# Net Zero Energy Ltd.

# Response to Department of Environment, Climate and Communications

# Offshore Wind Phase Two Consultation

March 2022

# Introduction

This submission should be treated as confidential.

Net Zero Energy is a recently incorporated renewables and storage company operating in Ireland. The team consists of energy industry professionals who have a proven track record in building successful renewable energy companies and delivering some of the most complex renewable energy projects in Ireland over the past 2 decades. We are now focussed on high-impact projects that will enable Ireland to meet not only it's 80% RES-E target for 2030 but will also accelerate the country towards a net zero energy system in advance of our current 2050 target (as set out in the National Development Plan 2021-2030).

# Response to Specific Questions in Call for Evidence

***Response to consultation Questions 1-9***

We have chosen not to submit individual responses to these questions, as we do not currently have a direct interest in an offshore wind project. However, as we would like to submit the following, high level points for consideration:

- The top priority must be delivery of sufficient volume of renewable electricity generation to meet our 80% RES-E target for 2030 and enable the more critical high-level target of 51% emissions reduction by 2030.
- Current policy is targeting that 5GW of this additional renewable electricity will come from offshore wind. This must be recognised as an extremely challenging target in the timeline available considering that, as of today, we do not yet have a single offshore project in a planning process. Therefore, it is critical that the great does not become the enemy of the good. Finalising a Phase 2 process which is reasonably efficient (though possibly not optimal from a competition perspective) but which delivers a clear regime for industry to work within in the short term is far superior than spending 2 years debating the intricacies of options to deliver maximum competition while resulting in a hiatus of investment and, ultimately, a failure to deliver on our targets.
- We are very supportive of strong financial commitments from developers in order to ensure project awarded land and grid rights are truly capable of delivering by 2030. The deployment security and terms for draw-down look sensible and appropriate.

***10. Hybrid grid connections are defined in this paper as single grid connections which facilitate the connection of both an existing or proposed thermal generation plant and a proposed offshore wind project.***

**NZE Response**

***a. Do you support the facilitation of such connections, as defined? Why?***

While we recognise the efficiencies and cost savings from an engineering and technical perspective of having 2 complementary technologies sharing a grid connection, this should be clearly separated from the question of grid capacity allocation. We are very concerned at the idea that existing thermal units might have some form of preferential access to grid by a backdoor of declaring themselves to be a hybrid and being allowed to share the grid capacity between the thermal and the offshore renewable project. The consultation recognises that grid access is a precious and finite resource in the context of Phase 2 projects. So, it is imperative that grid allocation is carried out fairly and that a level playing field is guaranteed.

As things stand today, EirGrid's grid connection policy allows for separate, co-located units to connect behind a single grid connection point. These units can be different technology types and are metered separately from a market perspective. Indeed, the team at Net Zero Energy was responsible to the delivery of the first 2 battery projects in Ireland (Kilathmoy and Kelwin-2) which are co-located behind grid connections with wind farms. However, a key point here is that these co-located projects do not share grid capacity and each unit had to secure its' own capacity on the grid. So, today's grid policy allows that a hybrid project should only be allocated grid capacity if its individual (e.g. thermal and renewable) components either have been allocated, or would have been entitled to be allocated grid capacity under the prevailing policy of the day.

The consultation states that the concept being explored is as follows:
"*Under a hybrid grid connection, as defined, when the offshore wind generation resource is available, the ORE project could utilise the connection point to the maximum level possible, with the thermal generator availing only of the remaining export capacity at the connection point or to provide a greater proportion of generation at the request of the system operator*"

So, this consultation describes a mechanism for 2 projects, with different technologies, to share grid capacity. It is important to note that there is no basis in grid policy today to allow for this and we would have serious concerns that it could result in preferential access to large amounts of scarce grid capacity for incumbent thermal generation owners.

As a result, we think that hybrid projects should be facilitated only so long as grid is allocated to each constituent part of the hybrid individually, or each constituent part is entitled to grid under the prevailing grid allocation policies at that time. For example, if each constituent part of the hybrid is under the same planning reference or has a full grant of planning and have applied in an ECP batch, or both parts won a capacity auction which was allocating grid), then that is a level playing field in terms of grid allocation, because other non-hybrid plant at the same stage of development have the same opportunity to secure grid capacity.

***b. Are you aware of any other jurisdictions where such connections are permitted? Describe how hybrid connections are treated from a technical and regulatory perspective in these jurisdictions.***

No

***c. Are there potentially unintended consequences associated with permitting hybrid grid connections, such as potential impact on grid system services provided by the associated thermal plant or potential impacts on the reliability of the thermal plant?***

No comment

***d. How should proposed projects with hybrid connections be treated so as not to distort competition or afford undue competitive advantage to the incumbent owners and operators of the associated thermal generators?***

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***e. Do you support the facilitation of such connections, if the definition was adjusted to, e.g. an existing or proposed onshore battery, solar or other generator?***

We do not support this arrangement unless it can be shown that no preferential treatment for use of the grid is afforded to existing thermal unit owners

***11. Should any special allowances for innovation technologies be included in the Phase Two process?***

**NZE Response**

***a. What technologies should be provided with special allowances and why?***

It is important that any future processes for the allocation of rights to develop energy projects in the maritime area leave open the possibility for new technologies to apply for development rights, and not only offshore wind. While it is hard to be definitive in terms of a list of technologies it should allow for all renewable energy technologies, or zero or low carbon technologies that enable further or more efficient renewable energy deployment to be assessed on the merits presented in the application process.

***b. What allowances should be made? At what stage(s) of the Phase Two process? Should capacity be reserved in the MAC and ORESS processes for any of these technologies?***

MAC and ORESS are 2 separate, inter-linked process. It is important to leave open the possibility of other technologies applying for rights to develop within a given maritime area. Although we believe a technology-specific pot is not warranted at this time for any given technology it is advisable to leave the process open to other technologies. The key point is that any technology or project applying must be able to provide a credible plan for delivery ahead of 2030

***c. Should these types of projects also be required to deliver by 2030?***

Absolutely. This must be the underlying principle of everything that is done in this process

***d. What level of offshore wind capacity could be deployed before and after 2030 that does not depend on the Irish grid for offtake? i.e. generation that is instead utilised for non-grid offtakes such as green fuel generation or export by cable to another jurisdiction?***

Firstly, on the question of exporting green fuel. We don't expect much liquid or high-pressure hydrogen to be transported by sea, as the physics are against this. The fuel will be ammonia or e-methanol, initially used for ship propulsion, but also possibly for delivery to heavy chemicals hubs (fertiliser, etc.). In Ireland's case, ammonia is more likely, as it does not require a carbon source. However green ammonia will be a world commodity, and the regions with the cheapest renewable resource (solar and onshore wind) will dominate, i.e. Chile, Saudi Arabia, Zambia, Australia. We would be concerned at this juncture that ammonia produced from Irish floating offshore, currently the most expensive form of wind, in one of the most expensive jurisdictions, may never be economic in the world market, and would caution against relying on such an unproven energy vector or building policy around it until the economic case is proven.

On the question of exporting green electrons, we are more optimistic. Certainly, the distances involved are large, but there is a very large need in Europe, and HVDC technology is already mature and proven. It is not technically possible to transport electrons from the locations listed above, and electrons are more valuable energy vector than e-fuels. As storage costs fall (e.g. Iron Air, flow battery, CAES), it will be more and more economic to increase the capacity factor and reduce the unit cost of energy delivered in this way, pushing 1.4GW of wind down a 1.0GW cable for example. As to the level of offshore wind capacity, once basic economics of floating wind, cables and storage are acceptable to consumers in Europe, it is hard to see an upper limit on the number of GW of wind that Ireland could install in its economic zone and connect to France and Spain and via UK, but it is certainly over 30GW.

# Conclusion

We look forward to participating in this important review process and would be happy to meet with the Department to discuss our response in more detail.