

Commission for Regulation of Utilities,
The Grain House,
The Exchange,
Belgard Square North,
Dublin 24,
D24 PXW0

24 January 2020

Emailed to: Cahir O'Neill, Stuart Coleman – Electricityconnectionpolicy@cru.ie

RE: ECP-2 Proposed Decision Paper

Dear Cahir, Stuart,

Energy Storage Ireland welcomes the opportunity to respond to the CRU's proposed decision on ECP-2.

Energy Storage Ireland is a newly established representative body composed of industry members who are active in the development of energy storage in Ireland and Northern Ireland. It is an evolution of the Irish Wind Energy Association's (IWEA) Storage Committee which has been in operation since 2017, and now represents 28 different companies across all aspects of energy storage. Our aim is to promote the benefits of energy storage in terms of meeting our future decarbonisation goals and to work with policy makers in facilitating the development of energy storage on the island.

The use of energy storage is critical for the future security, reliability and operation of Ireland's power system. Energy storage technologies are a key enabler to a decarbonised electricity system, and their deployment supports climate change and energy security goals by providing a multitude of valuable services. Renewable energy generation and energy storage are highly complementary technologies, helping to address the issues arising out of variability, especially at very high renewable penetration levels as anticipated under current government targets by 2030 and beyond.

Energy Storage Ireland has recently developed a paper titled '*Our Energy Storage Future – Recommendations for an All-Island Energy Storage Roadmap*' which we have attached alongside our consultation response. This roadmap outlines the significant barriers and challenges faced by the storage industry and proposes recommendations and possible solutions for policy makers to help alleviate these obstacles, in the short term (2020 to 2023), medium term (2023 to 2025) and long-term (2025 to 2030 and beyond). We look forward to

continuing our work with the CRU on addressing the barriers to further energy storage development.

We would like to make the following comments in relation to the proposed ECP-2 decision:

Batch Timelines

We support the proposal to process annual ECP-2 batches, but it is not clear why the ECP-2.1 batch cannot open earlier in Q2 2020 or why this is linked to the completion of RESS 1. ECP-2.1 should commence as soon as possible with a 12-month timeframe for batch opening and processing of all offers. Subsequent ECP-2 batches are allowed to process in parallel according to the proposed timelines and this should be the same for the start of ECP-2.1. The ECP process should support RESS auctions and facilitate the efficient and timely connection of projects such as battery storage, along with other System Services providing devices which may require a connection offer, e.g. Synchronous Condensers, STATCOMS, or Flywheels.

Batch Size and Prioritisation

In relation to batch size and prioritisation, we believe that the CRU's proposals will exclude projects such as battery storage from obtaining a connection offer under ECP-2. While we support the proposal to prioritise at least 25 offers for renewable projects based on largest energy production, as this best aligns with our RES-E objectives, we believe the target of 50 offers per batch is too low and will prevent the majority of storage projects from entering ECP-2.

The remaining projects that will be prioritised based on date of planning permission grant will predominantly be smaller wind and solar projects that have held planning for a number of years and, as such, it is likely that the ECP-2 batches will be heavily over-subscribed with these projects. The large majority of battery storage projects have entered the planning process relatively recently and, following a review of the planning order of renewable and energy storage projects, Energy Storage Ireland does not believe storage projects will be eligible to be processed under the three ECP-2 batches as a result.

The 70by30¹ report completed by energy and utilities experts Baringa, and published in October 2018, showed that a 70% RES-E target for the Ireland and Northern Ireland power system could be achieved by 2030 at a net financial benefit to end consumers. The report found that the provision of flexibility on the all-island power system is a vital ingredient to the successful and efficient integration of renewables by 2030.

Technologies such as battery storage, synchronous condensers and flywheels will be essential in providing this flexibility to help manage an electricity system with high penetrations of

¹ Baringa "70 by 30 - A 70% Renewable Electricity Vision for Ireland in 2030", <https://www.iwea.com/images/files/70by30-report-final.pdf>

variable renewable generation. For instance, the 70by30 report projected up to 1200MW of longer duration 2-hour battery storage will be required by 2030 to help manage the system.

There is a clear pathway for Ireland to progress towards 70% renewable electricity over the coming years, which will be enabled by the forthcoming RESS auctions. As the renewable generation on the power system increases, it is very likely that the volume of System Services required to support this system will need to also increase, and that these System Services will increasingly be required to come from fossil fuel generation.

We therefore emphasise the need for a connection process, whether through ECP or separately, that allows technologies such as battery storage, synchronous condensers, flywheels and other technologies to connect to the grid.

We propose that each annual ECP-2 batch should process at least 125 offers with 25 prioritised by largest energy production and the remainder by date of planning grant. This would greatly facilitate the number of renewable projects able to obtain connection offers and would allow in storage projects which otherwise would have no route to a connection.

We are aware that the System Operators are currently assessing future system needs including system flexibility but stress that there needs to be a process for such flexible technologies to connect. Our proposal to process at least 125 offers per annum would remove this potential issue. We would like to engage further with the CRU on this point before a final decision is made.

We request clarification as to how hybrid projects, e.g. storage co-located with wind, would be prioritised under the proposed ruleset.

Capacity Release Mechanism

We would also propose that a capacity release mechanism be implemented for projects contracted under ECP as well. This would allow flexibility for storage projects contracted under ECP-1 to either hand back their capacity, and recover some costs, or continue to seek a route to market if they have not already done so. We would welcome further engagement with the CRU on this matter.

Grid Access and Network Planning Standards

The DS3 Volume Capped procurement process has incentivised the provision of fast frequency response and operating reserves from battery storage, which require a maximum 20 minutes of export potential. These fast-acting reserve services are also where the most value and revenue potential are for batteries in the short term so projects in development now are incentivised for shorter discharge durations. This means that battery storage units may have a relatively high maximum export capacity (MEC) compared to their MWh energy duration. At

present, battery storage is subject to the same rules for grid access and the associated network planning standards as any other generation unit based on their MEC. MEC for units which can export for a maximum of 20 minutes is well within overload capabilities for grid infrastructure. This approach is not fit-for-purpose and will lead to wasteful network development and unnecessary development costs unless the process for allocating MEC is reviewed.

A review of grid access and network planning standards is warranted to consider the unique characteristics of energy storage. This process must be flexible to avoid unnecessary network development or excessive costs to developers where possible. We welcome further engagement with the CRU and System Operators on this matter.

Store, Respond and Save

Further to the 70by30 report, Energy Storage Ireland and IWEA commissioned Baringa to carry out a cost-benefit analysis assessment investigating the benefits to the power system in procuring all System Services from zero-carbon providers such as battery energy storage, demand side response and synchronous condensers. This assessment leveraged previously completed work carried out as part of the 70by30 analysis.

The report titled, '*Store, Respond and Save – Cutting Two Million Tonnes of CO₂*' was published on 13 December 2019².

Currently, the majority of System Services are provided by fossil fuel generators, that are often constrained on or positioned by the TSOs, outside of the market schedule, to meet System Service constraints. These generators receive compensation to cover the additional fuel and carbon costs they need to operate in order to provide these services. This also results in increased CO₂ emissions and the curtailment of renewable generation.

Baringa have modelled scenarios with System Service constraints in place for the years 2021, 2023, 2025, 2027 and 2030, and have then removed these constraints in turn – reflecting provision of reserve and all other System Services from 'non-energy market' zero-carbon sources such as battery storage.

The results of this analysis show that removing system operational constraints and procuring all System Services from zero-carbon sources would avoid 700,000 tonnes of CO₂ emissions per year by 2021, increasing to 1.9 million tonnes avoided per year by 2027. To put this in context, this is equivalent to approximately one third of total 2030 power sector emissions that could be avoided by transitioning to a zero-carbon System Services model.

² <https://iwea.com/images/files/iwea-baringastorererespondsavereport.pdf>

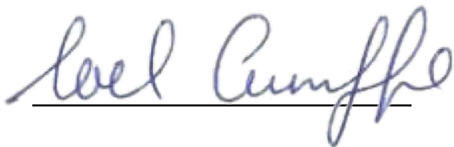
There are also significant operational cost savings with sourcing all system services from zero-carbon sources, with up to €90m per year of savings by 2021, increasing to €117m per year by 2030, primarily from avoided fuel and carbon costs.

This analysis indicates that the sooner we can transition to a power system through which System Services are primarily being provided by non-fossil fuel devices, the better for the electricity consumer and for achieving renewable electricity targets. This can only be facilitated with a connection process which allows the connection of these devices to the system. We would welcome the opportunity to speak to the CRU in relation to this point prior to the final decision publication of ECP-2.

In conclusion, we would like to thank the CRU for the opportunity to respond to the ECP-2 proposed decision and we are available to discuss any of the points raised in our submission in more detail.

Please feel free to contact us should you have any questions.

Best Regards,



Noel Cunniffe

Energy Storage Ireland