FULCRUMCONSULTING

DISTRIBUTED ENERGY – INITIAL PROPOSALS FOR MORE FLEXIBLE MARKET AND LICENSING ARRANGEMENTS

FULCRUM CONSULTING RESPONSE

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Fulcrum Consulting is a leading firm of multi-disciplinary consulting engineers.

We deliver fully integrated design of building services and infrastructure. We also advise on building design and built fabric solutions which ensure minimum environmental impact.

The company was founded in 1984. We have a long-term interest and expertise in low energy and sustainable design of buildings and the built environment. We believe that the rational application of cost, performance and quality drivers leads to reduction in waste and carbon emissions.

Fulcrum Consulting takes a lead in controlled innovation. We research and identify suitable technologies and companies developing them to further our aims. We work in both formal and informal partnerships with such technology suppliers to integrate their products into high quality and exemplar designs.

Fulcrum Consulting are founding members of the UK Green Building Council, which is dedicated to dramatically improving the sustainability of the built environment by radically transforming the way it is planned, designed, constructed, maintained and operated.

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In order to respond to this consultation we held an in-house discussion regarding the consultation document, and the views expressed within this response are those that emerged from that discussion.

We have arranged our comments against the questions raised in the consultation document.

Fulcrum have had a lot of experience in advising on procurement of ESCO services for both exempt and non-exempt supply arrangements over the last 6 years, so may be able to offer considerable useful insight into the way in which the market is evolving. For example we proposed a community energy and CHP system at Manchester New Islington 6 years ago, whereby the private developer became the energy supplier and offered what is now referred to as 'ESCO services', and we are now involved in construction phases.

We manage a considerable number of ESCO selection processes for private developers and are acutely aware of the changing market. Please contact us if you would like further supporting information or evidence in relation to any of our comments below.

Q1 Ch2 If the exemption limits for supply and distribution to domestic customers were to be raised, what measures would be required to ensure ongoing and effective protection of energy customers, and how would this be enforced or monitored?

This is an extremely important issue which will need to be solved if exemption limits are raised. The customer should have the right to same quality and availability of power, backed by an equivalent compensation scheme as an LDNO operated system.

We do not believe that companies (or their parent companies) who are already licensed suppliers/ distributors should be allowed to also be licence exempt for particular sites as this offers very little protection to the customer who may be led to believe they are purchasing energy from an established licensed network operator.

At present the Landlord and Tenants Act precludes binding a tenant to a single choice of supplier unless 'demonstrable value' can be shown. The usual way of proving such 'demonstrable value' is for the energy supplier to stipulate energy prices at a percentage below a basket of prices from designated large suppliers.

We believe that there is a disconnect with policy in this area as the proliferation of private wire schemes is being driven by a number of official channels, including some Planning Authorities and current definitions within the Code for Sustainable Homes and Building Regulations Part L. These approaches and definitions are purely to control the level of carbon within energy supplied to particular developments without sufficient consideration of issues raised under the Landlord and Tenant Act and without providing sufficient protection of the customers served.

We are therefore concerned about the proliferation of private wire schemes as OFGEM have no jurisdiction over these and the customer is likely to suffer.

Q2 Ch2 Should the existing per company maximum exemption limit be removed allowing one company to develop a number of different sites?

We are very concerned about the complete removal of the exemption limit. We believe that initially exemption limits were put in place to encourage the proliferation of smaller ESCOs such as community-owned or part-owned ESCOs, but now we are seeing the large utility companies enter the ESCO market. Exemption should be there to allow smaller companies to enter the energy supply market, not to allow larger LDNO companies or parent companies to increase their profit by binding customers and limiting customer protection.

There is a case for raising the aggregate limit from 2.5MW to allow experienced ESCO energy supply services to be offered to more developments.

There is a very strong case for raising the 1MW limit on individual private wire networks as this limits the applicability of communal energy schemes compliant under the present version of the Code for Sustainable Homes to projects equivalent to around 800 homes and less. As the commercial case for community level renewables increases with scale, the present limit effectively restricts the commercial efficiency of community renewables schemes.

Instead of increasing the maximum exemption limit, is there not a stronger case for a limited generation licence which is easier and quicker to obtain than the full version? This could bridge the gap between the smaller operators and big LDNO's, but similarly help prevent the large operators dominating the smaller market, thus helping to prevent artificial uplifting of pricing structures. For example, retain the 1MW as unlicensed but create a 'limited' licence for up to 10MW.

Q3 Ch2 We welcome evidence on the size of DE scheme that would be considered economic and efficient in different settings if exemption thresholds were not an issue. We also seek views on what the appropriate exemption limits should be across generation, supply and distribution.

It is important to note that the economics of DE schemes generally improve with scale. If central and local government policy seeks to drive DE and LZC technologies as part of DE schemes, it is important to enable DE to happen at the scales where it makes most economic and technical sense. Increases in economic viability occur with 800-1000 dwellings, compared to say 500 dwellings. More significant increases in economic viability and system efficiency can occur when several thousand dwellings and other types of buildings are connected; and importantly, at this size of scheme more LZC technology choices are available (for example CHP generation using steam turbines driven by biomass or RDF as fuels, and with a more useful heat to power ratio).

It is viewed as ironic at times that the exemption limits are currently invoked to prevent the implementation of community CHP schemes at exactly the scale whereby they start to become economically viable.

Please contact us if you would like further supporting information or evidence in relation to this question.

Q4 Ch2 We welcome views on the 2001 Class Exemption Order, and areas where there could be more clarity in particular.

The Class Exemption Order is currently quite hard to follow. There are clarifications which would be useful to include. For example, for Class B Schedule 3 exemption is not clear how the 1MW of power distributed over the network limit is technically defined – is it average power output or peak capacity, or another definition? There may be more useful metrics which could be used – for example a limit on the number of dwellings served rather than an absolute limit on power distribution.

We have witnessed, in practice, a number of ESCO companies interpreting the rules of the Class Exemption Order differently to each other, indicating a lack of clarity in the wording. The result of this variation in interpretation is that some ESCOs propose to operate a number of 1MW schemes without any regard for the 2.5MW aggregate limit. We have also witnessed varying interpretation of what technically defines the 1MW limit.

Please contact us if you would like further supporting information or evidence in relation to this question.

Q4 Ch3 Do you consider it appropriate to use the provisions of the BSC to increase the representation of DE schemes in BSC governance processes?

No comment

Q5 Ch3 Do you consider that there is a case for allocating funding for DE representation in BSC governance? If so, do you have views on where the funding should come from?

Yes, we feel that there is a case for allocating funding for DE representation in BSC governance due to the drivers for an increasing number of DE systems coming from planning policy, the Code for Sustainable Homes, and the Building Regulations Part L. Given that the authors of all of the above are DCLG we believe that the necessary funding should also come from DCLG.

Q6 Ch3 Have we considered all the options to address the risk DE schemes are exposed to if trading in the wholesale markets? We welcome any other proposals to accommodate the needs of DE schemes selling their electricity in this way.

No comment

Q7 Ch4 **Do you consider that third party purchasers undervalue exports from DE schemes? We would welcome information from both generators and purchasers on prices that have been agreed for electricity from small generators. If necessary, the information can be provided in confidence.**

We strongly agree that third party purchasers enormously undervalue electricity exports from DE schemes. By third party purchasers we are referring primarily to the local supply authorities. These companies will place great value on any exports from DE schemes as it is a rare occasion where you can buy in a commodity at one price and instantaneously sell it on at a considerable profit without any governing body insisting otherwise. Until this practise is controlled it will only serve to restrict the size of DE installations to supplying just their own immediate interests. We would go further to say that low export tariffs from on-site generation are fundamentally preventing the uptake of low carbon and renewable distributed energy generation across schemes of all sizes and nature.

Please contact us if you would like further supporting information or evidence in relation to this question.

Q8 Ch4 **We would welcome views on whether there is a lack of competition in the market for small generator output?**

We feel that there is definitely a lack of competition in the market for small generator output. This is stifling the number and size of CHP schemes as the sell back to the grid is so low that it is not financially viable to do so (i.e. a much better income can be generated if the electricity is sold direct to customers).

The use of licence exemptions also limits the size of the distributed generation scheme in that because of a poor wholesale price the electrical output is limited to supplying the connected private wire network only. With the use of CHP and renewable generation further carbon reductions could be possible if the size of the scheme was larger and received a better price for selling electricity outside the private wire network.

Q9 Ch4 **Have we considered all the reasons for the lack of development of consolidation services in the market? We welcome views on whether further changes to the market rules may be warranted to remove any barriers to entry that continue to exist for consolidators.**

No comment

Q10 Ch4 **Do you think there is a case for a specialist Energy Trader? What are your views on the scope and functions the specialist agency could perform as an interface between DE generators and the current trading arrangements?**

No comment

Q11 Ch4 **An Energy Trader option could be implemented by allowing the market to deliver, placing an obligation on suppliers or by tendering for the role. We welcome views on these suggested routes and any others we have not considered in this consultation document.**

No comment

Q12 Ch4 **Do you have any views on how the understanding and forecasting capability for DE technology could be improved?**

No comment

Q13 Ch4 **What are your views on the implementation of a dedicated wholesale market for DE?**

No comment

Q14 Ch4 **Have we considered all the options to address the lack of competition in the market for small generator output?**

No comment

Q16 Ch5 **DE schemes face a trade-off between carrying the cost and ongoing maintenance of a private wire network linking their sites, and the direct and indirect costs of using the licensed distribution network. We are keen to better understand circumstances that lead a scheme to favour the private wire option and how incentives vary depending on the distance of the second (or multiple) sites?**

Private wire networks offer a guaranteed revenue stream. This is reflected in the fact that most ESCO offers are very different if private wire is or is not being used. For example in a recent ESCO tender process we have been involved in, the capital contribution offered per residential unit was around £1,200 if private wire were to be used, but only £250 if it wasn't. Indeed, some ESCOs are not interested in tendering if a private wire network is not to be used. The effect of this is to limit competition in the market.

There is also pressure placed on developments by requirements of compliance with Planning Authority low carbon policies, present definitions in the Code for Sustainable Homes which forces the use of private wire networks, and likely future definitions for very low carbon buildings under Part L of the Building Regulations for private wire schemes.

There is no variance of incentives depending on distance of the second or multiple site as the cost of linking sites with a private wire (at present the only acceptable means under the above mentioned compliance requirements) will always be compared to the cost of providing additional generating capability in each of the multiple sites.

Q17 Ch5 **Is there adequate availability of Exempt Supplier Services in the market place? If the demand for such services is likely to increase with expected development of DE, we welcome views on whether the market will respond appropriately or whether intervention is required to ensure the availability of these services.**

From our experience, that option is never presently taken. Companies presently either operate on a private wire network or they are fully licensed.

This situation may change dramatically should 'accredited external renewables additional to plans' be acceptable under the Code for Sustainable Homes or Building Regulations to meet compliance for low and zero carbon buildings as this will open up a significant new market for small suppliers to serve multiple sites utilising the grid.

In terms of availability of ESCO services generally, there are relatively few players in the market, and even fewer who have demonstrable levels of experience at operating a community scale system. There are new companies entering the market, both from a large utility background (i.e. subsidiary companies of large utilities) and a smaller license-exempt supplier level. It would appear from our observation that there are currently less smaller companies entering the market than there are subsidiary companies of larger parent utility providers. This may be an indication that larger companies may be using exemption as a means to exploit this potential market of exempt schemes that bind in customers.

Q18 Ch5 **We welcome views on whether an Exempt Supplier Services obligation (similar to the former Standard Condition 53) should be imposed on all suppliers and whether any specific additional requirements are now necessary.**

No comment

Q19 Ch5 **We welcome views on the feasibility of Exempt Supplier Services being provided at system cost – i.e., merely the costs incurred by suppliers from third parties in registering meters, using the network, etc. Are there ways of integrating with supply systems such that Exempt Suppliers do not create any overhead on Supplier operations?**

No comment

Q20 Ch5 **Is there a case for DE representation at the Energy Network Association working group examining the technical standards for connection? If so, do you have views on how representation might be funded?**

No comment

Q21 Ch5 **We welcome examples of where technical standards may be unduly onerous and discourage connection to the network for small generators.**

No comment

Q22 Ch5 **We welcome views on the proposed options to improve the accessibility of the licensed network to DE schemes, and whether there are any other relevant options we have not considered.**

No comment

Q23 Ch6 **What are the costs of start-up for small suppliers? What is the break even point for small suppliers?**

No comment

Q24 Ch6 **Do economics of CHP justify the additional investment over and above that of a boiler based system? What are the contexts where CHP might be chosen over heat-only schemes?**

There is intense pressure on the installation of CHP systems over heat-only schemes from some current low carbon planning policies, particularly those overseen by the GLA.

District heating networks served by CHP retrofitted to existing homes will be a way to reduce the CO_2 emissions for the existing stock. At present there are no drivers for this, but in future to meet the 60% CO_2 reduction targets by 2050 (soon to be revised to 80%) it will be necessary to serve existing built stock with low carbon heat and electricity systems such as CHP.

At present CHP schemes can only maintain viability by achieving close to end user tariff incomes, which requires the use of a private wire network alongside the heat network. When dealing with existing stock it will probably not be possible to extend a private wire network, say to multiple freehold existing dwellings, as the existing equipment would need to be bought off the existing LDNO (a costly and bureaucratic process). There therefore needs to be a way of enabling CHP without the necessity to use private wire networks to ensure financial viability.

Q25 Ch6 **Is there a case for granting a limited number of supply licences to new entrant DE schemes that restrict customers switching to an alternative supplier for a period of, say, 5 years?**

This could help the business case for entrant DE schemes as this would ensure a guaranteed customer base for the restricted switching period but the Landlord and Tenant Act is still an absolute barrier and there needs to be adequate protection in place for the customer.

Q26 Ch6 **We welcome views on what types of advice and information would usefully help DE schemes start up and interact with the wider electricity system, and who should provide this?**

No comment

Q27 Ch6 **Do you consider that there is a case for a new DE supply license? If so, do you have views on its key terms? Please explain your reasoning in detail.**

Given our comments above, there is definitely a case for a new DE supply license which allows audit of carbon reduction policies under planning and other regulations mentioned whilst ensuring protection of customers equivalent to the protections offered under LDNO supply.

Q28 Ch6 **We welcome views on the proposed options for reducing the costs of becoming a licensed supplier and any other options that we have not considered in this consultation document.**

We believe that in some ways this consultation is not asking the right questions as it is not addressing the drivers leading to the likely proliferation of private wire schemes.

From our perspective through involvement in district energy projects for new developments, particularly residential, the requirement of private wire is often linked to the use of district heating systems. District heating systems with CHP are considered one of the most practical ways to reduce carbon emissions for new developments. The current situation is that the most attractive business case for using district heating systems with CHP is to sell the electricity on a private wire network. ESCOs will therefore be able to make better financial offers to developers if they choose private wire for their developments. Despite the choice of private wire being mainly the developer's decision, it is debatable whether the developer will have a long term financial interest in energy procurement for the development and therefore the competitiveness of the ESCo will solely be an issue for the consumer, and this will be included in the terms of the ESCO's contract.

Although upon first analysis, the use of private wire can be considered a winning situation for the ESCO, the developer and the consumer, as well as facilitating reduced carbon emissions (by enabling district heating), it takes a degree of faith whether in practice all four aims can really be achieved within a licence exempt system, especially as some of these parties will have opposed interests. Removing any licence obligation will therefore put reliance on enforcing competitive prices for the consumer on the ESCO contract and the Landlord and Tenants Act. Also as carbon emission reductions are seen as the overarching driver for distributed generation and private wire networks, the method to enforce carbon reduction targets needs to be fully considered both within the licence system and in private wire networks.

In addition, consideration needs to be given to the wider issue of the need for considerable additional renewable energy in the grid mix from smaller generators to meet the 2020 renewable energy targets. This should be in the form of a wider debate in less technical language to gain a larger body of evidence/ opinion, and cannot be done in isolation of other forcing policies.