

Review of Electricity Distribution and Transmission Connections Policy

Call for Evidence
9 November 2016



About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs; Electricity; Gas; Retail and Social; and Water. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

Our Mission

Value and sustainability in energy and water.

Our Vision

We will make a difference for consumers by listening, innovating and leading.

Our Values

Be a best practice regulator: transparent, consistent, proportionate, accountable, and targeted.

Be a united team.

Be collaborative and co-operative.

Be professional.

Listen and explain.

Make a difference.

Act with integrity.

Abstract

A connections market which works well for Northern Ireland (NI) consumers is essential. Getting connected easily and at a fair price is important for domestic consumers and businesses, and should happen in way which means other network consumers only pay what is necessary for their energy.

This paper is a call for evidence and so represents the first step of our electricity connections review.

Audience

This consultation paper will be of interest to electricity distribution and transmission companies and organisations representing connecting and wider consumer interests.

Consumer impact

Our objective is for efficient, timely, high quality connections which are transparent to consumers.

Executive Summary

A connections market which works well for Northern Ireland consumers is essential. Getting connected easily and at a fair price is important for domestic consumers and businesses. It is also important that other network consumers only pay what is necessary for their energy.

The way electricity is supplied and demanded in Northern Ireland is changing. In particular, a lack of capacity on the network is presenting challenges for connecting to the grid. In light of these challenges, stakeholders have raised concerns about how well connections policy is working.

Our Forward Work Programme includes a project review of electricity connections. The scope of this review includes both the electricity distribution and the transmission networks, and all types of connection customer. As a call for evidence this paper represents the first step.

This paper sets out our strategic priorities, how connections policy currently works, and how the connections market is changing. Against this backdrop, we seek your views on what we should review. Your input will be valuable in helping us scope and prioritise issues and, where necessary, potential solutions for more detailed consultation.

We want efficient, timely, high quality connections which are transparent to consumers. The process for delivering connections should also be sufficiently flexible and robust to adapt to and cope with market change.

The principal question we seek views on is whether and how connections policy should adapt to facilitate efficient connections, in a way in which ensures other consumers only pay what is necessary for their energy? Should there be a need for connection policy to adapt, we will ensure that any changes work within the strategic need identified by the NI Executive and the Programme for Government.

Following this initial consultation we plan to have further engagement with the electricity industry. We plan to host a workshop on 12 December 2016 to discuss the review. We will issue a detailed consultation on the proposals in March 2017 before deciding upon the final arrangements in Summer 2017.

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1. Our strategic priorities

- 1.1. Protecting consumers is the principal objective within our statutory duties. As far as the regulation of networks is concerned, we want to encourage efficient and effective monopolies. This is a corporate objective set out in our 2016/17 Forward Work Programme. Having an effective connections policy sits within this objective.
- 1.2. We want an electricity connections market which works well for connecting customers, but which also promotes the interests of wider consumers.
- 1.3. We set out our view of the features of a well-functioning connections market in NI below. The intention is for these features to act as guiding principles for designing a way forward for connections policy.
 1. **Efficient and cost-effective connections:** Connections should be delivered in a way which maximises efficient use of the electricity network and supports efficient network investment. We want to ensure wider consumers are protected: they should only have to pay what is necessary as a result of a connection and so bills should be kept as low as possible.
 2. **High levels of quality of service and transparency in the provision of connections:** Connecting customers should receive a high quality of service which is clear and easy to understand, and which meets their unique requirements.
 3. **Maintains or improves secure supply of electricity in Northern Ireland:** The way connections are provided should not act as a barrier to the long-term interests of NI consumers. For example, they should not prevent the issuance of efficient connections which could support an appropriate level of security of supply.
 4. **Timely, robust and flexible connections process:** Connections should be delivered in a timely and flexible way. The connections process should be robust and adaptable enough to cope with market

and policy change. Put simply, the way connections are delivered should be future-proofed where possible.

- 1.4. We must work within the policy framework set by Government. We will ensure any changes we make are consistent with Government policy.

Q1. Do you agree with these strategic priorities?

2. How connections policy currently works in NI

Overarching roles and responsibilities

- 2.1. The electricity system in Northern Ireland transports electricity from generators to the home. The transmission element carries high-voltage (275kV & 110kV) electricity which the distribution element then delivers on lower voltage lines (33kV and below) via retail supply companies to homes and businesses.
- 2.2. System Operator for Northern Ireland (SONI), as the Transmission System Operator (TSO), plans and develops the transmission network. For example, SONI is responsible for connections to the transmission network.
- 2.3. Northern Ireland Electricity Networks (NIEN) undertakes this role for the distribution network as the Distribution Network Operator (DNO). NIEN also owns,¹ builds, and maintains both the transmission and distribution networks.
- 2.4. The Transmission Interface Agreement (TIA) sets out how NIEN and SONI work together.
- 2.5. Certain connection activities undertaken by NIEN and SONI are being made “contestable”, or in other words, open to competition. However, the electricity network is sometimes referred to as a “natural monopoly”. This suggests that truly effective and sustainable competition is unlikely to materialise at this network level. This has an important bearing on how we regulate network access and charging.²
- 2.6. Our role is to protect consumers by ensuring NIEN and SONI adhere to defined regulatory frameworks. These regulatory frameworks are

¹ NIEN as TO owns the transmission network.

² Some regulation is harmonized across the Ireland because of the SEM, and as such is a matter for the SEM. We discuss relevant aspects which relate to transmission later in the document.

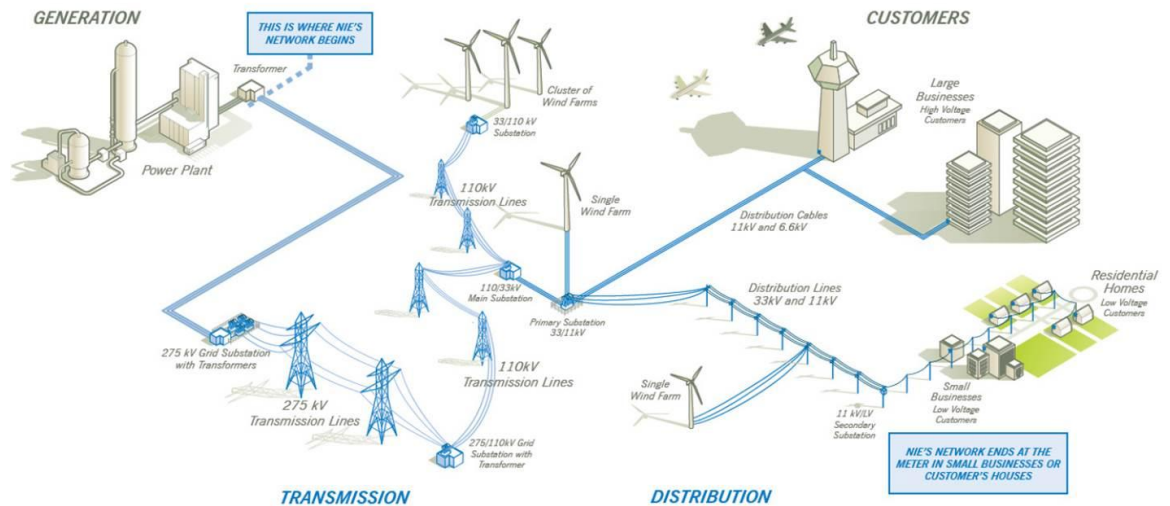
- designed to bring about safe, reliable, sustainable, high-quality and low carbon electricity networks. They also ensure consumers only pay what is necessary for services they receive.
- 2.7. At a practical level, we license network utilities and monitor their compliance with the relevant legal and regulatory framework. Where they do not comply, we can and on occasion do take action, in various ways in line with our duties.
 - 2.8. In carrying out our role, we work within the policy framework set by Government. The Department for the Economy (DfE) makes energy policy in Northern Ireland.
 - 2.9. Of particular relevance, is the Northern Ireland Executive-endorsed target to have 40% of electricity consumption from renewable sources by 2020. This is driven by the target under the European Renewable Energy Directive for UK to achieve 15 per cent of total energy from renewable energy sources by 2020.³ Progress is reported annually to the EU.
 - 2.10. The renewable electricity target has been incentivised by the Northern Ireland Renewables Obligation (NIRO). This provides financial support to generators. The NIRO closed to new onshore wind projects earlier this year and will close to all other technologies on 31 March 2017. We discuss the impact of this in more detail in Chapter 3.

How customers are connecting to and using the electricity system

- 2.11. The way customers are now connecting to and using the electricity system marks a change from the past.
- 2.12. Customers are not only connecting to the network to purchase and use electricity, but also to generate and sell renewable electricity at distribution voltages. The electricity system has been rapidly changing as a result.

³ <https://www.economy-ni.gov.uk/sites/default/files/publications/deti/sef%202010.pdf>

2.13. The diagram below illustrates this change, by depicting where the electricity network begins and ends and how it fits together.



Source: NIEN

2.14. Different customers with diverse needs may seek connections, or other arrangements which change their pattern of electricity usage, from NIEN or SONI. This happens under a range of scenarios.

2.15. Traditionally, domestic or business (or “demand”) customers have sought access to the network to use energy which has been generated by others. For example, a self-build developer may seek a connection to the distribution network to enable the flow of power to new build development.

2.16. Another category of connection is generation. This can be conventional or renewable. In more recent years, customers have sought network access to export renewable energy onto the network which they have generated. For example, a small business installing a wind turbine to sell electricity.

2.17. Customers are also generating and consuming renewable energy themselves, instead of exporting it for use by others. This is sometime referred to as a “zero export”. The customer will use electricity which it generates on-site and will not export it onto NIEN’s distribution system. Importantly, the customer is reducing the electricity demand which it may otherwise have required from the electricity network. A typical customer

- may be a business or a domestic consumer concerned with reducing their energy bill, and/or meeting their needs in a more environmentally friendly way.
- 2.18. NIEN and SONI are also considering requests to either co-locate and/or over-install generation. These allow the connecting customer to further utilise installed capacity subject to related transmission or distribution limitations.
- 2.19. A co-location may happen where a connection applicant wishes to install solar panels alongside an existing wind turbine. This allows the generator to compensate for times when, for example, the wind is not blowing but the sun is shining (in the case of solar added to wind). An over-installation is where further generation is installed.

What is a connection?

- 2.20. Where a customer asks for a connection to the distribution system, NIEN must offer one under Article 19 of the Electricity (Northern Ireland) Order 1992 (“the Order”). This is backed up by its Distribution Licence under Condition 30. SONI must also offer terms for connection to the transmission system under Condition 25 of its Transmission Licence.⁴
- 2.21. There are notable exceptions to when NIEN or SONI must offer a connection. For example, under Article 21⁵ of the Order NIEN, as the DNO, does not have to offer a connection where health and safety issues may arise or for circumstances which are beyond its control. It also does not have to offer one where there is a lack of network capacity. The TSO, SONI, does not have the same rights to rely on exemptions under its licence.
- 2.22. It’s worth noting that where a customer seeks to modify its connection to zero-export, NIEN does not have the right to refuse making that offer because of a lack of network capacity being available.⁶ Put another way, a

⁴The Order does not place any obligations on SONI or NIEN in the context of connections to the transmission system.

⁵ <http://www.legislation.gov.uk/nisi/1992/231/article/21>

⁶ <http://www.uregni.gov.uk/publications/det-565 - determination of glenview foods connection dispute with nie redac>

- connection applicant's choice about whether or not to reduce its energy consumption should not preclude it from altering a connection.
- 2.23. A new or modified connection occurs when a physical change is made at the connection assets on distribution or transmission network. If this does not occur, then neither the above statutory duties nor the above licence obligations which are relevant to NIEN or SONI apply.
- 2.24. However, a distribution customer may still have to agree specific requirements with NIEN under Electricity Safety Quality and Continuity Regulations (Northern Ireland) 2012 (ESQCRs).⁷ This is to ensure the customer comply with safety standards, which protect the public and consumers from danger.
- 2.25. Distribution and transmission operators and connection applicants will also have to demonstrate compliance with the Grid and Distribution codes when seeking arrangements.
- 2.26. We can illustrate by taking an example of a customer seeking a certain type of zero export arrangement on the distribution network.
- 2.27. This would not be a modified connection if the customer can undertake all work required to implement the zero export arrangement on its own installation, without physically changing the connection assets on NIEN's distribution network.
- 2.28. However, the zero export customer may still have to agree specific requirements with NIEN under ESQCR Regulation 23(1) (d), depending on whether certain circumstances are met under ESQCR Regulation 23(2).
- 2.29. This requirement will apply unless the customer is eligible for the more limited requirements set out in Regulation 23(2) of the ESQCR. In particular, for the customer to be eligible, the source of energy must not produce an electrical output exceeding 16 amperes per phase at low voltage.

⁷ <http://www.legislation.gov.uk/nisr/2012/381/contents/made>

2.30. Where there is a requirement on the customer to agree specific requirements with NIEN, whilst not expressly stated in legislation or licence, agreement of specific requirements can be implemented through a variation of NIEN and that party's connection agreement.

How connections are provided

2.31. When NIEN and SONI make a new connection offer, they must do so in certain ways, as required by licence. In particular, they are required to:

- Not unduly discriminate when carrying out connections works under Condition 15 of their licences. This effectively means they cannot unduly discriminate between one type of customer and another.
- Provide certain information in the connection offer outlining the works required for the connection to be made; and the charges to be paid by the applicant, under Condition 30 (NIEN) and Condition 25 (SONI).
- NIEN cannot make a connection offer conditional on the payment of charges for network reinforcement work.⁸
- Make an offer within 3 months of receiving the information from the customer under Condition 30 (NIEN) and Condition 25 (SONI). Where requested by NIEN or SONI, we can offer extensions beyond the 3 month period, where appropriate.

2.32. NIEN and SONI must also comply with the relevant legislation,⁹ regulations and Distribution and Grid codes.

Charging for connections

2.33. NIEN and SONI are allowed to charge for new or modified connections when offers are accepted by customers. NIEN and SONI must also have and maintain a charging methodology and statement under Licence conditions 32 and 30, respectively.

⁸ http://www.uregni.gov.uk/publications/det-522_determination_of_formal_dispute_with_nie_redacted

⁹ For example, <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32009L0072>, Article 7 and 22.

- 2.34. In practice, we approve the methodology, but not individual charges. NIEN, SONI and affected parties may propose modifications to these charges.
- 2.35. Generally, connection charges will be an estimate of the likely cost to connect in line with NIEN's¹⁰ and SONI's¹¹ statement of charges methodologies. This reflects the uncertainty of connection costs at the point at which a connection is offered (which also happens to be when a charge is offered).
- 2.36. To support pricing transparency, the distribution charging methodology will provide an indicative range upon which charges may be based.
- 2.37. However, the risk that estimated distribution connection costs differ greatly from actual connection cost is mitigated for both NIEN and customers through the electricity distribution price control.
- 2.38. This is because the electricity distribution price control would determine NIEN's efficient level of cost recovery (we discuss the broader interaction between the price control and connection charging in paragraphs 2.43 to 2.48 below – 'How network consumers contribute to connections reinforcement costs').
- 2.39. Connection charges may comprise three elements:
- Cost of the connection asset that is used only by the customer.¹²
 - Network reinforcement costs. Reinforcement is investment made by the network company to ensure there is sufficient capacity to allow electricity to travel safely and reliably along electricity wires. If a customer connects to the Distribution network, then it must pay for reinforcement at the voltage level it is connecting to and one voltage level above. A customer connecting at 33kV may drive reinforce the

¹⁰ <http://www.nienetworks.co.uk/help-advice/FAQ/What-is-NIE-Networks-Statement-of-Charges>

¹¹ <http://www.soni.ltd.uk/media/documents/Consultations/SONI%20Transmission%20Connection%20Charging%20Methodology%20Statement%20-%20Effective%201%20Sept%202016%20-%20Approved%20by%20UR.pdf>

¹² Connection assets can be contestable or non-contestable.

Transmission System at 110kV. If a customer connects to the Transmission system, then it pays for reinforcement at the voltage level it is connecting to (and also separately through locational use of systems charges¹³).

- A rebate. This may be paid to previous connecting domestic customers connected to the distribution system under the Electricity (Connection Charges) Regulations (Northern Ireland) 1992 ('ECCRs'). This is to compensate the previous connecting domestic customer for network assets which it installed and paid for. The ECCRs only apply where a further connection is made within five years of the initial connection.¹⁴
- 2.40. Following the harmonisation of transmission connection charging policy to facilitate competition in Ireland's Single Electricity Market (SEM), parties connecting to the all-island transmission system are entitled to a rebate if assets they have funded are shared with another party within ten years.¹⁵
- 2.41. NIEN also "clusters" generation connections together so that they will share network infrastructure. The rationale is mainly to lessen environmental and visual impact. Clusters also potentially enable more connections and afford better technical control of high levels of distributed generation. Broadly speaking, the same pricing principles apply as noted in paragraph 2.39 above. However, customers will share the cost of any shared connection assets according to their capacity requirements.
- 2.42. In general, the cost of a connection will be higher, the greater the size of the connection, the further the distance it is from the network, and if it is installed in a location where capacity is scarce. The cost can also depend on local conditions.

13 It will also fund deeper reinforcement at the connection voltage through its connection charge and at all transmission voltages through locational use of system charges calculated each year. Locational charges for using the all-island transmission system are also charged to distribution connected generators with an export capacity greater than 5MW through TUoS agreements. We will not consider changes to these charges as part of the scope of this connections review. Transmission charging is currently a matter reserved for the Single Electricity Market (SEM) committee.

14 The regulations do not apply to connections to the transmission system. This reflects the greater costs generally associated with transmission connections and the fact that there are relatively few transmission connections compared with distribution connections.

15 Connection happening at the same time can also be treated as simultaneous connections under the transmission connection charging policy and a cost sharing allocation can apply.

How network consumers contribute to connection reinforcement costs

- 2.43. Other network consumers may also have to contribute to the cost of reinforcing the network (in addition to the reinforcement paid by the connecting customers described above). This is recovered from wider consumers' bills through Distribution or Transmission Use of System charges.¹⁶
- 2.44. While we want charges to connecting customers to be fair, we also want other consumers' bills to be fair and balanced. So the proportion of reinforcement cost which is recovered from consumers' bills must be justified. Put simply, it must be in the interests of those consumers who will pay for it.
- 2.45. We separately consider this proportion of distribution reinforcement cost as part of our RP6 price control review. This review will set out what an efficient level of revenue is over the period of 2017 to 2024. This will allow NIEN to deliver quality and efficient outputs, like distribution connections, which customers need.
- 2.46. We will ensure close co-ordination between RP6 and this review so that consumers get the best value for money.
- 2.47. In summary, there is a balance between what is charged to a connecting customer (see previous sub-section) and what ultimately ends up on other consumers' electricity bills. The broad regime should support an outcome where all consumers benefit:
- The connecting customer does not pay for infrastructure it will not use.
 - Wider customers do not pay for infrastructure they will not benefit from.
 - The electricity system is developed efficiently. For example, connection charges steer connecting customers to use available

¹⁶ As noted above, Transmission generators will pay a proportion of this on an All-Island basis through locational use of system charges, which are calculated annually.

capacity, which is cheaper than trying to connect where there is little capacity. Or charges steer connecting customers to use alternative, smarter grid solutions (e.g. demand side response) to connect to the network, which may also be cheaper.¹⁷

- 2.48. We further discuss available capacity on the network in Chapter 3. We also seek views on whether the charging framework could be changed in Chapter 4.

Customer service, engagement and transparency

- 2.49. Connections quality of service and how customers are engaged is important to new and existing connections customers.
- 2.50. A Consumer Engagement Advisory Panel has been set up as part of our RP6 price control. The aim is to review and understand what is important to consumers to inform the RP6 price control review.¹⁸ Research carried out by the panel cites distribution connections customer service as area of concern. We are currently considering NIEN's proposals for improving distribution customer service as part of the RP6 price control review. This evidence is relevant to our connections review.
- 2.51. We have also supported workgroups which facilitate wider engagement with the renewable industry. For example, the Renewables Grid Liaison Group (RGLG).¹⁹
- 2.52. Connections are also being opened to competition through work on contestability. This means customers can choose an Independent Connections Provider (ICP) instead of NIEN for certain connections activities.
- 2.53. Distribution customers with a capacity of 5MW or greater are now free to use an alternative ICP and this is the case for transmission customers. NIEN plan to open up contestable connections to its network to some customers with a capacity of less than 5MW in the near future.²⁰

¹⁷ We also note that use of system charges may also play a similar role.

¹⁸ http://www.nienetworks.co.uk/documents/Future_Plans/Empowering-Consumers-CEAP-report-2016.aspx

¹⁹ http://www.uregni.gov.uk/electricity/renewables_grid_liaison_group/

²⁰ <http://www.nienetworks.co.uk/Connections/Competition-in-Connections>

3. Connections developments in NI

Changes in electricity supply and demand

- 3.1. The way electricity is supplied has changed considerably in recent years. Demand for electricity is also changing.
- 3.2. The NIRO has been very successful in progressing the renewable electricity target of 40% consumption by 2020. Over 25% of electricity needs are now met through generation from renewable sources. While the NIRO will close to all technologies by 31 March 2017, we expect that NI will meet the 40% target over the next few years.
- 3.3. Installed capacity of certain types of conventional electricity generation has also reduced. This trend is expected to continue as we move to a more decarbonised energy system.
- 3.4. In particular, emissions restrictions imposed by the EU Industrial Emissions Directive²¹ mean conventional generation will reduce their capacity in coming years to comply with pollution rules. For example, after 2021, emissions restrictions at the Kilroot generation station will reduce the running hours available for two large steam units. These units are due to close at the end of 2023.²²
- 3.5. Demand has fallen since 2011/12 and is expected to grow conservatively. There are a number of reasons why demand is eroding. Consumers are becoming more energy efficient as they reduce their electricity consumption. Consumers are also generating electricity for self-consumption, instead of relying on electricity from the network to provide their needs. Demand also depends on the wider economic growth.
- 3.6. The diagram below sets out peak demand²³ forecasts for NI²⁴ as projected by

21 <http://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

22 http://www.soni.ltd.uk/media/documents/Operations/CapacityStatements/Generation_Capacity_Statement_20162025.PDF

23 This is temperature corrected.

24 This represents a single half-hour or hourly period which represents the highest point of customer consumption of electricity on a single day of the year.

SONI in its All-Island Generation Capacity Statement 2016-2025.

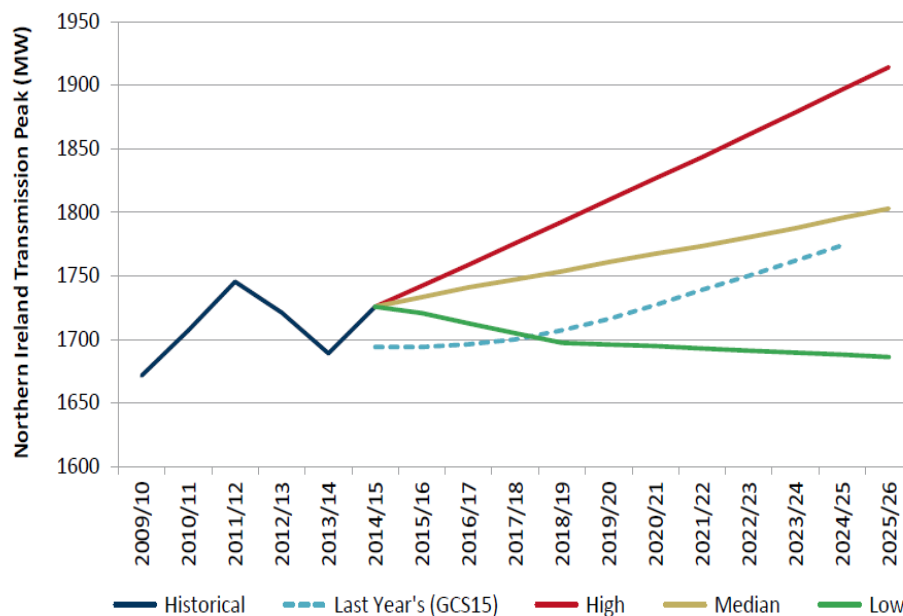


Figure 2-8 ACS Transmission Peak forecasts for Northern Ireland

Source: All-Island Generation Capacity Statement 2016-2025²⁵

Recent developments

- 3.7. Following a dispute determination in August 2015,²⁶ NIEN removed its requirement for a connecting customer to have planning permission when submitting an application to connect to the distribution system.²⁷ Following this, NIEN received approximately '10 years' worth of connections applications in the space of a few months.
- 3.8. This surge in connections applications made NIEN and SONI's connections process unsustainable. In response, NIEN and SONI committed to carrying out a joint review of their connections processes.
- 3.9. On 31st May 2016, NIEN and SONI issued their decision to release around 200MW of remaining network capacity as part of their 'Phase 1'. NIEN are

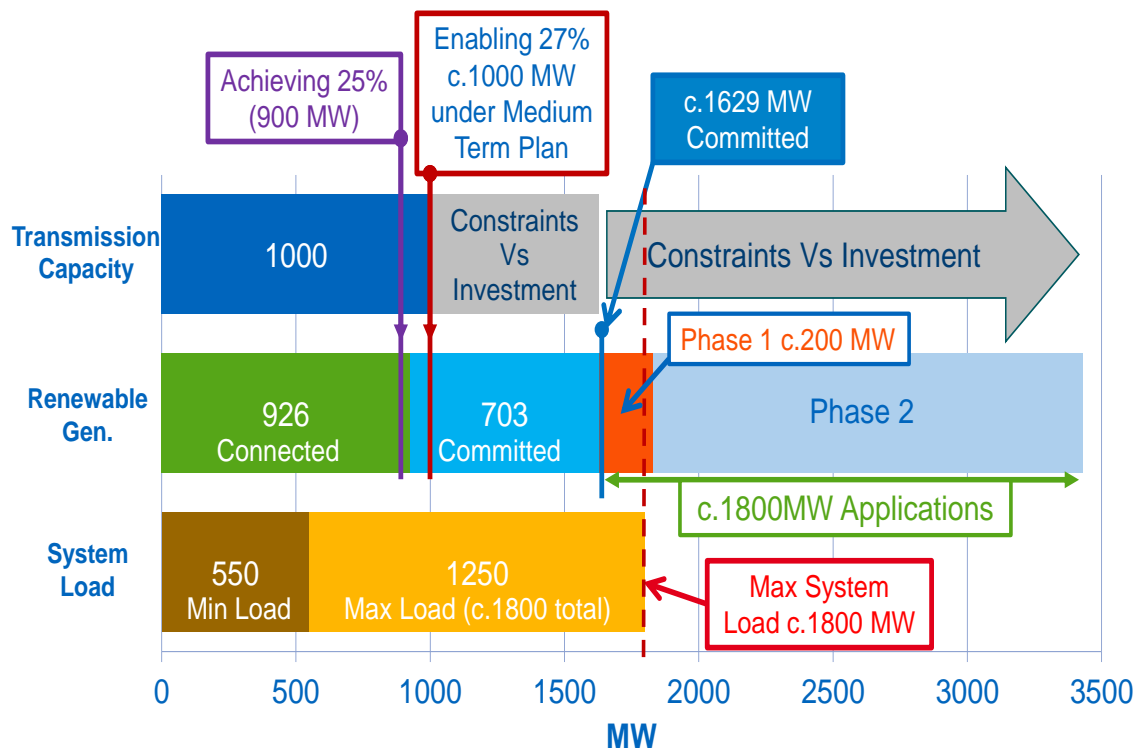
²⁵http://www.soni.ltd.uk/media/documents/Operations/CapacityStatements/Generation_Capacity_Statement_20162025.PDF

²⁶ http://www.uregni.gov.uk/publications/det-572_determination_of_solar_ventures_dispute_with_nie

²⁷ SONI has not removed the planning permission requirement in advance of applying for a connection to the transmission system.

issuing connection offers for this capacity. Remaining applications, which cannot make use of this available network capacity, are currently being considered as part of a 'Phase 2'. No connection offers have been made for Phase 2 at this point in time.²⁸

3.10. The diagram below sets out renewable generation capacity which is connected, committed and has been applied for in Phase 1 and 2, against demand.



Source: NIEN

3.11. NIEN and SONI have connected 926MW of renewable electricity in recent years and are committed to connecting another 703MW. NIEN has stated that if the 1600MW of Phase 2 applications were installed, the amount of available renewable generation would greatly exceed the maximum system load of c1800MW.

²⁸<http://www.nienetworks.co.uk/Connections/Generation-connections/Latest-updates/Alternative-Connection-Application-and-Offer-Proce>; Decision Paper; 31 May 2016

- 3.12. In summary, many areas of the network have little or no capacity left to carry additional electricity, and network capacity is particularly constrained in areas where it is attractive to install renewable technology. There is also a risk that additional electricity may not be used. This has important implications for connecting customers and wider network consumers.
- 3.13. Generating electricity where there is insufficient capacity can increase the likelihood of problems associated with continuity of supply, power quality and fault level risks on the distribution and the transmission system.
- 3.14. Investing in more network capacity (i.e. through reinforcement) can allow additional generation to connect and supply electricity to consumers safely and reliably. But this is expensive for the connecting customer and can take many years.
- 3.15. Reinforcement can also increase wider network consumers' bills (see Chapter 2). Increases to consumers' bills are unlikely to be justified if there is limited electricity demand from wider consumers to absorb the electricity generated.
- 3.16. NIEN and SONI also face increased operational challenges in running the grid. Currently, NIEN and SONI lack visibility and control over SSG renewable electricity. This means that, at times, they may need to constrain/curtail, or in other words, turn off, other potentially more efficient controllable large scale generation. This is important so that electricity system security is maintained. Though reducing generation in this way can increase costs to network consumers.²⁹
- 3.17. If more renewable generation is connected, beyond that which is connected and committed (including Phase 1), there are likely to be significant electricity output reductions imposed on controllable generation. This is especially the case where more generation, including uncontrollable small scale generation (SSG) energy, is connected to the network than is used by consumers in the local area.

²⁹ Dispatch balancing costs, which are charged to all customers across the island through the Imperfection Charge levied by SEMO. These costs may change with the new I-SEM.

Future developments

- 3.18. There are a number of potential developments and opportunities which may have a bearing on whether and how connection policy needs to change.
- 3.19. We will continue to take account of any projected changes in the supply and demand of electricity during our review. For example, a key factor will be the impact of the future take-up and nature of renewable generation connections on the network.
- 3.20. We are also mindful of other potential opportunities, which may help overcome capacity challenges and/or operational challenges without the need for substantial reinforcement. We explain these in more detail in the bullets below:
- **NIEN review of Managed Connections:** NIEN has, in conjunction with industry, carried out research and trials to understand the potential for SSG managed connections where the output of the generators may be controlled locally, to further maximise use of spare network capacity. Early indications from this work suggest this may not be economically feasible, but further consideration may be given for larger scale applications.³⁰
 - **North South Interconnector:** A second interconnector is expected to be built by Q4 2020 subject to planning and land access requirements. While this is expected to significantly enhance security of supply and reduce costs to consumers, it will also provide a route to market for further renewable energy connections.
 - **DS3:** The DS3 programme aims at increasing the permissible SNSP of the system to 75%. It is also reviewing network system services which will support the use of new flexible, smarter solutions, to meet the annual 40% target.

30 <http://www.nienetworks.co.uk/Connections/Generation-connections/Latest-updates/Managed-Connection-Consultation-Response>

- **Flexibility:** New flexible, smarter solutions for balancing system supply and demand are being developed on the island of Ireland which reduce the need for network reinforcement. For example, in the future, a customer could agree to reduce its electricity use during a peak time-of-use period for a financial reward. Capacity on the network could then be used by other customers seeking to connect in the network without investing in the network. Distributed energy storage may play a similar role from a supply-side perspective.

3.21. We are also mindful that any decisions we make within this review will need to work within any future direction for energy policy in Northern Ireland as part of any revision to NI Governments review of the Strategic Energy Framework.

3.22. New connections which support security of supply may also materialise. In developing our approach, we will be mindful of any potential connections which are of significant importance in meeting generation capacity requirements.³¹

3.23. As noted earlier, we are also making connections contestable. We will take account of these changes when considering any changes as part of this review.

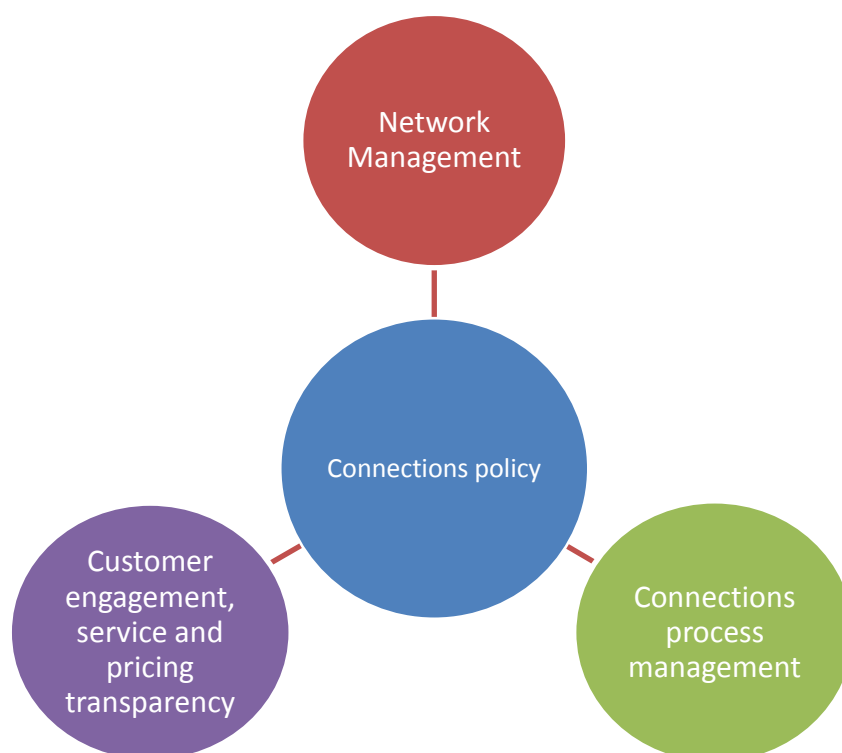
3.24. Finally, we recognise the role our electricity price controls play in supporting NIEN to efficiently invest in, operate and maintain the distribution network and maintain the transmission network and SONI to plan and operate the transmission network efficiently. We will take account of any RP6 decisions which affect our objectives relating to connections.

Q2. Do you agree that these are the main developments we should be mindful of? Are there any other developments which are important?

³¹<http://www.uregni.gov.uk/uploads/publications/DETI - Utility Regulator - Updated Security of Supply Paper - 22 Dec 14 draft 2.pdf>

4. Issues for review

- 4.1. At an overarching level, we are interested in whether current connections policy and arrangements are appropriate, or whether change is necessary.
- 4.2. Where change is necessary, we are particularly interested in what this should look like. More specifically, whether there are potential solutions which improve how connections are processed and managed, but without increasing costs and risk to wider consumers.
- 4.3. We have grouped issues into themes which reflect network activities and functions: network management, connections process management and customer service and transparency. We also welcome views on any other suggestions and issues other than those noted in this section.



Source: Utility regulator

Managing the network

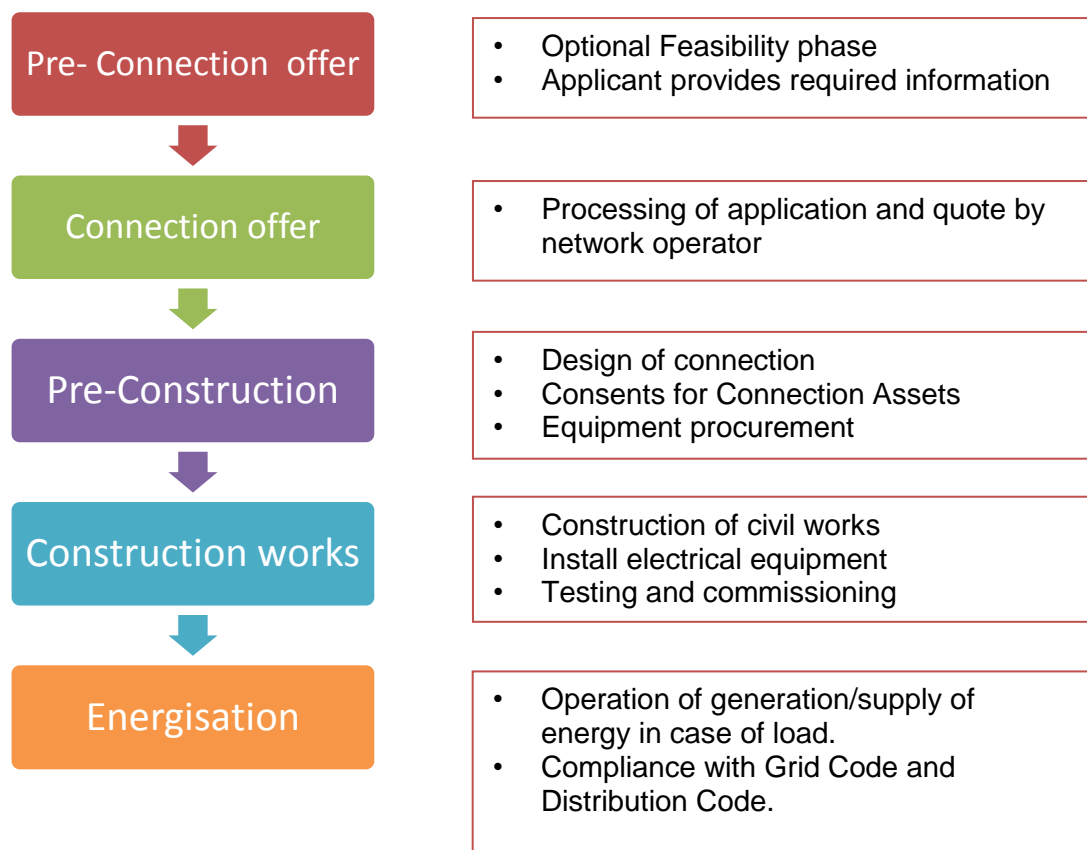
- 4.4. NIEN and SONI must manage their networks in an economic, co-ordinated and efficient way. One aspect of this is about issuing connections to maximise the efficient use of existing infrastructure. This is particularly important in light of system capacity constraints.
- 4.5. Existing incentives, initiatives and regulations support these aims. For example, those which we introduce through our electricity price control and locational signals for use of the transmission system. We also recognise the potential benefit of initiatives such as managed connections at distribution level (see Chapter 3).
- 4.6. We seek views on whether we should consider other ways to maximise efficient use of infrastructure as part of this connections review.
- 4.7. A potential way forward could involve changing the structure of distribution connections charges to a deeper structure. This would change the balance of connections reinforcement costs from wider consumers to connecting customers.
- 4.8. The existing connection charging framework has facilitated the implementation of NIRO. These incentives have been successful in driving the market for renewable energy from an early to mature stage of development.
- 4.9. A deeper distribution charging framework could provide stronger locational signals to invest where there is existing capacity; and/or use alternative, potentially smarter ways, to connect, where this is not possible. Any benefits would need to be weighed up against any costs, risks and unintended consequences. For example, risks from a generator paying for reinforcements caused and used by other connecting customers, and on incentives to connect and enter the market.
- 4.10. We recognise that any changes may affect cost which is recovered during the next price control period 2017 to 2024.

Q3. Is there a role for connections policy to promote effective network management? If so, what are the issues which need addressed and potential solutions as part of this review?

Q4. Should we review the distribution charging framework, with a view to making connection charges deeper? If so, how should this be designed? What are the benefits, costs and risks of doing so?

Managing the connections process and queue

4.11. The diagram below is a simplified illustration of NIEN and SONIs end-to-end process and activities for managing and processing an electricity connection.



Source: Utility Regulator

4.12. As referred to in Chapter 3, NIEN and SONI have worked closely to create a new connection offer process for the immediate term (Phase 1). The aim is to facilitate the most efficient use of remaining capacity on the grid, whilst maintain system security.

- 4.13. As part of Phase 1, for existing generation connections, NIEN and SONI have decided to introduce a mechanism for developers to over-install to a level of 20% of their existing Maximum Export Capacity (MEC). They have also decided to permit a total of 25MW of Zero Export connections.
- 4.14. As far as new generation connections are concerned, NIEN and SONI will allow existing capacity to be allocated for new MEC connections or an increased MEC for cluster type connections.
- 4.15. We have given NIEN and SONI extensions to their licence requirements until the end of February 2017 to offer connections for Phase 1.
- 4.16. Given network capacity constraints, we are interested in whether the way connections are processed and managed needs to change in the future to ensure capacity is effectively allocated and released.
- 4.17. One concern is that a connection applicant may have the ability and incentive to hoard capacity which it is offered, yet this could be used by other applicants.
- 4.18. One potential solution raised by many respondents to NIEN and SONI's consultation could be for the requirement for connecting customers to have planning permission when they submit an application to be re-introduced. We note this would require legislative change from the Department for the Economy, and would take a minimum of two years to introduce.
- 4.19. Another example, being used or considered in certain other jurisdictions, like GB, is the use of enforceable milestones to incentivise capacity release. Or put another way, capacity could be allocated and connections processed on a 'First-Ready, First-Served' regime.
- 4.20. A First-ready, First-served regime would create enforceable milestones to incentivise a connecting customer to initiate and secure planning permission within a certain period of time after a defined connection offer acceptance date. We note that planning milestones could, to some extent, be an alternative to introducing a requirement for a connecting customer

- to have planning permission before it submits an application.
- 4.21. In considering whether change is merited, we will take into account any relevant market developments. For example, the impact of the removal of incentives for renewable generation on the connections queue (or any other relevant developments).
- 4.22. In comparing potential options, we will consider whether they support each other or act as alternatives. Moreover, we will assess their net-benefits and risks, along with the timeliness with which consumers may realise benefits. For example, a view on whether we can meet our objectives without the need for legislative change.
- 4.23. We recognise there may be other approaches to managing the queue. We welcome views on these.

Q5. Should we review how the connections process and queue is managed? If so, what are the issues which need addressed and potential solutions?

Providing customer service, engagement and pricing transparency

- 4.24. We seek views on whether this review should consider improvements to connections customer service, engagement and transparency.
- 4.25. One way customer service and engagement has been promoted in GB is via Guaranteed Standards of Service for Connection.³² DNOs must carry out certain connections tasks within specified timescales. If they do not meet these timescales the DNO has to pay the customer affected. Implementing these in NI may require a change to regulations.
- 4.26. If we review these we will consider whether those used in GB are

³² <https://www.ofgem.gov.uk/ofgem-publications/46669/connectionssi1apr2010clean1.pdf>

appropriate for our circumstances. We welcome views on whether we should consider introducing these for Northern Ireland for distribution system customers and if so what we should consider.

- 4.27. We also understand that stakeholders can experience difficulties when estimating connections costs and that charges may not be entirely accurate at the point of offer. To be clear, by 'accurate' we refer to the extent to which a connection charge could better reflect its out-turn costs, and not whether charges are in breach of the current charging methodology (see our discussion of the current arrangements in Chapter 2, under paragraphs 2.35 to 2.38).
- 4.28. We are seeking views on whether transparency and accuracy of charges are currently an issue and if so whether appropriate and proportionate improvements could be made.
- 4.29. As a general point, we recognise the needs of customers may differ depending on whether a demand or a generation customer is connecting (and also in terms of the voltage that they are connecting at). We welcome views on how regulatory policy can be designed to take account of any variations.

Q6. Should we consider connections customer service, engagement and pricing transparency as part of this review? What are the issues which need addressed and potential solutions?

Other issues and prioritisation

- 4.30. We are conscious there may be other important issues which meet the scope of this review and our objectives. We welcome views on these and potential solutions to address them. We are also interested in the materiality of these and that of other issues raised in this document.

Q7. Are there other issues we should review? Which issue(s) are in your view the most material and why?

5. Timelines and next steps

Timetable

5.1. The proposed key milestones for the Electricity connections review are set out in the table below.

Milestone	Proposed Date
Pre-consultation stakeholder engagement	November 2016 – Q1 2017
Closure of Call for Evidence	11 January 2017
Publication of consultation	March 2017
Further stakeholder engagement	March 2017– Q2/Q3 2017
Decision paper	Q2/Q3 2017
Implementation phase	Q2/Q3 2017 onwards

How to provide feedback

5.2. The deadline for responses to the issues raised in this paper is **5pm on Wednesday 11 January 2017**. Responses should be sent to:

Ciaran MacCann
Compliance and Network Operations
Tel:02890316661
Utility Regulator
Queens House
14 Queens Street
Belfast BT1 6ED
ciaran.maccann@uregni.gov.uk

Or in the absence of the above contact:

Jody OBoyle
Compliance and Network Operations
Tel: 028 9031 6334 Utility Regulator
Queens House

14 Queens Street
Belfast BT1 6ED
Jody.OBoyle@uregni.gov.uk

- 5.3. The Utility Regulator's preference would be for responses to be submitted by e-mail.
- 5.4. We have posed some specific questions throughout this consultation paper and we would appreciate responses with feedback on these questions. We also welcome general feedback on any aspect of this paper.
- 5.5. Individual respondents may ask for their responses (in whole or in part) not to be published, or that their identity should be withheld from public disclosure. Where either of these is the case, the Utility Regulator will also ask respondents to supply the redacted version of the response that can be published. It is also our intention to share responses with DfE as this may aid the Department in future policy development.
- 5.6. As a public body and non-ministerial government department, the Utility Regulator is required to comply with the Freedom of Information Act (FOIA). The effect of FOIA may be that certain recorded information contained in consultation responses is required to be put into the public domain. Hence it is now possible that all responses made to consultations will be discoverable under FOIA, even if respondents ask us to treat responses as confidential. It is therefore important that respondents take account of this and in particular, if asking the Utility Regulator to treat responses as confidential, respondents should specify why they consider the information in question should be treated as such.
- 5.7. This paper is available in alternative formats such as audio, Braille etc. If an alternative format is required, please contact us and we will be happy to assist.

Stakeholder engagement

- 5.8. We will continue to engage with stakeholders as constructively, openly and transparently as possible. We plan to set up a Connections Review Working Group. We anticipate membership will include the Department for the

Economy, Consumer Council Northern Ireland (CCNI) and Network Operators.

5.9. We will also consult more widely during the process. We would like to invite all interested stakeholders to attend a workshop at the Utility Regulator on **Monday 12 December 2016 at 1.30pm** to discuss our review. Please contact ciaran.maccann@uregni.gov.uk by **Wednesday 23 November 2016** if you would like to attend this workshop. If appropriate, we can have individual discussions with interested parties. Please contact us if you consider this to be suitable.

6. Appendix – consultation questions

6.1. We reference below the questions posed throughout this call for evidence. We would appreciate your views on these questions.

Q1. Do you agree with these strategic priorities?

Q2. Do you agree that these are the main developments we should be mindful of? Are there any other developments which are important?

Q3. Is there a role for connections policy to promote effective network management? If so, what are the issues which need addressed and potential solutions as part of this review?

Q4. Should we review the distribution charging framework, with a view to making connection charges deeper? If so, how should this be designed? What are the benefits, costs and risks of doing so?

Q5. Should we review how the connections process and queue is managed? If so, what are the issues which need addressed and potential solutions?

Q6. Should we consider connections customer service, engagement and pricing transparency as part of this review? What are the issues which need addressed and potential solutions?

Q7. Are there other issues we should review? Which issue(s) are in your view the most material and why?