DfE and UR: A Review of the Connections Policy Framework in Northern Ireland. A Joint Call for Evidence

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mutualenergy

A Northern Ireland company
working for consumers

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Introduction

Mutual Energy as a company is committed to the timely delivery of a cost-efficient energy transition in Northern Ireland. Renewable energy projects are essential to continuing the growth of zero carbon energy supplies, and to achieving 2030 renewable energy targets of 80%.

We are responding to this consultation on the basis that any potential change regarding the socialisation of connection costs has the potential to financially impact NI energy consumers. A careful balance needs to be struck between facilitating the development of appropriate renewable energy projects, which are essential to achieving renewable energy targets, and delivering a just energy transition where there is appropriate balance of financial risk and costs between developers and consumers.

Key Suggestions and Recommendations

Mutual Energy recommends that:

- The main barriers to achieving renewable targets should be identified and assessed prior to any decision being taken on connection costs. Connection costs may not be the most significant issue and others may need prioritised to accelerate renewable investment – e.g. a financial support scheme for renewable generation and the increasing risk of oversupply/curtailment. If increased socialisation of connection costs is implemented, prosumers should provide a fair contribution to the associated costs. This can be achieved by more capacity-based charges.
- The issue of oversupply/curtailment must be addressed to maximise the benefits of renewable investment for consumers and to reduce the level of installed capacity required to deliver renewable targets.
- Both the cost impacts and long-term benefits of increasing socialisation of connection costs must be determined. Socialisation should be implemented only if it can be demonstrated to be in the long-term interests of NI consumers.

Regarding the overall connections policy framework, Mutual Energy suggest that:

- There is an increased level of central planning to maximise the volume of renewables that can be connected to the system. Increased central planning will also help ensure an operable mix of renewable technologies (including energy storage) is developed, and that robust security of supply is maintained.
- Energy system planning is carried out on a cross-sectoral basis to support the growing symbiotic relationship between the electricity and gas sectors, and the closer links of both the electricity and gas sectors with the transport sector[1]. For example, the potential role of electrolytic hydrogen production and storage to help manage renewable curtailment and maintain robust security of supply, as well as supporting wider development of synthetic fuels like methanol and ammonia.
- The requirement for planning consent should be a pre-requisite under the connection policy. This will avoid speculative 'ghost' projects preventing 'shovel ready' projects from being connected to the network. If there is an issue with the planning process, changing the connection policy will not significantly help – i.e. unconsented projects will not be able to be constructed.

[1] As a minimum, electricity and gas system planning should be carried out based upon a common set of assumptions.

- A gated approach to pooling connection applications could be beneficial in clearing connection backlogs, supporting central planning to maximise connections, ensuring operable technology mix, and improving resource planning to support processing of connection applications.

We also observe that it would be beneficial to conduct a review of the gas connection policy to ensure it is supportive of the role of the gas network in delivering the decarbonisation of energy in NI. The anticipated growth in biomethane production in NI is expected to lead to increasing numbers of applications to connect to the NI gas network in the near term, while over the mid-term we expect to see greater coordination between the connection of renewable generation and electrolyser capacity, the latter requiring access to the gas network for hydrogen blending initially, and then to a dedicated hydrogen pipeline network.[2]

Our detailed responses to the consultation questions are provided in the next section.

[2] We note that development of a dedicated hydrogen pipeline network and large-scale storage is part of both the UK and Irish hydrogen strategies and the development of hydrogen as a zero-carbon fuel is viewed as critical to delivering their respective 2050 net zero targets.

Responses to Consultation Questions

Question 1: What are the risks and opportunities in relation to the development of micro girds and what issues do they raise for the connections framework in NI?

Prosumers produce and consume self-generated electricity within their own microgrids and therefore do not regularly consume power from electricity suppliers, allowing them to avoid commodity levied charges. This will result in more costs having to be recovered over a reduced number of consumers, requiring higher per unit commodity charges, and disproportionately increasing costs for non-prosumers.

In relation to the connection framework, increased socialisation of connection costs will increase the overall costs recovered via customer bills. This potential dynamic must be carefully considered when looking at the wider potential impacts of socialising connection costs on electricity customers. For example, prosumers will benefit from the security of supply offered from being connected to the electricity grid and will use their grid connection to balance production and demand. Prosumers should therefore provide a fair contribution to the ongoing operation and maintenance of the network, including the socialised costs of connecting generation to the system. This could be achieved via a greater portion of costs being levied via capacity-based charges. Given the expected correlation of prosumers with a higher socioeconomic status, without a comprehensive review of a charging methodology, less affluent consumers risk being disproportionately impacted by this dynamic.

Implementation of downstream micro solutions is also more expensive than implementation of large-scale upstream solutions, which benefit from significant economies of scale. In conjunction with the impact on network charging discussed above, consideration should therefore also be given to the optimal level of downstream micro generation that would be optimal on the system.

To ensure the delivery of a Just Energy Transition, these areas require further careful consideration.

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

The recently published 'Accelerating Renewables' report from Renewable NI and KPMG[3] has identified key barriers to renewable investment, including grid capacity constraints, planning timelines and a lack of a revenue support scheme. While grid connection costs and timelines are identified as prohibitive in making renewable projects economically viable, they are not included within the key findings of the report. This suggests they may not be the main barriers to renewable development.

Since the closure of the NIRO support scheme in 2017, there has been a substantial drop in renewable development within NI. As highlighted in Renewable NI's recent report, between 2008 and 2018, NI wind and solar capacity showed a compound annual

[3] https://renewableni.com/wp-content/uploads/2023/09/RNI-Report-Accelerating-renewables-in-Northern-Ireland-online-version.pdf

growth rate (CAGR) of 20.13% and 94.22% respectively. Since 2018, the year in which many projects involved in the final years of the NIRO became operational, a CAGR of 1.66% for wind and CAGR of 2.25% for solar were observed. These figures suggest that the lack of a revenue support scheme for renewables is one of the most significant barriers to renewable development in NI.

The recent publication of 'Shaping Our Electricity Future v1.1'[4] also highlights growing concern regarding the significant levels of renewable oversupply/curtailment associated with meeting 2030 RES-E targets. Unless this risk is mitigated, it will pose another significant barrier to renewable investment in NI – we note the Irish government has underwritten this risk for offshore renewable development in Ireland.

Prior to a policy decision being taken, the impact of increased socialisation of connection costs on consumers must be determined and appropriately balanced against the wider long-term benefits that are expected to accrue from the increase in renewable investment greater socialisation of connection costs may achieve.

Question 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.

MEL broadly agree with the proposed scope of this connection review but emphasise that there are currently other potentially more significant barriers to developing renewable energy projects – see our response to question 2.

More generally, Mutual Energy recommend that UR and DfE carefully consider the extent of central planning that will be required to deliver the volume of connections necessary to deliver RES-E and wider emission reduction targets. The need for increased central planning applies across the wider energy system. For example, gas networks will be required to connect increasing numbers of renewable gas production sites (biomethane and hydrogen) and will therefore face similar issues to those experienced by the electricity sector over the last decade due to the rapid growth in renewable generation.

We agree that a 'do nothing' approach should remain an option within the review and observe that it would be useful to publish any data NIE Networks have collected regarding the potential impacts of implementing a shallower connection boundary in NI. This would help facilitate future informed debate on this issue and support the development of robust policy in this area.

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

[4] https://www.soni.ltd.uk/media/documents/Shaping-Our-Electricity-Future-Roadmap_Version-1.1_07.23.pdf

We would welcome further information regarding the scale of the barrier to renewable investment caused by the current connection boundary in NI.

As set out in our answer to question 2, other issues seem likely to be raising more significant barriers at this time. **That said, increased socialisation of connection costs for generation should be considered if there is sufficient evidence to suggest it will materially increase renewable development in NI and that the long-term benefits to consumers that accrue from increased development of renewables, including in terms of facilitating delivery of RES-E and future emission reduction targets, offset the associated increase in network costs.**

Question 5: Do you consider a shallow connection boundary to be appropriate in NI context? Please explain your rationale further and provide evidence.

See answer to question 4. A 'shallower' connection boundary for renewable generation, and the connection of other required supporting technologies, should be considered if there is sufficient evidence to suggest it will materially increase renewable development in NI and that the long-term benefits to consumers that accrue from this increased development, including in terms of facilitating delivery of renewables targets, offset the associated increase in network costs. **To date sufficient evidence has not been presented to allow for an informed policy position to be taken.**

Question 6: Do you consider a shallow-ish boundary to be appropriate in the NI context? Please explain your rationale further and provide evidence.

See answer to question 4. A 'shallowish' connection boundary for renewable generation, and the connection of other required supporting technologies, should be considered if there is sufficient evidence to suggest it will materially increase renewable development in NI and that the long-term benefits to consumers that accrue from this increased development, including in terms of facilitating the delivery of renewables targets, offset the associated increase in network costs. **To date insufficient evidence has been presented to allow for an informed policy position to be taken.**

Question 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.

As per our answer to question 2, there are other barriers to renewable investment in NI that are likely to be more significant an issue at present. We recommend these wider issues are prioritised, particularly implementation of a renewable support scheme for NI and mitigation of the risk of oversupply/curtailment. We observe, even if projects are economically viable and can get connected, if they face substantial and increasing levels of oversupply/curtailment, then each project connected will have a reducing benefit per installed MW of capacity to the wider system in meeting renewables targets.

Question 8: Please provide evidence on the potential impacts on energy affordability in NI if reinforcement costs where socialised further?

No response.

Question 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?

We are not in a position to provide a detailed answer to this question but observe that if network reinforcement has been/will be carried out by NIE via RP6 and RP7 that will help reduce the need for deep reinforcement, then this is likely to reduce the scale of the barrier presented by the current connection regime and should be fed into any wider cost benefit analysis prior to a policy decision being taken.

Question 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

As set out in our answer to question 3, we recommend careful consideration is given to the extent of central planning that will be necessary to facilitate the number of connections required to deliver renewables targets. We believe it is unlikely these targets can be delivered via a developer led approach. The difference in minimising the costs of individual connections (via a developer led approach) versus minimising the ongoing long-term operational costs of the system (via a more centralised planning approach) should also be evaluated.

Furthermore, consideration should be given to the extent that this central planning needs to be cross sectoral moving forward, particularly between the electricity and gas sectors. There is expected to be a growing symbiotic relationship between renewable electricity generation and hydrogen production and storage, as well as the link within the transport sector, such as through the development of synthetic fuels such as methanol and ammonia. This relationship, in turn, will help underpin wider energy security of supply in the future. This will have ramifications for connections to both the electricity and gas networks (renewable generation, hydrogen injection points, gaseous storage requirements, etc.) as well as the future evolution of both networks. We therefore recommend a more cross sectoral and holistic approach to wider energy system planning is adopted.

Question 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.

Yes. A longer delay in connection offers would create barriers to delivery of renewable targets. Following on from our answer to Q10 above however, it is important that electricity and gas TSOs and DNOs are adequately funded and resourced to deal with the increase in connection applications that is anticipated as part of the energy transition.

While everything reasonably practical should be done to equip TSOs to meet connection requirements, in practice the need to accommodate renewable connections will need to be appropriately balanced against the obligation to maintain NI security of energy supply. As set out in our answer to question 13 below, a gated approach to connections may allow the TSOs and DNOs to better plan resourcing to meet current connection offer timelines.

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

Yes. To avoid speculative applications from clogging up the connection process, planning permission should typically be a prerequisite for receiving grid connection. If the issue is with the planning process, then we recommend the planning system is overhauled, as waving the need for planning consent for a connection will not address the fundamental underlying issue and is likely to result in generating new issues – e.g. 'ghost' projects clogging up connection locations.

Question 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?

The current connection process is reviewed on a first come first served basis. We agree with the issues highlighted within this approach within this call for evidence, such as increasing complexity and uncertainty in connection queues and the hoarding of capacity on the network blocking development of 'shovel ready' projects.

The first come first served process also provides SONI with no control over the outturn mix of technologies connecting over time, which is likely to be essential in ensuring a long term, efficient operatable system. For example, an appropriate balance of wind, solar and other renewables and/or the need for a certain volume of storage technologies to enhance system flexibility and manage curtailment for a given amount of installed renewable generation technologies.

A gated approach to connections, as progressed in the RoI under the ECP regime, could be considered. Gates are useful in clearing backlogs and because they provide a funnelling framework for connections, can provide a degree of centralised control while also improving the ability of SONI to plan resourcing requirements in advance to ensure timely issuance of connection offers. Minimum allocation volumes by technology could be mandated to improve the long-term efficiency and operability of the NI electricity system as renewable penetration further increases.

Following on from our comments on planning in our answer to question 12, we acknowledge that there may be some scenarios where, pragmatically, more risk may need to be taken on the consenting status for some technologies to increase the likelihood that a more optimal mix of technologies is connected to manage the system. This, however, should be seen as a last resort on the basis that regardless of what you

do in relation to connection policy, the planning risk will remain, meaning that projects without planning consent may not be constructable.

Finally, we support further consideration of extending and developing the current 'cluster' methodology, and note this approach is now being considered by Erigrid for managing connections to the Irish grid.

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

As set out in our answers to questions 3 and 10, careful consideration should be given to the extent of central planning required to deliver renewable and emission reduction targets. The symbiotic relationship that is expected to develop between renewable generation and hydrogen production also requires a much greater cross-sectoral approach to be adopted for future energy system planning, as well as close policy coordination across the electricity and gas sectors. This will ensure that the right technologies (e.g. renewable generation, electrolysers and energy storage) are connected at the right time and in the right locations, to manage curtailment, constraints and other wider energy system issues, and to deliver ongoing security of supply for NI.

We also observe that it would be beneficial to conduct a review of the gas connection policy to ensure it is supportive of the role of the gas network in delivering the decarbonisation of energy in NI. The anticipated growth in biomethane production in NI is expected to lead to increasing numbers of applications to connect to the NI gas network in the near term, while over the mid-term we expect to see greater coordination between the connection of renewable generation and electrolyser capacity, the latter requiring access to the gas network for hydrogen blending initially, and then to a dedicated hydrogen pipeline network.[5]

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

No response, but we observe that the scale of the barrier to renewable development presented by connection costs should be established and carefully considered relative to other substantial barriers such as the lack of a renewable support scheme and oversupply/curtailment risk. If resources and time are limited, we recommend prioritising the most significant barriers first.

[5] We note that development of a dedicated hydrogen pipeline network and large-scale storage is part of both the UK and Irish hydrogen strategies, and the development of hydrogen as a zero-carbon fuel is viewed as critical to delivering their respective 2050 net zero targets.