SEM Committee

8 November 2022

Emailed to: Brian.Mulhern@uregni.gov.uk and electricityconnectionpolicy@cru.ie

RE: **SEM-22-068 Firm Access Methodology in Ireland "EirGrid – proposed methodology"**

Energy Storage Ireland (ESI) is an industry representative association comprised of members who are active in the development of energy storage in Ireland and Northern Ireland. Our aims are to promote the benefits of energy storage in meeting our future decarbonisation goals and to work with policy makers in facilitating the development of energy storage on the island of Ireland. We have over 50 members representing many areas of the energy storage supply chain.

Energy storage will play a significant role in facilitating higher levels of renewable generation on the power system and in helping achieve national renewable electricity targets. Storage systems can act in the energy, capacity and system services markets to deliver a wide range of benefits such as wholesale energy price reductions, reduced CO2 emissions and flexible system support services to help manage the grid with higher levels of renewables.

We would like to thank the SEM Committee for the opportunity to provide feedback on the consultation on a Firm Access Methodology in Ireland. The information provided below will primarily aim to inform a response to Question 6 of the consultation questions.

In summary our key points in relation to our response are as follows:

- We fundamentally disagree with the assumption made by the TSOs that operational battery storage units are outside of the scope of this firm access review and that they should only be seen as system service providers and not energy market participants. We note that the TSOs do not provide sufficient justification for this, however the consultation paper highlights the essential need for storage in decarbonisation. In addition, as energy storage requires a "Licence to Generate" alongside other forms of licenced generation, the TSO treatment of storage could be considered discriminatory under EU legislation. [1][2]

[1] Regulation (EU) 2019/943 of the European Parliament and of the Council Article 13
[2] Directive (EU) 2019/944 Article 42

- Storage assets have built their business cases on the ability to participate in energy markets as well as provide system services. The main factor limiting participation of batteries in energy markets is TSO market system limitations rather than any active choice on the part of battery operators to 'only' provide system services. Indeed, as certain TSO system fixes are expected in 2023, we expect to see more active participation of battery assets in energy markets in the near term. Firm access is an important consideration for energy market participants therefore it does not make sense, nor is it equitable that battery units should be treated differently to other market participants.
- In advance of TSO market system fixes we believe there is an interim solution to grant all non-firm batteries a deemed firm status that would allow them to participate in the energy market this winter. We have commissioned analysis from Baringa which shows this could reduce wholesale electricity prices by up to €35 million this winter. We have shared this analysis, and are happy to discuss this further with you. We would emphasize that this interim solution is in addition to addressing the longer-term need for financial firmness for energy storage, which will be addressed further in the section on Physical Firmness vs. Deemed Firmness below.
- The firm access consideration for energy storage is different to that of other market participants as energy storage units tend to charge at times of low demand/high renewables and discharge energy at high demand/low renewables. This can act for the benefit of the network in terms of reducing constraints and facilitating larger amounts of renewable generation onto the system.
- In this case the distinction between physical firm access and financial firmness becomes important as storage units may not necessarily require physical firm access rights to the system (which are contingent on grid reinforcements) but by actually helping to reduce constraints, or not contributing materially to constraints, storage units should be deemed as financially firm for the purposes of market participation.
- Considering that EirGrid's proposal is to set a constraints threshold below which projects will be made firm it should be relatively simple to include current and future operational storage units in the annual reviews, examine their constraint impacts, if any, and deem them as financially firm where they fall below this threshold. In the unlikely event that storage units are having a material impact on constraints, then they should be included in the firm access schedule, based on network reinforcements, along with other market participants.
- Consideration should be given to the role of storage in potentially creating firm access capacity in regions of the grid for renewable projects by effectively acting as a network asset to mitigate constraint levels. ESI has developed a position paper on a procurement framework for long-duration energy storage and we would be happy to discuss this with you.

The role of energy storage beyond system service provision

As previously noted in our letter to EirGrid on the 1st of April 2022, we are very concerned with the SEM Committee position to not include energy storage in the firm access methodology review. This appears to be without real justification and based on the incorrect assumption that energy storage assets currently operational and in development are only planning to provide system services. This is not the case, and this assumption should not be the basis for making such an impactful policy decision.

Storage is a highly flexible technology that uniquely relies on the ability to move between different service and value streams. Investment decisions are therefore made (and have already been made) on the basis of the ability to provide not just system services but participate in wholesale and balancing markets. Storage units, like any other market participant, should have the ability to choose which market/value stream to participate in and not be arbitrarily defined as solely a system service provider, as the TSOs appear to be doing in this consultation.

In fact, there are acknowledged TSO market system issues which limit participation of batteries in the market at present. This is the case for existing battery storage units that are not 'just' service providers but would be more active participants in energy markets if the TSO systems allowed them to do so.

Certain TSO system fixes are expected in 2023 and we expect to see more active participation of battery assets in energy markets in the near term. Given that there are multiple operational battery storage assets on the system since 2020, it is vital that these are implemented without delay. Firm access is an important consideration for energy market participants therefore it does not make sense, nor is it equitable that battery units should be treated differently to other market participants.

It is important that storage not be disadvantaged versus other conventional technologies at a critical early stage in the development and deployment of energy storage in Ireland. To de-scope and delay the consideration of firm access for storage would be detrimental for investor confidence, one of the key objectives highlighted in the firm access review, and directly impacts the ability for storage to deliver intended business cases.

Excluding storage from this new firm access methodology is not just an issue for non-firm assets today but is also a clear barrier to developing projects that will not support investor confidence if they are excluded from fair participation in wholesale markets. The majority of current and future storage project investments will be made using wholesale market revenues as an essential basis for investment given the increasing importance of this enduring revenue stream to energy storage. Firm access for storage is therefore essential to the business case and enabling the volume of energy storage required to meet Ireland's decarbonisation goals.

These assets will also play an important role in managing constraint and curtailment on the system which will drive down redispatch costs for the system operators.

Non-firm access also acts as a barrier to storage participating in capacity market auctions (since non-firm providers will be unable to manage obligations effectively), reducing competition and increasing costs for consumers. Small volumes of non-firm storage have entered into capacity auctions, but the elevated risk associated with doing so increases the hurdle rates required to gain investment and acts as a barrier to wider storage involvement in this market.

In addition, energy storage requires a 'Licence to Generate' in order to build out, hence it could be considered discriminatory under EU legislation,[3][4] to not include storage in the scope of the methodology alongside other forms of licenced generation.

Physical Firmness vs. Deemed Firmness

As noted above, the role of energy storage in Ireland's energy mix is unique, as storage projects can be used to charge (or import) energy at times of high renewable output and discharge (or export) at times of low renewable output. This very use-case of storage means that storage will tend to act against the normal flows on the grid i.e. storage is basically a contra-flow device on our grid.

Given the distinct role of storage, the distinction between physical firm access and financial firmness becomes important as storage units may not necessarily require physical firm access rights to the system (which are contingent on grid reinforcements) but by actually helping to reduce constraints, or not contributing materially to constraints, storage units could be deemed as financially firm for the purposes of market participation.

Considering that EirGrid's proposal is to set a constraints threshold below which projects will be made firm it should be relatively simple to include current and future operational storage units in the annual reviews, examine their constraint impacts, if any, and deem them as financially firm where they fall below this threshold. In cases where units are having a material impact on constraints, then they should be included in the physical firm access schedule, based on network reinforcements, along with other market participants or given the choice to connect on an enduring non-firm basis.

This would avoid situations where storage units are allocated physical firm access quantities in constrained regions which could instead be allocated to renewable units. The storage units, through their economic dispatch for import and export, would actually help manage constraints in these areas so building out grid reinforcements for these storage units does not seem logical.

[3] Regulation (EU) 2019/943 of the European Parliament and of the Council Article 13
[4] Directive (EU) 2019/944 Article 42

Deemed firm battery status for this winter

Operational energy storage assets could be active in the wholesale and balancing markets but current limitations in TSO market systems, that are acknowledged by the TSOs, impact our ability to participate fairly and equally with other market participants. These limitations mean that energy storage assets cannot be effectively dispatched whether they have firm access or not.

The impact of this is that all energy storage projects with an ex-ante generating position, regardless of firmness, are dispatched by the TSOs to 0MW but those without firm access are settled at the market imbalance price only and therefore exposed to imbalance price risks. This effectively precludes these assets from participating in the energy market as they will be exposed to financial losses even though the issue is the limitation in TSO dispatch systems and not the assets' ability to provide energy. It is not in keeping with the principles of the market that units are disadvantaged in this way by TSO actions.

ESI has recently commissioned a report with Baringa which illustrates the benefits associated with a deemed-firm battery dispatch status in the SEM this winter. The report found that a SEM Committee decision offering battery storage assets in Ireland and Northern Ireland deemed-firm status as an interim dispatch measure offers an opportunity to reduce end consumer costs by up to €35m over Winter 2022/23. Under this policy intervention, the participation of batteries in the day-ahead market would act to reduce the overall cost of meeting demand levels in the day-ahead schedule. We are happy to discuss this report with you.

ESI Long-duration energy storage position paper

ESI has developed a position paper on a long duration energy storage procurement framework which we have attached with this response. This provides further detail on the benefits that LDES can bring for the system and a potential procurement framework to incentivise development of long-duration energy storage technologies.

This paper also suggests two new connection types for storage projects. They can either connect in a 'permanent non-firm' manner, meaning they drive no grid reinforcements and the TSOs retain the right to constrain the units as needed. Or they can connect as 'contra-flow' units where they effectively create new firm capacity and the TSOs retain the right to operate the unit proactively in order to maximise its impact in a constraint scenario. For the TSOs, this can provide a real incentive for the deployment of multi-hour storage while maintaining operational security and avoiding difficult network build-out. The below table describes the existing connection types and two new types we propose:

Connection Type	Status	Network flows	Financial Firmness	Physical Firmness	Network upgrades	TUoS	Grid Connection Capacity	Congestion payment	Examples
Normal unshaped	Existing	Adding to existing peak flows	Firm	Firm	Must complete	Positive	Reduces	None	Typical large industrial demand or conventional generator
Temporary non-firm	Existing	Neutral	Non-firm initially	Non-firm initially	Must complete	Positive	Neutral	None	Wind farms or Dublin data centres policy
Permanent non-firm	Proposed	Neutral	Non-firm	Non-firm	Can ignore	Zero	Neutral	None	Battery prepared to take the risk of non-firm
Contra-flow	Proposed	Contra-flow at all peak time	N/A	N/A	Avoided	Negative	Increases	Payment to unit	A long duration storage plant built to offset network upgrades

We also discuss the potential for energy storage to be remunerated through network charges to provide this grid service which can be seen as an alternative or a compliment to network reinforcement.

We would be happy to discuss this paper in more detail with you.

An Energy Storage Policy Framework

It should also be noted here that DECC is due to commence a consultation on a policy framework for energy storage in Ireland shortly. This will mark the start of a process of creating a clearer path for energy storage development and potential energy storage targets in future. On page 4 of the firm access consultation, it is stated that "RAs recognise the increasing importance of battery storage and need to facilitate the increased inclusion of this technology." We note that there are no further commitments or guidelines relating to this in the consultation. ESI would urge SEMC to greatly consider how this will be recognised in practice, in preparation for the upcoming DECC consultation. In order to meet Irelands climate target, it is vital that all parties are prepared to facilitate the further development of energy storage.

Conclusion

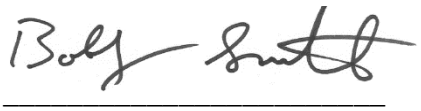
In conclusion, we would request that the SEM Committee reconsiders the inclusion of energy storage in firm access policy. We note that the consultation paper's description of energy storage as a pure service provider is fundamentally incorrect, and that investment decisions are made based on the ability to provide not just system services but participate in wholesale and balancing markets.

We have noted the barriers that are created by excluding storage from firm access policy, as well as the potential benefits that could be made available by including it, along with the immediate term benefits of introducing a "deemed firm" status for energy storage this Winter.

It is important that the SEMC considers the unique role of energy storage, as well as the variety of benefits and uses it can provide for the system and that it is included in the firm access policy decision.

We would like to thank the SEM Committee for the opportunity to provide feedback on the consultation on a Firm Access Methodology in Ireland. We are available to discuss any of the points made above in more detail should you require.

Kind Regards,



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