ofgem

Promoting choice and value
for all gas and electricity customers

Sustainable Development Focus 2009-2010

November 2010

Contents

Foreword

Ofgem's core function is to protect the interests of current and future consumers and this includes important responsibilities relating to sustainable development.

Sustainable Development Focus brings together our work over the last year in encouraging progress towards a low carbon economy and in assisting vulnerable consumers. This year also marks the first year for Ofgem's Sustainable Development Division which was created to help further embed sustainable development considerations into our work and decisions.

Ofgem has delivered major projects in the last year with far reaching implications for the energy industry. We have overhauled our approach to network regulation by introducing the RIIO model, which will deliver the £32 billion of investment in pipes and wires needed over the next decade to secure long term, sustainable energy supplies. This is the biggest change to the regulatory framework for twenty years and sets the network companies on a path to playing their full role in the transition to a low carbon economy while delivering value for money for all consumers. The output focus of RIIO means that companies will have to meet consumer, social and environmental outputs in order to earn their return. RIIO will enable networks to better meet the challenges ahead by being better placed to manage, connect and control energy flows from distributed and low carbon generation, and electric vehicles.

In the Spring, we introduced the new £500 million Low Carbon Networks Fund for local electricity networks. This fund is designed to allow the distribution companies to try out new technology, operating and commercial arrangements so they can explore how networks can facilitate the take up of low carbon and energy saving initiatives. These could include electric vehicles, heat pumps, micro and local generation and demand side management, as well as investigating the opportunities that the smart meter roll out will provide to network companies. We are now proposing to expand this concept to apply to all the networks we regulate through the innovation stimulus in RIIO.

Ofgem authorised over £300 million of funding for programmes to upgrade the electricity transmission networks and we have just launched Project TransmiT, which will look at connection and charging arrangements on the transmission network and consider

whether any reform is needed. Progress towards meeting targets for offshore wind development has also been advanced as a result of the first competitive tender for licences which secured £1.1bn of investment in transmission links.

This will deliver real benefits for consumers in the future. But we are just as focussed on delivering benefits to consumers today. The market remedies to the issues we found in our Energy Supply Probe are allowing customers to better understand their consumption and tariff choices, while simultaneously protecting them from any unfair premiums. Hundreds of millions of pounds have been removed from unfair charges to pre-payment meter customers and customers off the gas grid, who suffer some of the highest levels of fuel poverty in the country. We continue to monitor suppliers' social programmes and our work on the Debt Review demonstrates our sharp focus on protecting vulnerable and low income consumers.

More so than ever, we have been reaching out to our social and environmental policy stakeholders in order to contribute to debates, listen to the views of others and inform our thinking. We are embedding this participatory approach into the way we work for example in our approach to price control reviews. We have complemented this advocacy work by developing more accessible fact sheets and materials, of which this new look report is a part. We are publishing a package of sustainable development indicators on our website which will be updated throughout the year. Come and visit – and let us know what you think.

While the biggest impact we can have is through our influence on the energy companies, we have also put our money where our mouth is by making important changes to our head office, which is partly powered by an onsite combined heat and power plant. We are a 10:10 organisation and are closing in on reducing our energy consumption by 10% in 2010. We are also committed to the Government's target of reducing emissions by 10% in the year to April 2011.

We will continue with many of these initiatives in the year ahead, making sure that energy markets work well for consumers and assisting Government as it develops its electricity market reforms. These reforms will be pivotal to securing the £200 billion of investment, identified by Ofgem's Project Discovery, which will be needed to deliver secure sustainable energy supplies for the future.

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

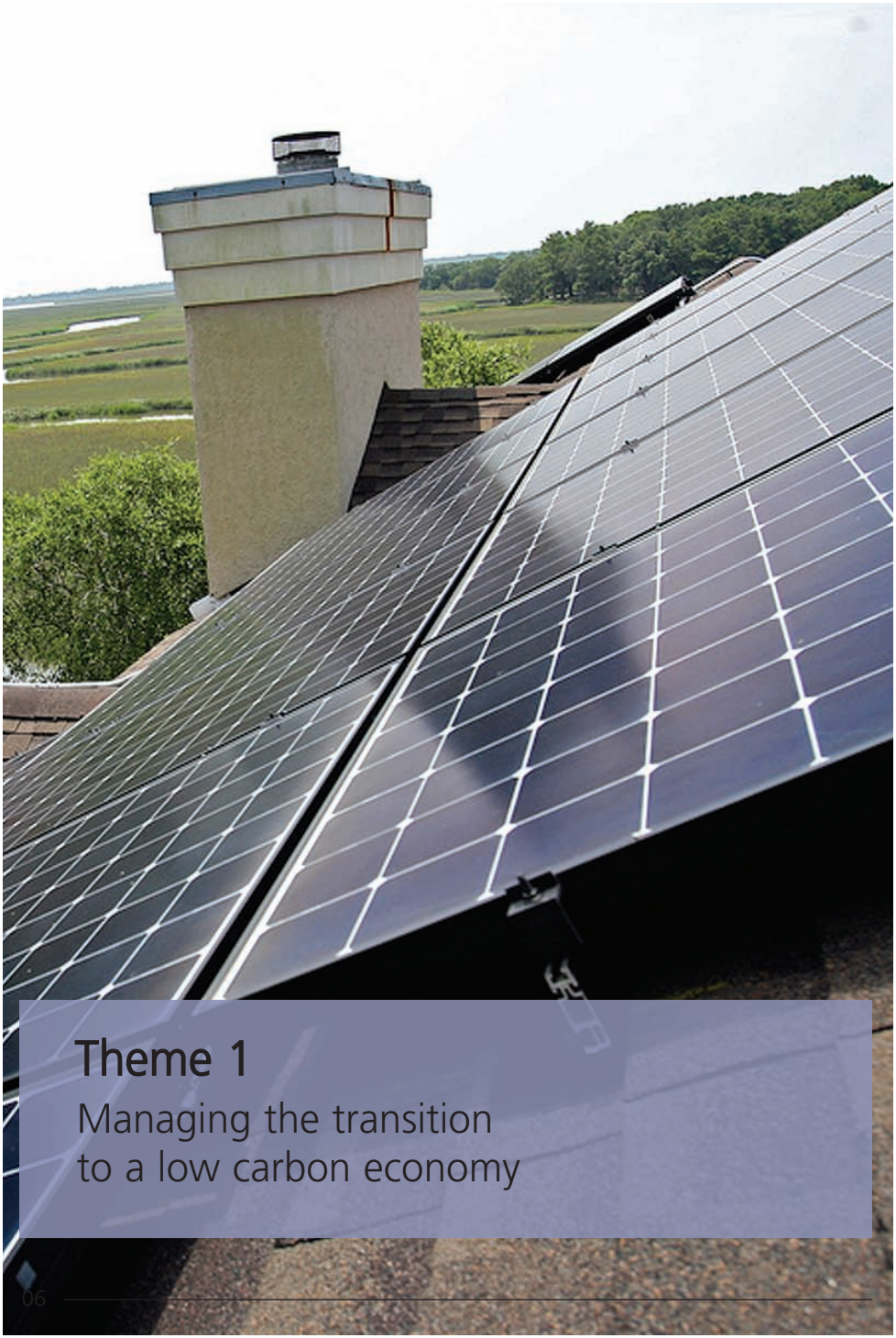
Energy conservation and improved energy efficiency are critical elements in any sustainable development strategy. We recognise the huge range of environmental, social and economic benefits that saving energy can bring. We are committed to playing our part to encourage all energy consumers to be more energy efficient and to 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, together underpin our goal to ensure that cost-effective, reliable and diverse energy supplies are always available to consumers.

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 reduce emissions to tackle climate change.

Though energy and climate change policy is determined by the Government, Ofgem has a number of important roles in facilitating the transition to a low carbon economy. These include:

- Setting the market frameworks for the gas and electricity networks, which will connect new renewable and low carbon electricity generation and gas sources;
- Running the tender scheme for the offshore networks that will connect offshore wind farms;
- Delivering a portfolio of Government energy efficiency, renewable and low carbon energy programmes; and
- Setting the market rules to reduce the emissions associated with network system operation.

Over the last twelve months we have taken action in a number of areas.

Reforming network regulation – the RIIO model

The way networks are designed and run will have to change dramatically to enable more renewable and low carbon generation to connect, both in urban and more remote parts of the country. Through our Project Discovery we found that £32 billion will need to be invested in GB's onshore electricity and gas networks over the next decade to help the Government meet the challenge of cutting carbon emissions and securing energy supplies. Networks will have to be able to handle fluctuating sources of generation, such as wind power. They will also have to accommodate increasing demand for electricity due to the anticipated electrification of transport, such as electric cars and rail, and heat from increased use of devices such as ground source and air source heat pumps.

The overriding objective of the RIIO model is to encourage network companies to:

- Play a full role in the delivery of a sustainable energy sector: and
- Deliver long term value for money network services for existing and future consumers.

Over the past two years we have reviewed the 'RPI-X' regulatory model that we have used to regulate the electricity and gas networks for the past two decades. The output of this review is our new RIIO model for regulating networks. The RIIO model 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 consumers.

The new model is designed to focus on the ability of network companies to find innovative solutions, and on providing the right incentives for companies to deliver on the outputs that we require. An important part of this is the environmental outputs we will introduce.

We are now starting the process of implementing the RIIO model in the next network price control reviews, for the national gas and electricity transmission networks, and the local gas distribution networks. These reviews will run through to 2012, to be implemented from April 2013.

Broader measures will include the ability of network companies to

- help improve energy efficiency; and
- accommodate low carbon electricity flows.

Environmental outputs from networks will include 'narrower' outputs, such as

- business carbon footprint;
- system losses;
- Other network-related emissions; and
- Visual amenity.

'RIIO' stands for Revenue = Incentives + Innovation + Outputs

Project TransmiT

We have recently announced Project TransmiT, a comprehensive and open review of the charging regime and associated connection arrangements for Britain's high-voltage electricity network and high-pressure gas grid, focusing initially on the electricity network. We are currently seeking views through a call for evidence, and would encourage all stakeholders to share their views with us[1].

The current regime encourages generators to locate close to the areas where there is higher demand for electricity. However, an increasing amount of low-carbon generators must be connected to meet the UK's climate change targets and some have argued that they have less flexibility than conventional fossil-fuel plant on where they can locate.

If reforms are needed, we will develop these and take them forward. There are a number of interrelated factors that we will need to consider as part of this review, including the potential impact of pan-European developments.

Tackling emissions from networks

In 2007 we introduced an incentive for the high-voltage electricity transmission network companies to reduce the amount of Sulphur hexafluoride (SF_6) that leaks into the atmosphere. Since then National Grid, the owner of the transmission system in England and Wales, has achieved the equivalent of over 130,000 tonnes of CO_2 savings.

SF_6 is a greenhouse gas used in electricity infrastructure which has a global warming potential of around 24,000 times that of carbon dioxide (CO_2). National Grid is responsible for equipment that contains over 500 tonnes of SF_6 gas. National Grid has introduced a new database, Ellipse, to collect and report on SF_6 usage, and developed techniques to reduce SF6 leakage without having to take equipment out of service for repair.

As a result of National Grid's work SF_6 leakage from its network infrastructure has decreased from 2.9% to 2.1%.

Electricity Distribution

The fifth electricity distribution price control review (DPCR5) concluded at the end of last year has increased the incentives and obligations on distribution network operators (DNOs) to play a greater role in delivering environmental benefits[2].

Our flagship scheme for DPCR5 is the Low Carbon Networks Fund (LCN Fund), which will provide £500 million over five years for DNOs to work with others to try out new technology and commercial arrangements in order to understand their role in the low carbon economy. LCN Fund trials should enable the DNOs to test ways that they can accommodate greater use of electric space heating, more micro- and community-scale renewable electricity generation, and more widespread use of electric vehicles. Alongside the LCN Fund we have retained the £20 million Innovation Funding Incentive (IFI) for research and development at an early stage.

We have also retained and improved a number of existing environmental incentives, including a strengthened incentive for DNOs to reduce electricity losses on the network, a new requirement for DNOs to report on their business carbon footprint, and a package of measures to support generation connecting directly to the distribution network.

Under DPCR5, DNOs have obligations to report on their business carbon footprint (the total CO_2 equivalent emissions of their company). This includes emissions caused directly and indirectly from their operations. It will then be published in an annual league table of emissions reductions and is designed to encourage them to consider the direct carbon impact of their operations and be proactive in managing these emissions.

Funding transmission network upgrades to connect renewable generation

In January this year we published final proposals for funding the first tranche of projects from a package of extra investment in Britain's high-voltage networks. The first tranche, totalling £319 million, will help connect Great Britain's growing amount of renewable electricity generation.

The transmission companies are in the process of providing further information to support their case for funding those projects that will require investment before April 2013. We are working closely with the companies to assess this information and reach a decision on the funding requests. Funding arrangements from April 2013 onwards will be made as part of the next transmission price control review process.

Electricity from wind turbines sited off the UK's coastline is set to become a major contributor to our energy supply.

The first round of tenders for Offshore Transmission Owners, managed by Ofgem E-Serve, selected three Preferred Bidders to connect 2 gigawatts of offshore wind – enough to power over a million homes

Offshore transmission networks

Offshore wind power will play a major part in Britain's efforts to cut carbon emissions. Ofgem and the Government have developed a regime to oversee the development of offshore networks[3]. The aim is to ensure that offshore networks are built efficiently and economically, in time to connect the wind generation required to cut greenhouse gas emissions from the electricity sector over the next decade and beyond.

Last year Ofgem began the first set of tenders to appoint new Offshore Transmission Owners (OFTOs). This first round of tenders is for projects where the transmission assets have been or will be constructed by the offshore developer, then transferred to the OFTO. This first round of tenders has recently concluded, leading to the selection of three Preferred Bidders to run the transmission assets for nine wind farm projects. Our competitive approach will result in forecast savings of £350 million for offshore wind farm operators and consumers.

The second transitional tender will begin later this year. The Department of Energy & Climate Change (DECC) and Ofgem recently consulted on how further tender rounds should be conducted under an Enduring Regime[4].

Delivering Government environmental programmes

As a result of a major reorganisation in 2009, we established Ofgem E-Serve. This move was in recognition of our expanding role as delivery body for a number of the Government's energy-related programmes.

Ofgem now administers a number of energy-related environmental programmes on behalf of the Government, including:

- The Carbon Emissions Reduction Target (CERT)
- The Renewables Obligation (RO) for large-scale renewable electricity
- The Feed-in Tariff (FIT) for smaller scale renewable electricity
- Exemptions from the Climate Change Levy (CCL)

Feed-in Tariffs (FITs)

In April 2010 Ofgem implemented the Government's FITs scheme, which is designed to promote the widespread uptake of small-scale renewable and low carbon electricity generation technologies (up to five mega-watts capacity)[5].

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

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 emphasised the RO's role as supporting larger-scale projects.

In the first six months of FITs 11352 generators registered for support.

That's a total of 44MW capacity enough to power 35,000 homes.

The majority of new generators were installing solar PV panels.

At the Government's request we have been collecting sustainability information from biomass electricity generators since April 2009. This has helped to develop knowledge and expertise ahead of a potentially more rigorous EU-wide sustainability scheme.

Green tariffs

Following the finalisation of our Green Supply Guidelines, the Green Energy Supply Certification Scheme was launched in February[6]. An independent panel of experts is now responsible for certifying green tariffs, offering transparency and confidence to consumers wishing to purchase green energy[7].

Green tariffs

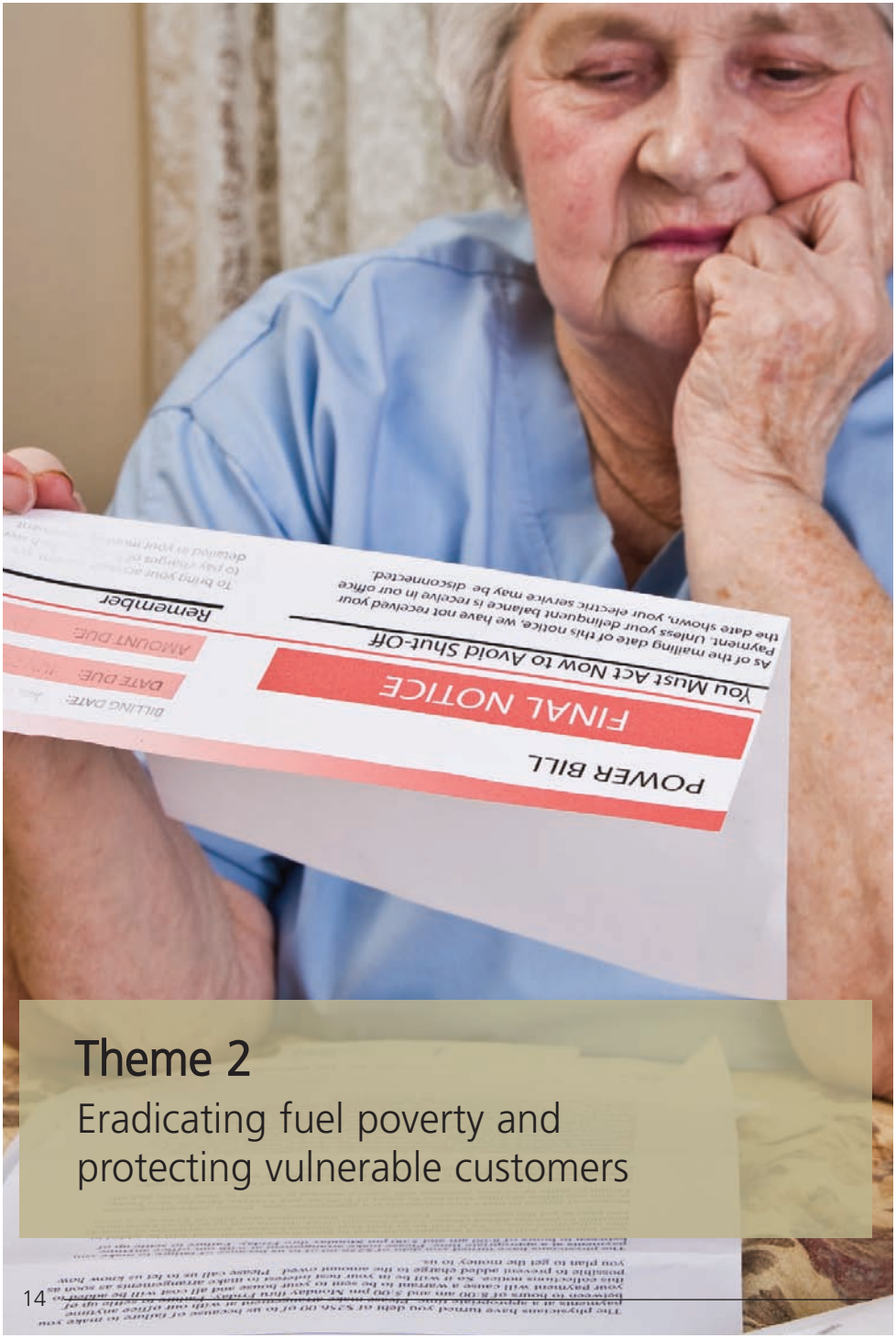
Seven energy suppliers are now offering certified tariffs.

By the end of March 2010 nearly **250,000 customers were signed up** to certified green tariffs.

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 methane, one of the most polluting greenhouse gases. Venting natural gas can be a necessary part of operational and maintenance procedures, but reductions can be made through adjustments to how systems are operated. In this work, our aim is to ensure that the SO incentives encourage low-carbon decision-making.



Theme 2

Eradicating fuel poverty and protecting vulnerable customers

Ofgem's 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. We are aware that this will have a significant effect on customers' bills with affordability already a serious concern for some. As all customers, including the vulnerable, benefit from properly functioning markets, one of the most important contributions we can make is to effectively regulate the market so that retail prices are no higher than they need to be.

Our Probe remedies have benefited consumers by:

- Removing £500 million of unjustified price differentials
- Tightening rules on doorstep sellers
- Making energy bills easier to understand
- Enabling more consumers to switch supplier

Ofgem's Social Action Strategy sets out how we will meet our social responsibilities and help the Government to tackle fuel poverty[8]. We work to ensure that any price increases are fully justified and are in the best interests of present and future consumers.

Against this background, we will do all we can to ensure energy consumers, particularly the vulnerable, are appropriately protected. The steps we have taken, and will take over the coming year, firmly demonstrate this ongoing commitment. We are developing our approach to engagement with experts and interest groups concerned with sustainable development, including our work to protect vulnerable customers and help tackle fuel poverty.

Energy Supply Probe

As a result of Ofgem's Energy Supply Probe, our investigation into the energy supply markets in 2008 and 2009, we have implemented a package of measures to help domestic customers.

In September 2009 we introduced new obligations to guard against unjustified price differences. In January 2010 new protections took effect to prevent mis-selling. Since January 2010, prepayment customers who are in debt have also been able to switch supplier if they are in debt, provided their debt does not exceed £200. Since July 2010, customers will begin to see improvements to the information on their energy bills, and by the December all customers should have received an annual statement. Taken together, these measures represent a much better set of protections for domestic consumers.

Our ongoing monitoring of the measures that we introduced following the Probe

has shown that hundreds of millions of pounds of unjustified tariff differentials have been removed. Many of the customers paying unjustified higher costs had prepayment meters, or were off the gas grid, where around thirty percent of households are in fuel poverty. Taken together, these market remedies should help all customers, and particularly the vulnerable, to benefit from more competitive energy deals.

We remain alert to areas of concern. We have recently consulted on new obligations on suppliers to alert customers in advance of price increases. We are also committed to securing compliance with the new obligations. As a result we have initiated enforcement procedures with two suppliers regarding tariff differentials and have begun an investigation into four suppliers' compliance with new marketing rules.

We have also been working with Citizens Advice to raise awareness of energy savings and help with paying bills. The Energy Best Deal scheme, run by Citizens Advice and supported by Ofgem, has reached over 64,000 domestic consumers on how to switch to a better energy deal. It also raises awareness of energy related help and benefits.

Suppliers' social programmes 2009-10 Key facts and figures

- suppliers spent £153 million, exceeding the Government's target by £28 million
- of this, £128 million was for social and discounted tariffs
- in March 2010 1.6 million customer accounts benefited from the programme, up from 1.3 million in March 2009
- suppliers also contributed £12.5 million to trust funds, and £12 million to other forms of assistance.

Suppliers' social programmes

In 2008 the Government secured an agreement with energy suppliers to increase their collective expenditure on social programmes by £225 million (to a total of £375 million) for 2008-11. Ofgem has monitored and reported on the first two years of the voluntary commitment (2008-09[9] and 2009-10[10]) and will continue to monitor the final year of the agreement in 2011.

Debt and disconnection

Ofgem and Consumer Focus carried out a joint review of suppliers' approaches to debt management and prevention in June 2010[11] following our joint review of protection for vulnerable customers from disconnection in October 2009[12]. As part of our Debt Review we developed

Working together to connect vulnerable and fuel-poor households to the gas network

Ofgem's regulation of gas networks includes initiatives to facilitate gas network extensions, particularly those that increase the affordability of network extensions for fuel poor consumers.

Scotia Gas Networks (SGN) works in partnership with local authorities, social landlords and others to connect vulnerable and fuel-poor households to the gas network through its Assisted Connections scheme. It has connected almost 4,000 fuel poor households so far – the highest proportion per area of all the GDNs – with acceptances and plans to connect 2,500 more.

SGN has also widened its approach to targeting the fuel poor by contacting all owners of mobile park sites in their southern network to explore the possibility of extending the network to this population.

This year SGN was recognised by the Discretionary Reward Scheme's panel for its impressive partnership work to extend the gas network.

some key principles in relation to suppliers assessing a customer's ability to repay debt which we take into account when considering suppliers' adherence to their licence obligations.

We also identified a number of good practices suppliers are progressing to protect vulnerable customers against disconnection. Following the review in October, we published formal notice to amend the gas and electricity supply licences clarifying that suppliers must take all reasonable steps to identify if a customer is vulnerable before disconnecting domestic premises[13].

We continue to monitor and report on supplier progress and practices in preventing and managing household consumer debt, encouraging best practice and using enforcement powers when necessary. In the past year Ofgem has continued to monitor and report on suppliers' performance against their social obligations relating to debt, disconnection, prepayment meters, Priority Service Registers (PSR) and energy efficiency advice. We do this by publishing quarterly and annual reports[14].

Promoting good practice

We are encouraging electricity and gas distribution network businesses to drive performance in social and environmental areas that cannot be easily measured or incentivised through more mechanistic regimes.

On the electricity side we have the Customer Service Reward Scheme, and on the gas side we have the Gas Discretionary Reward Scheme. These schemes aim to recognise leading performance and beacons of excellence within the industry and drive innovation and creativity through the promotion of best practice.

Electricity Customer Service Reward Scheme focuses on initiatives for

- priority customer care;
- corporate social responsibility; and
- wider communication strategies.

Highlights from this year's scheme included industry-leading approaches to building a priority service register, using innovative communications technologies such as internet, live chats and text messaging, and successful partnership working to target energy efficiency improvements at fuel-poor households.

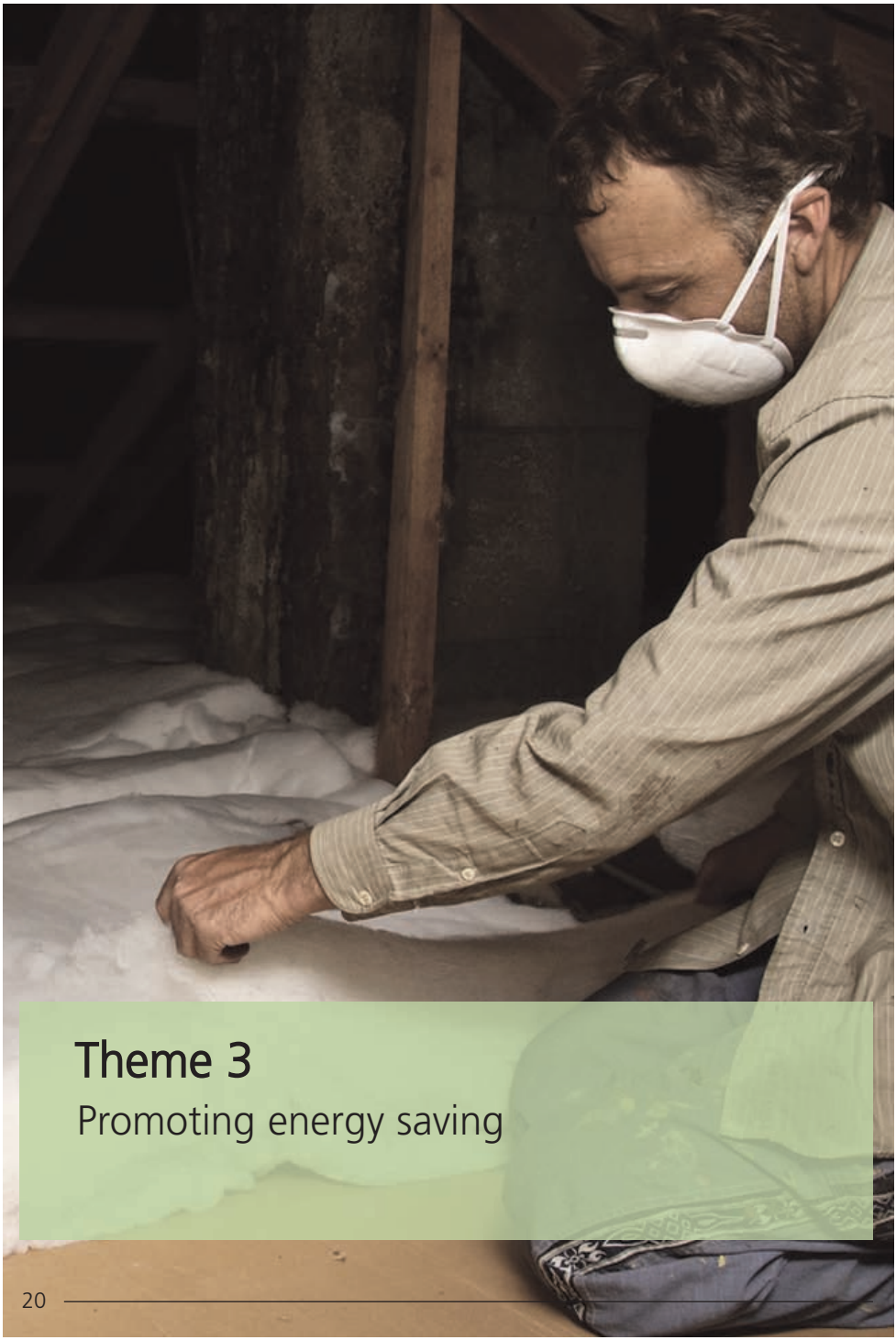
The report for this year's award is available on our website[15]

Gas Discretionary Reward Scheme focuses on initiatives for

- reducing the impact on the environment;
- facilitating extensions of the gas grid, particularly to connect vulnerable and fuel-poor customers; and
- gas safety, including carbon monoxide awareness.

Highlights from this year's scheme included partnership working to progress innovative new gas technologies such as 'green gas', safety awareness campaigns focusing on the danger of carbon monoxide poisoning, and partnership working to connect fuel-poor households to the gas grid.

The report for this year's report is available on our website[16]



Theme 3

Promoting energy saving

Reducing the amount of energy that we use is a central part of improving the sustainability of our energy system. If we can improve the way that 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. Examples of our work over the past year include:

- encouraging network businesses to reduce the electricity losses and gas 'shrinkage' associated with delivering energy from source to consumer;
- publishing discussion papers to stimulate debate on how consumers can become more engaged with their energy use;
- managing the Government's roll-out of smart meters;
- managing the EDRP (Energy Demand Research Project);
- administering Government programmes such as the CERT (Carbon Emissions Reduction Target) and CESP (Community Energy Saving Programme)

Over the next decade smart meters will be installed in 27 million homes and 2 million non-domestic sites.

Saving energy on the networks

Electrical 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 stronger, more effective losses incentive to encourage the networks to reduce energy losses as far as possible.

Leading the debate

One of the ways we have stimulated the energy-saving debate in the past year is by publishing two discussion papers[17]. Discussion papers are different from most of our other publications. Rather than setting policy positions or announcing decisions, they are intended to present our thinking on emerging subject areas and promote further debate.

Our latest paper, Demand Side Response[18], 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. This followed our first paper, Can Energy Charges Encourage Energy Efficiency?, which investigated how

energy pricing structures could encourage users to change their energy use.

Delivering smart meters

We are managing the first phase of the Government's smart meters rollout. In July this year we published the prospectus for smart meters implementation jointly with the Government[19], which sets out our joint proposals for delivering electricity and gas smart metering in Great Britain.

Consumers' interests are at the heart of our approach to the delivery of smart meters, and consumer protections will need to keep pace with technological change.

The Government predicts that smart meters will deliver £17.8 billion in benefits to domestic and smaller non-domestic sectors, and save 34 million tonnes of CO_2 over twenty years.

We will introduce a package of consumer protection measures in Spring 2011 to provide for the continued safeguarding of consumers' interests. This includes protections relating to remote switching to prepayment mode and remote disconnection. A supporting document to the Smart Metering Implementation Programme Prospectus considered issues around prepayment, disconnection, marketing, new tariffs, switching, vulnerable consumers and cost recovery and sets out our proposed approach for ensuring that protections will be fit for purpose.

Smart meters can

- help consumers to use less energy,
- improve billing accuracy, and
- facilitate the expansion of smart devices, electric cars and smart grids.

Researching improvements

We are managing the Energy Demand Research Project (EDRP) on behalf of Government. The EDRP is a trial of a range of methods of providing customers with improved feedback on their energy consumption. These include smart electricity and gas meters, real-time display devices, which show energy use in pounds and pence, more accurate and more frequent bills, energy efficiency information and community engagement.

The results should provide information on which of these actions help customers reduce energy consumption and over what timescales this is achieved, looking at how these reductions have been achieved (e.g. in heating, lighting or other energy efficiency measures), and assessing the impacts on different households, including the disadvantaged.

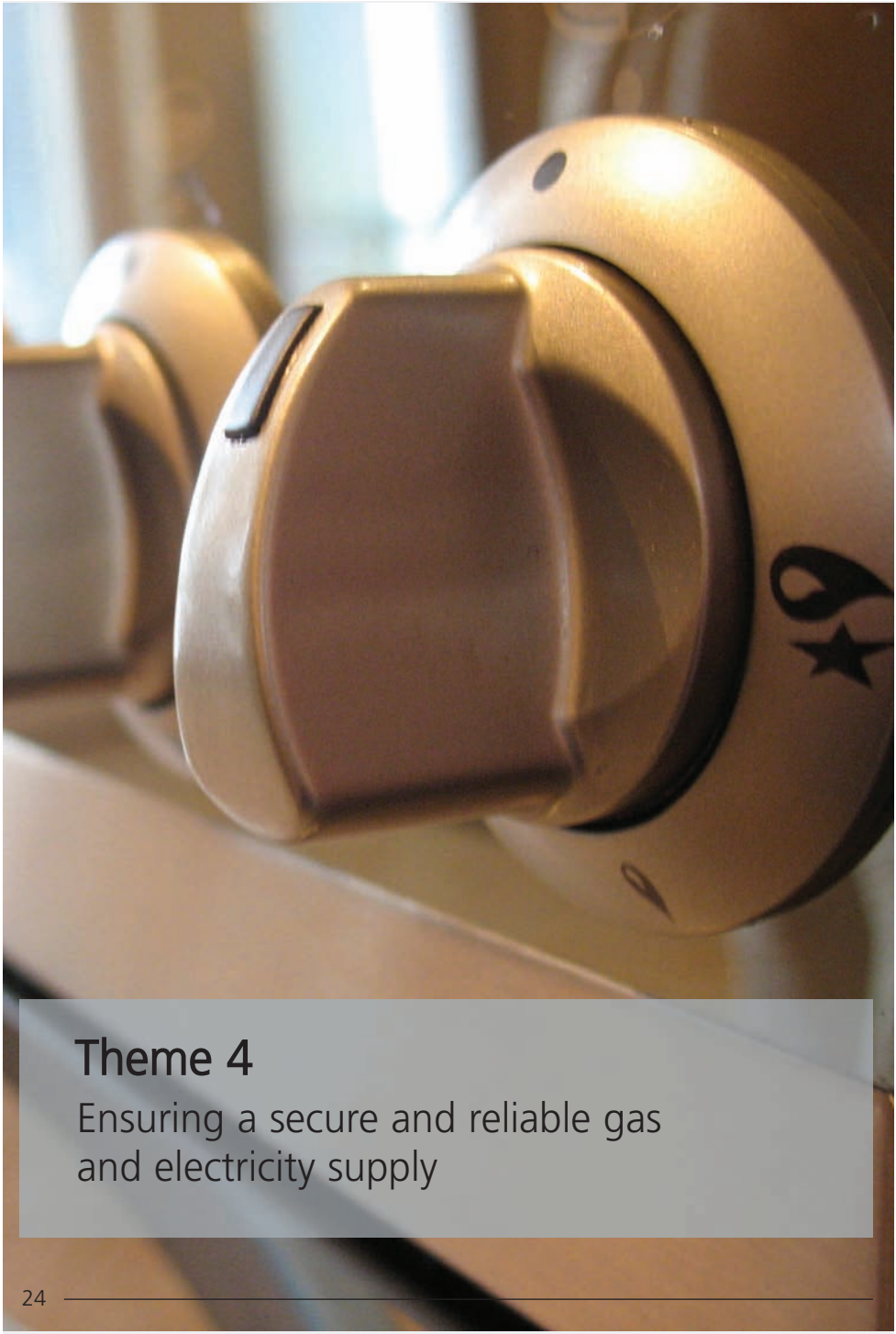
Administering Government energy saving programmes

We are the scheme administrators for the Government's CERT and CESP programmes, which require energy suppliers to help domestic energy consumers to make energy-saving renovations to their homes. We have worked with Government to offer advice on its latest round of changes to the CERT programme, and to implement these changes.

Under the CERT scheme, suppliers have saved 159 million tonnes of CO_2 to date.

Eligible measures include loft and wall insulation, fuel switching, lighting, microgeneration and behavioural measures.

We have also worked with Government in its development of the Green Deal and Energy Company Obligation. In particular, we have explored the interaction of these schemes with the energy market so that it can play its full part.



Theme 4

Ensuring a secure and reliable gas and electricity supply

One of Ofgem's key responsibilities is to ensure that gas and electricity supplies are secure and reliable. Our direct influence can involve regulatory tools and incentives, such as quality of service frameworks for the network companies and the incentives on the transmission system operator. We also participate in proactive market surveillance, including our flagship Project Discovery, Project Mercury which aims to track the financial health of network businesses, and our partnership with DECC to produce the Energy Markets Outlook and Winter Outlook publications. Elsewhere, our work to help renewable and low carbon generation to connect to the electricity network could make real improvements to security of supply by reducing our dependence on imported gas.

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, high wind speeds and floods/flash flooding 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.

Project Discovery

This year, our flagship review of Britain's security of supply prospects concluded that the industry needs to deliver up to £200 billion of new investment over the next decade. We put forward a range of possible measures to sustain energy security and achieve our carbon goals, against a background of increased risk and uncertainty[20].

The project found that interdependence with international markets exposes Britain to additional risks that could undermine security of supply. Rising gas and electricity costs could also increase the numbers of households unable to afford to adequately heat their homes, and affect the competitiveness of industry and business.

Responses to the final consultation agreed that the industry faces major challenges, that the current arrangements are not up to the job, and that change is needed to deliver the investment.

We stand ready to assist the Government as it sets the policy goals, on behalf of consumers. We are also looking to progress, with the industry, some of the changes needed to ensure prices reflect more fully the value of security of supply.

Adapting to climate change

Our climate will experience some changes in the coming years. For example, it is likely that the number of extreme weather events such as high wind speeds and floods will increase, posing risks to energy infrastructure.

We have been working with the energy network companies to consider these issues, and to put in place measures to deliver an energy system that is resilient to these risks.

Last year Defra directed most energy network companies and electricity generators to report on their adaptation work. Next September we will submit our report to Defra on our role in encouraging and facilitating the companies' plans.

Between 2010 – 2015, electricity distribution networks have around £110 million to invest in flood protection measures

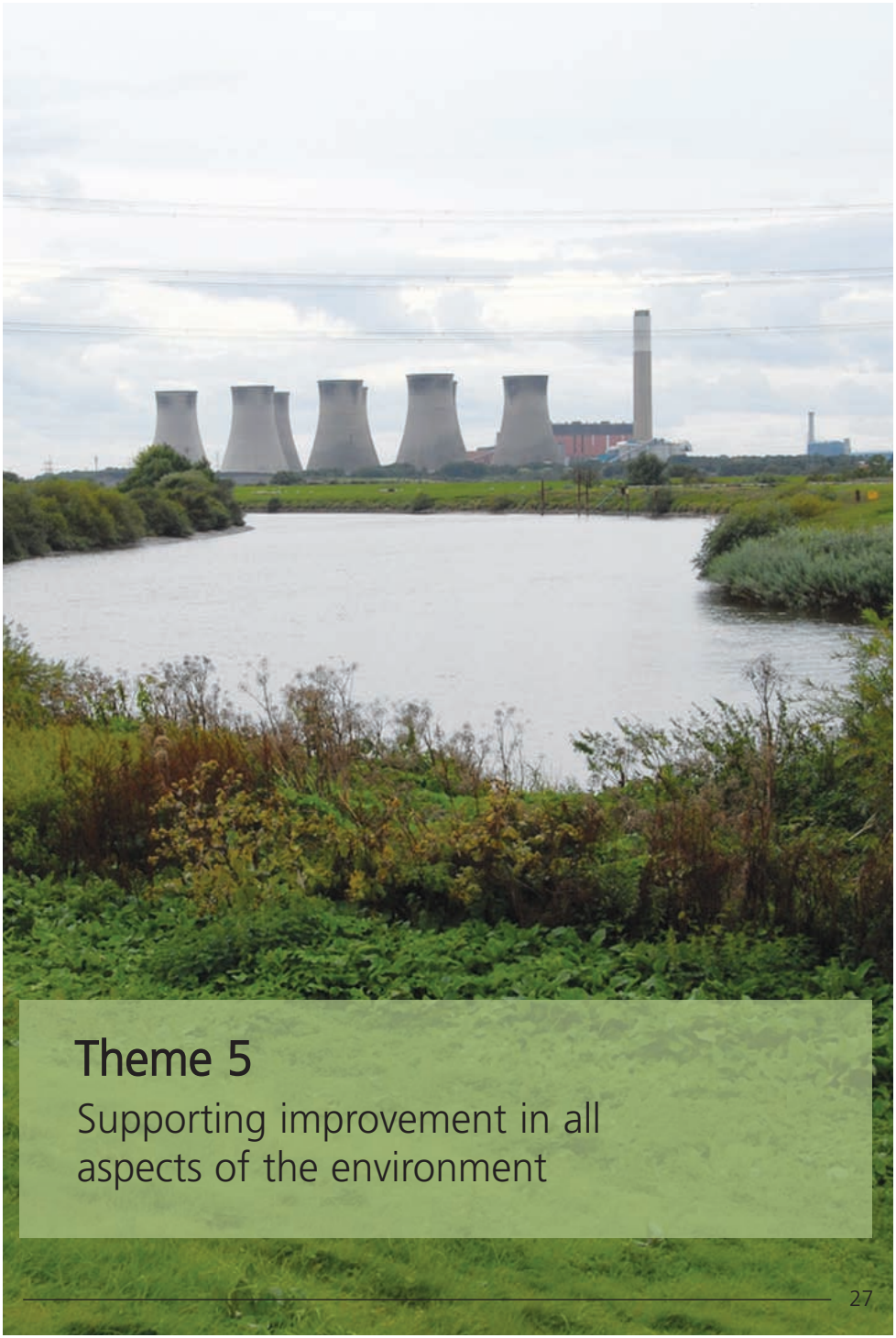
Network reliability and availability

Customers value a reliable energy supply that is available when they need it, and generators also need a reliable connection to the energy networks to be available once they are ready to export energy.

Under DPCR5 we have retained the Interruptions Incentive Scheme, which placed an incentive on DNOs to reduce the number of interruptions to supply. We have also introduced a Worst Served Customers scheme, which encourages the DNOs to improve the service offered to customers who consistently experience multiple interruptions over a number of years.

DNOs now have a target to reduce interruptions to worst served customers **by 25 per cent** over the next five years, and can invest up to **£42 million** on improvements to meet this target.

In our new RIIO approach to network regulation we are proposing to reward network companies' performance on an output basis. For example, a primary output for network reliability might relate to the number of interruptions a customer faced. We are now beginning our work on the forthcoming price control reviews for electricity and gas transmission, and gas distribution, which will be the reviews to put the RIIO approach into practice.



Theme 5

Supporting improvement in all aspects of the environment

Aside from its impact on climate change and the global environment, the energy sector also impacts on the local environment. For example, fossil fuel power stations are one of the main sources of acid gases such as sulphur dioxide (SO_2) and nitrogen oxides (NOx). These pollutants affect air quality, vegetation and lead to acidification as well as water pollution. Coal-fired stations produce large quantities of bottom and fly ash, the bulk of which has to be disposed of. Electricity generation can affect waterways when used as a source of cooling water and a depository of liquid wastes. Most flue gas desulphurisation processes also produce liquid effluent.

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 landscapes in certain areas by replacing overhead wires with underground cables.

Visual amenity

In the period from 2005 to 2010, the electricity distribution companies (DNOs) spent around £24 million on undergrounding networks out of a possible £64 million allowance. This resulted in 223 kilometres of overhead wires being replaced by underground cables in National Parks and Areas of Outstanding Natural Beauty. This led to improvements in the visual amenity of these areas at an average cost of around £100,000 per kilometre. Between 2010 and 2015 the companies will have a similar allowance to continue this work where appropriate.

Fluid filled cables

Fluid-filled cables are an old style of cable that pose a threat to the environment for leaking mostly at cable joints. DNOs are addressing this by using XPLE cables and progressively removing fluid-filled cables, which are no longer installed in the UK.

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

Engaging with stakeholders

In April this year we introduced new broad output categories to assess DNOs' performance. One of these new

categories requires DNOs to be proactive and innovative in engaging with all stakeholders. To achieve this we have introduced an incentive that rewards or penalises the DNOs according to how they fare on a broad measure of customer satisfaction. This should encourage DNOs to consider all aspects of customer service including stakeholder engagement. We have also refocused the categories of the annual £1 million Customer Service Reward Scheme to include ongoing stakeholder consultation. Taken together, these measures will encourage DNOs to better focus on the needs of their stakeholders, which will include SD stakeholders as well as customers.

Under our RIIO model for network regulation, stakeholders will be given greater opportunity to influence Ofgem and network company decision-making. Stakeholders will have the opportunity to influence priorities and level of outputs such as environmental impact and social obligations. This will enable them to play a greater role in decision-making processes, and to challenge the decision if they are unhappy with it.

Sustainable Development (SD) stakeholder workshops

Over the past twelve months we have held several workshops to present our work to our SD stakeholders, and to seek feedback and input. These have made an important contribution to our thinking, and we are planning to continue this programme.

Endnotes

[1] See our call for evidence for Project TransmiT, which closes on 17 November 2010: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=1&refer=NETWORKS/TRANS/PT

[2] See our fact sheet on sustainable development and electricity distribution: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=SD%20and%20Electricity%20Distribution%20Factsheet.pdf&refer=Media/FactSheets

[3] For further information please see the Fact Sheet we published in April 2009: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=offshoretransmissionfs.pdf&refer=Media/FactSheets

[4] Please see our further consultation on the Enduring Regulatory Regime for offshore transmission networks, which closed in September 2010: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=20&refer=Networks/offtrans/pdc/cdr/Cons2010

[5] For further information please see the FITs Fact Sheet we published in April 2010: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=fitfs_energy%20prices%20update%20FS.pdf&refer=Media/FactSheets

[6] See our final Green Supply Guidelines: http://www.ofgem.gov.uk/Sustainability/Environment/Policy/Documents1/Green%20supply%20guidelines%20final%20proposals%20open%20letter.pdf

[7] Further information is available at www.greenenergyscheme.org. Numbers of customers signed up to green tariffs will be reported in our SD indicator publications.

[8] Since 2005 our Social Action Strategy has provided an overview of progress and key deliverables for the coming year. Our latest report is available on our website: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=52&refer=SUSTAINABILITY/SOCACTION

[9] Monitoring suppliers' social programmes 2008-09: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=263&refer=Sustainability/SocAction/Suppliers/CSR

[10] Monitoring suppliers' social programmes 2009-10: http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=264&refer=Sustainability/SocAction/Suppliers/CSR

[11] Review of suppliers' approaches to debt management and prevention: www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=151&refer=Sustainability/SocAction/Publications

[12] Review of protection from disconnection for vulnerable customers: www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=139&refer=Sustainability/SocAction/Publications

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

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

[15] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=142&refer=Networks/ElecDist/QualofServ/CustServRewSch

[16] http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=Decision report for 2009.10 Gas Discretionary Reward Scheme.pdf&refer=Networks/GasDistr/QoS

[17] Please see the Sustainability section of the Ofgem website: http://www.ofgem.gov.uk/Sustainability/Pages/Sustain.aspx

[18] Our discussion papers are on the Sustainability page of the Ofgem website: http://www.ofgem.gov.uk/Sustainability/Pages/Sustain.aspx

[19] For further information please see the smart meters page of the Ofgem website: http://www.ofgem.gov.uk/e-serve/sm/Documentation/Pages/Documentation.aspx

[20] Please see the fact sheet that we published in February 2010 on our website: www.ofgem.gov.uk/Pages/MoreInformation.aspx?file=discoveryfs.pdf&refer=Media/FactSheets

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