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Call for Evidence - Electricity Connection Policy Framework Review

The Ulster Farmers Union (UFU) is the largest landowner representative organisation in Northern Ireland with over 12,000 members and we welcome the opportunity to reply to this Call for Evidence.

Questions posed in 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?

Microgrids are smart geographically localised networks capable of aggregating and optimising diverse small-scale renewable resources and the energy generated can then be distributed to selected customers, allowing for a greater efficient use of energy and improve power quality and the UFU have supported the concept for over a decade.

As far back as 2013, Down District Farmers for Renewable Energy (DDFFRE) was a collaboration, involving South West College, East Down Rural Community Network, Invest NI, the Ulster Farmers Union along with local residents groups, with a vision for alternative way of incorporating Small Scale Renewable Energy Generation and how it can be utilised in a local area. DDFFRE envisaged a more efficient use of the existing grid system, utilising energy storage and demand side management, in what was effectively a microgrid.

The DDFFRE proposal was to development a microgrid with an integrated storage solution for the Lecale (including Ballyhoran, Ardglass, Killough and Bishopscourt). The former airfield at Bishopscourt was identified as the preferred location for a "Centre of Excellence" base for the microgrid serving the energy and heat requirements of 300 homes in nearby Ballyhoran and it was envisaged that the project would incorporate a broad mix of small scale renewable technology; wind, Solar PV and on-farm AD.

The UFU fully supported this project and we attended meetings with Michelle O'Neill, then Agriculture Minister, Mark H Durkan, then Environment Minister and made representations (presentations/press articles/letters of support) for this initiative. UFU provided oral and written evidence to ETI Committee at Stormont. Our evidence on micro-grids was favourably received and the ETI committee were receptive to the possibility that this could be a viable alternative for those unable to connect small scale renewable generation to the electricity grid.

The project developed further into a significant body of work, led by B9 Energy and the subsequent joint project known as STORY CAES which focused on Compressed Air Energy Storage, with 18 international partners and funding was accessed through Horizon 2020, illustrating the added-value of storage in the distribution grid and highlighted the policy and regulatory changes needed to create an integrated future for energy storage. One of the significant solutions offered by CAES in this instance is that is provides local "load on demand" which countered the Reverse Power Flow constraint.

At the time, the UFU highlighted that this new concept needed to be embraced to addressing many of the barriers we have faced to date, mentioned earlier in this response. Unfortunately, it did not reach a conclusion in this time.

We are encouraged by the fact that there would be more opportunities for the development of micro grids, if changes were made to distribution connections charging and with the introduction of flexible distribution connections. NIE Networks would have more flexibility to accommodate micro grid connections, which would be benefit to those of our members who are subject to limited available capacity.

Many UFU have entered into zero export agreements and it is being looked at many wishing to get involved in Small Scale Renewables (SSRs). Yet we are conscious and aware that generation connections, even zero export generation connections, are operating in parallel with the network, therefore a connection agreement is required, and NIE Networks will still assess the network impact for such a connection.

However, we welcome the acknowledgement and recognition of Prosumers in the CfE. A shallower charging regime would reduce the upfront connection costs by lowering network reinforcement costs for the connecting customer. Thereby more UFU members could become Prosumers. Currently, sizeable and unaffordable upfront connection costs are a major barrier to the uptake of SSRs, reducing their ability to become prosumers.

On account of the level of network reinforcement required, without changes to the current distribution connection charging regime many of our members will not be able to afford the connections costs to install Small Scale Renewables (SSRs) or Low Carbon Technologies (LCT's) and this is one of the reasons driving many of our members to install off-grid solutions.

According to NIE Networks this is likely to reduce the quality of their supply and increase nuisance tripping due to reduced requirements that are in place for parallel connections, as set out in the Distribution Code.

The UFU accepts the reasons why these controls are in place, systems security etc

Any significant uptake of micro-grids will require tariff reform to ensure network costs are fairly recovered from prosumers and customers. The UFU accept and acknowledge that UR has indicated it plans to consider the tariff reform separately, however it is worth mentioning that this reform could address some of the issues identified and should be highlighted within the finding and recommendations which come from this CfE.

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

UFU agree with the guiding principles that are laid out in the Call for Evidence

Moving to a shallower distribution connection charging would assist in facilitating targets set out as part of the NI Energy Strategy and Climate Change Act by increasing the uptake of SSRs and LCTs through lower upfront connection costs.

- The absence of shallower charging in Northern Ireland would result in the distribution connection cost for renewable energy developers being much higher than in the rest of the UK and consequently have a detrimental impact on our chances of meeting the target of 80% of electricity from renewables by 2030.
- CCC (Climate Change Committee) have calculated that for Northern Ireland to meet the Net Zero by 2050 target, it would take a 33% reduction in emissions from agriculture. With strategic use of small scale renewables, including AD, NI emissions could be cut by 0.3MtCO2e by 2020 and 0.8MtCO2e by 2050. The adaption of SSR's/LCT will enable NI agriculture to reduce emissions through more efficient energy use on farm.

The current NI connection charging methodology is acting as a barrier to NI agriculture meeting its aspiration to commit to a lower carbon economy. It is therefore essential that barriers such as high connection costs are removed. Resulting in lower carbon emissions as well as stimulating a new sustainable green economy across the whole of NI.

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

UFU welcomes this CfE as a long awaited and overdue (and often called for) first signal from the UR and DfE to address the barriers faced by our members wishing to connect SSR's to the grid in Northern Ireland.

The UFU have been alerted to the impact that the 'do nothing' approach would have in NI and are very concerned that this is not set out in the CfE. By omitting the 'do nothing' approach implies zero impact, which is not the case. As it stands, the 'do nothing' approach will result in NI generators having higher bid prices in order to recover connections costs, which would have a devastating outcome for NI in relation to installing further renewable capacity.

In summary, UFU do not support the "do nothing approach", and would urge for extensive analysis of the implication for this option to be set out by UR/DfE.

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

UFU does not consider the current deep connection boundary to be appropriate in NI.

Northern Ireland agriculture plays a three-part role in energy; landowner, local demand customer and renewable generator and Flexible Connections could have a varying impact upon such members; Landowners, Local demand customers and as Prosumers.

1. **Landowner -** The electricity infrastructure covers thousands of kilometres of cables, poles and transformers crossing our members land.

2. **Local Demand Customer** - Farm businesses are direct customers, consuming large and significant volumes of electricity.

3. **Renewable Energy Generators/Prosumers** – UFU members are at the forefront of distributed generation, with electricity being produced by buildings with solar panels on the roofs, through wind turbines on their land, via AD plants on their farms and through other forms of on-farm renewable energy. The UFU membership are therefore text book definition of 'prosumers'.

   Wind turbines and solar panels (or solar PV as the technology is known) are the most recognisable forms small scale renewables (SSR's) and their use has long been identified as a form of 'green energy' and have proved popular to some of our members over the last 15 years.

The NI land-based sector is now producing enough renewable energy to power up to 150,000 homes, but this has come at significant cost to our members, with many barriers encountered and these remain unresolved. One of the biggest barrier encountered was astronomic costs for connecting to the distribution grid. The UFU has heard of grid connection quotes exceeding £500,000.

Currently in Northern Ireland, for both demand and generation connections, all reinforcement costs at the same voltage level as well as one voltage level above that of the connection voltage are charged to the customer, which is known as "deep" charging.

The most frequent and repeated complaint the UFU has received regarding grid connections over the last 15 years is from 'first movers'. These are UFU members who were the first to install renewables in their area. They were charged all of the required network reinforcement costs directly, resulting in network capacity being created and paid for by a single customer although they may only require a proportion of the new capacity

created. This is a major disadvantages of the current charging regime and would be addressed by moving to a more shallow connection charging regime.

UFU underwent an extensive lobby during this time highlighting the massive quotes faced by our members;

- **September 2012 –** UFU met with Utility Regulator and raised issue of high grid connection costs.
- **August 2013** – UFU wrote to Joe O'Mahoney, then NIE Networks CEO with concerns regarding high grid connection costs
- **September 2014** – UFU provided oral and written evidence to Committee for Enterprise, Trade and Investment at Stormont.
- **December 2014** – UFU wrote to Michael Atkinson, then NIE Networks Manager with concerns about grid connection costs, including a request for the amount of money spend connecting to the grid
- **October 2015** – UFU issued press highlighting cost of abandoned grid applications
- **December 2016** – UFU submitted written evidence to the Northern Ireland Affairs Committee on electricity sector in Northern Ireland, and we raised concerns about grid connection costs.

In many instances, projects did not proceed due to the inhibitive upfront costs.

UFU identified that 300 of our members, on the back of lack of available grid capacity and very high connection costs, had withdrawn their grid applications. Such was the concern at the time that it was a matter of grave concern at our ruling Executive and we calculated that with consultants charges and applications fees, the average land-owner was £10,000 out of pocket, which amounted to £3m.

The UFU would ask that the following points are taken into consideration in our response to this Call for Evidence and specifically why we believe that the current 'partially deep' connection boundary is inappropriate in Northern Ireland.

- NI is out of sync with GB when it comes to connection policy - GB moved to an even more shallow charging approach on 1st April 2023.

- Distribution connection costs paid by the connecting customer in Northern Ireland are higher than in both GB and ROI. UFU are advocating for a review of distribution connection charging.

- The current distribution connection charging regime appears to discriminate against rural based connecting customers, with higher quote values and connection charges, which is a major concern for the UFU. This in turn is leading to less acceptance/uptake from our members. According to NIE Networks from 2018 to 2021, there are discrepancies in distribution connection costs between rural and urban customers. Consider the evidence below;

    - Rural domestic customers accounted for 94.5% of total single domestic connection applications
    - Urban domestic customers accounted for only 5.5% of single domestic connection applications.
    - Average connection charge for a single domestic rural dwelling is c.£5,700
    - Average connection charge for a single domestic urban dwelling is c.£1,866.

Which is a difference of £3,834

In responding to NIE Networks RP7 proposal, the UFU were very supportive of the 'touch the network once' strategy. The current distribution network charging doesn't lend itself to this and under the existing approach, a customer is charged for the specific section of network which needs upgraded to facilitate their capacity.

However, the NIE Networks proposal would enable the use of flexible and smart solutions to defer more costly network reinforcement.

Moving to a shallower distribution connection charging methodology would facilitate the adoption of more SSR's at a time when very limited further progress has been made on electricity consumption from renewable sources, specifically since 2020. This has been seen by the UFU with fewer and fewer of members getting involved in SSR projects.

NI has just over 6 years to find an additional 40% of electricity consumption from renewable generation. A shallower distribution charging methodology would encourage renewable generation to connect by lowering up front connection costs paid by the connecting customer. It is important that those customers who move first to adopt renewable and low carbon energy and transport solutions, are not unfairly burdened by paying the majority share of reinforcement costs.

The new charging regime could include safeguards to ensure that more expensive connections, such as those required by large farm businesses, would not be paid for by the wider customer base. This could be done by setting a *HCPT (high-cost project threshold).

UFU Policy Position – we are supportive of a move away from the deep charging connection and to a shallower regime on a par with that recently introduced in GB.

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.

In-keeping with our already stated preference to moving to a more shallow connection boundary, we will skip answer Question 6.

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.

UFU believe there need to be changes to distribution connection charging. We strongly advocate for a charging policy that is shallower than our current deep charging policy.

Alternative connections charging arrangements could include a shallow charging boundary and the reintroduction of a connection's subsidy.

UFU support NIE Networks in their proposed changes to the existing NIE Networks SoCC , which could reduce the upfront costs for connecting customers.

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.

UFU strongly believes that moving to a shallower connection boundary in Northern Ireland will provide us with the best chance to deliver renewable targets.

It is forecast that 3.9GW of renewable generation will need to be connected to the network to meet the target of 80% renewables by 2030. Which is a an additional 2.1GW of renewables connected to the grid, on top of the c.1.8GW currently connected.

So, 0.25GW (or 250MW) of this will need to come from SSR's/Microgeneration and hence the focus of the land-based sector.

As already stated, there has been very slow progress since 2020 in advancing renewable electricity consumption in Northern Ireland. This backed up by data from SONI which has shown that up to May 2023 electricity consumption from renewable generation was 38% for NI. What this means is that Northern Ireland has just over 6 years to find an additional 42% of electricity consumption from renewable generation in order to meet the 80% target.

The UFU believe that a shallower connection boundary together with a more efficient connections process would play an important role in ensuring this.

A move to shallower connection charging would mean a reduction in the individual connection cost of renewable generation. With increased levels of generation and demand connecting to the distribution network, the availability of spare capacity will reduce. This will lead to the requirement for significant network reinforcement, which leads to an increase in associated costs and more expensive grid connection costs for generators. The UFU have seen first-hand over the last 20 years, where sky-high connection costs have acted as a barrier to many would-be renewable generators within our membership.

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

UFU are not best suited to reply to this but analysis completed by NIE Networks forecasts that the impact of socialised costs using shallower connection charging methodologies on an average domestic customer's bill in 2030 is expected to be less than £3 per year.

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?

This is question that NIE Networks can answer, however, we would refer the UR/DfE to our submission on RP7 where we were supportive of their proposals. But in the context of this question, we will say that we agree with NIE Network when they state that by moving to a shallower distribution connection charging regime, the whole process of designing a customer's new or increased load connection could move to a significantly more holistic approach. Currently, our experience have shown that each individual connection design is considered in relative isolation, which means that the reinforcement cost is levied on the connecting customer. Moving to a more holistic approach would mean that sections of network could be upgraded and reinforced considering the wider whole system cost, delivering long term cost efficiencies. The UFU in our reply on RP7 were supportive of NIE Networks suggested principle of 'touching the network once', and this aligns with this we are supportive and would ask that it is considered in this CfE.

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 current developer led approach was effective in enabling NI to meet the 2020 renewables Targets and should remain the preference for future connections, in this instances, specifically with individual land owners in mind wishing to develop and connect SSRs.

As things stand in relation to planning, the UFU has no faith in a plan-led approach, especially after evidence from our members.

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.

UFU are of the view that the current 3-month timeframe to issue a connection offer is outdated and need to be reviewed and subsequently changed. Connection applications are becoming increasingly complex and there is evidence that these timeframes are no longer suitable.

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

Until the UFU witnesses a real and credible move by Government to address Planning Policy in relation to all scale of renewables/LCT's we are unable to give an answer to this. In current circumstances we would have zero confidence in, for example, supporting any pre-requisite to planning permission to receive a grid connection.

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 UFU Rural Enterprise Committee have discussed the first-come-first-served principle in depth and believe that it needs to be addressed as it does not currently consider local or wider system needs. An example being, there are instances where someone could pay their money when applying for a grid connection (and not have all required information) and step ahead of someone who does have all the relevant required information but not paid their fee. This should not be acceptable.

Furthermore, in the queue process, after fees are paid, very minor omissions in a Grid Connection application should not impede the progress.

Since the UFU are involved in SSR's, in order to shorten timeframes to issue connections offers, consideration should be given to other approaches suitable for this scale projects such as standard costing approach and menu pricing.

Finally, neighbouring jurisdictions have different approaches to queue management and should be considered.

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

UFU refer the UR/DfE to our response to the CfE. Yet if any further clarification is needed please get in touch with Chris Osborne cosborne@ufuhq.com

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

1. **Role of Utility Regulator** - In our response to the DfE Energy Strategy Consultation response in June 2021, the UFU stated that the mandate of the Northern Ireland Utility Regulator needs to evolve urgently if Northern Ireland is to have any chance of meeting climate change targets.

The UFU support the view that the workings of the Utility Regulator must be broadened to consider the need for decarbonisation and economic development. There needs to be a forward-looking regulatory framework, currently the decision-making process rests upon the cheapest option, with no consideration as to value nor ahead of need, which means innovation and strategic investment is overlooked.

UFU Position - The Energy Network Association in an FT article on 8 May made it clear that in GB, Ofgem needs to move from a reactionary process to mandating "anticipatory, strategic investment". Similar considerations are needed on the Northern Ireland regulatory framework

2. **Energy Ombudsman/Review Panel for Northern Ireland** - In our response to the DfE Energy Strategy Consultation in 2021, we set out our vision of the need for the establishment of an overarching one-stop-shop body to deal specifically with energy, for both domestic and non-domestic customers and specifically prosumers, avoiding the creation of a toothless 'talking shop'. We stated that it needed to be more than a web page and allow physical interaction with officials. Furthermore, these officials allocated to the body must have a practical understanding of energy in Northern Ireland as this is lacking in Government at present. Crucially this one-stop-shop must be able to challenge the regulatory framework, either through the Utility Regulators office in Belfast or challenge any perceived heavy handedness on the part of OFGEM

Within this one-stop-shop, there is an urgent need for the establishment of an Energy Commissioner, with powers to oversee the electricity grid, with an Ombudsman/Review Panel which will focus on two areas;

i. **Review decisions of the Utility Regulator** – as it stands, the Utility Regulator decision is final and there is no way to challenge such judgement without pursuing a judicial review. The Ombudsman should also cover any decisions emulating from OFGEM.

ii. **Challenge grid connection decisions** – Challenges faced by our members are set out in this CfE, however, a formal and independent appeal process would be of considerable benefit to the SSR. In our previous communication with DfE, we have asked for consideration to be given to a Grid Commissioner to review NIE Network decisions which are outside the jurisdiction of the Utility Regulator.

3. **Energy Dashboard** - There is one change which come about without the need for legislation change and it concerns the introduction of a much-needed Energy Dashboard, this could either be introduced within the one-stop-shop set out above, or on its own. Such a dashboard has been discussed at the Renewable Grid Liaison Group (RGLG). The proposed dashboard would feature; Generation and grid projects in planning; Build timescales and allow the tracking of growth of demand due to electrification of heat and transport. UFU would stress that for this to be a success, it must be a collaborative effort between government departments, licensed companies and stakeholders including UFU.

Chris Osborne
UFU Senior Policy Officer
5 October 2023