

Microgen Energy Limited

Response to: -

**“The regulatory implications of domestic-scale
microgeneration”**

A consultation document, Ofgem.

April 2005 123/05

EXECUTIVE SUMMARY

- A “one-stop shop” for the Consumer and hence simplicity is of paramount importance for the success of the microgeneration industry.
- Specifically, Microgen believes the following steps should be taken by Ofgem to level the playing field for customers installing microgeneration:
 - A license obligation on Suppliers to offer and publish terms for purchasing exported power from households.
 - A requirement for DNOs to notify the Supplier of a microgeneration installation once it has received statutory notification from the customer.
 - Relax the interpretation of Schedule 7 to allow for net metering from 2006 until 2012 whilst the market becomes established, with a clear programme of work to develop changes to the settlement system for introduction in 2012.
 - Establish whether DNOs are properly incentivised to optimise the choice of assets and other solutions to meet future load growth.

INTRODUCTION

Microgen Energy Limited is a wholly owned subsidiary of BG Group. Microgen is developing a range of wall-hung microCHP products, designed to replace existing wall-hung boilers. Microgen's core technology is the Free Piston Stirling Engine (FPSE) which provides 1kW of electrical power when operating to provide either hot water or central heating. The Microgen mCHP product will be available in a variety of thermal outputs, ranging from 15kW to 36kW.

Microgen welcomes Ofgem's consultation, and particularly its recognition that the existing framework was not created with domestic-scale microgeneration in mind. The consultation is particularly timely, given the recommendations provided to Ofgem from a number of project teams within the Microgeneration Workstream of the Distributed Generation Coordinating Group, within which Microgen representatives played an active role.

GENERAL COMMENTS

The microgeneration industry still faces serious regulatory barriers. These are substantially associated with the "non-expert" nature of householders and small businesses in respect of their knowledge of the electricity industry concerning the rules and regulations that apply. The need for simplicity and, ideally, a "one stop shop" is paramount – a householder or small business will be put off by the slightest complexity.

Currently, the arrangements for network connection, metering, notification and export reward are unworkable for all but the most determined consumer.

Ofgem states that an objective of the consultation exercise is to address microgeneration issues, without extending the scope of regulation or increasing the regulatory burden on Suppliers or DNO's.

Microgen does not agree with this statement/objective. Ofgem's primary statutory duty is not to lessen regulatory scope but to protect the interest of consumers, by promoting competition wherever possible. In some cases it is necessary to extend regulation in order to further the protection of consumers, or indeed the promotion of competition. We consider that Ofgem can, and should, protect the interests of consumers by extending the scope of regulation where markets themselves cannot do so. Microgeneration is an example of where this is appropriate.

In specific terms, customers who install microgeneration in the early years of the market's development are competing against considerable institutional barriers in the form of the Settlement rules, metering Codes of Practice, existing network topology and the underlying basis for distribution company reward. Together, these constitute significant market entry barriers. A measured extension of regulation is therefore entirely appropriate to address these issues. It should not therefore be avoided, simply because of a stated intent to reduce regulation.

RESPONSES TO SPECIFIC QUESTIONS RAISED

13.1 Information Supplied

As the Microgen appliance is a gas-fired heating appliance, then its installation will be undertaken by approved Corgi Registered heating engineers only – no DIY installations are envisaged. Installers will therefore be approved and trained to provide all appropriate information and guidance to Consumers and notification to all appropriate bodies on behalf of the Consumer.

13.2 Metering

There are three main problems associated with metering:

- a) Measuring exported energy** - The Balancing and Settlement Code requires that export units be measured if a Supplier wishes to be able to credit the energy within the Settlements system. The most common anticipated solution to this is either the fitting of an additional export meter, or the replacement of the existing meter with one capable of measuring imports and exports independently.
- b) Backward-running meters** - Ofgem's interpretation is that backward running meters are in breach of Schedule 7 of the Electricity Act, because the meter can no longer accurately record the number of units supplied to the customer.
- c) Process for changing meters** – Other than the sale of a microgenerator by an Electricity Supplier to one of its existing customers, it is currently very difficult for meter changes to be arranged for the same time as the microgeneration installation, and even more difficult for the microgeneration installer (even if suitably trained and qualified) to perform the necessary work and avoid additional call-out costs.

Ofgem has not proposed any significant changes to the metering Codes of Practice, Balancing and Settlement Code, or other industry documentation to address any of these issues. Instead, Ofgem appears to wish to rely on Suppliers' obligations under Schedule 7 of the Electricity Act to ensure that any metering system is appropriate.

Moreover, Ofgem argues that if the microgeneration installation is such that the customer and the provider of the microgeneration equipment believes that the value of any expected exports are likely to be sufficiently small so as not to justify the extra expense associated with a meter change, it is acceptable not to change the meter if the existing one has a "backstop".

Ofgem has correctly identified that the only circumstances in which a "one stop shop" can be achieved is one where the customer's existing electricity supplier is involved in some way in the sale and installation process of a microgeneration unit.

Microgen therefore believes that there are two steps that need to be taken to resolve the Metering issues:

- a) An obligation should be introduced on licensed Suppliers to offer and publish terms for exported power. Such an obligation will mean that it is in the Supplier's best interests to ensure that appropriate metering is in place and, more importantly, Suppliers will become fully engaged in making the necessary changes to the Master Registration Agreement and any necessary Codes of Practice to ensure that a "one stop shop" is possible.
- b) Microgen also supports the view of the Micropower Council that the minimum standard for all replacement meters should be import / export, provided sufficient advanced notice is given (eg: with effect from 1 April 2007). This should be introduced as a requirement within Schedule 7. In this way the barrier of not having a "one stop shop" will resolve itself over time.

An associated topic with that of Metering is 'Export Reward'. Please refer to comments under this heading within section 13.11 - Additional Views & Comments.

13.3 Modification to Licence Condition 36

Microgen has no input to offer to this question.

13.4 Modification to Condition 41

Microgen has no input to offer to this question.

13.5 Creation of MPAN's – DNO's

Microgen has no input to offer to this question.

13.6 Obligation on DNO's to notify of creation of Export MPAN

Microgen supports the view that a new licence obligation should be placed upon the DNO to notify the owner and/or occupier of premises of the export MPAN created in respect of those premises.

Microgen similarly supports the view that a statutory obligation should be placed upon the DNO to notify the Supplier of a microgeneration installation, once it has received statutory notification from the Customer of the installation of such equipment.

Ofgem acknowledges the existing obligation upon Suppliers to ensure appropriate metering within premises to which it is the registered Supplier. If a microgeneration appliance is installed within those premises, with the resulting potential for electricity to be exported from the premises, then Ofgem further acknowledges the possibility for the existing import meter to run backwards unless it is fitted with a reverse stop; under these circumstances, the Supplier would be under an obligation to change the meter. This obligation can and will only be acknowledged by the Supplier if he is informed of the microgeneration installation.

This clearly makes it desirable to extend the statutory notification to the DNO of commissioning of microgeneration with notification to the registered Supplier, and we believe placing the obligation upon the DNO is the most appropriate and straight forward solution available to Ofgem.

13.7 DNO's ability to advise the registered Supplier of the commissioning of a microgeneration appliance.

Although Ofgem is primarily seeking views from DNO's to this question, Microgen wishes to reiterate yet again it's view that a statutory requirement should be placed upon DNOs to notify the Supplier of a microgeneration installation, whatever administrative and legal burden this may entail.

13.8 Use of dc meters for the registration of ROC's.

Microgen has no input to offer to this question.

13.9 Difficulties encountered in securing the installation of export metering.

Microgen has recently experienced difficulties in securing either the co-operation or interest from the registered Suppliers to five

premises within which it recently installed and commissioned Microgen appliances.

The five appliances are field trial units installed into the actual premises of Microgen employees, and were installed throughout February and March of this year – all are installed within the Peterborough area.

Prior to the installs taking place, contact was made with the electricity suppliers, to try to brief them on the planned installation and commissioning of microgeneration and how that may effect their meter - the aim being to arrange for them to visit site to assess the suitability of the existing metering. These communications resulted in contact details being taken and promises of research and return calls. In all cases, neither return phone calls or correspondence of any sort has ever been received.

On the day of installation, having already agreed with the relevant DNO that the "fit and inform" process would be deployed in accordance with G83/1 regulation, a notification email was sent after the installation and commissioning with the following attachments:

- SSEG installation certificate
- Domestic electrical installation certificate
- Schedule of interface protection settings
- Copy of circuit diagram
- SSEG test report

This concluded our notification obligation to the DNO.

Post installation, further contact was attempted with the registered Suppliers in question:

- Powergen x 2
- British Gas x 1
- NPower x 1
- Southern Electric x 1

Whilst we understood there was no formal obligation on us to notify them of the commissioning of microgeneration, we were concerned that there could potentially be a number of undesirable consequences for the customers (Microgen employees) if the Suppliers remained unaware of power being exported via their billing meter. It was also clear to us that as the installer we had no direct path to the MOP.

In view of this we elected to undertake further communication with the Suppliers, primarily to protect the customer interest and provide them with a defensible position should any future billing query arise. Shortly after each commissioning we communicated with the Supplier in the following ways;

Customer letter to Supplier; this was a letter drafted on behalf of the pilottee (which they signed) to notify the Supplier that microgeneration had been commissioned.

Installer letter to Supplier; this was a letter from Microgen Energy Ltd to the Supplier confirming the installation and commissioning of microgeneration at their customer's premises.

To date neither the pilottee's nor Microgen Energy Ltd have received any verbal or written responses to any of the correspondence sent to any of the Suppliers.

13.10 Accuracy of check data available to meter readers.

Microgen has no input to offer to this question.

13.11 Additional views and comments.

Propensity to Export Power

We do not agree with Ofgem's assertion that electricity will usually be consumed on site. Ofgem indeed acknowledges that some microgeneration equipment is designed only to produce small amounts of excess power - in Microgen's case this is true, but only because design decisions have been taken to actually limit the amount of power generated because of the difficulty in obtaining reasonable reward for that exported power.

Export Reward

It is not currently cost effective for Suppliers to process and trade small quantities of exported energy. Consequently, those that do will tend to offer a very low value of reward for metered exports.

This is a serious impediment to the microgeneration industry, particularly those developing or considering the development of larger microgeneration equipment, where a more significant proportion of the exported power is exported.

The electricity supply industry has been arguing for some time that this is due to the design of the settlement rules. In turn these rules

are difficult to change to make more suitable for large volumes of customers wishing to trade small quantities of energy. This is because the expertise and commercial interest of the large energy Suppliers are essential factors in getting the trading rules changed.

The settlement rules therefore constitute a significant barrier to microgeneration customers being fairly rewarded for exported power. Moreover, the market power of the large energy Suppliers provides them with little incentive to offer terms to purchase relatively small volumes of exported power from domestic customers. The only solution is for Suppliers to be obliged by their licenses to offer terms for the purchase of electricity from domestic customers, which is similar in nature to an existing obligation on them to offer terms for supply. **Microgen supports this view.**

Ofgem's consultation does not really deal with the issue of export reward, the details of the settlement system that currently make it difficult for Suppliers to receive any noticeable value for exports, or indeed the issues of market power referred to above. Moreover, Ofgem appears to specifically rule out the proposal to place an obligation on Energy Suppliers to offer terms to domestic customers who wish to export electricity from microgeneration.

Ofgem's view that an export terms obligation is not appropriate appears to be driven from an underlying principle that the regulatory burden should not be extended under any circumstances.

We believe this should be set in the context of Ofgem's statutory duty to protect the interests of consumers, wherever appropriate by promoting competition. In the case of microgeneration, we believe that a modest extension of regulation in this form is entirely appropriate, because neither consumer interests are properly protected, nor is competition effectively promoted under the current circumstances.

The changes to the settlement rules that are needed for the true economic value of microgeneration to be reflected are urgently required, particularly in the early years of market development, when the prices of microgeneration technologies are likely to be higher.

As an additional benefit, once Suppliers have properly engaged, we believe that many of the metering issues discussed above will also be resolved.

We also believe that, even once an obligation of this nature is introduced, it will take considerable time before the necessary

changes are brought forward that allow microgeneration customers to receive an appropriate level of reward for their exported power. Ofgem has consistently argued that so-called "net" metering, where meters run backwards when power is being exported, is not appropriate within the structure of the UK electricity supply industry. This view appears to be driven from a concern that net metering may lead to a risk that microgeneration customers are over-rewarded for their exported power.

We understand this concern, but Ofgem's consultation, together with a considerable amount of work done in the Microgeneration Workstream, suggests that the extent to which microgeneration will continue to be under-rewarded is considerably less than the likely marginal over-reward that net metering may lead to. Moreover, its introduction would mean that microgeneration customers would receive some recompense for exported power during the intervening period whilst changes to settlement rules and other industry documentation takes place. It would also be a valuable boost to the industry in the context of the government's desire to see microgeneration make a significant contribution to its overall energy policy goals.

Microgen therefore supports the proposals put forward by the Micropower Council outlined below:

- a) Ofgem should amend the Supply license to oblige Suppliers to offer to customers a contract for the purchase of microgeneration output.
- b) Ofgem should give a pre-defined date at which the de-minimis standard for all replacement meters is import / export.
- c) Ofgem should relax the interpretation of Schedule 7 to allow for net metering (backwards running meters) from 2006 until 2012 whilst the market becomes established, with a clear programme of work to develop changes to the settlement system for introduction in 2012.

Distribution issues

Ofgem correctly raises the importance of supply-related issues, and we welcome this, particularly given the difficulties experienced by Microgen and the Microgeneration Workstream in engaging electricity Suppliers so far.

However, the distribution issues discussed in the consultation relate primarily to the distribution issues surrounding interface with Suppliers. Although these are important, we believe there is a more important consideration – the basis of DNO reward provides strong incentives towards asset-based solutions to future network development. As a result, when faced with load growth scenarios, DNOs are poorly incentivised to consider a mix of assets and incentives for energy efficiency or microgeneration.

Microgen therefore supports the view that this should be addressed by Ofgem with academic research and a wide-ranging debate in the industry well ahead of the next distribution price control review and use of system charging review.

Network Connection

Despite having the legal ability to connect microgeneration without seeking prior permission from DNO's, and a detailed technical connection standard, many of the contracts currently in place between domestic consumers and their Suppliers still require such permission to be granted.

Through the work of the Microgeneration Workstream, there has been broad agreement that change is required, but the process for effecting such change is genuinely complex – the contract between a customer, their Supplier and their DNO is a commercial arrangement between these three parties. Class changes to such agreements would require all Suppliers to agree such changes with every DNO in whose licensed area the Supplier operates. As such, a large matrix of contracts would require change and would inevitably be subject to a degree of bespoke negotiation.

Progress in this area has been exceptionally slow with Suppliers and DNOs awaiting wider changes to customer agreements and agreement to a class change procedure before making changes specific to microgeneration.

These wider changes are needed to allow the contractual framework in the industry properly to reflect the industry's structure following the Utilities Act 2000, in which Distribution and Supply became separate licensed activities, performed by different legal entities.

The absence of any progress in this area is a considerable frustration for companies in the microgeneration sector, who consider it unacceptable that DNOs and Suppliers continue to place contractual restrictions on customers that prevent them connecting

microgeneration without prior permission - something the law has permitted them to do for over three years.

We are concerned that Ofgem's proposal to resolve this through the Distribution Commercial Forum will simply result in considerable further delay and unnecessary debate. The Microgeneration Workstream identified the necessary (uncontroversial) changes almost three years ago. Given the lack of progress so far, we have little confidence that restarting the debate afresh in a new forum will result in anything other than considerable further delay. We would question the compatibility of more rapid progress in this with both Ofgem's duty to protect the interests of consumers and that of DNOs to facilitate competition in generation.

Microgen supports the solution proposed by the Micropower Council, for Ofgem to set a clear deadline of April 2006 for DNOs and Suppliers to resolve this. If this is not achieved, Ofgem should introduce a license duty on DNOs that their terms for connection must at all times conform to the requirements of the Electricity Safety, Quality and Continuity Regulations 2002.