

Electricity generation and storage
licensees and other interested
parties

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Clarifying the regulatory framework for electricity storage: Statutory Consultation on electricity generation licence changes and next steps

This letter sets out the steps we¹ are proposing to take to clarify the regulatory framework for storage, including consulting on statutory changes to the electricity generation licence standard conditions.

If implemented, these changes will add a definition of 'electricity storage' and 'electricity storage facility' to the electricity generation licence standard conditions, thus clarifying what activities licence holders are authorised to carry on under a generation licence.

The changes will also help ensure that storage operators are not subject to the overpayment of final consumption levies. To facilitate the correct identification of licensed facilities as electricity storage and the correct calculation of relevant charges by other parties, a requirement will be introduced for storage providers to record and make available information regarding their storage business.

This new requirement will be instead of the requirement we proposed in our policy consultation not to have self-consumption as a primary function. A number of fundamental policy and legal issues were raised by the consultation. These have taken a significant amount of time to resolve but were essential to developing a more sustainable approach to licensing storage which is compatible with the wider regulatory framework.

Holding the generation licence will:

- exempt licensees from payment of final consumption levies when the electricity imported is used only for the activities of electricity storage; and
- depending on the capacity of their storage facilities and on the services provided, require licensees to sign-up to industry codes. In our previous policy consultation we clarified some of the requirements associated with holding the generation licence.

¹ The terms "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day-to-day work.

We stated that it may not be necessary for some licensees - particularly those operating smaller storage facilities - to sign up to certain codes.

For the avoidance of doubt, storage providers who already hold a generation licence would not be required to re-apply for a licence as the new licence conditions would automatically apply to them at the time of their implementation (i.e. 56 days after publication of our decision). Also, storage parties who wish to apply for a generation licence do not need to wait for our decision on these licence conditions. They can already apply and the proposed licence conditions would also apply to them when they come into force.

Background

In our call for evidence, *Towards a smart, flexible energy system*² – published jointly with the Government in November 2016 - we committed to ensuring the energy system works for people and businesses. A smarter and more flexible system offers significant benefits for consumers.

Ofgem has a central role in helping this to happen through effective regulation of monopolies and enabling competitive markets. Having listened to stakeholders' views, we committed to setting out a plan for action for removing regulatory barriers to storage in our 2017-18 forward work programme. We announced the specific actions in the *Smart Systems and Flexibility Plan (SSFP)*³ in July 2017.

Our work on storage is based on our view that storage is a key flexibility source and plays an important part in enabling the transition to the energy system of the future.

We are committed to removing barriers to the competitive deployment of storage, while ensuring that the regulatory framework for storage is consistent with our approach to regulating flexibility markets and takes into consideration the evolving nature of the energy system.

One action of the plan involved clarifying the regulatory framework for storage⁴. In the SSFP we said that storage in the energy system provides services equivalent to generation and as a result we consulted on making changes to the electricity generation licence standard conditions to reflect this in September 2017⁵.

It is however important to consider our approach to storage licensing in the context of wider ongoing work. As the energy system evolves, there is an increased need to strike the right balance between – on the one hand - ensuring routes to market are available for those who want to operate in the sector and that the impact and value of actions taken by parties are priced as accurately as possible; and – on the other side- ensuring consumers do not pay an unfair cost for the electricity they consume.

There is a vast amount of work currently looking at how to support the transition to a smarter, more flexible energy system that works for all consumers. We consider that the following are of particular relevance to storage:

² Available here: <https://www.ofgem.gov.uk/publications-and-updates/upgrading-our-energy-system-smart-systems-and-flexibility-plan>

³ As above

⁴ Other actions of the plan implemented by us or Government include: putting a prohibition on DNOs to generate electricity to enable the competitive deployment of storage; setting up an industry-led health and safety group to discuss health and safety in the context of the deployment of storage technologies; launching a competition to reduce the cost of large scale storage technologies; and reviewing the planning application process for storage.

⁵ [Clarifying the regulatory framework for electricity storage : licensing](#)

- Improving or opening routes to market for the provision of flexibility services. For example, through Project TERRE⁶ it is now possible for the aggregation of storage (as well as other flexibility sources) to provide balancing services to both the Trans-European Replacement Reserve (TERRE) platform and the balancing market (BM). Industry is implementing the necessary systems and codes changes to support the aggregation of flexibility and facilitate a better integration of flexibility sources in the energy markets. Among other issues, industry is also considering the need to be able to better identify flexibility sources within the energy system in order to realise the greatest value - for the energy system and for consumers - of the services that such sources can provide. For example, two ongoing industry code modifications (BSC P375 - *Metering behind the boundary point*; and P376 - *Utilising a baselining methodology to set Physical Notifications*⁷) are looking at improving the accuracy of behind the meter demand when this relates to different parties/loads.
- Reviewing network charging arrangements (including for storage). We have a major programme of reform – Future Charging and Access - and are leading on two significant code reviews (SCRs) to make better use of network capacity and to send better signals through charges and to reform how residual network charges and cost-reflective network charges (TCR⁸ and Access respectively) are recovered from network users. While storage network charges are not in scope of the TCR SCR, in our letter to industry published in January 2019⁹, we have set out our policy view that we expect storage residual network charges to be consistent with charging arrangements applied to other forms of generation. There are now five industry codes modifications that are developing solutions for storage residuals charging (for more information please see the “Further Considerations” section below). As part of these discussions, the industry working groups have identified the need for more granular data on the electricity consumed by storage sites to facilitate the correct calculation of charges. To achieve this, the modification proposals are looking at requiring storage to provide a set of information to other interested industry parties so that exemption from demand residuals and use of system charges are applied correctly.
- Understanding new business models, challenges faced and potential future developments to inform future policy. Our Innovation Hub team have been engaging extensively with innovators seeking to explore innovative business models that deploy storage. We have also met several storage developers to understand bankability and the financial sustainability of several storage offers. All stakeholders have stressed the need for regulation on storage to be technology neutral and to take into consideration evolving business models (including local energy models), such that it doesn’t hinder the variety of services storage could provide.
- Keeping guidance on co-location of storage with Feed-in-Tariffs (FITs) and Renewable Obligation (RO) accredited sites up-to-date to provide clarity to participants in these two schemes about the treatment of storage facilities within the frameworks of the schemes in anticipation of increased uptake of co-located storage.

⁶ The goal of the TERRE project is to develop a platform that allows the Transmission System Operators (TSOs) that use the Replacement Reserve (RR) process to exchange balancing energy from this type of reserve. Through TERRE, Balancing Service Providers (BSP) in GB will be able to provide balancing services to other TSOs in addition to the GB Electricity System Operator (ESO). The ESO is expecting to utilise RR products for energy balancing in GB from the TERRE platform go-live date – currently scheduled between October-December 2019.

⁷ Available on Elexon website: <https://www.elexon.co.uk/mod-proposal/p375/> and <https://www.elexon.co.uk/mod-proposal/p376/>

⁸ Targeted Charging Review

⁹ Available here: <https://www.ofgem.gov.uk/publications-and-updates/open-letter-implications-charging-reform-electricity-storage>

- Ensuring storage, as any other form of flexibility, is deployed on a competitive basis. We have recently strengthened unbundling rules to clarify that distribution and independent distribution network operators should not be involved in the provision of flexibility services through storage¹⁰. This is because we think that operation of storage by regulated monopolies could give rise to conflicts of interest that could negatively impact the competitive provision of flexibility, thus not achieving the best outcome for consumers.

This wider context greatly informs our approach to regulating storage. We think that rules for storage should be:

- consistent with the current regulatory and licensing framework, and in particular with the framework regulating other forms of generation;
- technology neutral, future-proof and proportionate, thus not getting in the way of innovation;
- non-discriminatory, and therefore in line with the view that flexibility sources should compete on a level-playing field for the provision of flexibility services; and
- consistent with the direction of travel towards greater transparency of the impact of service providers (both in terms of contribution and costs) on the energy system.

With these principles in mind, in the September 2017 consultation we proposed to:

- include a definition of 'electricity storage' and 'electricity storage facility' in the electricity generation licence; and
- introduce a new licence condition into the generation licence only applicable to electricity storage providers. The condition would require the licensee to ensure that they do not have self-consumption as their primary function when operating its storage facility.

Summary of responses and our views

We received 38 responses to our consultation. A number of themes emerged from the responses.

Definition of storage in primary legislation

The majority of respondents agreed that the proposal delivered on the actions set out in the SSFP. Some stakeholders, however, argued that further clarification in the form of a definition of storage in primary legislation was required, and/or that a separate licensing framework would achieve the policy intent better.

We only partially agree with this view. While we agree that a definition of storage in primary legislation would help clarify where storage 'sits' in legislation (and the Department for Business, Energy and Industrial Strategy (BEIS) is committed to making relevant changes to the Electricity Act when parliamentary time allows), our work to review the regulatory framework concluded that such a definition is not a necessary precondition for levelling the playing field and removing barriers to the deployment of storage. It would be helpful, but the current challenges faced by storage (e.g. current network charging regime,

¹⁰ Available here: <https://www.ofgem.gov.uk/publications-and-updates/decision-enabling-competitive-deployment-storage-flexible-energy-system-changes-electricity-distribution-licence>

or the payment of final consumption levies on electricity that is subsequently exported from a storage facility) can be addressed without creating a separate asset class nor a separate licensing framework for storage. This is because these challenges can be addressed either through the industry codes modification processes, or by providing guidance on how existing regulation applies to storage, or through legislative changes to regulation governing the environmental schemes or by other means.

Storage and self-consumption

Many stakeholders expressed concerns about our proposal to introduce a new prohibition on storage providers having self-consumption as the primary function of their storage facility. They noted that the expression 'primary function' is ambiguous and would require further clarification from us. They also noted that it would be difficult for storage providers to ascertain ex-ante what their primary function is as this would depend on several factors, such as the type of services provided, the technology used, the frequency and the revenue stream of each service provided.

Having considered stakeholders' concerns, we agree that satisfying the requirement to not have self-consumption as their primary function could be challenging at this stage of relatively early deployment of new types of storage technologies and business models, and at a time of transformation of the energy system where needs and required services may change quite rapidly.

Following stakeholders' concerns, we have considered alternative ways to clarify the purpose of the licence and its relationship with storage providers who export onto the system.

The next section of this letter sets out our alternative proposal.

Clarifying the treatment of storage for final consumption levies purposes

Stakeholders suggested that clarifications on final consumption levies should be given by amending the levies framework itself, set out by government.

We acknowledge stakeholders' concerns and have given this proposal further consideration. The environmental levies policies are set out by government, and we therefore have limited policy tools to amend the environmental levies policy framework to clarify what activities involving the consumption of electricity should and should not be subject to such charges. Any change to the arrangements under the schemes would require government to amend secondary legislation (e.g. to the RO and FITs Orders). Our RO and FITs guidance documents provide information to scheme participants on our administrative arrangements for each of the schemes and cannot be used as tools to amend policy.

In the SSFP, we and government have set out our view that storage should not pay final consumption levies on the electricity used to carry out the activities of storage and generation of electricity. This is because storage is not a final consumer of electricity.

Government has developed a number of policies to increase the share of electricity generated from renewable sources including RO, FITs and Contracts for Difference (CfD) schemes. The costs of funding these schemes, as well as the Capacity Market¹¹ are recovered through levies on suppliers and ultimately passed on to consumers' bills. Under these schemes, government expects final consumers of electricity to pay such levies and

¹¹ Subject to reinstatement of State Aid for the Capacity Market.

expects that this will apply in all cases with any exceptions explicitly set out in the legislation underpinning each scheme.

Definition of storage

Some stakeholders also commented on the proposed definition of electricity storage, with the majority noting that adding 'in a controllable manner' at the end of the definition was not necessary.

We agree that such addition would add little value. This is because, in order to reconvert energy back into electricity at the time when this is needed, there needs to be an element of 'controllability'. We have therefore decided to omit this text from the definition.

Storage technology

Some stakeholders also commented on the technology list we included in the consultation, noting that it correctly captures the range of current technologies that should be included in the definition of storage – and had no comments on those that should not be included.

We would expect storage providers to consider the eligibility of any new storage technologies by reference to the definition of electricity storage. We have taken this into account, especially given the potential for new technologies in this area and opportunities for innovation.

Our minded to position

Following a review of the consultation responses and further work to understand how the current regulatory framework provides for electricity storage, we have given further thoughts on how best we can remove some of the key barriers to storage identified in the SSFP.

To this extent, we propose changes to the electricity generation licence standard conditions that aim to:

- include a definition of storage and storage facility to clarify the role of electricity storage in the energy system; and
- ensure storage providers are not subject to final consumption levies, subject to them correctly identifying and reporting on the volumes of electricity exclusively related to the storage facility.

With respect to the first objective, we therefore decided to consult on amending the generation licence standard conditions to include the definition of 'electricity storage' and 'electricity storage facility'.

We propose that the generation licence standard conditions will include the following definitions:

electricity storage

'is the conversion of electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy'

and

electricity storage facility

'means a facility where Electricity Storage occurs'

In addition to the definitions, we propose to include the following new standard licence condition E1:

Condition E1. Requirement to provide storage information

- 1.** *The licensee must provide to the relevant supplier the information specified in accordance with paragraph 3 insofar as it relates to an electricity storage facility which is owned or operated by the licensee and which is situated at premises to which electricity is supplied by the relevant supplier.*
- 2.** *The licensee must publish on its website the information specified in accordance with paragraph 3 in relation to every electricity storage facility it owns or operates.*
- 3.** *The following information is specified information for the purposes of paragraphs 1 and 2 above:*
 - a. In relation to paragraph 1 only, confirmation of the electricity supplier to each electricity storage facility;*
 - b. For each electricity storage facility:*
 - i. The technology type, power and capacity of the electricity storage facility;*
 - ii. Where and to which transmission or distribution network the electricity storage facility is connected;*
 - iii. If an electricity storage facility is co-located at the same premises with a final consumer(s) (either as a single electricity storage facility or in aggregate with multiple electricity storage facilities), how it is or they are connected and the relationship between the final consumer(s) and licensee; and*
 - iv. The metering arrangements in place between the electricity storage facility and final consumer at the electricity storage facility.*
- 4.** *The licensee must comply with paragraphs 1 and 2 within, either:*
 - a. This condition coming into force; or*
 - b. The electricity storage facility becoming operational (whichever is sooner),*
and update their relevant supplier and website as soon as reasonably practicable following any change in the information specified in accordance with paragraph 3 in relation to every electricity storage facility it owns or operates.
- 5.** *The Authority may give a direction in writing to the licensee to direct changes to the information specified in accordance with paragraph 3 as the Authority thinks reasonable in all the circumstances of the case.*
- 6.** *The Authority may, after consulting with the licensee, give a direction in writing ("a derogation") to the licensee that relieves it of its obligations under this condition to such extent, for such period of time, and subject to such conditions as the Authority thinks reasonable in all the circumstances of the case as may be specified in the direction.*
- 7.** *In this Section:*

<i>"Final consumer"</i>	<i>means a final consumer of electricity (not including supply to premises occupied by a licensee for the purpose of carrying on activities which he is authorised by his licence to carry on).</i>
<i>"Relevant supplier"</i>	<i>means the holder of an electricity supply licence who supplies electricity to the specific premises that includes an electricity storage facility.</i>
<i>"Website"</i>	<i>has the meaning given to it in standard condition 16B (Financial information reporting).</i>

For avoidance of doubt, this proposal supersedes our previous proposal to require storage providers not to have self-consumption as primary function when operating their storage facility, on which we consulted in September 2017.

Under this new proposal, licence holders would be required to make available to their supplier information to support the correct identification of storage facilities at sites and therefore the accurate estimation of supply volumes necessary for calculating final consumption levies.

Licensees would also be required to publish certain information on their website to facilitate transparent information sharing among industry parties to support the efficient deployment and use of flexibility. We think that the information that licensees would be required to publish on their website would not be commercially sensitive. However we are interested in your views on this specific requirement, both with respect to the content of the information to be published on the website and the practicalities of doing so.

We expect not only storage providers, but all providers of flexibility services, to support transparent information sharing. All parties should, for example, consider keeping their websites up-to-date with information on the type of technology used, the services provided and key performance indicators.

Rationale for introducing Condition E1

The proposed obligation on storage providers to make available to their suppliers information associated with their licensed activity is aimed at supporting compliance by suppliers on their obligation to submit timely and accurate supply volumes to enable the correct calculation of final consumption levies.

We consider that, as arrangements behind boundary meters evolve and become more complex - potentially involving multiple parties and service providers - it should be the responsibility of each party to coordinate and facilitate the provision of services that support the accurate and efficient operations of the energy system. These services may include, among others, the settlement of electricity, or the calculation and billing of relevant charges and levies.

We expect storage providers - depending for example on the set-up of their storage site and their business model - to consider both if holding a licence is a pre-requisite for carrying out their services and, should this be the case, how they intend to comply with condition E1. This should include consideration on how their metering arrangements can correctly identify electricity associated with storage.

These considerations would be particularly important for those storage parties that intend to co-locate with final demand and where storage would be used primarily to provide flexibility services to on-site end consumers.

Information requirements in Condition E1

This section clarifies what information storage licensees should submit to their suppliers. We will also update the Guidance for suppliers provided under the RO and FIT schemes, clarifying what information suppliers would be expected to hold on storage sites operated by a generation licensee to support the accurate and timely calculation of supply volumes. As we do not administer the CfDs and the Capacity Market schemes, work to support the correct calculation of these charges for storage is currently being progressed separately by

Elxon in conjunction with the Low Carbon Contracts Company and the EMR Settlement Ltd¹².

For avoidance of doubt, licensees would be required to make available information for each storage facility operated under their licence. So should a licensee operate 2 or more facilities under the same licence, condition E1 requires the licensee to provide information to suppliers for each facility.

We also ask stakeholders to note that the condition refers to storage *facility/ies*. This is mostly relevant for multi-purpose sites, for example sites where some facilities export the stored electricity back to the grid - such as a 5MW site comprising of five storage facilities, each with a 1MW storage capacity; while others solely support the delayed consumption by on-site end users - such as a smaller battery used to improve management of electricity consumed by, say, an on-site industrial facility. As these facilities could operate under the same licensee, it is important that suppliers receive as accurate data as possible to calculate supply volumes correctly.

This obligation applies to licensees operating storage facilities of any capacity. This includes small batteries operated at domestic level. We do not consider this obligation to be too onerous as our analysis shows that in cases where small batteries are provided by the supplier as part of an offer, or are provided and operated by a third party (e.g. an aggregator), the information we propose to request in the new licence condition is already available or often shared between parties.

The licence condition sets out additional information licensees should share with their suppliers, such as:

- the technology type, power and capacity of the storage facility;
- where and to which transmission or distribution network the storage facility is connected;
- if a storage facility is co-located at the same premise with a final consumer(s), how it is or they are connected and the relationship between the final consumer(s) and licensee; and
- the metering arrangements in place between the storage facility and the final consumer at the electricity storage facility.

This information would help suppliers understand better the electricity usage expected on the site and spot anomalies in the flow of electricity imported and exported. It would also show whether the metering arrangements in place deliver on both the policy intent of the final consumption levies schemes (i.e. that final demand should pay environmental levies) and our view that storage should be exempted from levies on the electricity that is stored and subsequently exported back to the energy system.

More broadly, information sharing should encourage more transparency and coordination among parties.

We expect new licensees to comply with this new licence condition upon being granted a licence. For existing licensees, we expect them to comply with this new licence condition by the time it 'goes live', which is 56 days after us publishing our decision. We consider this an acceptable timeframe as storage owners/operators should already hold this information.

¹² More information is available here: <https://www.elxon.co.uk/consultation/consultation-align-bsc-reporting-emr-regulations/>

With respect to the format to be used for providing the information, suppliers and storage licensees should consider what works best for them depending on the information that the supplier may already hold and what additional information they may require. However, should stakeholders' responses highlight the need for more guidance from us on this, we will consider how best we can support industry.

Furthermore, should any changes to the information provided by a licensee be required, we would implement such changes through a direction. Likewise, in rare and exceptional circumstances, we could waive the information sharing requirement through a derogation, subject to the licensee providing robust evidence to support their case for a derogation. Each request would be assessed on a case-by-case basis.

Further considerations

Storage providers should also be aware of ongoing industry work on network charges that is considering what changes to industry processes are necessary to ensure such charges are allocated correctly to storage. This work has been taken forward through five industry code modifications:

- CUSC modification proposal CMP280 - *Creation of a new generator TNUoS demand tariff which removes liability for TNUoS demand residual charges from generation and storage users*¹³
- CUSC modification proposal CMP281 - *Removal of BSUoS charges from energy taken from the national grid system by storage facilities*¹⁴
- DCUSA change proposals DCP341¹⁵ and DCP342¹⁶ – *Removal of residual charging for storage facilities in the CDCM/EDCM*
- BSC modification P383 - *Enhanced reporting of demand data to the NETSO to facilitate CUSC Modifications CMP280 and CMP281*¹⁷.

These proposals are all looking at implementing the policy view that storage should not pay a disproportionate amount of residual network charges (TNUoS, BSUoS and DUoS).

If we were in due course to approve these changes, the solutions proposed would require storage parties – among other things - to be able to identify the electricity volumes associated to each storage facility if they wish to be exempted from some elements of transmission and distribution network charges and use of system charges.

The type of information storage parties would need to submit under the solutions proposed in these modifications is consistent with the information requirements also set out in the proposed condition E1. This should give comfort to stakeholders that collecting and sharing information would not be an onerous task, and should also highlight the direction of travel

¹³ <https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/creation-new-generator-tnuos-demand-tariff>

¹⁴ <https://www.nationalgrideso.com/codes/connection-and-use-system-code-cusc/modifications/removal-bsuos-charges-energy-taken-national>

¹⁵ <https://www.dcusa.co.uk/Lists/Change%20Proposal%20Register/DispForm.aspx?ID=370&Source=https%3A%2F%2Fwww%2Edcusa%2Eco%2Euk%2FSitePages%2FActivities%2FChange%2DProposal%2DRegister%2Easpx&ContentTypeId=0x0100684A1DE09E1F9740A444434CF581D435>

¹⁶ <https://www.dcusa.co.uk/Lists/Change%20Proposal%20Register/DispForm.aspx?ID=371&Source=https%3A%2F%2Fwww%2Edcusa%2Eco%2Euk%2FSitePages%2FActivities%2FChange%2DProposal%2DRegister%2Easpx&ContentTypeId=0x0100684A1DE09E1F9740A444434CF581D435>

¹⁷ <https://www.elexon.co.uk/mod-proposal/p383/>

towards more transparent arrangements among industry parties, as well towards greater granularity of data used by industry.

Content of the statutory consultation

The proposed statutory changes to the electricity generation licence standard conditions will entail adding in SLC1 (Definitions) the definition of *electricity storage* and *electricity storage facility*, and adding a new licence condition SLC E1 *Requirement to provide storage information*.

Next steps

Alongside this letter we have published a statutory consultation notice whereby we propose to modify the SLCs of the Electricity Generation Licence.

We welcome comments on the proposed drafting of these modifications. Responses should be received by 25 July 2019. We prefer electronic copies, sent to flexibility@ofgem.gov.uk but alternatively please post them to:

Andrew Burgess
Energy System Transition
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10 South Colonnade
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E14 4PU

Unless marked confidential, all responses will be published on our website, www.ofgem.gov.uk. You can ask us to keep your response confidential. We will respect this request, subject to any obligations to disclose information, for example under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

If you would like your response to remain confidential please mark it clearly and restrict all confidential content to an annex. Please include the reasons for confidentiality.

After considering your views, we may issue directions to modify relevant licences. If we proceed with the modifications, we expect these to be published so that the licence changes can take effect in autumn 2019. Licence holders, trade bodies representing licence holders and Citizen Advice and/or Citizen Advice Scotland will have 20 working days (from the first day after our decision is published) to decide whether to appeal our licence changes to the Competition and Markets Authority (CMA). Subject to appeal, the licence changes will take effect in autumn 2019.