



**Response by Energia to the Department for the Economy and Utility Regulator
Joint Call for Evidence**

A Review of the Connections Policy Framework in Northern Ireland

06 October 2023

1 Introduction

Energia welcomes the opportunity to respond to this consultation. With less than 7 years to deliver Northern Ireland's 2030 targets, there is a very tight timetable to connect the renewable energy needed to achieve the government's policy aims. As a developer of renewable, storage and conventional generation projects, Energia has had experience navigating the existing connections policy and believes the feedback we can provide will be useful in shaping a new connection policy covering all onshore generation. Noting that this is a call for evidence, we have tried where possible to substantiate our views on the basis of evidence or citing international best practice.

2 Executive Summary

This executive summary gives an overview of key recommendations concerning electricity connection policy in Northern Ireland and draws from the experience of grid connection regime options from other jurisdictions.

- A **shallow connection** for both demand and generation is the most appropriate for NI and the option to facilitate greater success in meeting 2030 renewable energy targets, reducing costs to the consumer over the long term and, contributing toward making NI more competitive relative to GB and Ireland for renewable investment.
- It is general industry's preference to continue a **developer led approach** supported by **anticipatory grid investment where possible**. The concern about a plan-led approach and the picking of sites implies that such a policy will be picking winners either as a preference or as an unintended consequence, and therefore would not be technology neutral. It would also be a herculean task to expect Government to in all cases correctly identify the most appropriate development sites given the number and variety of constraints renewable energy projects must satisfy.
- Addressing **speculative grid applications**, which create bottlenecks and backlogs, require that some pre-requisites are put in place. Noting, of course, that planning as a pre-requisite has previously been confirmed as not being a requirement to obtain a grid connection under the 1992 Energy Order. In the absence of legislative changes, **interim requirements or milestones** could strike a balance between addressing speculative applications and expediting project development. Additionally, Energia would recommend considering a **batch grid connection process** similar to Ireland's Enduring Connection Process.
- Energia would be in favour of **keeping the 3-month timeline** in place and taking measures to undertake a **grid connection queue management** review to streamline both planning and grid connection processes. Additionally, SONI retains the **flexibility of derogation** to exceed the 3-month timeline when necessary.

3 General Comments

3.1 Grid Connection Regime Options

A shallow connection for both demand and generation is the most appropriate for NI and the option Energia contend that best facilitates meeting both 2030 renewable energy targets and reducing costs to the consumer over the long term. A shallow connection regime imposes less upfront costs on developers, resulting in lower bid prices in capacity auctions such as the CRM or the new proposed renewable energy support scheme. As illustrated in numerous reports, most notably Cornwall Insight's *Ress for Less 2022* report, reducing the upfront development cost for energy investments confers longer term benefits for consumers - by virtue of lower strike prices – that outweigh any additional costs placed on the consumer in the short term.

An additional benefit of a shallower connection charging regime is that it will serve to increase the opportunity cost of developing micro-grid or off grid solutions for both demand and generation customers.

A material risk emerges, absent a change in connection charging policy, that larger users will in future seek to connect sites via privately constructed infrastructure. The distributional effect of such a policy would imply that eventually the cost of the existing network is socialised only among those without the ability to finance off-grid connections. Network costs will be expected to increase as a proportion of every customer's bill as the market transitions towards net zero anyway, thus there is already a price signal that many will avail of by installing generation behind the meter and reducing their reliance on power received from the grid. The current charging regime compounds the price signal in favour of off-grid solutions undermining efforts to enable a more just energy transition.

NI is already at a comparable disadvantage when it comes to the cost of renewable development when compared to GB and to a certain extent Ireland. A shallower connections regime will help to make the investment case for renewables in NI more appealing and improve NI's competitiveness with neighbouring jurisdictions.

Changing to a shallow connections regime will not result in an inappropriately high number of new connection applications if managed correctly. Connecting to the grid will still be a scarce resource irrespective of the cost. Making sure there are enough safeguards in place, e.g., requiring an element of planning, should help to reduce the number of speculative applications.

Innovative approaches to modelling storage assets is also required in order to optimise overall costs to consumers (network development and volume of storage required to be developed).

3.2 Plan led v Developer led

It is general industry's preference to continue a developer led approach supported by anticipatory grid investment. NI has been successful in its cluster station approach by providing reinforcements based on the pipeline of projects. Energia recommends continuation of this policy to ensure that grid investments continue to keep pace with the delivery of renewable developments.

The myriad of considerations that inform site selection are complex and vary significantly by technology. Energia do not believe it is efficient that central government or any one government body, with no experience of developing renewable projects, be tasked with identifying future development locations. We note that at present, developers consider the viability of obtaining a grid connection for their chosen site at the development stage. A grid connection is thus one of many considerations that are ultimately weighed and balanced in the context of the cost of delivering the overall project. Were it to be the case that the grid's importance was raised in the weighing of the site's potential – via perhaps a plan led approach – then any savings made on the connection cost associated with the project would almost certainly be outweighed the loss of generation capacity due to other constraints.

The preference for a developer led approach aligns with economic theory, wherein the party in possession of the most information, makes informed choices based on market-driven long-term investment realities in light of all relevant regulatory directives.

The additional concern Energia has about a plan-led approach would be the potential for biases to emerge towards picking sites in favour of certain technology or location types. The depth and rigour of the process by which a government agency would select sites is also unlikely to be feasible in the timeframe's required to ensure a truly technology neutral approach. Especially as the range of potential low carbon technologies increases over time.

3.3 Permitting before Grid

Addressing speculative grid applications, which create bottlenecks and backlogs, requires some planning element. The absence of planning as a prerequisite exacerbates timeline challenges. In the absence of legislative changes, interim requirements or milestones could strike a balance between addressing speculative applications and expediting project development. One viable milestone example is requiring a **live planning application** with a reference number, which can alleviate the backlog of speculative applications, reducing overall grid connection timelines.

Energia support the NIE Networks proposal that relevant legislation could be updated to **prioritise connections with planning permission** OR projects that have been **designated as strategically important**, (i.e., those needed to meet 2030 RES-E targets). Energia note the NIE Networks' efforts introduce milestones into grid connection offers, i.e., the Planning Approval Milestone, Longstop Milestone and Utilisation Milestone, and recommend they continue to be enforced and stalled projects removed from the queue.

3.3.1 3-month timeframe

Logically the solution to this problem is not to lengthen the timeline but to take steps to address the backlog, including moving towards firm planning consent as a prerequisite for grid connection applications. Energia notes that SONI retains the option to exceed the 3-month timeline when required, illustrating that allowing for additional time is not the entire solution. More creative solutions along the lines of those mentioned in section 3.3 are therefore needed to address the more nuanced complexities that arise in the current connection application process.

Lessons from Great Britain, where a lack of planning requirement led to a massive backlog and speculative application problem, provide a cautionary tale against firming up on grid connection pre-requisites. Energia would therefore be in favour of keeping the 3-month timeline in place and taking measures to undertake a grid connection queue management review to streamline both planning and grid connection processes.

4 Response to Specific Consultation Questions

4.1 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?

As the electricity grid evolves to reflect a system with more renewables, storage and other technologies, a real question remains about future load profiles. As is rightly pointed out in the paper, there is a trend toward customers pursuing their own means of self-generation, whether as a domestic prosumer or participant in a micro-grid. If this trend persists a greater number of grid connectees, will over time succeed in a reducing their percentage contribution toward the total cost of maintaining and operating the grid. The distributional effect of these actors, will be that a higher percentage burden of network costs falls upon an ever shrinking base, which disproportionately consists of the less affluent and more vulnerable customers.

If an increasing amount, persists in falling due from a decreasing base, a downward spiral takes effect wherein it is increasingly in a customer's interest to avail of off grid solutions. One of the ways to reverse this spiral is to align the connections regime with incentives that reduce the motivation to exit the grid and seek off grid solutions. A shallower connection charging methodology is one such way of blunting this incentive. If that spiral can be prevented or reversed, the cost of grid maintenance and operation will be more equitably shared, thus preventing a disproportionate burden on some customers.

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

Energia agrees with the guiding principles and have put forward recommendations that will benefit renewable energy generators and the end consumer. Streamlining the process for getting renewable generation on the system is key. Measures to move to a shallower connection regime, streamline the planning and grid connection process and removing stalled or speculative grid applications from the queue would help to get more RE on the grid at a lower cost, which will help achieve a variety of government goals, not least helping to protect the end-customer from unnecessary cost.

4.3 Do you agree with our proposed scope in relation to this connection review? this includes:

Energia supports the suggested scope of the connection review but proposes that all workstreams adhere to consistent principles to ensure their alignment and avoid inconsistencies.

4.3.1 Are there other issues which you consider we should take into account. If so, please explain why

While Energia supports the review's scope, we'd like to emphasize that it may need to broaden its perspective regarding the range of asset types and their evolving characteristics. The future grid must remain adaptable to the dynamic landscape of energy technologies, including bulk time-shifting or long duration energy storage, synchronous condensers and emerging technologies that defy simple categorisation as either generation or demand.

The nature of storage assets is also poised to undergo substantial changes, transitioning from short-term to long-term duration. Consequently, this transformation will affect load profiles, underscoring the growing importance of consistent industry communication and engagement. Hydrogen additionally presents a unique challenge as it doesn't fit neatly into conventional generation or demand categories as it does not operate as classic demand in that it mops up excess wind generation. There needs to be some consideration around modelling how flexibility is needed and used, in order to encourage and make better use of flexibility assets.

It's relatively straightforward to model grid requirements for generation assets (wind, solar, thermal) and demand. However, for storage (with import and export requirements) how these assets will be modelled by the network owners and operators is very important. For example storage assets which provide system services will discharge in response to system events (which can happen at any time) however the storage asset will not be available to respond to the next system event until it has been charged (which is restricted by import capacity) . Longer duration assets usage will primarily be driven by diurnal demand characteristics, renewable generation capability and market pricing (the import and export requirements are therefore different to other generation and demand connections). Innovative approaches to modelling storage assets is needed in order to optimise overall costs to consumers (network development and volume of storage required to be developed).

4.3.2 *Are there any connection areas we should remove from the scope of our review? If so, please explain why*

Energia agrees that everything proposed fits within the scope. A holistic perspective is needed to include the areas that are covered by separate workstreams (i.e., offshore).

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

Northern Ireland currently faces a comparative disadvantage in renewable energy development compared to its counterparts in Great Britain (GB) and neighbouring Ireland. Transitioning to a shallower connection regime would serve to fortify the investment case for renewable energy in NI. This shift towards shallower connections helps level the playing field, allowing NI to compete in the renewable energy sector more effectively.

A move to a shallower regime will also assist the government in meeting its broader policy goals, as outlined in section 3.2.

4.5 *Do you consider a shallow connection boundary to be appropriate in the NI context? Please explain your rationale further and provide evidence.*

There are compelling reasons that transitioning to a shallow connection regime has the potential to significantly enhance Northern Ireland's renewable energy landscape and can lead to a more equitable transition.

Lowering Consumer Costs and Facilitating an Equitable Transition:

A move towards implementing shallow connections for both demand and generation emerges as the most suitable choice for Northern Ireland. This approach offers a solution to meet the ambitious 2030 targets by facilitating renewable energy development and would result in **lower auction bid prices**, which would be locked in for the 15-20 year contract duration and thereby reducing long-term costs for consumers. Energia would point to the NIE Networks analysis that it undertook through an external consultancy that showed the **impact of socialised reinforcement costs** on a customer bill if NI were to move to a shallower distribution charging regime. The results showed that for an average domestic customer in NI, the socialisation of reinforcement costs under the previously GB charging methodology (shallowish) resulted in approximately £2 extra per annum in 2030 and under the current GB (shallow) charging methodology, approximately £3 extra per customer per annum in 2030.

Breaking down cost barriers in Low-Cost Technologies

Additionally, a shallower connection approach contributes to the reduction of connection costs for Low-Cost Technologies (LCTs). This reduction plays a pivotal role in fostering a fair and equitable energy transition not least to **provide consumers an affordable option** when they are mandated to adopt LCTs due to policy decisions.

Mitigating Off-Grid Solutions and preventing a downward spiral:

A shallow charging methodology for demand effectively discourages the pursuit of off-grid solutions, ensuring that networks costs are not disproportionately funded by less affluent customers who cannot avail of off grid solutions. An update to the charging methodology will likely need to be monitored and considered for the future grid and its changing load profiles, but aligning the connection charging regime with the correct incentives may help prevent a spiral, see section 3.1.

Concerns that a shift to shallower connections might lead to an excessive influx of new connection applications can be effectively addressed through proper management. It's important to acknowledge that grid access remains a finite and valuable resource, regardless of the associated costs. Implementing safeguard measures, such as requiring an element of planning in the connection process, can help mitigate the risks associated with speculative applications. The transition to shallower connections is a pragmatic approach for NI, helping to increase the amount of renewable generation, reducing consumer costs, and promoting fairness in Northern Ireland's journey towards Net Zero goals.

4.5.1 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 line with Energia's comments above in section 3.1, the potential for off grid solutions exists on both the demand side and generation site. Socialising the cost of the grid to the greatest extent possible should be the priority of connecting charging and thus charging different user types differently creates distortions and unintended consequences. One example being storage users who are both demand and generation sites but may size their inputs or outputs in a manner to minimise their exposure to network charging, rather than maximise the utility of their unit – to societies benefit.

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

While Energia believes that a shallow-ish boundary is an improvement in some respects but that a truly shallow connection boundary would confer additional benefits beyond such an approach, namely economic growth, attracting inward investment and delivering a just transition.

4.6.1 If so, which of the following connection types should have a shallow-ish connection boundary;

- **Demand only Page**
- **Generation only**
- **Demand and Generation (for example Domestic/Non-Domestic connections)**
- **An alternate connection type**

Please explain your rationale further.

4.6.2 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.

Yes. Even with allocated monies, there is a need to connect all viable renewables projects to achieve 2030 targets. A shallow connection regime should be implemented to facilitate faster development of renewables, including those outside the focus for RP6 price control projects, which would not avail of 'cheaper connections for connectees within those areas.'

Storage is a key enabler of meeting targets, but if they're forced to connect with a more costly connection option developers might not make those commitments. Storage could replace wires in some instances if it made economic sense to do so.

4.7 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%

As the consumer pays in all of these scenarios, CPPAs should be encouraged to reduce the burden of cost on the consumer and a shallower connection would better facilitate that.

4.8 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?

4.9 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.

It is general industry's preference to continue a developer led approach supported by anticipatory grid investment. NI has been successful in its cluster station approach by providing reinforcements based on the pipeline of projects. Energia recommends continuation of this policy in that grid investments are delivered to ensure the delivery of renewable generation to the grid as project opportunities arise.

It is not efficient for one institution to consider and address every constraint issue facing all technologies, as various technologies face vastly different challenges and require unique siting and solutions. The preference for a developer led approach aligns with economic theory, emphasising market-driven long-term investment decisions over regulatory directives dictating generation types, quantities and locations. This mirrors Energia comments to the Department for Infrastructure's consultation on the 'Review of the Strategic Planning Policy Statement Renewable and Low Carbon Energy' where it was explained that a spatial planning approach to renewable and low carbon developments via Local Development Plans (LDPs) will inhibit development.

The concern about a plan-led approach and the picking of sites implies that such a policy will be picking winners either as a preference or as an unintended consequence, and therefore would not be technology neutral.

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

Energia would be in favour of keeping the 3-month timeline in place and taking measures to undertake a grid connection queue management review to streamline both planning and grid connection processes. Additionally, SONI retains the flexibility of derogation to exceed the 3-month timeline when necessary.

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

Permitting before Grid

Addressing speculative grid applications, which create bottlenecks and backlogs, requires some planning element. The absence of planning permission as a prerequisite exacerbates timeline challenges. In the absence of legislative changes, interim requirements or milestones could strike a balance between addressing speculative applications and expediting project development.

One viable milestone example is requiring a **live planning application** to be in the statutory process with an allocated planning reference number, which can alleviate the backlog of speculative applications, reducing overall grid connection timelines. Energia support the NIE Networks proposal that relevant legislation could be updated to **prioritise connections with planning permission** OR projects that have been **designated as strategically important**, (i.e., those needed to meet 2030 RES-E targets). Energia note the NIE Networks' efforts to introduce milestones into grid connection offers, i.e., the Planning Approval Milestone, Longstop Milestone and Utilisation Milestone, and recommend they continue to be enforced and stalled projects removed from the queue.

4.12 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?

Great Britain:

The grid connection application process in GB generally involves several stages and can be extremely lengthy. The specific timeline can vary depending on the complexity and location of the project. Grid upgrades and reinforcements are often required to accommodate new renewable energy projects, which can add significant time to the process. Overall, however, one of the key reasons for longer timelines is that **planning permission is not a prerequisite** for grid connection applications.

In May 2023, Ofgem announced¹ a policy review on reforming its electricity connections system. According to Ofgem, 20% of generation capacity in the queue have a further ten year wait until reaching their connection dates. More than 40% (120GW) offered dates of 2030 or beyond. Applications have risen by 80% in the last 12 months.

EU policy steps:

The EU Renewable Energy Directive III identifies that “lengthy administrative procedures are one of the **key barriers for investments in renewables** and their related infrastructure,” which includes inter alia **grid connection issues**.

Spain has had problems with the length of its grid connection applications but took steps² to address the backlog, including **removing projects** that weren’t progressing. The grid connection application process in Spain is generally considered to be more streamlined compared to GB. The Royal Decree-law (RDL 23/2020) came into force in 2020 approving energy measures to promote energy reform, including the introduction of expiration deadlines for access and connection permits, if developer **milestones** failed to be met.

Spain has also made substantial investments in **grid infrastructure**. This proactive approach to grid expansion has helped shorten connection timelines.

Ireland:

The current **Enduring Connection Process** batch connection process in Ireland has largely been **successful in alleviating much of the backlog** of connection applications that had recently accumulated. Energia are conscious however that the lion’s share of the capacity required for Ireland to meet its 2030 decarbonisation and renewables targets is either in the process of applying for a connection offer or has not begun yet.

The same is true for Northern Ireland: in order to progress and achieve 2030 RE targets, the task is to facilitate as much RE capacity onto the grid as possible. Unless the grid connection process is reformed and considered carefully, there is a significant **risk of adding to the connections backlog** and failing to achieve 2030 targets.

Energia believe that the current ECP process has delivered an adequate quantity of connections in the most recent number of batches. While there are aspects of the current ECP process pertaining to renewables that would benefit from refinement, Energia believe that the basics of a workable process are in place and thus changes to the current process should be iterative and not necessarily wholesale. Energia would refer to our June 2023 submission to the CRU on its recent Electricity Generation and System Services Connection Policy Call for Evidence.

¹ Ofgem launches policy review on reforming the electricity connections system | Ofgem, <https://www.ofgem.gov.uk/publications/ofgem-launches-policy-review-reforming-electricity-connections-system>

² Grid connection permit process | Clean energy for EU islands (europa.eu), <https://clean-energy-islands.ec.europa.eu/countries/spain/legal/permits-and-authorisation-processes/grid-connection-permit-process>

In conclusion, given Ireland's recent accomplishments in significantly reducing the backlog of grid connection applications, Energia recommends drawing insights from various jurisdictions and adopting a system akin to the Irish model wherever feasible.

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

5 Conclusion

In conclusion, the recommended approach for NI's electricity connection policy includes aligning with ROI policy where feasible, embracing shallower connection options, continuing the developer-led approach with anticipatory grid investment. In addition, Energia also recommend considering planning prerequisites to mitigate speculative applications and addressing backlog challenges without extending connection timelines. These measures collectively contribute to a more equitable, efficient and sustainable energy transition in Northern Ireland.