

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 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 and North America, 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 a quarter of group turnover.

We believe that climate change is one of the single biggest global challenges. Energy generation and energy use are significant contributors to man-made greenhouse gas (GHG) emissions, a driver of climate change. As an integrated energy company, we play a pivotal role in helping to tackle climate change by changing how energy is generated and how consumers use energy. Our corporate responsibility (CR) ambition is to be the most trusted energy company.

We developed our 'energy for a low carbon world' programme to drive our ongoing response to climate change, helping us to mitigate the key risks and take advantage of the opportunities. We see opportunities in the way that power generation and use are changing. We are investing in innovative microgeneration technologies, to enable consumers to generate their own low carbon energy, and energy efficiency so they can reduce the amount of energy they need. We are developing employees' skills to help us become the supplier of choice for installing and servicing these new technologies. And we are investing in a range of renewable energy technologies as well as the next generation of nuclear power stations to secure low carbon power.

During 2011, we continued to focus on our most material issues:

- **treating our customers with fairness**, with a focus on the cost of energy and supporting vulnerable customers;
- **securing future energy supplies**; and
- **reducing carbon emissions**, through decarbonising our power generation activities and helping customers cut their energy usage.

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 nearly 13,000 engineers. We believe this combination will give us increasing advantages as Government policy and consumer demand trend towards more holistic low carbon energy services – i.e. 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. We also have a role to play in helping future generations and current consumers become more energy literate.

We 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.

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

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

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

Enter Periods that will be disclosed
Sat 01 Jan 2011 - Sat 31 Dec 2011

0.3

Country list configuration

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

Select country
United Kingdom
United States of America
Canada
Rest of world

0.4

Currency selection

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

GBP (£)

0.5

Please select if you wish to complete a shorter information request

0.6

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 (according to the Global Industry Classification Standard (GICS)), the corresponding sector modules will be marked as default options to your information request. If you want to query your classification, please email respond@cdproject.net.

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

1.1

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

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

1.1a

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

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

1.2

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

Yes

1.2a

Please complete the table

Who is entitled to benefit from these incentives?	The type of incentives	Incentivised performance indicator
Corporate executive team	Monetary reward	Leadership behaviour (including EMS implementation; completion of Environment strategy)
Environment/sustainability managers	Monetary reward	Delivery of Group environment plan (includes reductions in group internal carbon footprint)
Chief Executive Officer (CEO)	Monetary reward	Leadership behaviour (including EMS implementation; completion of Environment strategy)
Other: Corporate Affairs teams	Monetary reward	Delivery against environmental targets; Delivery of key climate change programmes in line with CR Committee approved KPIs
Facility managers	Monetary reward	Improve energy efficiency and environmental performance of our estate
Management group	Monetary reward	Delivery of environment plan within departments and visible leadership
Other: All employees eligible for the Annual Incentive Scheme	Monetary reward	Performance against Group environment plan (targets vary by team and department)
Other: Employees involved in green teams	Recognition (non-monetary)	Awards for categories include best performance against targets, most improved team, best initiative
Other: Employees within British Gas New Energy	Monetary reward	New business development (focusing on energy efficiency, insulation, microgeneration, other low carbon technologies)
Other: Employees within British Gas Community Energy	Monetary reward	Revenue from new business (using the Community Energy Savings Programme - CESP - as key vehicle for this)
Other: Renewables team	Monetary reward	Lincs wind farm project delivery; Wind farm reliability; New wind farm consultation process
Other: Employees nominated by colleagues	Recognition (non-monetary)	Employees can nominate colleagues for living our leadership behaviours – which includes a proactive approach to the environment
Other: Power generation team	Monetary reward	CCGT efficiency; Compliance with EU ETS; Delivery of new low carbon generation projects e.g. biomass

2.1

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

Integrated into multi-disciplinary company wide risk management processes

2.1a

Please provide further details (see guidance)

Scope of process

The Board is responsible for the Group's system of internal control & risk management, & considers this to be fundamental to the achievement of the Group's strategic objectives.

The work of the Board & its Committees are at the heart of the risk, governance & control processes. The Board & its Committees set objectives, performance targets & policies designed to achieve a balanced & transparent assessment of the risks facing the Group's operations & to measure the effectiveness of the key controls in place to manage them. This is underpinned by clear delegations of authority, effective policies & procedures covering key areas of Group operation together with a set of business principles which are communicated to our staff. Mechanisms are in place to ensure that both strategic & operational risks, including carbon & climate-related risks are identified & assessed & that the controls designed to manage such risks are operating effectively. These mechanisms are reinforced through regular performance management & business reviews. In 2011, we took a number of steps to further embed CR risks into our existing risk process including changes to our risk assessment matrices & the creation & circulation of stakeholder concern lists, to act as prompts during risk identification.

During 2011, we reviewed our risk processes to ensure they remained appropriate & to reinforce the linkage between risk & controls.

Key improvements include:

- reporting of risks & internal audit activity against risk 'themes' updating our risk-assessment matrices;
- introducing new controls guidance
- endorsement of an updated business risk policy & standards.

The Group Risk Management Committee (GRMC) plays a pivotal role in the governance of risks. Each of Centrica's business units (BUs) has a Business Risk Management Committee or equivalent management committee whose role is to evaluate, report & advise on material risks, & to consider the adequacy of controls & the actions planned to mitigate those risks. The most material risks are then reported to the GRMC to enable a clear understanding of Centrica's aggregate risk profile, & that control processes are in place to ensure monitoring & management of significant risks.

We recently made changes to our governance for 2012. The GRMC is now chaired by the Group Chief Executive & membership reflects that of the Executive Committee. We expect these changes to streamline our governance process while ensuring that the Executive Committee continues to provide focused debate & challenge to the Group's current & emerging risks.

How risks/opportunities are assessed at a company level

Material risks are reviewed by the Executive Committee which also regularly undertakes in depth reviews of specific risks as appropriate. At each of its meetings in 2011, the Group Audit Committee received a risk report, which provided an assessment of the key risks facing the Company & the adequacy of the associated controls.

Individual risks are assessed with regard to their potential impact in financial terms & also non-financial factors including brand & reputation, legal, customers, employees & HSE, together with the likelihood of the risk materialising. Our assessment method uses a 1-5 rating for impact & likelihood with the overall rating calculated by multiplying impact x likelihood. Material risks are also subject to review & challenge by expert groups. Regular meetings are also held with Internal Audit to ensure that risk reports reflect the latest findings from audit activity.

The Corporate Responsibility Committee (CRC) is authorised by the Board to review the effectiveness of the Group's processes & controls for identifying & managing social & environmental risks & opportunities that could materially affect the Group's business performance & reputation. The CRC sets objectives, performance targets & policies for managing key risks & opportunities, which are monitored by the Board. Potential & material CR risks are discussed, agreed & monitored through a risk & control matrix that is reviewed annually by the CRC. Views on potential risks from external stakeholders are also incorporated at CRC meetings. We hold an annual Board strategy conference, during which the Board examines (amongst other topics) climate change-related opportunities in new markets, new technologies & potential investment opportunities. Opportunities are then explored by the relevant BUs and due diligence conducted to assess commercial viability, market landscapes & future regulation, before presenting strategies back to the investment sub-committee. Once measures are agreed at this level, the BUs develop detailed strategies to maximise opportunities that are available & to model commercial returns.

How risks / opportunities are assessed at an asset level

Centrica's BUs are regularly confronted with risks & opportunities which have the potential to negatively or positively impact the assets, liabilities, financial position & profit & loss of the Group, or intangible assets such as brand & reputation. To facilitate effective risk management, we have an integrated management process in place, which focuses on the identification, description, assessment, tolerance, control, reporting, monitoring & challenge of risks & opportunities. Opportunities are identified using the same process as the strategic planning cycle at Business Unit & project level. Further statistical modelling, scenario planning & commercial analyses are also used where relevant to supplement & provide the rationale for the 1-25 risk score & the qualitative approach mandated in the Group Risk Management Policy.

Frequency of monitoring

As a minimum, the GRMC meets quarterly & is now chaired by the Group Chief Executive Officer; membership therefore reflects that of the Executive Committee. As a minimum the BUs are required to review their current risks & identify emerging risks over the same time frame. High risk or heavily regulated Lines of Business often choose to conduct their reviews on a monthly basis. In addition, risk owners are frequently requested to present ad hoc 'deep-dives' to the GRMC in order for them to fully understand the Key Performance Indicators for the Priority List risks & their associated controls.

Criteria for materiality / priorities

Each identified risk from asset to company level is consistently assessed & reported according to the Group Risk Management Policy. Risk ratings therefore range from 1 to 25 for all risks. Where risks are common across the Group, they are merged & supervised by a functional team. Frequently, a number of low scoring constituent or linked risks will again be merged to form a high scoring risk arising from the aggregated impact scores. All financial impact scores are calibrated to a Group score relative to the BU's operating profit. In addition 'High Impact, Low Probability' & 'Emerging' risks are escalated by the BUs & considered separately by the GRMC.

The Group Risk scores are prioritised as follows;

- Priority list 15-25
- Watch list 12
- Minor 01-10

The Controls associated with individual risks are rated for their current & anticipated effectiveness in accordance with the Group Controls Guidance Criteria. Where residual areas of concern exist, further planned controls & mitigating actions are assigned owners & monitored at numerous levels towards their completion. Where risks are reviewed by the Internal Audit function they are also rated using a corresponding rating system.

To whom are the results reported

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

2.2

Is climate change integrated into your business strategy?

Yes

2.2a

Please describe the process and outcomes (see guidance)

i. How the business strategy has been influenced, i.e. the internal communication/reporting processes that achieve this

We are tackling climate change in 3 ways: helping customers cut emissions from energy use, investing in producing energy from low carbon sources, & reducing our own internal carbon footprint. These focus areas have influenced the shape of our business operations, our communications with employees & our engagement with stakeholders.

ii. What climate change aspects have influenced the strategy

In 2011, the overall Group strategic priorities, announced in Feb 2010, remained unchanged. Climate change priorities were to continue with our commitment to work towards a lower carbon society by promoting customer energy efficiency, decarbonising our generation mix & cutting our own emissions from property, fleet & travel.

The UK Govt has set out a commitment to cut CO2 emissions by 80% on 1990 levels by 2050. Decarbonising power generation is one part of the story, as this will subsequently offer low carbon alternatives in the heating & transportation sectors. Equally important is to help customers, to reduce their CO2 emissions through energy efficiency measures. Our first strategic priority reflects the new British Gas business model, evolving from an energy supplier to a provider of energy services. Opportunities include new markets in energy efficiency & microgeneration which we are well positioned to serve. This shift also helps to mitigate diminishing underlying consumption of gas & electricity supply as a result of changing consumer behaviour & energy efficiency. We have 12m customer relationships, a strong recognisable brand & almost 13k engineers. This gives us the ability to combine energy scale with services deployment, a national distribution network, management capabilities & a network of training academies that enable us to upskill quickly as new technologies & products enter the market. Our services business is an area of distinctive competitive advantage. We expect the provision of energy services to play a defining role for the energy company of the future, forming the basis for long-term growth.

iii. The most important components of the short term

Short term, we must better understand the markets for energy efficiency & microgeneration, potential barriers to take-up & how consumer behaviour is evolving. As an early supporter both the Green Deal & smart metering, we are building our knowledge & experience. In addition, our ability to deliver a wide range of services is designed to help us to increase our customer numbers & their loyalty. This together with the value of the low carbon products & services themselves is partly offsetting the gradual reduction in consumption & delivering financial returns.

iv. The most important components of the long term strategy

To help meet the challenges of climate change & energy security, we have changed our power generation mix & will continue to lower carbon intensity of our fleet by investing in low-carbon generation. All future investments rely on stability of regulatory framework & level of support.

The main component of our downstream growth strategy now relies on helping residential & business customers reduce their energy consumption. We have led on smart meter installation, & are growing our energy services business.

v. How this is gaining us strategic advantage over our competitors

Customer energy efficiency

By introducing the Green Deal early - the Home Energy Plan - we are helping to identify challenges & opportunities for the programme's full scale implementation.

We are also the only energy company to have invested in building our own insulation business, which now employs over 1k people. In 2011, the insulation we delivered, achieved carbon savings of 7.9m tonnes of CO2 emissions. We continue to grow our insulation business, scaling up our solar business and being the industry leader in smart meter installations.

Delivering a lower carbon intensive generation fleet

Our second strategic priority includes recognition within the commercial strategy that our low carbon intensive generation fleet is one of our key distinctive capabilities. By combining renewable power, including wind, & low carbon nuclear power with more efficient gas fired power stations & new gas supplies, we are balancing the needs for energy security & carbon reduction. In 2011, we reduced our Group carbon intensity by 21% to 220g CO2/kWh (compared with 277g CO2/kWh in 2010). This decrease was strongly driven by UK carbon intensity performance, which showed a 28% reduction to 199g CO2/kWh. UK performance was due to the first full-year contribution of nuclear power from our 20% stake in EDF Energy Nuclear Generation & the effect of placing 4 of our 8 gas-fired stations into standby mode.

Working towards decarbonisation while maintaining energy security

At a time when many UK companies are reluctant to invest because of economic uncertainty, we are taking a lead by deploying our capital – more than £300m in power development in 2011 alone – to generate growth, invest in energy infrastructure, create jobs & provide a return to our shareholders. Centrica is investing in nuclear power & renewable energy sources such as wind & biomass. All projects are subject to financial investment decisions & we will only deploy capital where we see a strong strategic fit, together with attractive returns commensurate with the risks being undertaken.

Wind

We are a leading player in offshore wind farm development in the UK, with interests in 3 operational farms & a fourth under construction. Our aim is to increase our total offshore wind capacity by 300% to 560MW by 2016.

We expect our Lincs wind farm to deliver the first power (135MW) in the second half of 2012 & to be fully operational in the first half of 2013, delivering 270MW, enough for 200k homes.

We also have 2 proposed wind farms awaiting planning consent off the coast of Norfolk, at Race Bank & Docking Shoal. If approved, these would provide enough power for 380k & 360k homes respectively.

We were awarded the rights in 2010 to develop offshore wind farms in the Irish Sea Zone, which offers potential capacity of up to 4.2GW – enough to power around 3m homes.

Nuclear

We see nuclear as an important part of the energy mix, as a stable, low carbon source of baseload power to support the more intermittent power generation from renewables. In 2011, we sourced 11,157GWh of nuclear power – 29% of our total Group generation based on an offtake & power purchase basis.

The joint venture with EDF Energy also gives us the option to invest in the next generation of new nuclear power stations. Together with EDF Energy, we have the option subject to the appropriate planning permission to build up to 4 new reactors in the UK – 2 at Hinkley Point in Somerset & 2 at Sizewell in Suffolk. Collectively, these would provide electricity for more than 10m homes.

Biomass

As a renewable source of power, biomass can play a useful role in diversifying energy supply, although the associated environmental impacts must be managed responsibly.

We are seeking consent to build & operate a power station fuelled by renewable biomass on the site of our existing gas-fired Roosecote power station at Barrow-in-Furness in Cumbria. It would produce up to 80MW of electricity enough power for 125k households.

A further proposed power station project on the site of our Glanford Brigg power station was announced in May 2012 & is currently in a pre application consultation period.

Our business model is now better balanced & is well placed to thrive, with most of our energy being sourced from our own lower carbon sources. We are helping customers, whether in the UK or North America, to use less energy rather than the traditional paradigm of maximising the energy we sell.

vi. What have been the most substantial business decisions made during the reporting year that have been influenced by the climate change driven aspects of the strategy

There is nothing to report in terms of a change of business strategy, we have continued with our low carbon investment programme but no new aspects of climate change have affected business decisions in 2011. We invested £300m in power development in 2011, which included spend on our Lincs offshore wind farm currently under construction. We are awaiting consent on Race Bank & Docking Shoal offshore wind farms with a final investment decision on Hinckley Point targeted for 2012.

2.2b

Please explain why not

2.3

Do you engage with policy makers to encourage further action on mitigation and/or adaptation?

Yes

2.3a

Please explain (i) the engagement process and (ii) actions you are advocating

(i) Engagement process

In the UK our approach to working with policy makers is to engage at all levels using a variety of methods. We believe that continuing dialogue is the best means for all sides to understand different perspectives. We do not go through 3rd parties to advocate on our behalf or to secure engagement but we are members of cross-business associations such as CBI, UKBCSE, ERA & the Association of Electricity Producers. We are also members of other technology & sector-specific organisations such as the Nuclear Industry Association & RenewableUK but we do not depend on them for our engagement with policymakers.

We meet regularly with MPs from all parties & also provide educational visits for civil servants & advisors to understand energy issues. In 2011 for example we hosted a series of teach-ins for civil servants that included visits to power stations & to our offshore gas storage business.

In 2011 we responded to consultations on low carbon-related issues such as the Energy & Climate Change Committee's Inquiry into the EUETS & DECC's review of feed-in tariffs. We post our responses on our website to ensure our views are both transparent & accessible.

(ii) Actions advocated

We supported the Govt's recognition that the electricity market needs to be reformed in order to deliver decarbonisation & security of supply objectives. In particular we support the Govt's Carbon Price Floor which takes effect in Apr 2013. We believe that it has been set sufficiently high to have an impact. We support the overall Electricity Market Reform (EMR) package.

One of the principles of our engagement with policymakers is based on recognition of the need to move to a low carbon economy. To help achieve this, companies need a supportive policy framework from Govt. Putting a price on carbon is central to this but further interventions will also be necessary. The purpose of these policies must be clear & the approach must remain market-oriented.

On customer carbon, we are working with the UK Govt to identify the best means of rolling out energy efficiency measures & technology such as smart meters on a wide scale. The Green Deal & ECO are flagship policies for the Govt & following our 'go early' Green Deal we are sharing learnings with Govt & the rest of the industry. Our experience is demonstrating the importance of incentivising customer demand & we advocate measures such as council tax rebates to promote the take-up of energy efficiency measures. We also continue to request clarity around the financing arrangements for the Green Deal which are yet to be finalised.

The Govt has plans for a new Energy Company Obligation (ECO) to replace CERT & CESP. We believe ECO should have 2 primary aims:

- Reduce the heating bills of low income/vulnerable households for whom Green Deal financing doesn't work by installing free or subsidised energy efficiency & heating measures;
- Provide support for transformational technologies that fail to meet the Golden Rule, (whereby expected savings from measures repay costs) such as solid wall insulation.

Our focus is ensuring that targets are deliverable for suppliers, affordable for consumers, sustainable for the supply chain, are flexible in the event of lower than expected consumer demand & there are contingencies in place to ensure targets can be amended.

We strongly support the rollout of smart meters in order to provide accurate & transparent bills; detailed data to support bespoke energy efficiency advice & the first step to smart homes & smart grids, flexibly balancing supply & demand. The Govt has mandated that all homes must have smart meters installed between 2014 & 2019, but British Gas has "gone early" ahead of this. As at Dec 2012 we had already installed 450k of our earlier-version smart gas & electricity meters in the UK, engaged c. 20k customers in research, & trained 1100 people. We are also leading the industry by:

- developing a smart Customer Charter, which includes a number of consumers protections such as banning sales during install & regarding data use;
- developing new smart products & services, such as translating smart meter data into bespoke energy efficiency advice, or by delivering products for the "smart home", such as remote boiler control (where you can switch your heating on & off via a smartphone app).
- conducting a number of important trials to help inform DECC's rollout process. This includes the UK's largest smart grid project, with 14k customers. Over a 3-year period, British Gas & our partners will be trialling how smart meters & decentralised energy can help make energy demand & energy supply more flexible (meaning less wasted energy & lower energy bills).

In early 2011, we gave our support to legislation on mandatory carbon reporting, signing a letter alongside 190 other organisations sent to 3 Govt departments, including DECC. We believe that this is a vital step to help enable the UK to decarbonise its economy & meet targets under the Climate Change Act. As the letter states, "Requiring companies to report their carbon emissions in a way that is consistent with international reporting standards would reward those companies taking a lead in the green economy & help businesses to manage & reduce their emissions." This view was supported by MPs who tabled an Early Day Motion on the subject.

In North America we supported the introduction of cap & trade legislation for carbon emissions but this now seems very unlikely to be introduced in the near future. As a result, our focus is more on energy market reform & opening the market to competition. We continue to engage with regulators, legislators & senior officials in the US & Canada through targeted contact programmes.

Further Information

Due to the limitations of the text entry sections the following files have been attached as PDFs for ease of reading - 2.1a, 2.2a and 2.3a

Attachments

Page: 3. Targets and Initiatives

3.1

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

Absolute and intensity targets

3.1a

Please provide details of your absolute target

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
ICF1	Other: Scope 1 + Scope 2 + Scope 3:	1.2%	20%	2007	117540	2015	We use the term 'internal carbon footprint' to describe the carbon emissions from our property energy use, company vehicles and business travel. The target is global but it does not cover emissions from power

ID	Scope	% of emissions in scope	% reduction from base year	Base year	Base year emissions (metric tonnes CO2e)	Target year	Comment
	business travel						generation or oil and gas production, the reporting and management of which we treat separately. Our internal targets concentrate on those areas where the majority of our employees have the ability to influence results. This is important for engagement purposes and enables us to benchmark our operational performance against the majority of other businesses. Although the percentage of emissions appears immaterial when compared to our total scope 1, 2 and 3 footprint, our approach to managing the impacts in these areas enables us to innovate and trial new technologies, helping us to lead the consumer market and to engage our own employees in understanding environmental issues.
ICF2	Scope 1	0.5%	18%	2007	43408	2015	In the UK, we aim to reduce the carbon emissions from our existing fleet by approximately 18% by 2015 (baseline year: 2007). This equates to around 8000 tonnes of CO2 by 2015, equivalent to taking almost 3000 average private cars off the road. In 2011 we managed to reduce carbon emissions from the existing fleet by 4% compared to 2010 exceeding our year-end target of 0% increase (a small increase was forecast this period).
ICF3	Scope 1+2	0.25%	12%	2010	24729	2011	UK Property CO2 reduction target of 12% of previous year's consumption. This relates to our main UK office gas and electricity emissions. A 13% reduction was achieved, hence better than the target. By 2015 we hope to have reduced emissions from our main UK offices by around 50% from our 2007 baseline equating to approximately 15000 tonnes of CO2.
ICF4	Other: Scope 1 + Scope 2 + Scope 3: business travel	0.8%	25%	2007	81470	2015	We are aiming to reduce our internal carbon footprint (property, fleet, business travel) by 25% in the UK.

3.1b

Please provide details of your intensity target

ID	Scope	% of emissions in scope	% reduction from base year	Metric	Base year	Normalized base year emissions	Target year	Comment
C11	Other: Scope 1 and Scope 3 (purchased goods)	88%	29%	Other: grammes CO2e per kilowatt hour (kWh)	2008	9380023	2012	We have set a target to achieve a carbon intensity of 270g CO2e/kWh by 2012. This target covers all UK emissions from our own power generation and that from site-specific contracts (ie where we know the source of supplied power and the carbon intensity of the facility providing the electricity but we are not the owners or operators). This supports our commitment to secure energy for our customers and grow our business with our policy of investing in lower carbon power. Our overall generation (using the definition of our own power generation and that from site-specific contracts) has grown since 2008 from 23.4TWh to 29.0 TWh and our carbon intensity has reduced from 379g CO2e/kWh to 199g CO2e/kWh over that same period.
C12	Other: Scope 1 and Scope 3 (purchased goods)	88%	31%	Other: grammes CO2e per kilowatt hour (kWh)	2008	9380023	2020	We have set a target to achieve a carbon intensity of 260g CO2e/kWh by 2020. This target covers all UK emissions from our own power generation and that from site-specific contracts (ie where we know the source of supplied power and the carbon intensity of the facility providing the electricity but we are not the owners or operators).

3.1c

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

ID	Direction of change anticipated in absolute Scope 1+2 emissions at target completion?	% change anticipated in absolute Scope 1+2 emissions	Direction of change anticipated in absolute Scope 3 emissions at target completion?	% change anticipated in absolute Scope 3 emissions	Comments
CI1	Decrease	39	Increase	39	Since 2008, there has been a 39% decrease in emissions in power from our own generation, but a 39% corresponding increase in emissions from power purchased from site-specific power purchase agreements. This is mainly contributable to the poor spark spread in 2011 resulting in four of our gas power stations not being economical to run except for STOR contracts. This position is unlikely to change in 2012.
CI2	Decrease	21	Decrease	3	It is much harder to predict changes in emissions over the longer term. If output were to stay the same and the carbon intensity drops to 260g CO2/KWh then there would be a 21% decrease in Scope 1 and 2 emissions compared to 2008. However, output is expected to increase as we bring our Lincs wind farm on stream and begin work on further renewables projects. Our research suggests that increased take up of energy efficiency, low carbon microgeneration technologies and smart metering will reduce customer demand, decreasing Scope 3 emissions.

3.1d

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

ID	% complete (time)	% complete (emissions)	Comment
CI1	75	100	We have achieved our carbon intensity target, having reduced carbon intensity from 379g CO2e/kWh in 2008 to 199g CO2e/kWh in 2010. Our 2012 target is to achieve 270g CO2e/kWh.
CI2	25	100	We have achieved our 2020 carbon intensity target eight years early. As we have achieved both carbon intensity targets we are currently in the process of reviewing a replacement target
ICF1	50	95	We are aiming for a 20% reduction in total on our 2007 baseline. We reduced emissions

ID	% complete (time)	% complete (emissions)	Comment
			in from our global internal carbon footprint (property, fleet and travel) to 95,234T CO2 in 2011.
ICF2	50	89	In 2011 we reduced carbon emissions from the existing fleet by 4% compared to 2010 (41,625TC02e to 39919 TC02e respectively) exceeding our year-end target of zero increase.
ICF3	100	100	We achieved a 13% (21,306 T CO2) reduction in emissions compared with our target of 12% reduction.
ICF4	50	72	In 2011we achieved an 18% reduction in our UK internal carbon footprint compared to our baseline of 2007. This equates to 72% completion of our 2015 target.

3.1e

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

3.2

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

Yes

3.2a

Please provide details (see guidance)

i. How the emissions are/were avoided;

The British Gas business seeks to commercialise the opportunities around helping customers to reduce CO2 emissions. The 3 measures that make the biggest reductions in a customer's gas use – and related carbon emissions – are cavity wall insulation, energy efficient boilers, and loft insulation, supported by the following investment in new technology / research:

- Ground and air source heat pumps are expected to be a key part of the UK's microgeneration sector by 2020. We acquired the heat pump company Cool Planet in 2010 and grew its revenue from £500,000 in 2010 to £2m in 2011.
- Small scale biomass boilers enable customers to generate their own heat from renewable sources rather than fossil fuels. Anticipating an increase in demand following the launch of the Renewable Heat Incentive in 2011, we acquired the remaining stake in Econergy to enhance our ability to install biomass boilers in homes and businesses.
- New technologies can play a significant role in decarbonising energy generation and we are supporting research into their use. British Gas is one of the 4 lead partners in the Customer Led Network Revolution (CLNR), the UK's biggest smart grid project. The 3-year project was established in 2011 to assess how low carbon and microgeneration technologies affect the electricity grid and how any challenges can be overcome. CLNR is also creating smart-enabled homes to give customers more control over how they use and generate electricity.
- British Gas has the largest smart meter deployment in the country with more than 453,907 already installed in homes and businesses by the end of 2011 and a cumulative target of 1.1 million by the end of 2012

ii. An estimate of the amount of emissions that are/were avoided over time, e.g. x metric tonnes CO₂e per year with a 2007 baseline; x metric tonnes per year over a period of 10 years (2003-2013);

Through CERT we provide energy efficiency products and services to our customers. In 2011 we provided household energy efficiency products with a total equivalent lifetime carbon savings of 14.6 million tonnes,

Centrica is implementing 1/3rd of all CESP programmes after taking on the obligations of 2 other major power generators. In 2011, we launched 45 CESP schemes across 40 low income areas, delivering 1.4m tonnes of equivalent carbon savings, achieving a 211% increase on 2010 (using Ofgem's Suppliers' Guidance).

We scaled up our solar business in 2011, installing solar panels in 2,377 homes. Larger scale projects included installation at Toyota's Burnaston car plant. Collectively, we have put in place 12.8MW of solar PV capacity, compared with 428 installations in 2010 (1.8MW).

iii. The methodology, assumptions, emission factors and global warming potentials

Energy savings calculated using Ofgem's published guide to the kg CO₂ savings attributable to each measure in their Suppliers' Guidance and also for newer products with agreement with Ofgem based on the energy saving performance of that product. The products provided were as follows:

- 410,000 domestic insulation jobs equating to 7.9m tonnes equivalent lifetime carbon savings.
- 3.7m energy efficiency products equating to 2.2m tonnes equivalent lifetime carbon savings.
- 13.7m energy efficient light bulbs, equating to 1.9m tonnes equivalent lifetime carbon savings.
- 5.7m 'other measures' equating to 2.6m tonnes equivalent lifetime carbon savings including DIY loft insulation, energy efficient glazing, heat pumps, fuel switches, boilers, and home energy audits.

Independent analysis by the Cebr of 40m British Gas meter readings found that our customers' gas consumption declined by 22% over a 5 year period 2006-2010, equivalent to savings of 5.47mt of CO₂. This compares to a 17.0% reduction in gas use for Great Britain as a whole. Customers who adopted measures such as insulation and energy efficient boilers saved an average of £322 each year and saw a 44% fall in their gas use. The report found that gas consumption declines are directly driven by structural energy efficiency measures implemented by households, mainly energy efficient boilers (c.36% of total decline) and insulation (c.36%). The savings have been converted into CO₂ emissions savings using DEFRA's GHG conversion factors, which state that a kWh is equal to 0.18485 kg CO₂. The findings were based on data from 40% of British Gas customers.

In 2011, we reduced our global generation carbon intensity by 21% to 220g CO₂/kWh (277g CO₂/kWh in 2010). UK carbon intensity performance reduced to 199g CO₂/kWh (compared with 277g CO₂/kWh in 2010). UK performance was due to the first full-year contribution of nuclear power from our 20% stake in EDF Energy Nuclear Generation and the effect of placing four of our eight gas-fired stations into standby mode. Our portfolio of gas, nuclear and wind power works together to deliver a diverse range of energy sources while maintaining a reliable energy supply. Of the power we generated in 2011 (including output from our own generation and from site-specific offtake contracts), 14.6% was from renewable sources. In addition, 29% was from nuclear, resulting in a total of 43.4% produced from low carbon sources. As we are able to generate and obtain through power purchase agreements a large proportion of our customers' requirements from lower carbon generation sources our UK power generation carbon intensity using the UK fuel mix disclosure for the period 1 April 2010 – 31 March 2011 made to Ofgem is 338g CO₂/kWh considerably lower than the UK average at 450g CO₂/kWh.

iv. Generating CERs or ERUs within the framework of CDM or JI (UNFCCC).

We offer green energy tariffs based on the principle of additionality and in accordance with Ofgem's best practice guidelines. Our Energysshare tariff (electricity only) has 100% Levy Exemption Certificate (LEC) retirement based on the customer's actual consumption. British Gas is the only energy provider that retires this level of certificates for a domestic energy tariff. In North America, green energy products are marketed, including a product backed by Renewable Energy Certificates (RECs) for businesses from our Texas wind farm power purchase agreements. These opportunities drive sales for low carbon products in select markets.

3.3

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

Yes

3.3a

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

Stage of development	Number of projects	Total estimated annual CO ₂ e savings (only for rows marked *)
Under investigation	3	5280777
To be implemented*	3	1518570
Implementation commenced*	1	149234
Implemented*	5	271562
Not to be implemented	0	

3.3b

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

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
Energy efficiency: building fabric	<p>We are participating in the UK Government's Community Energy Saving Programme (CESP), a mandatory obligation on power generators to install energy efficiency measures in areas of severe social deprivation over the three years from 2009-2012. The scheme requires a 'community-by-community' and 'whole house' approach, installing sets of energy saving measures in conjunction with local authorities and residential social landlords. Our own obligations make up around 19% of CESP in the UK but we have also taken on the implementation of CESP obligations for two other major power generators. Combined, this means Centrica is implementing a third of all CESP programmes. In 2011, we launched 45 CESP schemes across 40 low income areas which benefited 8,800 homes and delivered 1.4m tonnes of equivalent carbon savings, achieving a 211% increase on 2010. We have gone beyond the minimum required under CESP by installing smart meters, not just energy efficiency measures, and by choosing to work in more rural 'hard to heat, hard to treat' communities such as our CESP scheme in Dumfries and Galloway, Scotland. The remote off-grid location and solid wall stone construction of housing developments in this community make them more challenging to upgrade. However, meeting this challenge presents a valuable opportunity to expand our knowledge and capabilities. The action is helping to reduce our Scope 3 emissions.</p>	1400000		100000000	>3 years
Low carbon energy installation	<p>We are building a 270MW offshore wind farm. Total investment in the project is expected to be approximately £750 million, (excluding offshore transmission – OFTO) with Centrica's share being £375 million. Offshore construction of the Lincs wind farm commenced in 2010 with first power expected in 2012. We also have two proposed wind farms awaiting planning consent off the coast of Norfolk, at Race Bank and Docking Shoal. This is helping to reduce our Scope 1 emissions by increasing the renewable component of our generation. Our investment in renewables is not a mandatory requirement.</p>	2536033	0	375000000	>3 years
Low carbon energy installation	<p>In 2009, we invested £2.3bn in a 20% stake in nuclear power producer EDF Energy Nuclear Generation (formerly British Energy), to increase the amount of low carbon baseload power available to our customers. Since our investment, two power stations – Heysham 1 and Hartlepool - have arranged a five-year life extension for the plants and EDF have also arranged an average seven-year life extension across the AGR</p>	4977708	0	2300000000	>3 years

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
	<p>fleet (excluding Sizewell). As part of the deal, we have the option to invest in new nuclear power stations. Our offtake of nuclear energy started in April 2010, in 2011 we received the first full-year contribution of nuclear power. This is helping to reduce both our Scope 1 emissions (lower carbon power generation) and Scope 3 emissions (our investment means that we do not have to purchase as much energy on the market, which has a higher carbon intensity than our own generation). Our investment in nuclear is not a mandatory requirement.</p>				
Transportation: fleet	<p>We continue to replace our commercial vehicles with more efficient models, where possible, which is reducing our Scope 1 emissions. This is not done with significant additional investment but as part of our rolling vehicle replacement programme and is a voluntary initiative. Our new vans have the latest generation Euro 5 emissions standard power plants and where possible we continue to downsize the engine capacity of our fleet. In the UK, our fleet carbon reduction programme, achieved a 1% reduction in emissions from our core van fleet compared with 2010. In total, 2,279 commercial vans were exchanged, often for more efficient versions in 2011. We achieve more than 40mpg for most of our small vans, even when working in urban areas, demonstrating our commitment to invest in the latest technology that improves fuel efficiency. We also began our first electric van trials in Leicestershire and intend to expand the trial further in 2012 with a view to introducing approximately 1,300 electric vehicles to our UK fleet by 2015. Any move to convert our fleet to electric vehicles depends on the availability of reliable, affordable models on the market and the standardisation of electric or electric hybrids by manufacturers. Annual monetary savings are estimated. The investment required is part of the ongoing fleet replacement programme. In North America, emissions in our core business fleet dropped by almost 8% during 2011, mainly due to a decline in operations related to the economic downturn. We have begun a trial of GPS tracking in new vans.</p>	913	635500		<1 year
Transportation: fleet	<p>In 2009, we re-engineered our company car policy to encourage our employees to choose cleaner vehicles through raising awareness and using financial incentives. This is a voluntary initiative and is expected to continue indefinitely. The changes have impacted our employees' car selection and on average, they are now choosing cars which emit 2g CO2/km less than our current fleet average, helping to reduce our Scope 1 emissions. In addition, since 2007 we have restricted the choice of company cars to those that emit a maximum of 200g CO2/km. Together these initiatives have led to a reduction in the average tail-pipe emissions from our company car fleet to 127gCO2/km from 164g CO2/km in 2007. This is well ahead of the UK average for</p>	1580	860000		<1 year

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
	cars of 163g CO2/km reported in the trade press and of current European Commission targets for car manufacturers. As with the commercial fleet, we have been exploring opportunities for introducing electric vehicles. We purchased three Nissan Leaf's in 2011. We use these cars to raise awareness and promote the uptake of electric and hybrid vehicles among employees who use two of them to shuttle between our Staines and Windsor offices, where solar canopies are installed to charge the vehicles. A few electric vehicles are now in use as company cars, charging points have been provided at some offices to incentivise others to move to electric company cars. The annual monetary savings are calculated by estimating the savings on fuel through the car policy changes.				
Behavioral change	Driving: We have trained drivers in efficient driving techniques, used fiscal incentives to encourage employees to choose less polluting vehicles and provided video-conferencing technology to help reduce our Scope 1 emissions. We have continued to roll out GPS to the fleet and now virtually all are equipped with this technology. GPS helps to calculate the most efficient routes, reducing mileage and fuel used. We anticipate this will reduce carbon emissions by a further 5% or 546 tonnes CO2e per year by 2014. We developed a Safe and Fuel Efficient Driving (SAFED) online training module aimed at educating our 13,000 commercial and company car drivers in how to drive in a more environmentally friendly manner. We use a points-based system to profile our commercial vehicle drivers to identify those with low fuel efficiency and provide further training. In 2011, we delivered driver training that included fuel efficiency training to 758 drivers. In addition, we gave Fleet induction training to 2,246 commercial vehicle drivers. These are all voluntary initiatives. The investment required is a per annum figure and the annual monetary savings are based on estimated savings on fuel.	242	204000	1570000	<1 year
Other	To deliver on our energy efficiency and microgeneration programme, we need a team of people with the right skills and expert knowledge. We are creating 'green collar' jobs in insulation, in-home advice, renewable generation and smart metering by the end of 2012. This is not a mandatory requirement but will give our business a competitive advantage. These skilled individuals will be better placed to advise customers, helping to reduce our Scope 3 emissions.			60000000	1-3 years
Energy efficiency: building fabric	We are building our insulation business in the UK and in 2010 we acquired Hillserve Ltd, a leading domestic insulation company serving the North West of England and Wales. Demand for home insulation is forecast to rise significantly in the next five years. Currently, £1 in every £4 spent on domestic energy is wasted because of poor	16000000		5000000	1-3 years

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
	insulation. Spending on home insulation is predicted to rise from around £0.6bn a year in 2010 to £1.4bn in 2015. Better insulation reduces customer energy use and will help to reduce our Scope 3 emissions. It was not a mandatory investment to build an insulation business but it is part of our response to our obligation under the UK Government's Carbon Emissions Reduction Target.				
Energy efficiency: building fabric	In 2010, British Gas announced plans to 'go early' on the UK Government's Green Deal voluntarily by installing £30m of energy efficiency measures in customers' homes from 2011, two years ahead of the Government's scheme. Repayments from customers will be made via savings in their energy bill over two to 10 years (depending on the measures installed), enabling them to benefit immediately from warmer homes and energy savings. This will help to reduce our Scope 3 emissions and provide us with the knowledge and experience to lead the official rollout from 2013.			30000000	>3 years
Behavioral change	Facilities: Our network of Green Teams coordinate activities at local sites to highlight key environmental messages to employees. This includes support for our major behavioural campaign each year to promote carbon reduction among employees. Our UK campaign for 2011 was targeted 100% at employees in our offices taking ownership for reducing carbon in their day to day activities. The campaign, which we ran in conjunction with facilities management company Carillion ran for 3 months with 3 main initiatives: Green Travel, Reduce Carbon in the office and Reduce Waste in the Office. Employees were awarded a stamp each time they participated in a green activity i.e. walking to work, car sharing, using a thermal mug rather than disposable cup from the staff restaurant etc. There was competition across the sites with regular league tables issued. Throughout the campaign a total of 246,611 green actions were made.		180000	500	<1 year
Energy efficiency: building services	In 2011 we continued with more installations of efficient lighting devices in buildings and car parks including LED devices in our Windsor Corporate HQ and British Gas offices, Newbridge House, Leeds leading to savings of 11,908 KWh in the year and to reduce Scope 2 emissions. This is a voluntary initiative.	6	1302		>3 years
Low carbon energy installation	We have continued the programme started in 2010 of installing renewable microgeneration on selected British Gas and Centrica buildings. We are anticipating saving c.500 tonnes of CO2e per year. These voluntary installations will reduce our Scope 2 emissions and are expected to last 10-20 years. The installations in 2011 were renewable microgeneration on selected British Gas buildings. (Solar thermal installations at our Corporate HQ in Windsor and British Gas offices in Hattersley, Solar PV at our Scottish Gas office in Edinburgh, solar PV canopies at British Gas' HQ	500	200000	1500000	>3 years

Activity type	Description of activity	Estimated annual CO2e savings	Annual monetary savings (unit currency)	Investment required (unit currency)	Payback period
	in Staines and our Corporate HQ at Windsor, Biomass boiler at British Gas office in Talbot Road, Manchester.)				
Behavioral change	Travel: We have video-conferencing equipment in all our business units and have upgraded the equipment at seven sites and we have a rolling programme to promote remote working technology such as web-conferencing as an alternative to travel. In 2011 'Live meeting' software was installed on all UK computers and we launched a major promotional campaign. We also continue to promote a car-sharing software and have developed site Green Travel Plans to reduce business and commuting miles. These voluntary initiatives are helping to reduce our Scope 3 emissions.			280000	1-3 years
Energy efficiency: building fabric	We are participating the UK Government's Carbon Emissions Reduction Target - a mandatory requirement for energy suppliers. CERT requires suppliers like British Gas to deliver carbon reductions by providing and supporting the delivery of energy efficiency measures to households. Such measures include insulation, energy efficient light bulbs, home appliances and energy saving devices. These help to reduce our Scope 3 emissions. Through the course of the four year programme suppliers have a target to deliver approximately 293m tonnes of CO2 reductions. CERT requires suppliers such as British Gas to deliver carbon reductions by providing energy efficiency measures to households – including insulation, boilers, energy efficient light bulbs, home appliances and energy saving devices. Under CERT we provided household energy efficiency products with equivalent lifetime carbon savings of 14.6m tonnes in 2011, below our internal target of 16.3m tonnes. Having put considerable effort into building an insulation business and finding households suitable for insulation, we were disappointed to miss the target. However, we believe that industry CERT targets, extended to 31 December 2012, were set at unrealistic levels by the UK Government; a view reflected within the industry.	14600000		2100000000	>3 years

3.3c

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

Method	Comment
Compliance with regulatory requirements/standards	We are required to comply with the Renewables Obligation, the Carbon Emissions Reduction Target (CERT), the Community Energy Saving Programme (CESP), the CRC Energy Efficiency Scheme and the EU Emissions Trading System. We have used the platforms provided by the legislation to underpin the strategic shift in our British Gas business towards energy and energy services (not just energy supply) and to reinforce our focus on investing in lower carbon power sources, including nuclear, offshore wind, new forms of lower carbon generation (e.g. biomass) and efficient CCGT.
Other	Our investments in low carbon energy are not only driven by regulatory compliance, but also be the wider economics, including the price of carbon. For example, the Renewables Obligation does not require us to invest in wind farms but it helps to provide an economic rationale for doing so. We also engage with policymakers to drive the direction of policy towards greater support for renewable energy, such as a carbon floor.
Internal incentives/recognition programs	Our Annual Incentive Scheme assesses executives against a corporate responsibility scorecard that includes performance against the strategic priorities (which are underpinned by a commitment to provide energy for a low carbon world) and environment performance indicators and incident rates. If overall business performance, including environmental performance is not deemed satisfactory, the individual's bonus for the year may be reduced or forfeited, at the discretion of the Remuneration Committee.
Other	Our corporate strategy is underpinned by a commitment to provide customers with energy security and lower carbon emissions. In particular our strategic priority for our British Gas business is to 'Grow British Gas, leading the way to a low carbon future'. This means that the whole focus of our business model is shifting towards providing low carbon products and services and investing in lower carbon power. We now have a well diversified fleet with a distinctive low carbon mix. As we enter a phase of significant evolution of the UK's generation mix, driven by ongoing tightening of the environmental regulations, the low carbon nature of our fleet will be particularly important.
Employee engagement	We have trained our drivers in efficient driving techniques, used fiscal incentives to encourage employees to choose less polluting vehicles, provided video-conferencing technology and run awareness campaigns to promote greener behaviours in all our buildings. Our network of Green Teams coordinate activities at local sites and through them we hosted events at over 25 sites group-wide to celebrate World Environment Day 2011, using the opportunity to highlight key environmental messages to employees. In 2011, we will be rolling out culture surveys across the businesses to understand attitudes and perceptions to carbon and environmental practices.
Dedicated budget for energy efficiency	In 2010 we dedicated a budget to a new insulation business to increase the speed and efficiency of a nationwide insulation rollout. We now operate nationally from 12 regional areas and employ over 900 people. The new insulation business is part of our wider aim to build the capacity of our business to deliver comprehensive services for the 'home of the future'. In 2011 we delivered more than 400,000 loft and cavity wall installations, doubling the number of installations in 2010. We also have dedicated budgets to deliver our energy efficiency obligations under the Carbon Emissions Reduction Target and the Community Energy Saving Programme We are working with Carers UK and RNIB to identify customers who would benefit from free loft and cavity wall insulation in their properties. This supports our CERT obligations for vulnerable customers, and particularly the 'Super Priority' group.
Dedicated budget for low carbon product R&D	British Gas New Markets brings together British Gas' activities in low carbon technologies and energy efficiency, operating through 3 focussed P&L's: Smart Homes (BGSH), New Energy (BGNE), and Technology & Innovation (BGT&I). BGSH has developed the smart meter technology which will be deployed to all our energy customers by 2019, helping them save money and carbon by raising awareness and improving control over their energy consumption. BGSH has established a test lab for

Method	Comment
	<p>smart meter communications and process development, and overall smart metering is the largest programme in British Gas. BGT&I finds and with partners develops low carbon and energy efficiency technologies, runs technology and customer field trials to test their suitability for the GB market, and makes minority investments in low carbon areas. Their investment in AlertMe for example unlocked the opportunity to bring customers better control and savings in their central heating, developing the Remote Heating Control product that BGSB launched this year. BGSB is also driving our developments in electric vehicles, focussed on finding, developing and fitting in-home EV charging units, and developing propositions and tariffs to attract customers. BGT&I also works with BGNE and British Gas Business to invest in, find and develop micro Combined Heat Power products (such as fuel cells, Stirling Engines, heat pumps, biomass), helping customers generate renewable and efficient electricity on-site. BGT&I has invested in the UK's 1st commercial scale food-waste into renewable gas plant based in Stockport and due to flow 1st gas next year. BGT&I runs the customer facing activities of the UK's largest Smart Grid trial (LCNF), looking at how customers today and in the future will work with low carbon technologies. BGNE is focussed on developing solutions with local authorities for "hard to heat, hard to treat" homes, such as Dumfries and Galloway, where the remote location and stone construction in this region makes them more challenging to upgrade, but also presents a valuable opportunity to expand our knowledge and capabilities as an energy services provider. In the business sector we have created in British Gas Business Services a new P&L to bring these low carbon and energy efficiency products and services to SMEs and larger buildings owned by local authorities.</p>
Other	<p>We are investing in the skills of our employees and new recruits to meet the needs of a low carbon economy. We invested £21m in our six training academies, which helped to deliver 165,000 training days to our 1441 apprentice and trainee engineers in 2011. British Gas engineering academies delivered a total of 165,000 training days in 2011, of which the majority (71%) related to servicing and repairs but also jobs in smart meter delivery and home insulation in the UK. Additionally, in 2011, 6,896 training days were delivered to 1,929 people at our Green Skills Centre in Tredegar, Wales. The centre is designed to give people from the local area, where there are high levels of unemployment, the skills required to make Britain's homes more energy efficient. The technical capability of people in Centrica Energy is increasingly important. Frameworks have been established to help them benchmark their performance against best practice and to identify areas for development. Centrica Energy combines this with its focus on supporting the development of managers to create the right working environment to encourage high performance in their teams. In North America, Direct Energy delivered more than 22,700 hours of training, including safety and technical courses, and leadership and development programmes. In 2011, Direct Energy created a one-day training course for service technicians and residential call centre teams to help them better understand the company's culture and how it relates to providing high quality services to customers. This new course will be offered to employees in 2012.</p>
Other	<p>We have set and published targets such as our internal carbon footprint target. By achieving executive support for these commitments, this has helped to unlock investment into low carbon technologies and focus the business on initiatives to meet our goals.</p>

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

Further Information

Due to the limitations of the text entry sections the following file have been attached as PDFs for ease of reading - 3.2a
3.3a - Note the above only represent the large scale upstream investment projects. There have been, are, and will be many other carbon reducing projects; however the ones stated represent the majority of the carbon savings. They relate to our move towards low carbon power generation, specifically biomass and wind power (our investment in existing nuclear assets has been excluded but new-build nuclear assets will be considered in future disclosures).

Attachments

Page: 4. Communication

4.1

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

Publication	Page/Section Reference	Identify the attachment
In annual reports (complete)	Chief Executive's review (p5-11), Non-financial key performance indicators (p13), British Gas operating review (p14-17), Corporate responsibility review (29-35), Principal risks and uncertainties (p36-40) Performance measures (p136-137)	[01] centrica_annual_report_2011.pdf
In voluntary communications (complete)	2011 Corporate responsibility report – Corporate Responsibility Performance Review 2011 Carbon and climate change (NB this is online and a downloadable PDF)	[02] Corporate Responsibility Performance Review 2011.pdf
In voluntary communications (complete)	2011 Corporate responsibility report - download of environment data held in online data centre, which includes a breakdown of our GHG emissions (www.centrica.com/datacentre)	[03] Centrica Datacentre Environment.xls
In voluntary communications (complete)	CR progress against commitments - (NB this is online and a downloadable PDF)	[04] centcr11_progress_against_commitments.pdf

Publication	Page/Section Reference	Identify the attachment
In voluntary communications (complete)	Our online interactive blogging portal Centrica Views has a series of blogs, speeches, responses, and hot topics dedicated to discussing issues relating to carbon, energy efficiency and climate change; the attachment shows screenshots on these topics and interested stakeholders can comment on these online	[05] Centrica Views.pdf
In voluntary communications (complete)	Speech made by Centrica Chief Executive 'Socially Responsible Business Leadership', May 2011	06] Sam Laidlaw - Socially_Responsible_Leadership_May2011.pdf
In voluntary communications (complete)	Speech made by Centrica Chief Executive at The Economist energy summit in June 2011 on 'Securing a bright future'	[07] Sam Laidlaw - the_economist_uk_energy_summit.pdf
In voluntary communications (complete)	Presentation given by management to investors around interim results July 2011 – particularly pages 6-7 and 12-15	08] 2011_interim_transcript.pdf.pdf
In voluntary communications (complete)	Presentation by managers to investors at a British Gas investor day 7 September; presentation available on www.centrica.com; key slides on climate change and low carbon are 66-74	09] british_gas_investor_slides.pdf
In voluntary communications (complete)	Centrica Energy investor day December 2011 - Offshore Wind - Andy Bevington and Sarwjit Sambhi	[10] Centrica Energy investor day - offshore wind.pdf
In voluntary communications (complete)	Live web chat – Wind energy in the UK - June 2011	[11] Web Chat - 15-6-11 -Wind Energy in the UK.pdf
In voluntary communications (complete)	Booklet aimed at consumers called 'A World of Solutions' but also provided to other stakeholders, including MPs	[12] British gas World of Solutions.pdf
In voluntary communications (complete)	Centrica on Facebook and Twitter linking to centrica.com Responsibility and Views and promoting renewable, low carbon solutions and energy saving tips	[13] Facebook & Twitter.pdf
In voluntary communications (complete)	Response to the Green Deal & ECO consultation posted in Centrica Views on centrica.com	[14] The Green Deal & ECO consultation.pdf

Attachments

5.1

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

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

5.1a

Please describe your risks driven by changes in regulation

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
EMR	Uncertainty surrounding new regulation	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. The UK Govt continues to develop its Electricity Market Reform programme which began in 2010. We have had ongoing discussions with Govt, industry, the Regulator & other stakeholders on all aspects of the policy. The risks are that the timing of Govt's decisions & the shape of the resulting policies will not align with the timing of our investment decisions, nor create a framework within which we can make those investment decisions, affecting	Other: Increased capital cost and return on investment	Current	Direct	Likely	High

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		<p>both our upstream operations & our customer-facing businesses. These risks persist as political questions about the affordability of low carbon investments in the context of an economic downturn continue to surface. We are working to secure an outcome which ensures the viability of investment in technologies to tackle climate change, including new nuclear build & renewables, & that protects existing wind revenues. Our strategy to pursue low carbon generation means that if the economy remains high carbon & the Govt ceases to view climate change as a major risk, we will be at a disadvantage to other suppliers.</p>					
EE1	Uncertainty surrounding new regulation	<p>The failure of Govts to provide a supportive framework for commercial opportunities provided by the low carbon economy are a risk to the profitability & growth opportunities for British Gas. An appropriate enabling environment for energy efficiency, microgeneration & smart metering will impact on the scale & speed at which we are able to grow this element of our residential energy services business. Uncertainties about the policy & regulatory regime, & the support levels for these emerging technologies have already had an impact on investor confidence in these emerging markets. These are partly driven by the higher costs & uncertainties associated with emerging technologies in the context of a continued economic downturn. There is an ongoing risk of failure to establish & maintain a framework that delivers adequate financial support for renewable & low carbon power & heat generation technologies. Currently, the regulatory environment still remains broadly positive for encouraging products & services such as energy efficiency, microgeneration & smart meters. The UK Govt has continued to develop its flagship energy efficiency policy, the 'Green Deal' & made a series of positive policy announcements on smart metering. However, both markets are still emerging UK Govt support is required &</p>	Other: Return on investment	1-5 years	Direct	About as likely as not	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		the political context remains mixed.					
PL1	General environmental regulations, including planning	An ineffective planning regime in the UK can make it difficult to achieve planning consent for the development of new assets, such as wind farms, affecting the ability to deliver on investment. In addition, regulatory interventions in the retail market have the potential to restrict our ability to offer innovative customer propositions.	Increased capital cost	1-5 years	Direct	About as likely as not	Medium
EE2	Fuel/energy taxes and regulations	There is a risk that we fail to meet our legal obligations which include the following: we must provide energy efficiency measures under the Carbon Emissions Reduction Target (CERT) & report the total carbon savings of these to Ofgem, the Regulator; we must comply with the Community Energy Savings Programme (CESP).	Increased operational cost	Current	Direct	Likely	Medium-high
ERO1	Cap and trade schemes	There is a risk that we fail to meet the requirements of the EU Emissions Trading System, either through failing to secure proper verification of our emissions, or surrendering insufficient emission allowances to match the verified levels.	Increased operational cost	Current	Direct	Unlikely	Medium-high
ERO2	Emission reporting obligations	There is a risk that we fail to meet our obligations under various regional carbon & renewable energy programmes. Since purchasing gas producing assets in Wildcat Hills, we now have an obligation under Alberta Carbon, a carbon compliance market for emissions from natural gas production. We are also subject to Renewable Portfolio Standards (RPS) which vary from state to state. For example, there is a substantial obligation in California. To comply, companies must retire Renewable Energy Certificates (RECs) or make a specified alternative compliance payment. The Regional Greenhouse Gas Initiative (RGGI) is a carbon compliance market for 10 states in the US Northeast but it does not impact retail pricing directly. The costs of purchasing allowances are borne by the generation owners & recovered through their energy offers	Increased operational cost	Current	Direct	Likely	Low-medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		(increased marginal cost of generation). RGGI is strictly a greenhouse gas initiative & does not impact RPS. Generation owners in participating states (CT, DE, MA, MD, ME, NH, NJ, NY, RI, VT) have to purchase CO2 allowances to cover their GHGs from fossil fuel based generation. California is expected to launch a carbon cap & trade program in 2013 as part of the western climate initiative (WCI). Entities which own generation or import electricity into the state will have a compliance requirement. At present, we only anticipate having a reporting obligation.					
LR1	Lack of regulation	In North America, the prospects for any federal climate legislation have largely disappeared with the changed make-up of Congress following the mid-term elections. Climate change momentum has slowed at the state & provincial level as well. The risk is that a market in low carbon products & services will not develop. The lack of regulation means that we do not have the certainty required for planning & investment purposes.	Other: Insufficient support for developing market in low carbon products and services	1-5 years	Direct	Likely	Low-medium

5.1b

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

EMR:

i. The potential financial implications of the risk before taking action.

Electricity generation from renewables is not currently commercially viable against fossil fuels without Govt support. In the UK support is currently provided to technologies such as offshore wind which offer additional benefits such as diversity of supply, security, technological learning & creation of a UK export industry. Removal of this support would impact our investment decisions & as the potential new build costs for Round 3 developments run into potentially billions of pounds. It could also mean loss of investment already made, such as offshore wind feasibility studies in the East Irish sea zone under Round 3 at a cost of several hundred thousand pounds. If Govt support later proves to be insufficient (& base economic conditions do not support investment), we will have lost the investment already made. The nature of the Govt support arrangements

are that they cover some degree of power price risk, under 'contracts for difference'. It could be that the design of these proposals put too great a risk on investors for the viability of the project. This is applicable to all low carbon options e.g. biomass, wind, CCS.

ii. The methods used to manage the risk.

Our management of political & regulatory policy developments is ongoing. Internally, an executive level Policy Group meets monthly to discuss & agree Group-wide positions on each key issue. Externally, we continue to engage with Govts & regulators & our media relations are designed to build knowledge & trust in the business among wider stakeholder audiences.

iii. The costs associated with the management actions described

The majority of costs described are built into annual operational costs. In 2011, we invested £300m in power development which included spend on wind farm development & a small amount of the overall budget on Round 3 feasibility studies (exact figures are commercially confidential). No further wind development for proposed Round 2 or 3 projects will be made without confirmed Govt support arrangements per project.

EE1:

i. The potential financial implications of the risk before taking action.

Govt support continues to be strong for markets in low carbon products & services but there is always a risk that circumstances will change or the timing of regulation may delay our investment decisions, impacting our profitability. Financial commitments have been made by 'going early' on the Green Deal, a £30m investment, & on smart meter installations, an ongoing multimillion pound operational investment, , to successfully improve our understanding of the challenges & opportunities surrounding a mass rollout

ii. The methods used to manage the risk.

Risks are managed on an ongoing basis, sharing our commercial experiences with policy makers & others in order to build understanding & develop a workable policy environment. The UK Govt has now confirmed the roll out of smart meters & the Green Deal commences in Autumn 2012.

iii. The costs associated with the management actions described

Management actions built into annual operation budgets. Green Deal 'go early' involved a £30m investment with smart meter rollout also integrated into existing operational budgets (exact figures are commercially confidential).

PL1:

i. The potential financial implications of the risk before taking action.

Planning is a major factor in the economics of major infrastructure projects & impacts on all our investment plans to 2020. Planning inquiries could substantially delay or stop new investments. No significant costs are involved prior to new investment build although overall investment spend can run into billions of pounds

ii. The methods used to manage the risk.

We are engaging with the UK Govt & are supportive of planned to bring forward construction in new energy infrastructure. Although no capital investment will be made until there is clarity over planning decisions, delays in significant investment will delay new lower carbon generation investment.

iii. The costs associated with the management actions described

No capital cost outlay, management actions built into existing operational budgets.

EE2:

i. The potential financial implications of the risk before taking action.

During 2010, the overall 5-year CERT target was increased & refocused around insulation & priority groups of vulnerable customers. Failure to comply with CERT & CESP can lead to fines of up to 10% of global turnover for both schemes. In 2011, our global revenue was £22.8bn, implying a max theoretical potential fine of up to £2.2bn. Govt

ii. The methods used to manage the risk.

We use CERT & CESP as a platform for growth as we believe we have a competitive advantage in discharging these obligations. We grew our insulation business in 2011 following the acquisitions of cavity & loft installer Hillserve & external-wall insulation company ECL Contracts Ltd, helping us deliver against CERT & gives us commercial advantages including quality, cost control & a reduced reliance on 3rd party contractors in what is likely to become a capacity constrained market. We provided insulation for 410k homes in 2011. We implement significant activity to try & meet our targets including contracting with a wide range of self-generation contractors, a free insulation offer to all our energy & services customers which we have now extended to our partner organisation customers & extensive marketing including TV & radio advertising, door drops, fliers in bills & joint Govt letters.

iii. The costs associated with the management actions described

Management actions are an integral part of arrival operational costs & will be incurred were the lifetime of CERT & CESP schemes. There are therefore no additional costs for action.

ERO1:

i. The potential financial implications of the risk before taking action.

There are financial penalties associated with non-compliance of the EU ETS of €100 per tonne of CO2 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.

ii. The methods used to manage the risk.

We manage this risk by ensuring a close match between our forecasted levels of emissions under the system, & our holding of valid emissions allowances throughout any year. The bulk of our emissions comes from our power stations covered by the system: forecast levels of emissions are determined by expected running patterns in turn dependent on plant availability & relative fuel prices.. We secure necessary carbon allowances to meet any individual power volume sale at the same time as power is sold, to mitigate any risk on exposure to carbon markets. We also have firm procedures for ensuring relevant actions are undertaken in a timely manner to meet verification & retirement deadlines.

iii. The costs associated with the management actions described

No additional costs for action – costs are part of ongoing operational budgets

ERO2:

i. The potential financial implications of the risk before taking action.

Under Alberta Carbon, Direct Energy met its 2011 obligation by purchasing qualifying carbon offsets. Total compliance costs will rise as emissions intensity trends upward.

ii. The methods used to manage the risk.

To help mitigate risks, RPS compliance requirements are met at the lowest possible cost by purchasing RECs on the wholesale market & retiring & selling RECs from Texas power purchase agreements. The RGGI is factored into power prices.

iii. The costs associated with the management actions described

There are no specific costs to Direct Energy but it will feed through to higher wholesale power for all energy retailers as a result of these policies. RGGI could be more impactful in the future as the cap drops (10% reduction target by 2018) & the economies of the participating states improve, though the past 4 auctions have each been undersubscribed for current control period allowances with no sales of future control period allowances. New Jersey withdrew from the program in 2011.

LR1:

i. The potential financial implications of the risk before taking action.

The net financial implications to Direct Energy of current regulatory policies are unclear as legislation both imposes a cost (for all power/gas producers/sellers) & also an opportunity selling efficiency & related services, low carbon supply solutions & energy management technology. The market potential for Home Energy Management has dropped significantly with falling commodity prices & home values. Overall, Direct Energy recognise hundreds of millions in cost to the business, but in a reasonably foreseeable & hedge-based environment. Until clear & necessary legislation is in place, these numbers are directional & magnitudinal only.

ii. The methods used to manage the risk.

We continue to seek opportunities to build on the platform that the Clockwork & Home Warranty of America acquisitions has provided for sales of more integrated services offerings as part of the wider Direct Energy business strategy to grow in the highly fragmented North American services market

iii. The costs associated with the management actions described

Business revenues increased in 2011 with associated increases in profit. Business development costs to build the platform, as described above, will be built into operational budgets.

5.1c

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
SWE	Other physical climate drivers	The main physical threats to our assets & operations are from the increased intensity & frequency of severe weather events & other changes to weather patterns. We believe that there is a connection between climate change & the intensity of severe weather events such as prolonged & heavy rainfall in the UK & increased intensity of hurricanes in America. If severe weather events continue to increase in frequency & intensity, our business could be at risk from increased insurance premiums. In addition, there are equity &	Reduction/disruption in production capacity	Current	Direct	Unlikely	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		commodity risks if supply of electricity is interrupted. For example, flooding in 2008 disrupted output at our Brigg & Killingholme power stations for a short duration. Coastal flooding is also a risk for all the nuclear stations which we jointly own with EDF & for our processing facilities at Morecambe & Easington. Our Humber & Roosecote power stations are also on the coast & we have onshore substations for our offshore wind farms.					
SL	Sea level rise	Rising sea levels 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. 2 of our gas fired power stations, Humber & Roosecote are near to the coast. Climate change leading to sea-level rise & coastal erosion could impact operations at all these locations. However, some of these assets are approaching the end of their scheduled accounting lives, subject to the potential for life extensions. In 2011 we undertook a detailed assessment of the risks from sea level rise to our gas fired power stations & concluded that the risk was low during the expected life of the stations & that it is the next generation of gas & power assets that are more likely to be exposed to long-term climate change impacts. Any new assets that we invest in would need to take account of the physical climate risks which could affect their design.	Increased capital cost	>10 years	Direct	Exceptionally unlikely	Low
CT	Change in temperature extremes	Increasingly unpredictable & 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 & output of all gas turbines is affected by ambient temperature. As the ambient temperature rises, the efficiency & output of the gas turbine falls. This loss of efficiency is slightly more prevalent in air-cooled condensed plants, of which we have 4	Other: Reduction in production capacity / Increased operational cost	>10 years	Direct	Exceptionally unlikely	Low

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		(King's Lynn, Peterborough, Barry & Langage).					
AR	Uncertainty of physical risks	Other companies are not yet reporting comprehensively on adaptation issues & therefore it is difficult to assess the impact of physical risks on our supply chain & other parts of our value chain. Resilience, continuity or contingency plans to adapt to the effects of climate change are to an extent dependant on other sectors & regulators. Uncertainties about inter-dependencies with other stakeholders & their adaptation plans are a barrier to implementing adaptation measures.	Increased operational cost	1-5 years	Indirect (Supply chain)	Unknown	Low-medium
CUS1	Other physical climate drivers	We currently focus our resources for vulnerable customers on supporting them through cold winters in the UK. Our most vulnerable population are registered on an Industry Priority Services Register, in the event of supply outage. This register ensures they will receive priority attention for reconnection / resumed supply. Our own internal policies also ensure that vulnerable customers are provided with appropriate products & services which enhance their quality of supply e.g. providing energy efficiency products, getting them back on supply following a meter fault, priority attention for boiler / appliance faults etc. In 2011 we supported 1.7m customers by providing such enhanced services, & these services are available throughout the year, including Summer months when the impact to vulnerable is less severe.	Increased operational cost	Unknown	Indirect (Client)	Unknown	Low-medium
CUS2	Snow and ice	Changing patterns of snowfall are a risk to our British Gas business. Extremes of cold weather increase the number of callouts & place additional pressure on our workforce. For example, during the sustained period of cold weather in Dec 2010, British Gas received record levels of breakdown call-outs, 25% higher than the corresponding period in Dec 2009. It was also essential that we prioritised vulnerable customers at this time. The Winter	Increased operational cost	Current	Direct	Unlikely	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		quarter for 2011 was the warmest last quarter on record & the number of engineer visits was correspondingly down. However, extreme weather conditions have to be expected.					
SDF	Change in temperature extremes	Physical changes related to climate change could reduce the accuracy with which we are able to forecast demand. Seasonal fluctuations in temperature impact long-term demand planning & short-term demand forecasting models are prone to be less accurate under extreme weather conditions.	Increased operational cost	Current	Direct	Unlikely	Medium
	Change in precipitation extremes and droughts	In our 2011 Climate Change Adaptation Report we identified flooding of sites or access routes as one of the main risks from climate change to our gas fired power stations. However over the expected life of the assets, the risk remains low	Other: Reduction in production capacity / Increased operational cost	>10 years	Direct	Exceptionally unlikely	Low
	Change in precipitation extremes and droughts	In our 2011 Climate Change Adaptation Report we identified that all of our gas fired power stations are at risk from drought as they require a reliable source of water for use in their boilers. Additionally, one of our sites (Brigg) requires freshwater for cooling. After assessment we concluded that the risks from drought or water shortages as a consequence of climate change are low	Other: Reduction in production capacity / Increased operational cost	>10 years	Direct	Exceptionally unlikely	Low

5.1d

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

SWE:

i. The potential financial implications of the risk before taking action.

Weather-related risks such as flooding can have a significant financial impact on our Power Stations. The actual figure would depend on which facility was affected & the condition of the market at the time the power station was switched off. A prolonged shutdown as a result of a weather-related event would be a significant financial cost to the business with impact of several million pounds. It means that we can meet less customer demand from our own resources & must purchase power on the market. If weather-related damage is widespread, energy supply may be short & prices high.

There are also financial implications for us in terms of insurance costs with a large number of insurance claims likely to affect the entire insurance market. & 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.

ii. The methods used to manage the risk.

For all our 'at risk' facilities, flood risk was an important consideration in the design of the stations & construction of the sea defences & continues to be an actively managed risk. We use the Environment Agency's emergency planning exercise & flood maps to identify assets at a higher risk of potential flooding in extreme circumstances. We currently monitor & manage the risk of severe weather events to our facilities through our meteorology teams and business continuity arrangements.

iii. The costs associated with the management actions described.

Flood risk costs incorporated into initial build costs. Ongoing risk management.

CT:

i. The potential financial implications of the risk before taking action.

Higher temperatures can reduce both efficiency & output from power stations. The amount varies depending on the assets. We have assessed each power station for the effect a heatwave would have on output & efficiency.

We are not able to report on financial implications because of the substantial uncertainties around the likelihood & magnitude of the risks identified.

ii. The methods used to manage the risk.

We are working with DECC on sector resilience plans to mitigate & manage the impact of physical risks. We have also worked with the Association of Electricity Producers in producing its sector response to report on adaptation by DEFRA. This process has involved commissioning joint studies to identify the impact of physical climate change risks on the electricity industry. We also produced our first Centrica Climate Change Adaptation report in 2011 which assesses the risks to our UK gas fired power stations from the effects of climate change.

iii. The costs associated with the management actions described.

Integrated into annual budgets – approx £50k annually.

FR:

i. The potential financial implications of the risk before taking action.

Heavy or sustained rainfall can lead to high river flow, river & land flooding, tidal surges & coastal flooding. Assets near rivers or the coast are the most vulnerable to these effects. Impacts include reduction in water quality due to suspended solids, inlet blockages, site plant & equipment flooding, & flooding of access routes. In the worst cases sites have to be shut down until flood water has receded. Our 2011 Climate Change Adaptation Report identified flooding of sites as one of the main risks from climate change to our gas fired power stations.

ii. The methods used to manage the risk.

Over the expected life of the assets, the risk remains low, & improvements in our understanding of the risks & dependencies on other stakeholders such as the Environment Agency & Drainage Boards helps us to develop contingency plans.

iii. The costs associated with the management actions described.

Ongoing risk management costs integrated into existing budgets approx £50k annually. The range of potential impacts presents a range of costs although all risks remain low. .

DR:

i. The potential financial implications of the risk before taking action.

There is strong evidence that precipitation patterns will change significantly during the 21st century with wetter winters & drier summers. Hazards such as water scarcity & drought driven by precipitation patterns are likely to become more prevalent, posing a risk to power stations which rely on water supplies, especially fresh water, for cooling or boiler water. Additionally, there is a risk from tightening regulation & lowering of abstraction licence allowances. Due to the low risk element, no financial implication is provided although a worst case risk scenario (although unlikely) may mean an impact of several million pounds.

ii. The methods used to manage the risk.

Our 2011 Climate Change Adaptation Report identified that all of our gas fired power stations are at risk from drought as they require a reliable source of water for use in their boilers. After assessment we concluded that the risks from drought or water shortages as a consequence of climate change are low. On-going review & mitigation is will lower the risk further where possible. All UK power stations have reviewed their water usage & taken action to reduce the consumption of water.

iii. The costs associated with the management actions described.

No additional costs –management actions incorporated within annual operational budgets.

AR:

i. The potential financial implications of the risk before taking action.

We have been working to identify key stakeholder relationships to help us understand our wider risks. Resilience, continuity or contingency plans to adapt to the effects of climate change are to an extent dependant on other sectors & regulators. There are other industries also required to report which is helping to give adaptation issues a higher profile.

ii. The methods used to manage the risk.

Uncertainties about inter-dependencies with other stakeholders & their adaptation plans are a barrier to implementing adaptation measures.

iii. The costs associated with the management actions described.

No additional cost for action.

CUS1:

i. The potential financial implications of the risk before taking action.

Changes to weather patterns can also have health impacts on our customers & employees. We currently focus our resources for vulnerable customers on supporting them through cold winters, spending £78.1m in 2011 via the Warm Home Discount Scheme. This includes continuing to support over 300k customers with a Discounted Tariff. Over the next year, we will extend that help via the Scheme further by spending up to £96m.

ii. The methods used to manage the risk.

The health impact on employees is sufficiently long term & uncertain that we do not yet have any specific measures in place. Instead we manage increased health risks to employees through our business continuity plans & wider wellbeing programme. Our occupational health team tracks these issues & ensures that advice provided to employees is relevant & up-to-date.

iii. The costs associated with the management actions described.

Under the UK Govt's mandatory Warm Home Discount scheme, energy suppliers will be required to spend £310m by 2014/15 (£250m in 2011/12) to provide assistance with energy costs to vulnerable customers. Our share (around £100m) will be met from operational budgets.

CUS2:

i. The potential financial implications of the risk before taking action.

Failure to manage increased demand during extremes of cold weather would have a short term financial impact on the business & the potential for a long term reputational impact.

ii. The methods used to manage the risk.

British Gas has worked to improve preparation for peak periods of demand, including the ability to draft in extra staff. In Dec 2010 our engineers were able to visit up to 35k customers a day – around double the amount normally visited on a typical winter's day – despite facing difficult driving conditions. Although the winter 2011 was less challenging contingency plans remain in place for exceptional cold weather response.

iii. The costs associated with the management actions described.

No additional costs for action – built into operational shift capacity.

SDF:

i. The potential financial implications of the risk before taking action.

During an extreme cold spell our peak load could increase by up to 10% (or up to 5% during a heatwave). If our electricity demand forecasts are short when the system is short & system prices are high, we estimate that the potential cost of imbalance can exceed £500k per day, dependent upon underlying accuracy & prevailing market conditions. If climate change increases the likelihood of extreme weather then the likelihood of high imbalance cost days also increases. Gas imbalance charges are less punitive although the demand for gas is much more sensitive to temperature fluctuations & the impact of extreme weather would be seen in our revenue.

ii. The methods used to manage the risk.

We have engaged with the Met Office to ensure that the seasonal & diurnal changes that can be expected as a result of climate change are reflected in the 'seasonal normal' temperatures used in the long-term demand forecasting process. The short-term demand forecasting process utilises weather forecasts from a range of suppliers. The majority of our actions to mitigate the physical risks of climate change are part of business-as-usual risk mitigation & it is difficult to separate out the costs to adapt specifically to the physical risks of climate change.

iii. The costs associated with the management actions described.

No additional cost for action due to business as usual risk mitigation.

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

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
FEC	Changing consumer behaviour	<p>The Group is exposed to falling energy consumption: The UK Govt sees both domestic & commercial energy efficiency as a key part of meeting its carbon targets. UK energy consumption has been falling since 2005, driven by improved energy efficiency & changing customer behaviour as a result of greater environmental awareness, reaction to price changes & the general economic downturn. Continuing reduction in energy demand could, on a per customer basis, significantly reduce the profitability from British Gas' energy business. Reductions are driven by a number of factors, the most significant of which are energy efficiency measures, new boiler installations & behavioural changes. Independent analysis of 40m meter British Gas meter readings over a 4 year period has shown a 22% decline in gas consumption, driven mainly by energy efficiency measures. The report shows that customer who adopted measures such as insulation & energy efficient boilers saved an average of £322 each year & saw a 44% fall in their gas use between 2006 & 2010. This equates to a total average annual saving of £227m. The EnergySmart package can reduce energy use by as much as 12%. On average, users have cut gas use by 3.6% & electricity consumption by 4.1%), which produces total carbon savings of approx 163kg CO2 Long-term UK gas demand will ultimately be driven by industry decisions around generation mix & the impact of Govt climate change initiatives, as well as general economic activity. The decline in consumption in North America is more gradual than seen in the UK & varies across our chosen markets due to weather & market factors.</p>	Reduced demand for goods/services	Current	Direct	Likely	Medium-high
NT	Other drivers	<p>The future profitability of the Group will be dependent in part on its success in continuing to play a leading role in the introduction of new technologies & in implementing the necessary operational & organisational changes to meet the requirements of the new markets. Whilst representing</p>	Other: Profitability	1-5 years	Direct	About as likely as not	Medium

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		new opportunities these developments also create threats to the future profitability of the Group. Uncertainty over new technologies constitutes a risk to our ambitions in providing energy efficiency advice & other services, which are expected to be an important part of future profitability for British Gas. There are also risks associated with the scale of implementation for new technologies. The UK Govt has targeted putting smart meters into every home & business to be complete by 2019.					
SK	Other drivers	There is a risk that we don't have the future skills among our employee base that we need to take maximum advantage of a low carbon economy & keep up with demand for new technologies.	Reduction/disruption in production capacity	1-5 years	Direct	Likely	Medium-high
REP1	Changing consumer behaviour	Our brand & reputation are vital assets for the future success & prosperity of our businesses. Recent high profile cases in the media such as the Deepwater Horizon incident & the nuclear power disaster at Fukushima show how reputation & brand can be quickly & fundamentally damaged. As a diverse group of businesses we have a number of different stakeholders. Maintaining a positive reputation for the Group is of vital importance to ensure the smooth operation of the existing business & to protect profitability. There is a risk that we fail to gain customer trust of our low carbon credentials & lose market share. This would make it difficult for us to build business in new areas. In addition, we could suffer significant reputational damage if our upstream portfolio is not environmentally responsible, impacting our ability to influence Govt future environmental strategy & undermine our "licence to operate". As a leading integrated energy company our corporate responsibility strategy aims to show leadership in response to pressing environmental & social challenges. We are also a major contributor to policy debates in the markets in which we operate. Failure to maintain our reputation with key stakeholders could lead to more direct intervention by Govt or the regulator in the Group's business or industrial action by our workforce.	Reduced demand for goods/services	Current	Direct	Unlikely	High

ID	Risk driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
RC	Other drivers	The pricing of CO2 emissions has a direct impact on the economics of our power stations & the cost of electricity that we purchase from other generators. Due to the competitive nature of wholesale power markets, the price of power includes the full opportunity cost of CO2, irrespective of whether the allowances needed to offset emissions were purchased or given out free. At present, we receive free allowances, which do not cover the total output, & purchase the remainder in the market. However, the cost of carbon is likely to rise & free allowances will be removed. A risk for the future is what the cost of CO2 will be & 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 & our hedged positions.	Increased operational cost	Current	Direct	More likely than not	Medium

5.1f

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

FEC:

i. The potential financial implications of the risk before taking action.

Continuing reduction in consumption of gas & electricity by residential & business customers could have a significant impact on the Group's revenues & profits over the next decade. New profit streams may prove to be insufficient to offset the reduction in consumption, whilst our ability to recover any reduction in profits may be restricted by Govt, regulators, public opinion or competitor activity. Revenue from British Gas residential energy supply was £8,113m in 2011 but gas consumption reduced by 23% in 2011 considerably more than 2010 due to the warmer than normal weather. If all British Gas households adopted all the efficiency measures open to them then these households could save up to £3.6bn over the next 5 years, equivalent to around £714m per year.

ii. **The methods used to manage the risk.** We are closely monitoring our forecasts for gas & electricity demand. Our shift in focus towards energy & energy services is helping to reduce our reliance on revenue from energy supply. We are driving forward to deliver energy efficiency improvements because it is in the interests of our customers, there is political support & customer demand & 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 & other low carbon services & it is these which will replace diminishing revenue streams from electricity & gas supply. To ensure sufficient capability to deliver

energy efficient measures in the UK about 13k engineers working in partnership with local authorities, as well as integrating the delivery of energy efficiency packages. These include the national roll-out of smart meters, & investing in innovative schemes such as our trial Green Deal programme – the Home Energy Plan which started in Jul 2011. The Home Energy Plan enables British Gas customers who pay by direct debit to take out low cost loans to invest in energy saving measures such as insulation & new boilers, or small scale renewable energy generation

iii. The costs associated with the management actions described.

In delivering our focus towards energy & energy services, we have invested tens of millions in new business acquisitions & grown our new markets business organically to manage the impact of reduced gas consumption. Our new markets business had gross revenue of over £250m in 2011. Future costs linked to further business investment / acquisition will be part of ongoing annual costs.

NT:

i. The potential financial implications of the risk before taking action.

Centrica, & other leading energy suppliers, will have the responsibility for the installation & maintenance of smart meters, at an estimated cost of £11.3bn. Although new smart technologies represent a threat to the current business model, they also represent a substantial opportunity from servicing, appliance & home automation sales & customised tariff pricing.

ii. The methods used to manage the risk. We have continued to build our capabilities in new technologies both through acquisition of businesses such as a 15.96% stake in AlertMe (a provider of home energy management services) for £5.7m & the installation of smart meters in homes & businesses. We aim to install 1.1m smart meters by 2012. . Our existing interests in solar, biomass heating & fuel cell boilers support our position in microgeneration. British Gas is one of the 4 lead partners in the Customer Led Network Revolution (CLNR), the UK's biggest smart grid project. We are also working with local authorities & the Govts of Scotland & Wales to deliver energy efficiency in the social housing sector.

iii. The costs associated with the management actions described.

Any costs are annual, linked to potential acquisition & ongoing managerial costs. It is difficult to estimate costs although the smart meter costs will be a part of the overall £11.3bn estimated industry cost.

REP1:**i. The potential financial implications of the risk before taking action.**

Brand & reputational damage arises through perception that energy companies are not proactively supporting / managing climate change issues.

ii. The methods used to manage the risk. To mitigate risks to our brand & reputation, we are differentiating ourselves as an energy services provider (where we have greater capability than our competitors) & we recognise that our business activities impact the communities we serve & the environments in which we operate.. In Nov 2011 we contacted residential customers inviting them to contact the managing Director of British Gas directly with the aim of establishing an Honest Conversation. Within 3 months he had received 8,300 responses, including suggestions on around 2,500 individual topics which we will use to help us improve our performance. The most frequently raised topics were energy prices, billing & customer service.

iii. The costs associated with the management actions described.

Costs built into operational budgets – no additional cost but estimated spend several hundred thousand pounds to cover customer communication

RC:**i. The potential financial implications of the risk before taking action.**

The risk of rising investment costs for renewables projects demonstrates clear financial implications with individual projects delivered to date costing several hundred million pounds. Our capacity to borrow money may change as lenders consider carbon risk in the lending decision. In addition, the conventional insurance market is not well set up to support the risks inherent in the development of new technologies or in fields at the forefront of engineering, such as the development of offshore wind farms. This can make insurance arrangements for innovations such as renewables projects more challenging. To mitigate the risks around pricing of carbon emissions, we produce our own forecasts of future carbon prices, with strong emphasis on credible high & low scenarios, as well as a 'central' view.

ii. The methods used to manage the risk. We factor the economic costs of carbon into generation dispatch decisions & recover the costs via the energy sales arrangements. The exposure of our supply business to carbon prices, via electricity prices, is recognised & treated as another 'commodity exposure' that needs to be hedged within our normal commodity risk management procedures.

iii. The costs associated with the management actions described.

Costs in this area are commercially confidential.

5.1g

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

5.1h

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

5.1i

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

Further Information

Due to the limitations of the text entry sections the following files have been attached as PDFs for ease of reading - 5.1b, 5.1d and 5.1f

Attachments

[Page: 2012-Investor-Risks&Opps-ClimateChangeOpp](#)

6.1

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

Opportunities driven by changes in regulation

Opportunities driven by changes in other climate-related developments

6.1a

Please describe your opportunities that are driven by changes in regulation

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
EMR	Other regulatory drivers	<p>Electricity Market Reform: The Govt has launched a significant programme of Electricity Market Reform (EMR). This is intended to deliver new market arrangements that provide sufficient incentives for new low carbon generation in order to meet the UK's carbon & renewable targets while maintaining security of supply, in the most affordable manner. Key elements of the Govt's proposals are: (i) a carbon price floor, through an additional tax on the input fuels for power generation proportionate to their carbon emissions; (ii) revenue support for low carbon generation, through a contract for difference against the wholesale price, (CFD); (iii) capacity payments to ensure security of supply; & an Emissions Performance Standard for new power plants. DECC is now developing the operational framework for these schemes, which will then be legislated through an Energy Bill later in 2012. This reform programme is very important as it will be required to underpin the economics of generation investment in the UK (both low-carbon & fossil-fuel). The UK Govt's recognition that the electricity market needs to be reformed in order to deliver decarbonisation & security of supply objectives presents a huge business opportunity for Centrica. Industry will invest given the right market framework & companies that get this right early can reap significant benefits through becoming world leaders in technologies & services & building supply chains.</p>	Investment opportunities	1-5 years	Direct	Likely	High
EE	Other regulatory drivers	<p>Energy efficiency: There are a number of energy efficiency obligations placed on energy companies by Govt. CERT came into effect in Apr 2008, obliging electricity & gas suppliers in Great Britain to help reduce CO2 emissions from homes, through the installation of insulation & other energy efficiency measures. Through the course of the 4 year programme suppliers have a target to deliver approx 293m tonnes of CO2 reductions. The CERT obligation was extended in Apr 2011 to run until Dec 2012, & has</p>	Increased demand for existing products/services	Current	Direct	Likely	High

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
		<p>been refocused on delivering more installed insulation, with the benefits more closely targeted towards a Super Priority Group of the most vulnerable households. CESP targets households across Great Britain, in areas of low income, to improve energy efficiency standards & reduce fuel bills. CESP is funded by an obligation on energy suppliers & electricity generators. It is expected to deliver up to £350m of efficiency measures in the 3 years to the end of 2012. CESP promotes a “whole house” approach i.e. a package of energy efficiency measures best suited to the individual property. The programme is delivered through the development of community-based partnerships between Local Authorities (LAs), community groups & energy companies, via a house-by-house, street-by-street approach. In Dec 2011, the Govt launched its consultation on the Green Deal & Energy Company Obligation (ECO). The Green Deal, which will launch in Oct 2012, is a funding mechanism whereby the cost of energy efficiency measures can be funded through a Green Deal loan attached to the property. The “Golden Rule” of the scheme is such that the cost of repaying the loan will always be less than the savings the measures installed will generate. This will enable homeowners to install cost-effective energy efficiency measures at no upfront cost. ECO is a 2 pronged obligation on gas & electricity suppliers. ECO Affordable Warmth will fund heating & insulation measures in vulnerable households. ECO Carbon Saving will support the roll-out of Solid Wall insulation (which would not otherwise pass the Green Deal’s “Golden Rule”), with additional funding for area based projects in geographic areas of low income. Together ECO & the Green Deal present exciting opportunities & a platform for growing our energy services business & capabilities in energy efficiency & microgeneration.</p>					
SNT	Other regulatory	Support for new technologies: The UK Govt has put in place enabling legislation to provide financial support to	New products/business	Current	Direct	Likely	High

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/Indirect	Likelihood	Magnitude of impact
	drivers	microgeneration that may transform the market, providing significant opportunities for our business. These include the existing feed-in tariff & renewable heat incentive schemes, the latter of which started in Jul 2011. The feed-in tariff is a payment to those who generate additional electricity through decentralised technologies under 5MW & feed it back to the grid, supporting greater take-up of energy efficiency & microgeneration technologies. From Apr 2012 the scheme will encourage all new installations to have a Level D or above energy rating. RHI currently supports non-domestic renewable heat technologies, & is expected to be extended to domestic renewable heat installations from mid 2013. DECC published its Smart Meter Prospectus in Mar 2011. The prospectus sets out the Govt's blueprint for the roll-out of smart meters in all homes by 2019. It is a culmination of 3 years of consultation triggered by the Govt decision to mandate smart meters in the 2008 Energy Act. The national roll-out of 47m smart meters is due to begin in 2012. All 3 of these measures support our business model for British Gas, with microgeneration & smart metering central to the development of our energy services business.	services				

6.1b

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

EMR:

i. The potential financial implications of the opportunity before taking action.

Our UK strategy is to invest in low carbon generation enabling us to help meet emissions reduction targets. &&The financial implications of future investment run into several billions of pounds in the next decade.

ii. The methods used to manage the opportunity.

We are deploying leading capabilities across the wind value chain, & also want to diversify our portfolio of low-carbon plants beyond wind to include potentially biomass, & nuclear.

iii. The costs associated with the management actions described.

This information is company confidential

EE: CERT Programme

i. The potential financial implications of the opportunity before taking action.

CERT is a regulated energy efficiency obligation on UK energy suppliers to help reduce CO2 emissions from homes. Over a 4 year period, suppliers have a target to deliver approx 293m tonnes of CO2 reductions.

British Gas will be required to contribute an est. £1.8bn over the 4+ year CERT programme is estimated to be £1.8bn.

Improved energy efficiency in UK housing stock will reduce demand for British Gas's key domestic products, gas & electricity supply. Without taking action to evolve our business model, including proactively building our insulation business, would mean falling energy revenue for British Gas.

ii. The methods used to manage the opportunity.

We utilise a range of insulation delivery channels – from our in house insulation operations to a range of 3rd party contractor arrangements.

We are the only major energy supplier to invest in our own insulation delivery business. We see insulation as a key growth area amongst our customer base.

iii. The costs associated with the management actions described.

The total value of CERT that British Gas will contribute overall is estimated to be £1.8bn, over the 4+ year period.

In 2010, we acquired the insulation business Hillserve for £5m, & the solid wall insulation business ECL Contracts for £4m. For both cases, we have invested significant further sums to expand & grow.

EE: CESP Programme

i. The potential financial implications of the opportunity before taking action.

CESP targets low income households to improve energy efficiency standards & reduce fuel bills. It is funded by an obligation on energy suppliers & electricity generators, is expected to deliver up to £350m of efficiency measures in the 3 years to the end of 2012.

British Gas obligations made up around 19% of CESP but we have also taken CESP implementation obligations for 2 other major power generators. This means We are implementing 30% of all CESP programmes, an expected spend of approx £100m during 2009-2012.

Improved energy efficiency in UK housing stock will also reduce demand for British Gas's key domestic products, gas & electricity supply. Failure to evolve the British Gas business model, including proactively building our insulation business, would mean falling energy revenue for British Gas.

ii. The methods used to manage the opportunity.

In 2011 we launched 45 CESP schemes across 40 low income areas, delivering 1.4m tonnes of equivalent carbon savings, & benefitting more than 8,800 homes.

CESP is delivered through community based partnerships with Local Authorities. This has opened up significant new markets for us in the social housing sector.

We are the only major energy supplier to have invested in our own insulation delivery business. We have specifically built up our Solid Wall Insulation capability, which is expected to be a key growing market under the forthcoming Green Deal & ECO programmes. In 2010, we acquired the solid wall insulation business ECL Contracts.

iii. The costs associated with the management actions described.

Our approx one 3rd share of the CESP obligation is expected to cost £100m over the 3 year period.

Having acquired ECL Contracts for £4m in 2010, further investment has resulted in a doubling of revenue in 2011.

EE: Green Deal & ECO

i. The potential financial implications of the opportunity before taking action.

British Gas has delivered over £1bn of energy efficiency improvements since 2005. The Green Deal will allow households to invest in energy efficiency investments at zero upfront cost. In conjunction with the Green Deal, energy suppliers will take on a new "Energy Company Obligation" (ECO). Part of the ECO will subsidise solid wall & hard to treat cavity wall insulation, part will provide measures for vulnerable households. The ECO obligation is estimated to cost £1.3bn in total per year – British Gas's expected share is estimated at 33%.

ii. The methods used to manage the opportunity.

We launched our trial Green Deal programme – the Home Energy Plan – at the start of July 2011. Customers can take out low cost loans to invest in energy saving measures such as insulation & new boilers, or small scale renewable energy generation. Preparing for the forthcoming Green Deal & ECO involves a number of processes:

1. Coordinating the repayments from householders on their Green Deal loans.
2. Preparing to provide all Green Deal eligible products, from insulation to small scale renewables to boiler upgrades & micro CHP units. We expect to launch our Green Deal Provider business in Oct 2012.
3. Planning our ECO delivery programme, through our own insulation work & 3rd parties. &&3rd

iii. The costs associated with the management actions described.

ECO is expected to cost British Gas £430m per year. We have additional investment in preparing for Green Deal, both in developing our own offering & developing the systems necessary for the collection of payments through electricity bills.

SNT:

i. The potential financial implications of the opportunity before taking action.

Microgeneration

The Govt's commitment to reduce Carbon emissions in the UK has potential risks & opportunities for an Energy Supplier such as British Gas.

Regulations such as FIT, RHI & RHPP provide support for "microgeneration"&. Without taking action, British Gas would lose demand for its core products, gas & electricity supply, & not share in the product growth opportunities.

Smart Meters

Smart meters potentially mean declining revenue for British Gas in its electricity & gas supply to households, as customers are expected to be more careful with energy usage once more accurate timely information is available.

The market for low carbon technologies & energy efficiency could be worth tens of billions of pounds over the next 10 years.

ii. The methods used to manage the opportunity.

Microgeneration

We are building our microgeneration installation & servicing capabilities, through partnerships, acquisitions & agreements. In 2010 we acquired the assets of Cool Planet & in 2011 increased our ownership of Eenergy to 100%. In 2011, we installed solar panels in 2,377 homes which can collectively provide 12.8MW of power at peak capacity. We are the only company offering Ecogen micro CHP units to the UK "on gas grid" household market. &

Smart Meters

As at Dec 2011, British Gas had fitted more than 80% of the UK's total smart meters. 80% of our customers state that smart meters have made them think differently about energy use & 64% say they have undertaken energy efficiency improvements since the smart meter installation. For customers with traditional meters, British Gas has developed the EnergySmart package, with a free electricity monitor showing electricity consumption costs & carbon emissions. On average, EnergySmart users have cut gas use by 3.6% & electricity consumption by 4.1%, with total carbon savings per household of approx 163kg CO₂.

In Oct2010, British Gas acquired a stake in AlertMe, a UK based company that provides home energy management services,² allowing users to manage & control a wide range of home activities & appliances over the internet or smart phone.

Links & synergies with our Insulation & Energy Efficiency business

British Gas has provided each of its Smart Meter installers with a City & Guilds equivalent qualification in energy efficiency, enabling them to provide customers with advice on how they can save energy, reduce carbon & reduce fuel costs.

FIT legislation now requires households to meet an Energy Efficiency EPC Level D rating or above in order to access the higher tariff rates. We are uniquely positioned to be able to provide both the solar PV installation &, co-ordinate the insulation required to meet this EPC requirement.

iii. The costs associated with the management actions described.

We acquired Solar Tech for £2.8m in 2008, & have invested to expand its activities, our Solar division is now in the top 10 or so suppliers within the UK market.

In Oct2010, British Gas acquired Cool Planet Technologies, a heat pump installation company for £0.5m. In 2011, British Gas acquired the remaining 81% of Eenergy, a market leader in biomass heating, for £6.5m. In both companies, we expect to invest significantly in future years.

In Oct2010, British Gas acquired a 15.96% stake in AlertMe, a home energy management services company, for £5.7m. As part of this investment British Gas has signed a commercial agreement, potentially worth over £20m to deploy AlertMe products & services to customers in the UK.

6.1c

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
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6.1d

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

6.1e

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

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
CCB	Changing consumer behaviour	The market for green or carbon-reducing products & services is driven by state, provincial or municipal laws & regulations that vary widely across North America. Direct Energy is uniquely positioned to maximise the commercial opportunities of a low carbon economy by building on brand, existing installation capability, & a unique combination of expertise in energy supply & knowledge of customer needs in their homes.. Specific opportunities have been identified to work in partnership with local authorities to deliver energy efficiency to social housing. In North America, green energy products are marketed, including a product backed by Renewable Energy Certificates (RECs) for businesses from our Texas wind farm power purchase agreements. These opportunities	Increased demand for existing products/services	1-5 years	Direct	More likely than not	Medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		drive sales for low carbon products in select markets.					
REP1	Reputation	Our commitment to the insulation & microgeneration industries give us a significant opportunity to differentiate British Gas in the marketplace.	Increased demand for existing products/services	1-5 years	Direct	About as likely as not	Low-medium
PC	Other drivers	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 & support the delivery of a wide range of low carbon technologies. For example, British Gas is supporting the emergence of electric vehicles & is the preferred supplier of home & work charging stations for Nissan, Renault & Hitachi Capital, & we are on track to be the largest installer of electric vehicle charging points in UK homes, supporting 70% of the domestic market in 2012. We can also help electric vehicle customers upgrade their home by installing solar panels - so they could charge their electric car for free with the renewable energy they generate & by taking advantage of the Feed in tariff.	New products/business services	Current	Direct	More likely than not	Medium
REP2	Reputation	Our approach gives us the necessary credibility to influence policy-making & our initiatives are helping to inform best practice approaches. Following the success of our first year-long Green Streets programme aimed to find out what energy & carbon savings could be achieved at a local level. The results showed mutual benefits to customers, the environment & our business, with an average 25% reduction in energy use & 23% cut in CO2. The 64 participating households reduced total CO2 over the year by c89 tonnes. The project also provided important information into consumer behaviour & the impact of low carbon & energy efficiency technologies. We launched a follow up project - where we gave microgeneration & energy efficiency projects worth £2m with 14 community energy projects around the country competing to become Britain's most innovative green community by reducing energy usage & CO2 over a year. We provided energy assessments for all the homes involved & recommendations on how to spend the funding most effectively. In North America, Direct Energy is	New products/business services	1-5 years	Direct	More likely than not	Medium

ID	Opportunity driver	Description	Potential impact	Timeframe	Direct/ Indirect	Likelihood	Magnitude of impact
		partnering with the Alliance to Save Energy in a 15-school energy efficiency education initiative launched in Sep 2011 for a period of 2 school years. Focused in the Pennsylvania area, the Green Schools Program is already making an impact. For example, 8 participating North Penn School District locations in Montgomery County had the goal of reducing their energy costs by 5-15% over a 2-year period. As of May 2012, the North Penn School District schools have surpassed that estimate reporting a 16.6% overall savings on their energy bills in the program's first year as reported by Utility Management Services, Inc.					
EMP	Other drivers	Our approach is helping to engage current & future employees. By pursuing a leadership position in smart & clean energy decisions, we have able to attract, recruit & engage our employees, help build pride & commitment & increase their ability to support our strategy & increase our credibility in the marketplace. The commitment of our employees was demonstrated in 2010, when Centrica became one of only 3 organisations to achieve re-certification to the Carbon Trust Standard, awarded for how we measure, manage & reduce our carbon emissions as an organisation.	Other: increased productivity	Current	Direct	More likely than not	Medium

6.1f

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

CCB:

i. The potential financial implications of the opportunity before taking action.

We are developing products & services to meet the needs of residential & commercial customers in the UK & North America. Most customers' energy carbon footprint is generated by the gas we supply to their homes, which can be reduced by installing more efficient boilers. Central heating installations revenue (ie energy efficient boilers) in the UK reached £295m in 2011.

ii. The methods used to manage the opportunity.

Currently British Gas installs around 7% of all residential boilers, including over 100,000 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 & regulatory obligations & reduce carbon emissions. In North America, the voluntary market for renewable energy products is growing & could represent more than 52,000GWh by 2015 (NREL/TP-6A2-45041). We market green energy products to business & residential customers & get certification from 3rd party verifiers: Ecologo in Canada & Green-e in the US.

iii. The costs associated with the management actions described.

No additional costs for action – costs are part of ongoing operational budgets

REP1:

i. The potential financial implications of the opportunity before taking action.

Increasing legislation in areas such as CERT & CESP, & future Green Deal & ECO obligations, place significant requirement for action & financial cost on energy suppliers such as British Gas.

Regulatory programmes that will improve energy efficiency in UK housing stock will also reduce demand for British Gas's key domestic products, gas & electricity supply. Without taking action to evolve the British Gas business model, including proactively building our insulation business, we would face a falling demand for British Gas service. We estimate that the low carbon technology & energy efficiency market could be worth tens of billions of pounds over the next decade. British Gas is seeking to proactively build its position as a key forward-looking operator in carbon emissions.

ii. The methods used to manage the opportunity.

We are building the capabilities to ensure that we can meet demand measures on a „whole house“ or „whole community“ basis, whereby customers do not have to work with multiple suppliers for complete energy solutions.

We see this as a key differentiator, especially as energy efficiency requirements broaden under the Green Deal.

We are unique amongst the “Big 6” Energy suppliers as being the only energy supplier to have invested in our own insulation delivery business.

iii. The costs associated with the management actions described.

Major acquisitions over the past years in building the business:

- Hillserve (insulation business) for £5m,
- The solid wall insulation business ECL Contracts for £4m in 2010
- We acquired Solar Tech for £2.8m in Sep 2008, to support our movement into the domestic solar installation market. The British Gas Solar division is now in the top 10 or so suppliers within the UK market
- In Nov 2010, British Gas acquired Cool Planet Technologies, a heat pump installation company for £0.5m. We have subsequently invested significantly in its expansion.

- In Dec 2011, British Gas acquired the remaining 81% of Econergy, a market leader in biomass heating, for £6.5m. .
- In Oct 2010, British Gas acquired a 15.96% stake in AlertMe, a UK based company that provides home energy management services, for £5.7m. British Gas has also signed a commercial agreement, potentially worth over £20m to deploy AlertMe products & services to its customers in the UK.

REP2:

i. The potential financial implications of the opportunity before taking action.

Investing in community based energy efficiency schemes has enabled us to develop both the skills & experience necessary to make subsequent schemes such as CESP & Green Deal work. This includes building experience of identifying & agreeing partnerships with community organisations, identifying which projects work well & building experience of community based delivery. It is not possible to quantify the financial impact of this experience, but it has helped mitigate the future risk associated with larger schemes.

ii. The methods used to manage the opportunity.

The £2m Green Streets 2 project has provided invaluable insights into which community-based approaches to energy efficiency could work best, helping to shape future national policy & giving us the opportunity to test the latest new technologies. We built on this further in 2011 with the launch of our Green Deal go early „Home Energy Plan” trial. They also enable us to build positive perceptions among stakeholders such as Govts, enhancing our credibility during energy & climate change consultations. The total investment in our North American schools programme is \$320,000 to be paid over a 3 year period. This will involve schools creating a baseline measurement of electricity usage in the school & then working to lower the school’s usage over the 2 years. The goal is for the school to reinvest the money saved back into school programmes, whilst also helping to increase market opportunities & to build Direct Energy’s reputation in this area.

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 & corporate responsibility more widely is a factor in our graduate recruitment programme.

We are not able to disclose the investment made in our Green Deal go-early plan. As above, the investment in Green Streets was £2m, with a further \$320,000 invested over 3 years in North American school programs.

EMP:

i. The potential financial implications of the opportunity before taking action.

Skills development is key to building a successful insulation & microgeneration business. Insufficient qualified will lead to business plan targets not being met, & would lead to British Gas not being able to fully utilise potential booms in demand, for example the boom in demand& that happened in Solar PV installation during late 2011. It is not possible to financially quantify the implication, but it is a significant risk.

ii. The methods used to manage the opportunity.

British Gas views training & skills development as a key part of its business expansion.

We operate 6 engineering academies & in 2010 established the UK’s first dedicated Green Skills Training Centre in partnership with the Welsh Assembly Govt. The Green Skills Training Centre will train over 1,300 people each year, including British Gas employees, & help to deliver energy efficiency measures to 40,000 homes as part of the Heads of the Valleys Low Carbon Programme. In 2011, we recruited 941 additional people to train at our network of academies, supporting the rollout of our low carbon products & services. We plan to hire at least another 450 during 2012.

iii. The costs associated with the management actions described.

We are not able to disclose the cost of the Green Skills training centre.

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

6.1h

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

i. A statement that no opportunities have been identified, or that they are not considered substantive

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

ii. Explanation for why opportunities in this category are not relevant to the company or why they are not considered substantive.

This is mainly because they are uncertain & low in our prioritisation compared to other opportunities. However, we have identified the following low-level opportunities associated with the physical impacts of climate change.

iii. Possible opportunities reviewed

By managing climate risk & weather risk effectively, we will be better positioned than our competitors which provides us with commercial opportunities. 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 & night. This could lead to significant changes in patterns of demand. Our primary opportunity is to play a major role in helping our millions of customers adapt to the effects of climate change. This includes helping them to manage their changing demand patterns through energy management solutions.

The UK Govt has stated its commitment to ensuring that society is adapting to the effects of climate change & identified its role as a coordinator in providing an environment conducive to adaptation (source: DEFRA). This could provide us with opportunities to expand our whole-house approach & 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 & circumstances in the future.

We cannot be specific about other opportunities available to us until the physical outcomes & Govt 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 & private sectors, will create further opportunities.

iv. The geographic areas considered

Primarily UK, United States of America & Canada – our core business areas.

v. How far into the future they have been considered - Into the next decade.

6.1i

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

Further Information

Due to the limitations of the text entry sections the following files have been attached as PDFs for ease of reading - 6.1b, 6.1f and 6.1h

Attachments

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

Page: 7. Emissions Methodology

7.1

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

Base year	Scope 1 Base year emissions (metric tonnes CO2e)	Scope 2 Base year emissions (metric tonnes CO2e)
Mon 01 Jan 2007 - Mon 31 Dec 2007	9503312	122713

7.2

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

Please select the published methodologies that you use

Defra Voluntary Reporting Guidelines
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
Other

7.2a

If you have selected "Other", please provide details below

The other categories selected refer to the WRI and WBCSD Greenhouse Gas Protocol Initiative, EU ETS and GRI Sustainability Reporting Guidelines.

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

The data is submitted and calculated using complex spreadsheets and an 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 and in 2011 we had selected environmental key performance indicators publicly assured prior to inclusion in our CR report.

7.3

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

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

7.4

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

Fuel/Material/Energy	Emission Factor	Unit	Reference
Diesel/Gas oil	0.00	metric tonnes CO2e per litre	EIA
Other: Diesel/Gas oil (retail station biodiesel blend)	2.57	kg CO2e per litre	2011 DEFRA guidelines
Natural gas	0.18	Other: kg CO2e per kWh	2011 DEFRA guidelines
Natural gas	1.90	Other: kg CO2e per m3	EIA
Other: Motor gasoline (retail station biofuels blend)	0.24	kg CO2e per litre	2011 DEFRA guidelines
Motor gasoline	0.00	metric tonnes CO2e per litre	EIA
Distillate fuel oil No 2	3228.30	Other: kg CO2e per tonne	2011 DEFRA guidelines
Aviation gasoline	2.26	kg CO2e per litre	2011 DEFRA guidelines
Other: UK Electricity (GRA)	0.48	Other: kg CO2e per kWh	2011 DEFRA guidelines
Other: Norway Electricity (GRA)	0.01	Other: kg CO2e per kWh	2011 DEFRA guidelines
Other: Germany Electricity (GRA)	0.46	Other: kg CO2e per kWh	2011 DEFRA guidelines
Other: Netherlands Electricity (GRA)	0.42	Other: kg CO2e per kWh	2011 DEFRA guidelines
Other: North America Electricity		Other: kg CO2e per kWh	EIA - various factors used

Further Information

Full emission factor data for North America attached in spreadsheet

Attachments

8.1

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

Equity share

8.2a

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

7564949

8.2b

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

Boundary	Gross global Scope 1 emissions (metric tonnes CO2e)	Comment
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8.2c

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

Gross global Scope 1 emissions (metric tonnes CO2e) – Part 1 Total	Comment
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8.2d

Please provide your gross global Scope 1 emissions figures in metric tonnes CO2e - Part 2

Boundary	Gross global Scope 1 emissions (metric tonnes CO2e)	Comment
----------	-----------------------------------------------------	---------

8.3a

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

131624

8.3b

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e - Part 1 breakdown

Boundary	Gross global Scope 2 emissions (metric tonnes CO2e)	Comment
----------	-----------------------------------------------------	---------

8.3c

Please provide your gross global Scope 2 emissions figures in metric tonnes CO2e - Part 1 Total

Gross global Scope 2 emissions (metric tonnes CO2e) - Total Part 1	Comment
--------------------------------------------------------------------	---------

8.3d

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

Boundary	Gross global Scope 2 emissions (metric tonnes CO2e) - Other operationally controlled entities, activities or facilities	Comment

8.4

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

8.4a

Please complete the table

Reporting Entity	Source	Scope	Explain why the source is excluded

8.4

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

Yes

8.4a

Please complete the table

Source	Scope	Explain why the source is excluded
Small Trinidad office	Scope 1 and 2	Recently established with no details. (less than 1% of scope 1)
Dutch company car data	Scope 1	Very few vehicles, but actual numbers unknown (less than 1% of scope 1)
Dutch & Norwegian fugitive gas emissions	Scope 1	We currently have no data on Norwegian and Dutch fugitive gas emissions.(estimated at less than 1% of Scope 1)
Emissions from a new office biomass boiler	Scope 1	The boiler is relatively new and the volumes have not been quantified
Leakages of refrigerant from office air conditioning units	Scope 1	Leakages are rare and of small quantities, we are working towards collecting the data for the UK (less than 1% of Scope 1)
Diesel use from backup generators at offices	Scope 1	Unknown how many hours the back-up generators run and how many there are throughout the company. However run hours will be very limited (less than 1% of Scope 1)

8.5

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

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
Less than or equal to 2%	Data Gaps Assumptions Data Management	Vehicle fuel use is mainly calculated based on submissions of mileage data and not actual volume used; Vehicle size and fuel type data is not always available; Some private mileage is captured along with business mileage from company fuel card users; Fugitive gas from pipes and equipment can	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

Scope 1 emissions: Uncertainty range	Scope 1 emissions: Main sources of uncertainty	Scope 1 emissions: Please expand on the uncertainty in your data	Scope 2 emissions: Uncertainty range	Scope 2 emissions: Main sources of uncertainty	Scope 2 emissions: Please expand on the uncertainty in your data
		only be calculated and not directly measured; In some cases, building gas consumption where it is a shared building or the actual consumption data is not available, the consumption is estimated based on personnel number, floor space or historical data.			not been available, historical consumption has been used.

8.6

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

Verification or assurance complete

8.6a

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

More than 80% but less than or equal to 90%

8.6b

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

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Other: Verification	Other: EU Emissions Trading System	Verifier Opinion Statements 2011.pdf
Limited assurance	ISAE 3000	centcr11_Assurance_Statement.pdf centcr11_basis_of_reporting.pdf

8.7

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

Verification or assurance complete

8.7a

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

More than 20% but less than or equal to 40%

8.7b

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

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ISAE 3000	centcr11_Assurance_Statement.pdf centcr11_basis_of_reporting.pdf
Other: Verification	The Carbon Trust Standard	Carbon Trust Standard Certification Letter - Centrica plc.pdf Centrica_Recertification_Assessment_Submission April 2012 Final version.pdf

8.8

Are carbon dioxide emissions from the combustion of biologically sequestered carbon (i.e. carbon dioxide emissions from burning biomass/biofuels) relevant to your company?

Yes

8.8a

Please provide the emissions in metric tonnes CO₂e

54.4

Further Information

Following the assurance process for the 2011 CR report, we have revised our 2010 scope 2 emissions to 137,404 tonnes. This will partly as a result of the publication of the 2011 DEFRA Guidelines

Attachments

[Page: 9. Scope 1 Emissions Breakdown - \(1 Jan 2011 - 31 Dec 2011\)](#)

9.1

Do you have Scope 1 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

Yes

9.1a

Please complete the table below

Country	Scope 1 metric tonnes CO2e
United Kingdom	5091558
Other: USA and Canada	2295035
Rest of world	178356

9.2

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

By GHG type

9.2a

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

Business Division	Scope 1 metric tonnes CO2e

9.2b

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

Facility	Scope 1 metric tonnes CO2e

9.2c

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

GHG type	Scope 1 metric tonnes CO2e
CO2	7127830
CH4	236953
N2O	170376
HFCs	2.9
PFCs	0
SF6	229
Other: Freon R22	29559

9.2d

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

Activity	Scope 1 metric tonnes CO2e

Page: 10. Scope 2 Emissions Breakdown - (1 Jan 2011 - 31 Dec 2011)

10.1

Do you have Scope 2 emissions sources in more than one country or region (if covered by emissions regulation at a regional level)?

Yes

10.1a

Please complete the table below

Country	Scope 2 metric tonnes CO2e

Country	Scope 2 metric tonnes CO2e
United Kingdom	107069
Other: USA and Canada	24519
Rest of world	35.3

10.2

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

By activity

10.2a

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

Business division	Scope 2 metric tonnes CO2e

10.2b

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

Facility	Scope 2 metric tonnes CO2e

10.2c

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

Activity	Scope 2 metric tonnes CO2e
Office electricity	28126
Operational imported electricity	103498

Page: 11. Emissions Scope 2 Contractual

11.1

Do you consider that the grid average factors used to report Scope 2 emissions in Question 8.3 reflect the contractual arrangements you have with electricity suppliers?

Yes

11.1a

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 CO2e

11.1b

Explain the basis of the alternative figure (see guidance)

11.2

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

11.2a

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 Energyshare tariff (electricity only) has 100% Levy Exemption Certificate (LEC) retirement based on the customer's actual consumption. British Gas is the only energy provider that retires this level of certificates for a domestic energy tariff. All Energyshare customers get to choose from a range of energy gadgets when they sign up and also make a contribution to the Energy for Tomorrow fund which invests in renewable technologies in the community. These make up the additionally requirements of the Green Energy Supply Scheme.

Page: 12. Energy

12.1

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

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

12.2

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

Energy type	MWh
Fuel	55610583
Electricity	255002
Heat	0
Steam	0

Energy type	MWh
Cooling	0

12.3

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

Fuels	MWh
Natural gas	37355280
Diesel/Gas oil	158183
Residual fuel oil	201
Biodiesels	0
Motor gasoline	80256

Further Information

For questions 12.1: As an energy company, interpreting this question presents challenges. Under one definition, virtually all operational spend may be deemed to have been spent on energy as that is the purpose of our business. However, to provide comparisons with other companies and industries, we have interpreted this as energy used in the running of our business. The figure provided is an approximate figure based on the electricity and heating used at our offices, imported electricity used at our power stations and petrol costs for our fleet. We have used an average price across our operations. We have not included the costs of natural gas used to generate electricity or the costs of electricity purchased from third party providers for supply to our customers. These are specific to our business as an energy company and involve commercially sensitive contracts. The amount of natural gas used and electricity purchased is published by us but not the costs.

13.1

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

Decreased

13.1a

Please complete the table

Reason	Emissions value (percentage)	Direction of change	Comment
Change in output	30.9	Decrease	During 2011, 4 of our gas power stations went into preservation mode, resulting in a very significant reduction in the Scope 1 carbon emissions
Change in output	5.1	Increase	North American gas power generation has increased by approx 37%
Emissions reduction activities	0.05	Decrease	Reduced building electricity consumption and imported plant power consumption
Change in output	1.9	Decrease	UK gas production has decreased
Change in output	1.6	Increase	Mainland Europe gas production emissions have increased with increased production
Acquisitions	0.07	Increase	The acquisition of Clockwork (home services) has increased the total North American fleet emissions
Acquisitions	0.1	Increase	The acquisition of a number of businesses by British Gas (incl. Connaught and PH Jones) as well as organic growth has resulted in growth of the UK Fleet emissions

13.2

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
0.00	metric tonnes CO2e	unit total revenue	29.2	Decrease	Actual intensity figure 0.000337 Our overall Scope 1 & 2 emissions have decreased by 27.9% as a result of four power stations being placed into preservation in 2011. However our Group revenue has increased by 1.7% in the same period, resulting in an overall reduction of intensity by 29.2%.

13.3

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
195	metric tonnes CO ₂ e	FTE Employee	36	Decrease	Our overall emissions have decreased by 28% and our employee numbers have increased by 12.8% resulting in a 36% decrease (improvement) in our carbon intensity. Our business has expanded in downstream services and upstream production while decreased in the more carbon intensive gas source power generation

13.4

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

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
0.20	metric tonnes CO ₂ e	megawatt hour (MWh)	20.6	Decrease	Our Group carbon intensity has reduced from 277g CO ₂ /kWh in 2010 to 200g CO ₂ /kWh in 2011. This can be largely attributed to having placed four of our less efficient gas power stations into preservation during 2011, reducing our gas sourced power by 23%. In addition, this has been the first year we have received a whole year of our offtake of nuclear power from our 20% stake in British Energy in 2011 (in 2010 we did not receive a whole year's offtake). This has increased our nuclear power by 65%. Our renewable power generation has also increased by 15%
0.01		megawatt hour (MWh)	0.4	Decrease	Actual intensity figure 0.00655 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. The carbon intensity of our gas production and storage has decrease (ie has improved) slightly in

Intensity figure	Metric numerator	Metric denominator	% change from previous year	Direction of change from previous year	Reason for Change
					2011

Page: 14. Emissions Trading

14.1

Do you participate in any emission trading schemes?

Yes

14.1a

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

Scheme name	Period for which data is supplied	Allowances allocated	Allowances purchased	Verified emissions in metric tonnes CO2e	Details of ownership
European Union ETS	Fri 01 Jan 2010 - Fri 31 Dec 2010	6888225	0	4824676	Facilities we own and operate

14.1b

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

The cost of carbon has become an important factor in all investment decisions taken by Centrica in the power and gas markets. We actively use all available methods to manage our exposure to the risk of rising carbon costs through abatement and emissions trading. Centrica has been actively trading in the EU Emissions

Trading market for almost nine years and has also been active in the international carbon credit market. We aim to meet the cost of our CO2 emissions in the most economic manner for our customers and shareholders, 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.

Using the trading markets enables us to effectively manage cost exposures arising with regards to carbon pricing through the EU ETS. We also have in place robust procedures to ensure verification of our emissions and subsequent surrender of sufficient emissions allowances is carried out inline with the scheme requirements. In 2011, the allowances allocated exceeded our overall verified emissions, we have therefore returned zero for allowances purchased as our position was one of net sell .

14.2

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

Yes

14.2a

Please complete the following table

Credit origination or credit purchase	Project type	Project identification	Verified to which standard	Number of credits (metric tonnes of CO2e)	Number of credits (metric tonnes CO2e): Risk adjusted volume	Credits retired	Purpose e.g. compliance
Credit Origination	Other: Commercially sensitive	Specific Information is commercially sensitive	CDM	298868	298868	No	Other: Trading / future compliance
	Other: Commercially sensitive	Specific Information is commercially sensitive		46917	46917	No	Other: Trading / future compliance
	Other: Commercially sensitive	Specific Information is commercially sensitive	CDM	1103752	1103752	Yes	Other: Trading / future compliance

15.1

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

Sources of Scope 3 emissions	metric tonnes CO2e	Methodology	If you cannot provide a figure for emissions, please describe them
Business travel	9551	Based on business flights in km multiplied by the appropriate conversion factors	
Business travel	364	Based on employee business rail miles multiplied by appropriate emission factors	
Other (upstream)	627472	Based on 3rd party helicopter and shipping fuel volume used for supporting our offshore facilities and shipping of LNG	
Other (downstream)	3928	Carbon data provided by the service providers	
Other (downstream)	17719	Estimated based on energy consumption prior to outsourcing	
Other (downstream)	3244	Overseas call centre office energy use	
Fuel- and energy-related activities (not included in Scopes 1 or 2)	32438271	Calculated using country specific grid rolling average of power purchased for resale	

15.2

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

Verification or assurance complete

15.2a

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

More than 0% but less than or equal to 20%

15.2b

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

Level of verification or assurance	Relevant verification standard	Relevant statement attached
Limited assurance	ISAE 3000	centcr11_Assurance_Statement.pdf centcr11_basis_of_reporting.pdf

15.3

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

Yes

15.3a

Please complete the table

Sources of Scope 3 emissions	Reason for change	Emissions value (percentage)	Direction of change	Comment
Fuel- and energy-related activities (not included in Scopes 1 or 2)	Change in output	11.6	Increase	The power purchased for resale has increased by 11.6%. The volume of the power purchased is dependent on customer demand and our own power generation. With a 16.8% reduction in our power generation, the shortfall would need to be purchased from other suppliers
Other (upstream)	Change in output	12.8	Decrease	The emissions from helicopter and shipping have decreased by 12.8% as a result of a decrease in the volume of LNG imported into the country and hence a corresponding decrease in the volume of emissions from its transportation

Attachments

[Module: Electric utilities](#)

[Page: 2012-Investor-EU0ReferenceDates](#)

EU0.1

Reference dates

EU0.1: Please enter the dates for the periods for which you will be providing data. The years given as column headings in subsequent tables correspond to the "year ending" dates selected below. It is requested that you report emissions for: (i) the current reporting year; (ii) one other year of historical data (i.e. before the current reporting year); and, (iii) one year of forecasted data (beyond 2016 if possible).

Year ending	Date range
2011	Sat 01 Jan 2011 - Sat 31 Dec 2011
2010	Fri 01 Jan 2010 - Fri 31 Dec 2010

Year ending	Date range
2009	Thu 01 Jan 2009 - Thu 31 Dec 2009
2015	Thu 01 Jan 2015 - Thu 31 Dec 2015

Further Information

Please note that 2015 figures are indicative only and represent publicly known developments, including a full year of offtake from our nuclear assets and the start of operations from the Lincs offshore wind farm. All other figures are assumed to stay the same as 2011 and recognise no other possible future changes in the generation portfolio.

[Page: 2012-Investor-EU1GlobalTotalsByYear](#)

EU1.1

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emission intensity (metric tonnes CO ₂ e/MWh)
2011	9029	27401	6210540	0.23
2010	9029	32925	8949881	0.27
2009		26225	10447037	0.40
2015	9164	43742	11103221	0.25

Further Information

2015 figures indicative only and include the start of operations for Lincs wind farm, in which we have a 50% equity share and are due to take about 75% of the power generated.

EU2.1

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

EU2.1a

Coal - Hard

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

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

EU2.1b

Lignite

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

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

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

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

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

EU2.1d**CCGT**

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

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

EU2.1e**Nuclear**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1f

Waste

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

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

EU2.1g**Hydro**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1h**Other renewables**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1i

Other

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

EU2.1j

Solid biomass

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

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

EU2.1k

Total thermal including solid biomass

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

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

EU2.1l

Total figures for this country

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

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

EU2.1

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

CCGT

EU2.1a

Coal - Hard

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

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

EU2.1b

Lignite

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

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

EU2.1c

Oil & gas (excluding CCGT)

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

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

EU2.1d

CCGT

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2011	428	1608	597863	0.37
2010	428	1579	565862	0.36
2009		2600	956947	0.24
2015	428	1608	567863	0.37

EU2.1e

Nuclear

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1f**Waste**

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

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

EU2.1g**Hydro**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1h**Other renewables**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1i

Other

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

EU2.1j

Solid biomass

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

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

EU2.1k

Total thermal including solid biomass

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	428	1608	597863	0.37
	428	1597	565862	0.36

EU2.1I

Total figures for this country

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	428	1608	597863	0.37
2010	428	1579	565862	0.36
2009		3905	956947	0.24
2015	428	1608	597863	0.37

EU2.1

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

CCGT
Nuclear
Other renewables

EU2.1a

Coal - Hard

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

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

EU2.1b**Lignite**

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

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

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

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

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

EU2.1d**CCGT**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO ₂ e)	Emissions intensity (metric tonnes CO ₂ e/MWh)
2011	5214	14900	5774736	0.39
2010	5214	23020	8975140	0.39
2009	5016	23432	7371941	0.41
2015	5214			

EU2.1e**Nuclear**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
2011	1890	11074
2010	1890	6717
2009	1747	0
2015	1890	11074

EU2.1f**Waste**

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

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

EU2.1g

Hydro

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1h

Other renewables

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

Year ending	Nameplate capacity (MW)	Production (GWh)
2011	191	3014
2010	191	2641
2009	368	2465
2015	326	3390

EU2.1i

Other

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

EU2.1j

Solid biomass

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

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

EU2.1k

Total thermal including solid biomass

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	5214	14900	5774736	0.39
2010	5214	23020	8975140	0.39
2009	5013	23432	7371941	0.41
2015	5214			

EU2.1I**Total figures for this country**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	7295	28988	5781275	0.20
2010	7295	32378	8981857	0.28
2009	7128	25897	9598581	0.37
2009	7430	36065	8981729	0.25

Further Information

Figures for production, emissions and emission intensity based on output from our own generation and from site-specific offtake contracts. Nameplate capacity based on equity share of assets.

2015 figures are indicative only and assume a full year of nuclear generation and that the 270MW Lincs wind farm starts operations. We have a 50% equity share in Lincs and expect to take around 75% of the power generated.

[Page: 2012-Investor-EU2IndividualCountryProfiles - United States of America](#)

EU2.1

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

CCGT
Other renewables

EU2.1a

Coal - Hard

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

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

EU2.1b**Lignite**

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

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

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

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

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

EU2.1d

CCGT

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
2011	1306	5282	2100688	0.40
2010	1306	3849	1555631	0.40
2009	1306	4982	2132675	0.43
2015	1306	5282	2100688	0.40

EU2.1e**Nuclear**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
-------------	-------------------------	------------------

EU2.1f**Waste**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emissions intensity (metric tonnes CO2e/MWh)
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EU2.1g**Hydro**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
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EU2.1h**Other renewables**

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

Year ending	Nameplate capacity (MW)	Production (GWh)
2011	0	2615
2010	0	2249
2009	0	1645
2015	0	2615

EU2.1i**Other**

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

EU2.1j**Solid biomass**

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

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

EU2.1k**Total thermal including solid biomass**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	1306	5282	2100688	0.40
2010	1306	3849	1555631	0.40
2009	1306	4982	2132675	0.41
2015	1306	3849	1555631	0.40

EU2.1l**Total figures for this country**

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

Year ending	Nameplate capacity (MW)	Production (GWh)	Absolute emissions (metric tonnes in CO2e)	Emission intensity (metric tonnes CO2e/MWh)
2011	1306	7897	2100688	0.27
2010	1306	6098	1555631	0.26
2009	1306	6627	2132675	0.32
2015	1306	6098	1555631	0.26

Further Information

Our renewables power purchase agreements are from the Buffalo Gap wind farms with a capacity of 813MW. To be consistent with figures reported for the UK and Rest of World, we are including the nameplate capacity of those facilities where we have equity share. However the figures for production, emissions and carbon intensity are calculated using offtake figures, which includes power from our own generation and from site-specific power purchase agreements. 2015 figures are indicative only and assume no change in the generation portfolio for North America.

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EU3.1

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

Yes

EU3.1a

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

Scheme name	Current % obligation	Future % obligation	Date of future obligation	Position in relation to meeting obligations
UK - Renewables Obligation	12.4%	15.8%	2013	The date of the future obligation is April 2012-Mar 2013. Our position in relating to meeting our obligations is information which will be formalised during October of this year.
Other: Renewable Portfolio Standards (Various)				Our obligations vary from state to state across the US.

EU4.1

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

Please give:	Monetary figure	%	Comment
Renewable electricity's contribution to EBITDA	66275000	7%	The achieved power price (including ROCs) for renewables in 2011 was £111.2/MWh. The total generation for which we received revenue was 596GWh. This equates to an operating profit from renewables of £66.3m, which is 6.5% of the total operating profit from our upstream UK business Centrica Energy.

EU4.2

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

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

Please give:	Monetary figure	%	Year ending	Comment
to EBITDA				information.

EU4.3

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

Please give:	Monetary figure	%	End year of capex plan	Comment
Capex planned for renewable electricity development				These specific figures are commercially confidential. However, in the UK we have committed to grow off shore wind capacity by 300% to 560MW* by 2016. * Centrica share assuming 50% equity.

Module: Sign Off

Page: Sign Off

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

Grant Dawson
General Counsel and Company Secretary