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Promoting choice and value
for all gas and electricity customers

Sustainable Development Focus

April 2011 - March 2012

July 2012

Contents

Foreword

Over the past year, the increasing cost of wholesale gas and low carbon investments means that energy prices have been rising again. The interplay between affordability, security of supply and decarbonisation of energy is complex. Whilst consumers bear the costs for low carbon energy investments, these investments also insulate them against the price and security of supply risks of international fossil fuel markets.

I am clear that our task is to ensure that consumers today and in the future can enjoy secure, affordable, low carbon energy. We do not have all the answers, so it is crucial that we engage with external stakeholders who are prepared to challenge and inform us. I particularly welcome the constructive advice and challenge from our Sustainable Development Advisory Group on our major policy matters. Internally, we are proposing to strengthen the consideration of strategic and sustainability issues in our decision-making processes.

We are now preparing to implement our new RIIO price controls for gas networks, and electricity transmission. From next year RIIO will provide these companies with the incentives to deliver networks required for a sustainable, low carbon energy sector. Central to RIIO is a package of output measures including environmental and social outputs, and a major stimulus for innovation, building on the best practice established in our Low Carbon Networks Fund for electricity distribution networks. A new Environmental Discretionary Reward will also sharpen electricity transmission companies' focus on environmental issues.

In the face of rising energy bills, we pay particular regard to those consumers who are vulnerable or in fuel poverty. Through our Retail Market Review we are proposing a package of measures to this end, including simpler energy tariffs to improve transparency and make it easier for customers to switch supplier. To help consumers realise the full benefits of smart meters, we have consulted on a strategy for smarter energy markets and in the light of the Government's Hills Review into fuel poverty, we are undertaking a review of our vulnerable customer strategy.

Our delivery arm, Ofgem E-Serve, has overseen the introduction of the Renewable Heat Incentive scheme. It has also efficiently managed the introduction of the Warm Home Discount, dealt with an explosion in applications for the Feed-in Tariff for renewable electricity, and progressed the development of the regulatory regime for the offshore transmission network.

The coming year will bring us new challenges, notably the development of the Government's Electricity Market Reform, and the transposition of the European Energy Efficiency Directive. I am alive to these challenges, and am committed that we play our part in delivering a sustainable energy sector.

Alistair Buchanan
Chief Executive

Ofgem's approach to sustainable development

Our approach to sustainable development

Ofgem's primary duty is to protect consumers, both existing and future. We also have a duty to contribute to the achievement of sustainable development, which involves reducing cost pressures on customers' bills, helping to achieve security of supply and contributing to the establishment of a low carbon energy sector. Our corporate plan[i] sets out the policy areas we are focussing on, which are aimed at fulfilling these duties.

The UK government issues us with Social and Environmental guidance[ii] which we have interpreted under the five themes detailed below. This guidance includes an annual reporting requirement, for us to inform Government of our progress in contributing to sustainable development. We expect the Government's new Strategy and Policy statement to replace the Social and Environmental guidance next year, and we will adapt our policy and reporting accordingly.

We also increasingly need to be mindful of key European legislation which influences our work in this area such as the Third EU Energy Package, the draft EU Energy Infrastructure Package, the Renewable Energy Directive and the Energy Efficiency Directive, which could see increased energy efficiency scheme obligations placed on Ofgem.

While much of what is needed to deliver sustainability is not within our direct control, we see it as our responsibility to facilitate change by engaging in the debate, trying to persuade relevant players to make changes where required and contributing information and expertise where we can.

Strengthening strategic and sustainability considerations in Ofgem decision-making

The nature of the issues facing the regulated energy sector are changing, and we have an important role in shaping the future of gas and electricity industries in a sustainable manner. In order to reduce greenhouse gas emissions whilst ensuring that energy and heating costs remain affordable to all, we are proposing to consult in 2012/13 on how we can strengthen consideration of strategic and sustainability issues within our major decision-making.

Ofgem's internal environmental management

Ofgem is committed to reducing its environmental impact, and to operating in a sustainable manner. We have already achieved a 21% reduction in carbon emissions since 2009-10. Our 2012 Environmental Management Plan will be published in the summer, and will be available here[iii].

Our five sustainable development themes

Managing the transition to a low carbon economy

We are responsible for the framework for the efficient functioning of gas and electricity markets. Our decisions on the industry rules governing the wholesale and retail markets and the regulation of monopoly networks facilitate the development of lower carbon technologies. We are clear that any assessment of economic efficiency should incorporate the environmental costs associated with a proposal.

Eradicating fuel poverty and protecting vulnerable customers

While the causes of fuel poverty go beyond energy markets, we are committed to driving forward the debate and working with government to eradicate fuel poverty. Competitive markets can deliver lower prices, better service and more innovative products than regulated markets, but some regulation remains necessary to protect vulnerable energy customers. Our position recognises the potential conflicts between seeking to tackle climate change and reducing fuel poverty, but we aim to ensure that we contribute to sustainable development in a way that represents value for money for existing and future consumers.

Promoting energy saving

Energy conservation and improved energy efficiency are critical elements in any sustainable development strategy. We recognise the range of environmental, social and economic benefits that saving energy can bring. We are committed to encouraging all energy consumers to be more energy efficient and facilitating the provision of energy services by market participants.

Ensuring a secure and reliable gas and electricity supply

Our regulation of the electricity and gas networks and our commitment to sustaining a regulatory environment that supports investment underpin our goal to ensure that cost-effective, reliable and diverse energy supplies are always available to consumers. European legislation, which is negotiated by the UK government, is increasingly crucial in this respect, as well as in fostering the transition to a low carbon economy. We engage with our European counterparts to implement European legislation in these areas and we also monitor international energy markets.

Supporting improvement in all aspects of the environment

Beyond the climate change agenda, the gas and electricity industries affect the environment through other emissions and their impacts on our countryside and communities. We are working to minimise these impacts through our work.

Theme 1

Managing the transition to a low carbon economy

A key aspect of Ofgem's work towards the goal of sustainable development is focussed on managing the transition to a low-carbon economy, and in particular on taking action to tackle climate change. In the coming years the UK will see greater deployment of lower carbon technologies. Our work on regulating monopoly networks and determining the rules for competitive markets can facilitate this.

Over the past year we have progressed work on our RIIO network regulation by implementing both RIIO-T1 and RIIO-GD1, the transmission and gas distribution price controls. As part of RIIO we have also designed an Environmental Discretionary Reward scheme for the electricity transmission companies to take account of strategic environmental issues and goals in their business strategy and operational practices. Recognising that energy markets will need to accommodate changes in generation and demand in the future we published a consultation in December 2011 on the scope of a strategy for promoting smarter energy markets. In addition to our policy work we deliver a portfolio of Government energy-related programmes through Ofgem E-Serve, which now also includes the Renewable Heat Incentive.

System Operator Incentives

The gas and electricity transmission system operators (SOs) operate under incentives that encourage the efficient use of the networks. The gas SO has an incentive that places a financial value on the environmental impacts of venting natural gas, which is largely methane, a greenhouse gas. The gas SO can lower venting levels through either operational measures or more capital intensive solutions. Our aim is to ensure that the SO incentives encourage low-carbon decision-making.

In April 2011 we set a new two-year incentive for National Grid Gas (NGG). The incentive penalises NGG for every tonne of methane it emits above an upper limit and rewards it for every tonne of methane it avoids emitting below a lower limit. The upper limit is 3,157 tonnes of natural gas, which is equivalent to approximately 66,000 tonnes of carbon dioxide. We have also required National Grid to look more closely at other emissions from its networks and we are seeking improved monitoring and reporting arrangements to take place from 2013. This improved information will help to develop a longer term incentive, alongside RIIO-T1, which will seek to internalise the costs associated with GHG emissions.

RIIO-T1

The first price control to implement the RIIO framework (RIIO-T1) will start in 2013 for the gas and electricity transmission owners (TOs). The electricity transmission network in Great Britain is owned by National Grid Electricity Transmission plc (NGET) in England and Wales, Scottish Power Transmission Limited (SPTL) in the south and central Scotland and Scottish Hydro Electricity Transmission Limited (SHETL) in north Scotland. The national gas transmission system is owned by National Grid Gas Transmission plc (NGGT).

Under the terms of RIIO-T1, the TOs will face strong incentives to perform against outputs set in their price control. In April 2012 we completed a major milestone under the new RIIO framework and published the final RIIO-T1 price control proposals for SPTL and SHETL[iv]. These include explicit outputs and targets for their performance in managing SF_6 emissions, business carbon footprint, contributing to fewer electricity losses and visual amenity issues. We plan to finalise the price control for NGET and NGGT in December 2012.

What is RIIO?

Transmission and distribution networks have a vital role to play in facilitating the low carbon energy system needed by 2020 to meet the UK's renewable energy target and longer term carbon reduction goals. In 2010 Ofgem introduced RIIO (Revenue = Incentives + Innovation + Outputs), a new network regulation model which aims to enable network companies to deliver the networks required for a sustainable, low carbon energy sector, whilst delivering value for money for existing and future customers.

SF_6, or sulphur hexafluoride, is a greenhouse gas with a global warming potential of 22,800 times that of CO_2 over a 100 year period. It is used as an insulator in the electricity industry.

Environmental Discretionary Reward

Under the RIIO framework we want transmission operators to contribute to the low carbon transition. As part of our RIIO-T1 strategy we committed to adding a reputational incentive to sharpen the electricity transmission companies' focus on strategic environmental considerations and encourage corporate and operational culture change, to facilitate a growth in low carbon energy.

Earlier this year we published our proposals for an Environmental Discretionary Reward (EDR) for consultation[v], with a suggested reward pot of up to £4m per annum. The EDR is a novel incentive mechanism in RIIO-T1 to help encourage the electricity transmission companies to take account of strategic environmental issues and goals in their business strategy and operational practices. Respondents expressed their support for the EDR in principle, and are helping us to shape the detail of the scheme; to this end, we held an industry workshop to help us develop the detail of the proposal in March 2012. We intend to roll out the EDR as part of RIIO-T1 in April 2013.

Transmission Investment Incentives

In April 2010 we introduced the Transmission Investment Incentives (TII) framework for electricity transmission. This allows flexibility for funding to be awarded outside the current price control (TPCR4) for critical large-scale investments that the transmission owners identify are required to support achievement of the government's 2020 renewable energy targets.

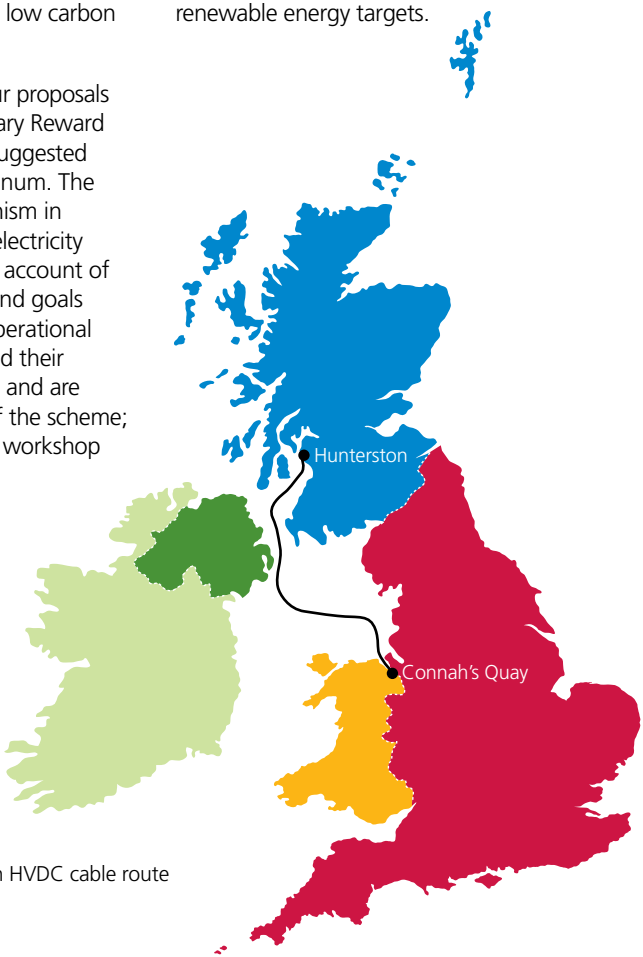

Figure 1: Western HVDC cable route

To date, we have approved over £600m of investment for projects up to the end of 2012-13. Most of these projects will require further funding in the next price control period, RIIO-T1. The largest project to be assessed under the TII is the Western HVDC Link, a joint project between NGET and SPTL. This link would provide around 2GW of additional capacity, facilitating flows southwards from new renewable generation stations in Scotland. We are currently in the final stages of our assessment of this funding request, and aim to reach a decision in summer 2012.

RIIO-ED1

In February 2012 we launched RIIO-ED1, the price control review for the electricity distribution networks. During the ED1 period the UK is likely to see significant take up of low carbon technologies such as heat pumps, electric vehicles, photovoltaics and smaller scale distribution-connected wind farms which could make an important contribution to meeting the UK's greenhouse gas emissions targets. A key objective of RIIO-ED1 will therefore be to ensure that Distribution Network Operators (DNOs) accommodate these low carbon technologies in a timely and cost effective way.

We will publish a consultation on our strategy for the ED1 price control towards the end of 2012, and a decision in early 2013. These documents will set out the policy framework for the RIIO-ED1 control, including the framework for ensuring the timely connection of low carbon technologies.

RIIO-GD1

The next gas distribution price control (RIIO-GD1) will commence in April 2013 and under this price control we will introduce a discretionary reward scheme that incentivises and rewards companies that contribute to environmental and social objectives, beyond those already agreed at price review.

We will also put in place a framework that incentivises the gas distribution companies to minimise their own business carbon footprint, emissions and natural resource use. We expect companies to realise a minimum 5% reduction in their business carbon footprint (excluding losses) over the next price review period with two companies proposing overall carbon reductions of 10% and 20% respectively.

In order to address emissions from gas transportation, we have decided to introduce modified versions of the shrinkage allowance and environmental emissions incentive to companies. These measures provide enhanced incentives for companies to reduce network losses by valuing the cost of the lost gas and the carbon cost to the environment. Overall, the industry has proposed reductions of up to 20% in gas transport losses. These are in addition to the business carbon footprint reductions described above.

Biomethane

Biomethane is a renewable gas source which, when injected into the local gas networks, can make our gas supply less carbon-intensive than using natural gas.

In September 2011 we convened a Review Group on Energy Market Issues for Biomethane (EMIB) to address potential barriers and solutions to the commercial development of biomethane projects within the energy market. The EMIB Review Group, run by the Joint Office of Gas Transporters, is comprised of network companies and biomethane producers. It has finalised a report containing a number of recommendations, including a Functional Specification which sets out the requirements to be met at any entry point that is to be connected to the Gas Distribution Network. We are considering implementation of the proposed solutions, and will consult with the industry where necessary.

Project TransmiT

Project TransmiT is Ofgem's review of the charging regime and associated connection arrangements for Britain's high-voltage electricity transmission network. Our work on electricity connection issues under Project TransmiT recently concluded with a decision on industry proposals on new enduring electricity user commitment arrangements[vi] and the introduction of an electricity transmission licence reporting obligation to gather information which will support arrangements to facilitate timely connections[vii]. These steps will establish arrangements for a more secure environment for investment in new, low carbon generation.

On 4 May 2012 GEMA published conclusions to the Significant Code Review (SCR) under Project TransmiT[viii]. The document considered potential improvements to the electricity Transmission Network Use of System (TNUoS) charging arrangements, and recommended the progression of proposals to develop a charging regime more in tune with the changing electricity generation mix over the coming years. The aim of the changes is to facilitate Britain's transition to a low carbon energy sector at the lowest cost to consumers.

Offshore transmission networks

Offshore wind power will play a major part in meeting the ambitious carbon emissions reduction target set by the UK government. There is potential for over 40 gigawatts (GW) of offshore wind generation to be developed over the next two decades.

As well as investment in the wind farms themselves, investment in a new offshore transmission network is also required. To facilitate this, Ofgem and DECC have established a competitive regulatory regime for the sector. We grant Offshore Transmission Owner (OFTO) licences following a competitive tendering process. This competitive approach aims to drive down costs for consumers, deliver fit for purpose electricity transmission infrastructure and enable new players to enter the market.

The first round of tenders for assets worth £1.1 billion attracted an initial investor appetite of around £4 billion and this

competitive approach is already delivering considerable savings for consumers and generators.

Coordinating offshore networks

We have been working with DECC to explore how to support the development of a more coordinated offshore network. In some areas, it could be more efficient to link offshore connections instead of building individual connections for each development (known as a 'radial' approach), and add separate reinforcements of the onshore network where this is necessary. A coordinated approach could also have benefits for security of supply by potentially reducing the cost of further connections with the rest of Europe.

There are a number of challenges to developing a coordinated grid, including the need to undertake preparatory investment and to balance the risk between generators and consumers. We have outlined proposed measures for consultation that aim to provide an effective regime to deliver necessary investment at the lowest cost to consumers. A Joint Conclusions report can be found on the Offshore Transmission page of our website[ix].

The Smart Grids forum

The transition to a low carbon energy system will have significant impacts on our electricity distribution networks. The future system will need to be more integrated and flexible, with

A Smart Grid as part of an electricity power system can intelligently integrate the actions of all users connected to it – generators, consumers and those that do both – in order to efficiently deliver sustainable, economic and secure electricity supplies.

the capacity to transfer significantly more energy between a diverse range of generators and consumers, and the ability to securely manage a much more complex system. In short, grids will need to be 'smarter'.

The role that smart grids play in the low carbon future is a complex issue. In recognition of this we established the Smart Grids Forum in April 2011 in conjunction with DECC to provide further leadership to the industry on smart grid issues[x]. The forum brings together experts and key stakeholders representing network suppliers, generators, customers and manufacturers.

As part of this forum we have led work on developing a smart grid evaluation framework, a methodology for assessing the likely value of smart grids under different scenarios and time frames[xi]. It is an important step towards understanding the circumstances in which it is in GB consumers' interests to invest in smart grids rather than conventional network solutions. DNOs are now undertaking further work to understand the impacts of different low carbon penetration scenarios for their power networks[xii].

Going forward, the Smart Grids forum will be looking at the regulatory and commercial barriers to smart grid solutions. This will build on existing work to provide wide access to learning from smart grid trials, and furthering modelling to help assess where smart grid solutions can play a role in DNOs' business plans for the next electricity distribution price control (RIIO-ED1).

Smart metering

The government is mandating the roll-out of smart meters to all domestic and many smaller non-domestic consumers, expected to be completed in 2019. Smart meters have an important role to play in the transition to a low-carbon economy. They will provide consumers with ready access to more detailed information on their consumption, helping them to use energy more efficiently. Smart metering will also enable innovation in new products and services. Some of these will reward consumers for shifting consumption away from peak times, helping to integrate low-carbon generation and make more efficient use of generation and network capacity.

DECC is responsible for ensuring successful delivery of the roll-out of smart metering. Over the last year, we have provided expertise and advice to support DECC's work to implement the regulatory framework for smart metering.

Unlocking the full benefits of smart metering will require complementary changes to existing market arrangements. We are keen to play our part in helping to identify and, where necessary, implement these changes. As a first step we published a consultation in December 2011 on the scope of a strategy for promoting smarter energy markets[xviii].

Demand Side Response

We have continued our work on Demand Side Response (DSR) and our exploration of how this could contribute to secure and sustainable energy supplies while providing financial and environmental benefits to consumers. Ofgem defines DSR as 'changes in energy use by end-use customers in response to a signal.'

In February 2012 we commissioned research to investigate the potential for demand side response in non-domestic buildings, excluding large energy users. The report suggests that there is significant potential for DSR in this sector (between 1 and 4.5 gigawatts) and has added to a growing bank of literature on the overall potential for DSR in Great Britain.

We are also participating in Sustainability First's 'GB Electricity Demand Project – realising the resource.' We are one of a number of sponsors for this work which aims to develop a substantive knowledge-base and provide thought-leadership and visibility for GB electricity demand–side issues. It will bring together three key strands: practical demand-side and load-management experiences, including from Low Carbon Network Fund projects; a top-down technical and economic overview; and expert analysis of the key consumer, commercial, regulatory and policy issues.

Low Carbon Networks Fund

As part of the electricity distribution price control arrangements that run from 1 April 2010 to 31 March 2015, Ofgem established the Low Carbon Networks Fund. The Fund allows up to £500m of support to projects sponsored by the distribution network operators (DNOs) to try out new technology, and operating and commercial arrangements. In the first annual competition in 2010 we selected four projects for funding with a combined value of £63m. A requirement of receiving a payment from the Fund is that the DNO must share their learning, which leads to wider improvements in the industry, and we will continue to enforce this as lessons begin to emerge.

Last year six new projects were selected for funding. The projects have a combined funding value of £57m and address a broad range of issues which are relevant to the challenges that the DNOs will need to address in the move to a low carbon economy. The projects selected are shown in the table on p14.

Network Innovation Competition

As part of the RIIO-T1 and GD1 price controls we will introduce Network Innovation Competitions. These are annual competitions for electricity and gas, where network companies compete for funding for research, development and trialling for new technology, operating and commercial arrangements. Funding will be provided for the best innovation projects which help all network operators understand what they need to do to provide environmental benefits and security of supply at value for money as Great Britain moves to a low carbon economy. The annual value of the fund will be £30m for electricity transmission and £20m for gas transmission and distribution. We will also seek to extend these arrangements as part of the RIIO-ED1 price controls.

electricity north west	**Capacity to Customers** A project that trials new operational techniques to release latent capacity within the existing high voltage (HV) network. Automation and interruptible contracts are used to ensure security of supply when network outages occur.	**£9.1m**
UK Power Networks	**Flexible Plug and Play (Cambridgeshire)** A project trialling ways to improve control of the extra high voltage network to connect increased volumes of wind generation. This project will trial an open communications platform and develop an investment model for connecting renewable generation to the distribution system.	**£6.7m**
SP ENERGY NETWORKS	**Flexible Networks for a Low Carbon Future (East Scotland, Shropshire, North Wales)** A project investigating how to obtain extra capacity from the existing HV network in three separate locations by co-ordinating innovative engineering practices. The project also looks to encourage large customers to improve their energy efficiency.	**£3.6m**
WESTERN POWER DISTRIBUTION *Serving the Midlands, South West and Wales*	**Flexible Approaches for Low Carbon Optimised Networks (FALCON) (East Midlands)** A project deploying smart interventions on the HV network and novel commercial arrangements with customers. Data from these trials will be used to develop an investment tool to model where these techniques can be deployed efficiently across the whole HV network.	**£12.4m**
WESTERN POWER DISTRIBUTION *Serving the Midlands, South West and Wales*	**Buildings, Renewables and Integrated Storage, with Tariffs to Overcome network Limitations (BRISTOL) (South West)** A small project investigating the potential for battery storage in conjunction with PV solar generation to be used within homes, schools and an office to provide network and customer benefits. A variable tariff will be trialled to incentivise customers to use the battery to reduce electricity consumption at peak times.	**£2.2m**
Scottish and Southern Energy	**New Thames Valley Vision (South East)** A large project which is primarily focussed on developing a tool to help forecast where low carbon technologies might connect to the network. The project also trials network monitoring, energy storage and novel commercial arrangements with large customers.	**£22.8m**

International Work

Electricity

In January this year we finalised a Council of European Energy Regulators (CEER) consultation paper which considers the impacts of having different schemes for supporting renewable generation in each EU country. The paper also sought stakeholder views and evidence to contribute to the debate on the effects of a lack of harmonisation of support schemes, and how these can be mitigated. The consultation document was welcomed as an important and timely contribution to the debate (in advance of expected communications from the European Commission on the Renewables Directive beyond 2020) and we anticipate inputting to a final CEER Conclusions paper by July 2012.

During early 2012, Ofgem also assumed Co-Chairpersonship of the CEER Electricity Working Group (EWG) Sustainable Development Task Force.

We are continuing to work with the Agency for the Cooperation of Energy Regulators (ACER) on developing framework guidelines and network codes which recognise the importance of renewables integration and working to meet EU targets. Ofgem has also played a key role in the development of a revised Energy Efficiency Directive, which is designed to refocus efforts to reach the targets set for 2020.

Ofgem is closely involved in ongoing work at EU level on the development of an Energy Infrastructure Package (EIP). These proposals for EU legislation seek to ensure that European energy infrastructure is fit for the purpose of integrating large amounts of renewable generation onto the European electricity grid while reducing greenhouse gas emissions. We are continuing to work with governments, regulators and Transmission System Operators in eight other EU Member States and Norway on the North Seas Countries Offshore Grid Initiative (NSCOGI). NSCOGI provides a framework for regional cooperation to find common solutions to questions related to current and possible future grid infrastructure developments in the North Seas. The NSCOGI work will help identify how to integrate renewable generation in a region identified as one of the "priority corridors" in the EIP.

Gas

We are working with ACER to develop framework guidelines and network codes that would facilitate the integration of the European gas market. Additionally, we are currently evaluating how the GB gas market interacts with adjacent markets through the interconnectors and, if necessary, will explore ways to improve this in line with the CEER Gas Target Model.

As part of the Third Package implementation, we have also produced guidance aimed to ensure efficient utilisation of, and access to, storage and liquefied natural gas facilities.

These measures should all contribute to the shift towards a more efficient use of gas, which will in turn contribute to different sustainability targets.

Green Tariffs

The Green Supply Certification Scheme, which Ofgem developed in conjunction with stakeholders, completed its second year in February 2011. During this year there were 12 tariffs available, 10 for domestic customers and 2 for small businesses. The independant panel, responsible for certifying tariffs, undertook a consultation on the rules of the scheme in 2011-12 with a view to making improvements.

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The Renewable Heat Incentive (RHI)

The RHI is designed to revolutionise the way we produce and use heat by encouraging a move away from traditional gas, oil or electric options to renewable sources of heat. The RHI will make incentive payments to participants over a 20 year period, and Ofgem E-Serve is responsible for implementing and administering the scheme. Since November 2011 the scheme has received just over 500 applications and around 70 installations have been accredited. Biomass boilers constitute the majority of installations applying for accreditation and are the subject of the majority of enquiries, as shown in figure 2.

In the early months of the RHI we have identified problems with heat metering. To address this we have developed training materials and are working with industry to help those installing the systems to better understand and deliver the metering requirements of the scheme.

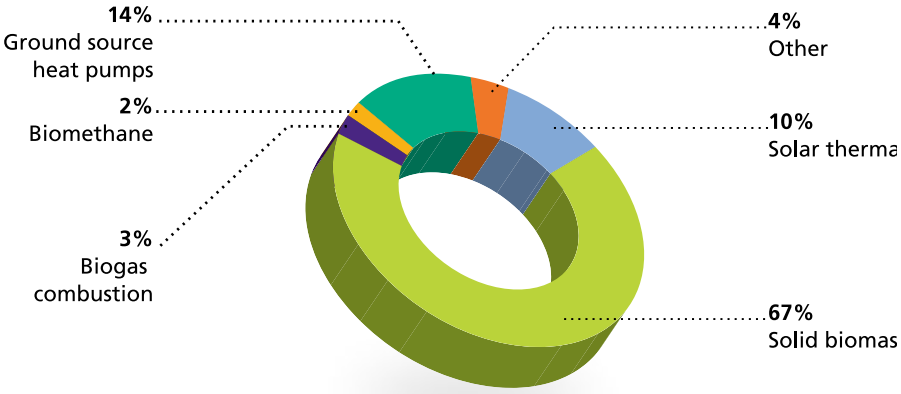


Figure 2: percentage of RHI enquiries by technology type

Source: Ofgem data

Delivery of environmental programmes

The FIT scheme has been in operation since April 2010 and looks to get more individuals and businesses using small-scale renewable and low carbon technologies to generate electricity. Ofgem administers this scheme on behalf of government.

Feed-in Tariffs (FIT)

At the end of March 2012 there were around 248,000 accredited FIT installations, up from about 30,000 at the beginning of the financial year. Over 99 per cent are photovoltaic installations. Of these installations around 90% were domestic and the rest commercial. This year the scheme also reached its first gigawatt of installed renewable capacity.

DECC has made a number of changes to the scheme over the past 12 months, in particular changing tariffs and introducing new eligibility requirements. We have successfully amended our processes and systems accordingly. We have processed a rush of accreditation applications in the lead up to these changes coming into force. The government continues to analyse the small renewable generation market to ensure that levels of support remain appropriate.

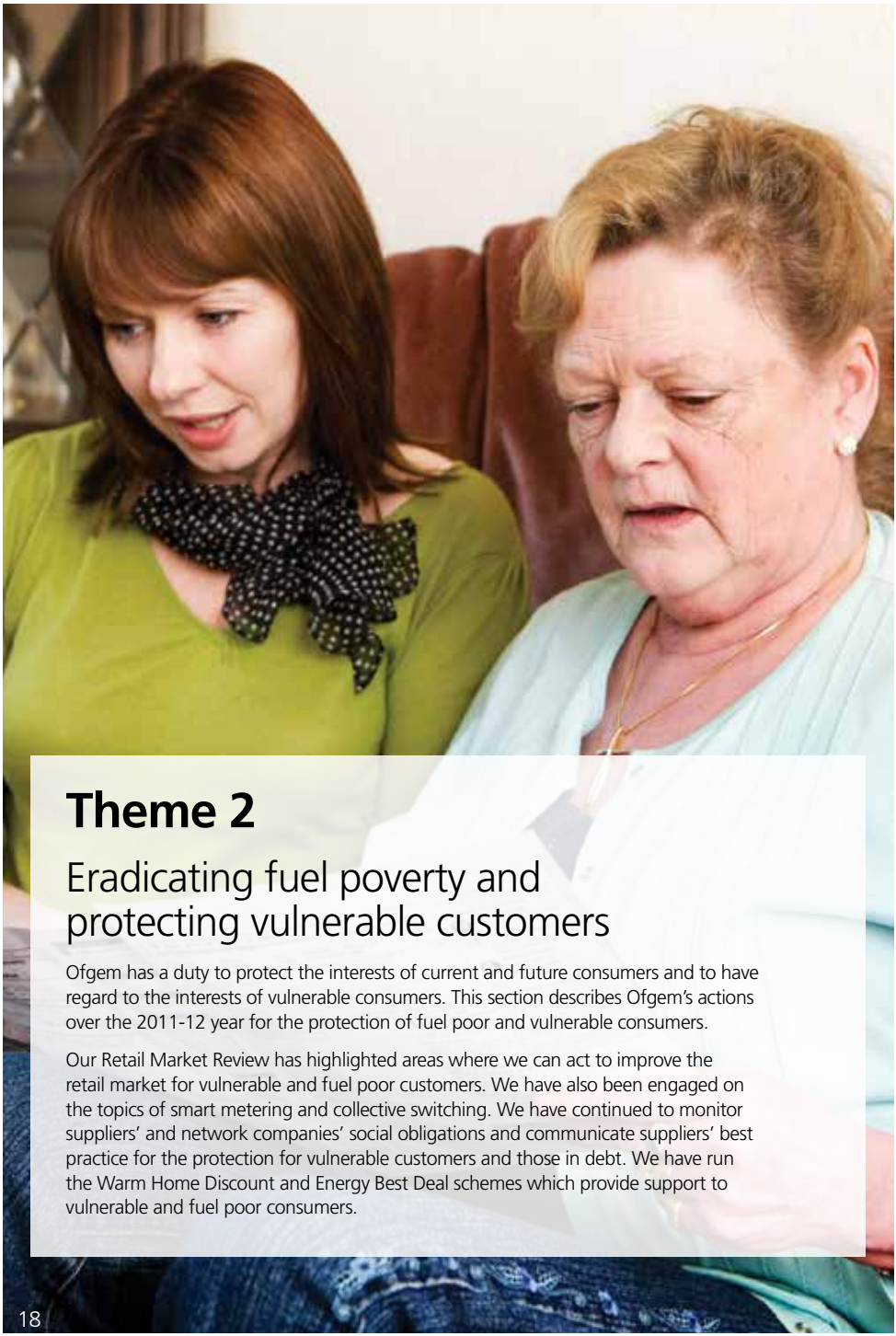
Renewables Obligation

We administer the Renewables Obligation (RO), the Government's main programme to increase the proportion of electricity generated from renewables. This year has seen a significant increase in the number of RO Certificates (ROCs) claimed for offshore wind farms compared to the last financial year, with a 32% increase already evident up to January 2012.

In April 2011, DECC brought in new mandatory sustainability criteria for bioliquids used to generate renewable electricity. These criteria refer to greenhouse gas emission savings from the use of a bioliquid and prior land use of the biomass from which the bioliquid was created. We monitor compliance by reviewing annual audit reports produced by generators. We have the power to postpone ROCs if generators do not provide us with an adequate audit report and to revoke ROCs that were issued for generation from unsustainable bioliquids. Guidance on the bioliquid requirements is available on our website[xiv].

Additionally, as of April 2011, operators using solid and gaseous biomass are required to report against the sustainability criteria. In December we published guidance on sustainability reporting for operators of solid and gaseous biomass generating stations with a declared net capacity of greater than 50 kilowatts. Operators now need to give us information on greenhouse gas emissions and prior land use for the biomass they use. Information provided annually on sustainability is collated and published on our website as the RO Annual Sustainability report[xv]. Going forward, this report may also include some information regarding the monthly sustainability reporting.

To find out more, have a look at theme 1 of our SD Indicators here[xvi].



Theme 2

Eradicating fuel poverty and protecting vulnerable customers

Ofgem has a duty to protect the interests of current and future consumers and to have regard to the interests of vulnerable consumers. This section describes Ofgem's actions over the 2011-12 year for the protection of fuel poor and vulnerable consumers.

Our Retail Market Review has highlighted areas where we can act to improve the retail market for vulnerable and fuel poor customers. We have also been engaged on the topics of smart metering and collective switching. We have continued to monitor suppliers' and network companies' social obligations and communicate suppliers' best practice for the protection for vulnerable customers and those in debt. We have run the Warm Home Discount and Energy Best Deal schemes which provide support to vulnerable and fuel poor consumers.

New Vulnerable Consumers Strategy

We are committed to driving forward the debate on how best to protect vulnerable consumers and supporting government in the eradication of fuel poverty. Competitive markets can deliver lower prices, better service and more innovative products than regulated markets, but some regulation remains necessary to protect vulnerable energy customers.

With these concerns in mind we published a discussion paper in March 2012 which outlined the measures Ofgem is already taking to contribute to tackling affordability, and asked what we could do differently in particular to help vulnerable consumers[xvii]. Responses to this consultation and meetings with suppliers and consumer representatives in Cardiff, Glasgow and London have helped to inform the development of a new Vulnerable Consumers' Strategy on which we will consult in summer 2012.

Helping vulnerable consumers through regulation of network companies

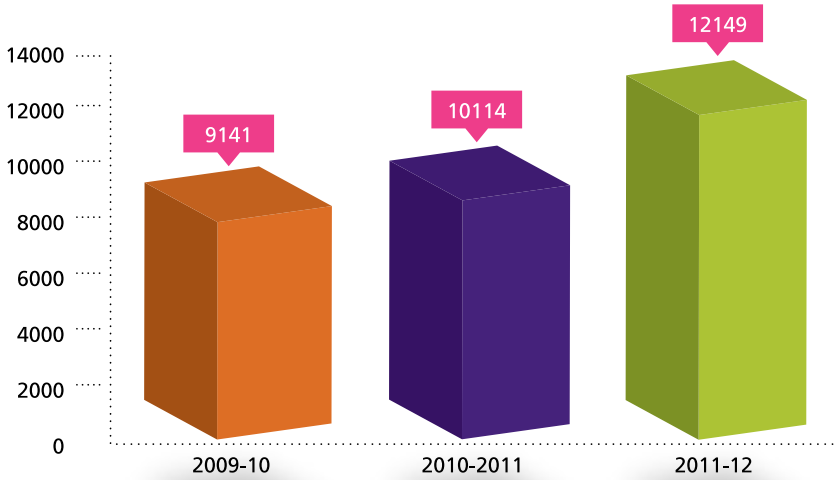
In 2010 Ofgem introduced the RIIO framework for regulating network companies. (For information on RIIO, see the box on page 7.) RIIO places an emphasis on identifying social and customer service outputs, amongst others, that network companies can deliver to help address issues such as fuel poverty and to protect vulnerable consumers.

As part of our regulation of the network companies, we have continued to draw advice from the Consumer Challenge Groups. These groups of consumer experts act as a critical friend. They represent the full range of consumers and bring a broader consumer insight and expertise that we could not achieve through market research. A new Consumer Challenge Group has been created for our work on the next electricity distribution price control (ED1).

The next gas distribution price control (GD1), which is due to begin in April 2013, has a strong focus on social outputs. In particular, we will continue to encourage the extension of the gas network to fuel poor communities where it is cost efficient to do so. The expectation was that 20,000 fuel poor homes would be connected by March 2013, and this has already been exceeded. Figure 3 illustrates how many gas network connections have been made to fuel poor consumers since the scheme began in 2009. For the next control period, running April 2013 to March 2012, we expect GDNs to connect a further 80,000 households.

We will review our fuel poor gas extensions policy in 2014 to consider if gas network extensions continue to be the best option for fuel poor consumers off the gas grid. During the next electricity price control process we will be looking at how electricity and gas distribution companies can work together, for example to consider renewable heat technologies as a cost effective alternative to help fuel poor consumers who are not connected to the gas grid.

Figure 3: number of fuel poor gas network connections per year from 2009 to 2012.



Source: Gas Distribution Network companies' business plans, as submitted to Ofgem

Encouraging customer service through our discretionary reward scheme for gas distribution companies

We continue to run our discretionary reward scheme for gas aimed at encouraging better performance, innovation and customer service among gas distribution companies. There is a combined annual award of up to £4m for 2011/12 covering:

- initiatives which reduce the environmental impact of gas distribution
- initiatives which facilitate network extensions, particularly those that increase affordability of network extensions for fuel poor consumers
- schemes to promote gas safety including awareness of carbon monoxide.

The awards for the gas networks' 2011–12 performance will be decided by an independent panel of industry, consumer and environmental experts in summer 2012.

Encouraging improved engagement with stakeholders by electricity distribution companies

Following consultation, we decided to discontinue the discretionary reward scheme for Electricity Distribution Network Operators (DNOs). We considered that other initiatives funded through the price control, such as the Low Carbon Network Fund and the measure of customer satisfaction, provided companies with similar incentives. The measure was introduced in the electricity Distribution Price Control Review for 2010

to 2015 (DPCR5) and is a financial award scheme that is made up of three elements covering customer satisfaction, complaints and stakeholder engagement.

The stakeholder engagement element is designed to incentivise DNOs to take the opinions of a full range of stakeholders into account in formulating their business plans. Following a two year trial, this went live in April 2012. Assessment of each DNO's performance on stakeholder engagement takes place via an independent panel following the end of each financial year.

Protecting vulnerable consumers against debt and disconnection

We monitor and publish quarterly and annual reports on suppliers' performance in relation to their social obligations including debt, disconnection, prepayment meters (PPMs), Priority Services Registers (PSRs) and energy efficiency advice.

In September 2011 we introduced a number of protections for consumers receiving early smart meters as part of our Spring Package[xix]. The centrepiece of the measures focused on introducing protection where remote disconnection functionality is used. As part of the updates to our Social Obligations Reporting, we will be monitoring the number of remote disconnections carried out by suppliers.

The data has shown a reduction in average repayment amounts and an increase in average repayment periods for PPM customers, which has meant that the gap between PPM and credit weekly repayment rates across suppliers continues to narrow. We have also welcomed the development of new initiatives to assist customers in debt.

In 2011-12 we carried out a review of the information that we require suppliers to report on their social obligations. Following consultation, from winter 2012 onwards we will require better information on the spread of repayment rates, data on customers in arrears, customers who have failed to keep to an agreed arrangement to pay their debt, and disconnections carried out in error[xviii].

This additional information will give us a greater understanding of the wider debt picture, and will inform our work to ensure that suppliers are proactive and taking the right steps to support their customers who are experiencing difficulty.

Removing barriers for consumers in debt

In January 2012, Ofgem commissioned qualitative research into the Debt Assignment Protocol (DAP). The DAP enables PPM customers in debt to take advantage of the competitive energy market by giving those with a debt of £200 or less the potential ability to switch to a new supplier that may offer a lower energy tariff, thereby potentially easing the financial burden of debt repayment. The research sought to provide us with a greater understanding of PPM customers' awareness of the DAP, perceived and actual barriers to its use and the experience of those who have switched using the process. We will review the findings of the research to decide how we might increase the number of people using the DAP.

Smart Metering Consumer Protection

Over the past year, Ofgem has provided expertise and advice to support the Department for Energy and Climate Change's (DECC's) work to implement the regulatory framework for smart metering. As part of this we have been involved in the development of a Smart Metering Installation Code of Practice.

Our work has focused on ensuring that the Code contains sufficient protection for consumers when the smart meter installation takes place. We have also focussed on the role suppliers are expected to play in consumer education and engagement during the visit, so that consumers understand how smart meters can be used to better manage energy consumption. Our work has been informed through engagement with consumer groups, suppliers and others.

Once the Code is fully developed, we will take responsibility for approving it and ensuring that suppliers comply with its requirements. We have also provided regulatory advice to DECC in a number of areas of work being undertaken by the Smart Metering Implementation Programme.

Research from our Consumer First Panel suggested that effective communications about data privacy should focus on a number of key areas to ease consumers' concerns relating to how suppliers use data, data security and consumer control of how this data is shared. We have highlighted these consumer concerns to DECC, to help ensure that a straightforward set of rules about data access and privacy are developed.

The Consumer First Panel is a forum comprising over 100 consumers from around Great Britain who are chosen to be broadly representative of the population. Since 2008 Panellists have met regularly to discuss key issues impacting on their experience of the energy market. Panellists change each year to make sure their views are representative of 'typical' energy customers.

The Retail Market Review and protection for vulnerable consumers

In November 2010 we launched our Retail Market Review (RMR), which considered whether the supply market is functioning in the best interests of consumers. We carried out extensive research and market analysis and concluded that action is needed to make the market work better for consumers. Our research showed that most consumers, particularly the vulnerable, are not engaged with the market: they do not compare tariff options often or at all and a significant number do not switch, resulting in customers remaining on higher tariffs. Vulnerable consumers are also particularly likely to struggle when attempting to make comparisons.

Consumer research and consultation have been informing the development of our proposals[xx]. For domestic consumers we propose to simplify energy tariffs, improve information from suppliers and establish mandatory Standards of Conduct. Our tariff proposals aim to make it easier for consumers to compare deals. Our information proposals aim to standardise the format and language of key communications from suppliers. We propose enshrining the Standards of Conduct in the supply licence to ensure suppliers conduct all interactions with consumers in a fair, honest, transparent and appropriate manner.

Collective purchasing and switching

Ofgem has been working alongside representatives from industry, consumer groups, interested third parties and Government officials on a working group which is examining the potential for, and possible barriers to, collective purchasing and switching in the energy market.

Stakeholders have raised questions about how collective purchasing and switching may operate within the regulatory framework, including the domestic RMR proposals[xxi]. Ofgem has produced guidance[xxii] on which standard licence conditions suppliers will need to be particularly mindful of in relation to collective purchasing and switching.

Collective purchasing and switching is where consumers club together and use their collective purchasing power to engage with the market and negotiate deals on their gas and electricity. Interest in collective purchasing and switching has been growing, and its potential has been demonstrated in Belgium and the Netherlands where collective switches have successfully targeted and reached offline and elderly consumers. A number of initiatives are beginning to appear in the UK market, including the UK's first collective energy switch "the Big Switch" organised by Which? and 38 Degrees that took place in early May. We welcome innovative ways of engaging consumers, particularly where this involves consumers who are vulnerable or not currently engaged.

Energy Best Deal

Energy Best Deal is the public awareness campaign developed by Ofgem and run by Citizen's Advice. The campaign aims to improve the confidence of domestic energy consumers across England, Scotland and Wales to shop around, reduce their bills and get help if they are struggling. It works by delivering practical presentations to low income consumers and front-line staff who work with people at risk of fuel poverty. Advice videos have also been provided online and on DVD.

In 2011, 339 advice sessions were delivered. Thanks to increased funding from major

energy suppliers, the 2012 campaign will see over 1,280 advice sessions delivered, directly training at least 22,000 consumers and frontline workers and with a potential reach of almost 98,000 domestic energy consumers by spring 2013.

Warm Home Discount

The Warm Home Discount (WHD) scheme was introduced by the UK government as a commitment to tackling fuel poverty and supporting vulnerable consumers to heat their homes at an affordable cost. Ofgem administers a large part of the scheme, which mandates domestic energy suppliers to provide approximately £1.13 billion of direct and indirect support to low income and vulnerable households over a four year period. The scheme came into operation on 1 April 2011.

The WHD scheme is divided into four main elements:

- Core Group
- Broader Group
- Industry Initiatives
- Legacy Spend

We lead on administering the latter three elements of the WHD.

Under the "Broader Group" element, suppliers set their own eligibility criteria to identify vulnerable consumers on low incomes to receive a rebate.

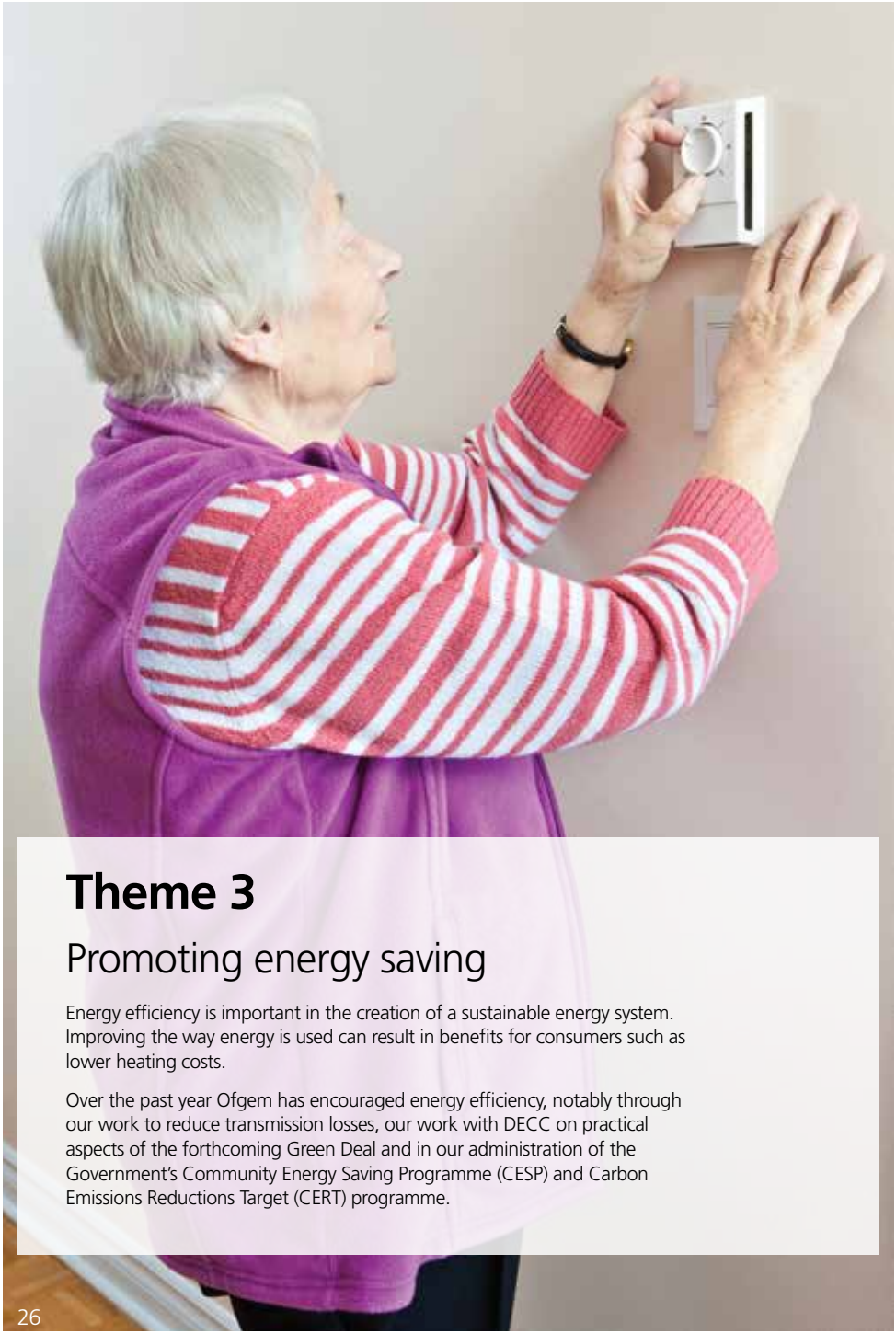
Suppliers vastly exceeded their minimum Broader Group requirements of £3.15m in 2011-12, spending over £25m on Broader Group rebates.

Energy suppliers also worked with third party organisations and charities to deliver indirect support to those in or at risk of fuel poverty under a number of industry initiatives. Our monitoring revealed that these initiatives included debt advice, referrals, benefit entitlement checks, energy efficiency measures, energy advice and training.

Suppliers' existing support schemes for vulnerable customers, such as discounted tariffs and discretionary rebates, are supported by the "Legacy Spend" element of WHD, on which they spent approximately £100m in the 2011-12 reporting year, as they began to transition from this legacy support to the Core and Broader Group rebate.

We have been working with suppliers to ensure that their Broader Group and Industry Initiative schemes are well targeted to the most vulnerable fuel poor customers and fulfil the requirements of the scheme Regulations. Through the approval of planned activity and a targeted audit programme, we have helped ensure smooth and effective delivery of the scheme by the suppliers.

To find out more, have a look at theme 2 of our SD Indicators here[xxiii].



Theme 3

Promoting energy saving

Energy efficiency is important in the creation of a sustainable energy system. Improving the way energy is used can result in benefits for consumers such as lower heating costs.

Over the past year Ofgem has encouraged energy efficiency, notably through our work to reduce transmission losses, our work with DECC on practical aspects of the forthcoming Green Deal and in our administration of the Government's Community Energy Saving Programme (CESP) and Carbon Emissions Reductions Target (CERT) programme.

Green Deal

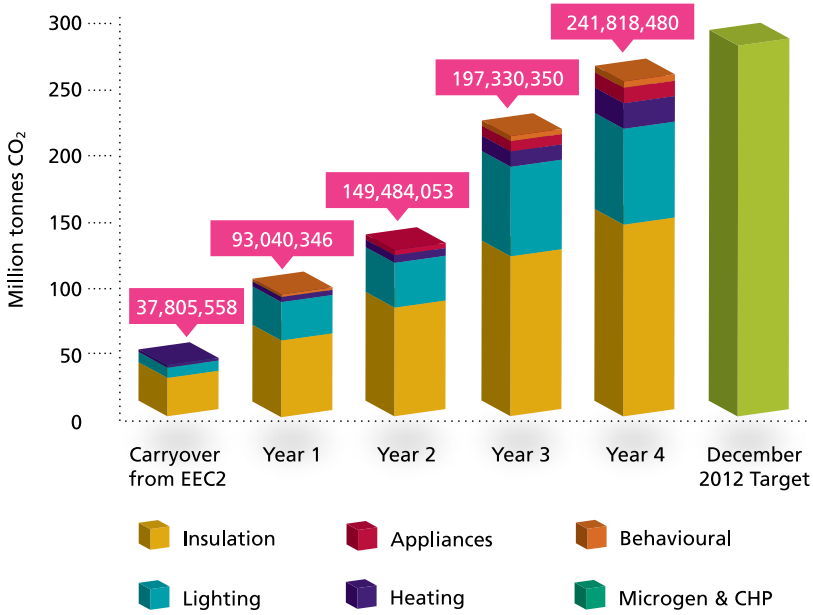
The Energy Act 2011 includes provisions for the Green Deal, the government's flagship energy efficiency programme. Expected to commence in autumn 2012, it will enable private firms to offer consumers energy efficiency improvements to their homes, community spaces and businesses at no upfront cost. Instead, energy suppliers will be required to collect Green Deal payments, which will be recovered through a charge in instalments on the energy bill. Ofgem has been working with DECC to develop the detail of how this will work in practice.

Administering Government energy saving programmes

We are the administrators for the Government's Community Energy Saving Programme (CESP) and Carbon Emissions Reductions Target (CERT) programme, which require energy companies to help domestic energy consumers to improve energy efficiency in their homes.

Over 2.9m households in Great Britain have received professionally installed loft insulation through CERT and CESP.

Figure 4: CERT carbon savings achieved to the end of the fourth year (ending March 2012)



Source: A review of the fourth year of the Carbon Emissions Reduction Target (CERT), Ofgem, 2012.

Microgen or microgeneration is used to refer to electricity generation equipment of the smallest capacity which covers generation of electricity up to 50 kWe.

CHP, or Combined Heat and Power, integrates the production of usable heat and power (electricity).

Under CERT and CESP suppliers promote a variety of measures, including loft and wall insulation, fuel switching and microgeneration. Ofgem's role is to ensure compliance with the legislation. The measures suppliers have implemented to the end of March 2012 will deliver over 230 million tonnes of CO_2 savings over their lifetimes. Figure 4 shows the CERT carbon savings achieved to the end of the fourth year of the scheme.

We will continue to administer both CERT and CESP until their completion at the end of December 2012 when they are replaced with the Energy Company Obligation.

Transmission losses

Electricity losses on the high voltage transmission system are largely caused by the distance and volume of energy flowing from where it is generated to where it is used by consumers. However, there is some scope for Transmission Owners (TOs) to contribute to fewer losses on the network through their investment choices when they replace ageing network assets or develop their network to accommodate new users of the system.

During RIIO-T1 the TOs will be required to regularly report to stakeholders regarding how they are contributing to reducing the electricity losses in their transmission area. We expect the companies to set out their actions - which could include key network developments, asset replacement programmes, asset procurement processes and the application of new and alternative technologies - in their stakeholder reports, and to explain how these deliver long term value for money for consumers.

To find out more, have a look at theme 3 of our SD Indicators here[xxiv].

Theme 4

Ensuring a secure and reliable gas and electricity supply

One of Ofgem's key responsibilities, jointly with DECC, is to ensure that gas and electricity supplies are secure and reliable. We have direct influence over the security and reliability of gas and electricity supply in Great Britain. Our work in this area also increasingly considers European legislation, as our energy markets are increasingly connected to Europe and international markets.

Over the past year we have continued our work on the development of a regulated regime for interconnector investment. Our report on how energy networks and electricity generators are planning to adapt to climate change was published by Defra in March 2012, welcoming our flexible policies and processes that are helping the sector to adapt to uncertain climate change risks. We also launched our Gas Security of Supply Significant Code Review on 11 January, which focuses on measures to enhance security of gas supply.

What does "secure and reliable" mean?

Security of supply means solving the medium to long term question of where our energy will come from. For example, as North Sea oil and gas supplies dwindle, and Britain becomes more dependent on imported fuels, we need to ensure the UK has a diverse and dependable supply.

Reliability of supply means minimising the chances of the energy system breaking down. For example, extreme weather such as wind and rain could cause power cuts, as could system maintenance. We work to ensure that the gas and electricity systems are able to meet the requirements of consumers.

Interconnectors

In 2011-12 work has continued on the development of a regulated regime for interconnector investment, based on a "cap and floor" approach, using the proposed interconnector between GB and Belgium (project NEMO) as the pilot project.

Following consultation at the end of last year we published our preliminary conclusions on the principles and high level design framework of the regime. This year we have reached a minded-to position on many aspects of the details of the regime. The "cap and floor" levels will be calculated on the basis of costs, following a similar approach to that used in onshore network regulation. To

ensure an appropriate balance of risk between consumers and developers, developers will face an incentive to control capital expenditure and to maintain high availability of the link. In late 2012 we intend to consult on our minded-to position for the design of all aspects of the regime and the setting of the "cap and floor" levels for NEMO, with a view to publishing a final decision in 2013.

In parallel we are engaging with other project developers which have come forward with new proposals for interconnector investment in GB. We envisage that once the regime is finalised it will be applied to other investment proposals interested in a regulated route.

Adapting to climate change

Last year we submitted our report to Defra (the Department for Environment, Food and Rural Affairs) on how energy networks and electricity generators are planning to adapt to climate change. In the report we outlined how our price controls allow regulated monopolies to make the investments needed to meet their adaptation needs, and the other ways we help to ensure energy sector resilience to climate change.

Defra published our report in March, welcoming our flexible policies and processes that are helping the sector to adapt to uncertain climate change risks[xxv]. We are continuing to monitor energy sector performance, and are engaging with other regulators on climate change risk interdependencies.

From time to time Ofgem will undertake Significant Code Reviews (SCRs). These SCRs allow for a comprehensive review of the main commercial industry codes in order to speed up industry reform over particular issues.

Gas Significant Code Review

The Gas Security of Supply Significant Code Review was launched in January 2012 and focuses on measures to enhance security of gas supply. Our key objectives for the Gas SCR are to:

- minimise the likelihood of a Gas Deficit Emergency occurring by encouraging gas shippers and suppliers to take out sufficient investment to ensure gas security of supply
- minimise the severity and duration of a Gas Deficit Emergency, if one ever occurred, by sharpening incentives to attract gas into Great Britain
- compensate firm consumers if they are ever interrupted due to a Gas Deficit Emergency.

We anticipate reaching a final decision in summer 2012. Alongside our Gas SCR activity, in November 2011 DECC asked us to look into whether further measures may be needed to ensure medium to long term gas security of supply. We intend to provide this advice to DECC during summer 2012 as part of the evidence government is considering in relation to its future approach to GB gas supplies.

To find out more, have a look at theme 4 of our SD Indicators here[xxvi].

Theme 5

Supporting improvement in all aspects of the environment

The gas and electricity industries have environmental impacts on our countryside and communities that go beyond the climate change agenda. We have a duty to have regard to the effect on the environment of gas transported through pipelines, and of electricity generation, transmission, distribution and supply.

Our RIIO-T1 price control includes specific measures to help address the impacts of transmission infrastructure on visual amenity. We have been continuing our work with DNOs to encourage them to reduce the harmful environmental impacts of fluid filled cables.

Transmission infrastructure and visual amenity issues

Local environmental considerations, in particular impacts of energy network infrastructure on visual amenity, are factored into our decision-making. As part of RIIO-T1, the next transmission price control commencing in April 2013, specific measures have been included to help address the impacts of transmission infrastructure on visual amenity[xxvii].

The price control will include a specific allowance for the three electricity transmission owners (TOs) to mitigate the impacts of existing transmission infrastructure on visual amenity in National Parks and Areas of Outstanding Natural Beauty. These improvements could include undergrounding existing lines or some other means of mitigation such as tree planting to screen transmission infrastructure from view. To use the allowance, the TOs will have to consider the views of local environmental groups and other relevant parties in deciding how to prioritise expenditure.

RIIO-T1 will also help the TOs to take into account the visual impacts of new transmission infrastructure built during the price control. Under the planning process the TOs must consider the impacts of their proposed developments on the environment and on stakeholders, and address these impacts where possible. As part of RIIO-T1 we have included flexible funding mechanisms to allow the TOs to recover the cost of mitigation measures, where they are necessary to address the concerns of stakeholders or to meet the conditions set by the relevant planning authority. There will also be scope through the innovation stimulus package for the TOs to develop cost effective solutions such as gas insulated cables.

Fluid-filled cables

Fluid-filled cables are an old style of cable that pose a threat to the environment when they leak into the soil. They are no longer installed in the UK and are being progressively removed by Distribution Network Operators (DNOs), who now use newer solid insulation cables, which do not leak. All DNOs subscribe to an Operating Code which promotes best practice for fluid filled cable management and a risk-based approach to strategic replacement. It benchmarks current environmental performance and sets improvement targets and milestones.

We are looking to develop a measure of DNO performance using data we collect on fluid top ups and the extent of fluid filled cables the DNOs operate. In future years, DNOs will report on the volume of fluid in service in cables and this will enable us to determine the percentage of fluid lost each year, compare and rank performance across DNOs and set targets for improvement. Through our Regulatory Instructions and Guidance, DNOs also report oil leak incidents to both Ofgem and the Environment Agency annually.

To find out more, have a look at theme 5 of our SD Indicators here[xxviii].

Endnotes

i Corporate plan
http://www.ofgem.gov.uk/About%20us/CorpPlan/Documents1/Corporate%20Strategy%20and%20Plan%202011%20-%202016.pdf

ii Ofgem's Social and Environmental guidance
http://www.ofgem.gov.uk/About%20us/Documents1/file37517.pdf

iii Ofgem's 2012 Environmental Management Plan
http://www.ofgem.gov.uk/About%20us/environment/Pages/index.aspx

iv Final RIIO-T1 price control proposals for SPTL and SHETL
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=190&refer=NETWORKS/TRANS/PRICECONTROLS/RIIO-T1/CONRES

v Environmental Discretionary Reward consultation
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=152&refer=Networks/Trans/PriceControls/RIIO-T1/ConRes

vi Decision document
http://www.ofgem.gov.uk/Licensing/ElecCodes/CUSC/Amend/Documents1/CMP%20192%20D.pdf

vii Electricity transmission licence reporting obligation
http://www.ofgem.gov.uk/Licensing/Work/Notices/ModNotice/Documents1/Modification%20of%20SLC%208%20and%20SLC%20D4A.pdf

viii Project Transmit – Electricity charging arrangements Significant Code Review conclusions
http://www.ofgem.gov.uk/Networks/Trans/PT/Documents1/TransmiT%20SCR%20conclusion%20document.pdf

ix Offshore transmission page of our website
www.ofgem.gov.uk/offshore

x How to Deliver Smarter Grids in GB: a report prepared for the Smart Grids forum
http://www.ofgem.gov.uk/Networks/SGF/Publications/Documents1/RPT-Ofgem-Final%20Report%20for%20Smart%20Grids%20Forum-310311-STC.pdf

xi A Framework for the Evaluation of Smart Grids: a report prepared for Ofgem
http://www.ofgem.gov.uk/Networks/SGF/Publications/Documents1/RPT-SGCBA%20%20STC%20Final%20-160312.pdf

xii Developing Networks for Low Carbon
http://www.ofgem.gov.uk/Networks/SGF/Publications/Documents1/Smart%20Grid%20Forum%20Workstream%203%20Report%20071011%20MASTER.pdf

xiii Promoting Smarter Energy Markets
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=9&refer=Markets/sm/strategy

xiv Renewables Obligation sustainability criteria for bioliquids
http://www.ofgem.gov.uk/Sustainability/Environment/RenewablObl/FuelledStations/Documents1/Sustainability%20Criteria%20for%20Bioliquids%2019%2012%202011.pdf

xv Renewables Obligation annual sustainability report 2010-11
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=318&refer=Sustainability/Environment/RenewablObl/FuelledStations

xvi SD Indicators Theme 1: managing the transition to a low carbon economy
http://www.ofgem.gov.uk/Sustainability/SDR/SDIndicators/Documents1/Managing%20the%20transition%20to%20a%20low%20carbon%20economy.pdf

xvii Energy Affordability: helping to develop Ofgem's Vulnerable Consumers' Strategy, March 2012
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=54&refer=Sustainability/SocAction

xviii Decision on changes to SOR reporting data
http://www.ofgem.gov.uk/Sustainability/SocAction/Monitoring/SoObMonitor/Documents1/Letter%20to%20suppliers%20decision%20on%20data%20changes_270312.pdf

xix Letter regarding protections for consumers receiving early smart meters as part of our Spring Package
http://www.ofgem.gov.uk/Sustainability/SocAction/Publications/Documents1/Modification%20Direction.pdf

xx Retail Market Review press release
http://www.ofgem.gov.uk/Media/PressRel/Documents1/RMR%20Oct.pdf

xxi Domestic Retail Market proposals
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=72&refer=MARKETS/RETMKTS/RMR

xxii Open letter regarding collective purchasing and switching
http://www.ofgem.gov.uk/Markets/RetMkts/Compet/Documents1/collective%20switching%20open%20letter.pdf

xxiii SD Indicators Theme 2: eradicating fuel poverty and protecting vulnerable customers
http://www.ofgem.gov.uk/Sustainability/SDR/SDIndicators/Documents1/Eradicating%20fuel%20poverty%20and%20protecting%20vulnerable%20customers.pdf

xxiv SD Indicators Theme 3: promoting energy saving
http://www.ofgem.gov.uk/Sustainability/SDR/SDIndicators/Documents1/Promoting%20energy%20saving.pdf

xxv Ofgem's report to Defra on Adaptation to Climate Change
http://archive.defra.gov.uk/environment/climate/documents/adapt-reports/10regulators/regs-ofgem.pdf

xxvi SD Indicators Theme 4: ensuring a secure and reliable gas and electricity supply
http://www.ofgem.gov.uk/Sustainability/SDR/SDIndicators/Documents1/Ensuring%20a%20secure%20and%20reliable%20gas%20and%20electricity%20supply.pdf

xxvii Factsheet on visual amenity
http://www.ofgem.gov.uk/Media/FactSheets/Documents1/109%20visual%20amenity%20factsheet.pdf

xxviii SD Indicators Theme 5: supporting improvements in all aspects of the environment
http://www.ofgem.gov.uk/Sustainability/SDR/SDIndicators/Documents1/Supporting%20improvement%20in%20all%20aspects%20of%20the%20environment.pdf

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