ofgem ofgem E-Serve

Promoting choice and value
for all gas and electricity customers

Sustainable Development Focus

April 2010 - March 2011

November 2011

Contents

Foreword

The Government's review of Ofgem confirmed in May 2011 that our core duty is to protect the interests of current and future consumers. Alongside this, we have an important duty to contribute towards the achievement of sustainable development.

Sustainable Development Focus brings together key elements of Ofgem's work over the past year that have contributed to Great Britain's transition to a low carbon economy. It also looks at how we have assisted vulnerable consumers. Our Sustainable Development Division has been focussed on ensuring that social, environmental and consumer considerations are embedded throughout Ofgem. The effects of this effort are apparent in the projects we have undertaken.

We have progressed our work on RIIO, our new network regulation model, which will facilitate billions of pounds of investment in pipes and wires to connect renewable energy to the grid. It will specify environmental outputs to ensure that companies contribute to wider environmental objectives while minimising the direct impact of their own activities such as losses on the networks. It will also ensure that this is done in a way that provides long-term value for money.

The RIIO model is also important in allowing the network companies to adapt to climate change. We have submitted our first adaptation report to Defra, as required by the Climate Change Act of 2008. Our report outlines how Ofgem can help incentivise energy companies to adapt to the effects of climate change and how RIIO will encourage network companies to place a greater focus on adaptation needs than previously.

On the electricity distribution networks, the first competition for funding under our £500 million flagship Low Carbon Networks Fund ran in 2010 and four projects were selected for funding with a combined value of £63 million. These projects are focussed on a number of outcomes such as how networks can best accommodate electric vehicles, renewable generation and how they can best use smart meters.

Offshore, we have granted three Offshore Transmission Owner (OFTO) licences in 2011, which have the potential to deliver 442 MW of wind power to the grid. The regulatory regime for licensing offshore electricity transmission was introduced by Ofgem and the Department of Energy and Climate Change (DECC) in 2009, to ensure that offshore cable connections are delivered efficiently and on time. This will be crucial if the UK is to meet its domestic and European renewable energy targets. We expect more licences to follow soon, signalling confidence in the regime which looks set to deliver £20 billion of investment, and provide savings that help to lower the costs of delivering energy from renewable sources.

In addition to our work on regulating the gas and electricity companies, we are currently undertaking a programme of work to better understand the behaviour of consumers and markets. We hope to gain a greater insight into attitudes and behaviours towards energy efficiency and whether Ofgem may have a role in facilitating certain energy saving initiatives. This customer research has been an important part of the evidence we have considered in relation to the retail markets. Building on the findings of our 2009 Energy Supply Probe,

in November 2010 Ofgem announced the Retail Market Review, an investigation into the markets for electricity and gas for households and small businesses in Great Britain. We found that action is needed to make these markets work more effectively in the interests of consumers and in 2011 we have outlined our proposals for action with more details to come later in the year.

We have also continued our work on demand side response, engaging with key stakeholders to better understand this market and its potential. The Energy Demand Research Project (EDRP) which was published in Summer 2011 looked at how domestic consumers react to improved information about their energy consumption and demonstrated the important facilitating role that smart metering plays. Ofgem has successfully delivered the policy design phase of the smart metering programme on behalf of DECC during 2010/11. Smart metering provides an opportunity to deliver significant value for consumers, in particular through promoting energy savings. We will continue to support the DECC programme as it moves into its implementation phase.

Ofgem E-Serve also continues its delivery of a range of Government environmental programmes in 2010/11 worth some £3 billion, while preparing for the administration of the Warm Home Discount which began this year and the Renewable Heat Incentive which is expected to begin in the near future.

Over the last year we have continued to strive to minimise our own impact on the environment as an organisation. We have had particular success in reducing our carbon emissions by 16% since last year.

Over the next few years we expect there to be significant developments related to sustainability in the energy sector. Our role will be crucial in facilitating developments and helping to overcome challenges that arise. We will further the initiatives featured in this publication over the next few years as the market changes, driven by the Government's Electricity Market Reform programme, while ensuring that existing and future consumers are at the heart of decisions we make.

We launched our SD Advisory Group in 2011 to guide us on environmental and consumer issues. It is made up of independent policy experts from Government, industry and interest groups who provide us with valuable advice on our priorities for our work as it relates to sustainable development. Prior to 2011 we used separate groups, the Environmental Advisory Group and the Social Action Strategy Review Group, to advise us on environmental and social policy. The SD Advisory Group brings these two functions together.

Our credibility in this space continues to develop. This is reflected in the dialogue we have with many counterparties but is also reflected by those joining our Sustainable Development Division. We continue to attract graduates and people at the beginning of their careers who have a natural interest and level of inquiry into sustainable development issues. Sarah Harrison's leadership team has been reinforced by some high profile hires; Professor Michael Grubb (Cambridge University and former member of the Committee on Climate Change) and Philip Cullum (formerly the Deputy CEO of Consumer Focus and the National Consumer Council) both of whom have already made a significant contribution to our efforts.

Alistair Buchanan
Chief Executive

Ofgem's 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

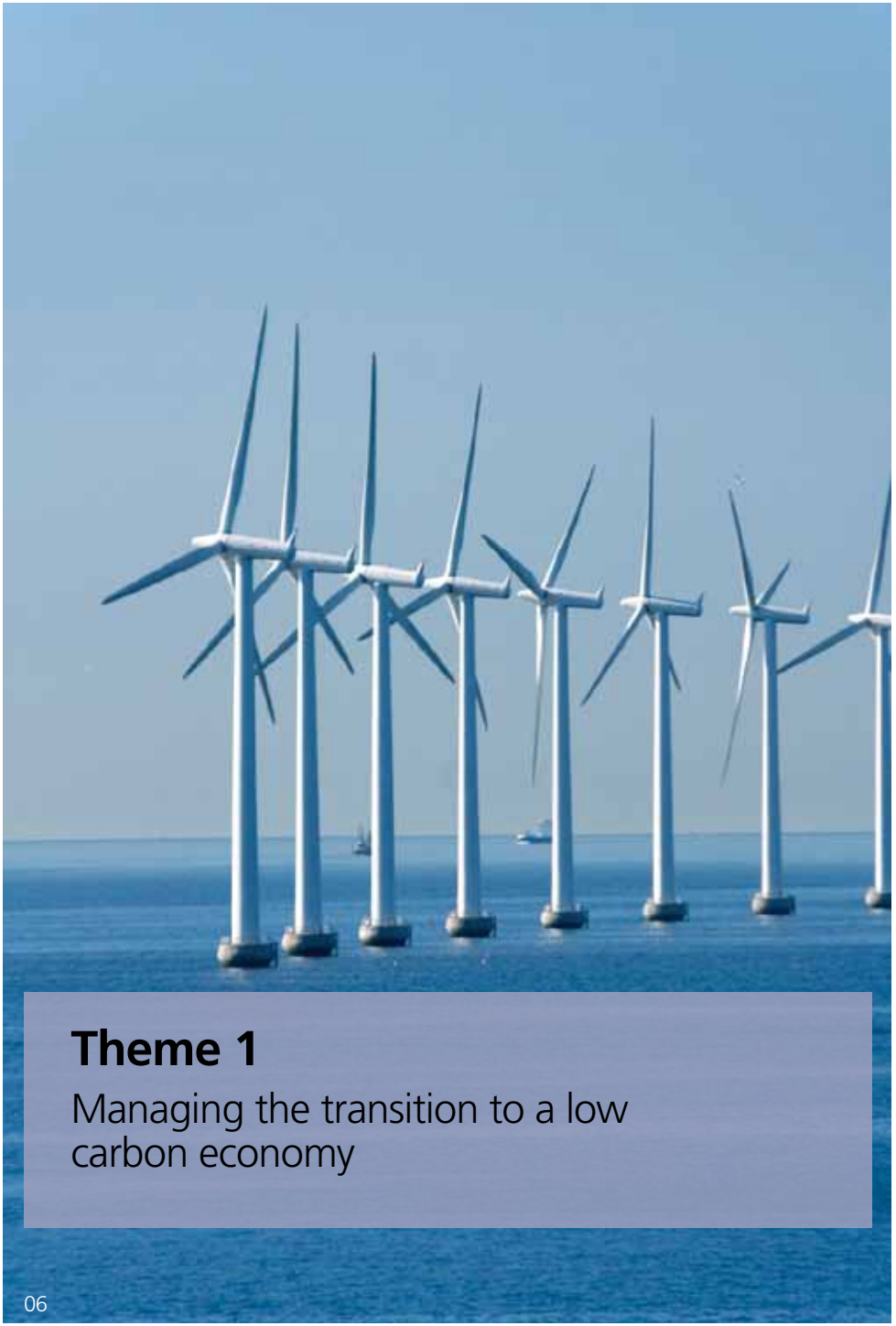
Energy conservation and improved energy efficiency are critical elements in any sustainable development strategy. We recognise the range of environmental, social and economic benefits that saving energy can bring. We are committed to encouraging all energy consumers to be more energy efficient and facilitating 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 committed to working with all stakeholders to ensure that we take these wider considerations into account in all of our decisions and provide advice where relevant.



Theme 1

Managing the transition to a low carbon economy

Taken together, the gas and electricity sectors are the largest contributors to UK greenhouse gas emissions. They are therefore two of the most important sectors in which to take action to tackle climate change.

Although energy and climate change policy is determined by the Government, Ofgem's decisions on the rules for competitive markets and the regulation of monopoly networks help to facilitate the deployment of lower carbon technologies. We also deliver a portfolio of Government energy-related programmes through Ofgem E-Serve.

Regulating the networks to deliver a sustainable energy sector

Transmission and distribution networks have a vital role to play in reducing carbon emissions. Last year Ofgem announced 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. The RIIO framework identifies two environmental objectives:

- To ensure that companies contribute to wider environmental objectives, for example by accommodating additional low carbon flows on the network;
- To minimise the more direct environmental impact of their own activities.

In March 2011 we published our RIIO strategy for the next price control of the national gas and electricity transmission networks (RIIO-T1)[i] and the local gas distribution networks (RIIO-GD1)[ii] starting in 2013.

RIIO-T1

The new arrangements for electricity transmission networks are designed to drive a step change in the contribution that these companies make to energy and environmental objectives at a national level. Networks will need to accommodate new generators, including wind farms often located in remote areas.

Network companies have engaged with their stakeholders and developed long-term business plans which include how they will handle the uncertainties relating to the future of the energy sector. These plans were submitted to Ofgem at the end of July 2011 and in October we set out our initial assessment of them[iii]. The plans show that transmission owners (TOs) have responded positively to the RIIO framework with their plans demonstrating how they have taken account of a wider range of issues, including their role in contributing to delivering a sustainable energy sector. Despite this, we have identified that they need to provide greater evidence of an overarching strategy to deliver environmental responsibilities such as their business carbon footprint or greater transparency on how they contribute to fewer losses on the system.

The onus is on those companies that remain in the "fast track" process (SPTL and SHETL), a process which provides strong incentives for the companies by allowing them to conclude their price control up to a year ahead of the standard timetable, to resolve

the outstanding issues in time to enable us to consult on fast-track initial proposals for them in January 2012. In the case of NGG and NGET their work will focus on addressing the issues required for the further submission of their business plans in March 2012.

RIIO-GD1

For gas, our plans include the introduction of measures to facilitate the connection of bio-methane, including introducing connection standards for producers connecting to the distribution network, and timely provision of information in relation to connections. We will also introduce a discretionary reward scheme that will reward companies that deliver outputs that contribute to environmental and social objectives, beyond those financed at the price review. We have decided to continue with (a modified version of) the shrinkage allowance and environmental emissions incentive, mechanisms which provide enhanced incentives for companies to

Key environmental policy decisions - RIIO-T1 and RIIO-GD1

Ensuring companies play their role in achieving UK environmental objectives	
RIIO-T1	**RIIO-GD1**
• Reputational incentive on contributing to broad environmental objectives • Subject to consultation financial incentives could be applied • Deliverables to reinforce the wider network which will ensure new low carbon flows can be accommodated with penalties for late delivery • Discretionary reward for companies that deliver additional outputs contributing to environmental objectives	• Discretionary reward for companies that deliver additional outputs that contribute to environmental and social objectives • Introduction of connection standards and provision of information to ensure timely connection of gas producers to the network
Ensuring companies minimise their own environmental impact, including carbon emissions	
RIIO-T1	**RIIO-GD1**
• Companies to report their business carbon footprint • Companies to contribute to fewer losses, gas shrinkage and gas venting on the transmission system • Output target for sulphur hexafluoride (SF6) emissions • Companies to reduce the visual impact of existing infrastructure in designated areas based on consumer willingness to pay	• Companies incentivised to reduce the gas losses on the network via a shrinkage incentive and an environmental emissions incentive. • A requirement for companies to report their business carbon footprint, with reputational incentive via the publication of a league table • Improving incentives for companies to engage in demand-side solutions to meet new capacity growth

Bio-methane

Bio-methane[iv] is a renewable gas source which, when injected into the local gas networks, can make our gas supply less carbon-intensive than using North Sea and imported natural gas.

Connecting bio-methane to the gas network presents a number of new challenges for the current networks, mainly around gas quality, connection and ownership. Ofgem is chairing a working group with the network companies and bio-methane producers to consider these issues.

reduce network losses by valuing the cost of the lost gas and the carbon cost of emissions to the environment. We have also set out measures to ensure that the gas distribution companies minimise their own business carbon footprint, emissions and natural resource use.

These new arrangements will encourage companies to make investments in low loss networks to reduce the amount of gas that is lost in the journey from source to consumer.

Transmission access regime update

In August 2010, Government introduced framework changes to implement the enduring Connect and Manage (C&M) regime, which aims to improve access to the electricity transmission network for generators. This built on the Interim Connect and Manage (ICM) regime that Ofgem introduced in May 2009 and was fully implemented in February 2011. Under C&M, generators can connect to the network when they are ready to do so and any network upgrades in the wider system follow on later. Ofgem monitors the impact of the C&M regime, and writes to the Secretary of State every six months to report on this impact. The first report was submitted on 1 April 2011, and the second on 30 September 2011.

Project TransmiT

In September 2010 we launched Project TransmiT, our review of transmission charging and associated connection arrangements. Project TransmiT aims to ensure that we have arrangements in place that facilitate the move to a low carbon energy sector whilst continuing to provide safe, secure, high quality network services at value for money for existing and future consumers.

We published an open letter in January 2011[v] stating our view that electricity connection issues and electricity transmission charging should be the immediate priority for Project TransmiT. We set out that we would "fast track" our work on connections.

In March 2011 we held an industry roundtable event to discuss reports that teams of academics had produced for us on Project TransmiT and subsequently we published an open letter[vi] which noted that a spectrum of options was emerging regarding our work on charging. This letter reflected different views on the importance of cost reflectivity and about the ability of the current arrangements to help deliver a balanced, sustainable and diverse generation mix. We will be undertaking further modelling and analysis of charging options and intend to consult at the end of 2011 on our decision.

Transmission Investment Incentives

In April 2010 we introduced the Transmission Investment Incentives 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. In 2010 over £300 million of funding was provided under TPCR4 and in January 2011 we announced that £95 million of further investment is planned over the next two financial years. We are considering requests from the transmission owners for additional funding up to the end of 2012/13, and will consult on our proposals over the coming months before making our final decisions in early 2012. We have reached a minded-to decision to provide funding for the Western HVDC Link, in principle, subject to certain conditions being satisfied over the coming months. This link would provide c.2GW of additional capacity between Scotland and England, facilitating flows from new renewable generation stations.

Figure 1

Project name	Project Status	OFTO licence awarded?
1.Barrow	Fully complete	✓
2. Robin Rigg East and West	Fully complete	✓
3. Gunfleet Sands 1 & 2	Fully complete	✓
4. Thanet	Partially complete	
5. Greater Gabbard	In progress	
6. Ormonde	Partially complete	
7. Walney 1	Fully complete	✓
8. Sheringham Shoal	In progress	
9. Walney 2	In progress	

Offshore transmission networks

Offshore wind power will play a major part in Britain's efforts to cut carbon emissions. Ofgem and DECC have developed and introduced a new regulatory regime for offshore electricity transmission. Offshore Transmission Licences are granted following a competitive tender exercise to appoint Offshore Transmission Owners (OFTOs), which is run by Ofgem E-Serve.

In the first round Preferred Bidders were appointed for nine projects, for assets of £1.1bn in value. Figure 1 below shows the current status of these projects.

The second round of tenders began in November 2010. In total, £2 billion of offshore transmission links will be tendered in the second transitional tender round which will connect 2.77 gigawatts (GW) of wind power.

After these tender rounds, tenders will be run under an enduring regulatory regime which DECC and Ofgem consulted on in late 2010.

A coordinated offshore and onshore electricity network could bring many benefits. In recognition of this DECC and Ofgem have established the Offshore Transmission Coordination Project.

Through this we are jointly undertaking work to consider whether any additional measures could be required to deliver coordinated networks through the competitive offshore transmission regime and, if so, how these measures might work in practice.

The Low Carbon Networks Fund

In 2010 we ran the first annual competition for our flagship Low Carbon Networks Fund (LCN Fund) and selected four projects for funding with a combined value of £63m. All four projects selected are innovative whilst continuing to provide value for money to customers. Details of the projects can be found below:

CE Electric UK is using funding to explore how customers and networks can work better together through use of smart meters, new tariffs, improved network infrastructure, better communication and better use of data. This work is in partnership with British Gas and Durham University (amongst others).

UK Power Networks is using funding to better understand how a network to serve a low-carbon city (London) might work. This involves the trialling of new tariffs, smart meters, and gaining a better understanding of the impact of low carbon technologies on the networks. This project leverages London's low carbon initiatives and is in partnership with Logica and Imperial College (amongst others).

Western Power Distribution have been awarded funding for two projects:

They are using their award in East Lincolnshire to develop new ways to connect renewable generation (mainly wind) to distribution networks. This involves exploring ways to maximise the capacity of renewable generation in the area and trials new ways of dynamically controlling voltage on the network as well as new commercial arrangements.

Another project involves understanding the impact of low-carbon technologies on the low voltage electricity network. This will enable the project to create generic network models to assist Distribution Network Operators (DNOs) in efficiently planning and operating networks. The project leverages Welsh Assembly Government and RWE npower initiatives.

The second annual competition for LCN Funding has already started and we have been encouraged by the short form proposals we have received. Companies who did not receive funding in the first year have entered bids again, and those whose bids were successful in the first year have come forward with further ideas for trials and demonstration projects.

Network Innovation Competition

As part of the ongoing RIIO price controls we have set out our plans for gas and electricity Network Innovation Competitions (NIC), modelled heavily on the LCN Fund, but open to gas distribution, gas transmission and electricity transmission companies. The annual value of the fund will be £30m for electricity transmission and £20m for gas transmission and distribution. The aim is to fund innovation in technology, operating and commercial arrangements which will provide environmental benefits or facilitate the low carbon future. The network companies are encouraged to collaborate with non-network companies, in order to bring a broader and more innovative perspective to the projects. We are developing mechanisms to ensure there are no barriers to these collaborations.

Smart Grids Forum

The role that smart grids will play in the low carbon future is a complex issue and we recognise the need for thought leadership in this area. In conjunction with DECC, Ofgem has created the Smart Grids Forum. This forum brings together key opinion formers, experts and stakeholders in the development of Great Britain's smart grids, to provide strategic input to Ofgem and DECC's thinking in this area. It should also help provide the companies with a common focus in addressing future networks challenges and provide direction for the development of smart grids.

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.

Environmental incentives for DNOs

We are also implementing the environmental incentives improved during the last price control, including the strengthened incentive for DNOs to reduce electricity losses on the network, the new requirement for DNOs to report on their business carbon footprint, and the package of measures to support generation connecting directly to the distribution network. As one of the licence requirements the companies have published a guide to connecting generation, which is tailored to the different levels of knowledge and needs that different customers may have.

Smart Metering

In 2010/11, Ofgem E-Serve, working with the Sustainable Development division, led the policy design phase of the Smart Metering Programme on behalf of DECC. Smart meters have a vital role to play in our transition to a low carbon economy - they will provide consumers with the information they need to manage their energy usage effectively, encourage innovative services in the management of energy supply, provide opportunities for the industry to streamline processes and pave the way for smart grids. In July 2010, Ofgem E-Serve published the Smart Metering Prospectus consultation. This set out proposals for how smart metering will be delivered to every home in Great Britain (GB), including design requirements, central communications, data management and the approach to rollout. In March 2011 we published the consultation response[vii]. This set out the Government's conclusions on the policy design for the rollout.

Green tariffs

In the first year of the Green Energy Supply Certification Scheme, which was launched in February 2010, there were 11 Certified Green Tariffs available; 9 of these were available to domestic customers and 2 to SME customers. An independent panel of experts is responsible for certifying green tariffs, offering transparency and confidence to consumers wishing to purchase green energy.

System Operator Incentives

The gas and electricity transmission system operators (SO) operate under incentives that encourage the efficient use of the systems. The gas SO has an incentive that places a financial value on the environmental impacts of venting natural gas, which is largely the emission of methane, a greenhouse gas. Venting natural gas can be a necessary part of operational and maintenance procedures, but there can be improvements through adjustments to how systems are operated. In this work, our aim is to ensure that the SO incentives encourage low-carbon decision-making.

In April this year 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 3157 tonnes of natural gas, which is equivalent to approximately 66,297 tonnes of carbon dioxide equivalent. 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.

International work

Climate change is a global problem that requires cooperation among countries at a regional and global level. For this reason the European Union (EU) produces binding legislation on climate change and energy, which are key drivers in ensuring that the European energy sector develops along a low-carbon path and delivers secure, sustainable and reliable electricity and gas supplies to the UK and the EU. Ofgem engages with European Union institutions through the Council of European Energy Regulators (CEER)[viii] in Brussels and the Agency for the Cooperation of Energy Regulators (ACER)[ix] in Ljubljana. Both play a key role in advising on and implementing European legislation on climate change and energy, such as the Third Energy Package[x] and the Climate and Energy Package[xi].

This year we have led the drafting of a CEER consultation paper, due to be published by the end of the year, which considers the impacts of having different schemes for supporting renewable generation in each EU country. The paper looks at the effects this may have on investment decisions in the power sector and on the functioning of national and European markets. The paper will also consider ways in which potentially negative effects stemming from the lack of harmonisation of support schemes can be mitigated. Following the consultation, CEER will produce a conclusions paper which may feed into the European institutions and energy regulators' work in this area.

Ofgem is also involved in the Climate Change Working Group of the International Confederation of Energy Regulators (ICER)[xii]. ICER is a voluntary framework for cooperation between energy regulators from around the globe, which aims to improve public understanding of energy regulation and its role in addressing socio-economic, environmental and market issues. We are currently producing a report which explores how regulators across the globe are tackling issues regarding the connection of renewable energy generation and distributed renewable generation to the grid. The report is an exercise in knowledge-sharing and demonstrates ways in which countries can work together to improve their own renewable energy generation strategies.

Delivering Government environmental programmes

Ofgem E-Serve, the delivery body for Government energy-related programmes, continued to administer a number of programmes in 2010. These were:

- The Carbon Emissions Reduction Target (CERT)
- The Community Energy Saving Programme (CESP)
- The Renewables Obligation (RO) for large-scale renewable electricity
- The Feed-in Tariff (FIT) for smaller scale renewable electricity
- The Non Fossil Fuel Obligation (NFFO), the renewable electricity scheme preceding the RO
- The Renewable Energy Guarantees of Origin (REGO)
- Exemptions from the Climate Change Levy (CCL)

Feed-in Tariffs (FITs)

In April 2010 Ofgem implemented the Government's FITs scheme, designed to promote the widespread uptake of small-scale renewable and low carbon electricity generation technologies (up to five megawatts (MW) capacity)[xiii].

FITs aim to open up low-carbon electricity generation beyond the traditional energy companies by making it more cost-effective for communities and households to invest in renewable energy.

In the first twelve months of FITs:

30,263 generators registered for support.

That's a total of 108.5 MW capacity.

The majority of new generators used solar PV technology.

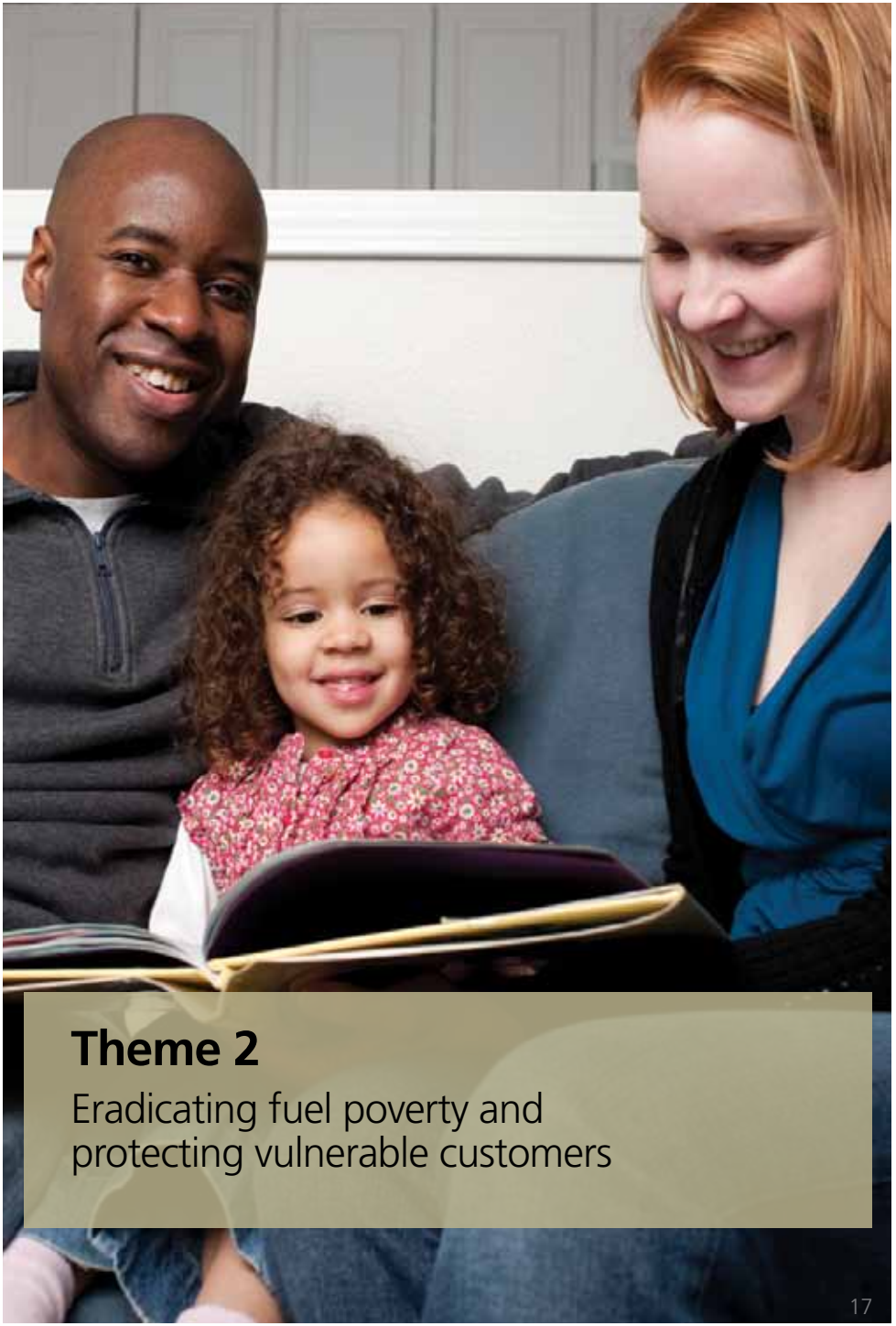
The Renewables Obligation (RO)

Ofgem E-Serve administers the RO, the Government's main programme to increase the proportion of electricity generated from renewables. Though it has been available to generators of all sizes, the introduction of the FITs scheme has retained the RO's role as predominantly supporting larger-scale projects.

As part of EU requirements we have introduced a comprehensive and binding sustainability scheme for generating stations which use bioliquids as a fuel. These fuels must meet sustainability requirements around land use and greenhouse gas emissions. Fuelled stations using solid and gaseous biomass have a requirement to report sustainability information; in future, these stations will have to comply with sustainability criteria as well.

Renewable Heat Incentive

In March 2011, Government announced plans for the forthcoming Renewable Heat Incentive (RHI) scheme, to revolutionise the way we produce and use heat. This initiative for the financial support of renewable heat is the first of its kind in the world. Ofgem E-Serve is responsible for implementing and administering the scheme, and over the last year has been developing the business processes and administrative arrangements necessary for its successful launch.



Theme 2

Eradicating fuel poverty and protecting vulnerable customers

Affordability of energy is a key concern to consumers, in particular for those who are fuel poor or at risk of fuel poverty, or who are vulnerable. Ofgem's 2009 Project Discovery findings showed that up to £200 billion investment would be needed over the next decade to achieve a low carbon economy and security of supply in GB.

Last year, Ofgem took action in a number of areas to protect consumers and contribute to the affordability of energy. In our RIIO strategy for the gas distribution companies there is a strong focus on social objectives. We introduced the Smart Metering Consumer Protections Package to ensure that consumers who adopt smart metering early are protected. Our Retail Market Review revealed that many consumers, especially vulnerable consumers, are not engaged with the market. In response to these findings we have developed a set of proposals to bring benefits to consumers.

We need to understand particular issues facing vulnerable customers which we do through a combination of commissioning independent research where necessary and working to continuously improve our in-house consumer insight. These steps, and those we intend to take over the coming year, firmly demonstrate our commitment to protecting vulnerable customers.

Helping vulnerable customers through regulation of network companies

As part of our RIIO network regulation work, we have undertaken research with domestic and business consumers to find out what they would like network companies to deliver through the price controls and to help ensure that our decisions fully reflect consumers' views[xiv]. We also set up the Consumer Challenge Group which acts in an advisory capacity throughout the transmission and gas distribution price control process, giving consumer insight into some of the more complex issues that we are unable to address through market research. This group has eight members appointed by us in an individual capacity on the basis of their expertise on consumer and environmental issues.

As part of the strategy for the gas distribution price control, published in March 2011[xv], there is a strong focus on social objectives. For example, we aim to extend the gas network to communities who are fuel poor where it is efficient to do so; where it is not, we aim to work with other parts of the energy industry to meet the needs of the fuel poor. We are also working to introduce measures to address the risks associated with carbon monoxide (CO).

Encouraging innovation through our discretionary reward schemes

Ofgem has continued to run the electricity and gas distribution discretionary reward schemes. The schemes are aimed to encourage performance, innovation and customer service from the companies which cannot easily be easily measured or incentivised through more mechanistic regimes. In 2010/11 the scope of the schemes covered corporate social responsibility and wider communications for electricity. For the gas scheme, there were environmental, gas safety and network extension categories. There is a combined annual award of up to £5m available for distribution across the schemes. The awards are decided by an independent panel of industry, consumer and environmental experts. Below are case studies for the companies that received the highest award for electricity and gas in 2010/11:

Reward: £500,000

Scotia Gas Networks have continued to undertake activity to address the issue of CO poisoning but have gone further recognising that the distribution of CO alarms does not fully address the effects that low level CO poisoning can have on people's long term health. They have engaged with the medical profession to help establish an ongoing strategy to help address the current lack of public awareness and action in this area. The reward recognised this development in approach by the distribution company.

Reward: £450,000

Western Power Distribution's reward is in recognition of their efforts in two categories. The first of these is for corporate social responsibility including their use of partnerships, embedding of carbon reduction within the business and their staff engagement. Part of this was a £50,000 flagship award for their Community Chest initiative which was felt to be a good demonstration of how to develop meaningful relationships with stakeholders. The second category is wider communication, and they have been chosen in recognition of the breadth and depth of their communication strategy and the extent to which this is embedded into their ongoing business practices.

There were a range of other rewards made to other companies for initiatives spanning all of the categories:

For gas: National Grid's gas reward was for a range of initiatives including meter recycling, their overall CO and in recognition of their affordable warmth solutions initiative. Northern Gas Networks received their reward for developing standards and partnerships with developers around bio-methane plants and community based scheme reporting using data from carbon savings statistics, fuel and SAP ratings, among other things. West and Wales were rewarded for their location analysis to identify hot spots and low penetration of alarms among other things.

For electricity: CE Electric received a reward for the use of new technologies and their commitment to seek out, understand and respond to customer needs.

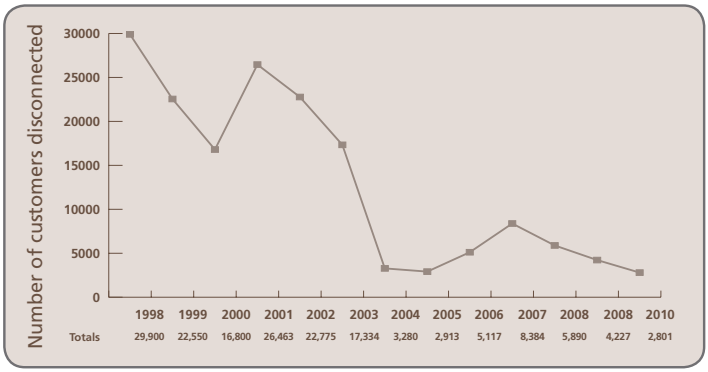
Protecting vulnerable customers against debt and disconnection

In the past year we have continued to monitor and report on suppliers' performance against their social obligations relating to debt, disconnection, prepayment meters (PPMs), Priority Service Registers (PSRs) and energy efficiency advice, publishing quarterly and annual reports[xvi].

To protect vulnerable customers from disconnection we are setting out requirements for suppliers to take all reasonable steps to identify where domestic customers are vulnerable before disconnecting them[xix]. Our 2010 annual social obligations report highlights improvements and good practice by suppliers in this area, with disconnections falling to historically low levels - as shown in Figure 2 below.

For the first time, our 2010 domestic suppliers' social obligations annual report included data on debt, disconnection, PPMs and the PSRs in Scotland and Wales[xvii]. The report shows that suppliers are making good progress in line with guidance developed by Ofgem in our 2010 Debt Review[xviii].

Figure 2: Number of disconnections for non-payment of debt over time



Source: Domestic suppliers' social obligations: 2010 Annual Report, Ofgem, 2011.

The Warm Home Discount

Ofgem continued to monitor the three year voluntary agreement between energy suppliers and Government for energy suppliers to increase their spend on social programmes, which in 2010/11 was in its final year. We will report on suppliers' social spend in Autumn 2011. From April 2011 to 2015 the Warm Home Discount, a new scheme mandated by Government will replace the voluntary agreement. Under this scheme, energy suppliers will provide targeted support to those in or at risk of fuel poverty. Worth up to £1.1billion, suppliers are required to spend £250 million in 2011/12 rising to £310 million by 2014/15.

Progress with smart meters

In 2010/2011 Ofgem worked with DECC to deliver the first phase of the Smart Metering Programme, which included setting the framework for an "Installation Code of Practice" and a consumer engagement strategy.

We worked with consumer groups, suppliers and others to form a set of objectives that would underpin the Installation Code of Practice. These objectives include ensuring that:

- Vulnerable customers receive a level of service appropriate to their needs;
- Customers are not subjected to unwelcome sales activities on the day of installation;
- Customers are not charged upfront or by a one-off charge for the smart metering equipment that suppliers are required to provide.

We continued our work with consumer groups, suppliers and others to establish some common principles that the Government might take forward in the next phase. This work highlighted the important role that trusted third parties can play in helping consumers engage with and thus benefit fully from smart metering.

The Smart Metering Consumer Protections Package

Government's mandated rollout of smart metering by energy suppliers is expected to start in 2014, though they are already being rolled out by some suppliers. As smart metering enables remote switching between credit and prepayment mode and allows remote disconnection, Ofgem is working to ensure that customers who adopt smart metering early, in particular vulnerable consumers, continue to be protected.

Our plans to protect these consumers were set out in our Smart Metering Consumer Protections Package in February 2011[xx]. We issued a formal statutory consultation to introduce the package of protections which includes:

- Modifying supplier licences to ensure that customers who want to top-up a prepayment meter (PPM) by cash can continue to do so, even if they have a smart meter installed;
- The establishment of a compensation scheme run by each of the six major suppliers for customers disconnected in error;
- Establishing guidance to help suppliers identify signs of vulnerability where a supplier is considering disconnection for unpaid charges.

Following the completion of a consultation on these points in Summer 2011 we have now put licence modifications in place that took effect on 1 October 2011.

We ran a separate consultation in summer 2011 on maintaining consumers' rights to switch supplier when they have a smart meter. We are also monitoring the activities of suppliers installing smart meters now, particularly around consumers' rights relating to their energy usage data.

The Retail Market Review and protections for vulnerable customers

In November 2010 Ofgem launched our Retail Market Review, which considered whether the supply market is best serving consumers. We concluded that action is needed to make the market work better for consumers.

Our research showed that many consumers are not engaged with the market and do not switch often, and some do not switch at all (especially vulnerable consumers). Consumers who have stayed with their incumbent supplier are more likely to be on a worse deal.

As a result, in October 2011 we announced our proposals for action[xxi]. We are proposing to simplify the retail market by allowing two types of tariff. Suppliers would be allowed to offer one standard tariff per payment method with a simple unit price and a fixed standing charge set by Ofgem. Suppliers could offer any number of more innovative fixed-term tariffs where consumers will be protected for the duration of their deal. Standardised price information will allow consumers to compare easily standard and more innovative tariffs. This reform should help consumers to compare and switch tariffs. We are also proposing to improve the quality of information available to consumers on their bills and other correspondences to provide greater transparency, and we will enhance our current monitoring and enforcement activities to protect consumers from poor selling techniques. Details of our proposals will be set out more fully in our consultation which is expected to be published towards the end of the year

We have also put forward a proposal for action to make it easier for new companies to enter the market. Through improving liquidity in the GB wholesale power market, we are aiming to provide the products and signals which suppliers need to be able to compete. This should improve competition in the market – to the benefit of all consumers.

As we refine our proposals we will continue to review the potential impact on consumers, particularly on those who are vulnerable.

Energy Best Deal

The Energy Best Deal campaign (a partnership between Ofgem and Citizens Advice) trains front-line advice workers to deliver face-to-face advice to lower income households on how to get the best from their energy deal.1,000 sessions have been delivered to over 12,000 frontline workers and consumers since 2008. By passing on what they've learnt, a total of 94,000 people will have benefitted from the campaign by next spring. This year we launched a series of short online films which have been visited by over 10,000 consumers since April. This campaign is a good example of the positive outcomes that can be achieved through regulator and consumer body joint working.

Theme 3

Promoting energy saving

Reducing the amount of energy that we use is central to improving the sustainability of our energy system. If we can improve the way we use energy then less investment in renewable and low carbon energy is required, which can lead to lower costs to consumers and help all households to heat their homes.

There are a number of ways that we encourage energy saving behaviours in the gas and electricity sectors. Our work over the past year in this area gives examples of this.

Saving energy on the networks

Losses on the electricity distribution networks currently account for 1.5 per cent of total GB greenhouse gas emissions. Through our regulation of the energy networks, we are working to reduce the losses that occur as electricity and gas travel from source to homes, businesses and industry.

The new price control arrangements for electricity distribution networks included a more effective losses incentive to encourage the networks to reduce energy losses as far as possible.

Demand side response

Last year we published a discussion paper on demand side response (DSR)[xxii] which investigated how helping consumers to be more flexible in their electricity use could contribute to secure and sustainable energy supplies and help to achieve financial and environmental benefits.

We are continuing to work with stakeholders such as Government and the energy industry to explore DSR and its potential benefits.

The Energy Demand Research Project

The Energy Demand Research Project was a suite of trials designed to understand how domestic consumers react to improved information about their energy consumption. Around 60,000 consumers participated in the trials.

We have published the final, independent analysis from the trials[xxiii] which shows that consumers can reduce their consumption if they know what to do and have quality, tailored information available in a timely way. Smart metering was shown to be a key enabler for behaviour change: however consumers also need support, advice and prompts to maximise energy savings. We will also develop a strategy for market development consequent to the smart meter rollout, which will seek to unlock the full value for consumers.

Smart meters and energy saving

During 2010/11, Ofgem successfully delivered the policy design phase of the smart metering programme on behalf of DECC. Smart metering provides an opportunity to deliver significant value for consumers, in particular through promoting energy savings. Ofgem will continue to support the DECC programme as it moves into its implementation phase.

Green Deal

The Green Deal is the government's flagship energy efficiency programme, which will enable private firms to offer consumers energy efficiency improvements to their homes, community spaces and businesses at no upfront cost and to recoup payments through a charge in instalments on the energy bill. The scheme is expected to start in Autumn 2012 and energy suppliers will be required to collect Green Deal payments. Ofgem has been working with DECC to develop the detail of how this will work in practice.

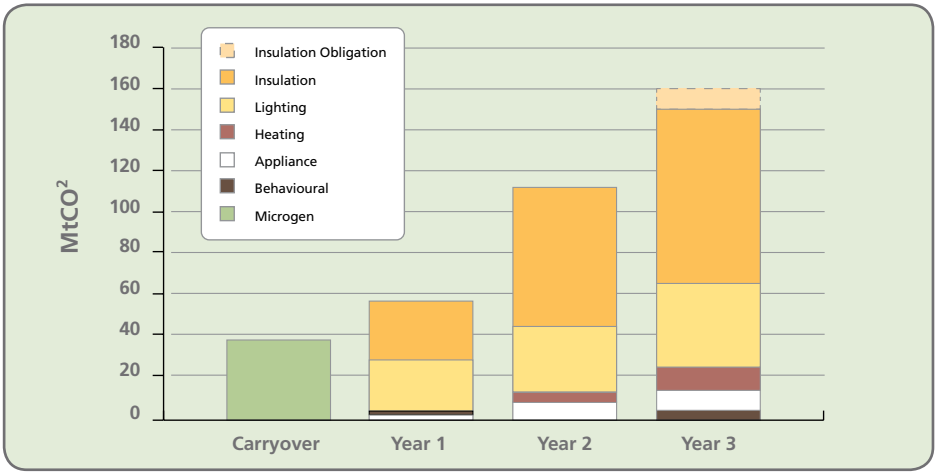
Administering Government energy saving programmes

We are the scheme administrators for the Government's CERT and CESP programmes, which require energy companies to help domestic energy consumers to improve energy efficiency in their homes. Energy suppliers are obliged to promote a significant portion of energy efficiency measures in low income households; in particular, CESP focuses exclusively on the most deprived areas in Great Britain. A variety of measures are promoted through the schemes, including loft and wall insulation, fuel switching and microgeneration. The measures implemented by March 2011 will deliver over 190 million tonnes CO_2 savings over their lifetimes. Figure 3 below shows CERT carbon savings achieved to the end of March 2011.

Last year the CERT programme was extended, and therefore both CERT and CESP will continue run to December 2012. We will continue to work closely with DECC on the policy and design of future programmes.

1.5m households in Great Britain have received cavity wall insulation through CERT.

Figure 3: CERT carbon savings achieved to the end of the third year (ending March 2011)



Source: A review of the third year of the Carbon Emissions Reduction Target (CERT), Ofgem, 2011.

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 through our regulation of the networks, proactive market surveillance and work to facilitate connection of renewable and low carbon generation.

British energy markets are increasingly connected to European and international markets. We therefore cooperate with our European counterparts to implement European legislation, such as the Third Energy Package[xxiv]. The Package aims to ensure reliable, sustainable and affordable energy supplies for European consumers.

Improving security of supply in the gas and electricity sectors

Last year our review of Britain's security of supply prospects (Project Discovery) concluded that the energy sector needs to spend up to £200 billion in order to ensure secure supplies while meeting challenging environmental targets over the next 10 – 15 years. The Government also published its Energy Market Assessment last year which highlighted similar challenges.

Two major projects are being undertaken to ensure the security of GB's energy supplies. The Electricity Market Reform (EMR) is being led by the UK Government. The Gas Security of Supply Significant Code Review (Gas SCR) is being undertaken by Ofgem.

The aim of the Gas SCR is to assess whether reforms to the current gas balancing arrangements and/or enhanced obligations are required to improve security of supply. Ofgem has been working closely on this issue with the Government who support this review.

What do secure and reliable mean?

Security of supply means solving the medium-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 we have 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.

The EMR aims to ensure that there are sufficient incentives to invest in secure and sustainable electricity generation. Through the EMR project, the Government has consulted on possible changes to the electricity market arrangements to provide these incentives for investment.

In light of the EMR White Paper[xxv] we will consider the case for a SCR on potential reforms to electricity cash-out arrangements which may help to ensure security of supply.

Ofgem is also working with National Grid and the Government to produce an assessment of the risk to security of supply associated with different electricity capacity margins to feed into the EMR.

Interconnectors

Interconnection with mainland Europe can help to improve security of supply as we are able to draw on generation resources in other European countries.

Earlier this year the new GB-Netherlands Interconnector (BritNed) came online, bringing an additional 1GW of interconnection capacity to add to the 2.5GW already provided by the England-France (IFA) and Scotland-Northern Ireland (Moyle) interconnectors.

Realising new interconnector projects has been a slow process and Ofgem has been developing a new regime for regulation of interconnector projects that will help to realise more investments. We consulted on the general principles in early 2010, and throughout 2010 have been working on a "cap and floor" regime that recognises the wider benefits interconnection brings to GB consumers, and creates an appropriate regulatory framework for sharing of risk between consumers and developers. The detailed design of the new regime will be consulted on and agreed in the 2011/2012 reporting period.

Since beginning our consultation process, and opening the way for a regulated approach to interconnector investment, we have seen a significant increase in the number of project developers coming forward with new proposals, and have begun discussions with a number of our regulatory counterparts to discuss the possibility of new bilateral projects.

Over the longer term we are also exploring the potential for a North Seas Offshore Grid, to help realise the full potential of offshore renewable resources. We are doing this as part of the North Seas Countries Offshore Grid Initiative, in coordination with the nine other member states around the North Seas.

Adapting to climate change

In the coming years our climate will experience some changes and it is important that energy companies can continue to supply customers in the face of risks such as increased extreme weather events. Ofgem has a duty to ensure that companies can finance their operations efficiently and this includes adaptation to climate change.

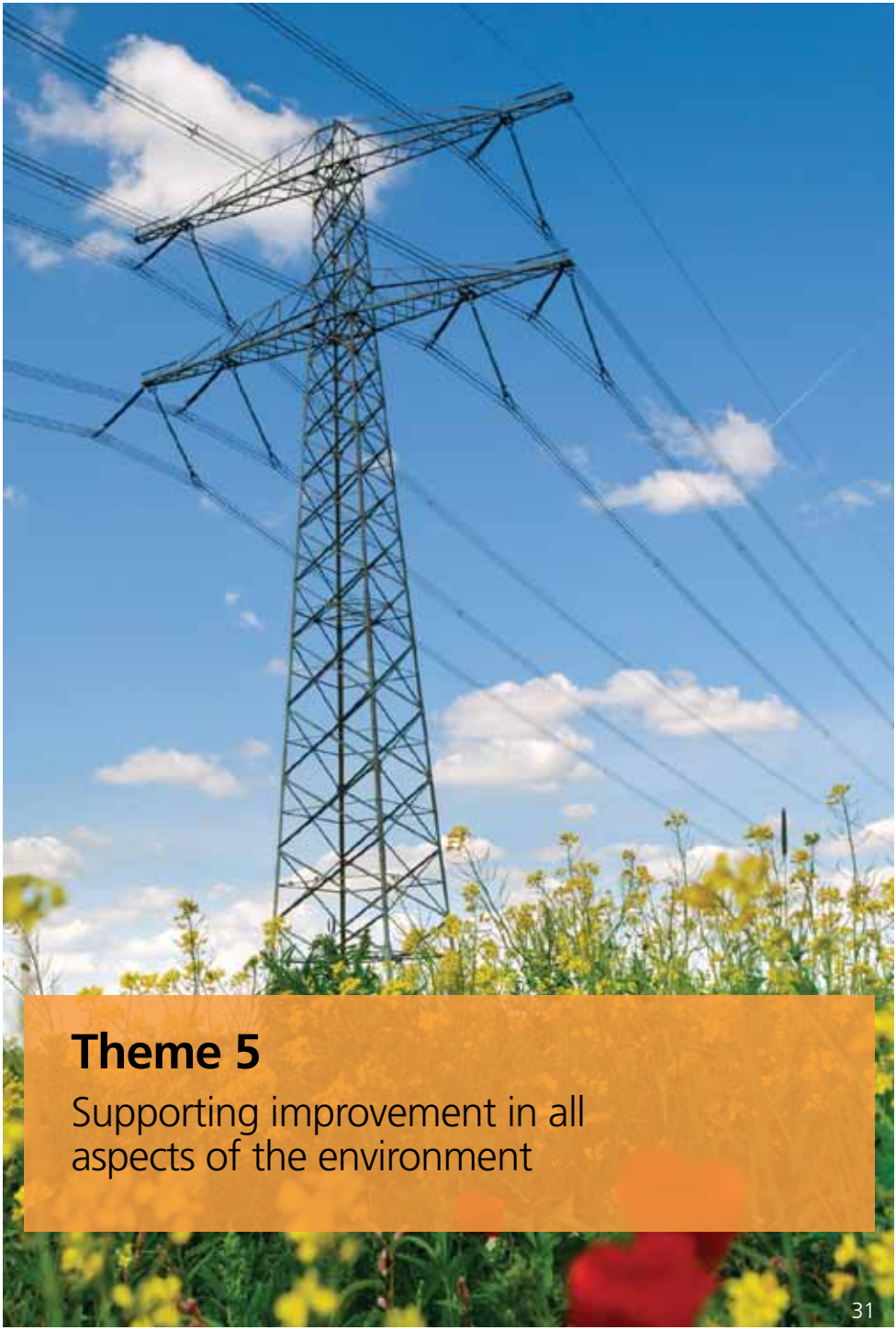
The 2008 Climate Change Act requires that energy networks and electricity generators submit reports to Defra outlining their plans for adaptation to climate change.

We submitted our adaptation report to Defra in September 2011. This outlined that our main contribution to adaptation is through our price controls. These allow regulated network monopolies to make the necessary investments to meet their adaptation needs, and recover their costs from their customer base. For example, our new RIIO regulation model requires network companies to undertake long-term business planning and provides incentives and outputs designed to encourage them to consider adaptation needs more than they have done previously.

We also set licence conditions and endorse (or reject) network codes, several of which relate to security of supply and reliability, and hence help to ensure that the energy sector is resilient to climate change. We indirectly promote adaptation by monitoring security of supply and striving to establish competitive and transparent energy markets in the UK and Europe, where energy generators and suppliers must compete to offer secure, reliable and affordable supplies to customers under all conditions.

Assessing the risks and responding to the challenges of adaptation to climate change are primarily the responsibility of the energy companies themselves as they are best-placed to understand their operations, and to identify where they need further advice and assistance.

Adaptation to climate change will require monitoring and additional work as issues arise. We will also be ready to consider taking policy measures to ensure that our regulatory tools enable energy companies to meet their adaptation needs.



Theme 5

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 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. In our networks price controls we regularly collect data on oil leakages from electricity networks, which are being progressively replaced with non-fluid filled cables. We also allow network companies to protect visual amenity in certain areas by replacing overhead wires with underground cables. We are committed to working with all stakeholders to ensure that we take these wider considerations into account in all of our decisions.

Visual amenity

Local environmental considerations, and in particular visual amenity, are factored into our decision-making. Building on the previous success of the electricity distribution companies in the undergrounding of 223 kilometres of cable in the period 2005-2010, DNOs have retained the undergrounding incentive of £64 million for 2010-2015. This helps to preserve the visual amenity of the National Parks and Areas of Outstanding Natural Beauty where these cables are located.

As part of RIIO-T1, the next transmission price control commencing in April 2013, specific measures have been included to address visual amenity. Licensees are expected to propose a build programme that is economically efficient and designed to take the preservation of natural beauty and the impact on the countryside into account. Under RIIO-T1 there is much more scope for innovation in this area compared to previous price controls.

To improve the visual amenity of existing transmission infrastructure in designated landscapes, Ofgem will set a visual amenity allowance for each of the transmission companies to mitigate its impact. This could be used for initiatives such as tree planting to mask substations, new pylon designs, or undergrounding of lines.

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. DNOs are addressing this by using newer solid insulation cables, that do not leak, and progressively removing fluid filled cables, which are no longer installed in the UK.

All DNOs subscribe to an Operating Code, to promote best practice for fluid filled cable operational management as well as a risk-based approach to strategic replacement. It also benchmarks current environmental performance and sets improvement targets and milestones. Through our Regulatory Instructions and Guidance (RIGs) they report oil leak incidents to both Ofgem and the Environment Agency in a common format on an annual basis.

Engaging with stakeholders

Over the past year, we have focussed on improving our engagement with stakeholders on sustainable development issues. In particular, we have developed our relationships with environmental and social charities, think tanks and other bodies to improve our understanding of sustainable development issues relevant to our work.

We have also held several stakeholder seminars and briefings, which we use both to update those with an interest in our work and to seek views and input as we formulate our policies. For example, as part of our RIIO network regulation strategy consultation, we invited a group of SD stakeholders to discuss our plans for environment-focussed outputs and measures. The information gathered at this event helped to shape our final strategy document.

Finally, we have continued to develop our series of concise, accessible fact sheets for SD stakeholders which provide an overview on the social and environmental aspects of major policy announcements such as RIIO strategy and the Retail Market Review report.

SD Advisory Group

This year we launched our SD Advisory Group, convening senior representatives from Government, industry, the third sector and academia to advise us on our strategic planning on social and environmental issues. The group will meet three times a year to provide input at formative stages of our work, to challenge our thinking and shape our approach to sustainable development.

Ofgem's internal environmental management

Recognising the significant environmental and economic benefits accompanying energy and water use reduction, Ofgem has been actively promoting reduced consumption and increased efficiency for both energy and water in our main office at 9 Millbank. Over recent years we have made significant progress in our environmental management efforts, in particular in the area of energy efficiency. By implementing the latest leading technologies, we can now monitor real-time management of our energy use, allowing us to identify further potential areas of improvement. Ofgem's overall building efficiency rating (Display Energy Certificate) has improved from an initial G (165) rating to E (112), and is on target to achieve a D rating by early 2012. These results have vastly improved our environmental profile and we continue to build upon our accomplishments with the introduction of the new greening government commitments which require a 25% cut in carbon emissions over the next 5 years.

Endnotes

i RIIO-T1 Strategy Document:
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/T1decision.pdf

ii RIIO-GD1 Strategy Document:
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/GD1decision.pdf

iii Letter setting out assessment of TO business plans:
http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/busplanletter.pdf

iv Ofgem's bio-methane factsheet published in July 2011:
http://www.ofgem.gov.uk/Media/FactSheets/Documents1/biomethanearenewablegassourceFS.pdf

v Project TransmiT open letter:
http://www.ofgem.gov.uk/Networks/Trans/PT/Documents1/110125_TransmiT_Scope_Letter_Final.pdf

vi Open letter on connection charging:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=93&refer=Networks/Trans/PT

vii Smart Metering Consultation Response:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=56&refer=e-serve/sm/Documentation

viii CEER website:
http://www.energy-regulators.eu/portal/page/portal/EER_HOME

ix ACER website:
http://www.acer.europa.eu/portal/page/portal/ACER_HOME

x Third Energy Package:
http://ec.europa.eu/energy/gas_electricity/legislation/third_legislative_package_en.htm

xi Climate and Energy Package:
http://ec.europa.eu/clima/policies/package/index_en.htm

xii ICER website:
http://www.icer-regulators.net/portal/page/portal/IERN_HOME/ICER_HOME

xiii For further information please see the FITs section of our website:
http://www.ofgem.gov.uk/Sustainability/Environment/fits/Pages/fits.aspx

xiv Research findings:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=39&refer=Sustainability/Cp/CF and
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=41&refer=Sustainability/Cp/CF

xv RIIO-GD1 Strategy Document:
http://www.ofgem.gov.uk/Networks/GasDistr/RIIO-GD1/ConRes/Documents1/GD1decision.pdf

xvi Please see the Ofgem website for quarterly and annual reports on suppliers' social obligations performance:
http://www.ofgem.gov.uk/Sustainability/SocAction/Monitoring/SoObMonitor/Pages/SocObMonitor.aspx

xvii Domestic suppliers' social obligations 2010 Annual Report:
http://www.ofgem.gov.uk/Sustainability/SocAction/Monitoring/Pages/Monitoring.aspx

xviii Review of suppliers' approaches to debt management and prevention:
http://www.ofgem.gov.uk/Sustainability/SocAction/Publications/Documents1/Debt%20Review%20Report.pdf

xix Statutory consultation to amend Supply Licence Condition 27.11:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=168&refer=Sustainability/SocAction/Publications

xx Smart Metering Consumer Protections Package:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=187&refer=Sustainability/SocAction/Publications

xxi Press release 14th October on RMR announcement:
http://www.ofgem.gov.uk/Media/PressRel/Documents1/RMR%20Oct.pdf

xxii Demand Side Response Discussion Paper:
http://www.ofgem.gov.uk/Sustainability/Documents1/DSR%20150710.pdf

xxiii Energy Demand Research Project Final Analysis:
http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=21&refer=Sustainability/EDRP

xxiv Third Energy Package:
http://ec.europa.eu/energy/gas_electricity/legislation/third_legislative_package_en.htm

xxv Link to the Electricity Market Reform White Paper:
http://www.decc.gov.uk/assets/decc/11/policy-legislation/EMR/2176-emr-white-paper.pdf

Ofgem London

9 Millbank
London SW1P 3GE
Tel: 020 7901 7000

Ofgem Scotland

Cornerstone
107 West Regent Street
Glasgow G2 2BA
Tel: 0141 331 2678

Ofgem Wales

1 Caspian Point
Cardiff Bay
CF10 4DQ
Tel: 029 2044 4042

www.ofgem.gov.uk