Northern Ireland Electricity Networks

CONSULTATION ON DESIGN CONSIDERATIONS FOR A RENEWABLE ELECTRICITY SUPPORT SCHEME FOR NORTHERN IRELAND

April 2023

NIE Networks RESS Consultation Response

Question 1: Scheme Principles Do you agree with the above principles? Please provide evidence, where possible, to support your response.

YES NIE Networks and SONI have connected and accommodated 1,774MW renewable generation capacity,[1] to the Northern Ireland grid to date, which in turn accounted for 51% of electricity consumed in Northern Ireland coming from renewable energy in the 12 months ending December 2022. 322MW of the generation connected is made up of Small Scale Generation (SSG) projects, while 97MW is made up of microgeneration projects. Work is ongoing in planning future generation projects which will bring the total amount of generation connected to the grid in the next few years to approx. 2,267MW, with 380MW of this future connected and committed generation being SSG projects. Around 76% of these projects are for onshore wind, 15% for solar, 8% for biomass and 1% from other renewables. The full figures are outlined below:

NI Connected Renewable Generation Technology Mix Total 1774MW

Wind 1348MW, PV 279MW, Biogas 121MW, Hydro 7MW, Other/Mixed Schemes 19MW

NI Connected and Committed Renewable Generation Technology Mix Total 2267MW

Wind 1709MW, PV 341MW, Biogas 190MW, Hydro 7MW, Other/Mixed Schemes 20MW

It is anticipated that a total of 3.9GW of renewable generation will be required to be connected to the network to meet the target of 80% renewables by 2030, as per NIE Networks RP7 Business Plan[2] That would see an additional 2.2GW of renewables connected to the grid, on top of the c1.7GW currently connected. Of the forecasted amount, approximately 1.85GW is predicted to be large scale generation (LSG), including offshore wind. The remainder is forecasted to be made up of small-scale and microgeneration.

NIE Networks generally agree with the proposed scheme principles, however also acknowledge that the design and implementation of a support scheme will not in itself be able to deliver on them. There are other fundamental things that need to be addressed i.e. distribution connections charging reform and a process for planning approval for strategically important projects.

Cost to consumers is driven by the wholesale electricity cost and the tariffs offered by suppliers through the retail market. There are a wide range of factors that will contribute to the bid prices offered by generators in a market, however the overall goal will always be to recover capital expenditure and make a profit. Therefore, if the upfront capital expenditure required to connect

[1] Source: NIE Networks Generation Data

[2] https://www.nienetworks.co.uk/rp7-business-plan

these generators i.e. through planning costs or grid connection costs, is high, this will be reflected in bids.

Renewable technologies are at vastly different stages of technological and economic maturity, i.e. some are already deployed at scale and capital cost has dropped significantly as technology has improved, while others are in the developmental stage with high capital cost. A support scheme should focus on enabling technologies that would otherwise not be present in NI at grid scale.

Building on the above, an important principle that needs to be considered is how the connection of renewable generation is charged. Connections charging in Northern Ireland (NI) differs significantly from GB and ROI, and can be described as deep as the connecting customer pays all reinforcement costs at the connecting voltage and one voltage level above. If this charging mechanism was to remain, high connection costs would be a huge barrier to connection of renewable generation and storage. If a connection charging review is not a key priority then the introduction of a Renewable Electricity Support Scheme would be less effective, as high connection costs would dissuade developers from investing in NI.

Question 2: Do you agree that a Contracts for Difference (CfD) scheme should be the preferred approach to supporting renewable electricity generation in Northern Ireland? Please provide evidence, where possible, to support your response.

YES The absence of a scheme similar to GB/ROI in Northern Ireland would mean that developers are more likely to invest in those areas first, leaving Northern Ireland behind. A CfD scheme would be a practical approach to support renewable generation in Northern Ireland given the use of similar schemes in nearby jurisdictions, including in ROI, where the SEM markets are mandatory for generators sized greater than 10MW, as is also the case for generators in Northern Ireland. It is important to note that SEM is an All-Island electricity market meaning generators from both Northern Ireland and ROI participate, while GB electricity markets are separate.

NIE Networks also agree that the GB CfD scheme should not be reciprocated here as currently there is a difference in connections charging, which could result in investment in other jurisdictions with more favourable connections charging where reinforcement costs are spread out across the entire customer base and not just the connecting customer. The absence of shallower charging in Northern Ireland would result in the connection cost for renewable energy developers being much higher than in the rest of GB, which would most likely discourage investment in Northern Ireland. This would be catastrophic in pursuit of meeting the Energy Strategy target of 80% RES-E by 2030.

Question 3: Do you think that participation in a renewable electricity support scheme should be mandatory for all generators to ensure a longer-term fair and stable price for NI consumers? Please provide evidence, where possible, to support your response.

NO It is NIE Networks view that participation in the scheme shouldn't be mandatory and should remain voluntary. This will encourage renewable generation developers to make the best financial decision in relation to their own economic considerations, which will in turn drive further investment in other areas.

It is important to note that not all renewable generators in Northern Ireland participate in SEM due to their size, since only generators above 10MW are mandated to participate as per the Single Electricity Market (SEM) Trading and Settlement Code TSC-A[3], therefore the linkage to the SEM and

[3] https://www.sem-o.com/rules-and-modifications/balancing-market-modifications/market-rules/Part-A-TSC.docx

potential mandatory participation in a support scheme should be carefully considered. It may be prudent to consider how this mechanism currently operates in ROI. Of the 1774MW of renewable generation connected in Northern Ireland, approximately 1322MW of the connected capacity are renewable generators with a Maximum Export Capacity (MEC) of 10MW or above.

One further key consideration is how market behaviours and interactions will play out between renewable generators in receipt of Northern Ireland Renewables Obligation (NIRO) payments, those participating in a new support scheme (assumed to be CfD) and others not participating in either scheme. The interaction between generators already receiving NIRO payments and those in a new support scheme is particularly important consideration since the NIRO payments will mean the existing generators will be capable of bidding at more competitive market levels since their income is being enhanced by NIRO payments. It is important that this does not adversely affect the implementation of a new support scheme, by lowering the strike price of any CfD scheme.

Question 4: What should be the minimum capacity for new sites to be eligible for a renewable electricity support scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

NIE Networks recommend a minimum participation size of 5MW. This figure aligns with values widely used across the industry as an eligibility criteria or a boundary for requirements etc. e.g. voluntary SEM participation (mandatory for generators with an MEC greater than 10MW, voluntary for generators with an MEC greater than 5MW), and controllability and aligns with the 5MW minimum capacity requirement for the CfD scheme in GB.

SSG & micro played a role in Northern Ireland achieving the 40% target by 2020, and will continue to contribute towards achievement of the 2030 targets. SSG & micro generation connections can deliver benefit to the customer by reducing their consumption from the grid and therefore reduce their overall electricity costs. Export from these smaller sites is likely to drive the need for increased reinforcement on the LV distribution network, and due to the distribution connections charging methodology in Northern Ireland at present, this cost would often be prohibitive for the connecting customer.

Previous incentive schemes in Northern Ireland encouraged the growth of the microgeneration and SSG connections markets, resulting in a higher penetration of this generation type than neighbouring jurisdictions (who are now incentivising these markets). The system operational issues being experienced in NI are a product of the previous incentive scheme (high amounts of uncontrollable generation being seen as an erosion of demand by system operators) and will likely be faced in other jurisdictions in the future. The resulting impact on system operations will also have a cost to the end consumer through operational rules impacting dispatch in the SEM (balancing market) and therefore cannot be ignored in the context of lowering electricity costs.

Question 4b: Do you think the minimum capacity for eligibility should be technology specific? Please provide evidence, where possible, to support your response.

It is NIE Networks view that the minimum capacity for eligibility for the scheme should aim to remain technology neutral. The thresholds discussed in the previous question's response includes limits and criteria that are all technology agnostic i.e. controllability (5MW), SEM participation (10MW), G98 and G99 compliance etc. This is due to the fact the impact they have on the system is not materially different.

Question 5: Do you agree that incentivising small-scale and microgeneration would not make a substantial contribution to reaching the Energy Strategy targets? Please provide evidence, where possible, to support your response.

YES SSG and microgeneration have played a role in Northern Ireland achieving the 40% target by 2020, with approximately 429MW of SSG (332MW) and microgeneration (97MW) connected to date, and will continue to contribute towards achievement of the 2030 targets. This has been driven initially by NIRO payments, and in more recent times, by a desire to reduce consumption from the grid due to high electricity costs. Export from these smaller sites is likely to drive the need for increased reinforcement on the LV distribution network, and due to the current distribution connections charging methodology in Northern Ireland this cost would often be prohibitive for the connecting customer, as they would be responsible for both sole use asset costs and network reinforcement costs.

It is NIE Networks view that in order to reach the 80% renewables target by 2030, it will be necessary to connect larger capacity renewable generation as it will have a bigger impact on the overall renewable installed capacity in the short space of time available, and allows for more strategic network planning. When considering whole cost, it is likely that LSG would contribute in a more cost effective manner than SSG and microgeneration. As previously outlined from NIE Networks RP7 business plan, of the forecasted future renewable generation capacity required to reach the 80% renewables target, approximately 1.85GW is predicted to be large scale generation, compared with 0.35GW of small-scale and microgeneration.

Aside from the points made above, a key Energy Strategy objective is that "People are informed, empowered, supported and protected to enable them to transition to decarbonised solutions for all their energy needs". This highlights the importance of educating consumers in Northern Ireland of the potential wider climate and economic benefits to installing SSG and microgeneration, although as discussed this may not need to be in the form of an incentive scheme.

Question 5b: Do you think a dedicated support scheme is required to incentivise deployment of small-scale/microgeneration assets even if it may not substantially contribute to the 80% target? Please provide evidence, where possible, to support your response.

It is NIE Networks view that the main purpose of the incentive scheme is to help achieve renewable generation 80% targets by 2030 through encouraging the connection of renewable generation. As outlined in the previous question response, the majority of the renewable generation required to reach 80% targets is forecast to be LSG.

It is becoming increasingly common for generation connections to be installed for the purposes of self-consumption, known as zero export connections. Zero export connections offers are being issued frequently. (c. 10.0MW of offers issued to date this year, 9.4MW in 2022)[4]. This current high number of zero export applications appear to be driven by a desire to reduce electricity bills, and would suggest that an incentive scheme is not an essential requirement to encourage SSG and microgeneration connections.

SSG and microgeneration should be focussed on self-consumption with customer behaviours driven by reducing their electricity bills through on-site renewable generation. In the current climate with high electricity prices, the payback period of such schemes has significantly reduced and so is already an attractive proposition in the absence of an incentive scheme. Furthermore, a change in

[4] Source: NIE Networks Generation Data

distribution connections charging would indirectly act as an incentive by lowering connection costs for SSG.

Question 6: Do you think that incentivisation within the renewable electricity support scheme for Northern Ireland should be tailored by technology type? Please provide evidence, where possible, to support your response.

It is NIE Networks view that the scheme should aim to deliver the 80% targets by incentivising only the necessary amounts of renewable generation. This will encourage efficient development and aim to not over or under develop in any specific area.

Question 6b: If yes, what should the technology split look like and how should the budget be split across each technology type? Please provide evidence, where possible, to support your response.

NIE Networks does not wish to submit a response to this question.

Question 7: Do you think flexible assets should be included in a renewable electricity support scheme for Northern Ireland, or is a separate support scheme preferable? Please provide evidence, where possible, to support your response.

NIE Networks recognises that flexible assets, including storage, have a critical part to play when it comes to system operation due to the increasing numbers of intermittent, non-synchronous generation connections. NIE Networks has continued to play a critical role in providing connections for all renewable energy sources, including showing a willingness to embrace new technologies, with the energisation of four major innovative battery storage projects in Mullavilly, Drumkee, Kells and Castlereagh. The sites each deliver 50MW of capacity and provide significant contribution to helping Northern Ireland reach a decarbonised future. In total there is a further 36MW of battery storage committed to connect to the distribution network[5].

Storage offers benefits to the system in terms of short term energy provision, but mostly in the provision of services to support the system (particularly in the short term and in the absence of large conventional generators). Storage is fundamentally different from renewable generation in terms of the economic drivers and operation in the market and on the system. This would suggest it would be appropriate to treat storage separately from the renewable generation in terms of a support scheme. In summary, storage is an important asset for system security and operation, so should be encouraged to connect.

Question 8: Do you think community benefit should be included as an eligibility requirement for generators to qualify for a support scheme in Northern Ireland? Please provide evidence, where possible, to support your response.

NIE Networks note that community benefit is currently carried out on a voluntary basis depending on the renewable generation developer, and can assist with things like fuel poverty, whilst also allowing local communities to see the benefit of having a generation site in their area. In recent times, NIE Networks has found that the general public are becoming more informed when it comes to renewable generation and therefore there is an increase in objections to wayleaves or planning of infrastructure.

Despite this, it is important to point out that if community benefit was included as condition of the scheme, then it might cause unintended consequences of encouraging generators not to be part of

[5] Source: NIE Networks Generation Data

the scheme, or for communities to engage differently with schemes depending on their involvement in the scheme.

Question 8b: If yes, what community benefit mechanism do you believe is most suitable to Northern Ireland? Please provide evidence, where possible, to support your response. N/A

Question 9: Do you think there should be qualifying criteria for projects to be eligible to apply to the renewable electricity support scheme in NI? Please provide evidence, where possible, to support your response.

Eligibility criteria for participation in the scheme should aim to ensure that the generators awarded contracts are more likely to connect than not, and in a timeframe that will contribute to the delivery of the 2030 renewable electricity target of 80%. NIE Networks would caution around the impact of entry requirements on other bodies e.g. planning service, NIE Networks in terms of offers and delivery.

NIE Networks suggest that the design of the support scheme should be informed by the capacity required to achieve the 80% target in 2030 (details of which are outlined in response to question 1), including available network capacity based on existing and planned infrastructure. This would encourage development at the correct scale in the correct markets to maximise the chances of Northern Ireland achieving the 80% by 2030 target.

It is also important to note that any eligibility criteria may have an impact on NIE Networks in terms of driving peaks in applications for early stage projects, and in construction and delivery for final stage projects.

Question 10: What do you think is the optimal frequency for access to a support scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

It is NIE Networks view that the frequency of auctions should be set to maximise access to the scheme in order to achieve 2030 targets. With NIE Networks projecting 2.2GW of renewable generation capacity required to connect to the network to facilitate 80% renewable targets, and given we are now coming to the mid-point of 2023, it can be assumed there will be significant numbers of renewable generation projects wishing to partake in the auction at each interval.

Again, it is also important to note that the frequency of auctions may have an impact on NIE Networks in terms of driving peaks in applications for early stage projects, and in construction and delivery for final stage projects. There should be sufficient access to the scheme so not as to drive peaks and troughs in the connections process.

There may be opportunities to streamline the connections process with the auction process, through a connection's applications window or similar. NIE Networks would encourage engagement on this.

Question 11: Given the information presented above, what do you think is the most appropriate agreement length for contracts within a renewable electricity support scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

NIE Networks does not wish to submit a response to this question.

Question 12: Given the options presented above, what do you think is the most suitable price clearing process for a support scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

NIE Networks does not wish to submit a response to this question.

Question 13: Given the information presented above, do you think strike prices should be indexed to inflation? Please provide evidence, where possible, to support your response.

NIE Networks does not wish to submit a response to this question.

Question 14: Do you have any further comments on design considerations for a Renewable Electricity Support Scheme for Northern Ireland? Please provide evidence, where possible, to support your response.

NIE Networks reiterates the importance that connection costs and available network capacity has when it comes to the feasibility of renewable generation and storage projects, and feels that emphasis should be placed on a distribution connection charging review imminently. NIE Networks would also like to emphasise that tariff reform and smart metering are two more essential components to achieve 80% RES-E and to ensure system security with such high levels of renewables. Through the Regulatory Period 7 (RP7) business plan submission, NIE Networks is advocating for a transformation change in electricity network tariff / charging arrangements in the context of the energy strategy.

NIE Networks feels it may be worthwhile for the incentive scheme to explore the benefit of aligning capacity and location. Connection patterns to date have resulted in the rural west of Northern Ireland having high levels of renewable generation installed and lower electricity demand when compared with the east of Northern Ireland. The scheme could look at where capacity could be released on the network for low levels of investment or where a certain technology is needed but investment to connect may be higher, to ensure the benefits of installing certain technologies in certain locations could be realised.

This consultation is welcomed by NIE Networks, as it aligns with our company vision, which is to 'Deliver a sustainable energy system for all' – to provide an electricity network that is capable of facilitating Northern Ireland's overall plan to address climate change, which aims to achieve net zero carbon and affordable energy by ending our society's reliance on fossil fuels and its associated price volatility.

Within the RP7 process, NIE Networks recognises a significant step-change is needed in the level of investment required to facilitate the scale of decarbonisation that has now been mandated by government. NIE Networks also recognise the need to invest to enable government targets for a greater proportion of electricity to come from renewable sources as we move towards 2030.


Northern Ireland
Electricity
Networks
www.nienetworks.co.uk