Promoting choice and value for all gas and electricity customers

Ofgem and Microgeneration: next steps

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Overview:

More widespread use of microgeneration in people's homes and businesses could reduce carbon dioxide emissions, save energy and avoid the need for expensive investment in electricity networks. As microgeneration technologies develop and come to market, Ofgem wants to ensure that there are no regulatory barriers that stand in the way and that stakeholders have opportunities to raise issues of concern so that the needs of microgeneration are taken into account across Ofgem's policies. While Ofgem believes that in many areas the current market arrangements are appropriate for microgeneration, there are nevertheless a number of areas of work where Ofgem needs to take action. These are set out in this document.

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Context

This document sets out Ofgem's work to ensure regulatory barriers do not stand in the way of microgeneration fulfilling its potential to help customers reduce carbon emissions and save energy. It responds to, but looks wider than, the issues raised in our consultation last year on the regulatory aspects of domestic scale microgeneration. It sets this in the context of recent policy developments including the government's Microgeneration Strategy and the Climate Change and Sustainable Energy Act 2006.

Associated Documents

- The Regulatory Implications of Domestic-scale Microgeneration - A consultation document (Ref 123/05)

www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/11267_12305.pdf?wtfrom=/ofgem/whats-new/archive.jsp

- Supply Licence Review - Initial Policy Proposals (Ref 113/06)

http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15653_Supply_Licence_Review.pdf?

- Metering Innovation: next steps (Ref 107/06)

http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/15591_Metering_Innovation_Decision_document_final.pdf?wtfrom=/ofgem/whats-new/archive.jsp

Table of Contents

Summary

As decentralised low-carbon energy technologies, microgeneration is potentially a significant part of the UK energy mix that can contribute to reducing carbon emissions, saving energy and improve the sustainability of the energy system. Microgeneration may also have a role to play in helping to alleviate fuel poverty, in particular providing alternative energy sources to customers in non-gas communities. As new technologies develop and become more cost effective, this potential may be realised. Ofgem is working to ensure that obstacles to development of microgeneration are identified and addressed, and that, where appropriate, we work with government to ensure that any support is well-designed and works with the competitive market framework.

We will ensure that the interests of microgeneration are fully taken into account in our policy development across all areas of our work. Examples include our review of electricity and gas supply licences, where we propose to remove regulatory constraints to more sophisticated and innovative energy services arrangements which may include customers installing microgeneration to meet their own energy needs. We will also ensure that our measures to promote innovation in metering take account of the interests of microgeneration, notably our work to encourage the development of interoperability standards for smart meters.

This document sets out the work we intend to do, while also taking forward and reporting on the consultation document we published last year that sought views on a number of areas of potential regulatory concern, including consumer information matters as well as range of supply, distribution and metering issues. In addition to our work, the government's Microgeneration Strategy, the Electricity Networks Strategy Group (ENSG) and other government and industry initiatives - notably the joint DTI/Ofgem Review of Distributed Energy as part of the energy review - are dealing with these issues. Ofgem plays either a lead or supporting role in nearly all these initiatives.

The resolution of issues surrounding the arrangements for the sale of surplus electricity produced by microgeneration remains one of the barriers for the greater market penetration of microgeneration. Ofgem is participating in a series of projects under the auspices of the ENSG to address this issue. We agree with the government that suppliers are best placed to tackle this. We challenge the major energy suppliers to meet their customers' demand and develop quickly simple energy contracts to allow the market to develop without the need for regulatory intervention.

We are also working with Defra and the DTI to implement recent legislative changes to the government's environmental programmes, the Renewables Obligation and the Energy Efficiency Commitment and to ensure that our administrative procedures are as easy to use as possible for microgenerators.

1. Introduction

1.1. Microgeneration[1] is potentially a major contributor to our energy mix that can deliver lower carbon electricity and heat to customers. It can also lead to more efficient use of energy networks by locating more generation close to where it is consumed, and therefore reducing energy losses and the need for large central energy networks that have their own carbon and environmental footprint. Many householders are also attracted by the prospect of taking the initiative to tackle climate change on their own behalf.

1.2. In carrying out our functions we have a duty to protect customers and promote sustainable development. We believe that promoting competitive gas and electricity markets is generally the best way to do this, and with this in mind we need to ensure that regulation and market rules and practice do not stand in the way of the market's development. While we have a key role in ensuring this is the case, so do the network companies and the energy suppliers (for example, in network charging and export tariffs respectively). Consistent with the principles of better regulation, where the industry is best-placed to make changes, we look in the first place to facilitate change led by them. If they do not deliver, we will intervene.

1.3. It is difficult to predict the future prospects for microgeneration. One study suggests that 30-40% of the UK's electricity demands could be met through microgeneration technologies by 2050[2]. Others are more cautious. While we cannot be sure of how soon and how fast microgeneration will make a major contribution to the energy market, we need to be ready when it occurs and to ensure that the regulatory and market framework is in place to ensure that it can deliver its potential.

1.4. Because of its small scale, microgeneration is already exempt from a number of regulatory obligations (see box). However, we are committed to identifying and addressing remaining barriers to the installation and operation of microgeneration. Some of these issues may be addressed by us through the regulatory system. However, market participants, notably energy suppliers, have both a challenge and an opportunity, to respond to the desire of many customers to generate some or all of their energy needs.

1.5. The retail energy market has evolved significantly since competition was first introduced. This means that energy suppliers should now be well-placed to improve the range of services that they offer to consumers, confident that regulation will not impede the products they want to offer. Given clear customer demand, this should

[1] The Government's Microgeneration Strategy covers all small scale production of heat (below 45 kWth), electricity (below 50kWe) or CHP from a low carbon source. While we recognise the potential value of all microgeneration technologies, Ofgem's remit, and the subject of this document, generally extends only to those systems that generate electricity, and are connected to public electricity grids.

[2] Energy Saving Trust, 2005. Potential for Microgeneration. Study and analysis.

include supply contracts specifically aimed at customers who have installed microgeneration.

Improved and simplified regulatory arrangements for microgeneration

Many aspects of the regulatory framework for the electricity industry include de minimis exemptions, which mean that microgeneration - especially at household level - is (appropriately) subject to far less regulation. Examples of this include:

- ➔ All microgeneration equipment is exempt from the obligation to hold a generation licence. This removes the obligation to be a full participant in a number of industry codes, and frees microgenerators from any obligations to the national system operator.
- ➔ Microgeneration is generally exempt from charges for the use of the distribution and transmission systems (for more details see Chapter 3).
- ➔ Microgeneration is exempt from the need to have more expensive half-hourly metering in order to sell electricity in to the network.
- ➔ Domestic scale microgeneration (below 16 Amps per phase) does not need to seek prior consent form distribution companies to connect to the network.
- ➔ Under the Renewables Obligation, small generators have a number of benefits including that make it easier to qualify for support under the RO such as the ability to aggregate outputs over longer periods. The changes brought about by the Climate Change and Sustainable Energy Act 2006 will allow further benefits, including aggregation of outputs across a number of sites and the use of agents.
- ➔ The Climate Change and Sustainable Energy Act 2006 will also allow for microgeneration exports to be considered as carbon savings in the administration of the Energy Efficiency Commitment.

The Microgeneration Forum

1.6. To ensure that the interests of microgeneration are understood and fully taken into account in all our work, we have established a Microgeneration Forum. This forum seeks the views of the key stakeholders including industry associations, academics, consumer groups and suppliers on the agenda that we should set for microgeneration. The thinking behind the Forum recognises that microgenerators are affected by Ofgem policies across the board. We think that there is a need to provide a means for looking at the effect of our policies on microgeneration in the aggregate. We hope the Forum, with the help of stakeholders, will fulfil this role.

1.7. The first meeting of the forum was held in June 2006, and we will hold three meetings each year to discuss particular issues as they arise, and to discuss what role Ofgem might play in resolving them. Please contact John Costyn, the Ofgem official mentioned on the cover of this document, if you would like to attend.

Joint DTI/OFGEM Review of Distributed Energy

1.8. As part of the energy review, Ofgem and the government have agreed to hold a comprehensive review of the incentives and barriers that impact on distributed electricity generation including CHP[3]. This review will report in the first half of 2007. Its scope will include, but not be limited to:

- the economic and other incentives on suppliers to buy electricity from distributed generators
- the economic costs and benefits, and other incentives on distribution companies to connect new generators and to invest in upgrading distribution networks in order to accommodate increasing amounts of distributed generation
- the incentives on distribution companies to engage in innovation aimed at minimising the costs and capturing the benefits of distributed generation, and
- options for resolving potential barriers to the sale of electricity from small generators, for example:
    - licensing procedures, and
    - technical standards for connection and for network operation.

1.9. While the review covers all distributed energy, we will ensure that the interests of microgeneration are fully considered as part of this project.

Other initiatives

1.10. In addition, we have a range of other initiatives which address the various aspects of our relationship with microgenerators.

A Powering the Energy Debate seminar

- Sir John Mogg will chair a major seminar on Microgen in December which will have speakers from industry and will include an international perspective on how we can further facilitate microgeneration in the market.

The Electricity Networks Strategy Group work on export rewards

- Ofgem is supporting and participating in this work, which we believe will provide the first steps in putting in place durable market based arrangements to ensure that exports from microgeneration receive fair returns in the market.

Smart metering

- We will ensure that the interests of microgeneration are fully taken into account in our work on advanced metering, particularly to ensure that the industry-led work on interoperability standards recognises the needs of microgenerators.

[3] Announced in the Energy Review Report, July 2006.

Supply licence review

- We will ensure that the new supply licences deliver flexible arrangements to allow suppliers to make innovative offerings to their customers, including those based on microgeneration.

Environmental Programmes

- We will work to implement the government legislation and streamline administrative procedures to facilitate access my microgeneration to the Energy Efficiency Commitment and the Renewables Obligation.

➔ Ofgem 2005 Consultation

This document goes well beyond the issues raised in our 2005 consultation document on the regulatory issues for domestic scale microgeneration; how we have dealt with the specific issues raised in that consultation is set out in Appendix 1.

2. Helping consumers become generators

- ➔ For householders and small businesses to participate in the electricity market as producers as well as consumers, they need good quality information and simple one-stop-shop arrangements.
- ➔ This presents a challenge to suppliers and others to meet those needs.
- ➔ We are considering these needs as part of our review of the gas and electricity supply licences and have proposed a number of changes to allow for more flexible arrangements, including the removal of the 28-day rule.

2.1. As consumers become more sophisticated in what they expect from their energy suppliers, and as falling technology costs help to make small-scale microgeneration more cost effective, the ability of suppliers and consumers to enter into more varied contractual arrangements becomes more important. Where consumers want to install microgeneration, perhaps as part of a bundled energy supply arrangement, this involves householders and businesses becoming producers as well as consumers of energy - a new role for them.

2.2. This new role potentially involves more complexity for the consumer, and a greater need for information to manage that complexity. The market's design already deals with some of these issues for consumers, but there is more that needs to be done, both by industry and by the government.

2.3. Ensuring that the electricity system operates securely and safely requires a detailed set of arrangements among generators, network owners (both transmission and distribution), system operators who balance the market and minimise outages, and various other market participants including meter operators. However, for domestic consumers, these arrangements are managed on their behalf by suppliers (the “supplier hub” principle).

2.4. For the great majority of customer service matters, the domestic customer’s relationship is with their supplier, and the interaction with network operators and other market participants such as meter operators is indirect. For example, it is the supplier’s responsibility to ensure the provision of meters and metering services for domestic consumers.

2.5. Microgenerators are free from the requirement for small generators to have a licence from Ofgem and they do not need to contract directly with the local distribution company to connect to the network. Nevertheless, many potential consumers report that simple one-stop solutions for people who want to get into microgeneration are few and often difficult to find.

2.6. We believe that energy suppliers (or other market players, such as consolidators) are best-placed to meet this need, supported in different ways by Ofgem and the government. We see Ofgem's role in the first place to make clear that we encourage and indeed expect suppliers to build on their insights into customer needs and provide what they want. Our supply licence review takes away barriers to them doing this. To the extent consumers are lacking reliable information about the

market, we believe that work planned in the government's Microgeneration Strategy will help fill this gap.

The supply licence review

2.7. Ofgem is currently undertaking a major review of the standard conditions in gas and electricity supply licences. The maturing of the gas and electricity markets since they were opened to competition means that many of the licence conditions put in place in the 1990s when competition was introduced are no longer proportionate, necessary or appropriate. Of those that need to be retained, there is scope for making them many of them much simpler and easier to interpret.

2.8. In June 2006, we set out[4] our initial proposals for shorter, simpler licences following public consultation and detailed discussions with industry and consumer representatives. Our intention is that licence conditions are retained only where we are not confident that the market will provide the best solution for customers and where consumer protection is not adequately provided through general consumer protection legislation or competition law.

2.9. Competition has dramatically changed the way customers think about how they buy gas and electricity and who they buy it from. The ability of customers to change suppliers means that suppliers have had to react to the demands of customers by offering better services. Customers can now buy both their gas and electricity from a single supplier, manage their accounts and provide meter readings over the internet and agree a range of contract terms with suppliers.

2.10. While suppliers have so far only to a limited extent extended these innovations into more sophisticated offerings that include customers producing some of their own energy, there is no reason why the market should not develop further in this direction - particularly as at least some forms of microgeneration become more cost effective for customers. As householders show more interest in reducing their carbon emissions, Ofgem is committed to ensuring that regulation does not stand in the way of suppliers coming forward with arrangements based on providing energy services that meet their customers' heating and lighting needs at least cost.

2.11. One source of restrictions on a supplier's ability to shape their offerings to meet customer needs are their requirements to observe licence requirements governing a range of standard issues that most contracts have to cover in one way or another. Many of these serve a legitimate customer protection purpose but many of them equally risk discouraging the creation of more innovative offerings. Where we believe licence requirements undermine the incentives of suppliers to be innovative, and therefore the ability of consumers to rely on the powerful protection that markets can afford, we are looking closely at those conditions to see if they are necessary and proportionate.

[4] Supply Licence Review - Initial Policy Proposals July 2006 (Ref 113/06)

2.12. A good example is the condition that requires electricity and gas suppliers to only enter into a domestic supply contract if the contract can be terminated on 28 days' notice by the customer[5]. This is known as the 28-day rule. We have proposed that the 28-day rule will be removed from licences as part of the supply licence review. Many stakeholders have argued that the rule is an impediment to suppliers offering new and innovative contracts as they risk not recouping their investment costs if the customer is always able to move to another supplier at such short notice.

2.13. We agree and are therefore proposing to remove these restrictions on the customer's termination notice from the licence. Particularly where general consumer law offers backstop protection for consumers, restrictions such as the 28-day rule have the effect of restricting suppliers' and customers' commercial freedoms to enter into new forms of contract and are therefore counter-productive.

2.14. Other restrictions and obligations on contracts that we are proposing to remove include regulation of the value of termination fees, requirements to publish supply terms and the requirement to perform a two-yearly inspection of meters, all of which potentially contribute to holding back new retail energy offerings, including those featuring microgeneration.

Information for consumers

2.15. Many stakeholders, including respondents to our 2005 consultation, cite examples of what they consider to be inadequate information for people who want to buy and install microgeneration equipment. This information includes:

- the need to ensure that developers and installers are aware of their legal obligations such as building regulations and health and safety requirements;
- technical information for developers and installers; and
- general information on the offers available and the arrangements with suppliers.

2.16. Impartial information for consumers is obviously a helpful addition to information supplied with generating equipment, if it is not already supplied. But manufacturers and sellers of equipment remain responsible for the provision of clear and appropriate guidance and suppliers remain responsible for promoting and providing ongoing support to their offerings. This is particularly the case given that the scale of the equipment means that some householders may attempt to install it themselves.

2.17. We consider that work identified in the government's Microgeneration Strategy to overcome information barriers will be the most effective way to address this issue. Identified actions for the DTI to reduce these barriers include:

[5] Standard Licence Condition 46 in the Electricity Supply Licence.

- to work with the winner of a tender exercise to develop an accreditation scheme for all microgeneration technologies covering the product, the installation and a Code of Conduct with the aim of having it in place by 2006 (this has been partly implemented though REAL Code of Conduct described below);
- a thorough review of existing activity in this area to assess effectiveness and identify gaps;
- an assessment of the feasibility of a communications and information campaign that raises the profile of microgeneration technologies, signposts consumers to reliable sources of information and highlights the accreditation scheme outlined above; and
- development of a specific communications package, including information packs, to help develop a knowledge base within the construction industry[6].

2.18. Considerable progress has been made through a self-regulatory approach to address these issues. Specifically, the Renewable Energy Association has recently set up a scheme to help companies provide high-quality products and services to consumers called the REAL Assurance Scheme[7]. We welcome this approach.

[6] DTI Microgeneration Strategy March 2006.
7 For more information on the code see www.realassurance.org.uk

3. Distribution network issues

- ➔ We have taken several steps over recent years to remove barriers to the connection and use of distribution systems by microgenerators and other small and medium size generators.
- ➔ The new Distribution Connection and Use of System Agreement (DCUSA) will support the plug-and-play solution for domestic scale microgenerators to connect to the network without advance notice or any requirement to seek permission.
- ➔ Ofgem's 2004 distribution price control strengthened incentives on distribution companies to do what they can to encourage more microgeneration, but we continue to work with the companies to ensure that network charges have due regard for the benefits of distributed generation.

Connection

3.1. Ofgem and the Government have done much over the last five years to improve arrangements for generators that are connected to the distribution networks, including microgeneration as well as other small and medium-sized generators.

3.2. The electricity safety regulations[8] permit the installation of domestic-scale microgeneration without prior distribution company approval. This is supported by a detailed technical connection standard[9] for installers. Legal clarity in support of this will be delivered through designation of the Distribution Connection and Use of System Agreement (DCUSA) in October 2006. Installers are required to notify the DNO when the unit is installed. This approach minimises the interaction with distribution network operators, minimising the process burden on those installing microgeneration and provides a plug-and-play solution for consumers. It avoids the need for connection quotations and inspections, and avoids the possibility of connection charges and delays caused by an approval process.

3.3. For larger microgeneration units or for multiple units at a given location, changes to the local network may be required to accommodate them. The normal processes for connection therefore apply and there may be a connection charge if the distribution company incurs costs. By their nature, such installations will generally be planned significantly in advance of installation and may well occur at the same time as demand connections (on a new housing development for example) so a requirement for some interaction with the host distribution company is less likely to be a barrier. In any event, safety and technical requirements mean that distribution companies need to know in advance about larger connections. As with larger scale installations, distribution companies are required to provide quotations in specified timescales and the installation of new distribution assets is generally subject to competition (Ofgem is currently reviewing competition in connections).

3.4. The new DCUSA will also provide a more flexible vehicle for accommodating the information flows between distribution companies and suppliers. Changes to

[8] Regulation 22 of The Electricity Safety, Quality and Continuity Regulations 2002
[9] Engineering Recommendation G83/1

administrative provisions of the DCUSA can be implemented by the industry without necessarily requiring Ofgem intervention, and are intended to be less cumbersome than formal licence modifications.

Distribution network operator charging

3.5. We are actively working with the electricity distribution companies to improve the basis on which they set network charges paid by suppliers and customers. A particular focus of this work is to ensure the charging structure properly takes account of the benefits of distributed generation, including microgeneration. This work has, to date, focused mainly on larger generators connected to distribution networks (e.g. medium-size CHP plants and large renewable installations) and will be implemented in the next year or so. We will then look to apply the same principles to all new generators, including microgenerators.

3.6. Ofgem wants to ensure that transparent, coordinated arrangements are in place to ensure that all generators, including microgenerators, can connect as easily as possible and that any benefits to network operators are maximised and shared with the generator concerned. Commercial and charging arrangements, along with regulatory incentives, need to take account of developments in the market, in circumstances where microgeneration connections could increase exponentially. We need to consider these issues and determine appropriate incentive arrangements, well ahead of discussing the next distribution price control to cover the period 2010-2015.

3.7. Ofgem announced in 2004 several new initiatives affecting distributed generation as part of the price control arrangements that apply from 2005 to 2010. These include:

- incentives on Distribution companies to connect new distributed generation
- incentives to increase investment in innovation
- stronger incentives to reduce losses

3.8. All these incentives should have encouraged the distribution companies to start thinking more about the benefits to them, as well as to the consumer, of more widespread microgeneration.

3.9. Where distributed generation helps reduce network costs, the normal operation of the price control incentives means that the distribution company should have an incentive to see more microgeneration connected to its system. However, where that generation does not export but instead offsets imports, this will reduce units distributed by the distribution company. This will have a negative impact on distributors' revenues as the amount of revenue they can raise from their customers depends to some extent on the amount of electricity they distribute.

3.10. The question of whether, in aggregate, the combined impact of these incentives (on costs and revenues respectively) is appropriate is something we believe we should further consider. It will be addressed in the next distribution price

control to apply from 2010, in the context of consideration of removing or reducing further the extent to which the amount of units distributed affects distribution companies' income.

3.11. Use of system charges were introduced for new generators in 2005. However, for domestic microgeneration, most distribution companies do not have charges (or credits) for exporting units. Two network groups do have charges, at relatively low levels, for microgenerators registered for export in settlements. As part of our ongoing review of system charges, we will challenge those distribution companies who retain them to justify them more fully or to remove use of system charges on microgeneration exports.

3.12. Microgenerators displacing imports naturally generally avoid use of system charges through their avoidance of per unit distribution charges on additional consumption.

3.13. In practice, the impact on distribution costs of more widespread microgeneration is likely to vary depending on the circumstances. In some cases, concentrated new investment in microgeneration may actually generate a need for earlier network reinforcement. Applying this logic might suggest that distributors either charge or pay generators to use the system based on specific individual local factors. However, while this option may need to be explored, it seems likely that the transaction costs and information required to organise such a system may be disproportionate to the benefits it will offer consumers. There may therefore be benefits in looking at administratively simpler schemes more suited to the needs of potential householders minded to become microgenerators.

4. Metering

- ➔ More innovative metering installed as part of microgeneration installations could help microgeneration capitalise on its potential and assist its market penetration.
- ➔ Ofgem is committed to removing any barriers to smarter metering so that suppliers can provide what customers want, including microgeneration offerings
- ➔ We will ensure that Ofgem work with the industry and stakeholders on interoperability standards for smart meters takes account of the needs of microgeneration.

Metering innovation

4.1. Many regulatory issues of concern to microgenerators touch on the operation and administration of meters. In the same way that smart metering could more generally be part of more innovative retail supply arrangements, it could also help suppliers structure and manage microgeneration offers to customers. In particular, it could:

- lower the total cost of metering to suppliers and their customers by reducing the costs of collecting and processing the meter data
- offer load management control relays, low tariff control relays, and time-stamped data capture, enabling more accurate valuation of microgeneration exports, and
- increase awareness of energy use; there is some evidence that delivery of real time consumption and production information together with microgeneration may deliver greater energy efficiency than either on its own.

4.2. In February 2006 we published a consultation document on the case for putting smart meters in people's homes and how best to promote better metering. We published our conclusions and thoughts on the next steps we should take in June.[10] In that document we reaffirmed our commitment to competition in electricity and gas metering services. We set out our role as providing leadership and direction to help make smart metering a real option for domestic customers including those with microgeneration equipment.

4.3. Against this background, we are committed to removing barriers to smart metering as part of a package of measures which acknowledges that while the onus is on suppliers to deliver smart meters, the regulatory framework needs to encourage new products, innovation and investment. This applies as much to microgeneration for householders as to other retail arrangements.

4.4. We highlighted three projects in June where Ofgem is working to promote innovation and in each of these there is a potential application to microgenerators. The three areas were:

[10] Domestic Metering Innovation: next steps (107/06)

- Ofgem work with the industry and stakeholders to deliver interoperability of smart meters
- Ofgem's supply licence review (covered in Chapter 2)
- The energy demand reduction pilot that we are managing for government that will test a range of approaches to encouraging customers to reduce their consumption, based on providing them with better information about their consumption.

4.5. Work on interoperability has been started by the Energy Retail Association (ERA). Their supplier members are working to define smart metering functionality and communications standards that they will all agree to support. It may be that those standards can be developed to agree common technical platforms for dealing with the needs of microgenerators, for example in the treatment of import and export meter data. Ofgem's interoperability working group, which is now planned to meet for the first time in October, will provide an opportunity for stakeholders to address these sorts of concerns.

4.6. While the energy demand reduction pilot is focused broadly on investigating various means of encouraging consumer response to improved information, some of the proposed bids may include microgeneration as part of their proposal. Ofgem is currently planning to make recommendations to government on the bids that should be taken forward at the end of October 2006.

4.7. Many of the issues frequently identified as metering problems actually reflect the broader issues of payment for exports from microgeneration. We consider that resolution of this issue is a high priority, especially in the light of the Microgeneration Strategy and the Climate Change and Sustainable Energy Act. This issue is considered in more detail in Chapter 5.

5. Payment for microgeneration exports

- ➔ Simple arrangements and fair prices for the sale of exports from microgeneration are key prerequisites for the greater penetration of microgeneration in the market.
- ➔ This has been drawn into sharp focus by the incentive for action placed on suppliers by the Climate Change and Sustainable Energy Act 2006.
- ➔ Ofgem is supporting and participating in a project under the auspices of the Electricity Networks Strategy Group to address this issue.
- ➔ This presents a challenge and an opportunity for suppliers to develop innovative arrangements to meet customer needs.

5.1. One of the most attractive aspects to consumers of microgeneration technologies is that, as well as replacing imports of electricity with their own generation, they can also receive payment for exporting electricity at times that they are generating more than they use. Although this is technically possible now, in practice there are few examples where this is recognised in the settlement system. This stands out as an issue arising from our 2005 consultation that remains to be resolved.

Facilitating electricity exports

5.2. A modification (referred to as P81) was made to the Balancing and Settlement Code in 2002 to allow for the participation of domestic-scale microgeneration in the market without the need for relatively expensive half-hourly metering. It was decided that the existing profiling system, while not ideal, could adequately deal with the quantities exported without causing excessive disruption to the system and that reducing the cost of the required metering might encourage more microgeneration to develop.

5.3. There is however only limited use being made of this provision and electricity units exported from domestic-scale microgeneration are not generally being registered in settlements. The reason behind this lack of participation appears to be that, even with the use of profiles, the costs of managing the settlement process are often greater than the returns that suppliers can earn from purchasing the exported units of electricity.

5.4. These charges and the payments received however do not necessarily reflect the actual economic value of the energy in question. For example, there may be economies of scale in dealing with import and export meters at a single site that are not reflected in metering charges. In addition, there may be environmental benefits, such as lower emissions or reduced losses, that are not fully incorporated in the value that suppliers receive and can pass on to customers.

5.5. There is scope for debate about the right value that microgenerators should earn in different circumstances. But what is more clear is that as a matter of practice operators (potential or otherwise) of domestic-scale microgeneration often encounter difficulty in obtaining any kind of price offer from any buyer.

Proposed solutions

The Climate Change and Sustainable Energy Act 2006

5.6. The government's Microgeneration Strategy identifies suppliers as best-placed to propose and bring about the necessary changes to make the pricing of energy exports a reality. The main vehicle to address this is through the Climate Change and Sustainable Energy Act 2006.

5.7. The Act includes a provision (section 7) designed to encourage suppliers to develop a scheme that will give microgenerators the confidence that their exported electricity will be acquired. If suppliers do not develop a suitable scheme within a year, the government has the power to make modifications to supply and distribution licences to impose a scheme on the industry. We believe that it would be unfortunate if the industry did not rise to this challenge and the government felt it had to use this power.

5.8. Many submissions to our 2005 consultation advocated a guaranteed prices regime, where suppliers or other parties would be required to buy exports from microgeneration plants at a fixed charge e.g. at the same rate as electricity supplied to the same premises. Ofgem does not consider that this kind of prescriptive solution is the best way forward. Suppliers should rather be given every encouragement to come forward with commercial solutions more solidly based on reflecting the real value of exports, rather than requiring them potentially to cross-subsidise export prices from their other operations. If suppliers do not take up the challenge, clearly, as government has made clear, there are other ways to move forward.

ENSG export reward project

5.9. The Electricity Networks Strategy Group (ENSG)[11] is attempting to develop a system for export rewards as part a comprehensive package of work being undertaken as part of the microgeneration work programme of the Group, which is co-chaired by Ofgem.

5.10. The aim of the export reward project is to develop and implement a cost effective mechanism that allows electricity suppliers to provide a fair reward for microgeneration customers who export electricity to the network. It is specifically targeted at avoiding the need for licence amendments as foreshadowed in the Climate Change and Sustainable Energy Act.

5.11. This project differs from much of the ENSG's work in that it goes well beyond technical and network issues, and deals with the energy market in the broadest sense. The project is addressing this issue and has broad participation from the major suppliers, and their representative body the Energy Retailers Association, as

[11] http://www.ensg.gov.uk/

well as small suppliers and the key market players such as Elexon. The work also has the full participation and support of the DTI and Ofgem.

5.12. The project intends to identify and evaluate options over the coming months, and to develop a preferred option. This work will be followed by an implementation phase, which will involve the technical specification and implementation of any necessary modifications to industry codes and agreements.

5.13. Finding a solution to facilitate greater participation of microgeneration exports in the market is essential if its potential is to be realised. As the costs of microgeneration technologies decline and carbon concerns become ever more compelling, suppliers should have incentives to use the market to seek out the most cost effective carbon reduction options for their customers. We see the ENSG export reward project as central to this work.

6. Environmental Programmes

- ➔ We are working with Defra and the DTI to implement recent legislative changes to the government's environmental programmes, the Renewables Obligation and the Energy Efficiency Commitment.
- ➔ We continue to work to ensure that our administrative procedures for managing these programmes are as easy to use as possible for microgenerators.

The Energy Efficiency Commitment

6.1. The Energy Efficiency Commitment (EEC) requires energy suppliers to achieve targets for delivering energy savings in households. The current phase runs from April 2005 to March 2008. The overall target is set by Defra and Ofgem is required to administer the programme. Suppliers can assist any domestic consumer in Great Britain and can choose which energy saving measures they provide in order to meet their targets. The EEC contributes to the Government's Climate Change Programme by cutting greenhouse gas emissions. At least 50% of the energy savings achieved under the EEC must be targeted at certain low-income domestic consumers (known as the Priority Group); hence, the EEC also contributes to the Government's Fuel Poverty Strategy.

6.2. The scope of the current EEC programme already allows the suppliers to choose to support micro CHP units and other heat-producing microgeneration technologies, such as ground source heat pumps and solar thermal water heating.

6.3. The next phase of the EEC will run from April 2008 until March 2011. The government's Climate Change Programme Review stated in March 2006 that government is considering increasing the flexibility of the scheme for suppliers. The Climate Change and Sustainable Energy Act 2006, supports this by proposing that the EEC for 2008–2011 becomes a carbon reduction target, with a broader range of qualifying technologies. This would allow the suppliers to consider supporting a wider range of microgeneration technologies as part of their compliance - notably renewable electricity microgeneration technologies. This could include solar photovoltaics and micro wind turbines.

The Renewables Obligation

6.4. The Renewables Obligation (RO) was introduced by the government in 2002, and places an obligation on licensed electricity suppliers to source a proportion of their supplies from renewable sources. Ofgem administers the RO on behalf of government. Our duties include issuing certificates, known as Renewables Obligation Certificates (ROCs), to generators for each MWh of eligible renewable source electricity they produce. These certificates are then traded onwards to suppliers, who

use them as evidence that they have complied with their obligation. Suppliers can also pay into a buy-out fund[12] to meet all or part of their obligation.

6.5. The RO applies to all sizes of eligible generators. There are very large generators (upwards of 1GW) in the scheme as well as householders that have small wind turbines or PV cells on their roofs. However, one difference that makes the RO attractive for small generators (defined as 50kW and under in the legislation) is that they can claim ROCs on a monthly or annual basis. This is beneficial to those smaller generators that would otherwise, in the light of their small volumes, only be able to make claims covering a period of a year.

6.6. In order to make the RO more accessible to small generators, the DTI consulted on a number of changes last year as part of its RO Review[13]. The DTI published its conclusions on the review in January 2006 and proposed to introduce new provisions to allow agents to act on behalf of groups of small generators and for ROCs to be issued on output amalgamated from two or more generators. The passing of the Climate Change and Sustainable Energy Act sets up the legislative framework for this and we understand that the DTI intends to consult soon on implementation. We will work with the DTI to ensure that the any amendments to the RO Order put in place are effectively administered and that the participation of microgenerators in the scheme is streamlined.

6.7. In our role as administrators of the scheme, we have published guidance documents explaining our procedures and the underlying legislative requirements. Experience has highlighted that some small generators need additional assistance to understand the scheme and as such, in April this year, we published guidance tailored to the smaller operators in the market. We also revised our bespoke application forms at the same time. In addition, we have put in place dedicated support to deal with queries from small generators. This single point of contact deals with issues ranging from the accreditation process to ROC issue.

[12] The buy-out price is set in advance and at a rate of £/MWh. For 2006/07, the buy-out price is £33.24.
[13] See DTI website for further information

Appendices

Index

Appendix 1 - Ofgem response to the 2005 consultation on domestic scale microgeneration

Many of the issues raised in our 2005 consultation document have been resolved or are under further consideration through a range of other processes, specifically:

- ➔ The government's Microgeneration Strategy
- ➔ The work of the ENSG microgeneration work programme (WP04)
- ➔ Ofgem's current Supply Licence Review

As a result we are not proposing any specific new regulatory initiatives beyond the current projects outlined in this document.

1.1. In our 2005 consultation, we raised a number of issues in regard to the regulation of domestic scale microgeneration. The comments on these issues have been noted and have influenced our work in this area as explained in the main chapters of this document. We believe that these actions and proposals fully address all of the issues raised on the in consultation and the submissions. This appendix related these actions to the specific questions raised.

Information for consumers

1.2. The consultation sought views on:

- the information currently provided to customers about the legal and technical responsibilities of microgeneration operators; and
- any industry proposals for expanding the information and guidance currently provided.

Good information for consumers is essential so that they know where to go for services and they are aware of their obligations. We welcome the information strategy that is a key part of the DTI's Microgeneration Strategy; and also the major industry led initiatives such as the Renewable Energy Association's REAL Assurance Scheme[14].

Supply licence conditions

1.3. We sought comments on the following matters in the electricity supply licence:

- Modification of Condition 16 (on theft protection measures) or Condition 17 (on regular inspection of meters) to ensure identification of reverse-running meters, which Ofgem considers are not appropriate for use in the case of microgeneration.

[14] For more information on the code see www.realassurance.org.uk

- A modification to the licence condition 36 (on codes of practice for pre-payment meters) could be made such that it would refer specifically to domestic-scale microgeneration. However, minor modifications to the codes of practice on use of prepayment meters could suffice to give consumers the relevant information. We invited the views of suppliers, consumer representatives and manufacturers of metering and microgeneration equipment on what the content of such modifications should be.
- The desirability of a modification to condition 41 (on terms of supply incompatible with licence conditions) to cover a contract dealing with, *inter alia*, supply of electricity to domestic premises incompatible with the licensee's supply obligations under the Electricity Supply Licence.

Gas and electricity supply licenses are currently under major review; we have recently published initial proposals on the bulk of the standard licence conditions[15]. Issues regarding theft, including Condition 16 are being considered separately. Issues in the supply licence concerning microgeneration are covered on Chapter 2 of this document.

Distribution issues

1.4. Questions raised in the consultation of relevance to the regulation of DNOs were:

- whether current practice of distribution companies is to create an export MPAN on receipt of notification of commissioning of a microgenerator, or when a licensed supplier seeks to register as responsible for exports from the premises under the BSC in the MPAS.
- whether there should be a new licence obligation on distribution companies to notify owners or occupiers of premises of any export MPAN created in respect of those premises and whether this should be further extended to notification of the registered supplier.
- the extent to which distribution companies would be able, both administratively and legally, to advise the registered supplier of the commissioning of microgeneration in any premises.

These issues are essentially matters for the market to resolve. We will continue to follow progress in this area, but do not propose any regulatory changes at present.

Metering issues

1.5. We sought responses on:

- whether there was any wish to use a DC meter for the registration of ROCs, particularly on the additional costs likely to be incurred if an approved DC meter is not available;

[15] Supply Licence Review - Initial Policy Proposals July 2006 (Ref 113/06)

- evidence that suppliers and domestic-scale microgenerators occasionally encounter difficulty in securing the installation of export metering and the costs of doing so; and
- whether the data-capture units and check data available to meter readers are such as to enable them to identify accurately and record readings from import/export meters and whether mechanisms exist to transfer this data into the billing process reliably.

Issues regarding metering are considered in Chapter 4. However many of the issues raised by respondents refer not only to metering but also the major question of the nature and level of reward for exports from microgeneration. These are considered in Chapter 5.

List of Respondees

Baxi Group Ltd
British Gas
British Wind Energy Association
Carbon Trust
CE Electric UK
Central Networks
Centre for Management Under Regulation, Warwick Business School
Chartered Institute of Environmental Health
Cogen Microsystems
Dept. of Civil and Environmental Engineering, University of Southampton*
Disenco Ltd
EdF Energy plc
Energy Saving Trust
Environmental Change Institute, University of Oxford
E.ON. UK plc
Fuel Cells UK Industry Association
Good Energy Ltd
Horstmann Controls Ltd
Institute for Energy and Environment, University of Strathclyde
Institution of Electrical Engineers
Mr R Langley BEng
Life-IC Ltd
Microgen Energy Ltd
Micropower Council
New and Renewable Energy Centre
Mr I Nicholson
Renewable Power Association
Responsive Load Ltd
RWE Npower
Mr J Sims
Scottish and Southern Energy plc
Scottish Power Energy Retail Ltd
Scottish Power T & D
Scottish Renewables Forum
Society of British Gas Industries
Sussex Energy Group, SPRU, University of Sussex*
Tanaka Business School, Imperial College*
Professor J Twidell
UK Metering Forum
United Utilities
Mr G Wallis
Western Power Distribution

* Joint response, drawing on a current research project funded by the Economic and Social Research Council, *Unlocking the Power House: Integrating micro-generation in energy networks and buildings*. For further details see: www.sustainabletechnologies.ac.uk/Project%20pages/site/brief9.htm .

Appendix 2 – The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This Appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute, principally the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Act 2004, as well as arising from directly effective European Community legislation. References to the Gas Act and the Electricity Act in this Appendix are to Part 1 of each of those Acts.[16]

1.3. Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This Appendix must be read accordingly[17].

1.4. The Authority's principal objective when carrying out certain of its functions under each of the Gas Act and the Electricity Act is to protect the interests of consumers, present and future, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the shipping, transportation or supply of gas conveyed through pipes, and the generation, transmission, distribution or supply of electricity or the provision or use of electricity interconnectors.

1.5. The Authority must when carrying out those functions have regard to:

- The need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- The need to secure that all reasonable demands for electricity are met;
- The need to secure that licence holders are able to finance the activities which are the subject of obligations on them[18]; and
- The interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.[19]

1.6. Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

[16] entitled "Gas Supply" and "Electricity Supply" respectively.
[17] However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.
[18] under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Act in the case of Electricity Act functions.
[19] The Authority may have regard to other descriptions of consumers.

- Promote efficiency and economy on the part of those licensed[20] under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- Protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity;
- Contribute to the achievement of sustainable development; and
- Secure a diverse and viable long-term energy supply.

1.7. In carrying out the functions referred to, the Authority must also have regard, to:

- The effect on the environment of activities connected with the conveyance of gas through pipes or with the generation, transmission, distribution or supply of electricity;
- The principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- Certain statutory guidance on social and environmental matters issued by the Secretary of State.

1.8. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation[21] and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

[20] or persons authorised by exemptions to carry on any activity.
[21] Council Regulation (EC) 1/2003

Appendix 3 - Glossary

BSC

The Balancing and Settlement Code

CHP

Combined Heat and Power

CCSE

The Climate Change and Sustainable Energy Act 2006, which was passed on June 2006 and includes a number of provisions dealing with microgeneration.

DCHP

Domestic combined heat and power. Small units, such as gas-fired Stirling engines or fuel cells that can replace domestic boilers and as well as generate electricity.

Defra

The Department of Environment, Food and Rural Affairs

DNOs

Distribution network owners: Monopoly providers of local, lower voltage electricity networks.

Domestic-scale microgeneration

Electricity generation of less than 16 amps per phase. This generally means a capacity of below 4 kilowatts.

Electricity Networks Strategy Group (ENSG)

The ENSG is chaired jointly by the DTI and Ofgem, and provides advice to DTI, Ofgem, Defra, the Scottish Executive and the Welsh Assembly on issues associated with the development of the electricity distribution and transmission networks. The ENSG has a number of sub groups, the Distribution Working Group, which includes the microgeneration work programmes, and the Transmission Working Group.

EST

The Energy Saving Trust

HSE

The Health and Safety Executive

Microgeneration

The Energy Act 2004, which provides the basis for the government's Microgeneration Strategy uses a defines microgeneration as the generation of electricity or the production of heat of any plant which relies on a low carbon energy source (biomass; biofuels; fuel cells; photovoltaics; water, including waves and tides; wind; solar power; geothermal sources; CHP or other low carbon sources deemed by the Secretary of State) and is below 50 kW, in the case of the generation of electricity, or 45 kWth in the case of heat.

REA

The Renewable Energy Association

Renewables Obligation (RO)

The Government's main support programme for renewable energy generation, under which electricity suppliers must source a proportion of their supply from renewable generation. In this document references to the Renewables Obligation include the Renewables Obligation (Scotland). The Schemes are administered by Ofgem for the DTI and the Scottish Executive.

Appendix 4- Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

- Does the report adequately reflect your views? If not, why not?
- Does the report offer a clear explanation as to why not all the views offered had been taken forward?
- Did the report offer a clear explanation and justification for the decision? If not, how could this information have been better presented?
- Do you have any comments about the overall tone and content of the report?
- Was the report easy to read and understand, could it have been better written?
- Please add any further comments?

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk