Customer perceptions of the market for new connections to the electricity network

Full report on qualitative research findings

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Prepared for

1. Executive summary

1.1 Background to the research

- The infrastructure which delivers electricity through cables and wires to customers' premises is the distribution network. There are 14 licensed distribution network operators (DNOs) in Britain and each is responsible for a regional distribution services area. The 14 DNOs are owned by six different groups (see Appendix 1). They have responsibility for owning, operating and maintaining their own network. They are also responsible for ensuring that customers can connect projects to these networks.

- There are three main types of new electricity connection to the network:
    - Metered demand: for customers who want to take electricity off the network and use a meter to measure consumption (e.g. a new housing development).
    - Unmetered demand: for customers who want to take a small, predictable supply of electricity off the network without the need for a meter (e.g. street lights, CCTV cameras)
    - Distributed generation: for customers who want to put electricity onto the network (e.g. a wind farm operator)

  Competition exists for some aspects of new connection work. Customers can choose between providers for some parts of connections, known as 'contestable work'. Other parts are 'non-contestable'; they must be delivered by the local DNO.

- Companies known as Independent Connection Providers (ICPs) and Independent Distribution Network Operators (IDNOs) can provide contestable parts of any connection.

- Ofgem's view is that effective competition in the contestable element of connection work will help improve the quality of service that customers receive and will reduce the cost of connection.

- Ofgem has concerns about how competition in some parts of this market is currently working. Its 'competition test process' (a series of measures designed to improve the conditions for competition) found that whilst competition has developed in some sectors of the new connections market, it has not taken hold in all areas.[1]

- Ofgem identified a need for qualitative research with recent non-domestic connections customers to understand their experiences of making new connections to electricity networks – including the enablers and barriers to

[1] Ofgem, Completion of the competition test process, April 2014

effective competition from a customer perspective. Big Sofa was commissioned to carry out this research in September 2014.

1.2 Research objectives and methodology

- Big Sofa carried out a two-stage qualitative research process with recent new connections customers. Customer samples were provided securely by the DNOs, based on customers who had either requested a quote or who had a connection completed between 1st October 2013 and 30th August 2014 and had not opted out of being contacted for research purposes.

- The main objectives of the research were to understand:

  1. **Who connections customers are.**
  2. **Customers' overall views on the electricity connections market.**
  3. **The new connections customer journey.**
  4. **Whether and how experiences of all the above vary in any way, e.g. by location, type of business, type of connection.**
  5. **How experiences of other types of new utility connection compare to electricity.**

1.3 Customer profiles

- Most customers have made multiple connections (and several make multiple types of connection too). However, a minority have made only one or two. Many customers work across Great Britain, so have experience of working with several DNOs.

- A range of different industries need new electricity connections. Unmetered demand customers tend to be local authorities. Distributed generation connections are almost universally made by customers working in the renewable energy sector, although we also spoke to one customer making them for nuclear and non-renewable energy generating power stations.

- Metered demand connection customers are the most varied. Those we spoke to ranged from small businesses and a community project looking to make a one-off connection to large construction companies making hundreds of connections per year.

- Many connections are made by consultancies, contractors, agencies and third parties on behalf of an end client. These customers are more likely to be making many connections per year and to have significant experience and expertise in managing the connection process.

- Other connections are made by direct clients. In larger businesses, these tend to be staff with specific responsibility around connections. For many smaller businesses managing the new connection is not a part of the customer's usual job role (e.g. Directors and Administrators).

- Confidence and understanding in dealing with new connections is therefore mixed. Smaller business and less experienced customers are likely to be less confident. Larger, businesses that deal with connections more regularly or are connection specialists tend to be more confident. Higher confidence makes customers more likely to engage with the competitive market. However, many very experienced customers still only use DNOs for connection work.

- For the majority of metered and unmetered demand customers, new connections to the electricity network are crucial as part of a wider project (e.g. the building of a new office block or homes). For distributed generation customers, connections are even more fundamental, as their businesses exist to make money from putting renewable electricity back on the Grid. They are often more acutely aware of the cost of connection as a result.

- Despite being an essential part of a project, connections often account for small proportions of overall project costs for both demand and generation customers.

- The type of industry and client, the needs of each project and the individual customer's experience all affect:
    - How they go about making new connections,
    - what matters most to them when they do, and
    - their attitudes towards competition.

1.4 Customer journeys

- First time customers with little experience often have little idea how to go about making a connection – their first port of call is the internet to try and find out. Many have used the Ofgem website to find out more.

- All customers contact the relevant DNO (based on location) to begin the process. Experienced customers are familiar with the application process. Where customers have experience of using more than one DNO, they note small variations in the process. However, they still feel comfortable with the application process.

- Less experienced customers find the application process far more complicated, technical and time-consuming. They often need support – but are not clear where to find it. Some DNOs can be helpful in guiding inexperienced customers through the process and show some flexibility (e.g. accepting incomplete applications). Others can be more rigid in their requirements (e.g. returning applications to the customer if information is not complete and accurate).

- The length of time taken to generate a quote is a significant source of frustration for many customers of all sizes. Some are aware of Ofgem's regulations around this, but think DNOs look to work around these (e.g. by asking clarification questions just before the final quotation deadline).

- It is not uncommon for customers to wait several months for a quote from their DNO. This can have a significant impact on project timeframes if not factored in. Some DNOs are more proactive and consistently deliver quotations within the required timeframe. Many customers feel that some DNOs do not always manage their expectations around quotation timescales well.

- Once a quote is received from a DNO, customer journeys diverge further. Some receive named points of contact – which can be a good or bad thing depending on the proactivity and communication skills of the DNO representative. Others have to use generic customer service phone numbers and email addresses.

- Quotes can be difficult to understand for inexperienced customers. They can be lengthy and contain a lot of technical language. Whilst the majority of customers have some awareness of the contestable and non-contestable parts of their connections, some have no awareness of the option to use alternate providers for contestable parts. Several are aware of that they can approach alternative providers in theory, but do not know how to do this.

- After commissioning a new connection, all customers note the importance of customer service and communication around installation. Very few have ever had an issue around the quality or reliability of the connection itself, but several have experienced delays or other issues that can create problems for the wider project – especially where other contractors are involved (e.g. on big construction projects).

1.5 What matters when making a connection

- When making a new connection to the network, three factors are most important for customers:

    - **Speed / timeliness of connection**
    - **Price / cost of connection**
    - **Customer service and communication.**

- Timeliness of connection is generally most important for customers. This is not just about the speed of connection – it also relates to how long it takes to generate quotes and the ability of the DNO/provider to deliver on the date they have indicated.

- However, the relative importance of these factors changes based on the nature of the business seeking the new connection, the needs of individual projects and the experience of the customer. Agencies working on behalf of an end client are more likely to consider timeliness and speed of connection the most important aspect of their connection (because of the demands of delivering on time for their client). They are less likely to be concerned about price as they will usually pass this through to the end client. Specialist connection consultancies will look at all three factors and are likely to be most active in the market to secure the best deal for their client.

- Cost and timeliness are vital for distributed generation customers. They are more likely to receive highly variable costs for similar connection types based on whether there is capacity in the network and how far away their (largely rural) new connection is from existing infrastructure. This can be frustrating and difficult to plan for.

- Attitudes to price vary. Many (especially smaller businesses) have no sense of what a 'fair' price is for a connection – which makes it difficult for them to challenge a DNO. Some say price is important to them but do little to look at alternative solutions and have never tried to discuss their requirements with the DNO. Others have secured substantial price reductions after speaking to their DNO and making changes to their requirements.

1.6 Engagement with competition

- For many customers who are aware of competition, the barriers to engagement are stronger than the reasons to engage.

- These barriers are often perceived rather than having been directly experienced by customers. Many customers have never used or even asked for a quote from an alternate provider. However, some have investigated other options but not proceeded with them.

- The main barriers to engagement are around the perceived risks, hassle and a lack of need (e.g. where satisfaction with a DNO is high).

- Many customers assume that using alternative providers will be risky. The DNO is seen as a 'safe option' for any given connection. Customers are not always able to articulate exactly what they see as the risk involved in using an ICP or IDNO. However, they do have concerns about impacts to the cost of the connection, timeframes for delivery and occasionally quality of work when using a provider other than the DNO.

- Many customers think that managing multiple providers (as the DNO will also need to be involved in non-contestable parts of the connection) will require significant effort and management from them. This is particularly an issue for

less experienced or non-specialist customers who do not think they have the experience or time to do this.

- Those that have used alternate providers often do find that they require slightly more effort to manage. However, where there is a cost or timing benefit, this extra effort is considered worthwhile. Customers of alternative providers report that the companies are generally good at communications, which is also seen as a benefit.

- Going out to tender or obtaining quotes from ICPs or IDNOs is also felt to be time-consuming. Where customers' employers have procurement or tendering policies, it can take time to invite alternate providers to submit quotes for the work. Given the importance of timeliness of connection on a project, going out to tender is sometimes impractical.

- Lack of need for alternative providers is a significant reason that customers do not engage with competition. Many customers are satisfied with the DNOs they use. They think they deliver high quality connections at a reasonable price and within the timeframes they need. Where this is the case, there is no need to engage in the market.

- If the total costs of the entire project or the contestable element are seen as low value, many customers do not see a need to look at alternatives. Several customers across each type of connection make high volumes of low value connections. If the value of a connection is 'only' a few hundred pounds, they see little benefit to seeking alternate quotes.

- High connection costs, quotes that don't meet customers' project timeframes and low satisfaction with DNOs all drive greater use of competitors. Previous experience of using an ICP or IDNO can be the greatest driver of future use. Many customers have been impressed with costs, agility (i.e. ability to respond and deliver a connection quickly) and communication.

1.7 Perceptions of providers

- Satisfaction with DNOs is relatively high. Customers' main issues are around the length of time it takes to provide quotations. Some DNOs appear to have less capacity to generate timely quotes than others. Several customers note that long waits for quotations and installations seem to occur because DNOs are stretched and connection staff are too busy.

- Where customers have used a number of DNOs, they observe differences in processes and customer service levels. Some DNOs provide quotes slightly more quickly and provide a more customer focused service.

- Where used, alternate providers are highly regarded. They deliver a good service and are often perceived to have a more commercial mindset than DNOs, which enables them to offer competitive pricing. ICPs in particular work hard to develop and maintain customer relationships.

- A couple of customers have experience of alternative providers (especially IDNOs) not wanting to quote for contestable parts of their connection. This tends to be due to the low value or the complexity of the connection.

- Some customers report that DNOs increase the cost of their non-contestable work if they choose to use another provider for the contestable part of a connection. A few think DNOs are transparent about this and make it clear that their costs may increase if they do not carry out the full connection – others have found this confusing.

1.8 Comparison to other markets

- Many customers only manage new connections to the electricity network.

- Where customers do manage connections across a number of utilities, experiences are mixed. Some have had good experiences with gas, water and telecoms connections. Others have found these businesses difficult to work with, experiencing similar issues with delays and communication to those experienced with the electricity DNOs.

2. Background, objectives and methodology

2.1 Background and context

The infrastructure which delivers electricity to customers' premises via cables and wires is the distribution network. New connections are made to the distribution network either when new customers want to take electricity off the network (e.g. a housing developer or supermarket or put electricity onto the network (e.g. a generator like a wind farm).

For the purpose of the competition test, Ofgem split the connections market into nine market segments. The nine types of connection are covered by three broad categories. These are:

Category	***Type of connection***	***Description***
Metered Demand	Low Voltage (LV)	LV with only LV work
	High Voltage (HV)	LV or HV end connections that involve HV work
	HV and Extra-High Voltage (EHV)	LV and/or HV connections involving EHV work
	EHV and above	EHV and 132kV customer connections
Distributed Generation	LV metered generators	Generation with works limited to LV
	HV and EHV generators	Generation with works above LV
Unmetered Demand	Local authority	New local authority connections: 1-100 jobs
	Private Finance Initiatives (PFI)	New connections work for PFIs
	Other	Other unmetered connections work (i.e. non-local authority or PFI)

Not all connections to the electricity network are made by electricity distribution network operators (DNOs). Competition exists for some work. A customer can choose to use an alternative provider for some connections known as 'contestable work'. Contestable work can be carried out by:

A Distribution Network Operator (DNO)

- DNOs are regulated businesses operating in their own licensed regions. There are 14 DNOs, currently owned by six DNO companies (see Appendix 1). They have responsibility for owning, operating and maintaining the distribution networks. They provide all aspects of non-contestable connections and compete for the opportunity to provide the contestable elements.

- The six DNO companies are:
    - UK Power Networks (UKPN),

- Western Power Distribution (WPD),
- Scottish Power Energy Networks (SPEN),
- Scottish and Southern Energy Power Distribution (SSEPD),
- Electricity North West Ltd (ENWL),
- Northern Power Grid (NPG).

- DNOs are bound by certain statutory obligations (Electricity Act 1989) to provide connections when requested. Their distribution license includes additional obligations to safeguard customers and ensure a good service in provided.
- DNOs are licensed and regulated by Ofgem.

An independent distribution network operator (IDNO)

- IDNOs compete with DNOs to own and operate networks across Great Britain. IDNOs are still reliant on DNOs for the final connection to the main distribution network (i.e. the final non-contestable part of the connection).
- IDNOs are licensed by Ofgem and share several of the same licence conditions as DNOs (e.g. around the provision of connections services).

An independent connection provider (ICP)

- ICPs are accredited contractor-type businesses. They operate in the market to complete the contestable activities of connections. They can offer these services directly to the customer.
- ICPs do not own or operate networks – their work must be adopted by the DNO or an IDNO. All ICPs are accredited by Lloyds Register.

Non-contestable work (i.e. where there is no competition) generally relates to activities that involve working directly on the DNO's network. Only the DNO can carry out these parts of any new connection. Exactly what parts of a new connection are contestable or non-contestable can differ between DNOs.

Ofgem's view is that effective competition for contestable work will help improve the quality of service that customers receive and reduce the cost of connection. It has concerns about how competition is currently working in some parts of the market. Its 'competition test process' (a series of measures designed to improve the conditions for competition) found that whilst competition has developed in some sections of the new connections market, it has not taken hold in all areas.[2]

Each of the 14 regional license areas has nine market segments. As such, there are 126 Relevant Market Segments (RMSs) within the GB connections market. By the end of the competition test process, Ofgem was satisfied that there was evidence of effective competition in 42 of these 126 RMSs (see appendix 2). The process indicated that:

- **Competition has become more prevalent in some geographical areas than others.**

[2] Ofgem, Completion of the competition test process, April 2014

- **Some types of connection may have better conditions for competition than others.**

As a result, Ofgem is now reviewing the market to identify why competition has not developed as effectively for certain types of connection or in particular DNO areas. On 24th June 2014, Ofgem issued a call for information from customers and competitors about how well the market is working[3]. Whilst the call for evidence proved useful, Ofgem wanted to ensure that it had a full understanding of a broad range of customer experiences. Ofgem therefore:

- Sought to engage further with DNOs and competitors to understand more about what barriers or enablers to competition exist across different parts of the market.
- Commissioned Big Sofa to conduct qualitative research with recent non-domestic connections customers to understand the customer experience of making new connections to the electricity network – including the enablers and barriers to effective competition from a customer perspective.

2.2 Research objectives

The main objectives of this research were to understand:

1. **Who connections customers are** (e.g. in terms of size of business, type of connection sought, geographic locations they operate in etc.) and how this may influence their attitudes to and experience of competition.

2. **Customers' overall views on the electricity connections market**, including:
    a. Levels of engagement
    b. Awareness of competition
    c. Barriers and enablers of competition.

3. **The connections customer journey**
    a. How customers obtain quotes
    b. How they choose providers
    c. What factors influence their choice of provider.

4. **Whether and how experiences of all the above vary in any way, e.g. by location, type of business, type of connection.**

5. **How experiences of other types of new utility connection compare to electricity.**

[3] Ofgem, A chance to contribute to our review of the market for new connections to the electricity distribution system, June 2014

2.3 Methodology and sample

Big Sofa carried out a two-stage research process with recent new connections customers. Customer samples were provided securely by the DNOs, based on customers who had either requested a quote or had a connection completed between 1st October 2013 and 30th August 2014 and had not opted out of being contacted for research purposes.

Stage 1 was a mapping exercise, designed to understand what the new connections market looks like. We carried out short telephone interviews with 116 customers to map a number of variables and provide an overview of the customer base. We asked customers about:

- the type and size of their business
- their level of knowledge and understanding when making new connections
- the type of connections they were making,
- how many they made; and
- who they used to carry out the connection.

In **stage 2**, we conducted 52 phone and 4 face-to-face in-depth interviews with customers. Each lasted 20-50 minutes. In order to reach quotas for various customer types, 36 customers were newly recruited for this second stage of the research whilst 20 were reconvened from the mapping stage. Customers were recruited based on several variables including:

- Number of new connections they had made
- Confidence in making new connections and satisfaction with the process
- Awareness of competition
- Use of DNOs and alternate providers
- Types of connection made
- What factors are important to them in making a new connection.

Customers were recruited from a variety of business types and sizes. We ensured that we had coverage of a wide range of locations around Great Britain including a mix of urban, suburban and rural connections.

Fieldwork was carried out in October and November 2014. For more detail on methodology, see appendix 3.

3. Customer profiles and context

3.1 Customer overview

A wide range of customers seek new connections to the electricity network. Most have made multiple connections (several make more than 50 per year). A few make multiple types of connection. Many customers have experience of working with DNOs in several areas of the country. A minority of customers have only ever made one or two connections.

New connection customers work for a variety of business types and sizes. Generally, larger businesses make more connections – although there are exceptions to this (e.g. small connection consultancies making high volumes of connections).

For some customers, managing new connections to the electricity network is a fundamental part of their role and a major function of the business they work for. For others, a new connection may be something that they deal with very infrequently.

The number of connections a customer makes has a big impact on their confidence and understanding of the connections process. This in turn influences their likelihood of engaging with other providers in the market.

3.2 Customers by type of connection

Distributed Generation

Distributed generation customers almost universally work in the renewable energy sector and provide a range of renewable energy solutions. At the smaller end of the market, some customers install solar panels on domestic or commercial properties, or small wind turbines on farms. These customers are usually agencies, contractors or consultants working on behalf of an end client (i.e. the property owner) and are involved only in installing the technology and making the connection[4]. They carry out a high volume of low complexity connections.

Larger distributed generation customers need to balance the cost of connection against projected revenue from the generation project. Some deal with High Voltage (HV) and Extra High Voltage (EHV) connections that need to be made far from the existing network. The cost of these projects can sometimes run to hundreds of thousands of pounds.

[4] See Appendix 1, case study 4

Unmetered Demand

Many unmetered demand customers work for local authorities. They tend to deal with high volumes of low complexity and low value street lighting connections each year[5].

DNOs were able to supply very little customer data for unmetered Private Finance Initiative (PFI) connections, so it seems that very few were made during the time period we requested sample for. We spoke to one PFI customer in stage 2, who was making street lighting connections on behalf of the local authority.

Other unmetered customers appear to be relatively diverse, ranging from construction companies to maintaining advertising billboards and bus shelters. Their connections are also usually low value and relatively simple.

Metered Demand

These customers tend to be most varied. They range from small businesses and a community project looking to make one-off connections[6] through to large, multinational construction or consulting companies making hundreds of connections per year across many projects[7]. Some connections are needed for more niche industries (e.g. one customer who needs connections to provide electricity for equipment used for cathodic protection of oil pipelines).

Some customers make new connections rarely. Connections are not a usual part of their job role or business. These customers usually work for smaller companies making metered demand (especially Low Voltage (LV)) connections. The person organising the connection can vary between businesses; some are directors, whilst others perform administrative roles. Where they are making larger or more complex connections, these customers are much more likely to feel less confident, and much less likely than other customers to engage in competition.

Larger metered demand customers – generally project or connection managers who are highly comfortable with the process of making a range of new connection types – often make large numbers of connections each year. These are generally for new properties they are building, including: new housing developments; large office blocks in urban areas; and commercial properties.

3.3 Context for connections

There are a number of contextual factors that play a significant role in what matters to customers making a connection, and how they go about the process. These include:

- The needs of each individual project and connection.

[5] See Appendix 1, case study 3
[6] See Appendix 1, case study 5
[7] See Appendix 1, case study 1

- The broader business context for the organisation the customer works in.
- The customer's own experience, knowledge, attitudes and confidence in dealing with the connection.

Project and connection needs

Project complexity and deadlines are the most significant factors. For example, some customers work on high volumes of low value connections where other aspects of their wider project require their time and attention. They may be managing several other contractors and therefore want the electricity connection to be as simple as possible. Others have worked on very high value connections with few time restrictions where getting a good deal on price is more important.

Business context

Many distributed generation and metered demand connections are made by consultancies, contractors, agencies and third parties on behalf of an end client. These customers are more likely to be making many connections per year (as managing new connections tend to be a common part of their offer to clients). They also tend to have significant experience and expertise in managing the connection process. Other customers contract directly with the DNO.

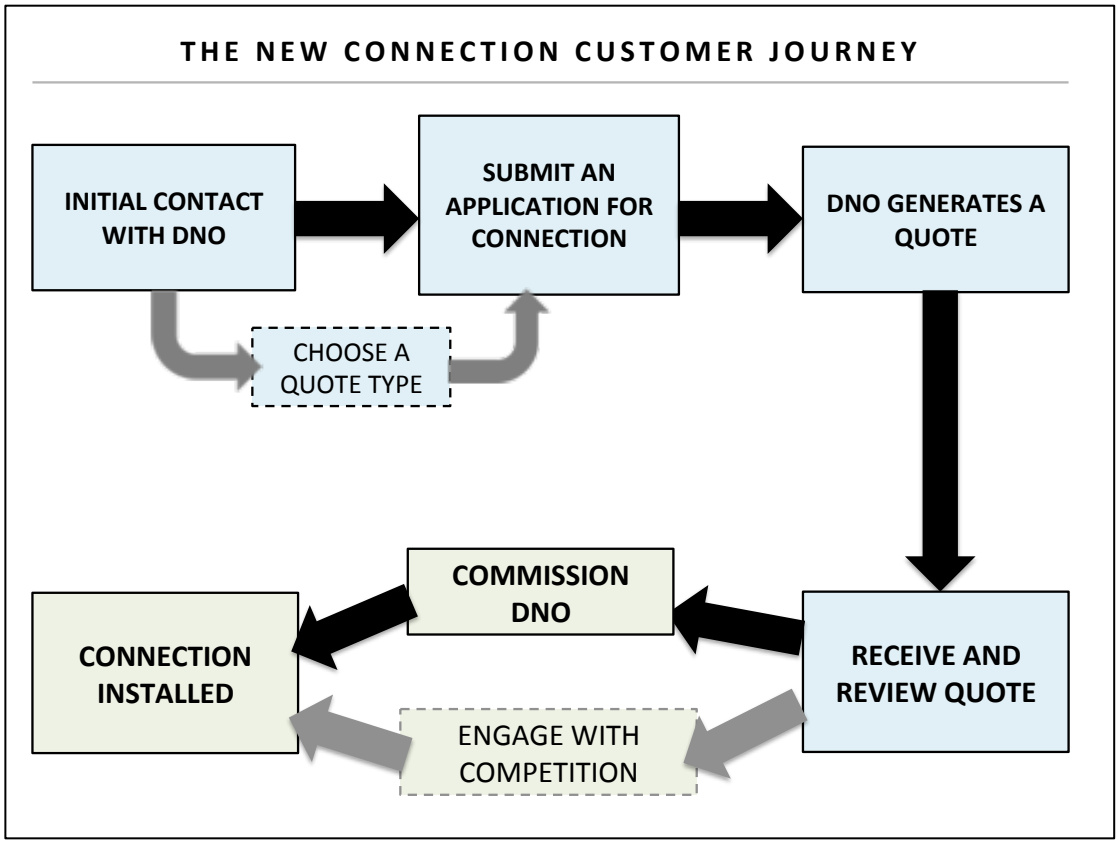
Whether the customer is working on behalf of an end client or is the direct customer themselves can have a significant impact on what matters to them when making a new connection and how they interact with the process of doing so (see section 5). For example, some agencies care less about the cost of connection as they pass the cost on to their end client anyway. Some direct clients have company policies that require them to go out to competitive tender for contestable parts of connections. Other businesses are risk averse and don't want staff to use other providers as a result.

Customer experience and knowledge

This is often the single biggest influence both on customer priorities for any given connection and their likelihood of engaging with the market. Customers working at smaller, non-specialist companies are most likely to have low confidence in managing connections. Those who have managed many connections and worked in the industry for a long time may well have frustrations with the connections process but usually understand it well and feel more confident in using other connection providers.

4. Customer journeys

Customers approach new connections in different ways based on their understanding and experience of the process. First time and inexperienced customers often have little idea of how to go about making a connection. Highly experienced customers have a far deeper understanding of how the process works, how long it takes and what's required from them at each point. They are aware of small variations in process between DNOs but generally feel comfortable making connections. Whilst many think that DNOs are all 'much of a muchness', some also identify DNOs who make the process smoother and more manageable than others.



Three themes recur across the entire journey:

- The complexity of the application and quote itself
- Timeframes, delays and expectation management
- Network capacity (especially for distributed generation customers)

4.1 Complexity

Initial contact

All customers contact their relevant DNO to begin the application process. Experienced customers know the correct phone number or email to use to get started, or know where to look to find them.

Finding out who to contact for a new connection is more difficult and time-consuming for inexperienced customers. Some have no idea where to start and rely on colleagues or acquaintances to point them in the right direction. Others use the internet to find out who carries out new connections to the network.

Choosing a type of quote

Two types of connection quote exist:

- **Budget quotes**: require less detailed information from customers and can be provided more quickly by DNOs. The costs they provide can be less accurate than full quotes as a result.
- **Full quotes:** require more information from customers and take longer to provide. They provide confirmed costs from a DNO.

Only experienced customers are aware of and use budget quotes. They want to understand roughly how much the connection will cost as early as possible in order to help with project planning. However, the significant cost variations between budget and full quotes for more complex connections (e.g. rural connections in difficult terrain) or where there is little capacity on the network (which budget quotes do not always take account of) can be frustrating for customers.

"I've had a few budget quotes but they aren't worth the paper they're written on sometimes"

Metered Demand LV and HV customer

The usefulness of budget quotes is therefore dependent on knowledge and experience of the connections process. Many customers are not even aware that they exist. Most request full quotes at the outset.

Submitting an application

Applications for quotes can be technical and complex. More experienced customers are comfortable with them, especially for 'routine' low complexity connections. They often have relevant forms already completed when they make contact with the DNO. However, this complexity can be an issue for inexperienced customers. They often need support to help them through the process but are not sure where to find it. Some inexperienced customers commission connection consultants or other specialists to help them. Other customers are not aware that these businesses exist, so either tackle the application on their own or look for information elsewhere (e.g. the internet).

Customer-centric DNOs can add value to their service and build relationships with customers by offering support around applications. A few customers spoke about how if they miss a detail off their application or aren't sure about an aspect of it, certain DNOs will allow them to submit it anyway. They can then have follow up discussions with the DNO to ensure the quote isn't held up. This is particularly the case where DNOs offer named points of contact at an early stage of the application process. However, other customers have explained how incomplete applications

have been returned to them by DNOs adopting a stricter stance. This approach can result in them "going to the back of the queue" for applications.

Receiving and understanding a quote

Once received, the quotes themselves can also be difficult to understand for inexperienced customers. They can be lengthy and contain a lot of technical language. Whilst the majority of customers are aware of contestable and non-contestable parts of their connections, some have no awareness of the option to use alternative providers for contestable parts. Several are aware of the existence of competition in theory but do not know how to access it.

More experienced and knowledgeable customers are much more comfortable dealing with quotations. They will take the time to look through the quote and raise queries with the DNO. They will also make a judgment around whether or not they want to look for competitors to quote for contestable parts of the connection (see section 6). Some customers note that DNOs provide a list of approved other providers for contestable work. Other customers haven't noticed this.

4.2 Timeframes, delays and expectation management

Full quotes can take a long time to generate. Although they find this frustrating (especially for low complexity quotes), experienced customers are aware of it and plan accordingly.

"It's too long really. I mean we'd like them to get back much quicker but we understand there is a lot of pressure on and a lot of calculation to do so we have to live with it really."

Distributed Generation LV and HV customer

Many customers are aware that DNOs need to provide quotations in set timeframes. Some are aware that these are mandatory, set by Ofgem. However, different DNOs make different timeframe commitments. Customers feel that some just look to meet obligations, whilst others try to exceed them.

A few customers report waiting longer than the mandated timeframe commitments. A couple had waited several months to receive a quote. As the deadline for providing a quote approached, the DNO would be in touch to ask 'clarification questions' about the application. Customers felt like the DNOs were stalling for time.

Given that speed of connection is often a major priority for customers when making a new connection (see section 5), customers value a DNO that who can respond quickly. Some are more proactive and consistently deliver quotations within their expected timeframes. Managing customer expectations is key here. Understanding what stage the quote is at and when customers can expect to receive it is crucial for their planning of the wider project.

For some complex connections, some DNOs want to visit the site before the quote can be generated. Some staff from DNOs are very proactive and easy to organise this with. Others can be very reluctant to visit sites. This can slow down quote generation. Customers assume that staff conducting site visits are very busy with little capacity to attend (occasionally quite remote) sites. Where the DNO does not visit sites for complex connections, customers have less faith in their understanding of their individual connection needs.

Delays in providing quotes can impact on relationships between agencies working on behalf of end clients and the end client themselves. One agency customer explained that they had lost a client because the DNO had taken too long to respond to a request for a quotation. As a result, they have little faith in the quote generation process and now keep a record of every contact they have with a DNO, so that they can show this log to their clients if necessary.

Long waits for quotes can also increase the likelihood of speculative applications. Because of the time taken to receive quotes and make connections, customers will sometimes make an application before the wider project the connection will fit into has been commissioned. They want to 'get the ball rolling' on the quote process as early as possible. This can have two results. Firstly, it further increases the volume of quotes that DNOs need to generate, lengthening the wait further. Secondly, it can have a big impact on network capacity – which in turn affects customer views of how the market works.

4.3 Network capacity

Capacity is largely allocated on a first come first served basis. If a customer applies for a new connection the week after a big connection has been made or quoted for elsewhere within the licensee's region, they may find there is no capacity left for their connection. As a result they can be quoted huge prices for the installation of sub-stations or other infrastructure costs.

Quotes are valid for a period of time and DNOs reserve the capacity required for the associated connection. Customers find it particularly galling when speculative applications reserve this capacity. If the quote is not taken up, the capacity is freed up again. Customers often have no sight of other connection applications and therefore cannot time their applications accordingly. This is particularly an issue for distributed generation customers, who may not proceed with the connection if the quote is too high. Nearly all distributed generation customers we spoke to referenced frustrations with capacity, it is one of their biggest frustrations within their customer journeys. Although it doesn't influence the attitudes towards competition (and they understand why DNOs need to build capacity), it does add to the perceived risk and hassle of getting a connection.

Some customers are aware of interactive systems run by DNOs that allow them to move their quote up or down in the queue for capacity.

5. Connection priorities

5.1 Overview

Customers outline a range of factors that matter to them when making a new connection to the electricity network. The three most significant factors are:

- Speed / timeliness of connection.
- Price / cost of connection.
- Customer service and communication from the provider.

The relative importance of each of these factors can vary based on the type of connection being made, the business making the connection and the specific needs of any given project or connection. They also play a significant part in how barriers and enablers to competition within the industry work (as detailed in section 6).

The majority of customers, especially more experienced ones, generally assume that that the quality and reliability of the physical connection is a given. As such, they rarely list it as a connection priority. It is more important for less experienced customers – they are more likely to choose a DNO to deliver the connection as it is the 'safe' option.

5.2 Speed / timeliness of connection

Most customers want to know that their chosen connection provider will deliver the connection within a reasonable timeframe that fits with their project needs. It is the most important element of a connection for many customers, and becomes even more important on large, complex projects. This can act as an enabler of competition. If the DNO is unable to deliver the connection when it is needed, a customer may look for an ICP or IDNO to deliver it sooner.

Outright speed with which the connection can be delivered is a major factor for several distributed generation customers, as they look to complete connections in order to receive specified feed-in tariff rates for the electricity they generate.

Speed is also more important for some less experienced customers if they haven't been through the process of making a new connection before and therefore have underestimated how long it will take. More experienced customers know about the likely timeframes and tend to plan accordingly.

5.3 Price and cost of connection

The importance of this aspect of a connection can vary considerably based on the type of business making the connection, the overall connection cost and other project considerations (e.g. timeframes).

Cost of connection is **very important** for:

- Some larger direct metered and unmetered demand customers. They are more likely to be under pressure to keep costs down (without compromising on quality). Tight budgets and strict procurement processes ensure they go out to tender to get multiple quotes for work. This is especially the case in the public sector.
- Some distributed generation customers. Cost can be fundamental to their plans for a wider project. Smaller renewable energy projects may not go ahead if the cost of connection is too high.
- Very small businesses that do not have very much cash to allocate to new connections within their overall project costs[8].
- Some connection consultants and agencies looking to impress their client by getting them the best possible price for connection.

Cost of connection is largely **unimportant** for:

- Other consultancies and contractors managing a bigger project for a client. They usually pass the cost of connection through to the end client, who often has little sense of how much a connection should cost or sees it as a small part of their overall project (in terms of cost and activity).
- Direct clients with little experience of making connections. They see paying less through cheaper providers as a risk (see section 6).
- Smaller distributed generation customers managing high volumes of low value connections. They see little scope for finding cheaper prices and so connections "cost what they cost".
- Larger distributed generation customers. Even high cost (e.g. EHV) connections are worth undertaking because they represent a small part of the overall project cost. In the long term, they are confident that their wind farm or power station will generate enough electricity in its lifespan to return a profit over the duration of the connection.

5.4 Customer service and communication

Communication with the connection provider is important to all customers making connections to the network. Customers want their provider to be proactive, keep them updated on progress with the connection and respond to queries and applications for quotes quickly and efficiently. Customers sometimes list price and timeliness of connection as their main priorities for connection – but if the service around this is poor then it can be a source of major frustration given how important connections usually are to the success of the project.

[8] For an example of this, see case study 5 in Appendix 1.

"I mean, price is a big thing but then, as I say, if you are let down by a service provider continually or maybe a couple of times, then you would probably look to go to another one"

Metered Demand customer

Most customers making multiple connections identify differences and inconsistencies in customer service:

- Between DNOs
- Within each DNO

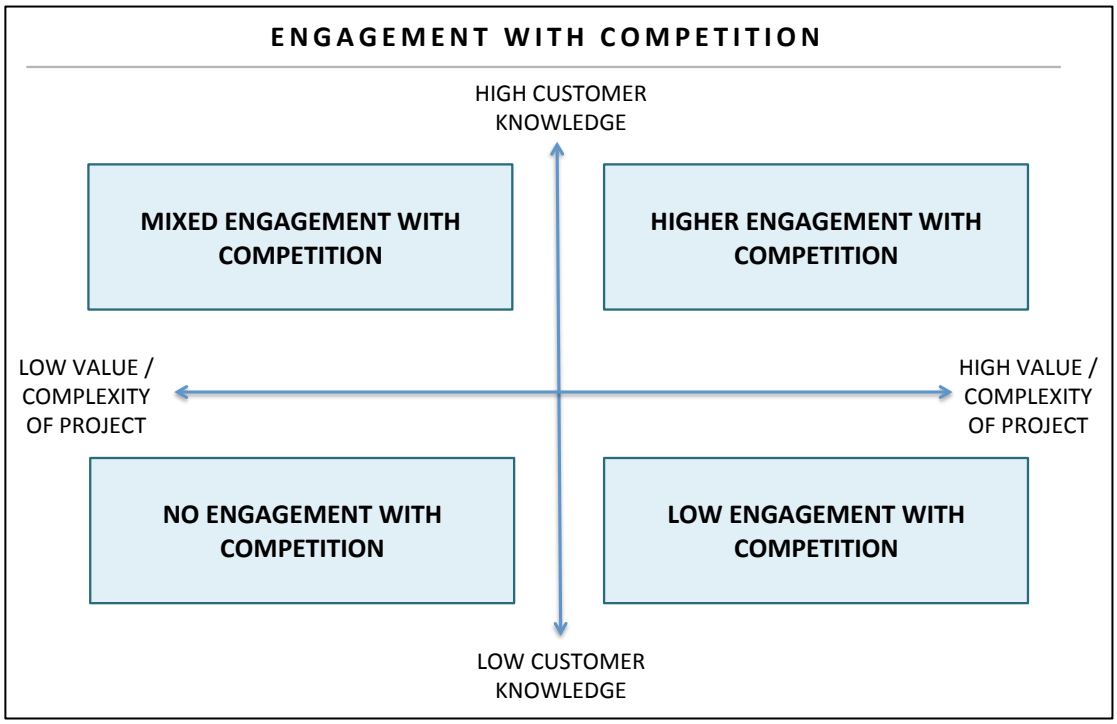
This can be a source of frustration for customers. Some think that certain DNOs appear more customer-centric than others – customers value these relationships where they exist and are less likely to look to access competition as a result.

However, many customers report that when their connection is assigned to an individual project designer / engineer at a DNO, it can be a lottery as to whether they receive good service or not. Almost all customers have worked with proactive, efficient and helpful engineers – but they've also worked with people who can be difficult to get hold of or arrange site visits with and who take longer to get things done.

6. Competition in the market

6.1 Engagement with competition

The majority of customers seeking multiple or regular new connections to the electricity network are aware that other providers can carry out parts of the work but they still usually use the DNO to carry out both contestable and non-contestable aspects of the connection. Some receive other quotes but choose not to carry out the work with these providers, whilst others only ever look to receive quotes from the DNO.



A few customers aren't aware that they can use alternate providers. These customers are almost universally inexperienced at making connections to the network and tend to work for small companies. For this group, a **lack of understanding, information and education around the options open to them** is the primary barrier to engagement with the market.

Generally, customers feel that there are more barriers – or drivers to not engage – than there are enablers when it comes to engaging with the market. Barriers to engagement and drivers of non-engagement tend to take three forms:

- Perceived **risk** involved in using other providers
- Perceived **hassle** in managing multiple providers in a connection
- A **lack of need** for competitive quotes

Some customers have experienced the results of these barriers directly (e.g. finding that it took significant extra effort to manage a DNO and an ICP on a complex connection). However for many customers, these barriers arise from their

perceptions and assumptions rather than from past experience. One of the primary causes of these barriers appears to be a lack of education and information to allow consumers to make informed decisions.

On the other hand, several customers have experienced significant benefits from engaging with competition. **Knowledge and experience** appear to be the main enablers of engagement. The more knowledgeable and experienced the customer, and the **higher the complexity and/or value of the overall connection**, the more likely that they will have the confidence to engage with competition and use other providers. The reverse is also true – where customers have little knowledge or are dealing with low value connections, they see less need to engage with the market.

Customers who have accessed competition have found that ICPs and IDNOs have often delivered against their main priorities for the connection, offering relevant parts of the connection:

- At a **cheaper price**; or
- **Faster**; or
- With **better customer service and communication** than the DNO.

Occasionally alternate providers deliver a combination of all three. Previous good experiences with other providers act as a major enabler for use of competition – especially when making connections again in the same geographical area or making the same type of connection.

6.2 Barriers to use of competition

Customers identify several reasons for either not obtaining alternative quotes from providers or not using them to carry out the work for any given connection to the network. Risk, perceived hassle and a lack of need are the primary reasons. Some of these barriers are perceived rather than having been actually experienced by customers. Barriers can prevent engagement with competition (e.g. the time required to get alternative quotes on a project with tight timeframes), act as reasons to not engage (e.g. high satisfaction with DNOs) or reasons to not use an alternate provider after engaging (e.g. if cost is higher than a DNO).

In this section we outline the main barriers identified and the consumer perceptions and rationale that underpins them.

6.2.1 No awareness of competition

A few customers are not aware that they can use alternate providers for parts of their new connection. These customers are more likely to work at small companies. This is particularly the case for metered demand connections, where the connection itself is only one (albeit vital) part of a wider project and the management of the connection process is more likely to be carried out by a non-specialist. They may have an awareness that their quote is divided into contestable and non-contestable

parts, but usually have little idea about what exactly that means and what they could do about it. They aren't sure how they would find out more, and they usually assume that the DNO needs to provide the entirety of the connection – the prospect of involving other providers hasn't occurred to them.

Their assumption is that given that a new connection to the connection is complex, a DNO would need to manage the entire process.

> *"I think [the DNO] has to do all of it, I don't see how anyone else could."*
> *Metered Demand LV customer*

For distributed generation customers, the connection is more fundamental to the work they are delivering (i.e. installing wind farms for the sole purpose of delivering energy back to the grid) and so customers at small companies in this field tend to be more knowledgeable about how the connections market works – even if they don't access competition themselves. Despite this, we did speak to a couple of distributed generation customers who were unaware that they could use alternate providers.

6.2.2 Risk

Risk often plays a substantial part in actively turning customers away from engaging with other providers of connections – although many of the risks that customers identify are ones that they perceive rather than have actually experienced.

Fear of the unknown

Customers who have little experience in making connections to the network tend to perceive risk in a broad and slightly opaque way. They have a sense that their low understanding and knowledge around connections may lead to them being disadvantaged in some way, for example, problems with the connection or delays.

Where the type of connection being made is high value or complex (although many inexperienced customers see all new connections as complex in some way), inexperienced customers are particularly likely to want to stick with the traditional provider (the DNO). As they don't know what good quality and value for money look like when it comes to a new connections job, they think a DNO represents their best chance of a reasonable end result. Customers who feel this way about connections are far more likely to be directly contracting with DNOs rather than working for an agency specialising in this work. They will sometimes look to commission connection consultants or contractors themselves to assist them with the process and mitigate the risk.

Some consultancies and contractors running the connection on behalf of an end client also perceive risk, but in a broader sense. This is particularly the case for companies operating in a new area of the country where they either don't know or haven't had any experience of alternate providers in that area, or where they are managing a connection of high complexity and value.

"It's better the devil you know sometimes isn't it?"

Metered Demand LV and HV customer

Risk-averse customers and businesses are more likely to see using a new provider as a gamble - even if existing experiences with DNOs have not been great. Consultants and agencies in particular don't want to risk letting their end client down by failing to deliver on the new connection in some way.

Potential impact on project/connection timeframes

The primary risk for the majority of more experienced and knowledgeable new connections customers relates to an ability to get the connection made within the timeframe for the wider project.

"It fills me with dread when you've got one of these [a connection] to arrange – it's in the lap of the gods"

Metered Demand LV customer

There are two aspects to this. Firstly, some customers have found that it takes some DNOs so long to respond to requests for quotes that by the time they receive them they do not have time to go and find an alternate provider. This is particularly an issue for customers who may have a concern about the price, quality or speed of a DNO's service.

The second aspect of risk is around connection installation. If a customer is able to get a quote from an ICP for the contestable part of a connection, they have concerns about the knock on effect that any slippage might have on the DNO's non-contestable work. For customers who haven't actually used ICPs, this risk is perceived rather than experienced.

Many consultancies have their end client in mind again here. If they choose to use a "non-standard" provider (as they think their client would see it) and there is an issue or delay, then the client may see it as the consultant's fault. If they use a DNO, the consultancy would feel there was less reputational risk as they could not be blamed for having used the 'safe' default option.

Some customers also feel that they have experience of DNOs not being fully cooperative with ICPs when the latter are delivering part of a connection. Occasionally, ICPs have told them that DNOs have been the cause of delays to their connection. The ICPs have implied to the customer that this may be deliberate on the part of the DNO. Customers are aware that this kind of situation can leave it hard for them to decide who is at fault here.

Prices / cost

Cost plays a relatively small role in perceptions of risk. Some haven't got quotes from other providers because they assume that these will not be cheaper than the DNO. A couple think that quotes may not be fixed with ICPs and so costs have potential to

escalate. One customer in an urban area referenced a contestable part of a quote from a DNO which included costs that an ICP's didn't. Whereas the DNO had quoted for compensating the local authority for loss of parking space revenue during the work, the ICP had not. This caused the customer to wonder whether there were other hidden costs or aspects of the connection that the ICP had not thought about.

Where customers have obtained quotes from ICPs or IDNOs that are considerably cheaper than the DNO, they sometimes have concerns about the quality of the connection.

"… the risk of going with someone that's cheaper and them potentially not delivering is outweighed by that guarantee of reliability [with a DNO]"

Distributed Generation HV customer

A couple of customers have experienced DNOs increasing the cost of non-contestable work if they choose to use another provider for the contestable element. Whilst they accept that DNOs might be able to make cost efficiencies by carrying out the full connection, they don't feel it's fair that costs rise if they use an alternate provider. The risk of this happening can cause some customers to not use alternate providers.

6.2.3 Hassle

Both inexperienced and experienced customers sometimes assume that getting alternative quotes or involving multiple providers will require a significant amount of effort for them. Customers are rarely keen for this.

Cost effectiveness

Some consultancies and third parties note that where they bill their clients by the hour or day (rather than managing the connection for a fixed fee), it may not be cost effective for them to look for alternative quotes. They assume that the process of finding another provider may be time-consuming. However, customers who use ICPs and IDNOs often find it relatively easy to obtain quotes from them. Customers often assume that there will be little cost benefit to be gained from looking for alternate quotes for projects with low complexity or value.

Time and effort

Customers assume that managing alternate providers will take time and effort - but those that have done it often find it relatively straightforward:

"I tend not to have much involvement after the set-up. [The company I use] are used to working with [the DNO] so they just get on with it"

Unmetered Demand local authority customer

Some customers who have used ICPs and IDNOs have found that it has required more effort from them to manage the connection process. Where a cost saving is

also involved (i.e. for large or complex connections) they think that the effort is worth it. However, on lower value connections, customers see managing multiple providers as a poor use of their time. Some less experienced customers indicate that they wouldn't have the confidence to do this anyway.

Customers who have never used an alternative provider assume that it will require a lot of their time, without having actually tested this themselves. These assumptions seem to come from colleagues or previous experience of working with DNOs – especially where they need to chase the DNO because of poor communication. Some customers appear to feel that other providers would require the same amount of management as the DNO, therefore doubling their workload. Again, this is sometimes acceptable where managing the connection is a large part of their role. In smaller companies, the customer will often be handling many other aspects of the project or business more widely. They want the connection to take up as little of their time, effort and attention as possible.

Relationships between ICPs and DNOs

A few customers – generally with reasonably high understanding of the connections market – are aware that independent providers often work directly with the DNO anyway. That gave them cause for concern around the independence of these providers. These customers thought that if an ICP worked with the DNO directly, they might be unlikely to look to provide a competitive quote for fear of damaging this relationship – especially when the DNO would probably sub-contract to the ICP to carry out aspects of the connection anyway. A couple had received quotes from the DNO that included a list of approved suppliers for contestable work and customers assumed the same – that for an ICP to make it on to a supplier's approved list they wouldn't want to take too much business away from them.

A couple of other customers had had experiences of DNOs making it difficult for ICPs to carry out contestable aspects of a connection. One customer explained that an ICP couldn't carry out part of a metered demand connection because their equipment didn't meet the DNO's specifications. The ICP countered that the equipment the DNO was using itself was of an inferior standard. Another customer had heard that ICPs had problems working with DNOs due to poor communication. Customers generally don't want to have to take the time or effort to step in to manage these contractor relationships, so any sense of friction increases the perceived risk in using an alternate provider alongside the DNO.

6.2.4 Lack of need

High satisfaction with DNOs

Several customers do not feel the need to seek competitive quotes. This is largely a result of being satisfied with the DNOs they work with. In a few cases, customers talk about the high levels of loyalty and trust that have been built up. Some DNOs help customers with more technical aspects of applications, or allow applications to be submitting with some details pending. Many customers explained that they have good relationships with DNOs – especially where they have named points of contact.

Good value for money provided by DNOs

Some very experienced customers managing a number of connections are able to assess whether they think that a quote provided by a DNO offers reasonable value for money based on similar projects. Where this is the case, they see little need to look elsewhere. Many customers (even those who are experienced) are not always clear on exactly how the DNO arrives at their quote value – especially when there appears to be additional complexity involved (e.g. in rural areas where the nearest grid connection is some distance away). These customers sometimes trust this value as being reasonable without having a clear sense of whether the work could be done more cheaply by an alternate provider.

A few customers have sought quotes from ICPs in the past but found that DNOs are cheaper. Where this is the case, they are less likely to look for quotes from other providers again in the future.

"We haven't been doing that. We have, on the odd occasion, and when we have, we haven't found that savings have been able to be made, so we just keep it simple, and we don't get other quotes"

Distributed Generation customer

DNOs are obliged by their license to provide the cheapest quote possible. However, some customers have found that they have been able to get DNOs to reduce costs through negotiating or making changes to their requirements. This can have a mixed effect on their views of competition in the market. Negotiating and amending customer requirements to get a good deal can lead to increased satisfaction that the customer is getting a good deal and a sense that competition is working (i.e. that the DNO knows they could go elsewhere to get quotes and so needs to be competitive). However, it does leave some customers slightly confused or skeptical as to why small changes to their requirements can make such a large difference financially. Others are not aware that the activity the DNO has proposed has changed in line with revised costs.

It hasn't occurred to many customers that they can discuss their requirements and costs with the DNO. Others make many connections before they realise they can do this.

High volume, low value connections

A lack of need for other quotations for customers making:

- A high volume of connections
- Low complexity connections
- With a low cost per connection

These all act as reasons to not engage with competition rather than as barriers to engagement.

Some distributed generation LV customers making low value connections feel there is little scope for any other provider to do them cheaper. They see each connection individually rather than looking at any economies of scale that might exist by pooling connections.

"When it's only a couple of hundred [pounds] one of the other companies couldn't do it for less anyway I don't think"

Distributed Generation LV customer

The same is true for local authorities making a large number of unmetered demand LV connections. They are often offered a fixed price by the DNO per connection (e.g. per street light).

Contestable work as a small proportion of the overall quote or project

On some slightly larger connections – both metered demand and distributed generation – the contestable part of any connection can be very small (less than 10%) in relation to the overall connection cost. Where the DNO is doing the vast majority of a connection, customers see little point in seeking an alternative quote for the contestable element.

Similarly, for some customers the overall cost of connection is small in relation to their wider project costs. Project managers prefer to focus on managing contractors and finding efficiencies in larger parts of their projects, rather than spending a disproportionate amount of time looking at the electricity connection.

6.3 Enablers of competition

A range of factors can facilitate competition in the connections market. These can be:

- High knowledge, understanding and experience of making new connections.
- A need around one of their connection priorities (I.e. price, timeliness of connection or customer service) that might not be able to be met by the DNO.
- Successful previous experience of engaging with competition.

Knowledge and experience

Customers who feel experienced, knowledgeable and confident in managing new connections and providers are more likely to use alternative providers. Using an alternate provider for the first time is one of the most significant steps here. Barriers to use (e.g. the perceived risk involved in using a new provider) often appear more significant in customers' minds before they have done so. When a customer has used an alternate provider once, they are more likely to do so again in the future (especially for similar types of connections; or in similar geographic locations) as experiences are largely good.

Connection priorities

Customers will tend to look at getting quotes from, or using competitors, if they think a DNO is unable to meet their specific connection needs. To warrant using an ICP or IDNO instead of a DNO, they must provide a benefit around at least one of the following:

- **price;**
- **speed of connection;**
- **or customer service**.

Where customers are surprised by the cost of a connection or feel that it is more expensive than it should be, they are likely to look at whether an ICP can provide it cheaper.

Some customers note that using an ICP does require more effort and so would expect a cost saving to be substantial for this to be beneficial. Several customers have examples of ICPs providing contestable aspects of connections significantly cheaper than the DNO had quoted.

Similarly, several customers have been quoted lengthy waits for installation by DNOs. DNOs in some areas seem to have less capacity to deliver timely connections. Customers suspect that some DNOs do not have enough staff to manage the number of connection requests. A couple suggest that workload capacity issues are a result of a spike in connection requests this year rather than being the DNO's fault. Either way, customers are more likely to use ICPs or IDNOs if the timeframe for connection offered by the DNO doesn't meet their project requirements in terms of speed.

Good customer service can be a factor when customers make decisions using alternate providers – although it is usually secondary to cost and timeliness of connection. Some customers value the proactive and open approach to communications that ICPs adopt. They feel that ICPs work harder to build relationships with their customers.

Previous experience

Previous good experiences of using competition are the biggest enabler of future use, especially when making connections in the same area. A number of customers have had good experiences using ICPs and IDNOs. Where this is the case, they become more confident using them and far more likely to use them again in the future.

Many highly experienced customers will make decisions about where it is appropriate to involve competitors on a case by case basis. They are more likely to seek quotes from and involve ICPs and IDNOs on higher value more complex connections – they see the greatest potential for benefit from their involvement here. Trust in providers (where they have used them before) and their own experience as a customer largely mitigates the risk involved in managing multiple providers here.

7. Comparison to other industries

Many customers only manage electricity connections and therefore have no sense of how the performance of connection providers compares across industries. However, several have responsibilities for managing connections across a variety of sectors. These are usually metered demand customers managing construction projects – where gas, water and telecoms connections are also needed.

These customers have mixed views of how electricity connections compare. They largely think that other utilities are fairly similar.

"It's quite generic now. It [gas connection] runs a similar process. But that's helpful for us to be honest."

Metered Demand LV customer

Gas connection experiences can be quite variable. Some have had very similar experiences to those with electricity DNOs – with quote generation and communication the biggest issues. Others have found it to be far smoother, with named points of contact from the beginning of the process and good, proactive communication throughout.

Customers wanting to connect to the water network highlight similar inconsistencies in service, although the water companies are considered slightly worse than electricity connection providers by some. Communication is often poor and delays are relatively common.

"Sometimes you feel like asking whether they even know what they're supposed to be doing?"

Metered Demand HV customer

"I've found water.... a lot longer process and there's more involved in it. I'd definitely say power… energy supplies have gone a lot smoother than [water supply]"

Metered Demand LV-EHV customer

Others have had better experiences with water providers but the picture is largely mixed. The same is true with telecoms providers. Some customers find getting new connections very difficult – one explained that he had given up on trying to get a landline installed at a site he was working on – whilst others find them communicative and able to deliver quickly. There do not appear to be any obvious patterns around this inconsistency, although customers' recall of these connections is often slightly hazier given the electrical connection focus of the research conversations.

8. Conclusion

A wide range of customers seek new connections to the electricity network. Many are experienced at making connections and have worked with several DNOs. Others are making connections for the first time. They tend to be less well informed and less confident. Different types of customer engage with the process of making a new connection in different ways. How their business operates, the needs of each connection and their own level of experience influences their priorities and likelihood of engaging with competition.

Many customers are happy with the connection service that they receive. Some of these customers have no awareness of competition and don't particularly think about it as they are happy with the performance of the DNO(s) they use. Others are aware of competition but choose to only ask DNOs to quote for and provide the connection. This is particularly true when customers use DNOs that have proven to be flexible, proactive and provide quotes relatively quickly. They are satisfied with their experience and see no need to over complicate an already technical process – but are comfortable knowing that they can access competition if they want to.

Some customers are also comfortable engaging with the market and using different providers as per their business and project requirements. ICPs (and IDNOs to an extent) appear to be far more active than DNOs in looking to build relationships with their customers in some areas of Britain. Where customers have good relationships with trusted named points of contact in an ICP, they are likely to give that provider more work. Local authorities making high volumes of low value connections (e.g. replacing or moving street lights) also sometimes have approved contractors who carry out various types of work for them including basic new connections.

However, **many customers report minor issues with the process of making connections**. Long waits to receive quotes and a lack of proactive communication from DNOs are particular frustrations. In some cases customers are relatively satisfied with their DNO, but in more detailed explanation of their customer journey, they outline significant frustrations. Some feel that there are significant barriers preventing the market from being as competitive as it should be. Many see use of other providers as a risk or a hassle. Primary enablers of use of competition are previous good experiences, high levels of experience in making connections, or a connection priority (e.g. cost or speed) that the DNO is unable to address.

Several less knowledgeable or experienced customers don't know that competition exists or don't know how to access it if they do. Other customers are aware of competition but find that the process of making new connections is too complex to engage with more deeply. Some customers have had bad experiences with DNOs but have been unable to find other providers who are prepared to carry out the connection. Where customers have used ICPs or IDNOs, they are more likely to do so again (as long as they deliver against one of their connection priorities that a DNO might not be able to meet).

Appendices

Appendix 1: Customer case studies

A diverse range of customers make new connections to the electricity network. Case studies listed below are illustrative: they offer coverage of the main themes that we heard throughout the project, rather than describing the experience of every type of customer.

Case study 1: METERED DEMAND

Background

Company:

- A large, multinational company of consulting engineers operating UK-wide, largely in urban areas.

Customer:

- Electrical section manager: helps clients make new connections on construction projects. He supervises over 30 connections per year.

Context

Business context

- Largely quite risk-averse, believe in delivering high quality work on time for clients – finding the cheapest option isn't as important.

Project and connections context

- Electricity connections are critical to the projects they manage. Their cost within the project varies but is usually a low percentage – below 5%. Connections can cost anywhere between a few thousand pounds and a quarter of a million (when new substations are involved).
- Projects (and therefore connections needed) are mainly in built-up urban areas around GB. Suburban and rural connections are needed only occasionally.
- Construction projects often have several contractors working on them at once. Making the electricity connection is one part of this – so it's important that it's done right and doesn't hold up other people or affect overall project timeframes.
- Cost of connection is usually passed through to the end client – they are sometimes surprised by how much they cost but usually accept it. Delivering on time is more important.

"They [clients] will usually sign off the quote when we pass it on to them – they trust our judgment"

Customer context

- Connections are a big part of this team's job. They're experienced, have worked with most DNOs, a few ICPs and a couple of DNOs.

Experiences

Getting quotes

- Often inconsistent. Generally, he finds that DNOs only ever provide quotes within mandatory response times. Timeframes feel long and need to be planned for in advance. Occasionally, it seems like DNOs are stalling for time when generating quotes – the customer thinks it's because they're very busy and stretched.

"It can be pretty annoying when you don't hear anything from them and then a couple of days before the quote is due back they'll get in touch with some 'clarification questions' to buy themselves more time. They're clearly just too busy but they should be up front about it because we've got clients asking us when the connection is going in."

- Delays can have a substantial impact on the business. They once lost a client because they had to wait so long for a quote from the DNO.
- The application process for quotes is variable. For straightforward connections, it's usually fine once you're used to it. Some aspects of applications are very technical; finding information to complete them can be difficult.
- DNOs have different quote application processes. They also have different response times, occasionally different forms and different customer service processes. It can be very difficult to arrange site visits with some DNOs as their project engineers are too busy – or not proactive enough.
- Generic phone numbers are frustrating. Named contact points (if they're good) are preferable.

Understanding and acting on quotes

- Understands the difference between contestable and non-contestable work. The proportion of the connection which is contestable can vary hugely between different connections. Quotes are not always itemised in detail so it sometimes becomes difficult to assess exactly what they're paying for.
- Aware of competition in the market – uses other providers on a project by project basis:
  - *When do we need the connection?* I.e. is there time to go out to tender? Is there an existing contractor we can use to get it done quicker than the DNO could?
  - *What's the likely cost saving?* Will there even be one? Prior experience is important here. His billable time vs. cheaper quotes from ICPs. However, he's made big savings on a few larger connections in the past by using an ICP.
  - *What's the risk?* He has existing relationships with some ICPs who he knows he can get to quote relatively quickly and easily. But if the connection is in a new area, finding and managing a new provider takes time and effort. It also represents a risk to the company – if the provider doesn't deliver on time, the end client won't be happy.

Delivering the connection

- Connections are largely delivered on time. Communication with providers around the connection and installation is mixed. DNOs tend to be weakest here –

their staff are very inconsistent. Some are proactive, communicative and inspire confidence. Others do not. But DNOs have got him 'over a barrel' for non-contestable work – he has to use them whether they're good or not.

"You start to recognise the names after a while. Sometimes you'll be assigned a project engineer and you think 'great, this [connection] ought to be fine'. Other times you almost put your head in your hands. It's a lottery"

- ICPs tend to be very good at delivering the connections. They do represent more of a risk but are better at keeping the customer informed and providing updates.
- The customer feels more in control of the power dynamic with them than with DNOs as well.

"You've always got that contractual leverage over them if you need it"

- IDNOs are largely good for delivering the connection. However, occasionally they don't want to quote for the work – he suspect that this is the case if they don't think there is value in it for them.

"They were supposed to come and look at the site, but they kept putting it off. Eventually they came to have a look but when we got the quote back, they'd only quoted against a couple of parts – they were trying to cherry-pick the bits they wanted with an ongoing revenue stream for them"

Case study 2: DISTRIBUTED GENERATION

Background

Company

- A small company developing hydro projects for themselves (50%) or third party clients (50%).

Customer

- A project engineer, managing the electricity connection for all projects.

Context

- Electricity connections are a fundamental part of each project; influencing the feasibility that each can go ahead. Projects range from 50 KW (project cost £20k) to 0.9MW (project cost £2m)
- The electricity connection is usually about 10% of the whole project cost.
- Over the last 12 months this business has commissioned 4 new electricity generation schemes, 5 more projects are in the process of construction, another 5 have quotes, but other approvals are needed before construction can start and 2 projects have failed at the feasibility stage.

Experiences

Getting quotes

- The customer always approaches the DNO for a budget quote, which comes back quickly. He has strong relationships with a small number of engineers at the DNO so then contacts one of them for a follow up discussion to confirm the location of the connection. Once agreed, he completes the full application process.

"…a big long form and so do the other DNOs which is a good form, it's a good system, it gets us to put all the information down. It's difficult for someone outside of the industry or with little electrical experience to understand the forms and be able to fill them out successfully."

- He has concerns about time that elapses during the application process, but thinks that Ofgem sets limits for this. He explained:

"…we once got a payment from [the DNO] when they didn't make one of their periods providing a quote which was very nice. We didn't get paid very much but it was nice that they understood that."

- Once the quote is agreed, this company pays, either in instalments or in one payment, as agreed with the DNO. Then construction can start.

Competition

- The DNO has made this customer aware that non-contestable work can be done by competitors to the DNO and has provided the name of one, itself a subsidiary to the DNO. He is aware of other companies. Asked about whether he obtains other quotes he says

"We haven't been doing that. We have, on the odd occasion, and when we have, we haven't found that savings have been able to be made, so we just keep it simple, and we don't get other quotes"

- All construction work is therefore done by the DNO, or third party companies commissioned by the DNO. He thinks that quotes from the DNO are

"… competitive already. It's just that they're expensive because there's a lot of work to be done to enable the connection. I don't think it's the problem that they're over charging for the work. I think it's a lot of work that costs a lot of money.

- He recognises that his failure to obtain competitive quotes for contestable work could allow DNOs to increase prices. He explained that the electricity connection does not receive as much attention during his project design phase as he focuses attention of the design of the hydro scheme itself.

Overall

- This customer runs many projects that include the need to establish new electricity connections for generation projects. His expertise means that he is

happy with the steps in the application process, but thinks this may be hard for someone without his experience and knowledge.

- He accepts the connection quotes that he is provided with by the DNO, although does often have conversations with their engineers to ensure that the proposed location of the connection is the most sensible for the DNO and the project.
- He enjoys very good relationships with a small number of named staff at the DNO and is satisfied with the service provided.
- He is aware that he can use alternative companies for the non-contestable work, but his experience in obtaining quotes means that he does not pursue this option. He likes to keep each project as simple as possible.
- His main concern is over the time that elapses during the application process.

Case study 3: LOCAL AUTHORITY UNMETERED DEMAND

Background

Company:

- A local authority

Customer:

- A lighting engineer who deals with street lighting and any type of exterior lighting which is unmetered.
- Typically they make 200- 300 unmetered connections a year. Most of the metered connections are low voltage and he deals with 2-3 a year.

Context

Business context

- Price and accountability to the public are important particularly in light of council budget cuts. However price is not the overwhelming factor when choosing suppliers. Quality of the work is also important particularly in the context of public lighting.
- As such the organisation is relatively risk averse – they need to know their suppliers deliver quality work.

Project and connections context

- Unmetered connections are the vast majority of their work. Their requirements are fairly static as the area is not experiencing growth like some towns. They are not building on Greenfield sites for instance.
- Metered connections are more ad hoc. They include projects such as market stalls, shopping precincts and the seafront.

Customer context

- The customer has a reasonable knowledge of the marketplace. He is familiar with both non-contestable and contestable work.
- He is also aware of IDNOs although has not used them personally and knows that efforts are being made to make the marketplace more competitive.

Experiences

Getting quotes

- The customer deals with a couple of DNOs only and does not source many quotes. The council tends to use the DNOs for all work.
- DNO websites can be difficult to navigate. Applications forms are not clear, but staff at DNOs can usually help when filling them out.

"I am basically looking for a form that says 'fill this out to get a new connection. I understand the difficulties because they're trying to cover all bases really….I've found the people perfectly okay to deal with and pretty helpful"

- Once the form is completed the application process is pretty smooth.
- He has not used an IDNO himself and has not heard favourable experiences from colleague:

"I know some of my colleagues they get serious problems and have to call the IDNO – say you had a serious RTV you would have to get hold of the IDNO which often could be hundreds of miles away."

- He does agree with the principle of the IDNO, but thinks that getting quotes for contestable work can be difficult. A competitive market may generate more work for the council.

"It does make sense, I can understand it, because then people can go away, they can do a bit of research themselves"

- Now all unmetered demand connections are carried out by the local DNO which has a contract with the council. They have held the contract for 20 years.
- He believes the incumbent always has a slight advantage as there is an inevitable cost associated with setting up the resources for the contract.

"You often get lots of people at the first hurdle and then they seem to drop out"

Understanding and acting on quotes

- He is clear about quotes and has no problem understanding them. Occasionally the customer has questioned a couple of quotes received and been given a reduction in price. He does not think the higher quote was done on purpose:

"I am sure it wasn't them meaning to be difficult or anything"

Overall

This customer has good knowledge of the marketplace but does not currently have access to IDNOs. He acknowledges the value of a more competitive marketplace but it can have downsides:

- IDNOs are not always in a position to respond to emergency situations particularly if they are geographically remote. He has heard this can be addressed by a tripartite arrangement with the DNO in situ to allow the IDNO to work on the DNO network.
- It can take more work to source a number of quotes from different organisations.

Case study 4: DISTRIBUTED GENERATION

Background

Company:

- A small company which specialises in the installation of commercial scale solar PV from 30kWp to 10MWp for the agricultural and commercial sectors.

Customer:

- Co-owner of the business

Context

Business context

- Speed of response and provision of quotes is particularly important for the business at the end of 2014 – they're looking to take advantage of preferential feed-in tariff rates. They make 2-3 connections per week.

Project and connections context

- The company deals in a number of types of projects. In some instances it just sells a site or will sell the site and project rights. For others it will make the application and develop the site.

Customer context

- The customer is confident and uses many different DNOs as their work covers a broad geography. He also uses ICPs. He is not familiar with IDNOs.

Experiences

Getting quotes

- Only one DNO gets back to the customer quickly. The others respond within the statutory time, which is too long for their type of business. Delays can have a substantial impact on the project as the feed-in tariff may no longer be available.

"It's too long really. I mean we'd like them to get back much quicker but we understand there is a lot of pressure on and a lot of calculation to do so we have to live with it really."

- He thinks that having access to IDNOs may help competition in the marketplace but is not aware of any.
- The application process itself is relatively straightforward. Sometimes he has to

chase for an acknowledgement of the application.

- ICPs can be slow at responding to requests for quotations, however, or they do not quote at all. He believes this is due to the pressure renewables have put on the marketplace.

"The renewable energy coming on stream in the last three or four years has applied huge pressure to them and they are massively busy. We've had great difficulty simply getting quotes. I think the situation's eased somewhat but it certainly wasn't an easy market at one point."

Understanding and acting on quotes

- Quotes are easy to understand. Some DNOs send their quote on one document that covers both the non-contestable option only as well as the non-contestable and contestable combined option. This is preferable to separate documents as it reduces paperwork and makes them simpler to understand.
- The decision to work with an ICP is governed by price. One DNO is very competitive so he never uses an ICP for work in their area. The DNO is also quick at responding and has good customer service:

"I think its partly because they put a load of pressure onto their employees that require them to phone back within a number of days, they require them to be positive in their relationships with the customer"

- In other geographical areas ICPs provide quotes that are very similar to those of the DNOs. He believes this is where the marketplace is not working effectively.

"Because most of them come from a DNO background I have the feeling that they know exactly what the DNO's going to be quoting in any given area……You sort of wonder if there's an inside track to the information which I'm sure there shouldn't be and I'm sure actually there isn't but you sometimes wonder."

Delivering the connection

- The customer is very happy with the connection work. It is done efficiently and on time.

Overall

- This customer has considerable experience in dealing with a number of different DNOs and ICPs. He feels there are a number of issues to be addressed in the applications and connections' process:
  - DNOs speed of response to quotes (and acknowledgement of them)
  - Awareness of and contact with IDNOs which is currently non-existent
  - Variable safety standards across DNOs which lead to dramatic differences in the price of contestable work
  - ICPs capacity to quote given high workloads driven by renewables
  - The competitiveness of ICPs quotes compared to those from DNOs

Case study 5: Metered demand LV

Background

Company

- A local branch of a national charity which provides leadership and development experiences for young people.

Customer

- The customer was the local charity leader, who had no prior experience of installing a new electricity connection.

Context

- The charity had been given an area of woodland adjacent to their existing premises: an electricity connection was needed to enable lights and heating to be used in a new log cabin, built in the wood.
- As a charity, limited funds were available to support the cost of any work necessary.

Experiences

Getting quotes

- The customer initially had no idea how to go about getting a new connection made:

"If I did it on a regular basis I'd probably know the procedures, but it was just mind blowing"

- An electrical engineer who volunteered with the charity helped her *"pick through the jargon"*.
- She eventually found information she needed to complete the application online:

"I filled in the form, which was really, really complicated. I needed help to fill in the form. I had to ring up several people."

- The DNO said it was unable to help her complete the application as her request was unusual. They eventually provided what she saw as a very expensive quote for the work.

"They said it would be 16 weeks, and when they did eventually get back it [the new connection] would have been nearly a quarter of a mile away.....and it would have cost thousands and thousands and thousands of pounds."

- It was never made clear to the customer why the new electricity connection could not come directly from a road of domestic housing running along the edge

of the woodland nearby.

Competition

- The customer had no awareness of contestable and non-contestable work. She also had no awareness of competition.

"I thought there were only them. I didn't think there was anybody else. I thought those were the people that I had to go to."

Overall

- The customer had never made an electricity connection before. She found the process complex and difficult to understand. She was unsure where to find support and the DNO did not help with this.
- She had no awareness of competition.
- The project ended up stalling until a national home-building company stepped in and carried out the new connection as part of its social responsibility programme. It brought electricity direct from the charity's existing premises next door with minimal fuss. This left her even more confused about why the DNO's quote and proposed approach had been so complex.

Appendix 2: Stage 1 fieldwork data

Business size

Business size (no. of employees)	No. of customers
Micro (1-9)	21
Small (10-49)	30
Medium (50-249)	24
Large (250+)	41
TOTAL	116

Usual connection locations

Connection location	No. of customers
Urban	21
Suburban	4
Rural	32
Mixed	59
TOTAL	116

Number of connections made in last 12 months

No. of connections made	No. of customers
1	9
2-4	19
5-9	14
10-49	36
50+	38
TOTAL	116

Awareness of competition in the market

Aware of competition	No. of customers
Yes	91
No	25
TOTAL	116

Number of license areas operated in

No. of areas	No. of customers
1	54
2-4	31
5+	31
TOTAL	116

Requesting quotes from alternate providers

Request alternate quotes regularly	No. of customers
Yes	28
No	88
TOTAL	116

Appendix 3: Methodology detail

Stage 1 was a mapping exercise, designed to understand what the new connections market looks like. We carried out short telephone interviews with 116 customers to map a number of variables and provide an overview of the customer base.

Given the qualitative nature of the research project, it would have been impractical to speak to customers in every one of the 126 RMSs identified by Ofgem. Instead, we looked at broad mix of experiences at a DNO level (rather examining each of the 14 licensee regional areas). Using Ofgem's findings from the competition test process, we conducted the mapping interviews in a spread of customer segments, ensuring representation of:

- Each DNO
- Each type of connection
- Some market segments where Ofgem is satisfied that effective competition exists (marked green on the table below)
- Some segments where Ofgem is not satisfied that effective competition exists (marked red)
- Some segments where there is variation in whether effective competition exists between different licensees in a DNO (marked with hatching)
- Some segments that have not applied for =the competition test process (marked grey).

	Electricity North West	Northern Powergrid	UK Power Networks	Western Power Distribution	SSE	SP
Metered demand LV	✔	✔	✔	✔	✔	✔
Metered demand HV	✔	✔	✔	✔		✔
Metered demand HV & EHV			✔	✔	✔	✔
Metered demand EHV & above			✔	✔		✔
Distributed generation LV	✔	✔	✔	✔	✔	✔
Distributed generation HV & EHV	✔	✔	✔	✔	✔	✔
Unmetered Local Authority	✔	✔	✔	✔	✔	✔
Unmetered PFI	✔					
Unmetered other		✔		✔		✔

Sampling approach for Stage 1 mapping interviews

Interviews were carried out in all segments indicated by ticks in the table. The number of interviews conducted in each segment was weighted based on the volume of connections in that segment. For example, we carried out more conversations across Metered Demand LV, Metered Demand HV, Distributed Generation LV and Distributed Generation HV and EHV than other connection types.

	Electricity North West	Northern Powergrid	UK Power Networks	Western Power Distribution	SSE	SP	TOTALS
Metered demand LV	4	3	5	4	4	3	23
Metered demand HV	2	3	4	3	3	4	19
Metered demand HV & EHV			4	3	2	2	11
Metered demand EHV & above			2	1		1	4
Distributed generation LV	2	2	4	4	3	3	17
Distributed generation HV & EHV	4	6	3	4	1	1	19
Unmetered Local Authority	2	2	2	2	2	2	12
Unmetered PFI	0						0
Unmetered other		3		5		4	12
TOTALS	**14**	**18**	**24**	**26**	**14**	**20**	**116**

Number of mapping interviews carried out in each market segment

Outputs from this stage were used to develop recruitment quotas for the second, in-depth stage of fieldwork.

In **stage 2**, we conducted 52 phone and 4 face-to-face in-depth interviews with customers. In order to reach quotas for various customer types, 36 customers were newly recruited for this second stage of the research whilst 20 were reconvened from the mapping stage. Customers were recruited based on several variables including:

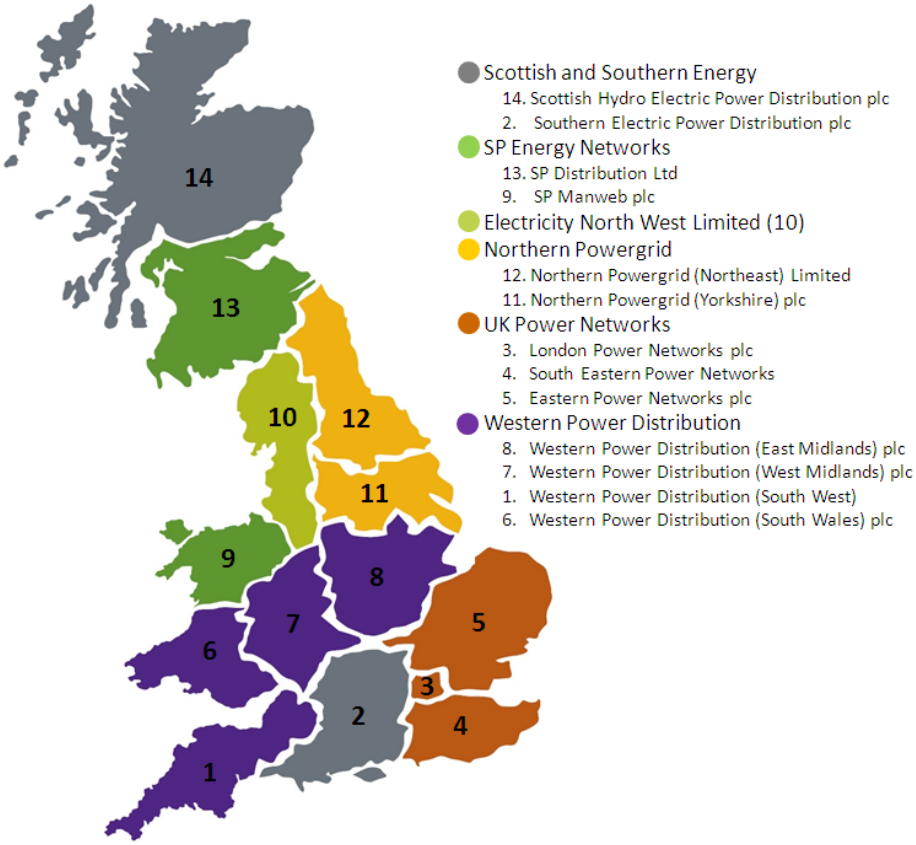
- Number of new connections they had made
- Confidence in making new connections and satisfaction with the process
- Awareness of competition
- Use of DNOs and alternate providers
- Types of connection made (n.b. we were also able to speak to 1 unmetered PFI customer within this stage).
- What factors are important to them in making a new connection.

Customers were also recruited from a variety of business types and sizes. We ensured that we had coverage of a wide range of locations around Great Britain including a mix of urban, suburban and rural connections.

Stage 1 of the fieldwork was carried out from 6th – 17th October 2014, and stage 2 was carried out from 3rd – 19th November 2014.

Appendix 4: Regional license operators

Company name	*Licensee name*
Electricity North West	Electricity North West (ENWL)
Northern Powergrid	Yorkshire (YEDL)
	Northeast (NEDL)
UK Power Networks	Eastern Power Networks (EPN)
	South Eastern Power Networks (SPN)
	London Power Networks (LPN)
Western Power Distribution	East Midlands (EMID)
	West Midlands (WMID)
	South West (SWest)
	South Wales (SWales)
SSE Power Distribution	Scottish Hydro Electric Power Distribution (SHEPD)
	Southern Electric Power Distribution (SEPD)
Scottish Power Energy Networks	SP Distribution (SPD)
	SP Manweb (SPM)



Appendix 5: Table indicating where competition test has / hasn't been passed

	Electricity North West	Northern Powergrid		UK Power Networks			Western Power Distribution				SSE		SP	
RMS		Yorkshire	North East	EPN	SPN	LPN	East Mids	West Mids	South West	South Wales	SHEPD	SEPD	SPD	SPM
Metered demand LV														
Metered demand HV														
Metered demand HV & EHV														
Metered demand EHV & Above														
Distributed generation LV														
Distributed generation HV & EHV														
Unmetered Local Authority														
Unmetered PFI														
Unmetered other														
Key														
	Pass													
	Did not pass													
	Did not apply													