and lower carbon power, which has helped us fulfil 46% of our UK customers' energy needs from those sources. This means our UK power supply carbon intensity is 339gCO₂/kWh (fuel mix disclosure to Ofgem: 2013/14), considerably lower than the UK average of 420gCO₂/kWh.

iii Estimate amount of emissions avoided - Measures we installed in customers' homes since 2013 in the first two years of ECO will save 12.0mtCO₂e over their lifetime, while by the end of the scheme in 2017, we are mandated to deliver lifetime carbon savings of 20.4mt. We also install solar panels, heat pumps, and small and medium scale biomass boilers. We calculate that the carbon savings enabled through measures installed in the UK since 2010, totals over 13mtCO₂e. Additionally, 8.4mtCO₂e was avoided through our renewable and low carbon power generation in 2014 when compared to the UK grid average.

iv Methodology - ECO savings are calculated using industry approved software that converts lifetime carbon savings attributable to each measure to kg/CO₂ savings, which is used in banking with Ofgem. Products included are loft, cavity and solid wall insulation, gas boiler replacement and repair, glazing, heat pumps as well as biomass boilers. Total carbon savings of products British Gas has installed is calculated by combining primary data on the number of installations made between 2010-2014 (in cases where products installed since 2010 still have a carbon saving), with credible secondary data on likely energy and cost savings (e.g. Ofgem). Where third party calculations are used, their emission factors and global warming potentials are employed. In our own calculations we use the IPCC Global Warming Potentials (GWP) identified in Question 7.3, unless specified otherwise. Our analysis of smart meter customer consumption used the DECC and ONS approved methodology, on a sample of nearly 20k customers over a two-year period, comparing consumption before and after smart meter installation.

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

CC3.3

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

Yes

CC3.3a

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

Stage of development	Number of projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	5	216714
To be implemented*	3	537385
Implementation commenced*	2	4401
Implemented*	12	3958085
Not to be implemented	0	0

CC3.3b

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

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building fabric	<p>Energy Company Obligation (ECO)</p> <p>To replace CERT and CESP, the UK Government introduced ECO which will run between 2013 and 2017. ECO mandates energy suppliers such as British Gas, to fund professionally installed insulation and boilers in residential homes to reduce energy use and carbon emissions, particularly in homes that are fuel poor and could benefit from reducing their energy costs. We expect the ECO programme to cost over £1.5bn and deliver lifetime carbon savings of 20.4mtCO2**.</p> <p>In 2014, we committed £468m* towards ECO and installed more than 282,000 measures, such as solid and cavity wall insulation, district heating and boilers. These products will deliver lifetime carbon savings totalling 7.2mtCO2**. This equates to annual savings of 240,000tCO2**.</p> <p>Since ECO's inauguration in 2013, the measures we have installed will generate lifetime carbon savings of 12.0mtCO2**.</p> <p>These activities are helping reduce our Scope 3 emissions.</p>	240000	Scope 3	Mandatory	44880000	1500000000	4-10 years	3-5 years	<p>*2014 costs have been aligned with methodology for reporting to Ofgem which includes administration fees.</p> <p>**The carbon savings stated for ECO include the following components; Carbon Emissions Reduction Obligation (CERO), Carbon Saving Community Obligation (CSCO) and Home Heating Cost Reduction Obligation (HHCRO). HHCRO is typically reported</p>

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Energy efficiency: Building fabric	<p>Green Deal</p> <p>British Gas has been an early supporter of the Green Deal, which enables domestic and commercial customers to invest in energy efficiency improvements, which qualify under the initiative for little or no upfront outlay by spreading the cost through instalments on their energy bills. During 2014, we continued to be heavily involved in the industry roll-out of the Green Deal. We were the first to launch Green Deal cashback in January 2013 and remain a clear leader in support for the initiative. We were also the first to launch the highly complex Green Deal finance offering in April 2013.</p> <p>We undertook 14,000 private-funded Green Deal Assessments in 2014 in addition to 70,000 through ECO, to determine which energy efficiency measures are applicable for our customers' properties. We also remain the leader in Green Deal cashback and have</p>	2600	Scope 3	Voluntary	500000	25000000	4-10 years	11-15 years	<p>to Ofgem in lifetime heating bill savings but has been converted into lifetime and annual carbon savings achieved to highlight the full extent of the emissions savings through ECO.</p> <p>No further comments.</p>

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>enabled 4,500 customers to claim £1.1m in total to fund their investments. Of this, 190 customers were supported to fund at least part of their investments through a Green Deal loan, helping them to leverage £250k of finance. The majority of our Green Deal finance plans have been for 12-year borrowing, although some plans extend to the maximum 25 years. Our average Green Deal customer loan size is £1,350, which is equivalent to initial annual energy bill savings of £117. We invested £10m in the Green Deal Finance Company in 2014. This takes our total investment to date in the Green Deal to £25m.</p> <p>The energy efficiency measures we installed through the Green Deal in 2014 will save 2,600tCO2 per year and reduce customers' total energy costs by £0.5m per year. Compared to 2013, the savings secured were lower due to a significant reduction in take-up of the Green Deal which was largely due to the closure of the Government cashback initiative mid-2014 and the low take up of Green Deal finance.</p>								
Low carbon energy installation	<p>Renewable heat and solar products - UK</p> <p>Our onsite renewable offerings range from microgeneration of low carbon energy for domestic customers to larger projects for community, commercial and industrial use. This includes solar panels and renewable heating such as biomass boilers. We have invested £10.8m to significantly expand our ability to offer these solutions by acquiring leading low carbon businesses that will enable us to deliver large-scale deployment and support our fulfilment of mandatory carbon reduction obligations and renewable heat</p>	9900	Scope 3	Voluntary	2200000	10800000	4-10 years	21-30 years	With a fragile market for heat pumps, largely due to inadequate support from the Renewable Heat Incentive, there were only a small number of heat pump installations

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>projects in the UK. For example, we have invested in the following technologies and companies - solar (Solar Technologies, 2008), heat pumps (Cool Planet Technologies, 2010) and biomass heating (Econergy, 100% owned in 2011).</p> <p>Solar - In 2014, we completed 280 installations of solar panels at UK homes, schools and businesses, collectively providing 7MWp of generation capacity. This was down from 490 installations totalling 7.4MWp in 2013, due to an increasingly challenging residential market for solar in the UK alongside precautionary measures taken following three fires during 2013/14. Annually, the solar panels we installed in the UK saved 3,300tCO2 and an estimated £0.5m on customer energy bills.</p> <p>Biomass - In 2014, we installed 151 biomass boilers for residential, commercial and local authority buildings, including schools and community projects which totalled 21.4MWth. These installations generated annual savings of 12,400tCO2 and £3.2m, while generating lifetime carbon savings of 310,000tCO2. Most of the 2,500 low carbon district heating contracts signed for properties, such as domestic tower blocks and commercial buildings like hospitals, were for biomass fuelled social housing projects delivered under ECO. These installations will help provide lower cost reliable sources of heating while delivering lifetime carbon savings of more than 145,000tCO2. The biomass we installed through ECO will save 5,800tCO2 annually.</p> <p>Due to this saving of 5,800tCO2 having already been</p>								<p>delivered in 2014. Consequently, heat pumps have not been included within our response.</p>

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>captured in the ECO entry above, only the remaining savings, which total 6,600tCO₂, are reported here. These installations, delivered in 2014, equate to cost savings of £1.7m.</p> <p>Together, the measures installed in 2014 for solar and biomass will generate equivalent lifetime savings of 247,500tCO₂, which equates to annual savings of 9,900tCO₂.</p>								
Low carbon energy installation	<p>Solar products – North America</p> <p>Solar is a rapidly expanding market in North America and constitutes a growing focus for Direct Energy. Through solar, customers can benefit from greater choice around how they generate and consume energy, while lowering their environmental impact.</p> <p>During 2014, Direct Energy added solar power to the range of products offered to our residential customers by acquiring Astrum Solar for US\$53m (£33m) in July. Following the acquisition, around 600 solar installations were completed, resulting in over 5.5MWp of capacity. These installations will save 3,168tCO₂ per year for our customers. We will grow our residential solar business in 2015, to position Direct Energy as a preferred installer in this market.</p> <p>Solar is also provided to our business customers through a US\$125m (£78m) fund with SolarCity, of which Direct Energy contributed US\$50m (£31m). In 2014, US\$74m (£46m) of the fund was used to finance 17.9MWp worth of solar projects. These installations saved 3,100tCO₂ during 2014 (or 1,240tCO₂ based on</p>	4408	Scope 3	Voluntary	0	64000000	4-10 years	21-30 years	Annual monetary savings were not calculated.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>our 40% investment share) during 2014 and could save around 15% on energy costs for our business customers annually.</p> <p>Our solar commitments in North America are voluntary and help reduce scope 3 emissions.</p>								
Energy efficiency: Building services	<p>Centrica property – energy management</p> <p>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 1 and 2 carbon emissions from our core portfolio by 2015 compared to 2007.</p> <p>During 2014, we reduced imported energy at our core UK property by 7.5% through methods including enhanced lighting control, further works to implement advanced BEMS (building management system) controls and good housekeeping.</p> <p>Despite this, our property carbon emissions rose by 1% due to the average carbon intensity of electricity across the UK grid having increased. Had the UK power mix stayed constant, our property emissions would have fallen by 7.9%. However, our reduction in imported energy resulted in avoiding around 1,300tCO2.</p> <p>These activities represent voluntary initiatives with lifetimes that range between 1 and 5 years.</p>	1224	Scope 1 Scope 2	Voluntary	140000	3000000	4-10 years	3-5 years	No further comments.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
Low carbon energy installation	<p>Centrica property – renewable generation</p> <p>In 2014, our bid to halve the scope 1 and 2 carbon emissions from our core portfolio by 2015 compared to 2007, continued with our programme of installing renewable generation on selected Centrica buildings. During 2014, we reduced imported energy at our core UK property emissions by 7.5%. This was achieved partly through phase 2 of our Energy Performance Contract (EPC) with British Gas Business. The EPC is the first of its kind to be used internally in the same way that we use them with external clients, and was implemented primarily in 2013 and 2014.</p> <p>To achieve long-term carbon savings, we made significant investments of around £3m, at 16 of our sites during 2014. Investments were made in technologies such as solar PV and biomass boilers. The worsening carbon content of the UK grid however, resulted in our property carbon emissions having increased by 1% in 2014, although our reduction of imported energy resulted in the avoidance of around 1,300tCO₂.</p> <p>The voluntary infrastructure changes and low carbon installations delivered are expected to generate carbon savings of 54tCO₂ and last 10-20 years.</p>	54	Scope 1 Scope 2	Voluntary	7000	3000000	4-10 years	16-20 years	No further comments.
Transportation: fleet	<p>Fleet</p> <p>As the largest single component of our internal carbon footprint (related to core property, fleet and business travel), we continue to implement our low carbon fleet roadmap and its various workstreams. A key element is</p>	258	Scope 1	Voluntary	70000	100000	<1 year	6-10 years	No further comments.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>replacing our commercial vehicles with increasingly efficient or smaller models where possible, which helps reduce our scope 1 emissions. The emissions associated with our global fleet fell by over 400tCO₂ in 2014, driven both by our low carbon fleet programme (258tCO₂) and a reduction in miles driven.</p> <p>In total, over 370 commercial vans were exchanged in our UK fleet in 2014, mainly for more efficient versions. We continue to utilise the data from the GPS installed in all our new vans and over 8,000 of our existing vans, to calculate actual fuel consumption which further informs our vehicle assessment and selection processes.</p> <p>Another key workstream is electric vans. In 2014, we maintained our leadership position in trialling electric vans within our British Gas fleet. Following the UK's largest ever electric commercial vehicle trial in 2013/14, we added 50 e-NV200s electric vans to our fleet which is now the largest electric fleet of its kind in the world and makes us a UK leader in commercial electric fleet transport. An order for a further 63 electric vans was placed in 2014, with delivery due in 2015. Our ambition is to have 1,300 electric vans in our fleet by 2017.</p> <p>The investment required is part of the ongoing fleet replacement programme which generated savings that totalled 258tCO₂ in 2014 and £70,000 (estimated).</p>								
Behavioral change	<p>Company cars and driving</p> <p>We engage our employees in order to positively influence their behaviour in a number of ways which</p>	197	Scope 1	Voluntary	1000000	1570000	<1 year	Ongoing	No further comments.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>enable carbon savings. A key element of this is influencing how our employees choose and use company cars. We have shaped our company car policy to drive low carbon choices both by choice editing and fiscal incentives.</p> <p>In 2014, we placed another 700 employees into lower-carbon cars when their existing agreements came up for renewal. Furthermore, 175 employees are now using hybrids or electric vehicles. To encourage a growth in take-up, 38 EV charge points have been installed across our properties. As a result, the emissions from our company car fleet reduced by over 3% in 2014 compared to 2013. Meanwhile the average tailpipe emissions have declined by 27% from 2008, to 117gCO2/km.</p> <p>These voluntary initiatives have helped reduce our scope 1 emissions by 197tCO2 and are expected to continue indefinitely. Annual monetary savings of £1m are based on estimated savings on fuel.</p>								
Behavioral change	<p>Air travel</p> <p>We also aim to reduce travel emissions by offering alternatives. We have video-conferencing equipment in all of our main businesses and a rolling programme to promote remote working technology, such as web-conferencing.</p> <p>In 2014, we held over 600,000 teleconference and 7,000 video-conference hours. This contributed to a 30% reduction in air travel emissions, totalling 3000tCO2.</p>	3000	Scope 3	Voluntary	3000000	280000	<1 year	1-2 years	No further comments.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	<p>We also continue to promote car-sharing software and have developed Green Travel Plans at key sites to reduce business and commuting miles.</p> <p>These activities are playing an important role in reducing our scope 3 emissions.</p>								
Low carbon energy installation	<p>Nuclear plant life extensions</p> <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.</p> <p>In 2014, seven nuclear plants were operating under life extensions, which means they were able to continue to generate enough low carbon electricity to power 11m homes.</p> <p>These extensions are projected to have avoided 17.92mtCO2 in 2014, which based on our 20% equity share equates to nearly 3.6mtCO2. These emission savings are those which otherwise would have been generated by the prevailing UK fossil fuel mix.</p> <p>These extensions 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).</p> <p>Our investment in nuclear is not a mandatory</p>	3584000	Scope 1 Scope 3	Voluntary	0	2300000000	4-10 years	6-10 years	Our recording of lifetime extensions has been aligned to measurement by our joint venture partners, EDF. This means that we no longer capture the whole carbon avoided savings in the year the extension was granted, but instead account for the savings on an annual basis as the life extensions occur. Annual monetary savings have not been disclosed due to the commercial sensitivity of the

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	requirement.								data.
Energy efficiency: Processes	<p>Combined-cycle gas turbine (CCGT) energy efficiency upgrades</p> <p>As part of our commitment to reduce our operational footprint under scope 1, we undertook a series of voluntary efficiency upgrades at our CCGT Humber power station in 2014.</p> <p>We upgraded two gas turbines to enable a greater volume of energy to be generated in a more flexible way which has lowered the baseload power required and made the asset more efficient by consuming less energy. As a result of the installation, which cost around £45m, we estimate an increase in efficiency of over 1.4%, which is equivalent to annual savings that total 95,000tCO2 and £8.5m.</p> <p>We also reinstated variable speed drives to high pressure feed pumps which cost £30,000. Due to the relationship between pressure output from the pump (work done) and electrical power used, every Bar pressure reduction creates an electrical power saving. In turn, this generated annual savings in 2014 of 180tCO2 and £1,000.</p> <p>Lighting identified as unreliable and reaching the end of its lifespan was also replaced with more efficient units. The replacements cost £100,000 and are estimated to have saved nearly 64tCO2 alongside £4,500 during 2014.</p> <p>Overall, we estimate carbon savings delivered in 2014</p>	95244	Scope 1	Voluntary	8505500	45130000	<1 year	Ongoing	Pay-back period was not possible to calculate. The value entered was selected to enable inclusion and is therefore not accurate.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	total 95,244tCO2.								
Energy efficiency: Processes	<p>CCGT efficiency initiatives</p> <p>In 2014, we continued to strive to reduce our scope 1 emissions from power generation. One of the ways we did this was by voluntarily implementing efficiencies in the everyday running of our CCGT power stations to optimise consumption and reduce wastage.</p> <p>Reducing standby consumption - During periods of standby when the power station does not export power, we focused on the optimisation of consumption. To achieve this, we turned off non-essential plant functions, which ensured that load wastage was controlled more efficiently.</p> <p>Consequently, our fleet has reduced its import power requirement by around 10%, which we calculate has generated savings of around 2,200tCO2 and £150,000 during 2014.</p> <p>Optimising start-up profiles - Optimisation of power station profiles for start-up has reduced the duration of 'holding' at inefficient loads, which were required in original design instructions.</p> <p>As a result of optimisation, we have seen some power stations having reduced their start-up time by more than 50%, which has cut the amount of gas consumed. We estimate this has created savings of around 15,000tCO2 and £250,000 in 2014.</p> <p>As a result, we estimate overall savings of 17,200tCO2</p>	17200	Scope 1	Voluntary	400000	0	<1 year	21-30 years	There was no investment required to deliver these savings as existing equipment was optimised.

Activity type	Description of activity	Estimated annual CO2e savings (metric tonnes CO2e)	Scope	Voluntary/ Mandatory	Annual monetary savings (unit currency - as specified in CC0.4)	Investment required (unit currency - as specified in CC0.4)	Payback period	Estimated lifetime of the initiative	Comment
	and £400,000 during 2014.								

CC3.3c

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

Method	Comment
Compliance with regulatory requirements/standards	<p>Mandatory schemes</p> <p>We are required to comply with the Renewables Obligation, Energy Company Obligation (ECO), the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, the Energy Savings Opportunity Scheme (ESOS) and the EU Emissions Trading System. We have used the platforms provided by the legislation to underpin the strategic shift in our UK businesses towards energy and energy services (not just energy supply), energy efficiency in our own operations and to reinforce our focus on investing in lower carbon power sources, including nuclear, offshore wind and efficient combined-cycle gas turbines (CCGT).</p>
Other	<p>Price of carbon</p> <p>Our investments in low carbon energy are not only driven by regulatory compliance, but also by wider economics, which include the price of carbon. For example, the Renewables Obligation does not require us to invest in wind farms but it helps generate an economic rationale for doing so. The carbon floor price in the UK provides an additional investment signal for low carbon generation to support the EU Emissions Trading Scheme price, which has dropped to very low levels.</p>
Other	<p>Internal carbon emission reduction targets</p> <p>By setting and publishing carbon reduction targets that have executive support, investment into low carbon technologies has been stimulated and the business has focused on initiatives to meet these goals. In 2014 for example, to help reach our internal carbon footprint target, we invested in a number of technologies such as solar, biomass and LED lighting across our</p>

Method	Comment
	properties and are a UK leader in electric commercial fleet transport.
Other	<p>Corporate strategy</p> <p>Our corporate strategy balances maintaining security of supply, providing affordable energy while delivering a low carbon future. Core to our strategy for our downstream business is to enable customers to control their energy use in a simpler, smarter and more efficient way. This means the business model for our residential customers is evolving to provide both energy and low carbon products and services for the smart connected home. Our capital investment takes into account non-financial, social and environmental factors.</p>
Dedicated budget for energy efficiency	<p>Dedicated budgets for low carbon technologies</p> <p>British Gas has dedicated budgets for driving investment in low carbon and renewable technologies that will expand our business expertise and capabilities in order to optimise the benefits (scope 3 reduction and bill savings) that we bring to communities, in the most cost-effective way. This investment has also significantly increased our ability to fulfil our mandatory obligations under the UK Government's ECO scheme.</p> <p>In 2010, British Gas was given a dedicated a budget for the creation of a new energy efficiency business to increase the speed and efficiency of a nationwide insulation roll-out, which now employs around 1,000 people. Part of this expansion included the acquisition of Hillserve Ltd in 2010, a leading domestic insulation business. We have additionally invested over £10.8m to expand opportunities in microgeneration through the acquisition of leading companies such as Solar Technologies in 2008 for solar, Econergy in 2011 for biomass and renewable heat as well as Cool Planet Technologies in 2010 for the deployment of heat pumps.</p> <p>We also have dedicated budgets and programmes to deliver our UK energy efficiency obligations in the most cost effective way in order to minimise the cost per tonne of carbon saved. This enabled us to complete our first phase of ECO (January 2013 - March 2015), having delivered lifetime savings that will total 7.0mtCO₂ (excluding carbon equivalent for HHCRO component) and energy bill savings of £1.5bn for vulnerable and low income households.</p> <p>A dedicated budget is also available to support our commitment of the Green Deal in the UK. Since its inauguration in 2013, British Gas has secured a leading position in its roll-out having invested £25m in order to help our customers make their homes more energy efficient and affordable through Green Deal assessments, cashback and finance loans. In 2014, we had a £6.8m dedicated budget for energy efficiency and low carbon technology within our UK property portfolio. This was used to deliver on our internal carbon footprint target of a 25% reduction by 2015 using a 2007 base year.</p>
Dedicated budget for low carbon product R&D	<p>Dedicated budgets for low carbon product R&D</p> <p>We created a new business, British Gas Connected Homes, to develop products and services that enable customers to use smart technology to connect their homes with the purpose of helping them better manage their energy. Our new brand, Hive by British Gas, was created in 2013 and has a dedicated budget to revolutionise the way society controls their homes using innovative and simple technology. Its first product, Hive Active Heating, gives customers the ability to control their heating and</p>

Method	Comment
	<p>hot water remotely. This means customers can reduce wasted energy if, for instance, they leave their heating on when they are away from home. Our personalised smart energy reports for smart meter customers also provide consumers with greater insights into their pattern of consumption by time period and appliance type, which empowers them to make more informed decisions about how they use and reduce their energy consumption.</p> <p>We also have dedicated businesses and budgets to develop and deploy low carbon products and services. Our microgeneration technology team works with various stakeholders around the world to bring new and innovative low carbon technologies to market in the UK. The team source new products through engagement with business entrepreneurs and manufacturers while ascertaining product effectiveness via field trials and market research. Learning is also shared with Government to create the regulatory framework needed to ensure consumer adoption.</p> <p>Smart metering has its own business within British Gas and is expanding its operations to integrate smart metering across other business areas. Additionally, British Gas Energy Efficiency is a significant business in its own right with around 1,000 employees and is working to help households reduce their impact on the environment along with their energy bills.</p>
Other	<p>Investing in low carbon skills</p> <p>We are investing in the skills of our people and new recruits to meet the needs of a lower carbon economy. In 2014, we invested £21.3m to deliver around 100,000 training days to over 10,000 engineers. The majority of training related to servicing and repair but also included insulation, smart metering and solar. Engineers receive the skills necessary to make homes more energy efficient and provide valuable advice to empower people to take greater control over their energy consumption. During 2014, more than 1,200 people were completing apprenticeships across Centrica, including over 470 new apprentices in British Gas who will help maintain our talent pipeline for delivering new and energy efficient measures in the future.</p> <p>We are also a founding partner of Movement to Work which aims to support 100,000 young people not in education, employment or training (NEETs), find work by the end of 2015. We have committed to deliver Customer Service and employability training programmes for 450 young people, which include a bespoke training course in sustainability through our partnership with Global Action Plan. 124 young people have so far benefitted from gaining employment and sustainability skills.</p>
Employee engagement	<p>Engaging employees</p> <p>We have used training, fiscal incentives, upgraded systems and internal communications to promote greener behaviours. We have trained over 13,000 drivers in efficient driving techniques, used financial incentives to encourage employees to choose less polluting vehicles and provided electric vehicle (EV) charging stations at 38 of our sites to make EV driving more convenient and affordable. 175 employees have now chosen hybrids or EVs as their company cars.</p> <p>Our network of Green Teams coordinate activities and events across our sites to celebrate World Environment Day, enabling us to highlight key environmental messages and encourage sustainable behaviours.</p>

Method	Comment
Other	<p data-bbox="674 316 741 339">Ignite</p> <p data-bbox="674 368 1957 448">We are investing in energy entrepreneurs that have positive social impacts through Ignite, the UK's first corporate impact investment fund focused on energy and backed by Centrica. Ignite will invest £10m over the next 10 years and use the expertise of our people to grow the impact of purpose-driven social enterprises to build a better society.</p> <p data-bbox="674 480 2016 584">Investments span every point of the energy chain, from sourcing and generation through to supply, service and saving energy in order to help tackle big societal issues such as climate change and fuel poverty through innovation. By the end of 2014, £5m had been committed in eight enterprises, which ranged from providing green skills to young, unemployed people to enabling low carbon electric vehicle transport. Profits from Ignite's investments will be reinvested to grow more social enterprises.</p>

CC3.3d

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

Further Information

Page: CC4. Communication

CC4.1

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

Publication	Status	Page/Section reference	Attach the document
In mainstream financial reports in accordance with the CDSB	Complete	2014 Annual Report: Chairman's Statement (p6-9), Chief Executive's Statement (p9-14), Our operating environment (p14-15), Business model (p16), Strategic priorities (p17), How we	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/Centrica_AR2014_Annual_Report.pdf

Publication	Status	Page/Section reference	Attach the document
Framework		do business (p21-23) including total carbon emissions performance figures and details of our response to climate change, Business reviews (p25-34), Principal risks and uncertainties (p40-45). (NB: this is online and downloadable).	
In voluntary communications	Complete	2014 Corporate Responsibility Performance Review – Chief Executives introduction (p3-4), Non-financial key performance measures (p.8,14), Helping our customers (p12), Securing energy supplies responsibly (p23), Reducing our carbon emissions (p25-27). (NB: this is online and downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/Centrica_CR_Review_2014.pdf
In voluntary communications	Complete	2014 Corporate responsibility reporting data – A download of environment data hosted in our online interactive data centre, which includes a breakdown of our GHG emissions. (NB: this is online and downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/Centrica_Datacentre_Environment.xls
In voluntary communications	Complete	A series of blogs, case studies and press releases on climate change related issues such as GHG emissions, energy efficiency, renewable generation and low carbon products. These stories form a core part of our Corporate Responsibility reporting which are also distributed on social media. The attachment shows screenshots on these topics which interested stakeholders can comment on to facilitate a debate around these important issues. (NB: this is online).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/CDP Question 4 - Communications.pdf
In voluntary communications	Complete	What CR means to us – A short video outlining our commitment to being a responsible business which includes our approach to climate change.	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/Corporate Responsibility at Centrica_Transcript.pdf

Publication	Status	Page/Section reference	Attach the document
		(NB: this is online).	
In voluntary communications	Complete	Energy Choices – A report we commissioned which explores alternative pathways for future UK energy policy to 2030 and beyond that are both sustainable and affordable. (NB: this is online and downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/energy_choices_report.pdf
In voluntary communications	Complete	Our Business Principles - A guide to sound business practice which explains the standards we expect from our people and how to put our principles into practice. One of the key commitments is to 'protect the environment'. (NB: this is online and downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/business_principles_leaflet.pdf
In voluntary communications	Complete	The Connected Home: Smarter Energy Future, Nina Bhatia, Commercial Director of British Gas, spoke at Ofgem's Smart Energy Conference on how the connected home can improve energy interactions. (NB: this is online and the transcript is downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/Nina_Bhatia_Ofgem_Smart_Energy_Conference_July_2014.pdf
In voluntary communications	Complete	FT European Gas Conference - Sam Laidlaw, Chief Executive of Centrica plc until the end of 2014, speaks about how if energy policy is to fulfil this role, it must be sustainable. (NB: this is online and the transcript is downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/FT European Gas Summit - Sam Laidlaw1.pdf
In voluntary communications	Complete	Smart Tech driving the energy revolution begins at home - Sam Laidlaw, Chief Executive of Centrica plc until the end of 2014, explains how we can keep future energy costs and bills down through new technology which is revolutionising every aspect of energy supply. (NB: this is online and downloadable).	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC4.1/The Sunday Telegraph Op Ed 281214.pdf

Further Information

Module: Risks and Opportunities

Page: CC5. Climate Change Risks

CC5.1

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

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

CC5.1a

Please describe your inherent risks that are driven by changes in regulation

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Uncertainty surrounding new regulation	Energy Market Reform (EMR) The company is subject to various political and regulatory interventions implemented by governments and regulatory bodies. Objectives of these regulatory interventions vary, but include carbon emission reduction, security of energy supplies and protection of	Other: Increased capital cost and/or reduction in investment	Up to 1 year	Direct	About as likely as not	High	Government has set a budget for its main renewable support schemes, which peaks at £7.6bn in 2020/21 (real 2012 prices). Around £3.6bn of this is required to support existing renewable generation, with around £4bn available for new renewable generation.	Internally, an executive level Policy Group meets regularly to discuss and agree Group-wide positions on each key issue. Externally, we continue to engage with Government and regulators to support a stable investment climate. Finally, we engage with our wider stakeholders to build	The costs are built into annual operational budgets – this includes staff costs of at least £150k for employees

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>consumers and business customers. As the level of scrutiny of the energy sector from regulators and other key stakeholders including governments and consumer groups continues to increase, these decisions have an ever greater potential impact on our commercial operations.</p> <p>The UK Government has now begun implementation of its EMR programme, which was first proposed in 2010. EMR's key constituent parts are renewables contracts for difference (CfDs), a carbon price floor and the introduction of a capacity market. The first renewables CfD and capacity auctions took place in 2014. The carbon price floor is already implemented, although the future level of the carbon price support rate was adjusted in 2014 and may be subject to further change.</p> <p>EMR means both renewable and thermal generation investments rely on Government committing to their policy positions to achieve expected returns on capital. The possibility of future adverse changes in policy on EMR (e.g. budget cuts for renewable support or capacity payments for gas or nuclear generation) poses a significant risk to investors in UK power generation.</p>							knowledge and trust in our business and sector.	working on EMR and the capacity market.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	Adverse developments in EMR policy could lead to projects being rendered unviable, “stranded” at their development phase or could have the potential to reduce investment.								
Uncertainty surrounding new regulation	<p>Uncertainty surrounding new regulation</p> <p>Consumer uptake for Green Deal (GD) finance has been much lower than hoped by Govt. This is due in part to the complexity of the scheme and lending restrictions. The move of regulation of GD finance from the OFT to the FCA also introduced extra compliance complexities. Subsidies for microgeneration technologies could also change.</p> <p>Feed-in tariffs (FITs), used mostly for solar generation, have been stable over the last 2 years with the UK Govt providing more certainty on future subsidy levels. There have been changes to the subsidy for larger solar schemes with the complete withdrawal in 2015 of ROCs for systems above 5MW. CfDs are now the only mechanism available for these schemes. There is also a continuation of the EU minimum import pricing cap for Chinese PV modules which increased in 2015. The key risks for</p>	Other: Return on investment	1 to 3 years	Direct	About as likely as not	High	Changes to the GD framework could impact the recovery of our £25m investment to date. As the UK leader on smart meters, we have invested hundreds of millions of pounds installing smart meters. Our renewable heat and solar businesses have projected annual combined revenues of nearly £70m in 2015; changes to Govt incentives could impact those revenues. Govt estimates we will spend around £285m per year on ECO.	<p>We continue to work closely with Govt and other industry stakeholders to help improve GD and drive its longer-term popularity. We have also created compliance matrices to manage complexity around GD finance. With the transfer to FCA regulation for GD finance in April 2014, we have undertaken a detailed self-audit of our processes for FCA compliance.</p> <p>We manage our in-house renewable heat, solar and insulation businesses carefully with a balanced mix of recruitment and subcontracting to ensure that as we grow, we have flexibility to respond to any changes in demand. We use a number of delivery channels to mitigate ECO costs including third-party contracts, the Govt brokerage market, contracts with local authorities and our own installation business. In the UK, the smart</p>	Our fixed costs for managing and delivering our renewable heat and solar businesses are approximately £10m per annum. We have invested significant resources, including staff time worth around £280k per year, ensuring that our GD activities are fully compliant for the new FCA regulatory regime.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>RHI, which is now in place for commercial small, medium & large biomass & heat pumps as well as for domestic customers, is the lack of funding commitment for new schemes beyond 2016 and tariff depression for small commercial biomass.</p> <p>Following the UK elections in May 2015, there is a risk that the new Govt could make changes to GD, ECO, RHI or FITs that could have a detrimental impact on our business.</p> <p>Govt statements on smart meters have reaffirmed support for roll-out as standard by 2020 & their commitment that once installed, other than in exceptional circumstances, smart meters can only be replaced by equivalent or updated models. This provides confidence for smart meter installation going forward.</p> <p>There is uncertainty around the UK Competition and Markets Authority Review due to report before the end of 2015. The provisional findings in July included suggestions for more flexibility around tariffs and prioritising the roll-out of smart prepayment meters, which could pose risks or opportunities depending on their application.</p>							<p>business case is subject to a detailed review in line with our financial planning process and significant scale decisions are subject to internal due diligence processes managed by Finance and the Smart Leadership team and a twice annual review by the Centrica Executive Committee.</p> <p>Direct Energy has committed resources to pursue the delivery of timely and accurate interval data to support TOU products. This has resulted in the decision by the network operator, ERCOT, to begin reporting on advanced metering system (AMS) data performance, a big step forward in AMS data transparency.</p>	<p>Direct Energy has annual staff costs of at least £125k committed to managing smart meter risks, including issues related to accuracy and timeliness of data.</p>

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	In the US, smart meters are deployed & owned by regulated utilities & not by Direct Energy. This reliance on third parties can cause uncertainties around the timeliness, accuracy & consistency of data. Delays in data provided to customers on time-of-use (TOU) plans can make it difficult for them to precisely track their usage & savings. Having greater access to near real-time data would provide the ability to offer enhanced products but currently this is dependent on the utility.								
General environmental regulations, including planning	<p>Planning regime</p> <p>In order to develop new or existing assets in the UK, such as wind farms, we need to secure planning consent through the UK planning process. Delays or failure to secure consent affect our ability to deliver on our investment.</p> <p>Formal consultation with local communities is part of the statutory planning application process for infrastructure projects that include wind farms and is crucial to gaining consent. Community engagement is essential to demonstrate that we are listening and responding to local concerns. This approach allows us to investigate ways of mitigating the potentially negative impacts our</p>	Increased capital cost	1 to 3 years	Direct	About as likely as not	Low	Planning is a significant factor in the economics of major infrastructure projects and inquiries could substantially delay or stop new investments. It could also impact the development of existing assets such as adding extra turbines at our Glens of Foudland wind farm. This can lead to additional construction costs of as much as 10% and result in missing preferable Government support mechanisms.	We are engaging with the UK Government and are supportive of plans to bring forward construction in new energy infrastructure. Formal and informal consultation forms a key part of the planning process. For example, our project to extend our Glens of Foudland wind farm has required lengthy negotiations with key stakeholders including Aberdeenshire Council in order to investigate and resolve issues regarding potential noise impacts of the development.	In 2014, £12.7m was spent on completing the construction of our existing wind projects and £0.3m on pre-application work to extend an existing asset. We do not currently have any new wind farms in development.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>operations may have and to maximise the benefits.</p> <p>While we currently do not have any new wind farms in development, we are considering adding 7 additional turbines at our existing Glens of Foudland onshore wind farm. This will require planning consent which could be impacted by delays.</p>								
Fuel/energy taxes and regulations	<p>Energy Company Obligation (ECO)</p> <p>In the UK there is a risk that we fail to meet our legal obligations under ECO, which requires energy suppliers to improve the insulation of harder-to-treat properties in the domestic sector and to invest resources in reducing heating costs for vulnerable households. In addition to the risk of enforcement action, there is also the reputational damage of not meeting our target as well as the risk that forecasted costs for delivery are exceeded.</p> <p>Unexpected changes to ECO could have the effect of increasing bills for our customers. We exceeded our most recent target for ECO in March 2015. We are therefore in a better position to deliver our final obligation, which reduces the risk of missing the overall target.</p>	Increased operational cost	Up to 1 year	Direct	Unlikely	Medium	<p>Govt estimates we will spend around £285m per year on ECO. If we were unable to deliver ECO within the estimated costs there is the risk that the additional cost would increase bills for our customers, making us less competitive.</p> <p>Failure to comply with ECO requirements could risk enforcement action which can lead to fines designed to compensate for consumer detriment. For example in 2014, British Gas agreed to pay £11.1m to help vulnerable customers following failure to deliver the Carbon Emissions Reductions Target (CERT) and Community Energy Saving Programme (CESP), by the 2012 deadline. We completed the shortfall in 2013, benefiting vulnerable customers with an</p>	<p>We have entered a number of contracts with third parties to deliver ECO and installed more than 282,000 measures in 2014.</p> <p>We work closely with the heating and insulation industry and Government to develop capacity, new technologies and best practice to increase cost effectiveness of delivery.</p>	<p>The Hillserve and ECL Contracts insulation businesses were acquired for £5m and £4m, respectively. We have also invested heavily in training our energy efficiency workforce to undertake the changing requirements under ECO. Overall, we anticipate that these investments in our</p>

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
							additional £110m savings on energy bills.		business will increase our cost-effectiveness of delivering ECO. In 2014, we committed £468m towards ECO.
Cap and trade schemes	<p>EU Emissions Trading Scheme</p> <p>There is a risk that we fail to meet the requirements of the EU Emissions Trading Scheme (EU ETS), either through failing to secure proper verification of our emissions, or surrendering insufficient emission allowances to match the verified levels.</p>	Increased operational cost	Up to 1 year	Direct	Unlikely	Medium-high	There are financial penalties associated with non-compliance with the EU ETS - these are triggered if insufficient allowances are retired in any one year for compliance purposes. For Centrica's assets, we have processes in place to ensure our compliance. However, if for any reason we were not compliant, this could result in a fine of up to €250m (£205m).	We manage this risk by ensuring a close match between our forecasted levels of emissions under the system and our holding of valid emissions allowances throughout any year. A large portion of our emissions come from our power stations covered by the system: forecast levels of emissions are determined by expected running patterns, which are in turn dependent on plant availability and relative fuel prices. We secure necessary carbon allowances to meet any individual power volume sale at the same time as power is sold, to mitigate any risk on exposure to carbon markets. We also have firm procedures for ensuring relevant actions are undertaken in a timely manner to meet verification and retirement deadlines.	Management costs are dependent on the level of activity in any given year. We estimate the total employee costs for carbon-related management including EU ETS and carbon pricing - e.g. UK Carbon Price Floor and carbon analysis - to be in the region of £67k per year.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Carbon taxes	<p>Carbon pricing</p> <p>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 on the market. The outlook for the cost of carbon is uncertain as the European Parliament is currently considering changes that are necessary to ensure a robust EU ETS going forward. 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.</p> <p>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</p>	Increased operational cost	Up to 1 year	Direct	More likely than not	Medium	There is no set financial risk that could be calculated around our capacity to borrow or secure insurance as it is highly variable because it depends on the regulatory uncertainty and the market sentiment at a set time.	To mitigate the risks around pricing of carbon emissions, we produce our own forecasts of future carbon prices, with strong emphasis on credible high and low scenarios, as well as a 'central' view. We factor the economic costs of carbon into generation dispatch decisions and recover the costs through energy sales arrangements. The exposure of our supply business to carbon prices via electricity prices is recognised and treated as another 'commodity exposure' that needs to be hedged within our commodity risk management procedures.	Management costs are dependent on the level of activity in any given year. We estimate the total employee costs for carbon-related management including EU ETS and carbon pricing - e.g. UK Carbon Price Floor and carbon analysis) - to be in the region of £67k per year.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>can also lead to changes in asset values and our hedged positions.</p> <p>Our capacity to borrow money may change as lenders consider carbon risk in their lending decisions. In addition, the conventional insurance market is not well set up to support the risks inherent in the development of new technologies or in fields at the forefront of engineering, such as the development of offshore wind farms. This can make insurance arrangements for innovations such as renewables projects more challenging.</p>								
Emission reporting obligations	<p>Canadian emission reporting obligations for upstream oil and gas assets</p> <p>Centrica Energy Canada reports Criteria Air Contaminants (CAC's) at the federal level as part of the National Pollutant Release Inventory (NPRI), an emission threshold based programme. No carbon offset credits are required for compliance at the federal level and the key principle of the NPRI is the public's 'right to know' what substances are being released into the environment. There are two provincial regulations that relate to CO2 equivalent emissions for upstream oil and gas: Specified Gas Emitters Regulation</p>	Other: Increased regulatory reporting burden or regulatory enforcement action	Up to 1 year	Direct	Likely	Low-medium	In 2014, carbon offset requirements for our Wildcat Hills Gas Plant were 9037 in offsets and CAD\$136k (£76k) in compliance costs. Failure to comply may result in a fine of not more than CAD\$500k (£280k) in the case of a corporation.	To help mitigate risks, emission reporting and compliance requirements are met through a regular review of all applicable government regulations. We actively liaise with local government bodies to potentially forecast regulatory change. A third party verification process has been built into the GHG reduction programme to provide a reasonable level of assurance. Verification is used to test the validity of past data. The independent verifier may provide observations on areas for improvement.	Upstream emission reporting obligations are managed by one full time employee with estimated staff costs of around CAD\$115k (£65k).

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	(SGER) and the Specified Gas Reporting Regulation (SGRR). Since acquiring the Wildcat Hills Gas Plant in 2010, Direct Energy/Centrica has been participating in SGER. SGER is an Alberta-based carbon offset programme. Alberta based offset credits are used by large emitters to comply with the GHG emission reduction programme. Offset credits are purchased from other sectors that have voluntarily reduced their emissions in Alberta.								
Renewable energy regulation	<p>Reduced forecasting accuracy due to embedded renewable generation</p> <p>UK Government climate change obligations have resulted in incentives for installed embedded generation, leading to a significant expansion of decentralised generation. The primary technology is solar panels and by 2015, 5.2GW of capacity had been installed in total in the UK. New technologies are driving changes in customer behaviour, which without mitigation would increase costs related to the reduced accuracy of demand forecasting. Therefore investment in new modelling and data sources is required.</p> <p>Generation volumes are not metered, so rather than seeing the</p>	Increased operational cost	Up to 1 year	Direct	Likely	Medium	Forecasting inaccuracy is extremely important, with cost of error ranging from £6m-£20m a year. This is expected to rise due to industry changes such as the power Significant Code Review, which will increase incentives for counterparties to balance positions and therefore increase the potential cost of forecasting inaccuracy.	In 2013, we developed a tool to forecast solar generation and the impact on demand. This has enabled us to mitigate around £1m of the risk. In 2014, we have continued to refine the tool as the installation profile of solar changes across the UK. However, other technologies such as wind are likely to follow a similar trajectory and we will need to invest similar resources to mitigate these risks.	Over the past two years, we have invested around £80k to develop and implement models to accurately forecast the impacts of solar generation.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>generation, we see lower demand. This 'pollution' of demand has made it more difficult to forecast accurately.</p> <p>Future factors linked to climate change obligations and reduction in demand forecasting accuracy are smarter settlement, time-of-use pricing, and other forms of decentralised microgeneration (e.g. wind, CHP, fuel cells).</p>								

CC5.1b

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

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate drivers	<p>Severe weather events</p> <p>The main physical threats from climate change 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</p>	Reduction/ disruption in production capacity	Up to 1 year	Direct	Unlikely	Medium	Weather-related risks such as flooding can have a significant financial impact on our power stations, especially in the event of a prolonged shutdown. The actual figure would depend on which facility was affected, whether nuclear or gas- fired and the condition of the market at the time the power station was switched	During the design and construction of our CCGT stations flood risk was considered, minimised and continues to be an actively managed risk. We use the Environment Agency (EA) to identify assets at a higher risk of potential flooding in extreme circumstances and through our meteorology teams and	Management costs for flood and severe weather risk were incorporated into initial build costs and ongoing risk

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>prolonged and heavy rainfall in the UK and greater intensity of hurricanes in America. If severe weather events continue to increase in frequency and intensity, our business could be at risk from higher insurance premiums. In addition, there are equity and commodity risks if supply of electricity is interrupted. For example, flooding in 2008 disrupted output at our Brigg and Killingholme power stations for a short duration. Coastal flooding is also a risk for our processing facilities at Morecambe and Easington as well as the nuclear stations in which we have a 20% stake. Our Humber power station is additionally on the coast and we have onshore substations for our offshore wind farms.</p> <p>Output from our wind farms can be adversely affected by both low and excessive wind speeds, which could increase with higher levels of weather instability. Patterns of high pressure during hot spells, excessively cold periods and still days can substantially reduce wind speeds and therefore output. Periods of extreme wind, where wind speeds reach in excess of 25m/s, also affects wind farm output as the machines automatically shutdown to protect</p>						<p>off. For instance, a shutdown of a nuclear reactor such as that at Dungeness, would cost approximately £500K per day (£100K by Centrica's equity share) and in the cases where stations have two reactors this would be doubled.</p>	<p>business continuity arrangements. We regularly undertake risk assessments on our gas-fired power stations. During 2013, the Dungeness B nuclear plant was taken offline for two months as a precaution to ensure that its flood defences could protect the station from adverse weather. This was to improve the flood defence resilience and to undertake other maintenance. Improvement measures included fleet-wide flooding analysis, a perimeter flood barrier and flood defence strengthening. The upgrading of the defences was designed to improve the protection of the station from a one in 1,000-year weather event to one that occurs every 10,000 years. This builds on a wider set of measures implemented following an assessment of the implications of the Fukushima disaster for nuclear power. This included a safety review with the Office for Nuclear Regulation and Scottish Environmental Protection Agency and making a number of plant modifications such as: installation at all stations of an emergency monitoring system; flood resilience works;</p>	<p>management budgets for our CCGT power stations. Over £12.9m was invested to improve nuclear power plant flood defence resilience, including at the Dungeness B, by operator and JV partner, EDF. That equates to nearly £2.6m based on our 20% equity share.</p>

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>the equipment and integrity of the turbines.</p> <p>During the December 2013 storms, the grid connection was lost at the Dungeness nuclear power station, of which we own a 20% stake along with our JV partners and operators EDF, when debris caused a fault in the switch yard.</p> <p>Following the Fukushima disaster, an assessment was conducted which looked into protection against severe weather events. As part of this, the sea defences of the nuclear power plants were reviewed and it was concluded that the defences needed to be able to survive a once in 10,000 year event.</p>							connection points for back-up equipment; and vehicle, logistical, pump and electrical equipment.	
Other physical climate drivers	<p>Risks to combined-cycle gas turbine (CCGT) fleet</p> <p>The main risk drivers for our CCGT fleet include unpredictable and adverse weather conditions, rising sea levels drought and flooding.</p> <p>Increasingly unpredictable and adverse weather conditions such as warmer summers may increase pressure on gas supplies while at the same time affecting the</p>	Other: Reduction in production capacity/ Increased operational cost	>6 years	Direct	Exceptionally unlikely	Low	Higher temperatures can reduce both efficiency and output from power stations. From the baseline data used in a 2010 Energy UK paper assuming a uniform air temperature of 32°C across the UK, the Centrica CCGT fleet would experience a drop of between 5-10% in maximum output. In a worst case scenario of flooding, sites have to be shut down until flood water has receded.	We have worked with DECC on sector resilience plans to mitigate and manage the impact of physical risks and with Energy UK in producing its sector response to DEFRA's report on adaptation. An update to this report commenced in 2014 at a trade association level and the completed report is expected in May 2015. We address flood risk issues as part of our business-as-usual plans for our power stations, including	No additional costs: management actions and costs incorporated within annual operational budgets.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>efficiency of our power facilities. The loss of efficiency due to higher ambient temperatures is slightly more prevalent in air-cooled condensed plants, of which we have two in active service (Barry and Langage). Very low temperatures can also reduce efficiency if we have to deploy anti-icing systems on gas-fired stations.</p> <p>Flooding of sites or access routes has been identified as potential risks from climate change to our gas-fired power stations. Over the expected life of the assets, the risk remains low. Our gas-fired power stations are at risk from drought as they require a reliable source of water for use in their boilers. There is also a risk from tightening regulation and lowering of abstraction licence allowances. However, after assessment in 2011, we concluded that the risks from drought or water shortages as a consequence of climate change and sea level rise was also low during the expected life of the stations.</p> <p>Any new assets that we invest in will take account of the physical climate risks which could affect their design.</p>						<p>In the event of water scarcity and drought affecting our power stations, it may mean an impact of several million pounds. However, the risk of either scenarios is low.</p>	<p>in the aspects and impacts registers. All UK power stations have reviewed their water usage and taken action to reduce the consumption of water. For example, at our Brigg power station, water efficiency has improved by fixing underground leaks and following the installation of bypass stacks, water consumption will reduce by approximately 80% and river water abstraction will reduce by approximately 60%.</p>	

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate drivers	<p>Supporting vulnerable customers</p> <p>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.</p> <p>This Register ensures vulnerable customers receive priority attention for reconnection or resumed supply in the event of a power outage and other services including an annual free gas safety check in some cases. Our own internal policies also ensure that vulnerable customers are provided with appropriate products, services and support which enhance access to energy. For example, in 2014, we provided nearly 1.8m vulnerable households with free energy efficiency advice, discounts, products and other enhanced services. We also invest in the British Gas Energy Trust, an independent charity, which provides vulnerable customers with energy advice and grants. We never knowingly disconnect vulnerable customers for non-payment.</p>	Increased operational cost	>6 years	Indirect (Client)	Unknown	Low-medium	We have spent over £1bn supporting vulnerable people in the last 3 years.	<p>By supporting vulnerable customers through improvements in energy efficiency and other assistance, we can help make them more resilient to colder winters.</p> <p>In 2014, we helped nearly 1.8m vulnerable UK households through free debt and payment assistance; free energy efficiency advice; products and services; energy rebates as well as energy and household grants. The energy efficiency measures we installed in 2014 as part of the affordable warmth obligation within ECO will cut heating costs by more than £510m for vulnerable customers. We also have a 5-year partnership with Shelter to help 1m households in the rented sector improve the standard of their homes by 2017.</p> <p>Over the past decade, we have invested £75m through mandatory and voluntary contributions to the British Gas Energy Trust. This has helped over 120,000 people with debt advice and grants for energy and household bills. In 2014, we contributed £12.3m to support around 26,000 people and</p>	In 2014, we contributed more than £401m supporting vulnerable people.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other physical climate drivers	<p>Maintaining business continuity through snow, ice and extreme weather</p> <p>Changing patterns of snowfall are a risk to our British Gas business. Extremes of cold weather increase the number of engineer call-outs through contracts managed by British Gas Insurance Limited (BGIL) and place additional pressure and safety risks on our workforce.</p> <p>2014 was a relatively mild year with few instances of snow or flooding. During the 2013/14 winter period however, some significant difficulties were experienced with flooding which impacted some of our customers and operations. Our British Gas headquarters in Staines was particularly impacted. During the sustained period of cold weather in winter 2012/13, British Gas completed record levels of breakdown visits, 11% higher than the winter period of 2011/12. This compares to the winter quarter for 2011, which was the warmest last quarter on record and the number of engineer visits decreased correspondingly.</p>	Increased operational cost	Up to 1 year	Direct	Unlikely	Medium	Weather conditions can affect the number and cost of engineer call-outs and there are financial impacts if our employees are unable to make it to their places of work. To give an indication of the potential scale, using an example other than snow or ice, one office was closed for four days due to a fire in an adjacent building. This led to costs of around £150k for the back-up site and other impacts on business operations.	<p>awarded more than 16,000 grants.</p> <p>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 call-out risks by conducting annual or biennial safety and maintenance inspection visits and caps on certain work in high risk areas. We have proactive employee plans to raise awareness of severe weather and encourage preparedness allowing employees to work from home, where possible. The majority of our power station sites hire 4x4 vehicles to support employees getting to work during adverse weather.</p> <p>In the 2013/14 winter period, extensive flooding led to proactive monitoring and risk management for a number of sites with one site being closed for a week. This meant our business continuity plans were put into operation, which included working from home and at alternative sites.</p>	We have dedicated members of staff managing business continuity including challenges around snow, ice and extreme weather, with associated staff costs of around £80k. Other teams such as Facilities and Security provide additional assistance which includes site monitoring.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Change in temperature extremes	<p>Reduced accuracy of demand forecasting</p> <p>Physical changes related to climate change could reduce the accuracy with which we are able to forecast demand.</p> <p>Electricity cannot easily be stored and in the UK, the National Grid matches generation with customer demand for each second of every day. Being able to forecast customer demand accurately is key to making the most efficient decisions. Any mismatch between what customer demand and what we have bought is subject to a cost. If electricity suppliers do not buy enough electricity to meet our customers' needs in advance, an extra cost is incurred based upon the last minute and short balancing actions made by National Grid. Extreme weather can impact customer demand, making it less predictable and variable and thus increasing the mismatch between generation, demand and costs.</p> <p>While 2014 was relatively benign in the UK, in 2013 there were two significant weather events that had a material impact on costs. The first was in March and April, which brought a spell of severe winter</p>	Increased operational cost	Up to 1 year	Direct	Likely	Medium	<p>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 and prevailing market conditions. In the UK, during 2013 there were two weather events that had a material impact on costs: Severe winter weather in March and April and the St Jude Day Storm. Together these came to over £600,000. In North America, the extreme low temperatures experienced in the first part of 2014 caused by the polar vortex, led to additional network system charges estimated at approximately US\$110m (£65m).</p>	<p>We have engaged with the Met Office to ensure that the seasonal and diurnal changes that can be expected as a result of climate change are reflected in the 'seasonal normal' temperatures used in the long-term demand forecasting process.</p> <p>We take regular advice from our meteorologist on weather impacts and use real time system margin information to optimise our forecast. We also factor in outage reports from network operators in our daily review of our forecast.</p>	<p>The majority of our actions to mitigate the reduced accuracy with which we are able to forecast demand due to climate change are part of business-as-usual risk mitigation, which is estimated to cost in excess of £100k per annum.</p>

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	weather with snow and cold temperatures. The second was the St Jude Day Storm in October, which impacted the southern part of the UK and caused widespread disruption. The extreme weather during those periods caused significant variance between actual and forecast consumption, the cost of which exceeded £600,000. These events are expected to become more frequent. In North America, extreme low temperatures were experienced in the first part of 2014 due to the polar vortex, which caused additional variability between forecast and actual demand. This led to additional network system charges estimated at approximately US\$110m (£65m) while margin pressures occurred across most of our energy supply markets. Overall operating profit in Direct Energy fell by 46% compared to 2013.								
Change in temperature extremes	<p>Increased frequency of extreme weather patterns</p> <p>Extreme weather events are likely to become more prevalent due to climate change and can have substantial positive or negative impacts on our energy supply and retail businesses. They can also affect our commodity costs.</p>	Other: Reduced demand for goods/services and increased commodity costs	Up to 1 year	Direct	Very unlikely	High	In North America, the extreme low temperatures experienced in the first part of 2014 caused by the polar vortex, led to additional network system charges estimated at approximately US\$110m (£65m).	We have an active forward buying and selling programme to mitigate the risks of sudden commodity price movements and track supply chain risks to ensure security of supply. We are evolving as a business towards providing both energy supply and services to residential and business	Management costs for our forward buying and selling programme strategy are commercially confidential.

Risk driver	Description	Potential impact	Time frame	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>Gas sales volumes and to a lesser extent, electricity sales volumes are affected by temperature and other environmental factors, including climate change. These are beyond the Group's control and could have an adverse impact on our business operations and overall financial condition. The Group's profitability is partly dependent upon our ability to manage our exposure to unseasonably warm or cold weather and to stabilise the impact of such fluctuations through effective risk mitigation strategies. Revenues and results of operations can be negatively affected if we are unable to mitigate fluctuations in pricing and demand due to volatility in weather patterns.</p> <p>During 2014, we experienced extreme weather patterns in our main markets in the UK and North America. In the UK, British Gas Residential operating profit fell in 2014, with average profit per customer of £42 nearly £10 lower than the previous year. This reflected lower average gas and electricity consumption predominantly due to the mild weather in the UK in 2014 compared to colder than normal</p>							<p>customers. This means we will become less exposed to extreme changes in consumption of our energy supply.</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>temperatures in 2013.</p> <p>In North America, the extreme low temperatures experienced in the first part of 2014 caused by the polar vortex, led to additional network system charges estimated at approximately US\$110m (£65m) and margin pressures across most of our markets in energy supply. Overall operating profit in Direct Energy fell by 46% compared to 2013.</p>								

CC5.1c

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

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behaviour	<p>Falling energy consumption</p> <p>The Group is exposed to the risk of falling energy consumption. The UK Government sees both domestic and commercial energy efficiency as a key part of meeting its carbon targets, whilst energy policy in the US is typically state specific and therefore more fragmented.</p>	Reduced demand for goods/services	Up to 1 year	Direct	Likely	Medium-high	Continuing reduction in gas and electricity consumption could have a significant impact on the Group's profits without mitigating actions.	Our shift in focus towards energy services is helping to reduce our reliance on revenue from energy supply only. We are the largest funder of energy efficiency measures in the UK and the only UK energy supplier with our own insulation business. We are leading the national roll-out of smart meters in	Government estimates we will spend around £285m per year on ECO; we have invested £25m in GD to date; while the installation

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>UK energy consumption has been falling since 2005, driven by improved energy efficiency and changing customer behaviour as a result of greater environmental awareness, reaction to price changes, improved energy tariff switching mechanisms and the general economic downturn. These factors have significantly reduced the overall demand from British Gas' energy customers. Since 2009, British Gas customers have reduced their underlying energy consumption by 8% for gas and 11% for electricity. The 2014 National Energy Efficiency Data-Framework (NEED) report, which studies underlying nation-wide customer consumption patterns and is commissioned by DECC, shows that installing a new efficient boiler leads to an annual median reduction in gas consumption of nearly 11% whereas cavity wall insulation leads to a saving of nearly 9%</p> <p>Smart technology will also reduce demand for energy; tracking the use of a control group of smart meter customers showed consumption savings of 2% for gas and 2% for electricity during 2014.</p> <p>Long-term UK gas demand will ultimately be driven by industry decisions around generation mix, the impact of Government climate</p>							<p>the UK having already installed over 1.7m smart meters by the end of 2014. We have also created a Connected Homes business to offer new smart-enabled products and services. British Gas is a keen, early proponent of Green Deal, the largest enabler of Green Deal Cash Back and the first company to launch Green Deal finance. We have around 400 Energy Experts qualified to conduct Green Deal surveys. In July 2014, we entered the rapidly growing US residential solar market through the acquisition of Astrum Solar.</p> <p>We completed around 600 residential solar installations in 2014 following the acquisition, 50% more than Astrum Solar installed over the same period in 2013.</p>	<p>and maintenance of smart meters will cost British Gas and other leading energy suppliers an estimated £11.5bn. In 2014, we acquired Astrum Solar for US\$53m (£33m) to enter the US residential solar market.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>change initiatives and economic growth.</p> <p>The decline in consumption in North America is more gradual than seen in the UK and varies across our chosen markets due to lower wholesale gas prices from indigenous shale reserves, weather variations and market factors.</p>								
Other drivers	<p>Uncertainty over new technologies</p> <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 new markets. Whilst representing new opportunities, these developments also create threats to our future profitability. Uncertainty over new technologies poses a risk to the development of our energy efficiency and other low carbon-related products and services which we expect to be key components of our downstream profitability. The lack of volume of installs and performance data evidence for new microgeneration technologies, are significant barriers for their introduction as there is no formal process with Government to add new innovation to schemes such as</p>	Other: Profitability	1 to 3 years	Direct	About as likely as not	Medium	<p>Centrica and other leading energy suppliers will have the responsibility for the installation and maintenance of smart meters in the UK, at an estimated cost of £11.5bn. Uncertainties around smart meter technologies and the scale of implementation present risks to the business, but also offer opportunities such as new smart-enabled products and service offerings.</p>	<p>We have entered the market for Connected Homes to provide new services to our customers and also to protect our position in energy supply and services from non-traditional competitors.</p> <p>We have continued to build our capabilities in smart technologies. In 2010, we acquired an initial stake in AlertMe (a provider of home energy management services) and in early 2015, acquired the whole business, taking the net cost to £44m; and in 2012, we acquired a stake in Power Plus Communications (PPC), a German based company that provides technology for smart grid and smart metering applications. By the end of 2014, we had installed over</p>	<p>Management costs for smart metering are built into annual operation budgets with an additional capital investment of €4.5m (£3.6m) for a stake in PPC. In early 2015, we acquired AlertMe, building on our existing 21% stake, taking the net cost to £44m.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>RHI, FIT and Green Deal.</p> <p>For smart meters there is a risk that if a customer switches supplier the smart meter could become redundant unless the new supplier is on a common network platform. Smart meters could also become stranded due to new technology or non-operational because of technical issues around signal coverage which may need to be resolved. The scale of implementation of new technologies also presents risks. The UK Government has set a target to install smart meters as standard by 2020, which is the most substantial roll-out of new domestic energy infrastructure for many years. As a result, there is substantial risk inherent in the required investment in our systems, people and technology in order to fulfil this target.</p> <p>In the US, there is the risk that regulators could favour one smart meter technology over another, which could constrain the technology available to create new smart-enabled products and services. The US market is already very fragmented with each state having its own energy rules and policies. There is also the risk that other non-traditional competitors will begin to offer energy services, directly or through white label relationships with</p>							<p>1.7m smart meters in UK homes and businesses. We have switched to SMETS-capable meters at the earliest opportunity and are leading the industry in their deployment.</p>	

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other drivers	<p>other energy suppliers.</p> <p>Low carbon skills shortage</p> <p>In the future, there is a risk that we may lack the necessary skills among our employee base to take maximum advantage of a low carbon economy and keep up with demand for new technologies, including solar, energy efficiency products and the UK smart grid.</p> <p>Lacking the necessary future skills among our employee base would impact our ability to grow our energy services business.</p>	Reduction/d isruption in production capacity	1 to 3 years	Direct	About as likely as not	Medium	<p>There is a risk of lost income if demand outstrips supply and a risk of enforcement action if we are unable to fulfil our ECO commitments, which can lead to fines designed to compensate for consumer detriment. For example in 2014, British Gas agreed to pay £11.1m to help vulnerable customers following failure to deliver the Carbon Emissions Reductions Target (CERT) and Community Energy Saving Programme (CESP), by the 2012 deadline. We completed the shortfall in 2013, benefiting vulnerable customers with an additional £110m savings on energy bills.</p>	<p>To mitigate these risks we have invested in our own energy efficiency business in the UK with around 1,000 people and a dedicated training facility for our insulation installers and assessors. We have a diversified approach to managing our significant ECO target which includes accessing energy efficiency measures from our own installer base, local authority schemes, the Government brokerage market and third party contracts.</p> <p>We are training engineers in low carbon skills and new technologies. In 2014, British Gas invested £21.3m in training our 1,200 apprentices and nearly 10,000 engineers to install boilers, smart meters and energy efficiency products, including through our six academies. We also maintain the skills of our workforce at our training centre in Tredegar, Wales, which provided 3356 training days to more than 400 people in 2014.</p>	In 2014, British Gas invested £21.3m in training.

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behaviour	<p>Brand and reputational damage</p> <p>Public trust in the UK energy sector continues to be low. As such, rebuilding the reputation of the Group is of vital importance to growing our business, preventing the loss of customers to competitors, protecting profitability and limiting regulatory intervention.</p> <p>As a leading provider of low carbon products and services, we are reliant on customer trust in our low carbon credentials and capabilities. Lower levels 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.</p> <p>In addition, we could suffer significant reputational damage if our upstream portfolio is not regarded as environmentally responsible, impacting our ability to influence Government policy and undermining our licence to operate. Maintaining our leadership response to pressing social and environmental challenges also helps to maintain our position as a major contributor to policy debates in the markets in which we operate.</p> <p>The reputation of the energy sector has been damaged with key</p>	Reduced demand for goods/services	Up to 1 year	Direct	Unlikely	High	<p>Brand and reputational damage can arise through the perception that energy companies are not proactively supporting or managing climate change issues effectively - however it is difficult to quantify brand risk.</p> <p>Lower levels of trust could impact our reputation as a leading provider of low carbon products and reduce our share in a range of markets, such as those for renewable heat and solar where we have businesses with projected annual combined revenues of nearly £70m in 2014.</p>	<p>We are differentiating ourselves as an energy services provider and improving our customer service. In 2014, we delivered 282,000 energy efficiency measures.</p> <p>We are also working in other ways to earn trust through transparency and support for vulnerable customers. For instance, to help customers manage bill payments without getting into debt, British Gas set up flexible payment plans for over 220,000 households in 2014. Over the past decade, we have invested £75m through mandatory and voluntary contributions to the British Gas Energy Trust. This has helped over 120,000 people with debt advice and grants for energy and household bills. In 2014, we contributed £12.3m to support around 26,000 people and awarded more than 16,000 grants. We continue to deploy a reputational tracking and monitoring programme. Working with a market-leading agency, we are able to monitor corporate reputation and its drivers to</p>	<p>Since 2009, British Gas has invested over £230m to upgrade our customer service systems, £35m of which was in 2014. We also committed £10m to training and recruited over 450 new service advisors by the end of 2014.</p> <p>In 2014, we contributed more than £401m supporting vulnerable people.</p>

Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	stakeholders in the UK, as a result of heightened media and political focus on the industry and more direct intervention by the UK Government and regulator. These conditions, together with a competitive market environment, contributed to a 2% fall in British Gas residential energy customer accounts, mostly in the first half of 2014. This provides a sense of the scale of the risk a loss of trust can have for the Group.							identify areas for improvement and focus.	

CC5.1d

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

CC5.1e

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

CC5.1f

Please explain why you do not consider your company to be exposed to inherent 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

Further Information

Page: CC6. Climate Change Opportunities

CC6.1

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

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

CC6.1a

Please describe your inherent opportunities that are driven by changes in regulation

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other regulatory drivers	<p>Electricity Market Reform (EMR)</p> <p>The UK Government has now implemented EMR, which was first proposed in 2010. EMR's key constituent parts are renewables contracts for difference (CfDs), a carbon price floor and the introduction of a capacity market.</p> <p>The inaugural CfD and Capacity Market auctions took place in Q4 2014/Q1 2015. Carbon price support (carbon price floor) continues to apply, although there is uncertainty about</p>	Investment opportunities	1 to 3 years	Direct	Likely	High	Government has set a budget for its main renewable support schemes, which peaks at £7.6bn in 2020/21 (real 2012 prices). However, there is little clarity beyond 2020/21 over the intended budget for future renewable developments. No figures have yet been published. Government intends that around 100TWh, which is equivalent to 30% of UK electricity, will be generated from renewables by 2020. However, it is less clear how Government intends to	We continue to evaluate potential development opportunities in the low carbon sector using our internal business development and regulatory resources.	These costs are built into annual operational budgets – this includes staff costs of at least £75k for employees assessing renewable opportunities through EMR, CfDs and Feed-in Tariff (FIT).

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>commitment to its longer term trajectory.</p> <p>Whilst EMR carries political and regulatory risk, it could also enable billions of pounds of investments in new renewable generation (through the CfD) and nuclear and gas-fired thermal generation (through the capacity market) if Government remains committed to its policy positions. Provided Government maintains political commitment to CfDs, the Capacity Market and robust carbon pricing, Centrica and others can bring forward new investment opportunities in both renewable and thermal generation that will aid the UK transition to low carbon, secure and affordable electricity supplies.</p>						decarbonise beyond this date.		
Other regulatory drivers	<p>Developing capabilities through Government schemes</p> <p>Government energy efficiency schemes provide opportunities to develop new capabilities, products and services. The Carbon Emissions Reductions Target (CERT) and Community Energy Saving Programme schemes, which concluded at the end of 2012, enabled British Gas to build capacity at scale on energy efficiency, installing</p>	Increased demand for existing products/services	Up to 1 year	Direct	Likely	High	Industry forecasts for the Green Deal market are very uncertain; to date £30m has been lent with a further £20m worth of applications being processed but forecasts remain for around £200m per year if various design constraints can be eliminated. Both the ECO and Green Deal schemes have provided the opportunity to tap into new markets, leverage the	ECO will require us to deliver lifetime carbon savings of 12.0mt by 2017 (or 20.4mt when including the equivalent carbon savings from the Home Heating Cost Reduction Obligation). British Gas have in place a dedicated team to manage delivery of the target. We are the only major energy supplier to invest in our own	The Hillserve and ECL Contracts insulation businesses were acquired for £5m and £4m respectively, in addition to the Econergy renewable heat business,

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>measures with lifetime carbon savings of around 100m tonnes. In early 2013, the Energy Company Obligation (ECO) was introduced which requires energy suppliers to improve the insulation of harder-to-treat properties in the domestic sector and to invest in resources that reduce heating costs for vulnerable households. Many of the ECO activities focus on fitting solid wall insulation and hard-to-treat cavity wall insulation. The scale of our market share (one third) allows us to invest in training and new technologies to take advantage of the current exciting growth opportunities in energy efficiency, microgeneration and efficient heating systems. The insulation products and services required to be installed under ECO complement British Gas energy efficiency and heating services.</p> <p>By using our in-house delivery to provide customers with cavity, solid wall and loft insulation and new efficient boilers, we can provide our customers with attractive, subsidised offers while delivering our mandated ECO commitment in the most cost effective way.</p> <p>British Gas has been a keen</p>						<p>energy efficiency capacity, skills and services we have built through CERT and CESP, and align with our strategy to be a leading energy services provider.</p>	<p>insulation business, which now employs around 750 people. Our management team is focused on delivering ECO at the most cost-effective rate for our customers and using the scheme to maximise the benefits for British Gas customers.</p> <p>We continue to be a keen supporter of the Green Deal and in 2014 helped over 4.5k households through Green Deal Cashback and 190 through Green Deal finance. As well as our operational activities, we have consistently engaged with Government and industry partners to help push the Green Deal initiative forwards and drive the much higher volumes that are required for the scheme to be a success. Our £25m partnership with Plymouth City Council is part-funded by ECO and the Green Deal, which will bring solid wall insulation to 6,000 social houses.</p>	<p>with significant further sums added to expand and grow our capabilities in these sectors. We have invested £25m to date in the Green Deal, including our investment directly into the Green Deal Finance Company.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	early proponent of Green Deal, holding the largest share of Green Deal Cash Back claims to date, and being the first company to launch Green Deal finance in April 2013.								
Other regulatory drivers	<p>Support for new technologies</p> <p>Legislation to provide financial support for microgeneration coupled with cost declines in technology have led to an increased opportunity for distributed energy technologies. We are looking to expand in this area.</p> <p>The Feed-in Tariff (FIT), which provides payments for generating electricity through decentralised technologies under 5MWp and for exporting electricity back to the grid, has helped to create a strong UK market in solar installation. The Renewable Obligation, however, has been withdrawn for solar schemes above 5MW, with CfDs now being the only mechanism available for these schemes. CfDs entail significantly more risk and therefore the attractiveness of this route remains to be seen. The Renewable Heat Incentive (RHI) supports renewable heat technologies, such as biomass heating, for the non-domestic</p>	New products/business services	Up to 1 year	Direct	Likely	High	<p>In April 2013, the UK Government provided a revised timescale to roll-out smart meters as standard by 2020 – a likely total of 53m households. The Institute for Electrical Efficiency estimates that 65m smart meters will be deployed in the US by 2015 (more than half of US homes), opening up new customers to smart enabled products and services. Smart meters present opportunities to enhance the customer experience and increase retention. Satisfaction levels for smart meter customers are around 50% higher than those with a standard meter. In the US the smart meter-enabled product, ‘Free Power Saturday’, has reduced customer attrition by over 30%. Regulations such as FIT, RHI and ECO are likely to continue to drive opportunities for solar and</p>	<p>A prime opportunity exists to engage customers in energy efficiency advice during smart meter installations; British Gas has led the industry on smart meters, having fitted over 1.7m in UK by the end of 2014. We had acquired AlertMe, a stake in PPC and created a new business, Connected Homes, to further develop smart-enabled products and services. In North America, using smart meters we have created time-of-use products like ‘Free Saturday’ and ‘Pick Your Free Day’ which enable customers to save money and reduce demand on the grid at peak times. We are rewarding customers in Texas who reduce their energy use during ‘Peak Events’, or times when the energy supply is threatened due</p>	<p>We have invested in smart metering through a €4.5m (£3.6m) stake in PCC and AlertMe in 2015, building on our existing 21% stake, taking the net cost to £44m. Since 2008 we have invested £10.8m in acquiring solar, biomass & heat pump businesses. Our fixed costs for managing and delivering our renewable heat and</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>and domestic markets (the latter in place since April 2014). ECO is a strong driver for renewable heat projects, giving capital support to projects combining insulation and community heating. In its 2013 heat strategy, the UK Govt envisages getting 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 enable the creation of new propositions, increase customer satisfaction and opportunities for engagement on other energy efficiency services. The provisional findings of the Competition and Markets Authority Review in July 2015 demonstrated support for the roll-out of smart meters, which could facilitate greater innovation in smart products and services. In the US, the introduction of smart meters in certain States has enabled Direct Energy to provide customers with new products. Prepayment plans help customers to proactively manage their energy consumption and on average enable 11% reductions in electricity usage. Time-of-use plans cut the overall demand on the grid at peak times, reducing</p>						<p>renewable heating and the commercial market for both could be worth £4-5bn by 2020.</p>	<p>to high consumption.</p> <p>We have continued to develop our solar and low carbon heat businesses following previous acquisitions in solar (Solar Technologies, 2008), heat pumps (Cool Planet, 2010) and biomass (Econergy 100% owned, 2011). In 2014, we installed solar panels collectively providing 7MW of power at peak capacity and small and medium scale biomass boilers systems providing 21.4MW/yr. Requirements in FITs and ECO for minimum standards in energy efficiency and insulation have created strong synergies between our energy efficiency, solar & low carbon heating solutions.</p> <p>Our microgeneration technology team is investigating new technologies such as gas-fired and hybrid heat pumps, their commercial viability and engaging with Govt about the incentives to bring them to market.</p>	<p>solar businesses are approximately £10m per annum. Direct Energy has invested US\$425k (£265k) to develop our Free Day time-of-use products, Nest partnership and digital initiatives.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	the need to turn on additional fossil fuel power plants. Direct Energy has also partnered with Honeywell and Nest to bundle energy plans with smart thermostats that provide customers with the ability to control and learn about their energy usage.								
Air pollution limits	<p>Environmental Protection Agency (EPA) carbon pollution standards</p> <p>In the United States, the prospect for any federal climate legislation in the near term has largely disappeared. As a result, the US EPA is issuing greenhouse gas regulations for both new and existing power plants with a target date for them to be final during the summer of 2015. At the state level, climate change action remains slow and limited to specific states (California, RGGI in North Eastern states) although many states are considering compliance options with the upcoming carbon regulations. At the industrial level, a market in low carbon products and services could develop in the next couple of years depending on when states need to comply with the EPA's final carbon control rules for existing power</p>	Increased demand for existing products/services	1 to 3 years	Direct	About as likely as not	Medium-high	The net financial implications of current federal regulatory policies are unclear as the EPA's carbon control rules are not final.	Direct Energy leverages smart meters to provide energy efficiency advice and personalised reporting on a weekly basis to customers with smart meters in Texas. We also offer multiple time-of-use products to incentivise consumers to shift their usage to off-peak periods such as Saturday and Sunday. We bundle our energy with control-based tools, such as the Nest and Meridian Smart Thermostats that enable customers who were not previously programming their schedule to reduce energy use by up to 20%. Our energy efficiency technologies give control to our customers and are paired with the heating, ventilation and air conditioning services we	Ongoing costs to develop low carbon and energy efficiency products and services are built into our operational budgets. For instance, it costs over US\$425k (£265k) to develop Direct Energy's Free Day time-of-use products, Nest partnership and digital initiatives. In 2014, we acquired Astrum Solar for US\$53m

Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	plants and other large industrial sources. The final rules are due to be announced in Q3 2015, but based on what has been proposed, it is possible that in addition to fuel switching or improving power plant efficiency, states may need to explore other solutions such as demand-response programmes and rooftop solar in order to meet their emission reduction goals. This could develop the market for low carbon products and services which we are able to provide.							offer such as seasonal tune-ups and maintenance that make it easy for our customers to have a more efficient home. In July 2014, we entered the rapidly growing US residential solar market through the acquisition of Astrum Solar. We completed around 600 residential solar installations in 2014 following the acquisition, 50% more than Astrum Solar installed over the same period in 2013.	(£33m) to enter the US residential solar market.

CC6.1b

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

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

CC6.1c

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

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Changing consumer behaviour	<p>Consumer behaviour change on energy saving</p> <p>While Government regulation is a primary driver for the market for low carbon products and services, changing consumer behaviour is an increasing factor. Concern about rising energy costs in the UK has focused further attention on reducing energy consumption. Recent weather events across the US have increased public belief in climate change and raised awareness for consumers and businesses around their energy use and environmental footprint.</p> <p>We are capitalising on changing consumer behaviour towards energy saving by investing heavily in our chosen downstream markets. In the UK, the Green Deal and ECO will continue to increase awareness about energy reduction and provide a platform to continue to grow our energy efficiency and onsite renewables businesses.</p> <p>The roll-out of smart meters in</p>	Increased demand for existing products/services	1 to 3 years	Direct	More likely than not	Medium	<p>Government estimates we will spend around £285m per year on ECO while central heating installations revenue, which involves fitting energy efficient boilers for customers in the UK, reached £295m in 2014.</p> <p>Our leading position in smart metering is helping us enhance our customers' experience and increase retention. In the US, Parks Associates report that about 10m smart, wirelessly connected thermostats, lights, power strips and plugs were sold last year and it predicts that figure will nearly double to 19m units by 2017, with a commensurate growth in market value from US\$850m (£529m) to US\$1.6bn (£847m).</p>	<p>British Gas installed over 100k high efficiency domestic boilers in 2014, which can reduce heating bills by up to 30%. We are the only major energy supplier to invest in our own insulation business and we were a keen early proponent of the Green Deal (GD), including being the first company to launch GD finance.</p> <p>By the end of 2014, we had installed over 1.7m smart meters in the UK through our own in-house metering operations business and in early 2015, we fully acquired AlertMe, the UK-based energy management products and services company, which enables us to deliver new innovations for the future connected home.</p> <p>In the US, we developed new time-of-use products such as our 'Free Day' plans and green energy</p>	<p>We have invested £25m in GD to date and made capital investments of €4.5m (£3.6m) for a stake in PPC and in early 2015 we acquired AlertMe for £44m (including our previous 21% stake). In 2014, we acquired Astrum Solar for US\$53m (£33m) to enter the US residential solar market and we have agreed to fund up to US\$50m (£31m) as part of the Solar City deal.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>the UK is providing opportunities to deliver a range of new smart-enabled propositions which are influencing our customers' behaviour. British Gas customers with smart meters have already reduced their energy bills by an average of 2% both for gas consumption and electricity during 2014. We expect this figure to rise as we further develop our personalised Smart Energy Reports, which provide smart meter customers with insights into their patterns of consumption.</p> <p>New markets for low carbon products are also developing in the US and Canada. We have partnered with Honeywell and Nest to create new product offerings by combining energy supply with smart thermostats that provide our customers with the ability to control and learn about their energy usage. We also continue to expand the range of smart-enabled time-of-use products which are improving customer retention, while also reducing demand on the grid during periods of peak energy consumption.</p> <p>We are capitalising on demand for solar power through our partnership with SolarCity which</p>							<p>products, such as our 'New Leaf Energy', which is Green-e certified and backed by Renewable Energy Certificates (RECs) from our Texas wind farm power purchase agreements.</p> <p>Following our acquisition of Astrum Solar in July 2014, around 600 solar installations were completed resulting in over 5.5MWp of capacity. Direct Energy also provides solar energy to business customers through our fund with SolarCity. In 2014, this financed 17.9MWp worth of solar projects.</p>	<p>Direct Energy has also already invested over US\$425k (£265k) to develop our Free Day time-of-use products, Nest partnership and digital initiatives.</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	enables us to provide solar electricity directly to commercial and industrial customers. We also acquired Astrum Solar in 2014, a residential solar installation business. We hope to grow this business activity as the demand for solar power increases. In New York City we are partnering with businesses to facilitate the conversion from oil to natural gas in conjunction with a commodity product offering. In 2014, we completed 16 contracts for 36 buildings.								
Reputation	<p>Differentiating our business through low carbon products and services</p> <p>Our commitment to energy efficiency, microgeneration and smart metering gives us a significant opportunity to differentiate our businesses and to tap into growing markets for low carbon products and services. These include solar and renewable heat as well as energy efficiency measures driven through ECO and the Green Deal.</p> <p>Customers who have received energy efficiency and other low carbon products from us are often more likely to have a positive perception of the</p>	Increased demand for existing products/services	1 to 3 years	Direct	About as likely as not	Low-medium	<p>The commercial market for renewable heat and solar could be worth £4-5bn by 2020.</p> <p>The UK Government estimates we will spend around £285m per year on ECO.</p> <p>Industry forecasts for the accompanying Green Deal (GD) market are very uncertain; to date £30m has been lent with a further £20m worth of applications being processed, but forecasts remain for around £200m per year if various design constraints can be eliminated.</p>	<p>We are the only major energy supplier to invest in our own insulation business, employing around 750 people.</p> <p>We have continued to develop our solar and low carbon heat businesses and in 2014, we installed solar panels in 280 buildings, collectively providing 7MW of power at peak capacity and 151 biomass boilers for residential, commercial and local authority buildings, including schools and community projects which totalled 21.4MWth. Our acquisition of AlertMe and investment in PPC are</p>	<p>We bought the insulation business, Hillserve, for £5m and the solid wall insulation business ECL Contracts for £4m in 2010. Since 2008, we have invested £10.8m in acquiring solar, biomass and heat pump businesses. Our fixed costs for managing</p>

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	business and increased levels of satisfaction – for instance, smart meter customers in the UK score 50% higher in customer satisfaction (measured by Net Promoter Scores) than standard customers. In addition to improving our reputation through direct contact with customers, we can also build our wider reputation as a company committed to taking action on climate change by leading the delivery of low carbon products and services through the digital revolution of the energy industry.							also helping us take a leading position in the Connected Home market.	and delivering our renewable heat and solar businesses are approximately £10m per annum.
Reputation	<p>Developing our reputation as a low carbon service provider</p> <p>Having a positive reputation on the low carbon agenda gives us the necessary credibility to influence policy-making, to help inform best practice approaches and can differentiate us from our competitors.</p> <p>British Gas was the first supplier to go early in its smart meter roll-out, having already installed over 1.7m in homes and businesses by the end of 2014, helping consumers have more control over their energy use. We are also committed to delivering on our obligations to</p>	New products/business services	1 to 3 years	Direct	More likely than not	Medium	The potential market for community based schemes is significant, with annual spending on ECO set to be £285m per year.	By maintaining control of ECO delivery through our in-house businesses such as ECL and Econergy, we have been able to develop award-winning regeneration schemes in collaboration with our social housing clients. These schemes bring together refurbishment programmes, insulation and renewable heating solutions to transform the living conditions of social housing tenants in some of the UK's most deprived areas. For instance, our £25m partnership with Plymouth City Council is	In 2014, we committed £468m towards ECO. Since launching in 2012, Direct Energy's 'Reduce Your Use for Good' programme has awarded 162 grants totalling US\$512k (£343k), including US\$225k (£150k) in

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
	<p>help consumers reduce carbon emissions through ECO.</p> <p>We support innovation across the industry. For instance, we have been working jointly with UK Power Networks on 'energywise', which aims to facilitate learnings on smart for vulnerable customers. 'energywise' is a 3-year smart grid project involving 550 homes in Tower Hamlets. Trials will be conducted to understand how smart meters and decentralised energy can make demand and supply more flexible, while contributing to the creation of smart-enabled homes. The project is the first smart grid project to focus on the impact of pre-payment smart meters as well as customers living in flats.</p> <p>In North America, our Reduce Your Use for Good programme helps non-profits reduce their energy consumption and be more energy efficient by awarding US\$5k (£3.3k) grants. Supporting our local community organisations raises our credibility at a local level, increasing the likelihood of being viewed as having a positive impact on the communities in which we operate.</p>							<p>part-funded by ECO and the Green Deal, and will bring solid wall insulation to 6k social houses. In 2014, we installed more than 282,000 energy efficiency measures in the UK as part of our commitments under ECO. These will save 7.2mt CO2 over their lifetime and cut heating costs by more than £510m for vulnerable customers.</p> <p>Our involvement in 'energywise, puts us at the forefront of learning around smart metering and the additional technology that will be required to install smart in tall and difficult buildings.</p>	2014.

Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact	Estimated financial implications	Management method	Cost of management
Other drivers	<p>Attracting and retaining skills and talent</p> <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 been able to attract, recruit and retain highly skilled employees. This has enabled 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> <p>Our expertise in the installation of energy efficiency and microgeneration measures, along with our nearly 10,000 engineers, enables us to capitalise on new opportunities related to downstream carbon reduction by new regulation or consumer behaviour change.</p>	Other: Increased productivity	Up to 1 year	Direct	More likely than not	Medium	Our energy efficiency expertise allows us to capitalise on low carbon opportunities. One such opportunity is the Green Deal (GD) - industry forecasts for the accompanying GD market are very uncertain; to date £30m has been lent with a further £20m worth of applications being processed but forecasts remain for around £200m per year if various design constraints can be eliminated. The commercial markets for renewable heat and solar are other such opportunities and could be worth £4-5bn by 2020.	In 2014, British Gas invested £21.3m in training our 1,200 apprentices and nearly 10,000 engineers to install boilers, smart meters and energy efficiency products, including through our six academies. We have also trained 400 Energy Experts to conduct GD surveys. Our British Gas Energy Efficiency business now has around 1,000 employees.	British Gas invested £21.3m in training apprentices and engineers in 2014.

CC6.1d

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

CC6.1e

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

The opportunities provided by the physical changes related to climate change are not considered significant at present.

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

Possible opportunities reviewed

- Our capabilities in energy efficiency and smart energy put us in a strong position against our competitors to capitalise on the customer need for new energy management solutions, which could be increased by changes to the climate and weather patterns. This opportunity to differentiate ourselves through the resilience of our downstream capabilities is a key message for our investor audience.
- Long-term changes to weather patterns will create challenges for our customers. While the possibility of milder winters will lead to a reduction in energy demand for heating, warmer summers will create increased demand for cooling during the day and night. This could lead to significant changes in patterns of demand. Our primary opportunity is to play a major role in helping our millions of customers adapt to the effects of climate change. This includes helping them to manage their changing demand patterns through energy management products such as the time-of-use tariffs and smart thermostats.
- The UK Government has stated its commitment to ensuring that society is adapting to the effects of climate change and identified its role as a coordinator in providing an environment conducive to adaptation. This could provide us with opportunities to expand our whole-house approach and to position ourselves as the preferred supplier able to meet new requirements in a holistic manner.
- We cannot be specific about other opportunities available to us until the physical impacts of climate change and Government responses become more certain. However, we anticipate that the infrastructure required to adapt to the unavoidable consequences of climate change, in both public and private sectors, will create further opportunities.

CC6.1f

Please explain why you do not consider your company to be exposed to inherent 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

Further Information

Module: GHG Emissions Accounting, Energy and Fuel Use, and Trading

Page: CC7. Emissions Methodology

CC7.1

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

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

CC7.2

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

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

CC7.2a

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

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

We subscribe to best practice in environmental accounting and disclosure. We 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 question 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, who 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 employees within the Business Units who are identified as having the best access to accurate data for specific indicators. While the submitters are the 'owners' of the data, it is collated and quality assessed centrally at Group level. Where possible we use independently verified data such as EU ETS emissions and in 2014, we had our scope 1 and 2 publicly assured to ISAE 3000 and the majority of our scope 3 emissions assured to DNV Verisustain Protocol/ Verification Protocol for Sustainability Reporting.

CC7.3

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

Gas	Reference
CO2	IPCC Fifth Assessment Report (AR5 - 100 year)
Other: Nitrous oxide	IPCC Second Assessment Report (SAR - 100 year)
CH4	IPCC Second Assessment Report (SAR - 100 year)
HFCs	IPCC Second Assessment Report (SAR - 100 year)
PFCs	IPCC Second Assessment Report (SAR - 100 year)
SF6	IPCC Second Assessment Report (SAR - 100 year)
Other: Chlorodifluoromethane (HCFC-22)	IPCC Fourth Assessment Report (AR4 - 100 year)

CC7.4

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

Fuel/Material/Energy	Emission Factor	Unit	Reference
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Further Information

Refer attached for all Emission Factors required for 7.4.

Attachments

[https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/ClimateChange2015/CC7.EmissionsMethodology/Emission factors and origin for CDP.xlsx](https://www.cdp.net/sites/2015/42/3042/Climate%20Change%202015/Shared%20Documents/Attachments/ClimateChange2015/CC7.EmissionsMethodology/Emission%20factors%20and%20origin%20for%20CDP.xlsx)

Page: CC8. Emissions Data - (1 Jan 2014 - 31 Dec 2014)

CC8.1

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

Equity share

CC8.2

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

5452507

CC8.3

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

131395

CC8.4

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

Yes

CC8.4a

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

Source	Relevance of Scope 1 emissions from this source	Relevance of Scope 2 emissions excluded from this source	Explain why the source is excluded
<p>Fugitive and venting emissions from non-operated offshore assets.</p> <p>These emissions will include small quantities of natural gas that mainly consists of methane.</p>	<p>Emissions are not relevant</p>	<p>No emissions from this source</p>	<p>We do not currently collect fugitive and venting emissions from our UK offshore assets (gas and oil platforms) where we have an equity share but are not the operator. This is a practical approach that reflects the difficulty in obtaining this data and the materiality of the data. We estimate the excluded emissions are 0.1% of Centrica's scope 1 emissions.</p>

CC8.5

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

Scope	Uncertainty range	Main sources of uncertainty	Please expand on the uncertainty in your data
Scope 1	Less than or equal to 2%	Data Gaps Assumptions Data Management	Company car 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; Fugitive gas from pipes and equipment can only be calculated and not directly measured; Where it is a shared building or the actual consumption data is not available, building gas consumption is estimated based on personnel number, floor space or historical data; Where current EU ETS emission data is unavailable for a non-operated offshore asset, the emissions are based on the previous year's EU ETS emissions or the emissions of a similar platform where there is no ETS allowance.
Scope 2	Less than or equal to 2%	Data Gaps Assumptions	Shared buildings sometimes have their electricity calculated based on proportion of building occupied; Some electricity for buildings has been estimated based on full-time equivalent employee occupancy; On a few sites, where current data has not been available, historical consumption has been used.

CC8.6

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

Third party verification or assurance complete

CC8.6a

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

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Killingholme verified.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	5
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Barry verified.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Langage verified.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	19
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Peterborough verified.pdf	Page 17 & 21	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Brigg verified.pdf	Page 16 & 20	European Union Emissions Trading System (EU ETS)	1
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Humber verified.pdf	Page 15 & 19	European Union Emissions Trading System (EU ETS)	25
Limited assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/centrica_assurance_statement_2014.pdf	Page 1 & 2	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/basis_of_reporting_2014.pdf	Page 28-40, Total carbon emissions	ISAE3000	100
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Wildcat Hills_Statement of certification.PDF	Page 1	ISO14064-3	2
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Wildcat Hills_Statement of verification.pdf	Page 1	ISO14064-3	2
Reasonable	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared	All	European Union	2

Type of verification or assurance	Attach the statement	Page/section reference	Relevant standard	Proportion of reported Scope 1 emissions verified (%)
assurance	Documents/Attachments/CC8.6a/J6-A 1.pdf		Emissions Trading System (EU ETS)	
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/J6-A 2.pdf	All	European Union Emissions Trading System (EU ETS)	2
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Morecambe Central.pdf	Page 4 & 21	European Union Emissions Trading System (EU ETS)	3
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Barrow Gas Terminals.pdf	Page 3 & 33	European Union Emissions Trading System (EU ETS)	6
Reasonable assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.6a/Sevan Hummingbird FPSO.pdf	Page 4 & 20	European Union Emissions Trading System (EU ETS)	2

CC8.6b

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

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

CC8.7

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

Third party verification or assurance complete

CC8.7a

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

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of reported Scope 2 emissions verified (%)
Limited assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.7a/centrica_assurance_statement_2014.pdf	Page 1-2	ISAE3000	100
Limited assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC8.7a/basis_of_reporting_2014.pdf	Page 28-40, Total carbon emissions	ISAE3000	100

CC8.8

Please identify if any data points have been verified as part of the third party verification work undertaken, other than the verification of emissions figures reported in CC8.6, CC8.7 and CC14.2

Additional data points verified	Comment
No additional data verified	

CC8.9

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

Yes

CC8.9a

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

1885

Further Information

8.6a: To provide more accuracy for our submission, a decimal place response has been provided for items listed that total below a 1% proportion of reported scope 1 emissions verified: Barry - 0.1%; Brigg / Peterborough - 0.2%. Other emission verification statements with proportions above 1% have been rounded to the nearest 1. Deloitte undertook public assurance of our total Scope 1 and 2 GHG emissions for 2014.

Page: CC9. Scope 1 Emissions Breakdown - (1 Jan 2014 - 31 Dec 2014)

CC9.1

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

Yes

CC9.1a

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

Country/Region	Scope 1 metric tonnes CO2e
United Kingdom	3979868
North America	684760
Rest of world	787879

CC9.2

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

By activity

CC9.2a

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

Business division	Scope 1 emissions (metric tonnes CO2e)

CC9.2b

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

Facility	Scope 1 emissions (metric tonnes CO2e)	Latitude	Longitude

CC9.2c

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

GHG type	Scope 1 emissions (metric tonnes CO2e)
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CC9.2d

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

Activity	Scope 1 emissions (metric tonnes CO2e)
Power generation	3066987
Gas & oil production	2298894
Vehicle fuel use	74000
Office fuel use	12626

CC9.2e

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

Legal structure	Scope 1 emissions (metric tonnes CO2e)
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Further Information

Page: CC10. Scope 2 Emissions Breakdown - (1 Jan 2014 - 31 Dec 2014)

CC10.1

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

Yes

CC10.1a

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

Country/Region	Scope 2 metric tonnes CO2e	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low carbon electricity, heat, steam or cooling accounted for in CC8.3 (MWh)
United Kingdom	87952	190995	0
North America	40495	191781	0
Rest of world	2948	2323	0

CC10.2

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

By activity

CC10.2a

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

Business division	Scope 2 emissions (metric tonnes CO2e)

CC10.2b

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

Facility	Scope 2 emissions (metric tonnes CO2e)

CC10.2c

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

Activity	Scope 2 emissions (metric tonnes CO2e)
Office electricity	28726
Operational imported electricity	102669

CC10.2d

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

Legal structure	Scope 2 emissions (metric tonnes CO2e)

Further Information

CC11.1

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

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

CC11.2

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

Energy type	MWh
Fuel	24066616
Electricity	385099
Heat	0
Steam	0
Cooling	0

CC11.3

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

Fuels	MWh
Natural gas	23489324
Diesel/Gas oil	429564

Fuels	MWh
Biodiesels	486
Motor gasoline	147140
Other: Biomass	102

CC11.4

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

Basis for applying a low carbon emission factor	MWh associated with low carbon electricity, heat, steam or cooling	Comment
No purchases or generation of low carbon electricity, heat, steam or cooling accounted with a low carbon emissions factor	0	

Further Information

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 employed 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. We publish the amount of natural gas used and electricity purchased but not the costs.

CC12.1

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

Decreased

CC12.1a

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

Reason	Emissions value (percentage)	Direction of change	Comment
Emissions reduction activities	2.41	Decrease	<ul style="list-style-type: none"> - In our East Irish Sea gas production region, a continued focus on managing the emissions associated with flaring resulted in 10,050tCO₂e being saved. This resulted in a 0.14% carbon savings. - In our UK Power business, we have continued to seek opportunities to invest in measures which will improve the efficiency of our gas-fired power stations, making them cleaner and more competitive in the market. During 2014, we undertook measures such as upgrading turbines and lighting systems and reducing parasitic load during standby and holding phases. In total we calculate that these initiatives saved 112,444tCO₂e (1.60%). - Our UK customer energy and carbon reduction initiatives have reduced our customers' demand for our gas production and power generation, which in turn reduces our scope 1 and 2 emissions. We have calculated that for a given customer base, the initiatives have reduced our gas production emissions by 21,043tCO₂ (0.30%) and our power generation emissions by 26,000tCO₂ (0.37%). - The combined percentage change in 2014 relating to emission reduction activities is a 0.81% decrease in our scope 1 and 2 emissions.
Divestment	35.6	Decrease	<p>At the beginning of 2014, we sold our North American power stations. This has resulted in a significant reduction in our carbon emissions compared to last year of 2,371,490tCO₂ (33.7%).</p> <p>We divested 40% of our (pre-Suncor acquisition) Canadian gas Exploration and Production assets in 2014, resulting in an approximate reduction of 136,646tCO₂ (1.9%). We divested our Canadian Home Service</p>

Reason	Emissions value (percentage)	Direction of change	Comment
			business which equated to 1,274tCO ₂ (0.02%).
Acquisitions	7.97	Increase	We purchased Bord Gáis Energy In July 2014; the acquisition includes a gas power station and therefore material GHG emissions are associated with it. The acquisition represents 344,045tCO ₂ (4.88%) for the half year of Centrica's ownership. In late 2013, we purchased gas exploration and production assets in Canada from Suncor. The emissions associated with this acquisition were first reported in 2014. They equate to 210,759tCO ₂ (3.0%). We purchased the Hess Energy Marketing business in North America in 2014. This represents an increase of 6,439tCO ₂ in 2014 (0.09%). This increase totals 561,243tCO ₂ (7.97%).
Mergers	0	No change	N/A
Change in output	7.59	Increase	- Market forces in 2014 meant that our UK gas fuelled power stations were able to run more than they had in 2013. The associated emissions that can be attributed to market forces in the power generation business are calculated as an increase of 290,662tCO ₂ (4.13% of total carbon emissions). Gas and oil exploration and production emissions increased In Canada during 2014 as a result of greater activity at existing assets. The increase in emissions equates to 244,229tCO ₂ (3.46%). Combined these changes in output equate to 422,220tCO ₂ (7.59%).
Change in methodology	0	No change	N/A
Change in boundary	0	No change	N/A
Change in physical operating conditions	0	No change	N/A
Unidentified	0	No change	N/A
Other	1.8	Increase	European Gas and oil exploration and production emissions increased in 2014. The associated emissions are dependent on the specific activities and sources of the exploration and production, with 2014 seeing greater emissions from well drilling and from a new gas reservoir. The increase in emissions equates to 126,464tCO ₂ (1.8%).

CC12.2

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.00019	metric tonnes CO2e	unit total revenue	28.4	Decrease	The 2014 financial intensity figure is 0.00019. This is a 28.4% reduction on 2013's intensity and is a result of our Scope 1 and 2 emissions dropping by 20.7%, mainly as a result of the North American power station divestment, while our revenue increased by 10.7%. The reduction in emissions intensity by revenue reflects the company's move away from power generation and towards activities with lower carbon intensity relative to power generation such as customer services and gas exploration and production. To a lesser degree, emissions savings through reduced flaring upstream, improved energy efficiency in power generation and reduced customer demand following energy efficiency initiatives have also contributed to a lower intensity. Together this has enabled the continued decoupling of revenue and carbon emissions.

CC12.3

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
149	metric tonnes CO2e	FTE employee	21.9	Decrease	The carbon/FTE intensity value has decreased by 21.9% to 149 tCO2e/FTE. This can mainly be attributed to a reduction in the carbon emissions (20.7%) largely due to the divestment of our North American power stations and to a lesser degree to emissions reduction activities such as reduced flaring upstream, improved energy efficiency in

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
					power generation and reduced customer demand through energy efficiency schemes. FTE has also slightly increased (1.5%).

CC12.4

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for change
0.154	metric tonnes CO2e	megawatt hour (MWh)	23	Decrease	<p>Centrica has set a 2020 target of 0.260tCO2/MWh (260gCO2/KWh) for power generation from our global assets, based on equity share. In 2014, our power generation carbon intensity was 0.154tCO2/MWh (154gCO2/KWh); a reduction of 0.46tCO2/MWh from our 2013 intensity (0.200tCO2/MWh). This reduction has been driven largely by the divestment of our North American power stations but also by on-going energy efficiency measures undertaken across our power generation portfolio such as upgrading turbines, removing energy consuming equipment and upgrading lighting systems.</p> <p>While this is lower than the 2020 target, our intensity may rise in the coming years should market conditions improve making it economic for our gas power stations to generate more power. The market remains uncertain however, and we continue to keep our 2020 target under review.</p>

Further Information

12.1a: Customer carbon emissions, highlighted in 'Emissions reduction activities' row of question 12.1a, are now calculated as graduated savings to reflect that measures are installed over the course of a year, rather than taking the whole annual savings for each measure installed during that year. So while the number of measures installed for customers is largely similar to 2013, the change in reporting approach means we have accounted for less in this reporting year.

Page: CC13. Emissions Trading

CC13.1

Do you participate in any emissions trading schemes?

Yes

CC13.1a

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

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO ₂ e	Details of ownership
European Union ETS	Wed 01 Jan 2014 - Wed 31 Dec 2014	804913	2727819	3532732	Facilities we own and operate
Other: Alberta Greenhouse Gas Reduction Program	Wed 01 Jan 2014 - Wed 31 Dec 2014	0	9037	92983	Facilities we own and operate

CC13.1b**What is your strategy for complying with the schemes in which you participate or anticipate participating?**

EU Emissions Trading System (EU ETS)

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

Alberta Greenhouse Gas Reduction Program

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

CC13.2**Has your organization originated any project-based carbon credits or purchased any within the reporting period?**

Yes

CC13.2a

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

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits cancelled	Purpose, e.g. compliance
Credit Purchase	Hydro	CN1590	CDM (Clean Development Mechanism)	227572	227572	Yes	Compliance
Credit Purchase	Hydro	CN1811	CDM (Clean Development Mechanism)	922	922	Yes	Compliance
Credit Purchase	Hydro	CN2133	CDM (Clean Development Mechanism)	161716	161716	Yes	Compliance
Credit Purchase	Hydro	CN2559	CDM (Clean Development Mechanism)	912	912	Yes	Compliance
Credit Purchase	Hydro	CN2574	CDM (Clean Development Mechanism)	796	796	Yes	Compliance
Credit Purchase	Hydro	CN2592	CDM (Clean Development Mechanism)	206	206	Yes	Compliance
Credit Purchase	Hydro	CN2616	CDM (Clean Development Mechanism)	684	684	Yes	Compliance
Credit Purchase	Hydro	CN2681	CDM (Clean Development Mechanism)	259	259	Yes	Compliance
Credit Purchase	Hydro	CN2893	CDM (Clean Development Mechanism)	444	444	Yes	Compliance
Credit Purchase	Hydro	CN2942	CDM (Clean Development Mechanism)	729	729	Yes	Compliance
Credit Purchase	Hydro	CN2959	CDM (Clean Development Mechanism)	677	677	Yes	Compliance
Credit Purchase	Hydro	CN2972	CDM (Clean Development Mechanism)	1594	1594	Yes	Compliance
Credit Purchase	Hydro	CN3015	CDM (Clean Development Mechanism)	201	201	Yes	Compliance
Credit	Hydro	CN3038	CDM (Clean Development	498	498	Yes	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 cancelled	Purpose, e.g. compliance
Purchase			Mechanism)				
Credit Purchase	Hydro	CN3094	CDM (Clean Development Mechanism)	649	649	Yes	Compliance
Credit Purchase	Hydro	CN3097	CDM (Clean Development Mechanism)	802	802	Yes	Compliance
Credit Purchase	Hydro	CN3109	CDM (Clean Development Mechanism)	602	602	Yes	Compliance
Credit Purchase	Hydro	CN3113	CDM (Clean Development Mechanism)	464	464	Yes	Compliance
Credit Purchase	Wind	CN4112	CDM (Clean Development Mechanism)	63968	63968	Yes	Compliance
Credit Purchase	Hydro	CN4133	CDM (Clean Development Mechanism)	144543	144543	Yes	Compliance
Credit Purchase	Wind	CN5567	CDM (Clean Development Mechanism)	93258	93258	Yes	Compliance

Further Information

13.1a, European Union ETS: For completeness, the allowances, purchases and verified emissions under the EU ETS for Centrica Storage Limited (CSL) have been included in the response in 13.1a in addition to those from our power generation and gas and oil exploration and production businesses. CSL allowances, purchases and verified emissions were not included in the response for 13.1a in the 2013 Centrica CDP Climate Change submission.

13.1a, Alberta Greenhouse Gas Reduction Program: Allowances required for compliance are based on emission intensity. We were unable to reduce our emission intensity by 12% therefore 9037 offsets (allowances) were required for compliance. 13.2a, These project based credits were bought pursuant to the changes in international credit entitlements as detailed in Article 11a(8) of Directive 2003/87/EC and exchanged for EUAs with the EU registry in accordance with Article 60 of the Registry Regulation.

CC14.1

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

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, calculated	3226129	Majority calculated using all upstream emissions of purchased goods and services, calculated by spend analysis and public category emission data. Minor component is 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.		Analysis of our UK purchases and spend, which we undertook for the first time in 2014, has enabled a more comprehensive calculation of our purchased goods and service emissions. This explains the significant increase in this indicator compared to our submission last year. Offshored and outsourced emissions are the most relevant as they are a component of the outsourcing criteria. These are calculated more accurately using fuel and power data. The size of the emissions is a small component of the total (0.01%).
Capital goods	Not relevant, explanation provided		N/A		Centrica did not undertake any significant capital projects in 2014.
Fuel-and-energy-related activities (not included in Scope 1 or 2)	Relevant, calculated	74280374	This relates to power purchased for resale to customers, but excludes traded power. The activity data is power sold (MWh). The associated carbon is based on site specific emissions where we have site specific contracts and 1yr Grid Rolling Averages for electricity purchased off the open market in the UK. In North America the carbon emissions are calculated using regional emission factors.		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 (64.11%) of scope 3 emissions and therefore very relevant to the company. This includes transmission and distribution losses associated with the power we purchase for resale. While Centrica does generate power, we do not

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			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 multiplied by number of days at sea multiplied by DEFRA emission factor of the fuel used (fuel oil or natural gas).		capture the emission associated with the extraction and production of the fuels used for the generation of the power in our scope 3 emissions, as we are an integrated company, meaning we extract and process fuel gas. Hence in the main these emissions are included in our Scope 1 and 2 emissions.
Upstream transportation and distribution	Not relevant, calculated	31666	These emissions are a combination of upstream transportation sources. Data from key logistics suppliers is provided by the service provider. We also collect data from our offshore support providers, including from supply and safety ships and helicopter transportation of personnel. The emissions are calculated by multiplying the fuel use activity data by DEFRA Emission factors.		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	226582	Calculated based on UK spend analysis of waste and recycling contractors.		Carbon emissions associated with waste in our supply chain are not considered relevant from a materiality perspective, relative to other scope 3 emissions. However we analysed our UK purchases and spend for the first time in 2014, which enabled a more comprehensive calculation of our scope 3 emissions associated with waste. This explains the significant increase in this indicator compared to our submission last year.
Business travel	Relevant, calculated	11432	The business travel includes business flights and rail use, as well as employees using their own vehicles for business purposes (grey fleet). The flights and rail are calculated based on journey distance provided by our travel provider multiplied by DEFRA emission		While this is only a small component of our scope 3 emissions (0.01%), it is an area that we can influence and our associated emissions reductions activities are reflective of our commitment to reduce our own emissions. It's for this reason, that business travel is part of

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
			factors. Grey fleet emissions are based on expense claims, using a generic emission factor for car mileage.		our internal carbon footprint target.
Employee commuting	Relevant, calculated	18189	Based on historical employee commuting surveys from 3 of our UK offices, extrapolated to all current UK office employees.		This is an immaterial (0.2%) component of our scope 3 emissions, but is an area we can and do influence. There is a small business risk associated with it in the form of local councils requiring plans at some UK sites to reduce employee car numbers.
Upstream leased assets	Not relevant, explanation provided		N/A		Our reporting approach includes upstream leased assets in our scope 1 and 2 emissions. Therefore not relevant.
Downstream transportation and distribution	Not relevant, explanation provided		N/A		Emissions associated with the transportation and distribution of our products are included within the following source of scope 3 emissions: 'Fuel-and-energy-related activities (not included in scope 1 or 2)'. This is because they relate to transportation and distribution losses from power and gas distribution.
Processing of sold products	Not relevant, explanation provided		N/A		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	66802900	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.		This is a relevant component of our scope 3 emissions in respect to its size (57.66% of our scope 3) and is relevant to the sector.
End of life treatment of sold products	Not relevant, explanation provided		N/A		We sell negligible volumes of product relative to the quantity of gas, electricity and services we supply, therefore not relevant.

Sources of Scope 3 emissions	Evaluation status	metric tonnes CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Downstream leased assets	Not relevant, calculated	1491	Calculated through multiplying the floor area of our leased assets by energy consumption conversion factors. These are based on typical consumption volumes for the type of facility. The estimated energy consumption is then multiplied by DEFRA emission factors.		Centrica only leases a small number of properties (7). The emissions from all bar one (a larger property) are estimated based on typical consumption values. The emissions are immaterial, do not expose us to risk and hence are not relevant.
Franchises	Relevant, calculated	6181	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.		Centrica operates the Dyno Franchise in the UK. While we do not directly track franchisee carbon emissions, we have estimated their emissions based on the franchisee vehicle and building numbers. The emissions are very small relative to the total scope 3 emissions. However, as a Franchisor it is an area that stakeholders might expect Centrica to have some influence over. The increase in franchisee emissions is due to better data capture and an increase in franchise vehicle numbers.
Investments	Not relevant, explanation provided		N/A		Centrica is not a financial organisation.
Other (upstream)					
Other (downstream)	Not evaluated				

CC14.2

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

Third party verification or assurance complete

CC14.2a

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

Type of verification or assurance	Attach the statement	Page/Section reference	Relevant standard	Proportion of Scope 3 emissions verified (%)
Moderate assurance	https://www.cdp.net/sites/2015/42/3042/Climate Change 2015/Shared Documents/Attachments/CC14.2a/Centrica Assurance Statement for Scope 3 Emissions - FINAL v2.pdf	Page 1-2	DNV Verisustain Protocol/ Verification Protocol for Sustainability Reporting	95

CC14.3

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

Yes

CC14.3a

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

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in methodology	999	Increase	In 2014, for the first time we have analysed our entire UK purchases and spend, which has enabled a more comprehensive calculation of our purchased goods and service emissions. This increase in the comprehensiveness of our data capture has led to a 16912% increase in reported emissions in this category.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Purchased goods & services	Change in output	31.24	Decrease	Our off-shored services have reduced their energy consumption.
Capital goods	Change in output	100	Decrease	Centrica did not undertake any major capital projects in 2014.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	19	Increase	There was an increase in North American power purchased for resale following the sale of our Texas power plants.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Acquisitions	0.06	Increase	Centrica commenced power purchase in Ireland following the acquisition of Bord Gáis Energy in July 2014.
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Emissions reduction activities	0.37	Decrease	While emissions from our customers' use of our power purchased for resale increased overall, the customer energy reduction activities we implemented meant they did not increase as much.
Other (upstream)	Change in output	6.0	Decrease	Transport - In 2014, there was a decrease in shipping and helicopter activity supporting our offshore interests, including wells, platforms and wind farms. These vehicles are used for support, transfer of personnel, goods and surveys.
Waste generated in operations	Change in methodology	999	Increase	For the first time, we have analysed entire our UK purchases and spend in 2014, which has enabled a more comprehensive calculation of our scope 3 waste generated emissions. This increase in the comprehensiveness of our data capture has led to a 4707% increase in reported emissions in this category.
Business travel	Emissions reduction activities	11	Decrease	Our business air travel reduced significantly in 2014, which can be partly attributed to our efforts to change travel behaviour through offering alternatives such as video-conferencing and remote working technology.
Downstream leased assets	Divestment	18.57	Decrease	Four leased properties closed part-way through 2013. The reduction in 2014 emissions is as a result of a full year without these four sites.
Franchises	Change in output	50.26	Increase	In 2014, we witnessed an increase in franchisee (Dyno) vehicle numbers due to organic growth of the businesses.
Use of sold products	Change in output	21.03	Increase	Increased volumes of gas have been sold to our customers.

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Use of sold products	Emissions reduction activities	0.30	Decrease	While the overall volumes of gas we have sold to customers has increased, the low carbon products and services we have provided to them such as installing insulation and new efficient boilers have reduced the potential increase.

CC14.4

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

- Yes, our suppliers
- Yes, our customers

CC14.4a

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

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

i Strategy for Prioritisation

Our strategy for supplier engagement is based on the potential supply chain risks and opportunities (R&O). Therefore while we undertake generic supply chain management strategies, we mainly focus on the suppliers who can have the greatest influence on our R&O:

1. For all suppliers, we set a minimum expectation through our supplier contracts with them
2. Potentially high risk suppliers are assessed to identify their actual Corporate Responsibility (CR) risk
3. Key suppliers are invited to take a collaborative approach to share best practice
4. In 2014, we worked with a third party to calculate the carbon emissions of our European suppliers, encompassing over 6000 suppliers
5. For our customers, we offer solutions to reduce their carbon emissions and raise awareness on energy use and reduction strategies

ii Methods of Engagement

1. Engagement with suppliers starts with us being clear that we expect them to uphold our business principles, which include a commitment to protecting the environment. To extend these principles through our supply chain, we include CR clauses in supplier contracts and if underperformance is identified we work with business partners through a mutually agreed remediation plan. Our supplier management programme enables us to monitor performance in our supply chains through regular meetings with business partners.
2. We have a supply chain risk management process that includes a supplier self-assessment tool. This requires higher risk suppliers (based on sector, country and spend) to report on a range of issues, including their carbon risks and carbon management approach. This enables us to understand the R&O associated with them, including carbon related risks. Where a supplier is deemed to have scored inadequately we work with them to develop an improvement plan.
3. We work collaboratively with our key suppliers to understand and manage our supplier carbon chains. This includes our Responsible Procurement supplier forums that we hold regularly to share best practice on a range of sustainability focus areas.
4. In 2014, we worked with a third party specialist to calculate and map the carbon emissions associated with our European suppliers. This work entailed analysing our 2014 spend data with 6,279 suppliers and greatly improved our awareness of an estimated 3.5mt of additional Scope 3 emissions.
5. By supporting customers to lower their energy consumption, we can reduce the biggest source of carbon emissions related to our business, while saving our customer's money. We do this by making their homes more energy efficient by installing low carbon products such as insulation, solar panels and renewable heating. We also provide tools and technology so they can better understand and manage their energy use including smart meters, time-of-use plans and personalised smart energy reports.

iii Measuring Success

Success in our supply chain is measured in the following ways: Ensuring that all our suppliers agree to and understand the CR clauses in their supplier contracts; effectively identifying potential high risk suppliers and managing their actual risk; and seeing progressive improvement in our supplier's understanding and management of carbon, measured through periodic assessment. For example, during 2014, 57 of our potentially higher risk, strategic suppliers completed a self-assessment questionnaire. Of those assessed, no suppliers were deemed high risk and a quarter received a medium risk rating. A selection of the latter are now developing and implementing corrective action plans.

Success for our customers is them being able to be smarter with their energy consumption and reducing their carbon footprint. This can be measured through monitoring installation of low carbon products and services, calculating theoretical customer carbon savings and actual energy and carbon saving studies. Increased customer awareness of how they can reduce and control their energy usage is also a sign of success that can be demonstrated through customer surveys. We installed energy efficiency measures in the UK in 2014, which together will achieve total lifetime carbon savings of 5.5mtCO₂e emissions, as part of our Government obligations. We calculate that since 2010, we have helped our UK customers to save over 13mtCO₂e to date. We are leading the rollout of smart meters, having installed over 1.7m in UK homes and business by the end of 2014. Our Hive Active Heating device allows customers to control and set preferences for their heating using mobile devices. As a result, 96% of Hive users say they feel more in control of their heating, while 70% said it helped them make energy savings.

CC14.4b

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

Number of suppliers	% of total spend	Comment
109	18%	<p>We engage with our suppliers through our supply chain risk management process that includes a supplier self-assessment tool. This is based on a risk profile approach using criteria around country, sector and spend rather than focusing purely on our spend profile. Where a supplier is deemed to have inadequate performance we work with them to develop an improvement plan. We also engage with our suppliers during all contract negotiations by including corporate responsibility clauses in supplier contracts and working closely with them to embed these clauses from the outset. This is mandatory for all new suppliers or for those renewing an existing contract.</p> <p>The 109 suppliers are the number in our portfolio in 2014 with a valid CR assessment score. Their related spend, as a percentage of our total spend, excludes transport and distribution costs.</p>

CC14.4c

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

How you make use of the data	Please give details
Use in supplier scorecards	Our risk based supplier self-assessment tool helps us to understand and manage the risks associated with individual suppliers including providing information about their carbon emission strategies, policies and procedures. Where there is unacceptable risk, we can work with our suppliers to reduce that risk.
Identifying GHG sources to prioritize for reduction actions	We have commenced carbon value chain analysis of some of our core products to understand all the emissions associated with them. This enables us to identify carbon hotspots where we can work with these suppliers on emission reduction opportunities.

CC14.4d

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

Further Information

Module: Sign Off

Page: CC15. Sign Off

CC15.1

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

Name	Job title	Corresponding job category
Grant Dawson	General Counsel & Company Secretary	Board/Executive board

Further Information

Module: Electric utilities

Page: EU0. Reference Dates

EU0.1

Reference dates

Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2019 if possible).

Year ending	Date range
2014	Wed 01 Jan 2014 - Wed

Year ending	Date range
	31 Dec 2014
2013	Tue 01 Jan 2013 - Tue 31 Dec 2013
2020	Wed 01 Jan 2020 - Thu 31 Dec 2020

Further Information

Please note that 2020 figures are indicative only and represent publicly known developments. All other figures are assumed to stay the same as 2014 and do not recognise other future changes in the generation portfolio. This year we have moved forward our 'one year of forecasted data' to 5 years ahead rather than 4 years ahead (i.e. 2020 rather than 2019) in order to align with the scoring guidance to include forecasted data 'beyond 2019 if possible'.

Page: EU1. Global Totals by Year

EU1.1

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emission intensity (metric tonnes CO ₂ e/MWh)
2014	6072	19881	3061674	0.154
2013	6861	24887	4977400	0.200
2020	5411	25377	4948515	0.195

Further Information

The 2014 production dropped following the sale of our North American power stations. The Whitegate power station was acquired as part of the Bord Gáis Energy acquisition in July 2014. 2020 figures are indicative only and are based on 2014 asset portfolio unless a future change is known and the information is publicly available.

Page: EU2. Individual Country Profiles - Canada

EU2.1

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

EU2.1a

Coal - hard

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

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

EU2.1b

Lignite

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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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)
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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 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)
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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 ₂ e)	Emissions intensity (metric tonnes CO ₂ 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)
-------------	-------------------------	------------------

EU2.1i

Other

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

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

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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Further Information

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

Page: EU2. Individual Country Profiles - Ireland

EU2.1

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

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)
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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)
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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)
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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 CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2014	440	870	344175	0.395
2013	0	0	0	0
2020	440	3339	1215967	0.364

EU2.1e

Nuclear

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

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1f

Waste

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

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

EU2.1g**Hydro**

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

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1h**Other renewables**

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

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1i**Other**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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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)
2014	440	870	344175	0.395
2013	0	0	0	0

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2020	440	3339	12155967	0.364

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)
2014	440	870	344175	0.395
2013	0	0	0	0
2020	440	3339	12155967	0.364

Further Information

EU2.1

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

EU2.1a

Coal - hard

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

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

EU2.1b

Lignite

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

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

EU2.1c**Oil & gas (excluding CCGT)**

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

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

EU2.1i

Other

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emissions intensity (metric tonnes CO ₂ 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 CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)

EU2.1k

Total thermal including solid biomass

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

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

EU2.1l

Total figures for this country

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

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

Further Information

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

EU2.1

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

EU2.1a

Coal - hard

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

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

EU2.1b

Lignite

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

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

EU2.1c**Oil & gas (excluding CCGT)**

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

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

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 ₂ e)	Emissions intensity (metric tonnes CO ₂ e/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 CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/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)

Further Information

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

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 ₂ e)	Emissions intensity (metric tonnes CO ₂ e/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 CO ₂ e)	Emissions intensity (metric tonnes CO ₂ 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)
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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 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)
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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)
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EU2.1i

Other

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

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

It is not applicable for Centrica to complete the Trinidad and Tobago section.

Page: EU2. Individual Country Profiles - United Kingdom

EU2.1

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

- CCGT
- Nuclear
- Other renewables

EU2.1a

Coal - hard

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

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

EU2.1b

Lignite

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

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

EU2.1c

Oil & gas (excluding CCGT)

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

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

EU2.1d

CCGT

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2014	3565	6853	2700191	0.39
2013	3515	6311	2561227	0.41
2020	2942	6853	2700191	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)
2014	1777	11255
2013	1750	12097
2020	1784	11255

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)
2014	290	903
2013	290	753
2020	245	839

EU2.1i

Other

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

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

EU2.1j

Solid biomass

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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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)
2014	5342	18108	2716200	0.15
2013	5265	18408	2577120	0.14
2020	4726	17428	2614200	0.15

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)
2014	5632	19011	2661540	0.14
2013	5555	19162	2491060	0.13
2020	4971	18170	2543800	0.14

Further Information

2020 figures are indicative only and are based on 2014 values unless a change has occurred to our generation portfolio and the information is publicly available. 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 2014. 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 2014 carbon emissions from nuclear were 6,380tCO₂. EU2.1e: Nuclear nameplate capacity has been aligned to our Reference Unit Power for each nuclear power station, which varies as plant restrictions are applied or removed. As such, the previously reported figure for 2013 has been updated. EU2.1k: The table includes the minor carbon emissions resulting from the nuclear generation, as well as the CCGT generation.

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

EU2.1

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

CCGT

EU2.1a

Coal - hard

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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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)
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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)
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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 CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2014	0	0	0	0
2013	1306	5726	2394576	0.42
2020	0	0	0	0

EU2.1e

Nuclear

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

Year ending	Nameplate capacity (MW)	Production (GWh)

EU2.1f

Waste

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

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

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 ₂ e)	Emissions intensity (metric tonnes CO ₂ e/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 CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/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)
2014	0	0	0	0
2013	1306	5726	2394576	0.42
2020	0	0	0	0

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)
2014	0	0	0	0
2013	1306	5726	2394576	0.42
2020	0	0	0	0

Further Information

Centrica sold its North American CCGT power stations at the end of 2013. Therefore there is no longer any North American power generation in our asset portfolio.

Page: EU3. Renewable Electricity Sourcing Regulations

EU3.1

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

Yes

EU3.1a

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

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
Other: UK - Renewables Obligation	24.4%	28.6%	2016	The date of the future obligation is April 2015-Mar 2016. Our position in relation to meeting our obligations will be formalised during October 2015 but Centrica remain fully compliant with the requirements of The Renewable Obligation.
Other: Renewable Portfolio Standards (Various)				Our obligations vary from state to state across the US.

Further Information

Page: EU4. Renewable Electricity Development

EU4.1

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

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA		2.10%	The achieved power price (including ROCs) for renewables in 2014 was £112.7/MWh. The total generation for which we received revenue was 903GWh. This resulted in renewables contributing 2.1% of total Centrica EBITDA.

EU4.2

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

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

EU4.3

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

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

Further Information

CDP 2015 Climate Change 2015 Information Request