

# MAYOR OF LONDON

## Mayor's Office

**Ofgem**

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**Department: Mayor's Office**

SR/PKN Embedded\_Benefits

Date: 28<sup>th</sup> April 2017

To whom it may concern

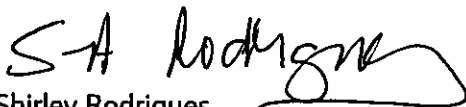
Embedded Benefits: Consultation on CMP264 and CMP265 minded to decision and draft Impact Assessment

I am writing on behalf of the Mayor of London in response to your above consultation on Embedded Benefits. GLA's Robert Tudway has already met with you to discuss the Mayor's position and a draft response was sent on Tuesday 18th April. I attach the Mayor's formal response for your consideration.

The Mayor is concerned that the proposal to remove some embedded benefits will have a detrimental impact on energy efficient embedded generation affecting London's ability to achieve its climate change targets. Certain embedded generation, such as combined heat and power (CHP) and solar, are at the heart of the Mayor's climate change policies and programmes. Being small in size, they lack the economy of scale and electrical efficiencies to compete against large scale power stations. The business case for their implementation is therefore marginal at best. Removal of the proposed embedded benefits will only worsen their business case and hinder further uptake. Existing generators may well seek to recover the lost income by increasing their energy prices to customers, something neither the Mayor or Ofgem would like see.

The Mayor has been working on a number of initiatives, such as Licence Lite, to help remove the barriers to implement energy efficient local generation, particularly CHP. Your proposal to reduce embedded benefits would counter the hard work the Mayor has undertaken to achieve a fair and accessible market for environmentally beneficial embedded generation. I trust you will give our recommendation to carry out a more extensive and exhaustive impact assessment due consideration and I look forward to receiving your consultation decision.

Yours faithfully,



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# **THE MAYOR OF LONDON'S RESPONSE TO OFGEM'S PROPOSALS TO CHANGE ELECTRICITY CHARGING ARRANGEMENTS FOR EMBEDDED GENERATORS** **(minded to decision and draft impact assessment of industry's proposals (CMP 264 and CMP 265))**

## **1. Summary**

- 1.1 The Mayor supports the review by Ofgem of market systems to secure competitive, cost reflective outcomes that deliver value to consumers.
- 1.2 The development of decentralised energy is an important element of the Mayor's Climate Change Mitigation and Energy Strategy for London, both to reduce carbon emissions and through supporting measures to ensure decentralised energy systems can access the market effectively, benefit consumers. London is also a major and consistent importer of electricity and the location of its decentralised energy systems serving to reduce these imports
- 1.3 Ofgem's proposed revisions to transmission charging arrangements could have a seriously detrimental effect on decentralised energy generators in London, amounting to an estimated loss of revenues for some decentralised energy systems of between 8 and 10 per cent; and if the new charging principles which Ofgem is minded to adopt were followed through in a wider review, a potentially greater loss.
- 1.4 Decentralised (embedded) generation is long established and different commercial model from large scale directly connected electricity generation. Consumer interests and the environment are best served by ensuring that the electricity market systems support both.
- 1.5 Ofgem's proposals have the potential to be seriously distortive of competition as between smaller scale embedded generation and directly connected generation, as explained in paragraph 4 below.
- 1.6 Ofgem should carry out a more extensive and exhaustive impact assessment of its proposals on decentralised (embedded) generating systems before April 2018, when Ofgem's proposed changes would begin to take effect. Ofgem should then re-assess the effects of its proposals on securing fair competition between directly connected and embedded generation, in the light of that review.

## **2 The Mayor's interest in smaller scale electricity generation**

- 2.1 The development of decentralised energy is an important element in the Mayor's Climate Mitigation and Energy Strategy. Decentralised energy in London does not only contribute to London's growing power needs. London's existing decentralised energy systems and plans for its future serve both to reduce the carbon content of the electricity consumed in London and have the potential to be an important tool in effective demand side response systems within London. As a result, London's decentralised energy can help to deliver better value to the consumer.
- 2.2 The Mayor supports the principle of keeping the embedded benefits system under review and does not seek to support charging arrangements which prevent a level playing field between different types of electricity generating capacity or cause decentralised energy systems to avoid costs that they should bear. To the extent that types of renewable or low carbon forms of energy generation require external support to develop and attract investment, it is recognised that is a matter for Government policy, lying outside the scope of Ofgem's review.
- 2.3 However, the Mayor sees the current thinking of Ofgem as potentially leading to serious distortions in the electricity market, as between centrally and locally produced electricity. This is particularly so in London whose distribution systems consistently import power from the National Grid, London's actual and planned decentralised energy systems serving consistently to reduce the load on the high voltage transmission system.
- 2.4 The Mayor is currently working with Ofgem on the granting of a 'licence lite' electricity supply licence, by means of which the Greater London Authority, as a licensed electricity supplier, can offer low and zero carbon decentralised energy generators an alternative route to market and the potential for enhancing their revenue streams and attracting new

investment. However, that is not a substitute for ensuring that the output of small scale generators is not burdened by unfair exposure to charges relating to the transmission system which, through their location, these generators do not energise.

### **3 Ofgem's proposals**

- 3.1 Currently electricity generating plant that is directly connected to the distribution network and is below 100 MW in capacity is, for the purposes of transmission charging for demand, treated as 'negative demand'. The effect is that embedded generators are often paid by the electricity suppliers who buy their output, to generate at the peak times (known as triad periods) during which suppliers' liability for transmission charges is measured. This reduces suppliers' Transmission Use of System charges (TNUoS).
- 3.2 The value of the relief from TNUoS charges that the current system allows has steadily increased and is increasing, throwing a progressively greater burden on electricity suppliers buying power from the (mostly) large scale generators which are directly connected to the transmission system. A factor has been the growth of embedded generation, increasing mainly as a result of the development of smaller scale low and zero carbon energy generating systems. The growth of combined heat and power systems (CHP) in London is an example of that. The over-all effect is the threat of rising transmission costs being recovered over a diminishing charging base.
- 3.3 Ofgem sees this as leading to higher consumer costs, with more efficient generators being pushed out of the market. Ofgem says consumers may also suffer as a result of suppliers paying the transmission charges and incurring the costs of passing the greater part of them on to the embedded generators. Ofgem also claims that the financial benefits this system places on embedded generators distorts the new Capacity Market, giving smaller scale generators a competitive advantage over directly connected ones.
- 3.4 Parties to the Connection and Use of Systems Code (CUSC) are able to propose modifications to the charging system and have come up with two proposals that Ofgem is minded to consider to resolve its concerns (CMP264 and CMP265).
- 3.5 The principle underlying these proposals is that a 'gross' charging mechanism will apply, whereby the output from all generators (whether locally connected or not) carries the cost of the charges that are currently spread amongst the directly connected generators. The embedded generators' output is only relieved from those charges to the extent that locally connected generation is seen to save transmission costs. Ofgem claims that these savings are limited and in practice confined to costs savings in the connection equipment which joins the local distribution systems to the National Grid. Although these proposals are currently confined to the transmission charges levied on electricity suppliers which are not specific to or varied by location (called the 'demand residual' charge), they nevertheless could have a substantial effect on embedded generators and in London could amount to a loss of between 8 and 10 per cent of the revenues of a low carbon combined heat and power plant.
- 3.6 The principle Ofgem is advocating is straightforward, but capable of causing serious distortions unless in the context of the commercial considerations underpinning the business models of small scale electricity generation, more research is done to secure a fair level of exemption for their output from transmission charges, where it does not energise the transmission system. That is because Ofgem is proposing that instead of all generating output bearing or being exempt from these charges according to use made of the transmission system in transporting that output to the consumer, directly connected generation output will continue to pay according to use; but embedded generating output will also pay whether its output energises the transmission system or not. Their output will only be eligible for relief to the extent that cost savings to the transmission system can be demonstrated by its presence.

### **4 The potential impact on London's decentralised energy systems**

- 4.1 The result of Ofgem's proposals is that larger scale electricity generators directly connected to the transmission system and smaller scale electricity generation whose output is delivered

and consumed locally would now play by different rules. The output of large scale generation plant bears the charges relative to use (namely the amount of power supplied from that generating plant by means of the transmission system). The smaller scale generator's output bears the charge regardless of use. This has the potential to be seriously distortive, because it is applying the same charge to generators on a differing basis. The difference is that directly connected generators are directly connected because the transmission system is needed to transport their larger volumes of power to the consumer. The generating business obtains value from it, because without access to the system, the power could not be consumed and the generator would earn no income from it. The small scale generator obtains no value from the charge levied, because its power is consumed locally. To the extent that smaller generators or the suppliers who purchase their output buy top up in the market to make good their supply commitments, the top up costs include transmission charges.

- 4.2 It might be argued that spreading the charge universally in this way is still fair because the current system relieves one type of (smaller) player from a charge that its competing (larger) player has to bear. That is an adventurous assumption to make in the absence of substantially more research on the impact of Ofgem's proposals on smaller generators. The root of the issue is commercial and lies in the comparison between different business models. Small generators generally cannot benefit from the same opportunities for economies of scale as are available to larger ones. There is a trade - off between the exposure to higher unit costs associated with smaller scale operations on the one side and the avoidance of cost associated with use of the transmission system by virtue of their output being consumed locally, on the other. In making their generating output bear the charge anyway, Ofgem is denying them a trade- off which is entirely justifiable as commercial logic and is an important feature of the business model of much embedded generation.
- 4.3 There is no evidence that Ofgem's 'minded to' decision is on the basis of an adequate level of research into the impact of the proposal on embedded generators. Specifically, in paragraph 5.3 of its decision Ofgem states –  
*'It is unlikely that embedded benefit revenues were a primary business driver for [sub-100MW combined heat and power (CHP) operators and Energy from Waste (EfW)] plant. We do not expect the revenue impact on them to be as significant, with these payments forming a much lower proportion of income. We also note that many CHP and EfW plants will have been planned and constructed at times of much lower [Transmission Demand Residual payments]'.*  
 It is true that the extent to which embedded benefits are incorporated in the business models of embedded generators will vary. For example, very small scale CHP plants whose primary purpose is the supply of on - site generated heat to premises may see embedded benefits as an 'add on'. That can hardly be the case with others, taking into account the proportion of their total revenues that embedded benefits can constitute. For example in respect of some CHP plants in London (influenced by their location), embedded benefits as a whole can amount to up to 25per cent of electricity revenues, disregarding the substantial increases of the last two years.
- 4.4 Nor can all such plants make good withdrawal of much of the embedded benefit by participation in the capacity market. For example, if their output is 'heat led' that may not be practical.
- 4.5 Neither is the sale of heat by means of CHP fired district heating an adequate (or relevant) set-off, a kWhr of heat being worth very substantially less than a kWhr of electricity. The electricity export can be a vital revenue stream.
- 4.6 The financial impact on embedded generation systems demands substantially more research than would appear to underpin Ofgem's proposed decision.

## 5 The way forward and the Mayor's request

- 5.1 For reasons explained in paragraph 4 above, changing the basis for imposing transmission charges on the supply of the electrical output from decentralised energy systems from one

based on 'use' to a universal charge levied regardless of 'use' (in the case of embedded generation), is potentially and substantially distortive of competition; that is to say as between the differing commercial models of electricity generation. It has the potential to threaten unfairly, to the potential detriment of consumers, future investment in decentralised energy systems and puts at risk the continuation of some existing ones.

5.2 There is no evidence that Ofgem's proposed decision has been preceded by adequate assessment of its impact on decentralised (embedded) generation and on the preservation of a level competitive regime between it and directly connected generation.

5.3 It is noted that Ofgem proposes to phase in the changes to the transmission charging regime over 3 years, starting April 2018 for the 2018/19 charging period. Ofgem should carry out a full and extensive review of the effects of its proposals on the competitive position of decentralised (embedded) generation within the market, to be completed prior to April 2018.

5.4 The Mayor looks forward to his officers working with Ofgem in the course of that review.

**28<sup>th</sup> April 2017**