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Dear Sirs

**Re: RES response to DfE and UR joint Call for Evidence - Review of the Connections Policy Framework in Northern Ireland**

**Introduction to RES**

RES is the world's largest independent renewable energy company with operations across Europe, the Americas and Asia-Pacific. RES has been at the forefront of renewable energy development for 40 years and is responsible for more than 23GW of renewable energy capacity and energy storage projects worldwide. RES is active in a range of renewable energy technologies including onshore wind, offshore, solar and energy storage and transmission and distribution.

From our office in Larne Co Antrim, RES has been at the forefront of wind farm development in the Republic of Ireland and Northern Ireland since the early 1990s. RES has a growing portfolio of solar and energy storage projects across Ireland.

RES wants to play an active part in the Northern Ireland's energy future, ensuring our projects contribute to decarbonising the energy system at least cost to the consumer, in line with RES' vision to be a leader in the transition to a future where everyone has access to affordable zero carbon energy. We therefore welcome this opportunity to respond to the DfE and UR joint Call for Evidence in the Review of the Connections Policy Framework in Northern Ireland and we are happy for our response to be published. The headline messages of our response are set out in the Executive Summary below:

**Executive Summary**

Shallow versus Deep Connection Arrangements:

RES supports calls to move from current partially deep to shallower connection arrangements considering the main arguments outlined below:

- Currently some renewable generation projects are not progressing to connection due to high upfront capex of construction of new grid assets. This is adversely impacting the achievement of 2030 and net zero targets and restricting the development of effective competition in electricity generation.
- In most cases, under current rules, grid connection driven network reinforcement is funded by one party but, often, this has wider system benefits. Under the distribution connection charging rules there is no mechanism (for non-domestic customers) for sharing of this cost meaning that certain individuals are

bearing more than their fair share of network costs. Measured socialisation of the cost of reinforcement is an appropriate way of sharing this cost.

- If more reinforcement costs are socialised then this could create a platform for a more coordinated, efficient and anticipatory approach to network planning and investment. Under current arrangements, network operators seem react to sporadic triggers of reinforcement from connecting parties, thus reinforcement tends to be carried out on a piecemeal basis.
- By promoting co-ordinated / efficient network design and also by enabling effective competition in electricity generation, a shallower approach to grid connection charging should deliver better value for the NI energy consumer as well as help to meet decarbonisation targets. RES are also aware of the rising issue associated with Imperfections Charges and the significant increase in these budgets over the last number of years. Although this is not a specific issue directly related to connections reform, these costs are eventually levied on to electricity customers, and are partly a result of the inefficient operation of the energy market due to power system constraints. RES see this issue increasing in the future due to the expected growth in the installed capacity of renewables across the island. A more holistic and strategic approach to network planning and development, should be a priority in these reforms.

RES recognises that it may be appropriate to retain a degree of locational signals within grid connection charging in order to ensure protect the interest of the NI energy consumer and to also encourage efficient system development. This can be achieved by setting up improved locational signals through pre-connection securities or a limit to the reinforcement capex that an individual project can impose.

#### Plan-led versus developer-led approach:

The debate on the best approach to system planning and design continues in various fora. These include the “Shaping Our Electricity Future” consultation and, latterly, a report by the UK Electricity Network Commissioner, Nick Winser, which proposes the introduction of a Strategic Spatial Energy Plan based on a forecast of supply and demand characteristics and a comprehensive plan to deliver optimal electricity network infrastructure solutions as part of a total energy system. RES understands the appeal of such a plan and, if formulated through thorough consultations with all relevant stakeholders. However, past attempts at such an approach have not been successful (e.g., the TAN 8 strategic planning plan for Wales in the mid 2000s).

On balance, RES is of the view that a developer lead approach will deliver best value for the NI energy consumers, and this will work if electricity transmission and distribution licensees are empowered to pursue strategic “least regrets” anticipatory investment.

#### Connection Process

The 2030 targets are at great risk of not being met as the connection process is too long due, in part, to the fact that generation project planning consent must be imminent or granted before a generation project can enter the grid connection application / offer process. Whilst we recognise that obtaining planning consent in advance has been an effective deterrent of speculative projects, it has also resulted in an unnecessary delay between project planning consent and completion of grid connection. RES is of the firm view that allowing “real” projects to commence the grid application process earlier but with appropriate project integrity criteria set to deter speculative applications would significantly reduce connection timelines. Effectively project planning and grid connection processes could run concurrently. It is worth noting that, in the ongoing NGENSO Connections Reform consultation currently being progressed by NGENSO in GB, NGENSO is proposing the introduction of, amongst other things, a two “gate process” for transmission connection applications in which the second gate, after which a developer would receive a fully worked up “for construction” grid connection offer would be linked to a project submitting its planning application.

### Cluster Methodology:

Clusters were effective in facilitating renewable generation connections to meet 2020 targets but the current cluster methodology is no longer effective to meeting 2030 targets. Areas that need to be addressed include the following:

**Cluster Scope:** Currently clusters are applied only to for distribution generator connections but with more renewable generation projects getting larger and requiring transmission connection, RES proposes that the framework be expanded to transmission connections.

**Cluster Design:** Currently clusters are based on a 90MVA transformer but with more renewable generation projects getting larger this may not benefit more than a couple of projects. Consideration needs to be given to allowing large transformer sizes and multiple transformers in the methodology.

**Cluster Designation:** Currently clusters are being designated much later leading to timescale discrepancies between development of the relevant renewable generation projects and the progression of the associated generator cluster asset leading to significant delays to the grid connection of relevant projects. As an example, the need case for Cam Cluster was identified as far back as 2015, as evidenced by the cluster map on the NIE Networks website <https://www.nienetworks.co.uk/documents/Generation/large-scale-generation-clusters/01-Mapping-Tool-User-Guide-Main-Areas.aspx>. The cluster was only designated in December 2021 and generation projects relying on this cluster have in their connection offer an expected energisation date of 2029 and this timeline is driven by the cluster works.

As the scope of the consultation is open-ended- we would like to add other areas of consideration as follows:

**Generator-Led Connection Preliminary Work:** One of the most prominent potential barriers to effective operation of a reformed connection process is the ability of NIE and SONI to manage / resource a significantly more iterative connection process. In light of this, we think there may be merit to put in place a process were some aspects of early phase grid technical work that could be led by generators. Such work could include early phase grid routing or point of connection assessment (assuming suitable network system data could be made available to conduct such work). Some clauses in the licenses for NIE and SONI may need to be updated to allow this.

### Anticipatory Network Investment

One of the key concerns of the renewable electricity industry and a key threat to delivery of decarbonisation targets is the historical underinvestment in strategic transmission infrastructure. It is critical to reform the Transmission investment and delivery process so that it facilitates delivery of strategic transmission infrastructure in an anticipatory manner. The Clean Energy Package, which introduces changes to eligibility for priority dispatch and compensation for non-market based redispatch for renewable generators, will exacerbate the problem of grid constraints for new renewable generators and make Northern Ireland a less attractive destination for clean energy investment. Anticipatory transmission network, if adopted, could help mitigate some but not all of the adverse aspects of the Clean Energy Package (CEP), which if implemented as planned will be significant.

### Firm Access Policy

A suitable Firm Access Policy also needs to be in place for NI to mitigate the impacts of the current lag in network investment which leads to grid constraints, and whose impacts will be magnified by the implementation of the CEP. It is disappointing to note that whilst the Firm Access Policy was reviewed in ROI to provide more certainty on when firm access can be achieved by generation projects no corresponding review was made for NI although the two regulatory jurisdictions are in one Single Energy Market and should therefore be subject to the same market rules. We therefore urge UREGNI and SONI to urgently address this uneven playing field, which further undermines the investment case for NI.

We are keen to engage further on connections reform and more broadly in relation to the UK's transition to net zero. We would be happy to answer any further questions on our evidence or provide additional information if required.

Yours faithfully

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## **Responses to the Call for Evidence**

1. What are the risks and opportunities in relation to the development of micro grids and what issues do these raise for the connections framework in NI?

It is possible that the development of self-generating and consuming micro grids may lead to less flows in the network and consequently less contributions to energy related use of system charges. This should however not automatically lead to NI consumers picking up a greater cost of networks charges if the network charges are structured correctly. Apart from energy-based use of system charges, as long as prosumers in micro grids rely on the wider grid for security through an operating connection to the grid, they should continue to contribute through an appropriate portion of standing charges for network O & M and any network capacity or energy related use of system charges.

2. Do you agree with our guiding principles? Please expand your answer.

RES agrees with the guiding principles of the Connections Policy Framework review as set out on paragraph 1.57. To avoid any potential conflict between the guiding principles, it may be worth considering adaptation of the second principle to make clear that it should not undermine the first principle of achieving the delivery of the Executive's Energy Strategy targets. For example, the second bullet could be adapted to read "*In facilitating delivery of the Executive's Energy Strategy, the outputs from our Connections Policy Framework review will facilitate a just energy transition.*"

3. Do you agree with our proposed scope in relation to this connection review? this includes: • Are there other issues which you consider we should take into account. If so, please explain why • Are there any connection areas we should remove from the scope of our review? If so, please explain why.

RES agrees with the broad scope of Connections Policy Framework and its open-ended nature so that all issues pertaining to the legislative and regulatory framework for connections in NI "to support" facilitation of Energy Strategy – Path to Net Zero and the Climate Change Act (NI) are considered.

We note that regarding the connections charging regime, the current view of DfE and UR is to "do nothing" on the basis that they have not seen the evidence base for change. There is evidence of the shallower charging approaches working satisfactorily in other jurisdictions, namely GB and RoI, where this approach has been adopted to the benefit of effective competition in generation and therefore the energy customer.

4. Do you consider the current 'partially deep' connection boundary in NI appropriate? Please explain your rationale further and provide evidence.

RES is of the view that the current 'partially deep' connection charging boundary is not best aligned with the guiding principles of the Review. Reinforcement can be triggered by one party it normally has a wider benefit to other network users and lumping this cost to one party may pose a barrier to market entry nor is it cost reflective. Adopting a shallower approach may enable connection of more of the low carbon technologies needed to meet 2030 and net zero targets.

5. Do you consider a shallow connection boundary to be appropriate in the NI context? Please explain your rationale further and provide evidence. If so, which of the following connection types should have a shallow connection boundary; • Demand only • Generation only • Demand and Generation • An alternate connection type (for example Domestic/Non-Domestic connections) Please explain your rationale further.

RES is of the view that a shallow connection charging boundary, involving a measured socialisation of costs associated with wider reinforcements to be recovered through use of system charges, is the connections charging arrangement best aligned with the guiding principles.

Such an approach may include the retention of a degree of locational charging signal. The approach taken in GB, following a similar distribution connection charging review was to:

- Remove the contribution to wider network reinforcement for most demand/mixed demand and generation connections by introducing a 'fully shallow' connection charging boundary leading to connecting customers paying for extension assets only, while reinforcement assets are fully funded via DUoS charges.
- Reduce the contribution to reinforcement for generation connections by introducing a shallowish connection charging boundary leading to most generation connecting customers paying for extension assets and a contribution towards reinforcement at the voltage level at the point of connection. Reinforcement above the connection voltage level is now fully funded via DUoS charges.

Introduction of shallowish connection charging in NI may also give rise to the need for some measures to protect consumers in the event that connecting parties triggering reinforcement costs cancel or delay their projects. Experience from the GB market leads us to emphasise that, if implemented, any such measures must be truly reflective of the likely risk of stranded investment by transmission and distribution licensees if it is not to become a barrier to market entry for essential new LCT assets.

6. Do you consider a shallow-ish boundary to be appropriate in the NI context? Please explain your rationale further and provide evidence. If so, which of the following connection types should have a shallow-ish connection boundary; • Demand only • Generation only • Demand and Generation (for example Domestic/Non-Domestic connections) • An alternate connection type Please explain your rationale further.

We are only in a position to comment on Generation only and commercial scale battery storage connections. In our experience, there seems to be clear evidence that a shallow or shallowish boundary is a strong enabler for connections of essential new renewables and flexibility. We have no clear view on which of these options works best for NI at this stage and would reserve comment until a more clear view of detailed proposals is worked up.

7. Do you believe that moving to a more shallow connection boundary in NI will deliver NI renewable targets that otherwise would not be met? Please provide evidence to demonstrate your answer.

Moving to more shallow connection charging boundary would reduce instances of new renewable assets being prevented from coming to market through unreasonably high cost of grid reinforcements and would therefore facilitate connection of higher levels of cheaper renewable generation. This would displace expensive imported fossil fuel generation with the likely result being lower overall bills to consumers.

8. Please provide evidence on the potential impacts on energy affordability in NI if reinforcement costs were socialised further? What would the impact on energy affordability be in NI if household bills were to increase per annum by; • 1-3% • 4-7% • 7-10% • > 10%

Unfortunately, we are unable to offer welfare benefit modelling of this nature but would welcome the opportunity to support or provide input to such analysis were it to go ahead.

9. Can NIE Networks differentiate between RP6 allowances, RP7 business plan connection requests and how these differentiate and have been factored into the analysis that has been done on potential reinforcement connection costs analysis NIE Networks have completed?

No comment.

10. Do you think that a developer led or plan led is the best approach for the future development of connections in NI? Please explain your answer.

The debate on the best approach to system planning and design continues in various fora. These include the “Shaping Our Electricity Future” consultation and, latterly, a report by the UK Electricity Network Commissioner, Nick Winser, which proposes the introduction of a Strategic Spatial Energy Plan based on a forecast of supply and demand characteristics and a comprehensive plan to deliver optimal electricity network infrastructure solutions as part of a total energy system. RES understands the appeal of such a plan and, if formulated through thorough consultations with all relevant stakeholders. However, past attempts at such an approach have not been successful (e.g., the TAN 8 strategic planning plan for Wales in the mid 2000s).

On balance, RES is of the view that a developer lead approach will deliver best value for the NI energy consumers and this will work if electricity transmission and distribution licensees are empowered to pursue strategic “least regrets” anticipatory investment.

11. Do you think the current 3-month timeframe for SONI and NIE Networks to issue a connection offer is appropriate? Please explain your answer.

On paper the 3 months appears a reasonable timeframe to perform the necessary studies and issue an offer. In practice the transmission arrangement between NIE and SONI often means that regulatory permission is sought to extend this time on a regular basis. We are inclined to the view that this timeframe should be maintained but the relevant processes must be streamlined to achieve this in all, bar truly exceptional circumstances.

12. If our legislation facilitated it, should obtaining planning permission be a prerequisite in order to receive a grid connection? Please explain your answer.

The current approach of delaying connection applications until planning consent has been secured, whilst effective at minimising speculative applications, has given rise to significant lag in delivery of necessary grid connections. Unless measures are introduced to permit the transmission licensees to develop the transmission system on a strategic anticipatory basis (in which case we would support retention of securing planning consent as a suitable prerequisite), there is merit in changing the prerequisite for connection application to a less onerous milestone such as the submission of a planning application.

13. If our legislation facilitated it, do respondents consider any other issues associated with the current queue process? Or that a different approach to managing the connection queue, would result in quicker connections? If so, what would that be? Are there any lessons to be learned from other jurisdictions? Page | 65

One of the most prominent potential barriers to effective operation of a reformed connection process is the ability of NIE and SONI to manage / resource a reformed connection process. In order to prevent the need for acquisition of significant new resources (or to prevent NIE and SONI from becoming an administrative blocker to the connection process), we think there may be merit in establishing a process where some aspects of early phase grid technical work that could be led by generators. Such work could include early phase grid routing or point of connection assessment (assuming suitable network system data could be made available to conduct such work). Some clauses in the licenses for NIE and SONI may need to be updated to allow this but, otherwise, we think it is an option that merits proper investigation.

14. Do you have any other information relevant to the subject matter of this Call for Evidence that you think we should consider?

Not at this stage, although we expect to be in a position to offer more detailed thoughts once specific proposals are brought forward.

15. Please list any connection issues you have raised in order of priority. Please explain your reasoning behind your priority.

For the NI market, we would highlight the following as key priorities (in descending order);

1. Enabling efficient strategic transmission investment to integrate renewables and flexibility required to deliver 2030 targets, Net Zero targets and benefit to the customer through reduced wholesale cost of electricity.
2. Reduce capex cost of connection in order to reduce a current barrier to entry.
3. Speed of connection in order to integrate essential new renewables and flexibility in the timeliest manner possible.
4. Ensuring grid connections are considered on a whole system basis and that charging for new assets at the boundary between the transmission and the distribution are given due consideration.
5. Speed and efficiency of grid contracting process in order to improve current state where process delays and bureaucracy are a barrier to market entry.