

## 0.1 Introduction

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

### **About Centrica**

Our vision is to be the leading integrated energy company in our chosen markets. We source, generate, process, store, trade, save and supply energy and provide a range of related services. We secure and supply gas and electricity for millions of homes and business and offer a distinctive range of home energy solutions and low carbon products and services.

We have strong brands and distinctive skills which we use to achieve success in our chosen markets of the UK, North America and Europe, and for the benefit of our employees, our customers and our shareholders. In the UK, we source, generate, process and trade gas and electricity through our Centrica Energy business division. We store gas through Centrica Storage and we supply products and services to customers through our retail brand British Gas. In North America, Centrica operates under the name Direct Energy, which now accounts for about 25% of group turnover.

We believe that climate change is one of the most important issues facing the world today and that man-made greenhouse gas emissions are a key driver of climate change. We believe energy companies have a key role to play in helping countries reduce greenhouse gas emissions. Our corporate responsibility (CR) vision is to be the most trusted energy company leading the move to a low carbon future.

We are committed to playing our full part in the transition to a low carbon energy future, while ensuring the security of present and future energy supplies by:

- Sourcing and producing energy from cleaner sources
- Reducing wasted energy – by producing energy more efficiently, reducing our own internal footprint and by helping customers reduce their usage
- Developing and deploying new technology

British Gas is in a unique position as Britain's largest energy supplier combined with the largest installation and servicing business through our network of 9,000 engineers. We believe this combination will give us increasing advantages as Government policy and consumer demand trend towards more holistic low carbon energy services – ie services that combine energy supply, advice, energy efficiency products, microgeneration and financing to make it easy for households and businesses to act on climate change.

### **Our impact**

We emit greenhouse gases (GHGs) from a variety of direct and indirect sources. Our direct GHG emissions, defined in accordance with Scope 1 of the Greenhouse Gas Protocol, include those from sources owned or controlled by us such as power generation, producing and storing gas, consuming gas at our offices and emissions from our fleet of commercial vehicles and company cars. Our indirect GHG emissions under Scope 2 are from the electricity we consume in our offices and at our assets. We also take into account GHG emissions under Scope 3 – those that we do not produce, but are a result of our activities and the products and services we provide, such as the emissions associated with the electricity we purchase to sell to our customers and the products and services we purchase to run our business.

The impact of our indirect emissions is far greater than the impact of our direct emissions, which is why we have an important role to play in helping our customers use energy efficiently and working with our business partners to minimise the impact of our supply chain activities. As the UK's largest energy supplier and one of the largest integrated energy companies in North America, we also have a role to play in helping future generations and current consumers become more energy literate. We aim to:

- Lead the market for products and services to help homes and businesses use less energy and use cleaner energy

- Maintain our low carbon position in power generation
- Work with our employees and suppliers to reduce the environmental impact of our operations

We also recognise the need to assess, quantify, measure and communicate our carbon impact in a robust and clear manner.

## 0.2 Reporting Year

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

### Enter Periods that will be disclosed

Thu 01 Jan 2009 - Thu 31 Dec 2009

## 0.3 Are you participating in the Walmart Sustainability Assessment?

No

## 0.4 Modules

*As part of the Investor CDP information request, electric utilities, companies with electric utility activities or assets, companies in the automobile or auto component manufacture sectors and companies in the oil and gas industry should complete supplementary questions in addition to the main questionnaire.*

*If you are in these sectors, the corresponding sector modules will be marked as default options to your information request.*

*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 [www.cdproject.net/cdp-questionnaire](http://www.cdproject.net/cdp-questionnaire).*

Electrical

## 0.5 Country list configuration

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

### Select country

United Kingdom

United States of America

Canada

Rest of world

## 0.6 Please select if you wish to complete a shorter information request.

### Further Information

We have provided separate data for our operations in Belgium (SPE) in which we doubled our stake in January 2009 from 25% to 51%. We subsequently sold our entire stake in SPE at the end of 2009 and consequently it does not feature in our discussions around strategy going forward.

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

Board committee or other executive body

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**1.1a Please specify who is responsible.**

Committee appointed by the Board

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**1.1b Select the lower level department responsible.**

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**1.2 What is the mechanism by which the board committee or other executive body reviews the company's progress and status regarding climate change?**

After the announcement of our new strategic priorities in February 2010, which were underpinned by a commitment to provide 'energy for a low carbon world', there are major elements of our climate change strategy that are now central to our commercial strategy as well. These are the responsibility of the Centrica Executive Committee (CEC) and include the priority to grow British Gas in leading the transition to low carbon homes and businesses. In addition, Sam Laidlaw, Chief Executive, has overall individual responsibility for climate change.

At the end of each quarter, the CEC reviews three climate change key performance indicators, as part of wider monitoring of our sustainability programme:

- Carbon intensity of power generation
- Lifetime carbon savings of energy efficiency products provided
- Group internal carbon footprint

The CEC also reviews a dashboard of indicators for British Gas, which includes key metrics related to low carbon products and services. These metrics are underpinned by the Corporate Responsibility Committee, a Board-level Committee, which has overall responsibility for monitoring Centrica's climate change strategy. The CR Committee reports regularly to the Board on the effectiveness of the company's climate change strategy and its performance in relation to key targets and management indicators.

The Corporate Responsibility Committee reviews climate change key performance indicators on a quarterly basis and ensures that targets are sufficiently stretching. Within each business unit a senior CR representative is responsible for coordinating CR strategy and reporting back to the Committee. This is an added level of visibility and accountability for CR issues, including climate change, within the Centrica Group.

Throughout 2009 the Committee undertook a review of CR strategy in British Gas, Centrica Energy and Direct Energy. Managing Directors presented to the Committee an outline of the non-financial risks to their businesses. This process ensured that the key impact areas relevant to our different business divisions were discussed and challenged at a senior level with actions identified as part of a process of continual improvement.

Direct Energy has a Corporate Responsibility (CR) Committee to oversee CR activities in our North American operations. Direct Energy's CR dashboard, also provided to the CEC on a quarterly basis, includes carbon intensity of power generation and the North American internal carbon footprint as key performance indicators. The committee comprises senior executives from Direct Energy and meets quarterly.

A number of Centrica's priority risks are related to climate change. As such it is an issue which is also managed through the risk management process from business units all the way up to the Audit Committee and Board. The status of the individual risks and associated controls are continuously monitored and periodically reported to these Committees.

Our health, safety and environment (HSE) sub-committee of the Executive determines the policies, targets and key performance indicators we need to meet our strategic vision and objectives for HSE and to drive forward the improvement strategy. This is chaired by a member of the Board and Executive Committee, Mark Hanafin, who is the Managing Director of Centrica Energy. We also issued a new Environment policy and Group HSE standards manual for managing health, safety and environment across Centrica, providing a consistent, best practice approach wherever we operate and whatever our role. The manual highlights the importance of leadership at all levels in the organisation in delivering our operational environmental objectives.

Group Environment is responsible for managing and reporting Centrica's operational environmental footprint, encompassing our scope 1, 2, and 3 emissions. Power station efficiency is the responsibility of Centrica Energy in the UK and Direct Energy in North America. British Gas has responsibility for our customer-facing performance on climate change issues in the UK and Direct Energy has this responsibility in North America.

**1.3a Please explain how overall responsibility for climate change is managed within your company.**

**1.3b Please explain how overall responsibility for climate change is managed within your company.**

**1.4 Do you provide incentives for the management of climate change issues, including the attainment of greenhouse gas (GHG) targets?**

Yes

**1.5 Please complete the table.**

Who is entitled to benefit from those incentives?	The type of incentives
Corporate executive team	Monetary reward
Environment/sustainability managers	Monetary reward
Business unit managers	Monetary reward
Chief Executive Officer (CEO)	Monetary reward
All employees	Prize
All employees	Recognition (non-monetary)
Management group	Monetary reward
Process operation managers	Monetary reward
Other: All employees eligible for the Annual Incentive Scheme	Monetary reward
Other: Employees involved in green teams	Recognition (non-monetary)
Other: Direct Energy employees	Monetary reward

**Further Information**

**Attachments**

**Module: Risks and Opportunities**

**Page: Risks & Opportunities Identification Process**

**2.1 Describe your company's process for identifying significant risks and/or opportunities from climate change and assessing the degree to which they could affect your business, including the financial implications.**

We regard the identification and assessment of risks, including carbon and climate-related risks, together with mitigating internal controls, to be fundamental to achieving the Group's strategic objectives. The Board, either directly or through its committees, sets objectives, performance targets and policies for management of key risks facing the Group.

The Board has overall responsibility for the Group's system of internal control and risk management, which is designed to identify, manage and mitigate business risk in order to support the creation of long-term, sustainable returns for shareholders.

The most significant climate change-related risks and uncertainties the Group can foresee are set out in this response. It is not an exhaustive list; some future risks may be as yet unknown and other risks, currently regarded as immaterial, could become material. The long-term nature of some climate change-related risks, together with their main drivers, which are overwhelmingly external in nature and therefore outside the control or influence of Centrica, mean that they are unlikely to be fully mitigated in the short to mid-term. However, the current status of the individual risks and associated controls is continuously monitored and periodically reported to the various risk management committees.

Across the Group, each business division has a Risk Management Committee that seeks to identify, assess and advise on the management of risks. These assessments are reported to the Group Risk Management Committee (GRMC) to develop our overall risk profile including those climate change-related risks that might affect us at Group level.

Individual risks are assessed with regard to their potential impact in financial terms and also non-financial factors including brand and reputation, legal, regulatory, customers, employees and health and safety and environmental, together with the likelihood of the risk materialising. Our assessment method uses a 1-5 rating for impact and likelihood. The overall rating (risk severity definition) is calculated from impact x likelihood and classified from minor to fundamental. 'Significant' is towards the upper end of this scale, although such risks are not necessarily considered to be the material risks facing the business.

Where significant risks have been identified, a control infrastructure has been established to ensure day-to-day monitoring and management of risks. The Centrica Executive Committee reviews the risks identified by the GRMC at its monthly meetings to ensure that the significant risks facing the Group are being managed appropriately.

At each of its 4 meetings in 2009, the Audit Committee received a Group Risk Report providing an assessment of the key risks facing the Company including the adequacy of the associated controls. The Audit Committee is also provided with the results of reviews conducted by the internal audit function according to a plan approved by the Committee. These reports, supplemented by management presentations, enable the Audit Committee to track a number of issues, monitor performance against objectives and ensure that necessary actions are taken to remedy any significant failings or weaknesses identified from those reports. The Chairman of the Audit Committee reports on the issues discussed and conclusions reached at the following Board meeting.

In addition, the Corporate Responsibility Committee (CRC) is authorised by the Board to review the effectiveness of the Group's processes and controls for identifying and managing social and environmental risks and opportunities – including climate change – that could materially affect the Group's business performance and reputation. The CRC sets objectives, performance targets and policies for managing key risks and opportunities, which are monitored by the Board. Potential and material CR risks are discussed, agreed and monitored through a risk and control matrix that is reviewed annually by the CRC. Views on potential risks from external stakeholders are also incorporated at CRC meetings.

To identify climate change-related opportunities, we hold an annual Board strategy conference, during which the Board examines opportunities in new markets, new technologies and potential acquisitions. Promising opportunities are then explored by the relevant business units, with support from the Group Strategy team. Business units conduct due diligence to assess commercial viability, market landscapes and future regulation, before presenting strategies back to the investment sub-committee. Once measures are agreed at this level, the business units develop detailed strategies to maximise opportunities that are available and to model commercial returns. The process is the same for technological innovations such as microCHP boilers as it is for our decision to proceed with constructing the Lincs offshore wind farm project.

## Further Information

## Attachments

## Page: Regulatory Risks

### 3.1 Do current and/or anticipated regulatory requirements related to climate change present significant risks to your company?

Yes

#### *Do you want to answer using:*

The table below

### 3.2A What are the current and/or anticipated significant regulatory risks related to climate change and their associated countries/regions and timescales?

Risk	Region/Country	Timescale in Years	Comment
Other: Low carbon price	United Kingdom	0 -- 5	There is risk of failure to deliver the necessary carbon price over the longer term to ensure the viability of investment in new technologies to tackle climate change.
Other: Insufficient financial support for renewable and low carbon power and heat generation technologies	United Kingdom	0 -- 5	There is a risk of failure to establish a framework that delivers adequate financial support for renewable and low carbon power and heat generation technologies.
Uncertainty surrounding new regulation	United Kingdom	0 -- 5	A key risk for us is that the government will fail to deliver the legislative frameworks that support our low carbon commercial strategy in the UK. For example, there is a risk of failure of future programmes to build on proven successful delivery mechanisms such as the CERT framework for delivery of energy efficiency to UK homes.
Uncertainty surrounding new regulation	Other: North America	0 -- 5	A key risk for us is that the government will fail to develop a legislative framework at Federal, State and Provincial level in North America that assigns a cost to carbon emissions and provides certainty required for planning and investment purposes.
Emission reporting obligations	United Kingdom	Current	There is a risk that we fail to meet our legal obligations which include the following: We must report emissions through the EU Emissions Trading Scheme; we must provide energy efficiency measures under the Carbon Emissions Reduction Target (CERT) and report the total carbon savings of these to Ofgem, the regulator; we must comply with the Community Energy Savings Programme (CESP).
Emission reporting obligations	Other: North America	Current	There is a risk that we fail to meet our obligations under various regional carbon and renewable energy programmes (Alberta

Risk	Region/Country	Timescale in Years	Comment
			Carbon, California RPS, RGGI, WCI), which would lead to substantial penalties.
Other: Renewables Obligation	United Kingdom	Current	There is a risk that we fail to meet the requirements of the Renewables Obligation which requires licensed electricity suppliers to source a specific and annually increasing percentage of the electricity they supply from renewable sources.

**3.2B What are the current and/or anticipated significant regulatory risks related to climate change and their associated countries/regions and timescales?**

**3.3 Describe the ways in which the identified risks affect or could affect your business and your value chain.**

The company is exposed to significant regulatory risk because we operate in highly regulated markets around the world, where external policy decisions or changes to regulatory regimes or industry procedures could fundamentally affect our commercial operations. Policy-makers are particularly keen to understand our perspectives as a leading integrated energy company on a range of issues, including climate change.

Our principal regulatory risks relate to threats to the profitability of our upstream asset portfolio, threats to the profitability of our downstream supply business, the failure of governments and regulators to follow through on commitments relating to climate change and having to bear disproportionate costs of climate change mitigation. We are also exposed to regulatory risks from environmentally-led changes in regulation that could impact on our upstream portfolio.

Our power generation strategy assumes a long-term trend in decarbonisation of the UK power sector, including:

- Significant improvement in energy efficiency of homes & businesses
- Development of further renewable capacity via RO
- Private sector new nuclear build
- Increased small-scale decentralised energy

In order to create the right framework for this decarbonisation to occur, a robust market-based carbon pricing mechanism such as EU ETS is necessary. However, it may be insufficient in itself to provide the signals necessary for long-term capital investments. The UNFCCC COP15 conference outcome did not give businesses the clear framework we wanted and this coupled with the gap between the UK's and EU's ambitions strengthens the case for a unilateral UK mechanism to underpin the carbon price. But regulatory options for this carry risks of their own.

Renewables require a supportive policy and regulatory climate in order to deliver the significant investment in energy infrastructure needed (estimated by Ofgem at £200bn), while maintaining security of supply. An ineffective planning regime in the UK can make it difficult to achieve planning consent for the development of new assets, affecting the ability to deliver on investment. This has prompted calls by many, including the regulator, for more fundamental market reform, but the shape of this is currently uncertain. In addition to renewables, the UK Government is also in the process of addressing regulatory and other barriers to new nuclear power.

We believe that we have a real competitive advantage in discharging our CERT obligation and are using it as a platform for growth in microgeneration. There is a risk to British Gas that after CERT ends in 2012 we will be expected to fund the delivery of energy efficiency by a less efficient central agency, removing our competitive advantage in energy efficiency and putting upward pressure on bills. In addition, there is a risk that a delivery mechanism with lower cost efficiency, could lead to less consumer choice, less competition, less innovation and restricted access to customers. And if energy suppliers have to pay for a significant proportion of costs for investment technological development, this could have a detrimental impact on customers' bills.

Clear consistent climate change mitigation policies are not yet a feature of North American energy markets although in Jan-2010, the SEC issued guidance requiring companies to address the impact of

climate change regulations in their corporate filings and in Mar-2010, the Ontario Securities Commission released a Staff Notice on climate change and associated risks. Limited federal action means that progress has mostly taken place at the state/provincial level through a patchwork of continually evolving regulations. Canadian federal efforts now largely depend on progress in the US, where proposed bills commit to GHG emissions cuts through options including a cap-and-trade system and renewable portfolio standard (RPS).

Uncertainties around the detail and progress of such future legislation are a risk to us. Eg, the RPS is a requirement for energy retailers to supply a proportion of the energy they sell in the market from renewables. Direct Energy is relatively well-positioned with 813MW of wind capacity, which is likely to qualify as renewable, but it is not yet known if we can move renewable energy certificates to different states. In addition, as our customer base grows and the total energy we supply increases, so will our obligation, which will impact our asset and market investment strategies.

In the UK we must also meet requirements under the RO, EU ETS, CERT and CESP. We must help to fulfil increasingly stretching UK emissions reduction targets and we must also comply with the Carbon Reduction Commitment (2010) and report on our approach to adaptation (2011). In North America, we must meet our obligations under various regional carbon and renewable energy programmes (eg Alberta Carbon). Failure to meet these obligations would lead to substantial penalties.

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### 3.4 Are there financial implications associated with the identified risks?

Yes

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### 3.5 Please describe them.

The risks of failure by governments to provide a supportive framework for commercial opportunities provided by a low carbon economy are a risk to the profitability of our new business model for British Gas, announced in early 2010. UK energy consumption has fallen every year since 2005 and increased revenues from the energy efficiency and microgeneration markets are essential to outweigh the reduction in revenue from energy sales. However, both markets are still emerging and without UK government support to help increase demand and support innovations, there would be financial risks to the business.

Our strategy to pursue low carbon generation means that if the economy remains high carbon and the government ceases to view climate change as a major risk, we will be at a disadvantage to other suppliers. Electricity generation from renewables is not currently commercially viable against fossil fuels without government support. As the carbon price rises, and when fossil fuel prices are comparatively high, the economic case becomes more optimistic. In the UK support is currently provided to technologies such as offshore wind in excess of the price of carbon avoided. This is done where these technologies offer additional benefits such as diversity of supply, security, technological learning and creation of a UK export industry.

When comparing the costs of generating electricity, we use a levelised cost which takes account of whole life costs including capital and opex costs, long-term market prices, station life and capacity. Recently, this was estimated at around:

- CCGT – £50-80/MWh
- Pulverised Coal - £55-85/MWh
- IGCC - £60-95/MWh
- IGCC with carbon capture - £105-170/MWh
- Nuclear - £60-120/MWh • Offshore Wind - £130-190/MWh
- Offshore Wind incl. ROC - £60-130/MWh

Our investments in CCGT, offshore wind incl. ROC and nuclear compare favourably against these costs. However, the main low carbon investment signal remains the carbon price which, at €13/t is not currently sufficient to make new nuclear plants viable. Until the global carbon market is robust enough to provide a strong signal, we believe the UK will need to reinforce the EU ETS price signal via some form of floor mechanism, either through a carbon tax or levy, to underpin the carbon price in the UK and provide the signals needed for new nuclear and other low carbon investment.

Insufficient support or an ineffective planning regime for renewables has the potential to impact on the cost of projects to develop new wind farms. This could be in the region of tens of millions of pounds,

depending on the length and type of delay caused by this risk materialising. A low carbon price could make our investments in nuclear and wind economically less viable, risking hundreds of millions in investment.

Failure to comply with our obligations also has significant financial implications. There are financial penalties associated with non-compliance of the EU ETS of €100 per tonne of CO<sub>2</sub> plus the cost of purchasing the EU emission allowance (EUA). These financial penalties are triggered if insufficient allowances are retired in any one year for compliance purposes.

Failure to comply with CERT and CESP can lead to fines of up to 10% of global turnover for both schemes. In 2009, our global turnover was £21.96bn so we could have been liable for fines of up to £2.2bn.

The Renewables Obligation is designed to work by setting a target that is greater than the market ability to supply renewable power. This creates a shortfall of Renewable Obligation Certificates (ROCs) and suppliers that have a shortfall must then pay into a buyout fund. For the 2009/10 year, the price of the buyout payment was £37.19 per ROC, though this increases annually with the retail price index. Additionally, the buyout fund is recycled to suppliers in proportion to the ROCs submitted. Energy suppliers that have access to ROCs therefore avoid a significant cost associated with the ROC buyout payment and gain an additional incentive from the recycling of buyout funds. Compliance with RO is a requirement of the supply licence and failure to comply (or errors in compliance) risks enforcement action and penalties.

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**3.6 Describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.**

Our activity to manage these risks is ongoing. Internally we have established a UK Policy Group to determine our positions on each key issue. Externally we closely engage with civil servants, politicians and opinion-formers to ensure that our perspectives are reflected in policy debates. Media relations and external-facing CR programmes are designed to reinforce our views on policy and to build knowledge and trust in the business among wider stakeholder audiences.

In the US and Canada, we continue to engage with regulators, Government ministers and senior officials through targeted contact programmes. Direct Energy is well-positioned to take advantage of opportunities in low carbon and we are confident that clear legislation providing certainty will enable us to pursue our climate change agenda in North America.

We have a front-foot approach to meeting our obligations and aim to maximise the opportunities these obligations present. For example the Renewables Obligation requires licensed electricity suppliers to source a specific and annually increasing percentage of the electricity they supply from renewable sources. It was introduced in 2002 and provides a substantial market incentive for all eligible forms of renewable energy. Rather than just purchasing this all on the market, we are investing in wind farms of our own to go towards meeting this requirement. Under current plans we expect to invest substantially over £3bn building 1.6GW of offshore wind under the Government's Round 1 and Round 2 offshore wind licensing rounds, assuming these projects are economically viable. Under Round 3, where we have secured the large Irish Sea licensing zone, we could potentially build a further 4.2GW, with investment totalling several more billion pounds.

With CERT and CESP, our market-leading approach to energy efficiency and low carbon products and services means that the obligations we have are well within our capabilities.

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**3.7 Please explain why you do not consider your company to be exposed to significant regulatory risks - current and/or anticipated.**

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**3.8 Please explain why not.**

**Further Information**

**Attachments**

**4.1 Do current and/or anticipated physical impacts of climate change present significant risks to your company?**

Yes

*Do you want to answer using:*

The table below

**4.2A What are the current and/or anticipated significant physical risks, and their associated countries/regions and timescales?**

Risk	Region/Country	Timescale in Years	Comment
Changes in frequency of extreme weather events	United Kingdom	Uncertain	The main physical threats to our assets and operations are from the increased intensity and frequency of severe weather events and other changes to weather patterns.
Changes in frequency of extreme weather events	Other: North America	Uncertain	The main physical threats to our assets and operations are from the increased intensity and frequency of severe weather events and other changes to weather patterns.
Induced changes in supply chain and/or customers	United Kingdom	Uncertain	We currently focus our resources for vulnerable customers on supporting them through cold winters in the UK. But an increased frequency or intensity of heatwaves in summer may increase the costs of our support programmes further as resources are required throughout the year.
Uncertainty of physical risks	United Kingdom	Uncertain	Regulators are not yet bringing in adaptation risk into their demand forecasting reports. Other companies are not yet reporting comprehensively on adaptation issues and therefore it is difficult to assess the impact of physical risks on our supply chain and other parts of our value chain.
Uncertainty of physical risks	Other: North America	Uncertain	Regulators are not yet bringing in adaptation risk into their demand forecasting reports. Other companies not yet advance reporters and therefore it is difficult to assess the impact of physical risks on our supply chain and other parts of our value chain.

**4.2B What are the current and/or anticipated significant physical risks, and their associated countries/regions and timescales?**

**4.3 Describe the ways in which the identified risks affect or could affect your business and your value chain.**

The main physical threats to our assets and operations are from the increased intensity and frequency of severe weather events and other changes to weather patterns. We believe that there is a connection between climate change and the intensity of severe weather events such as prolonged and heavy rainfall in the UK and increased intensity of hurricanes in America.

The physical threat posed by severe weather events is exemplified by the impact of Hurricane Ike in 2008. Direct Energy had employees, customers and business operations in the path of Hurricane Ike. While some employees were directly affected by the storm, for example living in areas with mandatory evacuation orders, dealing with damage to property or losing power for over 14 days, the storm also affected the functioning of our offices. We put in place business continuity plans to ensure key

employees were able to work from other Texas locations but we experienced approximately one week of 'downtime' per employee.

The Category 2 storm led to over 2m customers losing power. Our office shutdowns and a slowdown of inbound customer traffic as a result of the hurricane impacted our customer acquisition rate. In addition, we lost approximately 1,000 customers, many of whom were forced to evacuate and abandon premises. As well as affecting our assets, the storm also impacted our business partners through damage and downtime.

If severe weather events continue to increase in frequency and intensity, which we expect, our business is at risk from increased insurance premiums. In addition, there are equity and commodity risks if supply of electricity is interrupted. For example, the UK flooding of Summer 2007 came extremely close to causing disruption at our Brigg and Killingholme power stations. Brigg, in particular, is located in a flood plain.

National Grid distributes the energy we produce and supply to customers and their ability to manage physical risks directly impacts on our value chain. This is a risk to us as it is core part of the value chain that we are not able to exercise direct control over.

Increasingly unpredictable and adverse weather conditions such as warmer summers may increase pressure on gas supplies while at the same time affecting the efficiency of our facilities. The efficiency of all gas turbines is affected by ambient temperature. As the ambient temperature rises, the efficiency of the gas turbine falls. This loss of efficiency is slightly more prevalent in air-cooled condensed plants, of which we have four (King's Lynn, Peterborough, Barry and Langage). Our models show that an average rise in ambient temperatures of 2- 5oC would reduce efficiency at our power generation facilities by 0.08-0.28% on average.

Rising sea levels also present a threat to our operations. British Energy, in which we have purchased a 20% stake from EDF, has a fleet of nuclear power stations that are all located on the coast. Three of our gas-fired power stations, Humber, Roosecote and Morecambe, are also near the coast. Climate change through sea-level rise and coastal erosion could impact operations at all these locations. However, these assets are approaching the end of their lives, so it is the next generation of gas and power assets that are more likely to be exposed to long-term climate change impacts. If we decide to take up the option under our deal with EDF to participate in the construction of new nuclear units, we will need to take into account the physical climate risks which could affect the design and location of new assets.

In addition, changes to rainfall would affect hydro-generation output and, therefore, the electricity supply mix in both the UK and North America. Wind resource is also uncertain and understanding future resource represents a significant challenge. This is a particular issue for us as we are pursuing a strategy to build offshore wind. In line with best practice, our wind farms are built to withstand unusually intense storm force winds by shutting down to protect the turbine blades from damage. Increased frequency and intensity of high winds would therefore impact the generation capabilities of our wind farms.

Changes to weather patterns can also have health impacts on our employees and customers. We currently focus our resources for vulnerable customers on supporting them through cold winters. But an increased frequency or intensity of heatwaves in summer may increase the costs of our support programmes further as resources, such as expenditure with charity partners and debt assistance, are required throughout the year. This health impact is sufficiently long term and uncertain that we do not yet have any specific measures in place to adapt our programmes. However, we will continue to monitor developments in climate change science.

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#### **4.4 Are there financial implications associated with the identified risks?**

Yes

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#### **4.5 Please describe them.**

Hurricane Ike was estimated to have cost our Houston operations USD\$10m. Increased frequency of such events could therefore have a significant financial impact on our business.

Weather-related risks such as flooding can have a significant financial impact. For example, if one of our power stations was flooded, we estimate that this could have an impact of over £500,000 a day. The actual figure would depend on which facility was affected and the condition of the market at the time the power station was switched off but this gives an indication of the level of financial risk to Centrica of such an event. The cost impact would also depend on whether other power stations in the area were affected and on what the subsequent effects on the market would be. Conversely, if it was one of our smaller power stations the impact could be minimal depending on the time of year. However, a prolonged shutdown as a result of a weather-related event would be a significant financial cost to the business. It also means that we can meet less customer demand from our own resources and must purchase on the market. If weather-related damage is widespread, energy supply may be short and prices high.

There are also financial implications for us in terms of insurance costs. For example, a high number of storms off the Mexican coast in 2005 led to a large number of insurance claims which affected the entire insurance market. Although we were not directly affected by the storms themselves, we were impacted by changes to insurance premiums in 2006. Physical changes that result in more frequent or more destructive storms risk affecting us financially, even if there is no damage or disruption to our business.

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**4.6 Describe any actions the company has taken or plans to take to manage or adapt to the risks that have been identified, including the cost of those actions.**

We currently monitor and manage the risk of severe weather events to our facilities through our meteorology teams, crisis management and business continuity arrangements, although if weather risk increases, we will look for other ways to mitigate this through changes to operational standards. As a result of DEFRA's direction to report on adaptation in 2011, we will be looking more closely at the physical issues related to climate change in our UK business during 2010.

We manage increased health risks to employees through our business continuity plans. We also ensure that employees travelling or working abroad are equipped to deal with infectious diseases, the pattern of which may be affected by climate change. Our occupational health team tracks these issues and ensures that advice provided to employees is relevant and up-to-date.

The majority of our actions are part of business-as-usual risk mitigation and it is difficult to separate out the costs to adapt specifically to the physical risks of climate change.

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**4.7 Please explain why you do not consider your company to be exposed to significant physical risks - current and/or anticipated.**

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**4.8 Please explain why not.**

**Further Information**

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**Attachments**

**Page: Other risks**

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**5.1 Does climate change present other significant risks - current and/or anticipated - for your company?**

Yes

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***Do you want to answer using:***

The table below

**5.2A What are the current and/or anticipated other significant risks, and their associated countries/regions and timescales?**

<b>Risk</b>	<b>Region/Country</b>	<b>Timescale in Years</b>	<b>Comment</b>
Other: Reduced demand	United Kingdom	0 -- 5	British Gas is at risk from a continued reduction in energy sales per customer and from legislation aimed at reducing customer energy consumption that could challenge our ability to help them meet such reductions whilst remaining profitable.
Reputational risks	United Kingdom	Current	There is a risk that we fail to gain customer recognition of our low carbon credentials and lose market share.
Other: Rising investment costs	United Kingdom	0 -- 5	Renewables project economics are affected by increases in project costs due to increases in commodity costs like steel and copper, but also exchange rate movements since most components are bought in euros. Also, the pricing of carbon emissions has a direct impact on the running costs of our power stations and the cost of electricity that we purchase from other generators.
Other: New technologies	United Kingdom	0 -- 5	There are uncertainties related to the emergence of new technologies such as smart meters regarding our model for roll-out and the upfront costs.
Reputational risks	Rest of world	0 -- 5	There is a risk that investors will dismiss the low carbon business strategy and our market capitalisation will decrease.
Other: New technologies	Other: North America	0 -- 5	There is a risk that new technology may disaggregate us from our customers.
Other: Reduced demand	Other: North America	0 -- 5	Direct Energy is at risk from legislation aimed at reducing customer energy consumption, including Home Star and Building Star legislation in the US.

**5.2B What are the current and/or anticipated other significant risks, and their associated countries/regions and timescales?**

**5.3 Describe the ways in which the identified risks affect or could affect your business and your value chain.**

UK energy consumption fell during the period 2005-2009, driven by regulatory drivers to increase energy efficiency, behavioural change from increased awareness and higher prices, fallout from past price increases and the general economic downturn. Gas demand is forecast to continue to decline over the next decade with electricity demand reducing by a smaller amount.

In terms of brand and reputation, there is a risk that we fail to gain customer recognition of our low carbon credentials and lose market share. Also, if our competitors over promote their green credentials, the reputation of the energy sector as a whole could be tarnished and consumers could become cynical. This would make it difficult for us to build business in new areas as our low carbon credentials could be damaged by association. In addition, we could suffer significant reputational damage if our upstream portfolio is not environmentally responsible, impacting our ability to influence government future environmental strategy and undermine our "licence to operate".

Renewables project economics are affected by increases in project costs due to increases in commodity costs like steel and copper, but also exchange rate movements since most components are bought in euros. The increased cost of capital is also pushing rates of return below acceptable levels. However the negative impact has been lessened by a UK government decision to temporarily increase the subsidy for offshore wind to two Renewables Obligation Certificates.

The pricing of CO2 emissions has a direct impact on the running costs 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 CO<sub>2</sub>, irrespective of whether the allowances needed to offset emissions were purchased or given out free. At present, we receive free allowances and the market price of carbon is relatively low. However, the cost of carbon is likely to rise and free allowances reduced. A risk for the future is what the cost of CO<sub>2</sub> will be and the impact this has on the relative economics of different forms of generation from renewables to fossil-fuelled, to nuclear. Changes to carbon prices can also lead to changes in asset values and our hedged positions.

The emergence of new technologies in the form of smart meters, smart grids and other new services creates threats to us as well as opportunities. The UK Government announced that every home will have a smart meter by 2020 and that the roll-out should be supplier-led. The installation project is complex however and the full costs are uncertain and not yet fully quantified. Unless the data management framework for smart meters is decided quickly there is a risk that individual customer consumption data could be accessible to companies other than energy suppliers. This would constitute a risk to our ambitions in providing energy efficiency advice and other services. We are also not yet certain of immediately recovering the upfront cost of replacing existing meters.

In North America, we face risks that new technologies may disaggregate us from our customers if we do not stay at the forefront of home technology.

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#### **5.4 Are there financial implications associated with the identified risks?**

Yes

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#### **5.5 Please describe them.**

Revenue from British Gas residential energy supply was £7,843m in 2009. However, in 2009 our UK customers consumed 7.4% less gas on average and 1.8% less electricity than the previous year, in line with a longer term decline in energy consumption since 2003. These figures have been adjusted to take into account variations in weather. We have conducted research to understand the financial implications of this decline and the extent to which energy efficiency is driving consumption reduction. We analysed 74m meter readings from 9m UK customers and carried out detailed analysis of 4m customers over 2 years to assess the impact of new energy efficiency measures such as boilers and cavity wall and loft insulation. We concluded that energy efficiency measures employed by British Gas make significant savings for customers, which directly impacts on the revenue streams from our energy supply business. For example, using our analysis from a sample of 42k customers who installed a new boiler between Q108-Q308 and usage between Q407-Q109, the average per customer saving is 18%.

High consumers show the largest consumption reduction because they are able to make more noticeable changes to their consumption. At the moment, proportionally fewer are installing insulation products, reducing the consumption impact in these bands. However, this gives potential for greater falls as the UK drives towards its stretching targets on domestic insulation. In addition, we analysed consumption patterns for 21k customers who completed an Energy Savers Report in 2008, finding that the average consumption drop was 9.5%, equating to savings of £48 per customer. Across 2.4m Energy Savers Reports completed so far this amounts to £115m of savings. The research also showed that consumption decline is not correlated to price changes but to economic changes.

In North America, there is a large market potential at stake but until there is greater clarity on regulations and incentives around energy efficiency on a federal level, the size of the risks (and opportunities) are not yet accurately quantifiable. For example, we estimate that the market in Home Energy Management could be worth between \$20m and \$100m. Overall, we recognise hundreds of million in risk to our business, but a similar amount in opportunities as well. Until we have clear and necessary legislation in place, our numbers are directional and magnitudinal only.

The risk of rising investment costs for renewables projects demonstrates clear financial implications. Uncertainty over new technologies constitutes a risk to our ambitions in providing energy efficiency advice and other services, which are the cornerstone of future profitability for British Gas.

Our capacity to borrow money may change as lenders consider carbon risk in the lending decision. In addition, the conventional insurance market is not well set up to support the risks inherent in the development of new technologies or in fields at the forefront of engineering, such as the development

of offshore wind farms. This can make insurance arrangements for innovations such as renewables projects more challenging.

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**5.6 Describe any actions the company has taken or plans to take to manage or adapt to the other risks that have been identified, including the costs of those actions.**

In response to the risk of reduced demand, we have announced a new business model for British Gas as it evolves from being an energy supplier to an energy and energy services provider. Rather than viewing this as a threat to demand for our product, we are driving forward to deliver energy efficiency improvements because it is in the interests of our customers, there is political support and customer demand and we see this as a business opportunity to deliver new low carbon energy services. We are well placed to grow in markets for energy efficiency, smart metering, microgeneration and other low carbon services and it is these which will replace diminishing revenue streams from electricity and gas supply.

In North America, we are also building a business in energy efficiency and working in partnership with technology providers to ensure that we are well positioned for future opportunities. For example, we joined a Home Energy Management partnership in 2009 to pilot smart technologies.

To mitigate risks to our brand and reputation, we are differentiating ourselves as an energy services provider (where we have greater capability than our competitors) and embedding our commitment to 'energy for a low carbon world' throughout the business. We are also actively engaging stakeholders to build trust in our brand. For example, British Gas has launched a campaign called 'We're Listening' for customers to understand more about the business through first hand experiences of our assets and operations.

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 recovering the costs via the 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 normal commodity risk management procedures.

To mitigate the risks around new technologies such as smart metering, we are actively engaging in industry discussion on the data model with the Energy Retail Association and are also developing potential collaboration models with 3rd parties.

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**5.7 Explain why you do not consider your company to be exposed to other significant risks - current and/or anticipated.**

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**5.8 Please explain why not.**

**Further Information**

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**Attachments**

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**Page: Regulatory Opportunities**

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**6.1 Do current and/or anticipated regulatory requirements related to climate change present significant opportunities for your company?**

Yes

**Do you want to answer using:**

The table below

**6.2A What are the current and/or anticipated significant regulatory opportunities and their associated countries/regions and timescales?**

Opportunities	Region/Country	Timescale in Years	Comment
Other: Energy efficiency	United Kingdom	Current	CERT is a government obligation on energy suppliers aimed at reducing household CO2 emissions through the uptake of energy efficiency products and services. CESP is a joint initiative between the government, energy suppliers and power generators to install £350m worth of energy efficiency measures over 3 years.
Other: Smart meters	United Kingdom	0 -- 5	The national roll-out of 47m smart meters is due to begin in 2012.
Other: Legislative support for microgeneration	United Kingdom	Current	The UK government has announced the introduction of a feed-in tariff and renewable heat incentive to support new technologies.
Cap and trade schemes	United Kingdom	Current	We are well-positioned within the EU ETS compared to our competitors with higher carbon intensive portfolios and will benefit from higher carbon prices.
Other: Nuclear	United Kingdom	0 -- 5	In January 2008, the UK Government gave the go-ahead to a new generation of nuclear plants.
Other: American Reinvestment and Recovery Act (ARRA)	Other: North America	0 -- 5	The ARRA was signed into law in Feb 2009, with roughly \$20bn in spending on energy efficiency renewable energy, \$20bn in tax incentives for renewable and advanced energy, and \$60bn for renewable energy loan guarantees.
Other: Energy efficiency incentives	United States of America	0 -- 5	Congress is debating programmes to provide support for energy efficiency, Home Star and Building Star

**6.2B What are the current and/or anticipated significant regulatory opportunities and their associated countries/regions and timescales?**

**6.3 Describe the ways in which the identified opportunities affect or could affect your business and your value chain.**

Decarbonisation presents a huge business opportunity for Centrica. Industry will invest given the right market framework and companies that get this right early can reap significant benefits through becoming world leaders in technologies and services and building supply chains. Centrica is already investing significant amounts in the UK's low carbon future (£15bn planned to 2020); British Gas is evolving from an energy company to an energy services company; and Direct Energy is well positioned to take advantage of future commercial opportunities in North America.

The UK government is moving the country towards a low carbon economy and British Gas is uniquely positioned to benefit from this, able to bring microgeneration, energy efficiency and smart meters to the mass market for residential and business customers.

Our CERT programme is an important marketing and customer relationship tool. For example, over the last 5 years we have supplied in excess of 100m energy efficiency products. British Gas will be spending approximately £70m as part of CESP and was the first energy supplier to announce projects. CESP will explore how households, local groups and energy suppliers can work together to deliver energy efficiency measures across an entire community.

The UK government is aiming to replace 47m domestic meters with smart meters by 2020. There are considerable opportunities for integrating the delivery of 'whole house' energy efficiency packages with

this national roll-out of smart meters, which will begin in 2012. Smart meters provide information to users that can help them to manage and reduce their energy use. British Gas is uniquely positioned to deliver the complete package of energy services given our existing infrastructure and energy expertise.

The UK Government has put in place enabling legislation to provide financial support to microgeneration that may transform the market, providing significant opportunities for our business. Corporate strategy work highlighted that low carbon energy services, and in particular low carbon and renewable microgeneration, has the potential to create a material profit pool that can offset reductions associated with the reduced consumption.

Key recent regulatory developments that support microgeneration technologies include the introduction of a feed-in tariff (April 2010) and the announcement of a renewable heat incentive (to be introduced in April 2011). The feed-in tariff is a payment to those who generate additional electricity through small-scale renewable technologies and feed it back to the grid, supporting greater take-up of energy efficiency and microgeneration technologies.

Our UK strategy is to invest in low carbon generation, offshore wind farms and nuclear to enable us to play a key role in meeting broader UK and European emissions reduction targets. It also means that we are well-positioned within the EU ETS compared to our competitors with higher carbon intensive portfolios and will benefit from higher carbon prices. At the end of 2010, low carbon power is forecast to account for around a quarter of our output from our own power generation assets and under site-specific contracts.

Nuclear is a low carbon form of power generation and presents significant opportunities for us in terms of providing reliable baseload power, which wind alone cannot do. We are also well positioned to take advantage of a fiscal regime that supports large-scale renewable energy projects and we welcomed the UK Government's announcement on the introduction of 2 ROCs for offshore wind projects in 2009. In January 2010, we were successful in The Crown Estate's Round Three offshore wind auctioning process, having been awarded exclusive rights to develop the Irish Sea zone. The zone provides us the potential to develop up to an additional 4.2GW of renewable energy, enough power for over 3m British Gas homes.

The available funding from ARRA presents opportunities for Direct Energy. For example, the Weatherisation Assistance Program distributes federal funds to state agencies who issue Requests for Proposals (RFPs) to complete the work. Direct Energy is well positioned to deliver this service and is actively working with government agencies to secure work.

Two programmes, Home Star and Building Star, currently under debate in Congress, each offer \$6bn in funding for residential and commercial end-users. The proposals aim to spur jobs in the construction industry and provide initial funding to allow home and business owners to install energy efficiency measures, while lowering the demand for energy in the long term. Direct Energy is well positioned to deliver efficiency services, given our presence in a number of states, and our experience delivering efficiency services in Houston to over 6,000 low-income homes. Direct Energy currently operates a renewable energy certificate (REC) trading practice in line with voluntary and state and provincial legislation.

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#### **6.4 Are there financial implications associated with the identified opportunities?**

Yes

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#### **6.5 Please describe them.**

Centrica is already investing significant amounts in the UK's low carbon future, with a £15bn investment programme planned to 2020. British Gas is evolving from an energy company to an energy services company - aiming to make significant revenues from the opportunities and markets provided by a low carbon economy.

In 2009, British Gas received £1,406m in revenue from residential services and achieved an operating margin of 16.6%. This compares to an operating margin of 7.6% for residential supply, demonstrating the profit potentials within the services business. We also achieved significant revenue from business energy services which helped to outweigh an average reduction in consumption of both gas and

electricity in 2009. Specific projects have their own investment costs. For example, British Gas will be spending approximately £70m under CESP.

The increase in support for wind farms to two ROCs significantly increased the viability of our £750m Lincs offshore wind project and helped us to secure project financing from a consortium of banks.

The available funding in North America is not yet clear but the energy efficiency market in particular provides significant opportunities for our Direct Energy business. As part of the ARRA, there is US\$4.5bn available for smart grid development. Direct Energy already has experience of this type of programme. In Canada, we are working with the Ontario Power Authority (OPA) to cut demand for electricity at peak times when the Ontario grid is under stress. Direct Energy's commitment is to reduce demand by 25MW when requested by the OPA, which also provides an opportunity to our business customers who receive financial incentives for participating in the programme.

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## **6.6 Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.**

We have responded to the UK opportunities in energy efficiency, smart metering and microgeneration by announcing a new business model for British Gas to focus on energy services provision. We are developing the skills and capabilities of our workforce to deliver advice, energy efficiency equipment and microgeneration technologies. This is helping us to maximise the opportunities available.

In 2009, the government increased the target under CERT for all energy suppliers by 20%, extended the programme from 2011 to 2012 and increased the amount of carbon savings attributable to insulation. This contributed to our decision to establish a new insulation business in early 2010, creating 1,100 new jobs. The new business increases our capabilities to maximise commercial opportunities in the insulation market. Under CERT, we carried out c270,000 loft and cavity insulations in 2009, which equates to around £30m in energy savings for our customers. This helped us to exceed our annual target for 2009, delivering energy efficiency products and services that will save an equivalent of 17.53m tonnes of CO<sub>2</sub> over their lifetime.

Our commitment to CESP and our existing infrastructure enabled us to be a first mover for this programme, announcing 10 projects in 2009, investing £70m. UK regulation affecting other organisations also provides commercial opportunities for us. For example, British Gas has developed an Energy360 product to assist business customers that have to comply with the Carbon Reduction Commitment. Launched in 2009, we offer a 'Carbon Health Check' to help customers identify up to 10% energy savings and to understand carbon reduction and carbon management.

British Gas aims to lead the smart meter roll-out and had already trialled 50,000 by the end of 2009. We aim to install a further 2 million in 2010, giving us first mover advantages in terms of experience, skills and the wider packages that we can offer alongside smart meters. At the end of 2009, we won a UK Government tender to lead an innovative 'Pay As You Save' scheme, which enables people to invest in energy efficiency and microgeneration technologies without being deterred by upfront costs. This type of financing has significant potential to stimulate demand. We also matched the £400 the government provided under the boiler scrappage scheme to promote the take-up of energy efficient boilers.

To meet anticipated demand as a result of enabling legislation in the UK, we are building our microgeneration installation and servicing capabilities, developing partnerships and making acquisitions and agreements. For example, in 2009 we purchased a stake in Econergy, a leader in biomass heating, which replaces fossil fuels with renewable energy sources for combustion to produce heat.

We have taken the opportunities provided by government support for nuclear by purchasing a 20% stake in nuclear power generator British Energy for £2.3bn. Under the deal, we also have the option to invest in the construction, operation and decommissioning of 4 new nuclear facilities. CO<sub>2</sub>e from nuclear power generation are almost zero and this will be critical in helping the UK meet its climate change targets.

As a result of the UK government's temporary increase in support for wind developments, we announced our decision to invest in the 250MW Lincs offshore wind farm project, which will deliver CO<sub>2</sub> savings of between 300,000 and 710,000 tonnes per annum.

In North America, the Renewable Energy Certificates continue to present opportunities for our Direct Energy business. We use these RECs to offer low-carbon energy to our customers, provide liquidity to the market and develop additional products and services while building our experience, reputation and brand.

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6.7 Explain why you do not consider your company to be presented with significant opportunities - current and/or anticipated.

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6.8 Please explain why not.

**Further Information**

**Attachments**

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**Page: Physical Opportunities**

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7.1 Do current and/or anticipated physical impacts of climate change present significant opportunities for your company?

No

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*Do you want to answer using:*

The table below

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7.2A What are the current and/or anticipated significant physical opportunities and their associated countries/regions and timescales?

Opportunities	Region/Country	Timescale in Years	Comment

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7.2B What are the current and/or anticipated significant physical opportunities and their associated countries/regions and timescales?

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7.3 Describe the ways in which the identified opportunities affect or could affect your business and your value chain.

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7.4 Are there financial implications associated with the identified opportunities?

7.5 Please describe them.

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7.6 Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.

**7.7 Explain why you do not consider your company to be presented with significant opportunities - current and/or anticipated.**

The physical opportunities provided by climate change are not ones that we would consider significant at present. This is mainly because they are uncertain and low in our prioritisation compared to other opportunities. However, we have identified the following low-level opportunities associated with the physical impacts of climate change.

By managing climate risk and weather risk effectively, we will be better positioned than our competitors which provides us with commercial opportunities. Eg, in the event of a severe weather event, if our facilities and processes are better protected, we are likely to be able to resume any interruption in supplies more quickly than our competitors. This opportunity to differentiate ourselves through the resilience of our assets will also be a key message for our investor audience.

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

The UK government's National Adaptation Programme is likely to recommend changes in standards for the built environment to ensure housing stock is better prepared for future climate and weather risks. This provides us with opportunities to expand our whole-house approach and to position ourselves as the preferred supplier able to meet new requirements in a holistic manner. We are well-placed to deliver smarter energy use through home energy management systems, able to meet changing demand and circumstances in the future.

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

**7.8 Please explain why not.**

**Further Information**

**Attachments**

**Page: Other Opportunities**

**8.1 Does climate change present other significant opportunities - current and/or anticipated - for your company?**

Yes

***Do you want to answer using:***

The table below

**8.2A What are the current and/or anticipated other significant opportunities and their associated countries/regions and timescales?**

<b>Opportunities</b>	<b>Region/Country</b>	<b>Timescale in Years</b>	<b>Comment</b>
New energy products or services	United Kingdom	Current	There is a growing market for cleaner energy and low carbon products and services, particularly with

Opportunities	Region/Country	Timescale in Years	Comment
			Local Authorities.
New energy products or services	Other: North America	0 -- 5	There is a growing market for cleaner energy and low carbon products and services
New services and/or product market opportunities	United Kingdom	Current	Our market-leading work in microgeneration has made us the partner of choice for other businesses.
Other: Influencing policy	United Kingdom	Current	Our approach gives us the necessary credibility to influence policy-making.
Reputational opportunities and increased ability to attract and retain talent	United Kingdom	Current	Our climate change commitments give us a significant opportunity to differentiate British Gas in the marketplace.
Reputational opportunities and increased ability to attract and retain talent	United Kingdom	Current	Our approach is helping to engage current and future employees.
Reputational opportunities and increased ability to attract and retain talent	Other: North America	0 -- 5	Our climate change commitments give us a significant opportunity to differentiate Direct Energy in the marketplace.
Reputational opportunities and increased ability to attract and retain talent	Other: North America	0 -- 5	Our approach is helping to engage current and future employees.

### 8.2B What are the current and/or anticipated other significant opportunities and their associated countries/regions and timescales?

### 8.3 Describe the ways in which the identified opportunities affect or could affect your business and your value chain.

Consumers are becoming more environmentally aware and there is a growing market for cleaner energy and low carbon products and services. We are uniquely positioned to maximise the commercial opportunities of a low carbon economy by building on our brand, our existing installation capability and our unique combination of expertise in energy supply and our understanding of the needs of customers in their homes in each of our markets. We have identified particular opportunities to work in partnership with local authorities to deliver energy efficiency to social housing.

In North America, we have similar opportunities around energy efficiency, which is helping to drive sales, open up new markets and build Direct Energy's reputation in energy efficiency and demand management.

Our market-leading work in microgeneration has made us the partner of choice for other businesses, enabling us to showcase our technologies, reach new audiences and support the delivery of a wide range of energy efficiency measures. For example, British Gas partnered B&Q in offering 1m rolls of loft insulation for £1 per roll. This offer saw 45,000 homes insulated, generating energy bill savings for the British public of over £9m. B&Q sold all 1m rolls in less than 2 weeks. We also work with 96 social housing providers to help improve the thermal efficiency of existing housing stock as part of the Social Housing Scheme. The scheme ensures that eligible households receive free energy saving products and services. Local level partnerships like this have enabled us to make a significant impact in specific regions and to play a strong part in taking new technologies for carbon abatement to the public sector. In North America, we are building partnerships with technology providers that enable customers to manage their energy more effectively. For example, we have joined a Home Energy Management system partnership to develop a blueprint for an energy efficient home.

Our programmes are informing government policy on climate change issues. For example our year-long Green Streets programme aimed to find out what energy and carbon savings could be achieved at a local level. The results showed mutual benefits to customers, the environment and our business, with an average 25% reduction in energy use and 23% cut in CO<sub>2</sub>. The 64 participating households

reduced total CO2 over the year by c89 tonnes. The project also provided important information into consumer behaviour and the impact of low carbon and energy efficiency technologies.

We aim to be recognised by our stakeholders as a leader in low carbon energy and committed to decarbonising the UK. Our commitments are a strong message to investors, stakeholders and consumers and give us a significant opportunity to differentiate British Gas in the marketplace. They also enable us to build positive perceptions among stakeholders such as governments, enhancing our credibility during energy and climate change consultations.

Climate change is an increasingly important issue for our employees. By pursuing a leadership position, we have been able to attract, recruit and engage our employees, help build pride and commitment and increase their ability to support our strategy and increase our credibility in the marketplace. For example, in May 2009 we won the NQA Environmental Leadership Award for Culture Change, recognising our total commitment to environmental responsibility through effective engagement with staff. This highlighted the work of our Green Teams in motivating our employees to make real performance improvements.

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#### **8.4 Are there financial implications associated with the identified opportunities?**

Yes

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#### **8.5 Please describe them.**

Most of the financial implications are related to the commercial opportunities for British Gas and Direct Energy in low carbon products and services. For example, our revenue from central heating installations (ie energy efficient boilers) reached £351m in 2009. We were also awarded a £12m contract to install energy display meters in all publicly-funded schools, following a tender process held by the Department for Children, Schools and Families.

It is difficult to quantify the reputational opportunities in terms of financial implications but we do have anecdotal evidence that our approach to climate change and corporate responsibility more widely is a factor in our graduate recruitment programme.

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#### **8.6 Describe any actions the company has taken or plans to take to exploit the opportunities that have been identified, including the investment needed to take those actions.**

We are developing products and services to meet the needs of residential and commercial customers in the UK and North America. For example, most of our customers' energy carbon footprint is generated by the gas we supply to their homes, which can be reduced by installing more efficient boilers. Currently British Gas installs around 7% of all residential boilers, including over 120,000 high efficiency domestic boilers each year, which can reduce heating bills by up to 40%. We also deliver low carbon energy services to business customers through our Energy360 package, helping them cut costs, meet their legal and regulatory obligations and reduce carbon emissions.

In early 2010, we announced plans to explore biogas and we are likely to be the first company to inject gas from renewable sources into the grid, later in the year. Biomethane will make a contribution to decarbonising the gas grid by delivering renewable heat to households through the existing gas network and central heating boilers.

In North America we are certifying home energy auditors in both Canada and the US to help customers identify energy efficiency improvements and access government grants.

To build on the success and findings from our Green Streets project, we launched Green Streets 2 in Jan 2010, with 14 communities competing to become Britain's most innovative green community by reducing energy usage and CO2 over a year. The £2m project will provide invaluable insights into which community-based approaches to energy efficiency could work best, helping to shape future national policy and give us the opportunity to test the latest new technologies.

We are building our reputation by promoting energy efficiency and understand at schools through our Generation Green programme. Schools earn rewards such as bikes and solar panels by completing green activities in return for 'leaves'. Over 10,000 schools are involved, with nearly 40m leaves collected. As part of the programme, 22 children took part in the UK's first environmental think-tank for

7-14yr olds, who presented their manifesto to the Secretary of State for Energy and Climate Change in Feb 2010. Schools account for around 2% of UK green house gas emissions, with 9.4m tonnes of carbon dioxide emitted annually by schools in England. British Gas is providing and installing energy display meters, which are expected to help reduce consumption by 10-15%, around 1m tonnes of CO<sub>2</sub>, and it is estimated that it will save an average 900-pupil secondary school more than £3,000 a year on fuel bills alone.

We opened the UK's first dedicated Green Skills Training Centre in partnership with the Welsh Assembly Government. The centre will train over 1,300 people each year, including British Gas employees, and help to deliver energy efficiency measures to 40,000 homes as part of the Heads of the Valleys Low Carbon Programme. As well as building our employer brand, this supports the development of skills and training to deliver on our low carbon programme.

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**8.7 Explain why you do not consider your company to be presented with significant opportunities - current and/or anticipated.**

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**8.8 Please explain why not.**

**Further Information**

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**Attachments**

**Module: Strategy**

**Page: Strategy**

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**9.1 Please describe how your overall group business strategy links with actions taken on risks and opportunities (identified in questions 3 to 8), including any emissions reduction targets or achievements, public policy engagement and external communications.**

In February 2010, we announced new strategic priorities for the business:

1. Grow British Gas...leading the transition to low carbon homes and businesses
2. Deliver value from our growing upstream business...securing sustainable energy for our customers
3. Build an integrated North American business...with leading positions in deregulated markets
4. Drive superior financial returns

These priorities are underpinned by the commitment to provide 'energy for a low carbon world' and show how we have embedded climate change risks and opportunities into our commercial approach. The first priority reflects a new business model for British Gas which is evolving from an energy supply model to a provider of energy services. The opportunities provided by a low carbon economy include new markets in energy efficiency, microgeneration and smart metering which we are well positioned to serve. This shift also helps to mitigate diminishing revenue streams from gas and electricity supply as a result of changing consumer behaviour and energy efficiency.

Our distinctive capabilities include:

- 12m customer relationships, half of all UK households
- Ability to combine energy scale with services deployment, with a national base of 9,000 qualified engineers
- Strong recognisable brand and customer-focused IT platform
- Leading position in energy efficiency and green technologies
- Low capital requirement

Our 9,000 engineers give us a vast capacity to install and maintain products, backed up with a national distribution network, management capabilities and a network of training academies allowing us to up-skill our employees quickly as new technologies and products enter the market. Allied to this, we have strong relationships with established equipment manufacturers, allowing us to bring products to market quickly. We are building a major smart metering business and in February 2010 we announced the creation of 1,100 new 'green collar' roles, through a new insulation business.

Combined with the new energy technologies we have built up over the past two years and a growing capability of working with local authorities on joint energy saving initiatives, these give us a strong platform for growth.

In addition, our ability to deliver a wide range of services is helping us to increase our customer numbers and their loyalty. This together with the value of the low carbon products and services themselves, is outweighing the gradual reduction in consumption and delivering financial returns. We are strongly supportive of government policies that support the take-up of low carbon products and services. We use our experience and expertise to work closely with policy-makers and ensure that we can deliver on the UK's wider low carbon commitments while remaining profitable.

Our second priority includes a recognition within the commercial strategy that our low carbon intensive generation fleet is one of our key distinctive capabilities. By combining renewable wind power and low carbon nuclear power with more efficient gas-fired power stations and new gas supplies, we are balancing the needs for energy security and carbon reduction.

In 2009 we invested £4bn in securing new supplies and storage for gas, developing wind farms, gas-fired power stations and moving into nuclear power for the first time. Our £2.3bn investment in British Energy gives us access to power from 8 existing nuclear power stations in the UK and means we can participate in the expansion of new nuclear capacity. Our 2009 decision to proceed with the £750m Lincs offshore wind development will raise our total renewable energy capacity to 650MW – enough to meet the annual demand of around 450,000 homes. We have also gained exclusive rights to develop offshore wind farms in the Irish Sea Zone with a potential capacity for up to 4.2GW. Conventional fuels still have a place in the energy fuel mix though. We focus on combined cycle gas turbines (CCGT) because they offer the cleanest power from fossil fuels. As a result, we have the lowest carbon intensity of any major UK supplier at 371g CO<sub>2</sub>/kWh in 2009. Our new Llangage gas-fired power station is one of the most efficient in the world and can generate enough electricity to power 1m homes.

We are engaged on all carbon-related legislation at UK, North American and European levels. We are supportive of a high carbon price as this helps to increase the viability of our investments in renewables and nuclear and gives us a competitive advantage over our more carbon intensive competitors. We explained the commercial rationale behind our commitment to a low carbon economy at a Capital Markets day for analysts at the beginning of March and in our Annual Report and Accounts 2009. Our investors have responded positively to the shift in anticipation of further legislation and opportunities around low carbon.

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## **Further Information**

### **Attachments**

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**9.2 Do you have a current emissions reduction target?**

Yes

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**9.3 Please explain why not and forecast how your Scope 1 and Scope 2 emissions will change over the next 5 years. *(If you do not have a target)***

**9.4 Please give details of the target(s) you are developing and when you expect to announce it/them. *(If you are in the process of developing a target)***

**9.5 Please explain if you intend to set a new target. (If you have had a target and the date for completing it fell within your reporting year, please answer questions 9.5 and 9.6)**

**9.6 Please complete the table. *(If you have a current emissions reduction target or have a recently completed target)***

Target Type	Value of Target	Unit	Base year	Emissions in base year (metric tonnes CO2-e)	Target Year	GHGs and GHG sources to which the target applies	Target met?	Comment
Absolute emissions reduction	20.00	% reduction from base year	2007	130434	2015	Other: Scope 1 (except power generation) and scope 2	Target ongoing	The target is for our internal carbon footprint, covering our existing offices, vehicle fleet and travel.
Intensity target	270.00	Other: g CO2/kWh	Other: Absolute target so base year not applicable; number given here is 2006 intensity figure	370	2012	Other: Carbon intensity of the power from our own generation and from site-specific contracts	Target ongoing	In 2007, we set ourselves an absolute target for our carbon intensity to reduce the carbon intensity of power from our own generation and site-specific contracts to 380g CO2/kWh by 2012 and 350g CO2/kWh by 2020. We exceeded the 2012 target in both 2008 and 2009 and have now reassessed the target. Our new target also takes into account our acquisition of a 20% stake in nuclear generator British Energy and recently announced wind farm projects which will both have a significant impact on our carbon intensity.
Absolute emissions reduction	5.00	% reduction from base year	2008	27642	2009	Other: UK office energy use	Yes	In 2009, we had a target to reduce our UK office energy use by 5% in 2009 compared to 2008. We achieved this target with an 8.36% reduction and agreed a wider target that applies to our global internal footprint and includes offices, vehicle fleet and travel.
Absolute emissions reduction	8.50	% reduction from base year	2007	41203	2013	Other: Scope 1 (except power generation) and scope 2 for our Direct Energy business in North America	Target ongoing	In 2007 we set a target to reduce the internal carbon footprint of our existing NA business by 8.5% by 2013. To date we calculate that we have exceeded this target although the majority of the reduction is due to declining activity. We are currently developing additional initiatives to implement to ensure the target reductions are sustainable through the anticipated increase in activity in future years.
Absolute emissions reduction	14600000.00	Other: metric tonnes CO2e from lifetime carbon savings of energy efficiency products provided			2010	Scope 3	Target ongoing	Under the Carbon Emissions Reduction Target (CERT) we are required to provide energy efficiency products to customers that achieve carbon savings over their lifetimes. CERT runs from 2008-2012 and the overall target is set by Ofgem. The target has increased since it started but for 2010, we are aiming to supply energy efficiency products that equate to lifetime carbon savings of 14.6m tonnes for our customers. In 2009, our target was 13.2m tonnes of CO2e and we achieved 17.53m tonnes. This target gives us one way to measure the impact of our products and services on the scope 3 emissions of our customers.

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**Further Information**

**Attachments**

**Page: Strategy - Emission Reduction Activities**

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¿ **Is question 9.7 relevant for your company?**

Yes

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**9.7 Please use the table below to describe your company's actions to reduce its GHG emissions.**

1. Actions - please describe	2. Annual energy saving	3. Annual energy savings - number	4. Annual energy saving - units	5. Annual emission reduction in metric tonnes CO2-e	6. Reduction - achieved or anticipated	7. Investment - number	8. Investment - currency	9. Monetary savings - number	10. Monetary savings - currency	11. Monetary savings	12. Timescale of actions & associated investments (if relevant)
Install renewable microgeneration equipment on selected British Gas buildings	Anticipated	900000	kWh (kilowatt-hour)	500	Anticipated	1500000	GBP(£)	200000	GBP(£)	Anticipated	Investment and installations in 2010; CO2e reduction from 2011.
Improve building management controls in all British Gas buildings	Anticipated			4121	Anticipated	500000	GBP(£)	800000	GBP(£)	Anticipated	Reduction is from 2009 to 2015
Roll out energy efficient vehicles, both commercial and company cars	Anticipated			1600	Anticipated		Insignificant costs - not quantified				Reduction is from 2009 to 2015
Train drivers in being fuel efficient and utilise GPS tracking systems	Anticipated			2200			Insignificant costs - not quantified				Savings are negligible, this is more of an awareness and behaviour tool
Install solar canopies at our Windsor and Staines offices to help recharge electric vehicles with solar power and offer staff the free use of electric vehicles to travel between the two offices	Not relevant										From 2012 onwards, we are looking to include electric vans in our vehicle replacement programme; we are installing EV recharging facilities at Leicester NDC / ASC in 2010 with the first EV van to be trialled towards the end of the year.
Introduce 'green' information services projects to reduce energy consumption and waste including PC power management and print management	Anticipated	1400000	kWh (kilowatt-hour)	758	Anticipated	90000	GBP(£)	10000	GBP(£)	Anticipated	
Continue behavioural campaigns, including the 100-day carbon reduction campaign and World Environment Day	Anticipated	2800000	kWh (kilowatt-hour)	1360	Anticipated		Insignificant costs - not quantified	180000	GBP(£)	Anticipated	
Promote car-sharing software and site Green Travel Plans to reduce business and commuting miles							Insignificant costs - not quantified				This is an awareness and behaviour tool
Review lighting systems in all buildings and car parks and install daylight dimming/LED lighting where practicable	Anticipated	1300000	kWh (kilowatt-hour)	700	Anticipated	360000	GBP(£)	90000	GBP(£)	Anticipated	

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**9.8 Please explain why not.**

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**9.9 Please provide any other information you consider necessary to describe your emission reduction activities.**

The main focus of our emission reduction activities is on helping our customers to reduce their energy demand through energy efficiency, microgeneration and smart metering technology. Our investment in new technologies from microCHP boilers to smart grid technologies is a central element of our commitment to provide energy for a low carbon world. For example, in 2008 we invested £20m in Ceres Power, a developer of a fuel cell for boilers to enable them to produce electricity as well as heat. This has significant potential to help reduce energy demand among our customers and the technology has become increasingly commercially viable since the government announced support for microCHP in the feed-in tariff.

We are also working to decarbonise our electricity generation through our investments in offshore wind farms, nuclear energy and efficient CCGT power stations. This includes activities such as exploring ways to improve the load factors of our wind turbines. For example, in December 2009 we entered into a turbine supply agreement with Siemens Wind Power for 75 offshore wind turbines of class SWT-3.6-120. These turbines, which represent an upgrade to the class SWT-3.6-107 originally envisaged for our Lincs offshore wind farm, are expected to generate 10% more power through higher load factors, enhancing project returns and increasing our ability to meet demand with renewable generation.

Through our deal with EDF, we have the option to invest in new nuclear projects, which have the potential to underpin a future low carbon economy by providing reliable baseload power. This, together with smart grid technology to manage times of peak demand, could help to reduce the need for fossil-fuelled power stations.

Our internal carbon footprint, which covers our offices, company vehicles and business travel, has a relatively small environmental impact compared to our power generation and the energy use of our customers. However, we still believe that it is important to focus on reducing our internal footprint to demonstrate to our customers, both residential and business, what is achievable. It is also an important element of our employee engagement programme as the majority of our employees have more ability to influence our internal carbon footprint than emissions from the rest of our business. In addition, it helps our customer-facing employees to speak to customers on carbon reduction issues more confidently. The measures described in the table demonstrate that we aim to take a leading approach to our internal footprint reduction measures.

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**9.10 Do you engage with policy makers on possible responses to climate change including taxation, regulation and carbon trading?**

Yes

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**9.11 Please describe.**

We engage with policy makers in the UK and North America on a wide range of climate change issues. We respond to formal consultations by Government, opposition parties, select committees and others and often work with other organisations to raise awareness of key issues. We meet policymakers regularly and arrange for officials to visit our sites to gain first-hand experience of our business. For example, in 2010 we hosted a number of teach-ins for civil servants from DECC to help them to gain a greater understanding of energy and climate change.

Public policy is crucial to supporting our low carbon strategy and we are strongly supportive of mechanisms such as CERT and the Renewables Obligation in the UK. We work closely with policy-makers and legislators to ensure adequate regulatory support, through measures such as feed-in tariffs, for investments in renewable and small-scale (microgeneration) technologies.

In 2009, we responded to consultations on financial incentives for renewable electricity, the role of carbon markets in preventing dangerous climate change, reporting greenhouse gas emissions and a framework for developing clean coal. We were pleased when the government increased support for renewables by increasing the allocation of Renewables Obligation Certificates (ROCs) to offshore wind

farms. This led directly to our decision to go ahead with the 250MW Lincs offshore wind project. We also lobbied in favour of the introduction of a feed-in tariff and renewable heat incentive, which the government announced in early 2010, as these will support the take-up of microgeneration. During the year, we supported the government's increase to the CERT obligation by 20% and we strongly supported the uplift in support for insulation. This has helped to increase the viability of our new insulation business.

Centrica is a member of organisations involved in shaping the policy environment in our markets. For example, we are members of the UK Business Council for Sustainable Energy, which provides a forum for dialogue between the energy industry, government and other stakeholders on key issues shaping the deployment of sustainable energy.

In North America, there is currently less government support for investment in low carbon generation but we are lobbying for urgent action. The policy environment in North America is particularly challenging with regional, state, provincial and national-level regulators. Yet, through our affiliations with the Alliance to Save Energy and the Business Council for Sustainable Energy (BCSE) as well as direct engagement with government, Direct Energy participates in discussions on a variety of climate change, carbon and energy efficiency issues, helping to shape the policy agenda. For example, results of preliminary and ongoing discussions have demonstrated progress with comprehensive national energy efficiency legislation in development in the United States. As a board member of the BCSE, Direct Energy moved the discussion to competitive market delivery of energy efficiency. This supports both our business model and belief that competitive markets are the best way to achieve real reductions in carbon emissions at the lowest costs.

In California, Direct Energy played a significant role in the Renewable Energy Certificate (REC) legislation recently passed by the California Energy Commission. The decision, which allows retailers to import out-of-state RECs to meet Renewable Portfolio Obligations, has helped protect Direct Energy's retailing business.

In 2009, Direct Energy joined a coalition of American corporations and non-governmental organisations in an advertisement demanding a clear US energy policy on emissions reduction. We also lobbied the federal Canadian government for cap-and-trade rules to develop a carbon market.

Last year, the Department for Food and Rural Affairs (DEFRA) confirmed that we would be required to report on climate change adaptation for our UK power business in 2011. We are still working to understand the implications of this direction and the detail that will be required. As part of this, we have met with the Association of Electricity Producers to discuss opportunities to work together as a sector, consulted with the DEFRA and attended seminars on prediction modelling.

In North America, we are also acutely aware of the physical implications of climate change and in 2009 Direct Energy expanded relationships in the academic community to further work in this area. We maintain an active relationship with the Sustainability Practices Centre at the Faculty of Environment of the University of Waterloo on issues related to climate change adaptation strategy and sustainability.

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## Further Information

## Attachments

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

**Page: Emissions Boundary - (1 Jan 2009 - 31 Dec 2009)**

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### 10.1 Please indicate the category that describes the company, entities, or group for which Scope 1 and Scope 2 GHG emissions are reported.

Companies over which operational control is exercised

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

Yes

**10.3 Please complete the following table.**

Source	Scope	Explain why the source is excluded
Langeled Receiving Terminal	Scope 1	We do not hold the EU ETS licence for this facility

**Further Information**

**Attachments**

**Page: Methodology - (1 Jan 2009 - 31 Dec 2009)**

**11.1a 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 and/or describe the procedure you have used (in the text box in 11.1b below).**

Please select the published methodologies that you use.
Defra Voluntary Reporting Guidelines
Other: WRI and WBCSD Greenhouse Gas Protocol Initiative
Other: EU ETS
Other: GRI Sustainability Reporting Guidelines

**11.1b Please describe the procedure that you use.**

We subscribe to best practice in environmental accounting and disclosure and apply the WRI and WBCSD Greenhouse Gas Protocol Initiative and GRI Sustainability Reporting Guidelines in our approach. We have calculated that over 95% of our activity data is directly measured, either by ourselves through methods such as continuous emissions monitoring or by third party service providers which record our consumption of their products and services. Where this is not possible we have calculated our performance using appropriate reference factors.

The data is submitted and calculated using complex spreadsheets and a new online data collection system. The submitters are operational personnel who are identified as having the best access to accurate data for specific indicators. The submitters are the 'owners' of the data but it is collated and quality assessed centrally at Group level. Where possible we use independently verified data such as EU ETS emissions.

**11.2 Please also provide the names of and links to any calculation tools used.**

Please select the calculation tools used.
Enablon: Enablon GHG-MS

**11.3 Please give the global warming potentials you have applied and their origin.**

Gas	Reference	GWP
Nitrous oxide	IPCC Second Assessment Report (SAR - 100 year)	310
Methane	IPCC Second Assessment Report (SAR - 100 year)	21
Carbon dioxide	IPCC Second Assessment Report (SAR - 100 year)	1
HCFC-22	IPCC Fourth Assessment Report (AR4 - 100 year)	1810

**11.4 Please give the emission factors you have applied and their origin.**

Fuel/Material	Emission Factor	Unit	Reference
Gas/Diesel oil	0.25	Other: kg CO2e/kWh	2009 Guidelines for Defra/DECC's GHG Conversion Factors for Company Reporting
Natural gas	0.18	Other: kg CO2e/kWh	2009 Guidelines for Defra/DECC's GHG Conversion Factors for Company Reporting
Motor gasoline	2.33	kg CO2-e per litre	2009 Guidelines for Defra/DECC's GHG Conversion Factors for Company Reporting
Distillate fuel oil No 2	3229.50	Other: kg CO2e/tonne	2009 Guidelines for Defra/DECC's GHG Conversion Factors for Company Reporting
Aviation gasoline	2.27	kg CO2-e per litre	2009 Guidelines for Defra/DECC's GHG Conversion Factors for Company Reporting

**Further Information**

11.2 Enablon GHG-MS is the only branded calculation tool that we use. However, it is not yet fully implemented and the majority of our GHG calculations were undertaken manually.

**Attachments**

**Page: Emissions Scope 1 - (1 Jan 2009 - 31 Dec 2009)**

**12.1 Please give your total gross global Scope 1 GHG emissions in metric tonnes of CO2-e.**

11598816

**¿ Is question 12.2 relevant to your company?**

Yes

**12.2 Please break down your total gross global Scope 1 emissions in metric tonnes CO2-e by country/region.**

Country	Scope 1 Metric tonnes CO2-e
United Kingdom	8139903
Other: North America	2513945
Other: Belgium	943776
Rest of world	1191

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12.3 Please explain why not.

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12.4 Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 1 emissions by business division. (Only data for the current reporting year requested.)

Business Division	Scope 1 Metric tonnes CO2-e

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12.5 Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 1 emissions by facility. (Only data for the current reporting year requested.)

Facilities	Scope 1 Metric tonnes CO2-e

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¿ Is question 12.6 relevant to your company?

Yes

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12.6 Please break down your total gross global Scope 1 emissions by GHG type. (Only data for the current reporting year requested.)

GHG Type	Scope 1 Emissions (Metric tonnes)	Scope 1 Emissions (Metric tonnes CO2-e)
CO2	11330187.00	11330187
CH4	8440.00	177240
N20	24.88	7711
HFCs	0.00	0
PFCs	0.00	0
SF6	0.00	0

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12.7 Please explain why not.

¿ Is question 12.8 relevant to your company?

Yes

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12.8 Please give the total amount of fuel in MWh that your organization has consumed during the reporting year.

59209473

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12.9 Please explain why not.

¿ Is question 12.10 relevant to your company?

Yes

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12.10 Please complete the table by breaking down the total figure by fuel type.

Fuels	MWh
Natural gas	58751134.00
Gas/Diesel oil	290236.00
Residual fuel oil	691.00
Biodiesels	160264.00
Motor gasoline	7148.00

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12.11 Please explain why not.

12.12 Please estimate the level of uncertainty of the total gross global Scope 1 figure that you have supplied in answer to question 12.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.

Uncertainty Range	Main sources of uncertainty	Please expand on the uncertainty in your data
More than 2% but less than or equal to 5%	Data Gaps Assumptions Data Management	Vehicle fuel use is mainly calculated based on submissions of mileage data and not actual volume used; Vehicle size and fuel type data is not always available; Some private mileage is captured along with business mileage from company fuel card users; Fugitive gas from pipes and equipment can only be calculated and not directly measured; In some cases, building gas consumption where it is a shared building or the actual consumption data is not available, the consumption is estimated based on personnel number or historical data

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**Further Information**

Note: The figures in 12.6 relate to specific emissions of the six main gases. During combustion of fuels small quantities of Methane and Nitrous oxide are emitted. The CO<sub>2</sub> equivalent of these are captured as a combined total GHG figure within the CO<sub>2</sub> total and cannot be separated out. The figures provided do not add up to our full Scope 1 emissions because we also include an HCFC, which is not one of the 6 Kyoto protocol gases, in our Scope 1 total. The emissions from this HCFC total 46.23 metric tonnes, which is equivalent to 83,677 tonnes of CO<sub>2</sub>e.

Note: In 12.10, the biodiesel is a biologically sequestered carbon source and therefore GHG emissions associated with its combustion are not included in our Scope 1. However, it is included here as it is a fuel type that the company used.

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**Attachments**

13.1 Please give your total gross global Scope 2 GHG emissions in metric tonnes of CO2-e.

200625

¿ Is question 13.2 relevant to your company?

Yes

13.2 Please break down your total gross global Scope 2 emissions in metric tonnes of CO2-e by country/region.

Country	Metric tonnes CO2-e
United Kingdom	126425
Other: North America	71281
Other: Belgium	2226
Rest of world	692

13.3 Please explain why not.

13.4 Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 2 emissions by business division. (Only data for the current reporting year requested.)

Business division name	Metric tonnes CO2-e

13.5 Where it will facilitate a better understanding of your business, please also break down your total gross global Scope 2 emissions by facility. (Only data for the current reporting year requested.)

Facility name	Metric tonnes CO2-e

¿ Is question 13.6 relevant to your company?

Yes

13.6 How much electricity, heat, steam, and cooling in MWh has your organization purchased for its own consumption during the reporting year?

<b>Please supply data for these energy types.</b>	<b>MWh</b>
Electricity	339719

13.7 Please explain why not.

13.8 Please estimate the level of uncertainty of the total gross global Scope 2 figure that you have supplied in answer to question 13.1 and specify the sources of uncertainty in your data gathering, handling, and calculations.

Uncertainty range	Main sources of uncertainty in your data	Please expand on the uncertainty in your data.
More than 2% but less than or equal to 5%	Data Gaps Assumptions	Shared buildings sometimes have their electricity calculated based on proportion of building occupied; Some electricity for buildings has been estimated based on full-time equivalent employee occupancy. On a few sites, where current data has not been available, historical consumption has been used

#### Further Information

#### Attachments

### Page: Emissions Scope 2 Contractual

14.1 Do you consider that the grid average factors used to report Scope 2 emissions in question 13 reflect the contractual arrangements you have with electricity suppliers?

Yes

14.2 You may report a total contractual Scope 2 figure in response to this question. Please provide your total global contractual Scope 2 GHG emissions figure in metric tonnes CO2-e.

14.3 Explain the origin of the alternative figure including information about the emission factors used and the tariffs.

14.4 Has your organization retired any certificates, e.g. Renewable Energy Certificates, associated with zero or low carbon electricity within the reporting year or has this been done on your behalf?

No

14.5 Please provide details including the number and type of certificates.

Type of certificate	Number of certificates	Comments

## Further Information

We do not retire any certificates associated to our own energy usage but one of the measures we use to support our green energy tariffs for customers is through retirement of renewable energy certificates. Our Future Energy tariff (electricity only) has 100% Levy Exemption Certificate (LEC) retirement based on the customer's actual consumption. Our Zero Carbon tariff (Dual Fuel) has 100% LEC retirement and 20% Renewable Obligation Certificate (ROC) retirement based on the customer's consumption. British Gas is the only energy provider that retires this level of certificates for a domestic energy tariff. All Future Energy customers also get a Standby Saver when they sign up and both tariffs make a contribution to the Energy for Tomorrow fund which invests in renewable technologies in the community. These make up the additionality requirements of the Green Energy Supply Scheme.

## Attachments

### Page: Emissions Scope 3

¿ Is question 15.1 relevant to your company?

Yes

15.1 Please provide data on sources of Scope 3 emissions that are relevant to your organization.

Sources of Scope 3 emissions	Metric tonnes of CO2-e	Methodology	If you cannot provide a figure for a relevant source of Scope 3 emissions, please describe the emissions.
Business travel	10926	Based on business flights in km multiplied by the appropriate conversion factors	
Business travel	210	Based on employee business rail miles multiplied by appropriate emission factors	
Other: UK helicopter and shipping	414799	Based on 3rd party helicopter and shipping fuel volume used for supporting our offshore facilities and shipping of LNG	
Other: External distribution and logistics	2609	Carbon data provided by the service providers	
Other: Outsourced services	3363	Estimated based on energy consumption prior to outsourcing	
Other: Offshored services	10953	Overseas call centre office energy use	
Other: Electricity purchased for resale	38133528	Calculated using country specific grid rolling average of power purchased for resale	

15.2 Please explain why not.

## Further Information

## Attachments

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

Yes

**16.2 Please provide details including the anticipated timescale over which the emissions are avoided, in which sector of the economy they might help to avoid emissions and their potential to avoid emissions.**

Under the business model for British Gas, we have commercialised the opportunities around helping customers to reduce their carbon emissions.

Through CERT we provide energy efficiency products to customers. Over the last 5 years we have supported in excess of 100m energy efficiency products through this scheme. In 2009, we carried out c270,000 loft and cavity insulations, which equates to around £30m in energy savings for our customers. This helped us to exceed our annual target for 2009, delivering energy efficiency products and services that will save an equivalent of 17.53m tonnes of CO<sub>2</sub> over their lifetime. We also provide energy saving advice through our free Energy Savers Report, which recommends behavioural changes and low carbon products and services. So far we have provided advice to more than 2 million people.

We calculated the total carbon savings using both Ofgem's published guide to the kg CO<sub>2</sub> savings attributable to each energy efficiency measure in their Suppliers' Guidance and also for newer products with agreement with Ofgem based on then energy saving performance of that product. Through our innovative partnerships with Local Authorities, British Gas has led the way in promoting the efficient use of energy in the home while simultaneously delivering our CERT obligations. Private households purchasing loft and cavity insulation receive up to £125 council tax rebate, jointly funded by British Gas, and on average these measures reduce heating bills by £365 per year. Households also qualify for a rebate of up to £400 when purchasing solar water systems.

In total, British Gas has worked with more than 90 councils, with over 26,000 installations taking place to date as a direct result of this scheme. Local partnerships have enabled us to make a significant, focused impact. Through our partnership with Croydon Council for example, 1,500 homes have benefited from the scheme, saving approximately 340 tonnes of CO<sub>2</sub>.

We developed a unique social experiment, Green Streets, which was a year-long competition between eight communities to reduce their energy usage and carbon footprint. Green Streets promoted awareness of low-carbon solutions, showcased microgeneration technologies and demonstrated how simple behavioural changes can deliver real benefits to customers. The competing streets achieved average energy savings of more than 25%, with the Leeds street leading the way with energy savings of 35%. The 64 participating households reduced their total carbon emissions over the year by almost 89 tonnes. The average reduction in carbon emissions over the course of the project was 23%. If this project was rolled out across all UK households, the reduction in carbon emissions would equate to 35m tonnes.

The Institute of Public Policy Research (IPPR) conducted an independent assessment of the Green Streets experiment, validating and analysing the energy data and interviewing participants and drawing out policy lessons. The IPPR conducted basic analysis on the energy data using an Excel spreadsheet and then investigated outliers to check the data quality. In about a quarter of cases, the initial meter figure was an estimate from the reading nearest to the end of January 2007. However, margins of error are estimated to be low, in the region of 5-10%. National average carbon emissions from domestic energy in the base year 2007-2008 were calculated at 6 tonnes per household, using figures from the Committee on Climate Change (2008: 114).

Direct Energy maintains a technology development and innovations team that focuses on preparing for the delivery of future low carbon solutions. For example, our partnership with Bell Canada and Milton Hydro piloted a home automation/demand response system in 200 residential homes between October 2007 and September 2008. This pilot, which was independently monitored by the University of Waterloo, and provided Direct Energy with insight on customer wants and needs from energy

management systems. The top 10% of participants saved 16% of their electricity usage over 12 months and saved 18% of their consumption during peak periods. The 16% of average consumption is equal to 1,680kWh saving in a year which could translate to a reduction of 1.3 metric tonnes of CO2 for each of the participants. A select group of participants saw savings of 44% during provincial demand response periods. Direct Energy is continuing to explore options with Milton Hydro for further installations that build upon the learnings from this pilot.

¿ Is question 17.1 relevant to your company?

Yes

17.1 Please provide your total carbon dioxide emissions in metric tonnes CO2 from the combustion of biologically sequestered carbon i.e. carbon dioxide emissions from burning biomass/biofuels.

43895

17.2 Please explain why not.

#### Further Information

#### Attachments

### Page: Emissions 8

18.1a Please describe a financial intensity measurement for the reporting year for your gross combined Scope 1 and Scope 2 emissions.

*If you do not consider a financial intensity measurement to be relevant to your company, select "Not relevant" in column 5 and explain why in column 6.*

Figure for Scope 1 and Scope 2 emissions	GHG units	Multiple of currency unit	Currency unit	Financial intensity metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
537.00	Metric tonnes CO2-e	Million	GBP(£)	Revenue	We calculate our financial emissions intensity using our Group revenue figures. Financial Emissions Intensity = Carbon emissions (TCO2e) / Group Revenue (£m)

18.1b Please describe an activity-related intensity measurement for the reporting year for your gross combined Scope 1 and Scope 2 emissions.

*Oil and gas sector companies are also asked to report activity-related intensity metrics in answer to table O&G1.3.*

*If you do not consider an activity-related intensity measurement to be relevant to your company,*

*select "Not relevant" in column 3 and explain why in column 4.*

Figure for Scope 1 and Scope 2 emissions	GHG units	Activity-related metrics	Please explain if not relevant. Alternatively provide any contextual details that you consider relevant to understand the units or figures you have provided.
3.39	Metric tonnes CO2-e	per full-time equivalent employee	Carbon intensity per full time employee – This measures the amount of carbon emissions that each employee has the ability to influence. These figures exclude the scope 1 from our power generation because the majority of our employees have no ability to influence these emissions. To make the figure meaningful, we have included only those emissions from our offices, company cars and business travel, which make up our internal footprint and against which we have set a target for 2015. (If we included all Scope 1 and 2 emissions, the intensity would be 346 tonnes of CO2e per full time employee.) These figures include elements of Scope 1, 2 and 3 emissions.
419.00	Other: grammes of CO2e	Other: per kilowatt hour of electricity produced	Power generation carbon intensity - This measures the carbon intensity of energy exported from our wholly-owned facilities, relating to one of our two primary production activities. We calculate this using power generation emissions which are a proportion of scope 1.
5.58	Other: grammes of CO2e	Other: per kilowatt hour	Gas production and storage specific carbon intensity - This measures the carbon intensity of gas produced or moved to/from storage, relating to the second of our two primary production activities. We calculate this using gas production and storage emissions which are a proportion of scope 1.
371.00	Other: grammes of CO2e	Other: per kilowatt hour of electricity produced	Key performance indicator - carbon intensity - This measures the carbon intensity of the energy exported from our UK facilities and under site-specific contracts. This is one of our corporate key performance indicators on which we base our carbon intensity targets and is reported on in our Annual Report and our Corporate Responsibility report. The emissions include the scope 1 emissions for power generation as reported under the EU ETS.

**19.1 Do the absolute emissions (Scope 1 and Scope 2 combined) for the reporting year vary significantly compared to the previous year?**

No

**19.2 Please explain why they have varied and why the variation is significant.**

**20.1A Please complete the following table indicating the percentage of reported emissions that have been verified/assured and attach the relevant statement.**

Scope 1 (Q12.1)	Scope 2 (Q13.1)	cope 3 (Q15.1)
More than 80% but less than or equal to 100%	Not verified	Not verified

**20.1B I have attached an external verification statement that covers the following scopes:**

Scope 1

**Further Information**

19.1 - Our absolute emissions do not vary significantly, although there is an overall increase of just under 6%, mainly from an increase in Scope 1 emissions. This increase is a result of a change of methodology for calculating the North American emissions and an increase in the equity share we held in SPE (Belgian operations). We increased our stake from 25% to 51% in January 2009 and then divested the whole stake towards the end of the year.

20.1 - All EU ETS data has been verified in accordance with the emissions trading requirements.

#### Attachments

[https://www.cdproject.net/Sites/2010/42/3042/Investor CDP 2010/Shared Documents/Attachments/InvestorCDP2010/Emissions-Other2/EU ETS VerificationStatements.xls](https://www.cdproject.net/Sites/2010/42/3042/Investor%20CDP%202010/Shared%20Documents/Attachments/InvestorCDP2010/Emissions-Other2/EU%20ETS%20VerificationStatements.xls)

### Page: Emissions 9 Trading

#### 21.1 Do you participate in any emission trading schemes?

Yes

#### 21.2 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 - number	Verified emissions - units	Details of ownership
European Union ETS	Thu 01 Jan 2009 - Thu 31 Dec 2009	5929282	1983151	7912433	Metric tonnes CO2-e	Facilities we own and operate

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

##### 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 almost seven years and has also been active in the international carbon credit market. We aim to meet the cost of our CO2 emissions in the most economic manner for our customers and shareholders, thus following the spirit of Kyoto.

Centrica believes that the flexible mechanisms provided under Kyoto are important options to help installations manage their carbon exposure and we are constantly looking to manage our carbon position using both abatement and carbon credits.

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

Yes

#### 21.5 Please complete the following table.

Credit origination or credit purchase?	Project identification	URL link to project documentation	Verified to which standard?	Number of credits (metric tonnes of CO2-e)	Credits retired?	Purpose e.g. compliance
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Credit origination or credit purchase?	Project identification	URL link to project documentation	Verified to which standard?	Number of credits (metric tonnes of CO2-e)	Credits retired?	Purpose e.g. compliance
Credit Origination	Specific project information is commercially sensitive.		CDM	173455	No	Other: Trading / future compliance
Credit Origination	Specific project information is commercially sensitive.		JI	48338	No	Other: 2008 compliance
Credit Purchase	Specific project information is commercially sensitive.		CDM	1499515	No	Other: Trading / future compliance
Credit Purchase	Specific project information is commercially sensitive.		JI	22118	No	Other: Trading / future compliance

#### Further Information

#### Attachments

### Module: Climate Change Communications

#### Page: Communications 1

#### 22.1 Have you published information about your company's response to climate change/GHG emissions in other places than in your CDP response?

Yes

#### 22.2 In your Annual Reports or other mainstream filing? (If so, please attach your latest publication(s).)

Yes

#### 22.3 Through voluntary communications such as CSR reports? (If so, please attach your latest publication(s).)

Yes

#### Further Information

As 'energy for a low carbon world' underpins our commercial strategy and climate change issues are included in our principal risks and uncertainties, we have published information on our response in our Annual Report and Accounts ([www.centrica.com/report2009](http://www.centrica.com/report2009)). We have also run a Capital Markets Day for analysts to explain our approach and the new business model for British Gas that is premised on a low carbon economy. The presentations were broadcast live on our website and are still available for people to download, listen to and watch from the investors section. We published our corporate responsibility report in May 2009 and this includes detailed information about our emissions, initiatives, progress against targets, future commitments and low carbon strategy ([www.centrica.com/responsibility](http://www.centrica.com/responsibility)). This is an online report and although a PDF download is available, more detailed information is provided through our website.

In December 2009, we gave stakeholders a chance to ask two of our senior experts within British Gas questions on climate change through a live online web chat. In the 60 minute session, we answered

23 questions on issues from solar panels to legislation. The web chat is a feature of our Centrica Views social media platform, hosted on centrica.com. This also includes videos, blogs, articles, speeches and position statements explaining our approach to climate change and enabling people to feed back and engage in dialogue with us.

Each year we complete responses for the Dow Jones Sustainability Index and FTSE4Good, both of which include questions around climate change and our approach. In addition, we respond to ad hoc requests from other organisations asking for information and clarification on environmental issues. For example, in early 2010 we participated in research conducted by DECC to understand our corporate response to the challenges and opportunities presented by climate change.

We are also hosting a number of teach-ins for civil servants from DECC to help them to gain a greater understanding of energy and climate change.

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## **Attachments**

## Module: Electric utilities

### Page: 2010-Investor-Electrical 1 Reporting Years

#### Reporting Periods

Please enter the dates for the periods for which you will be providing data. Historic data for the year ending in 2002 to the year ending in 2009 and forecasted data up to and including the year ending in 2014 is requested.

Year ending	Date range
2009	Thu 01 Jan 2009 - Thu 31 Dec 2009

#### Further Information

#### Attachments

### Page: 2010-Investor-Electrical 2 GlobalTotalByYear

Please give total figures for all the countries for which you will be providing figures.

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2-e)	Emission intensity (metric tonnes CO2-e/MWh)
2002				
2003				
2004	4128	11554		
2005	4154	11641	5869728	0.4120
2006	4316	14567	4341366	0.3940
2007	4316	19845	6169135	0.3900
2008	4496	23366	7382413	0.3740
2009	7128	25152	7371941	0.3710
2010	7128	38700	8926000	0.2900
2011	7128	41200	8926000	0.2700
2012	7398	41200	8926000	0.2700
2013	7398	41200	8926000	0.2700
2014	6928	39500	8926000	0.2700

#### Further Information

#### Attachments

### Page: 2010-Investor-Electrical 3 - EnergyFuelSelection - United Kingdom

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

CCGT  
Nuclear  
Wind

Please enter figures for CCGT.

Year ending	Capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2-e)	Emissions Intensity (metric tonnes CO2-e/MWh)
2002				
2003				
2004	4128	11554		
2005	4128	11601	5869728	0.4260
2006	4128	14338	4341366	0.4090
2007	4128	19438	6169135	0.4130
2008	4128	22817	7382413	0.4050
2009	5013	23203	7371941	0.4090
2010	5013	29000	8926000	0.3950
2011	5013	29000	8926000	0.3950
2012	5013	29000	8926000	0.3950
2013	5013	29000	8926000	0.3950
2014	5013	29000	8926000	0.3950

Please enter figures for nuclear.

Year ending	Capacity (MW)	Production (GWh)
2002		
2003		
2004		
2005		
2006		
2007		
2008		
2009	1747	1128
2010	1747	8500
2011	1747	11000
2012	1747	11000
2013	1747	11000
2014	1747	8500

Please enter figures for wind.

Year ending	Capacity (MW)	Production (GWh)
2002		
2003		
2004		
2005	26	40
2006	188	229
2007	188	407
2008	368	549
2009	368	821
2010	368	1200
2011	368	1200
2012	638	1200
2013	638	1200
2014	638	2000

**Further Information**

**Attachments**

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**EU5.0**

Please give your historic and forecasted position on emissions, emission allowances (EUAs) and Certified Emission Reductions (CERs) and Emission Reduction Units (ERUs) in metric tonnes CO2 by country.

Please select the European Union 27 countries for which you will be reporting data.

UK

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**EU5.0 UK**

Please complete the table.

<b>Please supply the following information:</b>	<b>Phase 1 (2005 - 2007)</b>	<b>Phase 2 - 2008</b>	<b>Phase 2 - 2009</b>	<b>Phase 2 - 2010</b>	<b>Phase 2 - 2011</b>	<b>Phase 2 - 2012</b>
Total free allowances (EUAs) received + projections for the rest of Phase 2	19769577	4783406	5272698	6116179	61176179	6119829
Of which are EUAs for new power plants			489292	1332773	1332773	1336423
Total allowances purchased through national auctions + projections for the rest of Phase 2		0	0	0	0	0
Total allowances purchased for compliance purposes (through exchanges, brokers etc.) + projections for the rest of Phase 2	0	2154155	2099243	1784078	2241158	2237508
Number of CERs/ERUs received/purchased for compliance purposes + projections for the rest of Phase 2	0	444852	0	1025884	568804	568804
Of which are credits from projects for which the group is listed as direct participant	0	83722	0	50500	50500	50500
Of which are credits from HFC projects	0	35384	0	0	0	0
Historic/projected emissions (metric tonnes CO2)	16380229	7382413	7371941	8926141	8926141	8926141

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**Further Information**

This data includes information from all our power stations but excludes Spalding, which we do not operate or own but from which we have a tolling agreement for output.

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**Attachments**

Page: Electrical 5 NonEUEmissionTradingSchemes

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EU6.0 Emission allowances for companies that have significant operations outside the EU and where installations are covered by other emissions trading regimes.

**Do you want to report back to the Mayday Network?**

If you answer yes, we will make your CDP submission and contact details available to the Mayday Network team at Business in the Community.

Yes

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**Step 4**

**Do you encourage employees to reduce their carbon emissions at home and at work?**

Yes

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***If yes, please tell us how?***

Employees play a critical role in helping us meet our targets to reduce environmental impacts from our operations. Our network of Green Teams help us engage with employees about our environmental footprint and work towards targets to reduce energy, waste, water and paper use. We use an online newsletter, 'The Green Grapevine', to communicate with our green teams who act as a local point of contact for employees on environmental issues.

We conducted a survey of 500 employees in 2009 to gauge their attitudes to the environment and how they feel Centrica is doing on this issue. The results showed our environmental communications and internal campaigns have successfully engaged employees, with 92% of respondents aware of our targets on office energy use, waste and recycling. We also found that 91% of respondents are concerned about climate change and 94% would like to see Centrica demonstrate leadership in tackling this issue. The survey also provided an opportunity for employees to give us feedback and suggest ideas about how we could do more to reduce our and their environmental impacts. We have used their ideas to inform our communications and activities and we are acting on their most popular suggestion with plans to install microgeneration equipment at our offices.

We run an annual 100-day carbon reduction campaign, which included PC switch-off competitions between departments in 2009. The campaign effectively raised awareness of environmental responsibility not only in the workplace but in employees' personal lifestyles too. It went beyond its original aims by reducing waste as well as energy within British Gas. The previous year's campaign won the NQA Environmental Leadership Award for Culture Change for demonstrating 'outstanding leadership' in raising colleagues' awareness of sustainability and environmental impact and achieving significant tangible benefits as a result.

We are gradually replacing our company car fleet with cars that have smaller, cleaner engines and we have restricted the choice of cars to those that emit a maximum of 200g CO<sub>2</sub>/km. We also updated our company car policy in July 2009 to encourage our staff to choose greener cars through raising awareness and using financial incentives. The changes have impacted our employees' car selection and on average, they are now choosing cars which emit 16g CO<sub>2</sub>/km less than our current fleet average.

In 2009, we profiled our drivers of our commercial vehicles using a points-based system which identified those with low fuel efficiency. We delivered 805 two-hour sessions for these drivers, as well as 297 Safe and Fuel Efficient Driving e-learning modules, 37 new induction courses and 415 one-hour driving assessments. In 2010 we will continue to identify high risk van drivers using league tables and provide them with fuel efficiency training. We first introduced speed limiters in our commercial vehicles in 2008 and completed the programme in 2009. This has been key in helping to reduce carbon emissions and following successful trials, we are also rolling out GPS to the majority of our

vans. GPS helps to calculate the most efficient routes, reducing mileage and fuel used. We anticipate this will reduce carbon emissions by a further 5%.

We provide travel plan advisers to help employees work out the best ways to reach work and how to reduce the impact of their commute. We operate a minibus shuttle service that connects offices and provides transport links to local train stations. The shuttle buses achieve carbon savings of approx 441 tonnes of CO2 each year and in 2009 the service was awarded the 'Planet Positive' environmental mark in recognition of its contribution to reducing employee car usage.

We partnered with Cyclescheme to support the government-backed Bike4Work initiative which provides bicycles at a reduced cost. We have also teamed up with liftshare.com, the largest implementer of car-sharing in the UK to create the Centrica Carshare scheme. This aims to provide efficient and greener travel solutions to and from work and between offices. We are aiming to implement green travel plans at every major UK site during 2010 to provide a holistic approach to reducing both business travel and commuting. We are also upgrading video-conferencing equipment and promoting remote working technology such as web-conferencing as an alternative to travel.

Since 2003, our UK business has achieved a reduction of about 40% in the energy it uses, helping to drive down our UK internal carbon footprint by around 15%. In 2009, we achieved accreditation for our UK properties to the Carbon Trust Standard in 2009, recognising a reduction of around 25% in our office carbon footprint over the previous three years and our commitment to continual improvement.

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#### Step 5

**Do you work in partnership with suppliers to reduce carbon emissions in the supply chain?**

No

*If yes, please tell us how?*

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#### Step 6

**Do you encourage your customers to take action on climate change?**

Yes

*If yes, please tell us how?*

To find out what could be achieved within communities at a local level we ran a year-long, independently-monitored experiment in energy saving called 'Green Streets'. The results were published in March 2009 and demonstrated mutual benefits to customers, the environment and our business, with an average 25% reduction in energy use and 23% reduction in carbon emissions. Green Streets 2008 also provided important information on consumer behaviour and the impact of low carbon and energy efficiency technologies. To build on these findings, we launched a Green Streets 2 community initiative in January 2010, with 14 communities competing to become Britain's most innovative green community by reducing their energy usage and carbon emissions over a year. The £2m project will provide invaluable insights into which community-based approaches to energy efficiency could work best, helping to shape future national policy. It also gives British Gas the opportunity to test the latest in low carbon generation and energy efficiency technologies.

A key message from Green Streets is that a 'whole house' approach, applying a range of measures relevant to the specific local housing needs, is more effective than applying a single action (such as insulation) across the board. We encourage whole house approaches for individual houses through our Energy Savers Reports. Customers complete a simple questionnaire online and we work out their homes' energy rating and provide personalised advice on reducing their energy consumption. More than 2.6m Energy Savers Reports have now been completed.

Generation Green, launched in 2008, promotes energy efficiency and understanding among children. The programme enables schools to earn rewards such as bikes and safety equipment by completing a range of green activities in return for 'leaves', which can be exchanged for rewards. More than 10,000 schools are now participating and they have so far collected nearly 40m green leaves, including 4.7m

donated by parents and consumers completing the British Gas Energy Savers Report. As part of the programme, 22 children were selected to take part in the UK's first environmental think tank for 7-14 year olds. They presented their manifesto to the Secretary of State for Energy and Climate Change in February 2010. CESP is a joint initiative between the government, energy suppliers and power generators to explore how households, local groups and energy suppliers can work together to deliver energy efficiency measures across an entire community. The programme targets low income households, helping hard-to-reach people who have typically not benefited from other national energy efficiency initiatives.

We are already working in partnership with local authorities and are broadening our capabilities to meet their requirements. Our council tax rebate scheme encourages the take up of loft and cavity wall insulation and solar water heating, by offering our customers who install home insulation a Council Tax discount of up to £125. Since this scheme began, we have worked with 90 local authorities and councils, installing more than 26,000 loft and cavity insulation measures.

We are working closely with banks to provide affordable financing schemes such as 'Pay As You Save', which enable people to invest in energy efficiency and microgeneration technologies without being deterred by upfront costs. The customer pays off the loan through long-term payment plans which are financed by energy savings. Other government-supported programmes that are helping to increase demand for new technologies include the boiler scrappage scheme, which included a financial incentive that British Gas matched.

We are also well positioned to support business customers in turning 'energy management' into a commercial opportunity. We developed Energy 360®, which provides a range of energy services and products to businesses and public sector organisations. Typically, our Energy 360 team finds opportunities to reduce a customer's energy consumption by at least 10% - but sometimes up to 30% - through measures such as improving control systems and installing microgeneration technologies. Central to our approach are smart meters and aM&T technology, which give customers access to their energy data in timely and usable form. This helps them understand, reduce and control the energy they use. British Gas installed over 50,000 smart meters in businesses in 2009, with another 110,000 installations planned for 2010.

We carried out approximately 270,000 loft and cavity insulations last year, which equates to around £30m in energy savings for our customers. This helped us to exceed our annual target for 2009, delivering energy efficiency products and services that will save an equivalent of 17.53m tonnes of CO2 over their lifetime. We have also explored different ways of delivering energy efficiency measures, such as through our partnership with B&Q.

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## **Further Information**

## **Attachments**