

Department of the Environment, Climate and Communications
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18 May 2021

Emailed to: CallforEvidence@decc.gov.ie

RE: Call for Expert Evidence – Climate Action Plan 2021

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 30 members representing many areas of the energy storage supply chain.

We would like to thank the Department of the Environment, Climate and Communications (DECC) for the opportunity to provide feedback on the Call for Expert Evidence – Climate Action Plan 2021. We would like to make the following comments in relation to the consultation.

Increased Ambition for the Climate Action Plan 2021

ESI fully endorse Wind Energy Ireland's submission to the Climate Action Plan Call for Evidence relating to Baringa's 'Pathway to a zero-carbon power system in Ireland' study which is submitted as an accompanying appendix to Wind Energy Ireland's response.

The analysis shows that the emissions footprint of the electricity sector in Ireland can be reduced substantially beyond the 4 - 5 Mt of CO₂ objective of the Climate Action Plan 2019 by 2030, and it concludes that:

1. Government should **maintain the Climate Action Plan 2019 and Programme for Government renewable capacity targets** for onshore wind (8.2 GW) and offshore wind (5GW) for 2030, along with 5 GW of solar PV.
2. An **emissions target of less than 2 million tonnes of CO₂**:
 - Is very achievable by 2030;
 - Does not require a significant change in the approach currently underway for to achieve 70% renewable electricity;

- Can be met by implementing more of existing technologies that are proven today (such as energy storage); and
- Can be achieved at a lower cost to the end consumer (saving approx. €150m per annum).

3. A **stretch target of a zero-carbon power system by 2030 is possible:**

- It requires incremental investments in a suite of new technologies including long-duration energy storage; and
- It requires the introduction of a carbon price floor in I-SEM.

We strongly endorse these positions and recommend that the Government considers implementing these positions in the Climate Action Plan 2021.

Need for an Energy Storage Strategy

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. 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.

To support the growth of energy storage as a key part of the energy transition in achieving these goals we have published two reports and we would like to engage further with DECC on implementing the policy recommendations arising from them:

- [*Our Energy Storage Future*](#) is our all-island storage roadmap. This sets out a number of key policy recommendations necessary to facilitate the development of energy storage in Ireland and Northern Ireland in the short, medium and long-term.
- [*Store, Respond and Save*](#) is a report by energy consultants Baringa, commissioned on behalf of ESI, which shows how new zero-carbon technologies such as battery storage can ensure the all-island power grid remains strong and secure while delivering significant CO2 emissions reductions, driving down system costs and reducing renewable curtailment. Sourcing all system services from these zero-carbon technologies, instead of their traditional provision from fossil fuel generators, can avoid up to 2 million tonnes of power sector CO2 emissions, reduce system costs by €117 million and reduce renewable curtailment from 8% to 4% **per annum** by 2030.

A robust policy, regulatory and commercial framework is needed to allow for the deployment of energy storage on a large-scale. Baringa's 70by30 report¹ projects at least 1700 MW of energy storage will be needed by 2030 and that these projects will be active across a number of markets such as system services, capacity and energy trading. Over the longer-term, long duration multi-hour and even multi-day storage providers will be needed to ensure system adequacy with higher levels of renewables.

Currently the majority of battery storage projects are developing under the DS3 system services arrangements to provide fast frequency response and operating reserve services that are important to help manage an electricity system with high penetration of renewables.

However, there are still many barriers that are blocking the full integration of energy storage and preventing projects from stacking revenues across the wider storage use cases. There is a disjointed approach to many energy storage policy issues among the various policy makers which risks policy misalignment and the creation of further issues down the line.

A coordinated strategy for energy storage is needed as part of the Climate Action Plan to ensure investment is supported through the various pillars of the market and that new energy storage technologies are fully integrated into the electricity system and market to unlock their full potential. This should bring together the relevant stakeholders such as DECC, the CRU, System Operators and industry to ensure a coordinated approach to energy storage going forward.

DS3 System Services

EirGrid and SONI held a DS3 Volume Capped auction in 2019 which procured 110 MW of new build battery storage projects, that are expected to come online in 2021. However, there is no certainty on further potential auctions and the other development route for storage and new flexible technologies, the DS3 Volume Uncapped tariff arrangements framework, is due to expire in 2024. A joint CRU and NIAUR regulatory decision is needed to put in place a new long-term enduring procurement framework and, while work on this framework has begun, it is likely to take a number of years for final decision and implementation

The objective of the future System Services project needs to include national decarbonisation and renewable energy policy aims as a central goal, rather than solely focusing on delivering a competitive framework.

We believe that a key metric of success for the enduring framework should be that the system can run on up to 100% renewables with all System Services coming from zero-carbon sources at any one time. We believe this is a necessary step in order for the system to deliver 70% RES-E by 2030 in the most efficient manner.

Adequate investment signals are also needed for new build providers of zero-carbon system services that will be required to support a system with 100% SNSP. To maintain investor

¹ https://windenergyireland.com/images/Article_files/Final_Baringa_70by30_Report_web.pdf

confidence appropriate time must be allocated to the development, design, delivery and transition to an enduring set of system services market arrangements, while clearly defined transitional arrangements must be provided to maintain clear investment signals for services and technologies necessary to deliver renewable targets over the next 10 years and beyond.

The current DS3 system services cap of €235m per annum was put in place to reach 2020 targets. It logically follows that it must now be reviewed and revised upwards to ensure the 2030 targets are met. The CRU has set targets in the PR5 framework for EirGrid to reach 80% SNSP by 2023 and 85% SNSP by 2025. This ambition must be supported by adequate resources and funding to deliver the technologies and services required. The DS3 tariff arrangements have been extended until 2024 but this must be considered in the context of the additional budget requirements needed to maintain a clear and strong investment signal. Without this there is a risk of stalling investment in new system service technologies and limiting our ability to increase SNSP levels.

Capacity Market

The capacity market must also support new investment in low carbon technologies and avoid locking in inflexible generation for years to come. To date the capacity market has been geared towards conventional thermal plant but this focus needs to shift and a review of the market carried out to ensure investment is delivered in the technologies that can support renewables and our capacity needs over the longer-term. Strict emissions limits could be considered here for new build contracts in future capacity auctions to support new zero carbon technologies. For instance, in Spain the Government are proposing that long-term capacity contracts will only be provided to zero emissions technologies.

Electricity Market

Energy storage will also play an important role in energy trading thus helping to reduce system costs and carbon emissions. However, the full integration of energy storage in the market is not possible at the moment as the market IT interfaces are not set up to adequately accommodate storage providers. This impacts the ability of storage projects to charge and discharge efficiently and gain access to different revenue streams that would unlock more consumer benefits. This issue must be addresses as soon as possible and we would welcome focus on these solutions as part of the Climate Action Plan.

Storage Participation in RESS & Hybrid Projects

The Climate Action Plan 2019 contained a number of actions to remove barriers to hybrid projects and allow hybrid projects to compete in RESS. There has been very little progress on removing barriers to hybrid connections such as multiple legal entities behind connection points and sharing of MEC by technologies behind the same connection. It is also not clear how hybrid participation in RESS is being progressed. Allowing hybrid projects to develop e.g. clo-

location of wind or solar with storage has the potential to deliver multiple benefits such as lower connection costs (and therefore lower RESS bids), dispatch down reductions and lower wholesale energy costs. Removing these barriers to hybrid participation should be addressed as a matter of urgency and it is essential that the proper resources and prioritisation is given to this by the relevant stakeholders.

Long-Duration Storage

In the longer-term, getting to net zero will require shifting energy demand from other sectors such as heat and transport into electricity and long-duration energy storage. In our all-island roadmap paper, we have highlighted the potential role of technologies such as hydrogen electrolysis in the energy transformation. The development of an all-island body to oversee and incentivise developments in this area would be a welcome step and something we would like to see included in the final Climate Action Plan.

Conclusion

In conclusion, we would like to thank DECC for the opportunity to provide feedback on the Call for Expert Evidence – Climate Action Plan 2021. We are available to discuss any of the points made above in more detail should you require, and we look forward to working with you in future.

Yours sincerely

A handwritten signature in black ink, appearing to read "Bobby Smith", written over a horizontal line.

Bobby Smith
Energy Storage Ireland