
# The regulatory implications of domestic scale microgeneration – Consultation document – April 2005

## *A Response by British Gas*


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| Authors | : | Tahir Majid |
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## EXECUTIVE SUMMARY

### Connection Procedures- Statutory Requirements

Distribution Network Operators' (DNOs') connection terms are more restrictive than the statutory requirements.

### Selling exports from microgeneration -Spilling energy

It is possible that aggregators as well as suppliers will serve the microgeneration market.

Any barriers to customer export should be regarded, at worse, as transitional in nature, with the market working to meet the needs of customers, rather than as a cause for placing additional restrictions or obligations on suppliers. There is no place in today's competitive market for obligations on suppliers to purchase exports or to mandate the price/purchase of that export at the same value as supply.

### Licensed suppliers and microgeneration - Licence modifications

There does not appear to be any evidence of market failure that would necessitate the range of increased obligations on suppliers discussed in the consultation document.

It is correct to consider the removal of unnecessary barriers to the adoption of microgeneration. However, this should not extend to distortions in favour of these forms of generation over other generation, including environmentally beneficial larger renewables.

### - Condition 1: Definitions

Though the case has not been made for any new supplier licence obligations, domestic and small non-domestic customers will not require the same level of protection.

### - Condition 16: Procedures for the detection and prevention of theft or abstraction of electricity, damage and meter interference & Condition 17: Reading and inspection of meter

There is little if any advantage to additional obligations on suppliers in relation to reverse running meters, as the supplier is already incentivised to ensure that it is not deprived of its revenues. However, British Gas remains concerned at the potential commercial consequences flowing from the exploitation of the arrangements, either intentionally or otherwise, by consumers running meters in reverse flow mode.

### - Condition 21: Publication of information to customers

The supplier should not be obligated to informing each customer of its export MPAN.

### - Condition 25: Efficient use of electricity

Whilst there is merit in suppliers considering the inclusion of information on microgeneration, the retention, let alone extension, of the existing licence obligation requires further consideration as part of the supplier licence review.

### - Condition 32: Duty to supply domestic customers

The retention, let alone extension, of the existing licence obligation requires further consideration as part of the supplier licence review.

### - Condition 36: Code of practice on the use of prepayment meters

It is unnecessary to amend the licence condition to include prepayment meters. Suppliers could amend their codes of practice, however, even that appears premature.

**- Condition 41: Terms for supply of electricity incompatible with licence condition**
The licence amendment suggested by Ofgem is wholly unnecessary.

**DNOs and microgeneration**
**- Notification of installation/commissioning**
DNOs should be required to pass on this information to the relevant supplier. There is merit in further considering the possible use of the 'meter timeswitch code' component of the MPAN to label the premises as having microgeneration.

**- Metering Point administration**
The DNO should notify the customer of the creation of an export MPAN. There is merit in further considering the extension of this DNO obligation to pass on the same information to the supplier.

**Metering Issues - Meter Change**
Metering competition may provide an adequate safeguard to any potential concerns in this area. Ofgem should resist calls for the relaxation of the requirement for separate import/export meters.

## Preface

British Gas[1] appreciates the opportunity to respond to Ofgem's consultation, "The regulatory implications of domestic scale microgeneration".

**This response is non-confidential and may be published by Ofgem.**

British Gas supplies around 12 million residential customers with gas and has built up a residential electricity business of 6 million customers since the market opened to competition. The company is also active in the non-domestic gas and electricity markets. Additionally, British Gas:

- Has a significant services division that installs and maintains boiler systems;
- Has been working in partnership with BG Microgen on the introduction of a micro-combined-heat-and-power (microCHP) unit based on the Stirling Engine; and
- Recently signed an exclusive agreement with Windsave to make rooftop wind turbines available to UK households.

British Gas has a major interest in the successful introduction of microgeneration as a significant number of its' customers are potential users of microgeneration.

This consultation is timely as it precedes the government's consultation on its' microgeneration strategy. However, the Ofgem consultation covers a broad range of issues some of which are a matter for the government. Therefore, it will be important for Ofgem to liase with appropriate parts of the government to ensure the progress of those matters which are not its' responsibility. This response deals mainly with those issues that are under Ofgem's direct remit.

**This response uses the headings and chapter numbering used in Ofgem's document.**

## 4. Connection Procedures

### Statutory Requirements

4.2

*"Any person who connects a source of energy, having an electrical output not exceeding 16 amperes per phase to a DNO's network must, in addition to other matters, advise the DNO of its intention to use the source of energy "before, or at the time of, commissioning the source".*

This notification may not take place in all situations, especially where do-it-yourself installations, or other installations not involving a supplier, have taken place. British Gas also notes that Distribution Network Operators' (DNOs') connection terms are more restrictive than the statutory requirements.

[1] This response is on behalf of British Gas Trading (the licensee) and contains the views of British Gas' unregulated business.

4.3

*"There is no statutory obligation to inform the registered supplier of electricity that microgeneration has been installed in the premises."*

In the absence of customer or DNO notification to the supplier, suppliers could encounter problems. This is particularly the case where the customer exports energy to the grid at the same time as having net metering installed, i.e. a single dial meter where there is no reverse-stop installed causing the meter to run backwards under export conditions. In this case, the customer will appear to have consumed less electricity than was the case, depriving the supplier of his supply margin entitlement. This situation arises because of the differential between the value of the exported energy versus the relatively higher value of energy supplied. For net metering without a reverse-stop, the generation would, in effect, be inappropriately priced at the same (higher) value of energy supplied.

### Engineering Recommendation G83/1

4.6

*"'Stage 1 Connection' consists of a single installation. G83/1 recommends that the installer provides the DNO with all necessary information on the installation..,*

This voluntary notification may not take place, especially where there have been do-it-yourself installations or other installations not involving a supplier.

4.7

*"'A 'Stage 2 Connection' is a multiple installation, where the proposal is to install several units in a close geographical region. G83/1 recommends that the installer discusses the installation with the local DNO at the earliest opportunity. This will permit the DNO to assess the impact that the proposed connections would have on the network, and to specify conditions for connection."*

This voluntary notification may not take place, especially where there have been installations not involving a supplier.

## 5. Selling exports from microgeneration

### Spilling energy

5.4

*"Even if the owner or occupier would like to sell any excess electricity produced, he may be unable to find anyone willing to purchase units exported from the premises. In these circumstances microgeneration output received onto the LV network would also be regarded as 'spill'. It seems likely that, as the penetration of microgeneration increases and prospects for aggregation of output from very considerable numbers of microgenerators become more practicable, electricity suppliers may become increasingly interested in purchasing these exports. At present, however, Ofgem frequently receives reports of microgenerators who cannot find a purchaser for excess electricity produced by microgeneration."*

There can be a number of barriers to customer export:

- First, if a customer wants to export energy to the grid to secure financial reward, he must install an import/export meter. The cost of this installation

can in some instances be prohibitive because of the relatively small value of the potential export. In this case, the customer is unlikely to wish to proceed to export. However, as microgeneration volumes increase, the cost of the meters and installation is likely to fall. Additionally, the efficiency of future installations is likely to increase over time, increasing the likely level of exports. These factors will make the overall proposition more attractive to customers over time.

- Second, settlement profiles do not accurately estimate the likely demand and generation profiles. This can, in some instances, undervalue the aggregate value of the export and reduced demand. However, as microgeneration numbers increase, both in aggregate and in relation to the different technologies, settlement profiles will better reflect the true value of the export.
- Third, suppliers have not traditionally dealt with import and export tariffs in relation to domestic and smaller commercial customers. Consequently, some current billing systems will not easily deal with the new requirements. Suppliers will need to take account of these new requirements when updating or replacing their billing systems. This will place extra costs on suppliers, but as microgeneration numbers increase, suppliers should be incentivised to develop the necessary billing system flexibility, especially as these customers will be increasingly valuable.

Conversely, in addition to the potential purchase of exports by suppliers, aggregators are active in the market in relation to small renewable generating stations. Centrica has arrangements with such organisations. It is possible that aggregators as well as suppliers will serve the microgeneration market.

The challenges noted above should be regarded, at worse, as transitional in nature, with the market working to meet the needs of customers, rather than as a cause for placing additional restrictions or obligations on suppliers. The addition of new supplier obligations is likely to hinder, rather than stimulate, the required innovation necessary to meet the needs of microgenerators to enable the delivery of commercially sustainable products. There is no place in today's competitive market for obligations on suppliers to purchase exports or to mandate the price/purchase of that export at the same value as supply. If incentives are required for microgeneration technologies, they should continue to be provided through other support mechanisms that leave the competitive framework intact.

## 7. Licensed suppliers and microgeneration

### Licence modifications

7.6 & 7.7

British Gas agrees with Ofgem that any licence amendments, particularly any increase in obligations on suppliers, should be considered as part of Ofgem's existing supply licence review. Moreover, any changes need to be considered within the context of Ofgem's recent additional duty to have regard to the principles of best regulatory practice. The existing market arrangements should be given time to deliver a set of commercially sustainable products, unhindered by any unnecessary and premature regulatory intervention and market distortions.

There does not appear to be any evidence of market failure that would necessitate the range of increased obligations on suppliers discussed in the consultation document. In general, the reasoning given by Ofgem to support increased supplier obligations is weak and falls short of the hurdle set by regulatory best practice, in particular, the need for Ofgem to ensure that regulation is proportionate and targeted only at cases in which action is needed. In any event, suppliers will be increasingly incentivised to provide services to support microgeneration, especially as microgeneration numbers, hence the value of these customers, increase. Evidence of current supplier activity and initiatives includes British Gas' current developments in relation to microCHP and rooftop wind turbines.

It is correct to consider the removal of unnecessary barriers to the adoption of microgeneration. However, this should not extend to distortions in favour of these forms of generation over other generation, including environmentally beneficial larger renewables.

**Condition 1: Definitions**

7.8 & 7.9

Ofgem's proposed definition of microgeneration does not differentiate between microgeneration that is connected to domestic as opposed to small non-domestic premises. Whilst in general British Gas does not believe that a case has been made for any new supplier licence obligations, domestic and small non-domestic customers will not require the same level of protection.

**Condition 16: Procedures for the detection and prevention of theft or abstraction of electricity, damage and meter interference**

In technical terms, reverse running meters need not always be a problem, as some but not all meters are capable of accurately recording net flows. However, in practice, reverse running will cause commercial problems. The supplier will be deprived of revenues for each unit of export, equivalent to the difference between the fair value of the export versus the fair value of supply, as noted in this response at paragraph 4.3.

**Condition 17: Reading and inspection of meter**

7.13, 7.14 & 7.15

The existing condition 17 adds little if any regulatory or safety value yet it builds in unnecessary cost, whilst at the same time hindering metering innovation. For example: -

- The required inspection is superficial in nature, consequently, little if anything is gained either in respect of theft or safety; and
- The need for a visual inspection reduces the incentives on suppliers to introduce other forms of innovative metering.

This licence condition is a prime candidate for amendment, or even complete removal, as part of Ofgem's existing supplier licence review, not for its extension to the reverse running of meters. In any event, as Ofgem notes:

- "…it is [already] in the supplier's interest to ensure that the meter does not run in reverse and subtract units from the import register";
- "…reverse running would only be apparent if the generator were operating"; and

- "Extending the routine meter checks under Condition 17 to include a check for reverse running would, **at best** [our emphasis], constitute only a partial solution to the problem…"

### Conditions 16 & 17

Whilst there is a problem with reverse running meters, there is little if any advantage to additional obligations on suppliers, as the supplier is already incentivised to ensure that it is not deprived of its revenues. Moreover, it is not clear that reverse running would amount to theft. This issue would appear to be a contractual matter between the customer and the supplier, rather than a matter for increased supplier obligations. However, British Gas remains concerned at the potential commercial consequences flowing from the exploitation of the arrangements, either intentionally or otherwise, by consumers running meters in reverse flow mode.

### Condition 21: Publication of information to customers

The existing high level of competitiveness of the supply market means that it is appropriate to significantly reduce the level of supplier regulation. The dynamics of competition, rather than the one-size-fits-all straight jacket of the supply licence, will protect customers. However, areas that are essential to a well functioning competitive market, namely certain customer information and other essential industry interactions, may need to be retained or even extended.

British Gas agrees that the existing supplier obligation, with respect to informing each customer of its Supply Number MPAN, should not be extended to the export MPAN. However, this area could be kept under review to ensure that customers have the information available to them to take full advantage of the competitive market.

### Condition 25: Efficient use of electricity

The main mechanism for energy efficiency improvements is rightly the recently strengthened Energy Efficiency Commitment (EEC) supplier obligation. This will, for example, include an enhanced credit for microCHP. Renewables microgeneration can potentially benefit from another supplier obligation, the Renewables Obligation (RO).

The provision of general energy efficiency advice may result in additional measures been undertaken by customers. However, it is not clear that this provides for a reasonable use of supplier resources, as the actual affect on customer behaviour, hence benefits, is unclear when compared to suppliers' cost of provision. Consequently, whilst there is merit in suppliers considering the inclusion of information on microgeneration, any enhanced obligation under condition 25 requires further consideration as part of the supplier licence review. In particular, this review should ensure that the existing or revised licence condition: -

- Is not unnecessarily duplicating the supplier incentives under EEC and RO; and
- Looks at the costs and benefits of the retention, let alone extension, of the existing licence obligation.

### Condition 32: Duty to supply domestic customers

As noted earlier in this response, at paragraph 5.4, there are a number of transitional barriers to the export of small quantities of microgeneration export, namely:

- The need for, hence, cost of an import/export meter;
- The existing settlement profiles, which in some cases, inaccurately undervalue exports; and
- The need for supplier billing systems that meet the needs of both import and export tariffs for smaller customers.

As microgeneration numbers increase, these barriers are likely to reduce or be eliminated. Consequently, the above issues should be seen, at worse, as transitional in nature with the market working to meet the needs of customers, rather than as a cause for placing additional restrictions or obligations on suppliers. Moreover, the addition of an obligation to offer terms for the smaller export volumes commensurate with microgeneration, is likely to distort the overall market for exports, including larger renewables generation, as well as unnecessarily increase the regulatory burden on suppliers. This could also have the effect of further increasing the barriers to entry.

In light of the intensely competitive nature of the supply market, including the purchasing of exports, which is characterised by high consumer awareness of competition and high levels of customer switching, very good arguments can be made for removing the existing supplier obligations to offer terms, let alone extend those provisions to the export of energy from microgeneration. Consequently, British Gas agrees with Ofgem that there should be no extension to this licence condition.

### Condition 36: Code of practice on the use of prepayment meters

It is highly unlikely that there would be many microgeneration customers using prepayment meters. The reasons for this include the unsuitability of prepayment meters for microgeneration purposes, as well as the relatively low levels of those microgeneration customers that would potentially have prepayment meters connected. As Ofgem notes, the existing licence condition already has the potential to cover microgeneration. Moreover, Ofgem can require suppliers to review their existing codes of practice to, amongst other things, ensure that the codes adequately address microgeneration.

In light of the above, the licence condition should not be amended. If any change is required, suppliers could amend their codes of practice, however, even that appears premature.

### Condition 41: Terms for supply of electricity incompatible with licence condition

British Gas routinely sells a number of products to its customers; both 'regulated' and 'unregulated'. This situation does not affect customers' rights with respect to the regulated products, as customer protection under the gas and electricity supply licences remains intact irrespective of what combination of products are taken. As customer rights are unaffected, any attempt by a supplier to evade its responsibilities in this area would be a licence breach, hence compliance matter. Ofgem already has strong powers to investigate and enforce any potential licence breach, including the ability to impose significant financial penalties. Consequently, the licence amendment suggested by Ofgem is wholly unnecessary.

### Scope for a Distribution Connection and Use of System Code (DCUSC)

British Gas is already participating in the existing work-streams and consultation of this issue and will continue to be actively involved.

## 8. DNOs and microgeneration

### Notification of installation/commissioning

8.3

Suppliers need to know that a customer has microgeneration connected to the electricity network. In particular, this could help to identify some of those supplies that have net metering installed where the meter runs backwards whilst exporting to the grid. As suppliers will not always receive the microgeneration information directly from customers, DNOs should be required to pass on this information to the relevant supplier. Consequently, whilst import and export Meter Point Administration Numbers (MPANs) can already be separately identified, there is merit in further considering, via the Master Registration Agreement (MRA), the possible use of the 'meter timeswitch code' component of the MPAN to label the premises as having microgeneration. This could allow the import and export MPANs to be correctly associated.

### Metering Point administration

8.10

British Gas supports the DNO notifying the customer of the creation of an export MPAN, possibly via a licence obligation on the DNO. Furthermore, there is merit in further considering the extension of this DNO obligation to pass on the same information to the supplier to, for example, allow the supplier to know that the existing meter is inappropriate.

## 10. Metering Issues.

### Meter Change

Where no change of supplier is involved and microgeneration is installed or facilitated by the incumbent supplier, there need not be insurmountable barriers to installing microgeneration whilst changing the meter to ensure it is appropriate for the new requirements.

Where the incumbent supplier is not directly involved in the installation, either because a non-supplier installation is taking place or where a non-incumbent supplier is carrying out the installation, the installer may need to liase with the incumbent supplier to ensure that any change of meter does not unnecessarily hinder the microgeneration installation.

Ofgem notes that despite the statutory requirement on the incumbent supplier to change the meter, the incumbent supplier may have weak incentives to ensure a timely meter change, especially where the supplier is likely to lose the supply point. British Gas notes that with the onset of metering competition, the customer or the prospective supplier acting on behalf of the customer can, in theory, install a replacement meter at any time. Whilst it may be appropriate for Ofgem to keep under review any potential problems with incumbent suppliers replacing meters in a timely manner, metering competition may

provide an adequate safeguard to any potential concerns in this area. Moreover, any issues may only arise for customers in relation to microCHP installations, as many are installed as distress purchases following the failure of an existing installation. In any event, where there will be no change of supplier, the supplier is already incentivised to change the meter to ensure that it does not lose its supply margin as a consequence of the meter running backwards.

If the regime was changed so that a meter could run backwards in export mode, microgenerators would be overcompensated for their exports because of the difference between the value of the exported energy versus the relatively higher value of energy supplied. In effect, import only customers (including vulnerable domestic customers) would be cross-subsidising microgenerators. Consequently, Ofgem should resist calls for the relaxation of the requirement for separate import/export meters.

**Meter Reading**

10.38

The existing processes and procedures may need to be verified to ensure that they correctly identify readings for import/export meters.

**Tahir Majid/Regulatory Affairs/British Gas/02.08.2005**