

The Electricity Storage Network
Dairy Farm
Pinkney
Malmesbury
Wiltshire
SN16 0NX

Ms. Chiara Redaelli
Energy Systems Integration Team
Office of the Gas and Electricity Markets,
9 Millbank,
London,
SW1P 3GE
By email: flexibility@ofgem.gov.uk

policy@electricitystorage.co.uk

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Dear Ms. Redaelli,

Response to Consultation on clarifying the regulatory framework for electricity storage licensing

I am writing to you on behalf of the Electricity Storage Network. We are the only trade association dedicated to supporting the development of the energy storage industry. The ESN welcomes this consultation since the need for clarification of the regulatory framework for electricity storage is long overdue. The outcome will be important, both for the electricity storage industry, as well as for all users of the electricity network.

We are keen to ensure that growth of the industry is achieved via commercially sustainable means that result in long-term reinforcement of energy infrastructure and security of our energy supply. It is important that the right technology is built in the right place. Whilst this should neither favour storage over other technologies that might be a more technically applicable solution for a given problem, nor should policy develop that disadvantages energy storage or fails to recognise the benefits such technology can offer in terms of helping to meet decarbonisation targets and delivering a smart flexible energy system.

The Electricity Storage Network recognises the speed with which Ofgem has progressed this initiative and set out proposals for licensing of storage assets but we do not agree with the policy decision to assign electricity storage into the generation licence.

Although many developers have in the recent past sought legal advice as to the status of proposed electricity storage projects, and experience has been to treat electricity storage as generation because, during privatisation, pumped hydro plants were allocated generation licences, this should not have been seen as creating a precedent.

Electricity storage is not generation.

It has aspects in its operation that are similar to generation, but storage also requires demand. Its role is bi-directional. It is required on the system for both technical reasons and for commercial reasons. Putting electricity storage into the generation licence will have implications which go well beyond clarifying the present uncertainty.

Our understanding is that the decision to include energy storage in the generation license is largely based on timelines, where a new license condition could go live in the first half of 2018, but a new license category may impose unnecessary delays.

We recognise the complexities of the current parliamentary timetable and we appreciate the expedience of modifying the generation licence as opposed to modifying primary legislation, but we would prefer electricity storage to be recognised for its own merits. More detail is provided in our answers below.

We would also urge caution with regard to the question of final consumption levies.

In the creation of Condition E1, this may pose difficulties for large industrial and commercial consumers looking to invest in storage technologies. Specifically, regarding the Climate Change Levy - the principle of which is to reduce consumption: if a customer goes off grid or significantly reduces their load requirements on the networks through the deployment of storage and other on-site technologies, it would not make sense for them to pay final consumer levies. Net metering of such power flows should be completed at individual sites rather than by an industry standard or average.

However, the Electricity Storage Network does believe that clarifying the regulation and legislation will bring about certain benefits, for which we are appreciative:

1. It should ensure a uniformity of approach, particularly where market participation is involved;
2. This approach should help control, limit or restrict unsafe or unacceptable practices and installations,
3. To ensure that the electricity system is operated in safe, secure and sustainable way

Thank you for the opportunity to provide this comment.

I would be happy to meet with you to discuss this further or to organise a workshop to enable Ofgem to converse directly with our members on any of the points raised within this response, if that is of value to your team.

Yours Sincerely,



Georgina Penfold
Chief Executive – the Electricity Storage Network

Clarifying the regulatory framework for electricity storage: licensing – Consultation Questions

Consultation Questions

1 ***Do you agree that the form and content of the licence as proposed in this consultation will achieve the purpose and deliver what we committed to in the Smart Systems and Flexibility Plan?***

The Electricity Storage Network agrees to a certain extent that expanding the licencing regime to include electricity storage will assist in delivering the objectives of the Smart Systems and Flexibility Plan (SSFP).

However, the Smart Systems and Flexibility Plan (Action 1.3) does not deal with the removal of final consumption levies from unlicensed electricity storage facilities and we believe that this should be corrected.

These proposals do not achieve the exemption from final consumption levies which our members deem necessary to support the development of storage, particularly amongst industrial and commercial consumers.

For unlicensed facilities, the document states:

“where storage obtains an exemption to the requirement to hold a licence, storage would be subject to FCLs as the meter point will need to be registered with a supplier in order to import/export electricity”

If an unlicensed electricity storage facility meets the requirements of a licensing but, by virtue of its size, is exempt from holding the licence, there is no justifiable reason to impose final consumption levies on this facility.

To impose final consumption levies on unlicensed facilities when licensed sites do not have to pay such charges would be unjustifiable discrimination.

In practice, we foresee that the majority of electricity storage facilities built in GB in the foreseeable future will be under 50MW in scale and therefore would not be required to be licensed.

These facilities should not be forced to undergo the cost and administrative burden of securing a generation licence if the only reason to do so is the avoidance of final consumption levies.

Put simply, final consumption levies should not be applied to any electricity storage asset, except in the case where the electricity is stored for subsequent final or self-consumption.

It is also not clear how the exemption from final consumption levies arises. Written clarification from Ofgem to industry about how this exemption arises would be helpful.

Furthermore, it would be our preference for storage to be defined under its own asset classification. This would enable electricity storage to be treated in regulation as an asset in its own right, with recognition of both the benefits and challenges that the integration of storage into the electricity system can bring.

Understanding Ofgem’s preference for expedience in this matter, we are supportive of the approach as outlined in the consultation document until such a time when it is appropriate to revise the primary

legislation. At that time, we hope to work with Ofgem and other stakeholders regarding the appropriate classification of electricity storage.

We also think it is important to maintain an option for storage to be operated in a manner that is not related to generation – specifically, to allow its use as a network asset. This point is covered in the Cost of Energy Review recently published by Professor Helm and the ESN will be responding separately to the BEIS Call for Evidence following this review.

There is also a more fundamental concern amongst our members regarding the decision to classify storage as generation, and the definition thereof in legislation and associated guidance.

The Electricity Act does not explicitly define generation, and other secondary legislation uses different definitions of generation for different technologies.

There needs to be compatibility of the definition across the legislation and EMR regulations.

Overall, as we see it, the benefits of the generation licence approach include:

- Removal of the final consumption levies on imported electricity for charging (but with regard to the comments listed above)
- Clarity for developers, removing the risk that they may be seen to be taking part in a licensed activity without holding a licence or exemption
- Parity for development and planning with other electricity infrastructure

The disadvantages of the generation licence approach include:

- Current exemptions from licensing for generation below 50 MW are not necessarily transferable to the storage regime
- Is the definition of size to be based on the maximum input or output power? Indeed, the definition of maximum power rating is uncertain, as some storage technologies can be flexible in their power ratings
- Uncertainty as to the combination of storage with existing or other generation types. For example, is it the intention that a 30 MW generator with 30 MW of storage on the same connection be treated as a 60 MW generator?
- Uncertainty in the planning regime: local planning currently applies for projects under 50 MW, but because this does not take energy content (MWh) into account, reconfiguration of the power/energy ratio may lead to abuses of the planning system
- Bringing storage into a grey area within Business Rates, where currently some storage types are named plant and equipment with one set of rules, whereas generation is valued for rating purposes under a different approach.
- Requiring storage facilities greater than 50 MW to join the BSC (with the attendant expenditure)

These disadvantages should be addressed prior to the introduction of a storage licence.

2 Do you have any views on whether we should include ‘in a controllable manner’ in the definition of electricity storage?

The Electricity Storage Network applauds the use of our definition as the basis for the definition of electricity storage under this proposed amendment to the licensing regime.

The four words, “in a controllable manner” are viewed by our members as a useful addition to the definition. This removes the possibility that storage which is inherent in electrical plant such as transformers, cables, SVC and even the inertia of rotating plant are inadvertently included in the definition.

However, we would like to caution Ofgem that this could result in development of unintended consequences through the implementation of this change in practise.

The inclusion of the phrase “in a controllable manner” within this definition could result in interpretation of the requirement to test and demonstrate control in order to achieve licensing.

This would not be a desirable outcome.

Any form of storage that is deliberately uncontrolled could, through the use of the list provided in Annex A, fall outside the agreed definition, however it must be made clear that the licence holder should not be required to demonstrate controllability.

If these four words are included, then to make it clear to all readers that the caveat of “in a controllable manner” refers to the reconversion of the storage energy back into electricity, we advise a minor grammatical adjustment:

*Electricity Storage in the electricity system is the conversion of electrical energy into a form of energy which can be stored, the storing of that energy and the subsequent reconversion, **in a controllable manner**, of that energy back into electrical energy.*

We hope this would help technical and lay readers to avoid confusion over which part of the clause the four words apply to.

The ESN recommends that the Grid Code amendment also uses this definition.

As an additional observation, we note that the definition should only be applied to electricity storage – where the process is electricity in and electricity out. We do not support the replacement of the word “electricity” or phrase “electrical energy” by the broader term “energy”, as sometimes occurs.

3 Do you think there are any risks or unintended consequences that could arise as a result of our proposal? If so, please provide an explanation.

The Electricity Storage Network would like to urge caution in respect to the proposed changes. Making changes to the way storage is valued is not a technology neutral approach. Areas where we feel further consideration would be valuable are:

1. Clarification of self-consumption

The proposed storage condition SLC E1 contains reference to self-consumption, but this is not defined. Elsewhere in the industry the term ‘final consumption’ is used. There is potential for confusion due to use of two terms to mean the same thing. It should be clear that final consumption, or self-consumption, relates to any net import of electricity to the facility.

The Electricity Storage Network also feels that, by continuing to impose final consumption levies on licence exempt electricity storage facilities, Ofgem will create an unnecessary administrative burden for

small electricity storage facilities who have no other reason to hold a generation licence other than the avoidance of final consumption levies.

2. Licensing threshold

The introduction of any threshold over which the requirements for deployment change also introduces the requirement or opportunity for installers to make commercial decisions to their advantage.

Every opportunity will be seized to gain competitive edge by exploiting boundary conditions at the 50 MW threshold. This could be at the possible expense of compliance with planning, environmental consents, business rates, grid code and distribution code compliance.

3. Classification of storage

Care should be taken that industrial processes where the reversion of potential energy into electrical energy is a by-product of another process, are not inadvertently admitted as electricity storage.

If this were to happen, industry could seek to avoid final consumption levies by claiming their (industrial, non-storage) process was storage. This could be damaging to the reputation of the storage industry.

Moreover, if such activity resulted in damage to the levy control framework, this would inevitably lead to realignment of the levies, to the detrimental impact on all consumers.

4. Aggregation of small-scale storage and Electric Vehicles

It is not clear how the aggregation of small scale storage assets would be covered in this approach. This includes the use of electric vehicles as a storage asset.

For example, there are proposals by industry stakeholders that electric vehicles, when parked and connected to charging infrastructure could be aggregated into a virtual storage plant through participation in vehicle to grid (V2G) flow of power. Would this virtual storage asset require a licence for operation?

How would this be affected if the electricity stored in the vehicle battery was used solely within the home or business?

If such activity was licensed, this creates uncertainty as to whether the charging would be subject to Final Consumption Levies and a rebate obtained by the third-party aggregator.

5. Definition of 'primary function'

It is important to ensure the definition of 'primary function' is clearly understood.

Storage projects currently are often only commercially viable when they access multiple sources of revenue.

This is particularly true for behind-the-meter projects where the revenues obtained from frequency response and capacity reserve are supplemented with other sources of income or cost avoidance such as energy arbitrage or time/load shifting.

The only way to accurately determine whether the energy stored in a system is used for behind the meter purposes, or exported to the transmission and distribution systems, is to install an export meter which must be registered and calibrated effectively, as per that required for claiming feed-in tariffs.

However, since the decision on whether to export or self-consume will vary on a day-to-day basis depending on operational need, wholesale market pricing or National Grid requirement; whilst the *intended primary purpose* at the point of installation may be for self-consumption, the *actual primary function* once operational could in fact become an export asset, or vice versa.

It is therefore important that the user understands how Ofgem determines ‘purpose’.

Since the application of an asset, and therefore the asset’s function, may vary over time we encourage Ofgem to give further consideration to how the allocation of final consumption levies is determined.

Storage is a key tool for providing flexibility on the present and future system. Different electricity storage technologies can be used to benefit the system for all users; however, depending on how the markets develop, there is a risk that it might be used to game the system for an individual’s private gain at the expense of others. It is in the interests of all consumers that storage is correctly and wisely deployed.

4 Do you have any comments on the list of technologies that should be included or excluded from the definition of storage as set out in Appendix A?

The Electricity Storage Network supports the use of an illustrative list of technologies to which the requirement for licensing will apply. It is equally useful to have a list of technologies which are not defined as a storage asset under these proposals; however, we advise that further information is provided to explain why certain technologies have been excluded.

The reason for advising this is that enabling stakeholders to understand the principles by which a technology has been excluded will help inventors, developers and manufacturers of new technologies to understand the rationale behind the asset classification structure.

As an example, if an innovative new technology falls somewhere between a supercapacitor and a battery, how should it be classified?

We note also that the primary role of the list is to exclude an installation where the application is not electricity storage as covered under the definition.

For this reason, clarification of the term “primary function” and “primary purpose” as relating to self-consumption is very important. Licence holders may need to report on changes to their operating procedures and checks may need to be made at regular intervals to ensure compliance with this condition. We are sure that careful drafting will cover this point.