

Ofgem Incentive on Connections Engagement (ICE)

2018/19 Submission



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Foreword

Connecting new customers to the distribution network is one of the most important jobs of a Distribution Network Operator (DNO). New connections enable new homes to be built and occupied, new businesses to start trading, new kinds of generation to produce energy and providers to deliver new and innovative services to the energy system.

From a single property to a new housing development or large industrial or manufacturing site, each new connection we deliver plays an important role in the economic development and growth of our region. We recognise the importance of the service we provide and our team is fully committed to working with our connections stakeholders to understand the challenges and opportunities ahead and what we can do to help more customers get connected to our network.

I am pleased to be able to share with you in this, our Incentive on Connections Engagement (ICE) submission for 2018/19, how we are transforming our connections business to better serve our customers. The improvements we are proposing, and those we have already delivered under ICE, are helping our larger works connections customers to deliver major infrastructure and asset projects quicker, more efficiently and more profitably.

I am also pleased to report that we completed all of the 26 service improvement actions that we committed to deliver in our 2017/18 ICE work plan, on or ahead of target.

The views of our stakeholders continue to be the foundation upon which we assess the effectiveness of our connections business. Feedback from our customers also helps

us to continually improve the service we provide. This is the fourth year that we have developed a detailed connections service improvement plan based on our stakeholders' suggestions, their feedback on our service and the ideas they have generously offered to us.

During 2017/18, we continued to develop and refine our already successful strategy for engagement, in response to what stakeholders were telling us about the ways they want to interact with us. We shared information via webinars and we were the first DNO to webcast live from our engagement events; enabling those unable to attend to benefit from the information shared, ask questions and interact with our presenters from the comfort of their own home or office.

Our stakeholder strategy continues to serve us well, as it involves a robust process that gathers customer feedback and takes it through a review process that culminates in members of our executive team reviewing and sanctioning the way forward and taking ownership of our actions. During 2017/18, we received 280 individual stakeholder comments on our service. Feedback was gathered from a number of different sources, including our engagement events, connections workshops and monthly surgeries, regional and national

consultations and from our team who support our customers as we carry out our day-to-day business. All of this feedback has been taken account in preparation of our ICE Looking Forward service improvement plan for 2018/19.

The development of our service improvement plan is not just a once a year activity. As we review customers' comments throughout the year, if a comment results in an action to resolve an issue that we think we can act upon quickly, then we will start that work immediately and add it to the current years' work plan. We did this whilst delivering our 2017/18 work plan, adding three new actions in October 2017.

We are very grateful for our customers' and stakeholders' engagement last year and look forward to working with them in the coming year.

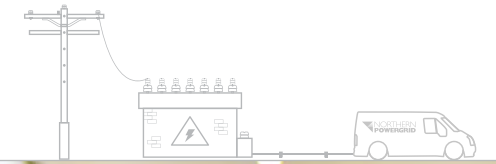
Patrick Erwin

Patrick Erwin
Policy and Markets Director




Who we are and what we do

At Northern Powergrid we look after the electricity distribution network that keeps the lights on across the Northeast, Yorkshire and Northern Lincolnshire.




8 million
people

We serve a population of 8 million people.



2,500
strong

Team Powergrid is 2,500 strong.




nine
zones

Nine zones meet the specific needs of our diverse operating area.




30,000
connections

We deliver in excess of 30,000 new connections each year.



3.5GW
connected

We have more than 3.5GW of distributed generation connected to our network.



2,000
applications

We processed almost 2,000 new distributed generation applications.



At Northern Powergrid we deliver power to 3.9 million homes and businesses via our network of more than 63,000 substations, some 60,000 miles of overhead lines and underground cables spanning 9,650 square miles. Team Powergrid is dedicated to delivering a safe and reliable electricity supply to our customers. We keep the power flowing 24 hours a day, 365 days a year and if our customers ever do experience a power cut, we will be there to fix it.

Our region

We are proud of the vital role that Northern Powergrid plays in the infrastructure of the North of England. We play an active role in securing the future of energy in the north; as part of Business North and through our sponsorship of the Northern Energy Taskforce, we help to provide a unified voice for the business community supporting the development of a regional growth agenda.

We're also supporting our region through Infrastructure North; a regional utility partnership with Northern Gas Networks, Yorkshire Water and Northumbrian Water. Our work includes best practice sharing, joint social programmes to support our vulnerable customers and communities, and exploring joint innovation projects to help our network become more efficient.

Introduction to ICE

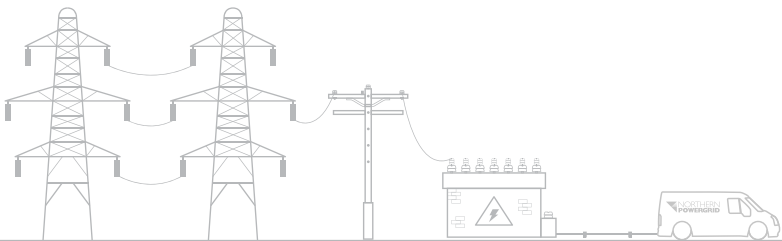


Table 1: Summary of Relevant Market Segments

M	Metered Demand Connections (M)	Low-voltage (LV) work: LV connection activities involving only LV work, other than in respect of an Excluded Market Segment
		High-voltage (HV) work: LV or HV connection activities involving HV work (including where that work is required in respect of connection activities within an Excluded Market Segment)
		HV and extra-high-voltage (EHV) work: LV or HV connection activities involving EHV work
		EHV work and above: extra-high-voltage and 132kV connection activities
UM	Unmetered Connections (UM)	Local Authority (LA) work: new connection activities in respect of Local Authority premises
		Private Finance Initiative (PFI) work: new connection activities under PFIs
		Other work: all other non-LA and non-PFI unmetered connections work
DG	Metered Distributed Generation Connections (DG)	LV work: low-voltage connection activities involving only low-voltage work
		HV and EHV work: any connection activities involving work at HV or above

The purpose of the ICE mechanism

At the last price control review Ofgem introduced a new mechanism - the Incentive on Connections Engagement (ICE) - to encourage network operators to provide a consistently high level of customer service to larger connection customers. The incentive complements other connection-related incentives introduced during the new price control, such as the time to connect incentive and the broad customer measure of satisfaction surveys (BCMS) that cover the needs of smaller customers.

ICE is a penalty only incentive. If a DNO fails to meet Ofgem’s assessment criteria, it can incur a penalty.

Ofgem explains that ICE is designed to drive improvements in both the contestable and non-contestable activities that DNOs provide to major connections customers in the Relevant Market Segments (metered demand connections; unmetered connections and metered distributed generation connections) of the local connections market as outlined in table 1. ICE does not capture performance in the Excluded Market Segments (Low Voltage connections of up to four domestic premises).

The aim of ICE mechanism

The aim of the ICE mechanism, as outlined in Ofgem’s guidance¹, is to provide network operators with an incentive to deliver the good customer service that is associated with competitive markets. This may involve improving the timeliness of connections, extending the provision of information available or enhancing the overall customer experience.

This incentive also recognises innovative connection solutions for customers, which may include:

- improved coordination with other utility connection providers and between connection customers;
- innovative commercial arrangements with customers; and
- the introduction of new technologies that reduce connection charges for customers.

Service improvements driven by stakeholders

ICE also gives connections stakeholders the opportunity to influence DNOs’ future improvement plans. In April each year, following a comprehensive programme of engagement and consultation, we publish a detailed work plan of service improvement commitments for customers operating in the Relevant Market Segments. We will also include actions which directly benefit Independent Connections Providers (ICPs) and Independent Distribution Network Operators (IDNOs) where they will help to facilitate fair and open competition in connections and extend the scope of works they can offer their clients.

Our ICE submission for 2018/19 consists of two sections: a Looking Forward and a Looking Back report. In the Looking Forward section we outline our strategy for engaging with our connections stakeholders and focus on the service improvement actions we will deliver in the coming regulatory year. In the Looking Back section we focus on the service improvements we have already delivered and how we implemented our strategy. We also share some of what our customers have told us about the improvements we have made.



¹ Ofgem Incentive on Connections Engagement (ICE) Guidance Document
https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/ice_guidance_doc_010415_0.pdf

Meeting the criteria set out by our regulator

Ofgem states that ICE is designed to ensure that DNOs commit to identify, engage with and respond to the reasonable needs of larger connection customers. Under this incentive, DNOs need to provide evidence that they have engaged with connection stakeholders and responded to their feedback.

In its guidance, Ofgem sets out the criteria by which it will assess DNOs' performance. A penalty may be applied where the DNO is unable to demonstrate that it has met the minimum criteria. We are confident that we have met all of the prescribed criteria, as evidenced in this submission and summarised below. The passages in italicised text are the criteria as specified by Ofgem.

The licensee published a Looking Forward section in its previous ICE submission, in accordance with paragraph 3.4.

Our previous ICE submission² featured a detailed Looking Forward section where we described our comprehensive connections engagement strategy and how our stakeholders' feedback is used to drive our decision making process. We presented our work plan of service improvements and explained how the commitments we were making were informed by our ongoing consultation with a broad and inclusive range of connections stakeholders.

The licensee has implemented its comprehensive and robust strategy for engaging with connection stakeholders. If not, then the reasons provided are reasonable and well justified.

In the Looking Forward section of this (2018/19) ICE submission we describe our strategy for engaging with connections stakeholders and in the Looking Back section we provide evidence of how we implemented it in 2017/18.

During the 2017/18 ICE plan year we built upon our already robust strategy for connections stakeholder engagement. We continued to hold our twice-yearly connections forums and ICP seminars, and introduced a series of quarterly workshops on emerging connections topics suggested by our customers. We focused on making our experts more accessible with new question and answer (Q&A) sessions delivered via social media and utilised new channels for engagement that enabled us to interact with more of our connections stakeholders than before.

We are confident that our strategy and delivery process is robust and that we give our customers plenty of opportunities to tell us what we do well and what we could be doing better. Our stakeholders' support our position, with 88% of those surveyed agreeing that we engage with our connections stakeholders and facilitate joint discussions³. In 2018/19, we will continue to engage with our stakeholders and customers to understand the ways they want to interact with us and, if necessary, will adapt our approach in response to their feedback.

The licensee has undertaken its comprehensive workplan of activities (with associated delivery dates) to meet the requirements of its connection stakeholders. If not, the reasons provided are reasonable and well justified.

In April 2017, we published our comprehensive ICE work plan which comprised of 23 service improvement commitments. The plan was developed together with our connections stakeholders and the actions were derived from our customers' feedback and suggestions. In October 2017, we added a further three actions taking the total to 26.

The actions were grouped under six key themes or areas for improvement. These were broadly the areas where our customers told us we could improve and where we continue to focus our attention.

Acknowledging feedback given to all DNOs, we ensured that all the actions in our plan were SMART⁴, with clearly defined activities, objectives, outputs and targets. We explained where the action had originated from and how we planned to deliver the outcomes we were proposing.

During the 2017/18 ICE plan year, we focused on delivering the commitments we said we would, when we said we would and, as a result, all 26 improvement actions were delivered in line with their forecast completion dates. Three of the actions we were able to deliver ahead of forecast, meaning customers could benefit from the improvement earlier than we had first envisioned.



The licensee has delivered its relevant outputs (eg key performance indicators, targets etc). If not, the reasons provided are reasonable and well justified;

In our 2017/18 ICE work plan we clearly defined the activities and outputs we would deliver in the year and the key performance measures and targets that would allow us, and our stakeholders, to assess our success. By the end of March 2018, we had delivered all 26 actions in our work plan. The Looking Back section of this submission provides evidence supporting the delivery of each of these actions.

The licensee's strategy, activities and outputs have taken into account ongoing feedback from a broad and inclusive range of connection stakeholders. If not, the reasons provided are reasonable and well justified.

Our interaction with our stakeholders does not end when we publish our ICE plan; it is an embedded, holistic activity which informs our businesses decision making process and drives our service improvement plans.

When formulating our ICE plans we have always been driven first and foremost by our stakeholders' feedback. The actions in our 2017/18 work plan were developed together with our connections stakeholders and derived from our customers' feedback and suggestions.

NPg have presented evidence that they collected feedback and have created a plan around this to a good standard.

Nicola Percival, Innogy Renewables UK Ltd
Ofgem consultation on DNOs ICE submissions

Before publishing our plan, to ensure that the changes we were proposing were of benefit to a broad and inclusive range of stakeholders, and not only the individual or group who suggested it, we embarked upon a comprehensive customer consultation exercise to seek their views and endorsement of our plans.

We continued to engage with our stakeholders to understand their evolving needs and in October 2017, we added a further three actions to the plan that we could deliver in the remainder of the ICE plan year. All other feedback we received that could be addressed through ICE was logged, responded to where appropriate, and considered for future iterations of our work plan.

We kept our customers informed on our progress with updates at our engagement events and workshop, via email and revisions to the ICE page⁵ on our website, the content of which is updated every time we complete an action. We then went further, developing an online interactive version of our ICE work plan that gives users a real-time view on the status of our actions, provides links to useful outputs and resources, and gives the user the ability to tailor the plan to their individual needs.

² Northern Powergrid Incentive on Connections Engagement (ICE) 2017/18 Submission <http://www.northernpowergrid.com/downloads/3421>

³ Source: Explain telephone survey, April 2018

⁴ SMART – Specific, measurable, achievable, relevant and time bound

⁵ <http://www.northernpowergrid.com/incentive-connections-engagement>



Our Looking Forward report

The purpose of our Looking Forward report is to give connection stakeholders visibility of our high-level strategy for engagement, work plan activities and key performance indicators for the next regulatory year.

Introduction to our Looking Forward report

We recognise the need to continually improve the service that we provide to customers wishing to connect to our network. The range of connections services that customers can take advantage of has changed greatly over recent years, with the introduction of competition leading to improvements in the overall efficiency and cost of the connections process. The service improvement actions that we propose in this Looking Forward report will ultimately drive improvements to the service offered to end users, whether their approach is via a third party independent connections provider or direct to us.

The kinds of technologies that our customers want to use and connect to the distribution network are changing rapidly, as is the way in which DNOs are operating, developing and taking on the role of Distribution System Operator (DSO). All of this change is not something that a DNO can do on its own. To keep pace with changes in technology and our customers' requirements, and to ensure that we have a fit for purpose network that meets everyone's needs, we have to engage with our diverse range of connections stakeholders.

Effective engagement is therefore central to our business and our continuing service improvement plans. It is only through listening to the views of our stakeholders and customers that we can fully understand their needs, how best we can serve them and positively contribute to the long-term growth and viability of their businesses.

Beyond ICE, Northern Powergrid continues to operate a wider, comprehensive and robust stakeholder strategy, one which Ofgem has previously recognised as being 'an example of

good practice'. We value every piece of feedback that we receive. We review each comment and, through a process of management review, we seek to resolve the issue that has been raised, whether it be simply answering a customer's query or creating an improvement action that can resolve an emerging issue. Ultimately, with the involvement of our executive, we agree the content and internal ownership of all the commitments that we take forward into our ICE work plan. This process is not a one-time only action each year, but a continuous process that we engage in at every opportunity, with every customer interaction.

Our 2018/19 ICE work plan contains 17 improvement actions, all of which are derived from our stakeholders' feedback. In each case we have endeavoured to validate our proposed action, outcome and target measures with the customer or customers who raised the issue and sought endorsement from a broad and inclusive range of stakeholders on our plans.

This is our fourth ICE submission and it is not surprising that over time, as we have resolved our customers' issues,

the number of service improvement actions in our plan has decreased. This is right and proper and evidence that the ICE process is working. However, with the changing nature of the connection industry and the development of new technologies and ways of working, there remains a smaller but significant number of emerging challenges to resolve.

In its open letter⁶ from June 2017, Ofgem made comment about the need for improvements to the network connections process that would benefit all customers, specifically:

- providing more clarity on the rules and processes for connections;
- ensuring the connections process is sufficiently flexible to accommodate necessary changes in customers' requirements without requiring them to restart the connections process;
- ensuring that customers fully understand the implications for their connection offer of any changes that can arise, either as a result of changes to their requirements or because of

The robust process we have employed has given us confidence that our 2018/19 ICE Looking Forward plan is truly stakeholder driven and meets their requirements.

other customers that are also seeking to connect in the same area;

- providing more transparency on where to connect (for example by improving heat maps);
- ensuring availability of flexible connections for all customers, including storage; and
- better queue management, including promoting certain types of customers (such as storage) in a connection queue if doing so will help others connect more quickly or cheaply.

The actions that we have derived from customers' feedback and included in our 2018/19 work plan take into account the areas of improvement highlighted by Ofgem. We have actions to improve the clarity of information regarding connecting different types of technology. We are continuing to engage with stakeholders on the development and roll out of our Active Network Management (ANM) solution that will enable more customers to connect in constrained areas of our network. We

continue to operate both effective milestones within our connection offer contracts and interactivity processes. And we are also specifically continuing with our actions on the improvement of the National Grid Statement of Works process to ensure that customers can clearly understand all aspects of the potential costs of the connection.

Our interactive network availability heat maps are some of the most progressive of all DNOs, showing demand and generation information, network availability and constraints. This is complemented by a contracted capacity register showing the 'accepted and connected' and 'accepted but still to be connected' capacities at major substations. This information is updated on a monthly basis to ensure customers who want to carry out more of their own initial assessment of network capability have access to the most up-to-date and accurate information. We recognise that many customers are now asking for the functionality of heat map tools to be expanded. Although no one has asked us directly, we are reviewing and comparing our system to that of others and, if appropriate, we will introduce

further improvement actions during the year to enhance the service we provide.

Overall, the robust process we have employed has given us confidence that our 2018/19 ICE Looking Forward plan is truly stakeholder-driven and meets their requirements. We have included in our service improvement work plan estimated completion milestones for each action. But in each case our commitment is to deliver the action by the end of the ICE plan year, unless we have a reasonable and well justified reason not to do so. The forecast completion dates that we provide in our Looking Forward plan represent our present view of when we expect the action to be completed.

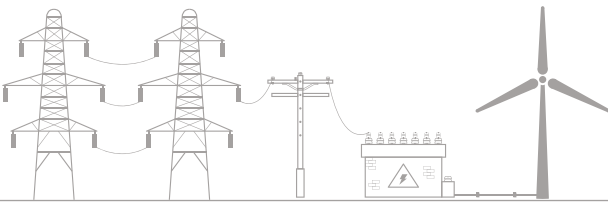
From the ways in which we have engaged with our stakeholders, both to understand opportunities for improvement and to allow them to comment on our plans, we believe that we have demonstrated a broad and inclusive approach. We look forward to delivering these improvements and to sharing the outcomes with our customers.

In this section:

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- ▶ **PAGE 18** An embedded strategy and approach
- ▶ **PAGE 19** Developing our service improvement plans
- ▶ **PAGE 22** Our connections stakeholders support our plans
- ▶ **PAGE 24** Our 2018/19 ICE work plan
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⁶ Open letter consultation on the Incentive on Connections Engagement: Looking Back Reports 2016-17 and Looking Forward Reports 2017-18 https://www.ofgem.gov.uk/system/files/docs/2017/06/ice_consultation_letter_201718_final.pdf

Connections Stakeholder Engagement



We work hard to understand the needs of our connections customers and to consistently improve the service we provide. We operate a robust programme of connections engagement which is endorsed by our stakeholders. We continue to refine, strengthen and embed our approach across our business, enabling us to deliver the service improvements our stakeholders expect and our customers need.

Connections engagement events

Our twice-yearly Connections Customer Forums and dedicated ICP Seminars continue to prove popular and are the channel by which we receive the most direct feedback about our service. This feedback is used to drive our stakeholder engagement process and deliver the meaningful improvements our stakeholders expect and our customers require. During these forums we give an update on what is happening in our industry and in our connections business. We continue to refine and adapt the content of these sessions and last year, acting on feedback we received, we adapted the format of our Connections Customer Forum to include a series of practical workshops ensuring our customers get maximum value from the time they choose to spend with us.

We understand that attending these engagement events can have a significant time and cost implication for some customers, so we began filming the presentations we made at these events and posting them online. This activity enabled us to reach out to connections stakeholders and enabled those who are unable to attend our events to still benefit from the information shared. We went further, introducing live webcasting from our engagement events and inviting 6,200⁷ connections customers on our email list to take part. During these webcasts, viewers have the opportunity to interact with presenters, ask questions and take part in live polls; all whilst watching from the comfort of their own home or office.

You said:

“
” *Attending these events can be costly for SMEs – why don’t you provide live webinar of the presentations for stakeholders?*
Laura Brown, Narec Distributed Energy
Connections Customer Forum

We did:

Introduced live webcasting from our connections engagement events.

Connections workshops

Acting on feedback we received, we introduced a programme of quarterly connections workshops on topics suggested by our customers. These workshops proved extremely popular; many were oversubscribed and required us to operate waiting lists.

Wherever possible we ran follow-up sessions for those unable to attend. Customers told us they appreciated the opportunity to engage with our experts about emerging connections topics and discuss the opportunities and challenges ahead. Going forward, we will continue with our successful programme of subject specific workshops and to engage with our customers about the topics they would like to see covered.

You said:

“
” *It would be useful to have small workshops on various emerging topics – storage; DNO service procurement, flexible connections...and any more you think relevant*
Loic Cervlus, Arenko
Connections Customer Forum

We did:

Introduced a programme of customer workshops on connections topics suggested by our customers.

“
” *Thanks for yesterday! – it was my first connections forum – very impressed – good presentations, not too long, pitched at a good level – we are not all electrical wizards! Workshops a good idea – good opportunity to discuss relevant issues. The opportunity to have one to one discussions on topics relevant to our applications was excellent.*
Jim Caldwell, YLEM Energy Limited
Connections Customer Forum



⁷ Figure correct as of October 2017



Access to our technical experts

Our monthly connections surgeries continue to be well utilised by connections customers and ICPs alike. Our stakeholders appreciate the opportunity to sit down with our engineers and get advice on current and planned connections projects. We began promoting these surgeries via social media to reach customers who would benefit but may not be aware we offered the service. We also began running drop-in surgeries at our connections events, which proved popular.

Our online 'Ask the Expert'⁸ service is well utilised by customers who prefer this method of communicating with us. During the 2017/18 ICE plan year, and acting on feedback we received, we focused on making our experts more accessible with Q&A sessions hosted by our senior team on Twitter and increased use of webinars, where stakeholders could interact and ask questions of our experts online.



⁸ <https://www.northernpowergrid.com/ask-an-expert>

You said:

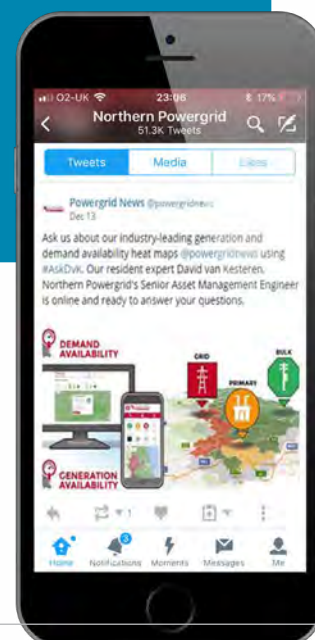


Can more question and answer sessions be internet based i.e. Skype/webinar?

Ian Fothergill, NIFES Consulting
Connections Customer Forum

We did:

We held Q&As on social media on topics including our connections application process, ANM, DSO, heat maps and connecting low carbon technologies. We also introduced webinars enabling time poor stakeholders to interact with our experts.



Meaningful engagement that drives change

We continue to actively participate in the activities of the national working parties tasked with driving forward change in our industry and to deliver on our commitment to keep our stakeholders informed on progress and any outcomes which will affect them.

Early stage interactions with Local Authorities, storage and generation customers and other major asset delivery projects in our region enables all parties to understand the challenges and opportunities ahead, and what we can do to help them get connected quicker and more efficiently.

New in 2017/18

We have refined our approach to engagement in response to what our stakeholders told us about the ways in which they want to interact and communicate with us.

We increased the number of engagement events we ran for customers who want to engage with our experts' face-to-face and introduced webinars, live webcasting and social media Q&As for customers who prefer to interact with us via the web. We also developed a new online tool that allows our connection stakeholders to get a real-time view on the status of our ICE commitments, with links to the actions, outputs and deliverables. The interactive plan can also be filtered to show only those actions that are applicable to a particular customer group (metered, unmetered, DG or ICP). We believe that we are the first DNO to offer stakeholders such a tailored view and we look forward to developing this tool further with their input.

During 2017/18 we have continued to build upon and strengthen our already successful formula for connections stakeholder engagement. We introduced new and appropriate channels for communication and engagement and focused on making experts more visible and accessible.

Looking forward, we will continue to proactively engage with our stakeholders to understand the opportunities and challenges ahead and what more we can do to help them get connected. We will take a lead from our customers on the ways they want to interact with us and refine our approach as necessary.

- Use our online, interactive work plan to access our current and past ICE plans and get an overview of all our service improvement actions, outputs and deliverables
<http://www.northernpowergrid.com/ice-work-plan/>



I think the customer focus has improved immeasurably, I get a sense we have dealt with the engineers, now we are dealing with people who want to help

Patrick Smart, RES
our broad and inclusive stakeholder consultation on ICE, April 2018⁹



I've noticed improvement; they're fairly good at communicating. I work with a lot of organisations and I'd say Northern Powergrid is one of the most cooperative and easy to work with. The online stuff is really good.

Mark Anderson, Blackwood Partnership Consulting Engineers
our broad and inclusive stakeholder consultation on ICE, April 2018¹⁰



⁹ Source: Explain telephone survey, April 2018

¹⁰ Source: Explain telephone survey, April 2018

An embedded approach to engagement

We have an established and effective process for connections engagement, the outputs of which inform our general business strategy and approach, and support the delivery of our key ICE engagement priorities.

“Northern Powergrid continues to embed good practice in stakeholder engagement across the business and to develop innovative approaches and collaborations where possible. As in previous years, the strengths of the company’s approach are its business culture, the strategic nature of the response to stakeholder needs, and the provision of sufficient resources to deliver engagement and respond to stakeholders. There is evidence that systems are maturing, and that NPg is seeking to strengthen the culture of engagement and spread good practice further through the business. We particularly welcome the current focus on deepening the integration of stakeholder engagement with core strategy and business planning.”

SGS AA1000 Stakeholder Audit
May 2017

Feedback from our connections stakeholders and customers is fed into our wider stakeholder engagement process via a range of established internal channels and is used to inform our future thinking and decision making.

Our quarterly Stakeholder Panel continues to provide expert challenge on our strategic

business approach and sets the agenda for our future priorities and direction. We expanded the membership of this group again this year to reflect our current stakeholder maps and priorities – new members include the NHS and representatives from other utilities and social issues groups.

In April 2018, our Head of Connections Services presented our improvement plans to this group, seeking their views and feedback on our proposals. A member of our panel who represents rural communities in our

region gave valuable feedback which led to us refining and improving one of our proposed commitments (action 3.2 on hard to reach stakeholders).

We have held a monthly internal forum to discuss our stakeholder engagement activities since 2013. This group has recently been refreshed to increase membership from our executive team, as well as senior managers, who come together once a month to discuss the strategic focus of engagement.

Our Strategic Stakeholder Engagement Management Group (SSEG) is chaired by our Policy & Markets Director. Each area of our business - including connections - is accountable for producing its own engagement strategy and plan, which aligns to its business plan priorities and responsibilities. This group monitors progress and forthcoming engagement and, critically, potential areas of overlap, duplication, or where complementary activities are taking place, helping our teams to deliver our strategy and more effective outcomes.

Our approach continues to align with the principles of the Stakeholder Engagement Standard Audit (AA1000) which we are assessed against annually.

Developing our service improvement plans

When considering actions for our Looking Forward plan we followed the same robust, stakeholder driven strategy we employed when developing our previous ICE plans. Stakeholder feedback is gathered from a range of different sources. All the feedback we receive is recorded in our stakeholder log¹¹ and reviewed by our Head of Connections Services and Stakeholder Engagement Manager, who decide how best to respond.

In formulating our 2018/19 plan, we collated, considered and, where appropriate, responded to 280 individual stakeholder comments received during the course of the ICE plan year¹². The majority of the comments we received were not appropriate for ICE because the comment:

- could be addressed through contact from our team or via a simple change to our business-as usual-practices;
- related to a non-connection issue;
- was in relation to a customer’s specific project;
- was a positive endorsement of our service or engagement process; or
- related to an emerging issue that is yet to fully crystallise.

Where a customer issue can be resolved by a simple change to our business-as-usual practices, we do not wait to include it in an annual service improvement plan; we respond

quickly to deliver the improvements our customers need.

A small number of comments we received concerned future technical or commercial arrangements which we are considering for future iterations of our work plan. We maintain a watching brief on these emerging issues and will continue the dialogue with stakeholders so that we are ready to act at the point we both agree is appropriate.

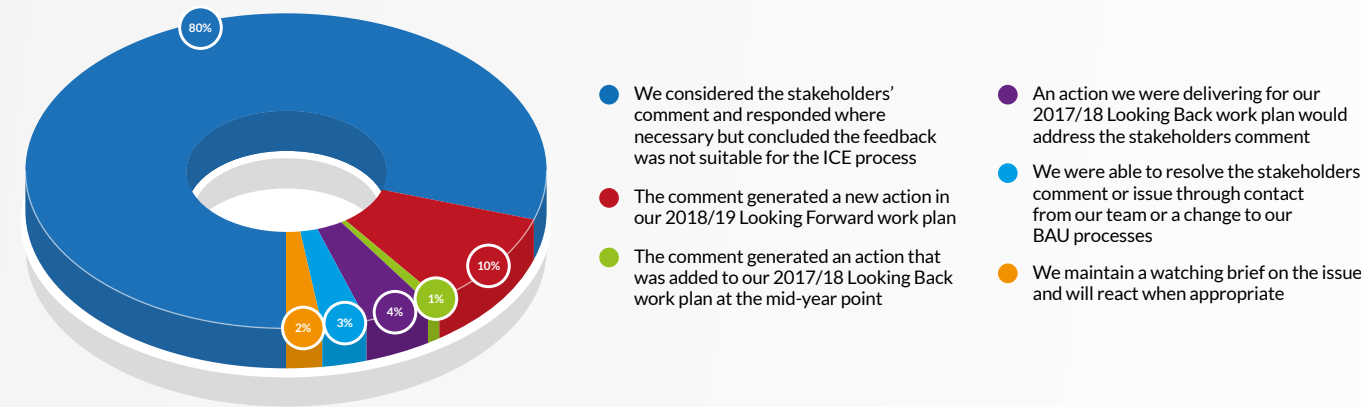
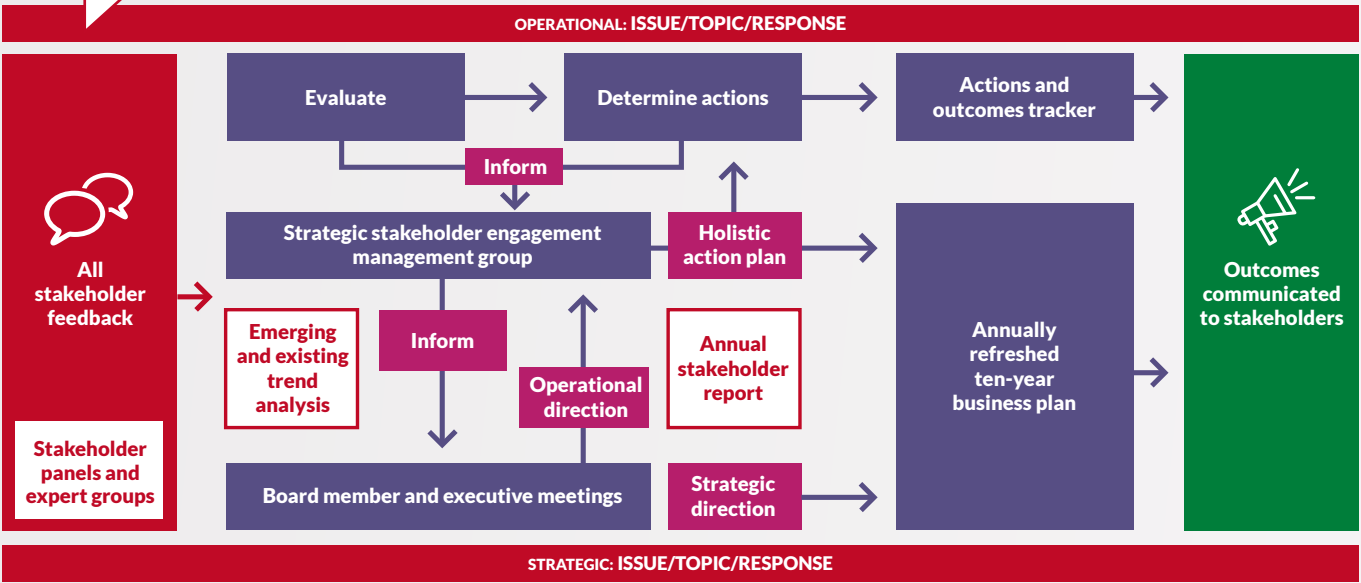
Where we think a customer has given feedback that is best addressed through the ICE process, we talk to them to ensure our interpretation of their issue is correct and that the activity and outcome we are proposing fully addresses their concern. Where necessary, we seek input from our wider business on the action and the outcomes we are proposing.

Our proposed work plan is reviewed by senior managers and then by our executive team who provide expert insight and guidance on each

of the actions we are proposing. In this way, the process is embedded across our business and we can ensure a coordinated approach to delivery of our commitments.

We are confident that we have a robust and comprehensive process in place that provides an audit trail of evidence and a justification for the way we have developed our plan. This year, only 10% of the comments we received generated actions in our Looking Forward work plan. Inevitably, year-on-year the number of actions in our ICE plans is decreasing as we improve our approach, give stakeholders more opportunities to engage and deliver the ‘quick wins’ identified by our customers.

We collated, considered and where appropriate acted upon 280 individual stakeholder comments during the course of the ICE plan year. This feedback was the basis upon which we developed our connections service improvement plan for 2018/19.



¹¹ We record the stakeholders' original comment or verbatim, where the feedback originated from, our interpretation of the issue, the proposed resolution and any further interactions or discussions that have taken place. This document is reviewed by our Executive Team

¹² April 30, 2017 to March 31, 2018

We employ a robust and rigorous process when developing our ICE plans. The process is driven by our connections stakeholders and consists of five key stages:



Stage 1

We gather stakeholder feedback from a range of different sources throughout the course of the ICE plan year.

Stage 2

All feedback we receive on our connections service is collated and considered on a regular basis by the Head of Connections Services and Connections Stakeholder Manager. Where appropriate, we will act to resolve the issue, whether that be via contact from one of our team, a change to our business-as-usual practices or through the ICE mechanism.

Stage 3

Our work plan proposal is reviewed by our executive team. In agreeing to support the action, the relevant member of the executive will assign a lead from their team who is responsible for delivering the action, associated outcomes and for engaging with the stakeholder whose comment generated the action to ensure what we are delivering meets the customers' expectations and addresses their issue.

Stage 4

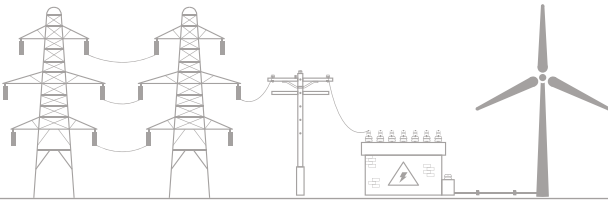
We consult with a broad and inclusive range of our connections stakeholders on our proposed work plan, using a number of appropriate engagement channels.

Stage 5

Feedback from internal and external stakeholders is incorporated into the work plan, which is finalised and published by the end of April each year.



Our connections stakeholders support our plans



When developing our Looking Forward plan, we undertake a broad and inclusive consultation with stakeholders to seek their views and endorsement of our plans. We do this to ensure the actions and outputs we are proposing will be of benefit to a wide range of our connections customers and stakeholders and not only those who requested the change. We endeavour to reach out to as many of our connections stakeholders as possible, to give all those who wish to an opportunity to comment and help to shape our plans.

This year we contacted more than 5,800¹³ connections customer and ICP contacts via email, pointing them towards our proposed work plan and inviting their feedback. We also presented our plans to our Stakeholder Panel, which provide strategic input on our business priorities and plans.

We commissioned independent market research specialists Explain to conduct a telephone survey with a cross section of our connections customers¹⁴. Explain took customers through 13 of the commitments in our proposed work plan and asked them whether they would support and endorse that action. The results of that survey are presented alongside the action they relate to throughout the remainder of this Looking Forward report.

Our customers supported our plans. 97% of those surveyed agreed that Northern Powergrid has a comprehensive Looking Forward work plan of service improvement activities that meet the needs and requirements of its connections stakeholders.

Explain also took customers through the actions we had delivered in 2017/18 and asked whether they thought the changes we had made had resulted in an improvement to our overall service.

At our Connections Customer Forum in April 2018, our Head of Connections Services took the 34 attendees through each of our proposed commitments and asked for their feedback. We discussed each of the proposed actions, where they originated from, the outcomes we were proposing, targets and how we would measure the impact of each action. We then asked attendees to vote on whether they endorsed the action and encouraged any stakeholders who voted 'no' or 'don't know' to talk to us about their feedback.

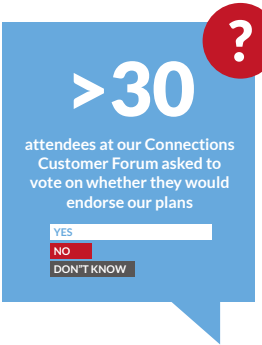
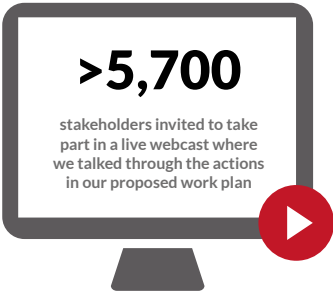
The results of that survey are included opposite. For the first time, we broadcast the session via a live webcast. Doing so enabled us to reach more stakeholders who may be interested in our plans but were unable to attend the event. We sent an email invite to

>5,700¹⁵ connections stakeholders inviting them to take part. On the day, 21 stakeholders joined via the live webcast and had the opportunity to interact with the presenters, ask questions and share their views.



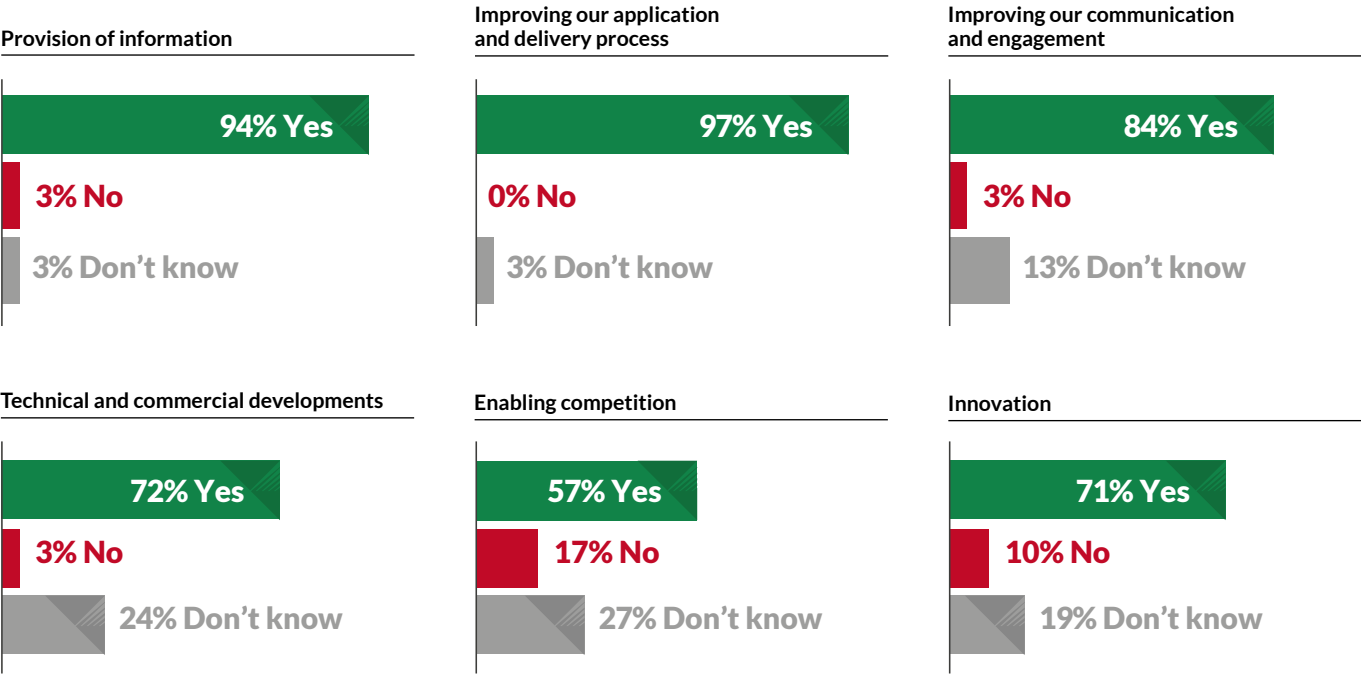
of those surveyed agreed that Northern Powergrid has a comprehensive Looking Forward work plan of service improvement activities that meet the needs and requirements of its connections stakeholders.

Source: Explain Market Research, April 2018



We asked attendees at our Connections Customer Forum

“ Do you endorse these actions and agree they would improve the connections service Northern Powergrid provides? ”



Finally, we contacted each of the customers whose comments generated an action in our Looking Forward plan to establish whether the commitment and outcomes we were proposing would address the issue they raised. We will continue to engage with these key stakeholders throughout the 2018/19 ICE plan year to ensure the improvements we are delivering fully meet their expectations.



¹³ 5,723 connections customers, 119 ICPs - figures correct as of April 2018
¹⁴ 302 connections stakeholders surveyed in total; 238 metered demand customers, 8 unmetered customers, 53 DG customers, 2 ICPs and 1 unknown
¹⁵ Figure correct as of April 2018

¹⁶ 5,723 connections customers, 119 ICPs - figures correct as of April 2018

[illegible]

Theme	Area for improvement	Action	The outcome for customers	Performance metric	Our measure of impact/success	Voltage	Status	Applicable to		Q2 2018			Q3 2018			Q4 2018			Q1 2019			More info on this action
										Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
4.0 Technical and commercial developments	4.1 Network constraint and curtailment information	We will conduct a review of the provision of network constraint and curtailment information.	A better understanding and agreement of what the provision of what constraint and curtailment information entails.	Business review conducted.	Customer feedback.	HV	OK to plan	M	DG													PAGE 36
	4.2 Active Network Management (ANM) and future flexible solutions	We will continue to engage with stakeholders about our ANM strategy including where and when we will be deploying future flexible solutions.	Customers will be better informed about our strategy for flexible connection solutions and how and where we propose to roll-out those solutions.	Progress communicated.	Customer feedback.	EHV HV	OK to plan		DG													PAGE 37
	4.3 The Transmission/ Distribution (T/D) interface	We will continue to work with the Open Networks Project to develop the Statement of Works process and, if required, make changes to our current practices to better support our customers.	Customers will be better informed about the T/D and Statement of Works process.	Progress reported and new policy/process implemented as necessary.	Revised processes, if required, applied to relevant connection applications.	EHV HV	Completed to forecast	M	DG													PAGE 38
5.0 Enabling competition	5.1 Self-service adoption agreements for Independent Connections Providers (ICPs)	We will develop, trial, and if the trial is successful, implement a new self-service adoption agreement process for ICPs.	ICPs will be able to create their own asset adoption agreements using simple agreement templates and submit them to Northern Powergrid for legal completion, further minimising the connection input services we are required to provide.	New ICP self-service adoption agreements implemented.	Number of self-service adoption agreements completed and ICP feedback.	ALL	OK to plan		ICP													PAGE 39
6.0 Innovation	6.1 Better technical guidance for generators	We will publish technical guidance for generators on how to go about making a connection application for hybrid generation-storage sites.	Generators will have access to improved technical guidance and be better informed about how to make a connection application for hybrid generation-storage sites.	Guidance published.	Document downloads and feedback received.	EHV HV	OK to plan		DG													PAGE 40
	6.2 Our transition to a Distribution System Operator (DSO)	We will continue to engage with stakeholders on our vision and strategy for our transition to a DSO.	Stakeholders will be better informed and have the opportunity to engage, share their views and shape future outputs.	Vision and strategy shared.	Stakeholder feedback.	ALL	OK to plan	M	DG													PAGE 41
	6.3 Our engagement with flexibility service providers	We will engage with flexibility service providers to understand any improvements to our connections process that are required to support the continued growth of distributed energy resources such as storage, flexible generation and demand side response.	Stakeholders will be able to engage with our experts and can influence and inform changes to our connection process.	Stakeholder engagement session delivered.	Stakeholder feedback.	ALL	OK to plan	M	DG													PAGE 42

Key: Action starts Our forecast timescale for completion Forecast completion date



Metered demand customers



Unmetered customers




Distributed generation customers



Independent Connections Providers

Action

1.1 Theme 1: The provision of information
Greater access to network information

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will develop a new process to provide customers who request it with access to more detailed network information.	Customers will have access to more detailed network information and asset records to support and inform their own design activity.	New process implemented. Customer feedback.	EHV HV	M DG	 30/09/18

01/04/18

31/09/18

Our customers said...

“ Further to your presentation at today’s Connections Customer Forum, I’m writing to say that developers such as ourselves really do need access to information such as cable size, operational status, asset age, feeder origination etc. Access to this info will help us reduce making applications that go nowhere and taking up the time of system planners.

Aiden Morris, AMP
Connections Customer Forum, November 2017

“ I have formed my own consultancy company. I intend to work for customers that may wish to appoint an ICP to install their new connection under competition in connections. However, for me to review the options for the connection, I would need access to the Northern Powergrid information systems the same as an NPg Design Engineer. Can you please arrange for me to have access? As I may not be near to an NPg office, I would wish to do this remotely.

Peter Imrie, Imrie Power Solutions Ltd
via email, October 2017

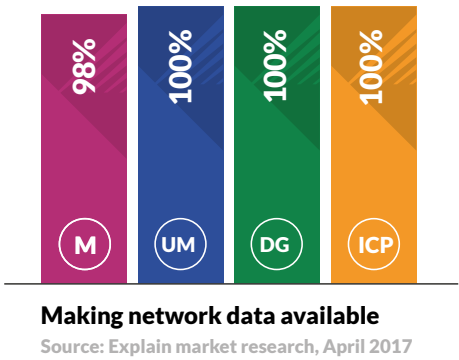
In support of competition in connections, we already make our network design standards and network information available to those ICPs who request it. Developers and consultants are now saying that they would also like access to this information, which will enable them to carry out preliminary feasibility studies themselves and also to validate the work done by ICPs.

The idea of developers carrying out their own preliminary initial assessments of the viability of projects improves the efficiency of the connections application process as it enables developers to make faster decisions about the viability of projects, reducing the cost of connections applications to the customer

and also reducing the workload on the DNO design team, making them more efficient.


Consultants working for developers who employ ICPs are also seeking access to the same network information as the ICPs so that they can perform a level of validation of the ICP schemes being proposed. This validation helps the process, as it should speed up the process of design approval once the ICP submits their design to the DNO, improving overall timescales.

On that basis we have committed to an action in this ICE plan to make our network information available to developers and consultants.



Action

1.2 Theme 1: The provision of information
Network records

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will develop a new process to provide customers who request it with access to network information in KMZ and GIS formats.	Customers will have better access and the ability to work with our network data.	New process implemented. Customer feedback.	EHV HV	M DG ICP	 30/09/18

01/04/18

30/09/18

Our customers said...

“ ...Most of the DNOs issue KMZ (Google Earth) files of their network (HV and above). Is this something you are doing yet?

Hugh Taylor, Roadnight Taylor
via email October 2017

Thanks David (and Matt) very useful talk. On substation locations, you mentioned that NPG cannot share the information due to security and this is understandable. However, we note recently that ENW has started sharing this - actually they have gone beyond by sharing GIS data of substation, cables and circuits downloadable to registered and vetted users. Are NPG planning or willing to share such information to approved users

Zul Salim, Arup
question posed during our heat map webinar, December 2017

Developers have a greater appetite to carry out preliminary assessments of connection capability. We already service information needs through the extensive range of network information that we provide through various channels, including our heat maps, which are some of the most progressive in the industry, and through the provision of base network information.


Customers want to use this information in their design and assessment tools and therefore it is important to them to be able to receive base network data in a format which is compatible with the IT platform and the applications that they operate.

This information is readily available and therefore we have committed in this plan to provide information specifically in the different formats requested by customers.



Action

1.3 Theme 1: The provision of information
DG owner operator forum

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will hold a DG owner operators forum each quarter.	DG customers will have a forum to discuss operational issues and obtain accurate and up-to-date outage information enabling them to plan more efficiently and strategically.	Four DG owner operator forums held during 2018/19. Feedback received from DG owner operator forum members.	EHV	DG	 One per quarter 30/06/18 30/09/18 31/12/18 31/03/19

01/04/18

31/03/19

Our customers said...



On “ongoing feedback”: We have seen SSE adopt the practice of “DG owner operator forum” at our request, mid-year.

Graham Pannell, RES
Ofgem consultation on DNOs 2017/18 ICE submissions

We would like to encourage all DNOs to commit to an annual outage plan, regularly updated, as the most direct and informative way to keep generators informed of these events. Such a plan would allow for strategic planning by the generators as well as DNOs to efficient operations and well-timed maintenance.

Nicola Percival, Innogy Renewables UK Ltd
Ofgem consultation on DNOs 2017/18 ICE submissions

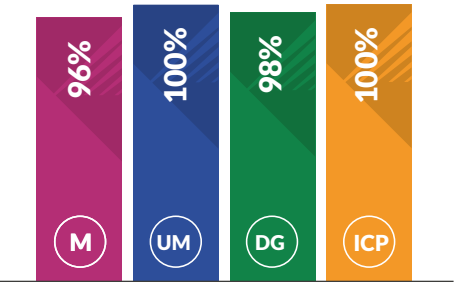
As the distribution network becomes more dynamic, with the amount of different types of generation technologies increasing, it is important for the ongoing operational viability of these projects that they are efficiently managed and operated.

DNOs have a role to play to help generation operators. The day-to-day operation of the distribution network (both the planning and duration of network outages) can have a significant impact on the operation of a generator.

It is important that we hold a regular dialogue with large customers to share outage planning information and to be able to discuss network issues and forward planning constraints.

We have reacted to requests from customers leading to us committing in this years’ service improvement plan to establish operator forums for EHV customers. We will hold these quarterly and customers can discuss operational outage management with our operational planning experts.


We will model these forums on industry best practice and seek to formulate the content of the forums based on the information customers tell us they need to enable them to optimise the operation of the generation plants.



Starting a forum for generation customers
Source: Explain market research, April 2017

Action

1.4 Theme 1: The provision of information
DG connections guide

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will work with the ENA to update the DG connections guide and incorporate new technologies like storage and export limiting devices.	Customers will have more accurate and up-to-date information on the requirements for connection of distributed energy resources.	Completion of a revised ENA DG connection guide. Number of downloads of the revised ENA guide.	All	DG	 30/09/18

01/04/18

30/09/18

Our customers said...



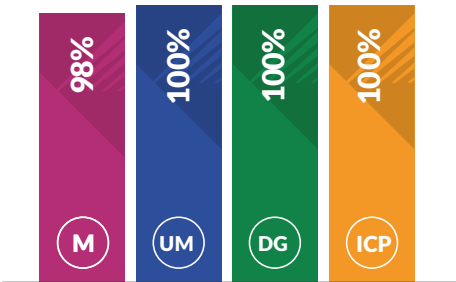
To ensure a more consistent and joined up approach in dealing with connections across the different DNOs – the DNOs should review and revise the DG Connections Guide to a ‘Distributed Energy Systems’ Connections Guide which would cover a wider breadth of technologies.

Nicola Percival, Innogy Renewables UK Ltd
Ofgem consultation on DNOs 2017/18 ICE submissions

Wherever possible the DNOs come together through the Electricity Networks Association (ENA) to work together on aspects of distribution network technology and business processes that are common across the industry. Because developers, in particular generation developers, work over a national footprint, it is advantageous and more efficient for them if the DNOs operate similar processes and provide similar information.

The observation has been made that it would be useful if the DG connections guide could be reviewed and enhanced to include information on distributed energy systems. It is important that information we provide developers to assist them is as comprehensive as possible and keeps up to date with current thinking and technology developments.

We have therefore made a commitment in our service improvement plan to work with the ENA and other DNOs to improve the content of the connections guide.



Working with ENA to revise and update DG connections guide
Source: Explain market research, April 2017

Action

2.1 Theme 2: Improving our application and delivery processes
Contact information for connections engineers

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will create a new web page where customers can find the contact details for our regional connections engineers.	Customers will be able to access the contact details of our connections engineers quickly and easily.	New web page created and published on our website. Web page usage and customer feedback.	All	<div>M</div> <div>DG</div> <div>UM</div> <div>ICP</div>	<div></div> 30/09/18

01/04/18

30/09/18

Our customers said...



It may be helpful to have a list of engineers to discuss a project with before applying

Steve Watts, Patrick Parsons
Connections workshop, March 2017



Contact list dedicated by department

Steve Harvey, Power Jointing and Distribution Service
Connections Customer Forum, November 2017



Phone numbers of commercial engineers

Christie Sims, BSR Energy
Connections Customer Forum, November 2017



Individual Commercial Manager contact

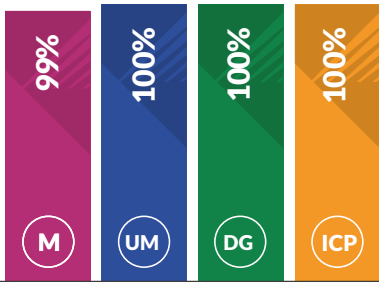
Kate Wilson, Stag Energy
Connections Customer Forum, November 2017

Effective communication is an important part of an efficient connections application and delivery process. In previous years we have committed to and implemented a process whereby our commercial, design or delivery engineers, quickly contact customers to discuss and agree requirements and confirm the next steps of the process, keeping the customers fully informed.

During these conversations the customer receives the contact details of their point of contact, so that if they have any queries about the job during any phase of its delivery they can speak to the right.

Customers have asked us to go one step further now and make the details of key staff available on our website, which will further help them and their team to better communicate with the right person.

We have therefore committed in this service improvement plan to provide the contact details of our key connections staff.



Create a new web page for regional connection engineer contact details

Source: Explain market research, April 2017

Action

2.2 Theme 2: Improving our application and delivery processes
Improved customer communications

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will include a description of the connection project as well as the enquiry reference at the beginning of all our customer correspondences.	Customers with multiple connections will be able to identify the project we are referring to more quickly and easily.	Customer correspondence reviewed and new standards applied. Customer feedback.	All	<div>M</div> <div>DG</div> <div>UM</div>	<div></div> 31/12/18

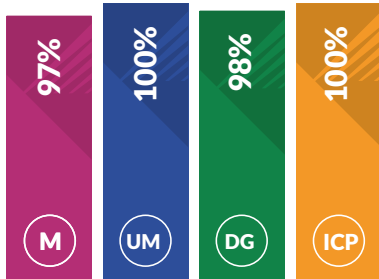
01/04/18

31/12/18

At our Connections Customer Forum in November 2018, Phillip Matthews from East Riding Council gave us some feedback on our application and delivery process, highlighting an aspect of our communications that could be improved.

Mr Matthews told us that when we send emails we quote the Northern Powergrid enquiry reference number (ENQ) but do not always give a description of the connections project we are referring to. He told us when he has multiple applications pending with us, looking up the individual ENQ numbers we issue to find the project we are referring to is time consuming and inconvenient.

We agreed with Mr Matthews' comments and following a conversation with him about his feedback, we made a commitment to include a description of the project, as well as the Northern Powergrid ENQ number in any correspondence that we send, making it easier for customers to identify the connection project we are referring to.



Targeted communication and engagement

Source: Explain market research, April 2018



Action

2.3 Theme 2: Improving our application and delivery processes
Updates on the status of our connections offers

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will provide customers with an update on the progress of their connection quotation midway through its preparation, where a 65-day guaranteed standard applies.	Customers will be better informed on the status and timescales of their expected offer.	Feedback being delivered. Customer feedback.	EHV HV	M DG	31/07/18

01/04/18

31/07/18

Our customers said...



Bulletin giving info on progress and expected offer date.

Jim Caldwell, YELM
Connections Customer Forum, November 2017

When asked at one of our Connections Customer Forums to tell us what he thought we could do to improve our overall connections service, Jim Caldwell of YELM said that we could keep him better informed about when he could expect to receive his connections offer.

Although we work within the guaranteed standards of performance timescales to provide quotations, we try to greatly improve upon those timescales and provide a service that is as fast as practically possible. It is important that we try to keep customers informed as to when they can expect to receive their connection offer quotation. This is discussed initially when we first contact the customer to discuss their requirements at the start of the connection design process.

To add to this and to keep customers better informed we have committed to provide every customer who is subject to a 65-day guaranteed standard with a midpoint update on progress and expected completion date. Therefore, half-way through the design and quotation preparation process, we will contact the customer and re-affirm when we expect we will be able to complete and deliver the connection offer quotation.



Action

2.4 Theme 2: Improving our application and delivery processes
Self-service budget tool

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will mobilise a project to build a self-service budget tool and keep our customers informed and involved.	Customers will have the opportunity to influence and contribute to the development of a new tool.	Project mobilised and customers engaged. Customer involved in development of the new tool.	LV	M DG	31/03/19

01/04/18

31/03/19

Our customers said...



A lot of my enquires are at planning stage and the costs I am looking for at this stage are general, asking for a budget quote still takes 15 working days and I would like to know if there is a speedier avenue for budget/indicative cost?

Sheila McArdle, Strategic Team Group
via email, October 2018

It is important for developers to understand quickly the viability of their project from the perspective of electrical network connectivity and cost. We have seen elsewhere in our service improvement plan customers asking us for more access to network information so that they can carry out initial assessments themselves.

In the cases where customers do not have design or assessment capability, it is important for them to receive a budget view of costs as quickly as possible. Our current target of a 15 day, worst case turn around for a >1MVA¹⁷ budget cost is not fast enough.

We have therefore decided that there may be a better approach, which could help customers get much faster - near instantaneous - budget information, via a self-service budget web based process.

We are currently investigating the approach we might take, and therefore, we are committing in this service improvement plan to fully mobilise a project that will seek to build a self-service budget tool. The project will enable us to involve customers in the development of the tool to ensure that we get them the right answer to meet their needs, whilst exploiting the best possible systems opportunities.



¹⁷ Mega Volt Amp

Action

3.1 Theme 3: Improving our communication and engagement
More targeted communications

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will create a new web based process to enable customers to register as an interested stakeholder by connections customer type.	We can deliver more targeted communications and engagement, tailored to different types of customers.	Web form created and published on our website Number of customers registering to receive targeted updates.	All	ICP UM	30/09/18

01/04/18

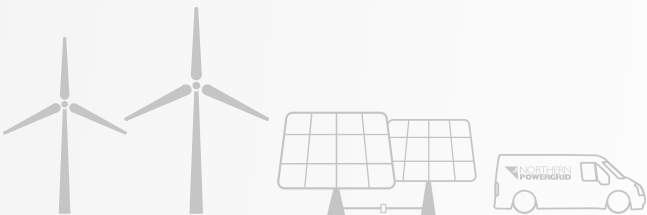
30/09/18

Our customers said...



Could you please add my email address to the right mailing list for anything to do with Distributed Generation? I'd like to hear about publications and events etc. on a regular basis.

Nicola Percival, Innogy Renewables UK Ltd
via email, July 2017

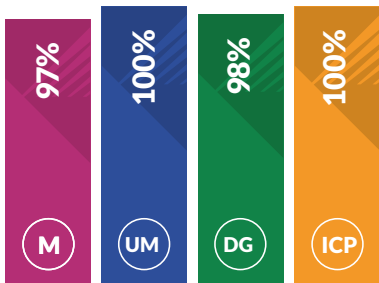


We develop our service improvement plans each year, through broad and inclusive consultation and engagement with our stakeholders.

To make that engagement effective and to ensure we are able to target customers with information about future events and emerging industry topics or updates on ongoing initiatives, we need to clearly understand which customers are interested in the different market segments and technologies.

Following customer feedback, as well as relying on our historical knowledge of which customers have applied to connect in the past, we are now proposing to be more proactive with our understanding of what individual customers are interested in. We will create a web based process that allows customers to register their interest in different market segments and topics so that we can be sure we correctly include them in our communications.

In this service improvement plan we have therefore committed to develop a web based process that allows customers to register interest in a particular type of connection.



Targeted communication and engagement

Source: Explain market research, April 2018

Action

3.2 Theme 3: Improving our communication and engagement
Hard to reach stakeholders

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will hold dedicated engagements with hard to reach stakeholders with specific connection needs including NFU members, Community Energy groups and off-grid customers.	Stakeholders will be better informed about our connections processes and can engage with our experts. We will be able to better understand their specific needs and help them get connected in a quicker and more efficient way.	Two dedicated stakeholder engagement sessions delivered in 2018/19. Number of stakeholders engaged and feedback received.	All	M DG	30/09/18 and 31/12/18

01/04/18

31/09/18

31/12/18

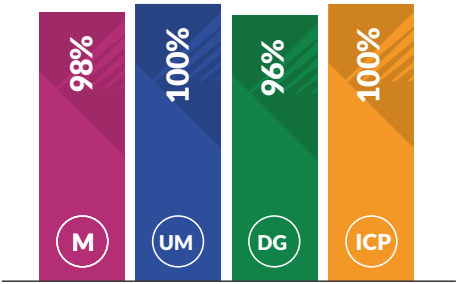
Our Head of Innovation attended a local National Farmers Union (NFU) meeting in York to discuss innovation and more general issues. The outcome of the meeting was that it became apparent that we could do more to engage hard to reach groups of customers, such as those who find it hard to spend extended periods of time away from their work to attend stakeholder forums.

Although we have made great strides forward this year in our use and exploitation of new channels of communications, including webcasts and webinars, there are still groups of customers for whom these channels of communication do not work well and who still would appreciate face-to-face discussions.

Therefore, as an action in this years' service improvement plan, we commit to

engage more with hard to reach customers, including members of the NFU and community energy groups, to discuss the connections process with them in more detail and to listen to and address their needs. During our broad and inclusive consultation on our plans, we received feedback from one of our Stakeholder Panel members which led us to expand the scope of 'hard to reach' stakeholders to include off-grid customers unable to connect to the distribution network.

We commit to hold at least two dedicated engagements with these hard to reach customers during the year. In doing so, this will enable us to better understand their specific needs and help them get connected in a quicker and more efficient way.




Dedicated engagement for hard to reach stakeholders

Source: Explain market research, April 2018



Action

4.1 Theme 4: Technical and commercial innovation
Network constraint and curtailment information

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will conduct a review of the provision of network constraint and curtailment information.	A better understanding and agreement of what the provision of constraint and curtailment information entails.	Review conducted. Customer feedback.	HV	M DG	 31/03/19

01/04/18

31/03/19

Our customers said...

“Likely curtailment levels” I believe should be a main focus for all DNOs for 2017/2018, whether a traditional or flexible connection solution is offered. Heat maps provide broad brush early stage information. Site-specific detailed information is now required on a business-as-usual basis, especially as projects progress towards critical investment decision milestones. No DNO is yet at a stage one could call ‘best practice’.

Graham Pannell, RES
Ofgem consultation on DNOs 2017/18 ICE submissions

The issue of constrained networks is one which is taxing every DNO in the UK, and is the subject of national a debate about curtailment and how to provide constrained network connections.


It is important for generation developers in their assessment of the viability of any proposed project to understand the level of curtailment, if any, they might experience if they accept a connection offer. Although we currently provide operational network information that assists the developer in their assessment of potential levels of curtailment, customers are stressing the importance of this assessment and requesting better quantification of curtailment levels.

Understanding the importance of this subject we have taken note of it in this service improvement plan and committed to conduct a review of the provision of network constraint and curtailment information so that we can be better informed of what the provision of this information entails before we then move forward.



Action

4.2 Theme 4: Technical and commercial innovation
ANM and future flexible solutions

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will continue to engage with customers about our ANM strategy including how, when and where we will be deploying future flexible solutions	Customers will be better informed about our strategy for flexible connection solutions including how, when and where we propose to roll-out those solutions.	Progress communicated. Customer feedback.	EHV HV	DG	 31/03/19

01/04/18

31/03/19

Our customers said...

“Northern Powergrid commit to sharing information about the ANM scheme in Drifffield but stop short of committing to indicating where/when they might be able to replicate this.

Nicola Percival, Innogy Renewables UK Ltd
Ofgem consultation on DNOs 2017/18 ICE submissions

“Very useful webinar - thank you! Could you give any details on where else you will be considering deploying ANM?

David O'Hare, Smarter Grid Solutions,
via email

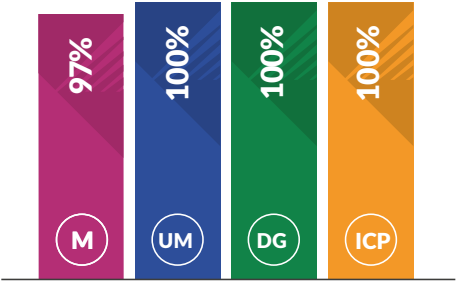
The ongoing development of ANM solutions is important as it enables us to connect as many customers as possible in areas where capacity is constrained but where there is flexibility in the way in which customers can operate their plant and equipment.

We are committed to helping as many customers as possible connect to our network and have made assurances that where necessary we will develop flexible and innovative solutions to address constraints on our network.

We have so far developed our first, replicable ANM scheme, which we have deployed on our network in Drifffield, East Yorkshire. Customers have been interested to know how the scheme works, the cost structure and where and how it could be applied to other areas of our network.

Although we have held an active dialogue with customers throughout the year, this topic still has a long way to go in the development and roll out of the technology. In response to customers' interest, we feel that it is necessary to continue this dialogue going forward.

We have therefore committed in this years' service improvement plan to continue to engage with customers about the development and implementation of our ANM strategy.




Engage on ANM strategy

Source: Explain market research, April 2018

Action

4.3 Theme 4: Technical and commercial innovation
The T/D interface and Statement of Works process

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will continue to work with the Open Networks Project to develop the Statement of Works process and, if required, make changes to our current practices to better support our customers.	Customers will be better informed about the T/D and Statement of Works process.	Progress reported and new policy/process implemented as necessary. Revised process, if required, applied to relevant connection applications.	EHV HV	M DG	 31/03/19

01/04/18

31/03/19

Our customers said...

“The two Scottish DNOs perform a better job of communicating the nature and impact of any transmission issues for a new connection – whether process, queue, delay, liability or design. Both have been open to discussing alternative solutions. Our experience with DNOs in England and Wales is that many frontline connection designers have yet to fully understand and take ownership for the transmission issues affecting their distribution-connecting customers. This includes for example clearly explaining the Statement of Works Appendix G trials, where a project sits in this process and the options available, along with being able to quantify the benefits of the trial.

Graham Pannell, RES
Ofgem consultation on DNOs 2017/18 ICE submissions

The subject of network constraints, in particular those on the National Grid network which impact customers' connections to distribution networks, is an important topic when it comes to customers fully understanding the potential costs involved in connecting the proposed projects.

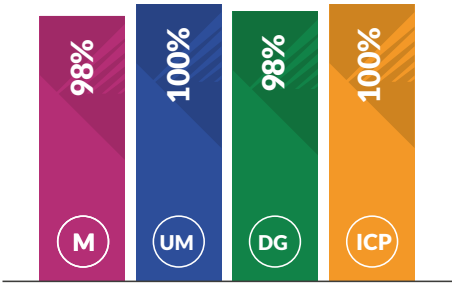
We have continued to play an active role in the activities of the national working group tasked with reforming the Statement of Works process (the process which identifies constraints on the National Grid network). The outcomes of that work so far have been trials taking place at different places across the country to develop an improved process that will give customers greater visibility on the transmission costs and liabilities, as early as possible in the quotation process. The trials have implemented bulk Statement of Works requests, materiality limits, planning limits and regional development programmes.

To date, although none of the trials have been conducted in the Northern Powergrid licence areas, we have been able to learn from the experiences of others and we are now adopting the successful elements of the trials.

In September 2017, we started submitting bulk Statement of Works requests to National Grid. In addition, where we already know that transmission related works will be required, we are now able to move straight to the confirmation of progression stage (also known as a Modification Application or Mod App). In February 2018, we received our first offer from National Grid with materiality limits for Saltend North grid supply point, where we have received high volumes of connection applications.

The work of the nationally sponsored Open Networks Project continues and we continue to play an active role and to act on the outcomes, building them into the service


we offer to our customers. Therefore it is appropriate that we commit to an action in this years' service improvement plan to continue to contribute to the works of the Open Networks Project and where possible make changes to our connections business processes.



Statement of works progress
Source: Explain market research, April 2017

Action

5.1 Theme 5: Enabling competition
Self-service adoption agreements for ICPs

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will develop, trial and if the trial is successful, implement a new self-service adoption agreement process for ICPs.	ICPs will be able to create their own asset adoption agreements using simple agreed templates and submit them to Northern Powergrid for legal completion, further minimising the connection input services we are required to provide.	New ICP self-service adoption agreements implemented. Number of self-service adoption agreements completed and ICP feedback.	All	ICP	 31/08/18

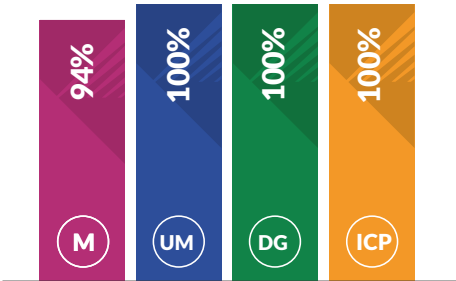
01/04/18

31/08/18

Northern Powergrid continues to actively support the ongoing growth of competition in connections and recognises the requirement to reduce the number of input services that ICPs require from a DNO in providing their customers with a service.

Following feedback from ICPs, we have created a 'self-fill' version of our current adoption agreement that allows ICPs to self-complete, sign and return the document straight to Northern Powergrid, rather than having to wait for us to issue the agreement.

We have already been in discussions with one ICP (GTC) about our proposal. Following this, we believe that this process is one which could benefit all ICPs who operate in our region and, therefore, we have given a commitment in this years' service improvement plan to trial and, if successful, roll out this new process to all ICPs in our region.




Self service for ICPs
Source: Explain market research, April 2017



Action

6.1 Theme 6: Innovation
Better technical guidance for generators

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will publish technical guidance for generators on how to go about making a connection application for hybrid generation-storage site.	Generators will have access to improved technical guidance and be better informed about how to make a connection application for hybrid generation-storage sites.	Guidance published. Document downloads and feedback received.	EHV HV	DG	 31/03/19

01/04/18

31/03/19

Our customers said...



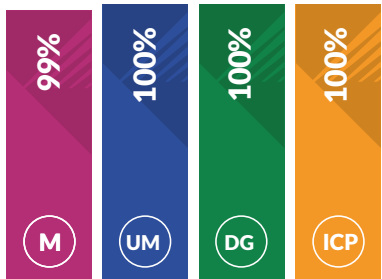
The storage commitments are commendable and we would ask Northern Powergrid to go further and publish guidance for how generators should go about making an application for a hybrid generation-storage sites. Collaboration between DNOs would ensure that this is consistent within and between DNO areas.

Nicola Percival, Innogy Renewables UK Ltd
Ofgem consultation on DNOs 2017/18 ICE submissions

It is important that we provide customers with appropriate information about different technologies that they may wish to connect to the distribution network and their technical parameters, so that when they decide to apply for a connection offer quotation they understand what information they are required to provide.

Having access to and understanding the required information for a connection application can greatly speed up the connection process. Therefore, we are happy to respond positively to the request made for us to improve our application guidance by including information regarding hybrid generation-storage.

We have therefore given a commitment in our service improvement plan to include hybrid storage generation information in our application guidance documents.




Technical guidance for hybrid generation-storage sites

Source: Explain market research, April 2017

Action

6.2 Theme 6: Innovation
Our DSO transition

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will continue to engage with stakeholders on our vision and strategy for our transition to a DSO.	Stakeholders will be better informed and have the opportunity to engage, share their views and shape future outputs.	Vision and strategy shared. Stakeholder feedback.	All	M DG	 31/03/19

01/04/18

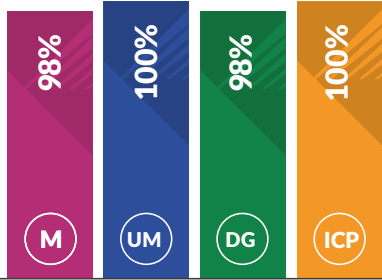
31/03/19

We have actively participated in the activities of the TSO-DSO national working party project, which in 2017 became known as the Open Networks Project. This major industry initiative will transform the way our energy networks work, underpinning the delivery of smart grids and a more flexible energy system.

The project brings together key industry players including electricity grid operators, respected academics, non-Government organisations, government departments and the energy regulator, Ofgem. It will:

- give households, businesses and networks the ability to take advantage of new energy technologies to take control of their energy and lower their costs;
- help underpin business growth, attract investment and deliver real economic benefits to the UK; and
- take a whole energy system approach to designing solutions by consulting with a wide range of stakeholders, including the gas networks, and through an Advisory Group.

The activities of the Open Networks Project are on-going and it is appropriate to continue a dialogue on this subject with our customers so they can fully understand what market opportunities exist and how best they can be exploited in the future as our strategy develops. We have therefore made a commitment in our service improvement plan to keep customers informed about this important topic.




Share vision and strategy for DSO transition

Source: Explain market research, April 2017



Action

6.3 Theme 6: Innovation
Our engagement with flexibility service providers

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Target completion date
We will engage with flexibility service providers to understand any improvements to our connections process that are required to support the continued growth of distributed energy resources such as storage, flexible generation and demand side response.	Stakeholders will be able to engage with our experts and can influence and inform changes to our connection process.	Stakeholder engagement session delivered. Stakeholder feedback.	All	M DG	 30/11/18

01/04/18

31/11/18

The ability of DNOs to connect and manage all types of electrical loads, whether demand or generation, is paramount to the efficient and effective running of a distribution network. We already have actions within our service improvement plan, including a review of the provision of curtailment information and the development of active network management, that seek to ensure as many customers as possible are able to connect to the distribution network.

However, there are more and more flexibility service providers currently in the market that are generating new ideas and bringing further new technologies to bear. Therefore to understand any

improvements that might be required to our connections process to support the continued growth of distributed energy resources such as storage, flexible generation and demand side response, we will engage directly with these providers to understand any new requirements.

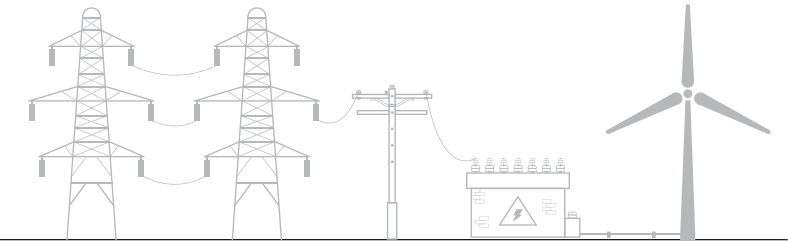
Therefore, we have committed in our service improvement plan to hold a specific stakeholder engagement session to understand further the requirements of flexibility service providers.





Our Looking Back report

In this section of our submission, we focus on the 26 actions in our 2017/18 plan and how we delivered on the commitments we made. We describe how we have engaged with our connections stakeholders to ensure the outputs we delivered met their expectations and improved our overall service. We highlight some of the key activities we have undertaken in the year. We also share what our customers have told us about the improvements we have made.



Introduction to our Looking Back report

When formulating our ICE plans we have always been driven first and foremost by our stakeholders' feedback. We operate a robust programme of engagement which sees every comment, request or issue that is raised by one of our connections stakeholders logged, considered and where appropriate acted upon; whether that be a call from one of our team to discuss an issue, a small change to our business as usual practices or a more significant improvement delivered through the ICE mechanism.

We are also guided by Ofgem's guidance to all DNOs to set stretching targets and to be ambitious in the improvements we propose, and by our stakeholders' assertion that we should set measurable and achievable targets for every action we propose.

In 2017/18, we focused on delivering the activities and outcomes we said we would, when we said we would and, as a result, all 26 improvement actions in our work plan were delivered in line with their forecast completion dates. Wherever possible we tried to over deliver on the commitments we had made, running extra workshop sessions when some were oversubscribed and exploring new ways to communicate with our customers. We were able to deliver three actions ahead of forecast, meaning customers could benefit from the improvement earlier than we had first envisioned.

During the year, we took every opportunity to talk to our customers about the improvements we were making to inform our thinking and ensure we remained on track to deliver the outcomes they

expected. We stepped up our engagement activities to give customers more opportunities to interact with us and utilised new channels of communication including live webcasts and webinars.

The activities we have undertaken, supported by our robust process of stakeholder engagement and consultation, gives us confidence that we have delivered the service improvements that our connections customers expected in this ICE plan year. The results of our annual stakeholder consultation support our position with just under three quarters (73%)¹⁸ of those surveyed stating that our connections service had 'got much better' or 'better' as a result of improvements we have made in the past 12 months.

Our plan for 2018/19 continues to build upon the 26 service improvement actions we delivered in our previous ICE plan year with the focus on storage, the Transmission/Distribution interface and developing future flexible solutions.

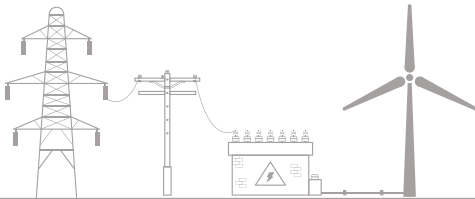
In 2017/18, we focused on delivering the activities and outcomes we said we would, and, as a result, all 26 actions in our work plan were delivered in line with, or before their forecast delivery dates.

In this section:

- ▶ PAGE 48 How we have implemented our engagement strategy
- ▶ PAGE 49 Key engagement activities
- ▶ PAGE 50 Our 2017/18 work plan
- ▶ PAGE 53 Looking back at how we delivered on the commitments we made in 2017/18

¹⁸ Source: Explain telephone survey April 2018





How we have implemented our engagement strategy

During 2017/18 we continued to build upon our robust strategy for connections stakeholder engagement.

Driven by feedback from our customers on the ways they want to engage with us, we introduced a new programme of workshops focusing on emerging connections topics; increased our social media presence and utilised new channels for communication, such as webinars and webcasts.

Our connections team continues to facilitate the early phase engagement and upfront discussions that help customers understand the feasibility of their projects and our monthly connections and ICP surgeries continue to prove popular.

Our stakeholders agreed, with 88%¹⁹ of those surveyed confirming that we engage with our connections stakeholders and facilitate joint discussions²⁰.

“The biggest thing was when we rang up to ask questions. The call centre and the ladies working there. When I spoke to them, they were fantastic. I couldn’t ask for any more.”
Darren Shell, Maxbox Developments Ltd
our broad and inclusive stakeholder consultation on ICE, April 2018²¹

A snapshot of activities in 2017/18

74,000
WEBSITE
HITS

www.northernpowergrid.com
/getconnected

**CONNECTIONS
CUSTOMER
ENQUIRIES**

68,900
answered by our
CALL CENTRE

5,800
customers

connections
stakeholders
receiving
regular email
communications

51
'Ask the Expert'
online enquiries

Monthly connections
customer and

ICP
surgeries

Quarterly
stakeholder panel
meeting

monthly
medium & large works

★★★★★

**satisfaction
SURVEY**

2 Connections
customer Forums

2 ICP seminars

8 Connections
customer workshops

4 Twitter
Q&A sessions

4 Connections
webinars

2 Live webcasts

FOLLOWERS

9,297

19,934

6,395

¹⁹ Source: Explain telephone survey April 2018

²⁰ Source: Explain telephone survey April 2018

²¹ Source: Explain telephone survey April 2018

Activities and interactions	Q2 2017			Q3 2017			Q4 2017			Q1 2018		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Northern Powergrid Strategic Stakeholder Engagement Group (SSEG)					✓	✓	✓	✓	✓	✓	✓	✓
Northern Powergrid Stakeholder Panel	✓			✓			✓			✓		
Northern Powergrid Connections Customer Forum	✓							✓				
Northern Powergrid ICP Seminar			✓					✓				
Connections customer surgeries	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ICP surgeries	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Social media 'Ask the Expert' Q&A sessions (ICE action 1.2)			✓			✓			✓			✓
- Making a connection application			✓									
- Our DSO transition						✓						
- Our generation and demand heat maps									✓			
- Connecting Low Carbon Technologies												✓
Connections workshops (ICE action 3.1)												
- Local energy systems			✓									
- Domestic energy storage						✓		✓				
- Assessment & Design fees								✓				
- Connecting Electric Vehicles												✓
Sharing our vision on our transition to a DSO (ICE action 6.2)	✓			✓		✓		✓				
Accessing network records workshops (ICE action 1.5)				✓				✓				
Unlocking the future of energy stakeholder events									✓	✓		
ANM updates (ICE action 6.5)	✓							✓			✓	✓
Stakeholder communications (email, web, social media)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Yorkshire Public Lighting Authorities unmetered services meeting			✓				✓				✓	
Early phase engagement with Local Authorities on current and emerging connections topics	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Annual 'National Parks for the Future' conference							✓					
Meetings with representatives from our National Parks and AONB	✓						✓	✓	✓	✓		✓
Early phase engagement with developers on battery storage and generation projects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Interactions with the HS2 Rail Link team					✓							
Low Carbon Network and Innovation (LCNI) conference								✓	✓	✓	✓	✓
IET workshop on adapting to new technologies and moving towards a smarter grid								✓				
ENA Distributed Generation/DER Forum						✓						

Theme	Area for improvement	Action	The outcome for customers	Performance metric	Our measure of impact/success	Voltage	Status	Applicable to				Q2 2017			Q3 2017			Q4 2017			Q1 2018			More info on this action
												Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1.0 Provision of information	1.1 Digital communications	We will trial recording the content of our connections forums and workshops and posting it to the web.	Customers will be able to view content from Northern Powergrid events at a time that suits them.	Two connections forums recorded and posted to web by Q3, 2017.	Number of YouTube views and customer feedback.	All	Completed to forecast	M	UM	DG	ICP	◆					◆							PAGE 53
	1.2 Social media	We will trial social media 'Ask the Expert' Q&A sessions on topics identified by our connections customers.	Customers will have access to Northern Powergrid subject experts and will be able to pose questions and receive answers in real-time.	Four social media Q&A sessions held, one per quarter.	Number of customers participating and customer feedback.	All	Completed to forecast	M	UM	DG	ICP	◆		◆			◆			◆			◆	PAGE 54
	1.3 Timescales for protection settings	We will conduct a formal business process review on the provision of protection setting information to our customers, with a view to developing service solutions that close any performance gaps identified.	Implementation of a revised process to provide customers with protection setting information in a more timely manner following the acceptance of a connection offer.	Formal business review completed and revised process implemented where necessary.	Customers issued settings within agreed timescales.	HV	Completed to forecast	M		DG		◆											◆	PAGE 55
	1.4 Implementation of contract milestones	We will produce a simple guide to the implementation of new contract milestones.	Customers will have a guide that explains the new milestones being implemented in Northern Powergrid connections contracts.	Guide produced and published on web.	Customer feedback.	EHV HV	Completed to forecast	M	UM	DG	ICP	◆				◆								PAGE 56
	1.5 Access to mains records	We will hold a workshop open to all customers on how to access our mains records.	Customers will understand how to access Northern Powergrid's mains records.	Workshop held.	Customer feedback.	All	Completed to forecast	M	UM	DG		◆					◆							PAGE 57
	1.6 Contracted capacity register	We will create a new contracted capacity register webpage that features an archive of previous registers in excel and pdf formats.	Customers will have access to historical information in the formats they require.	Webpage live and information available.	Customer feedback.	EHV	Completed to forecast			DG			◆		◆									PAGE 58
2.0 Improving our application and delivery processes	2.1 Storage applications	We will modify the G59 application form on our website to include an option to connect energy storage.	Customers will have a quick and easy method of applying for an energy storage connection online.	G59 form modified and new option available.	Number of applications made using the new process.	EHV HV LV	Completed to forecast			DG			◆							◆				PAGE 59
	2.2 Distributed generation connections	We will create a quick cost calculator for generation connection applications and make it available on our website.	Customers will be able to obtain an upfront, indicative cost for their generation connection.	Generation calculator available online.	Usage rates and customer feedback.	HV LV	Completed to forecast			DG			◆							◆				PAGE 60
	2.3 Multi-optioneering service	We will create a new page on our website that promotes our multi-optioneering service and explains the process to customers.	Customers will be made aware of the multi-optioneering service available to them and given a better understanding of the process and how to access it.	New web page available online.	Webpage usage and customer feedback.	EHV HV	Completed to forecast	M		DG		◆		◆										PAGE 61
	2.4 MPAN online service (who's my energy supplier?)	We will benchmark our find my MPAN online service against other DNOs and make improvements as required.	Customers will be able to locate MPANs more quickly and will have more accurate information.	System benchmarked and improvements made if necessary.	Customer feedback on any changes made.	All	Completed to forecast	M	UM	DG	ICP	◆											◆	PAGE 62
	2.5 EHV quotations	We will add a front page summary to EHV quotations.	Customers will be able to see all key information contained in their offer at a glance.	Summary front page added to all EHV quotations.	Customer feedback.	EHV	Completed early	M		DG								◆			◆		◆	PAGE 63

Theme	Area for improvement	Action	The outcome for customers	Performance metric	Our measure of impact/success	Voltage	Status	Applicable to	Q2 2017			Q3 2017			Q4 2017			Q1 2018			More info on this action
									Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
3.0 Improving our communication and engagement	3.1 Targeted workshops	We will hold targeted workshops on emerging connections topics suggested by our customers.	Customers will be able to shape our workshop programme and gain access to Northern Powergrid subject experts.	Four targeted workshops held, one per quarter.	Attendee numbers and feedback from events.	All	Completed to forecast	M UM DG ICP	◆		◆			◆			◆			◆	PAGE 65
	4.1 Assessment and Design (A&D) fees	We will continue to contribute to the national debate on A&D fees and keep our customers informed of the outcomes. On conclusion of the BEIS consultation, we will implement any changes to our existing policies or practices required and communicate these to our customers.	Customers will be kept informed on the outcome of the national A&D fees debate. We will revise our approach to A&D fees as necessary.	Progress reported and new policy and processes implemented as necessary.	Revised processes applied to all relevant connection applications.	All	Completed to forecast	M DG	◆											◆	PAGE 67
	4.2 Transmission/ Distribution (T/D) interface	We will continue to support customers through the T/D interface and engage on their behalf in the activities of the national working parties. Where necessary, we will implement changes to our existing policies and working practices to reflect best practice recommendations.	Customers will be better informed and supported through the T/D interface.	Progress reported and new policy and processes implemented as necessary.	Revised processes applied to all relevant connection applications.	EHV	Completed to forecast	M DG	◆											◆	PAGE 69
	4.3 Undergrounding of networks in Areas of Outstanding Natural Beauty (AONB)	We will engage in a discussion with Ofgem on behalf of our stakeholders on the treatment of the costs for undergrounding of rural network in AONB.	Improved visual impact of the distribution network in AONB whilst optimising the use of the ED1 allowance to carry out such works.	Discussion held with Ofgem on whether AONB ED1 allowances can be incorporated into the provision of connections.	Number of customer connections in AONB incorporated into the programme of undergrounding.	All	Completed to forecast	M UM DG ICP			◆									◆	PAGE 70
5.0 Enabling competition	5.1 ICP input services	We will develop an end-to-end process map that covers all aspects of our input services and explains how ICPs can interface with us more effectively.	ICPs will have a better understanding of the input services Northern Powergrid provide and how best to access them.	End to end process map produced and published.	Customer feedback on changes made.	All	Completed to forecast	ICP	◆		◆										PAGE 71
	5.2 ICP input services	Publish a schedule of rates for the input services available to ICPs so that they can pick and mix the services they require.	ICPs will have a better understanding of the costs of input services Northern Powergrid provide.	Schedule of rates produced and published.	Customer feedback on changes made.	All	Completed to forecast	ICP		◆	◆										PAGE 72
	5.3 ICP design matrix	We will update our standard design matrix rules to include unmetered connections and simplify the technical specification.	The action will extend the scope and ease with which ICPs can self-determine point of connections.	Updated standard design matrix produced and published.	Customer feedback on changes made.	LV	Completed early	UM ICP			◆			◆			◆				PAGE 73

Key: ◆ Action starts Our forecast timescale for completion ◆ Forecast completion date ◆ Actual completion date

M Metered demand
UM Unmetered customers
DG Distributed generation customers
ICP Independent Connections Providers

Theme	Area for improvement	Action	The outcome for customers	Performance metric	Our measure of impact/success	Voltage	Status	Applicable to	Q2 2017			Q3 2017			Q4 2017			Q1 2018			More info on this action
									Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
5.0 Enabling competition	5.4 ICP design approvals	We will publish the average time it takes us to issue ICP point of connection and design approvals on our website.	Customers will have visibility on the time it takes Northern Powergrid to issue point of connection and design approvals to ICPs.	Data published every quarter.	Webpage usage and customer feedback.	All	Completed to forecast	M UM DG ICP	◆		◆										PAGE 74
	5.5 Independent inspections	We will secure long term independent inspection services to inspect SLC15 and Section 16 connections delivery operations.	All installed connections assets will be inspected in the same manner by an independent organisation.	Percentage of independent quality assurance inspections carried out on Northern Powergrid and ICPs and non-conformance rate from acceptance.	Independent quality assurance inspections carried out.	All	Completed to forecast	M UM DG ICP			◆			◆							PAGE 75
6.0 Innovation	6.1 TSO / DSO roles	We will continue to support and contribute to the national working party on the development of TSO/ DSO roles and keep customers informed of the outcomes.	Customers will be better informed about the development of TSOs and DSOs.	Communicate the outcomes of the national working party on TSO/DSO to our customers.	Customer feedback.	All	Completed to forecast	M												◆	PAGE 77
	6.2 Distributed Network Operator (DNO) to Distributed System Operator (DSO)	We will share our vision for the transition of DNOs to DSOs. We will describe the work taking place at Northern Powergrid and seek our customers' views on how to shape the outputs of this work.	Customers will be kept informed about Northern Powergrid's transition and will have the opportunity to engage and shape future outputs.	Vision and strategy shared with interested stakeholders.	Customer feedback.	All	Completed to forecast	M UM DG ICP	◆					◆							PAGE 79
	6.3 Energy storage connections offers	We will engage with storage developers to create a suite of standard storage service offers.	The application process will become easier and more understandable.	Suite of storage offers developed and available for use.	Number of applications made using new process and customer feedback.	EHV HV	Completed to forecast													◆	PAGE 81
	6.4 Energy storage case studies	We will develop and publish case studies that share future use cases and applications for energy storage.	Customers will have access to a suite of energy storage case studies to help shape their future business plans and direction.	Two case studies produced and published on our website.	Customer feedback.	EHV HV	Completed to forecast								◆					◆	PAGE 82
	6.5 Active Network Management (ANM)	We will engage with customers on the progress of our first replicable ANM scheme in Driffield, South East Yorkshire.	Customers will understand how the Driffield ANM scheme works, the network communications, charging policy and how it can be applied to other areas of the Northern Powergrid network.	Progress communicated.	Customer feedback.	All	Completed to forecast													◆	PAGE 83
	6.6 Connecting Low Carbon Technologies (LCTs)	We will develop and launch a new Low Carbon Connection Gateway on our website.	Customers will have access to a new resource that provides information on different types of LCTs, how to apply for a connection and when to notify Northern Powergrid about their installation.	New Low Carbon Connection Gateway available on our website	Webpage usage and customer feedback.	All	Completed early								◆				◆	◆	PAGE 84

Key: ◆ Action starts Our forecast timescale for completion ◆ Forecast completion date ◆ Actual completion date

M Metered demand
UM Unmetered customers
DG Distributed generation customers
ICP Independent Connections Providers

Action

1.1 Theme 1: The provision of information
New channels for engagement

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will trial recording the content of our connections forums and workshops and posting it to the web.	Customers will be able to view content from Northern Powergrid events at a time that suits them.	Two connections forums recorded and posted to web by Q3 2017. Number of YouTube views and customer feedback.	All	<div><div>M</div><div>DG</div><div>UM</div><div>ICP</div></div>	<div><div>✓</div><div>Complete to forecast</div></div>

01/04/17

30/09/17

Outputs achieved

- ✓ We recorded the presentations made at three of our connections events by end of Q3 2017, thereby over delivering on the commitment we made.
- ✓ Since they were uploaded to our YouTube site, our suite of videos has been viewed a total of 1,426 times²².
- ✓ We were the first DNO to webcast our presentations live from a connections event.

Customers will often ask us for copies of the slides presented at our engagement events, to revisit and remind themselves of the content presented at a later date. We also understand from feedback we received that some of our customers find it difficult to attend our forums due to time or financial constraints. To address this, we made a commitment to film key presentations made at our connections events and make them available on the web. This would allow customers to watch the presentations at a time that suits them and create a reference library of information.

In line with the commitment we made, we filmed the presentations made at our Connections Customer Forum in April 2017 and our ICP Seminar in June 2017 and posted them on our YouTube channel²³. We also filmed at our first connections workshop which took place in June; thereby over delivering on the commitment we made. The videos were promoted on our website and via our social media channels. We also sent an email to all

our connections customers and ICPs to inform them about this new resource that was available to them.

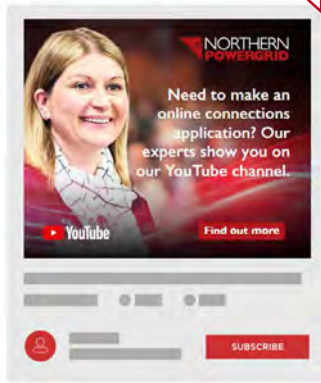
Customers supported our commitment and recognised the benefits, and so we have continued to film key presentations from our connections events and make them available online. We began to use webinars to share information with customers unable to attend our events and, in November 2017, we became the first DNO to webcast live from a connections event, with 25 customers registering to watch the presentations made on the day.

We have found that utilising new communication channels has enabled us to share information with a broader range of stakeholders. Looking forward, we will continue to evaluate new ways to communicate with our customers and to discuss with them how useful they find these new channels of engagement and interaction.

Our customers said...

“ We very much support the idea of recording webinars and connections forums. This will allow those unable to attend to get the benefit of hearing the information first hand, and also allow attendees to revisit sections of these events to refresh memory.

Nicola Percival,
Innogy Renewables UK Ltd.
Ofgem consultation on
DNOs ICE submissions



✉ You can watch the presentations made at our connections customer events on our YouTube channel www.youtube.com/user/NorthernPowergrid

²² Figure correct as of April 30, 2018

²³ <https://www.youtube.com/user/NorthernPowergrid>

Action

1.2 Theme 1: The provision of information
Making our experts available online

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will trial social media 'Ask the Expert' Q&A sessions on topics identified by our connections customers.	Customers will have access to Northern Powergrid subject experts and will be able to pose questions and receive answers in real-time.	Four social media Q&A sessions held, one per quarter. Numbers of customers participating and customer feedback.	All	<div><div>M</div><div>DG</div><div>UM</div><div>ICP</div></div>	<div><div>✓</div><div>Complete to forecast</div></div>

01/04/17

27/06/17

06/09/17

13/12/17

20/03/18

Outputs achieved

- ✓ We hosted an 'Ask the Expert' Twitter Q&A session each quarter.
- ✓ We sent an email to >5,400 connections customers in June 2017, inviting them to take part in our first Q&A.
- ✓ We promoted all Q&A sessions via our social media channels.

One of our customers asked us if we could do more internet based Q&A sessions. We thought this was a good suggestion and the customers we surveyed broadly agreed²⁴.

We made a commitment to trial 'Ask the Expert' Q&A sessions, where senior members of our team would be available on Twitter to answer questions from customers on current and emerging connections topics. During the course of the ICE plan year we delivered on our commitment, holding four Twitter Q&As, one per quarter, on topics suggested by our customers. These included our application process, our DSO transition, heat maps and connecting low carbon technologies.

We noted a relatively low response rate to these Q&As in comparison to our other communication channels and so we changed the format of our third Q&A (on heat maps) to include an information sharing webinar. Although we answered five questions during the live webinar, there were no questions asked during the hour long Twitter Q&A that followed.

Overall, we answered only one customer question during the four Q&A sessions we ran. Our experience suggests that our customers prefer to use other channels to interact with us. Webinars in particular proved popular and are something we will factor into our strategy going forward.

Our customers said...

“ I am very happy Northern Powergrid has taken on board the comments about employing modern information technology to widen the understanding of how they are progressing with, and carrying out the principals of ICE.

Ian Fothergill, NIFES
via email, April 2018

Continue using webinars for their events. It makes it easier for accessing these for someone based in the South.

Harriet Burrell-Knipe,
RAW Energy
our broad and inclusive consultation with stakeholders on ICE, April 2018²⁶



²⁴ Figure correct as of June 2017

²⁵ Source: Explain telephone survey March/April 2017

²⁶ Source: Explain telephone survey, April 2018

Action

1.3 Theme 1: The provision of information Timescales for protection setting information

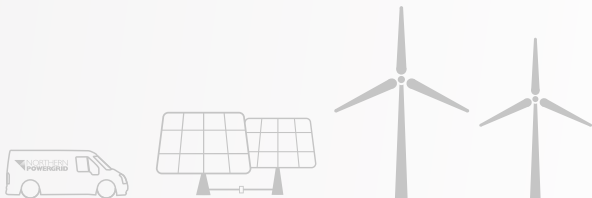
Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will conduct a formal business process review on the provision of protection setting information to our customers, with a view to developing service solutions that close any performance gaps identified.	Implementation of a revised process to provide customers with protection setting information in a more timely manner following the acceptance of a connection offer.	Formal business review completed and revised process implemented where necessary. Customers issued settings within agreed timescales.	HV	M DG	Complete to forecast

01/04/17

29/03/18

Outputs achieved

- ✓ We completed a formal review and comparison to other DNOs.
- ✓ We designed and implemented a new fit-for-purpose business process.
- ✓ Following acceptance of a connections offer, we now provide customers who request it with protection setting and fault level information within 30 days.



Customers told us that following acceptance of a connection offer and the mobilisation of the construction phase of a project, it is important to have access to protection settings and fault levels in a timely manner.

Other DNOs have set a standard timeframe in which customers can expect to receive this information. We made a commitment to review our own business process and introduce a similar process that would address our customers' needs.

Following an internal review of our business processes and consideration of other DNOs' practices, we have introduced a new process for the provision of protection setting and fault level information for enquiries related to individual network sites. We now provide customers

with this information within 30-days of the request being made. We hope that by fulfilling this commitment we will help our customers progress their projects in a timelier manner.

Since the new process went live in March 2018, we have received five requests for protection information from EHV customers, of which two have been responded to within the 30-day target and the other three are yet to provide further information. We have also received seven requests for protection information from HV customers, of which six have been responded to within the 30-day target and we are waiting for the other one to provide necessary information²⁷.

²⁷ Figure correct as of May 23, 2018

Action

1.4 Theme 1: The provision of information Understanding contract milestones

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will produce a simple guide to the implementation of new contract milestones.	Customers will have a guide that explains the new milestones being implemented in Northern Powergrid connections contracts.	Guide produced and published on web. Customer feedback.	EHV HV	M DG	Complete to forecast

01/04/17

31/08/17

Outputs achieved

- ✓ We produced a simple guide to contract milestones for customers and published it on our website.
- ✓ Since the guide was published in August 2017, it has been downloaded 294²⁸ times.

An important issue for the electricity industry is the availability of connection capacity. There have been many discussions at a national level about the availability of capacity and, importantly, the role DNOs can play in ensuring that as much capacity as possible is available for customers who wish to connect to the distribution network.

Ofgem decided that connection customers in general would benefit from a regime which allows capacity that had previously been allocated to a customer to be withdrawn if there was a lack of progress such that the capacity was not being used as originally intended.

As an industry, we introduced effective new milestones that would give DNOs the ability to reallocate sterilised capacity.

It is important that our customers understand how these contract milestones work as they can have an impact on their projects. Last year, along with other DNOs, we contributed to the development of the ENA best practice guide on the implementation of new contract milestones²⁹. At one of our Connections Customer Forums a customer asked us for a simple guide to these new contract milestones that he could share with his clients to help them understand the new process and any associated risks. We therefore made a commitment to develop our own simple guidance to how contract milestones work.

We produced a simple guide to contract milestones in August 2017, we then published and promoted it on our website.

✓ You can read our simple guide to contract milestones at: <http://www.northernpowergrid.com/downloads/3664>



²⁸ Figure correct as of April 30, 2018

²⁹ <http://www.energynetworks.org/assets/files/news/publications/Reports/ENA%20Milestones%20best%20Practice%20Guide.pdf>

Action

1.5 Theme 1: The provision of information
Accessing network records

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will hold a workshop for connections customers on how to access Northern Powergrid's mains records.	Customers will understand how to access Northern Powergrid's mains records.	Workshop held. Customer feedback.	All	M UM DG	Complete to forecast

01/04/17

30/08/17

Outputs achieved

- 24 connections customers attended our workshop in August 2017.
- 100% of attendees who responded said they found the workshop 'useful' or 'very useful'.
- We held a follow up workshop in November 2017, thereby over delivering on the commitment we made.

We continue to support and facilitate competition in connections. We understand that for customers and their representatives to be able to prepare designs for contestable works, it is important that our network information is readily available and accessible to those who want to use it.

In March 2017, our Connections Input Services Team ran a workshop for ICPs on how to access our network records. Following that, we received requests from our metered demand and unmetered customers for a similar event.

We made a commitment in our 2017/18 ICE plan to hold a further workshop, where we could explain the process of obtaining our network record information, improve our customers' understanding of that information and help them overcome any issues or difficulties they might have experienced when accessing it.

In August 2017, we ran a successful workshop attended by 24 connections customers. Attendees were given a demonstration on how to access our network records system and an overview of the information currently available. They were also given a preview of our new IT solution that will modernise the way in which distribution asset records and associated data can be accessed and viewed online in the future.

The workshop proved extremely popular, with all the available places filled within an hour of the invitation being issued. Demand was so high that we decided to run a follow up session for customers who were unable to attend. We ran a second workshop at our Connections Customer Forum in November 2017 and made the slides presented available to customers who wanted to refer to them at a later date. We will continue to engage with

Our customers said...

Very informative and positive.

James Kostyszyn
Keepmoat Homes
after event feedback form

What could you have improved upon? - Nothing, the demos on the system were really useful. Future training on the new system would probably be beneficial.

Katie Rumble
Hellens Group
after event feedback form

customers to provide information and training as our new IT solution is introduced.

You can view the slides from our accessing network records workshop at <http://www.northernpowergrid.com/downloads/3978>

Action

1.6 Theme 1: The provision of information
New contracted capacity register

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will create a new contracted capacity register webpage that features an archive of previous registers in excel and pdf formats.	Customers will have access to historical information in the formats they require.	Webpage live and information available. Customer feedback.	EHV	DG	Complete to forecast

01/05/17

07/07/17

Outputs achieved

- We launched a new contracted capacity register webpage to help customers locate the data more easily.
- We created an archive of historical capacity registers and provide the data in both pdf and Excel formats every month.
- Since it was launched in July 2017, the webpage has been visited 243 times³⁰.

Our contracted capacity register provides a list of generators that are connected to our network and details of accepted projects. It also details the type of generation, capacity, point of connection, voltage and the associated substation/grid.

In our 2016/17 ICE plan, we made a commitment to update the information in our contracted capacity register every month. Following that, we received a request from Nicola Percival of Innogy Renewables UK Ltd. to take this commitment further.

We were asked if we could to create an archive of the previous month's registers and to provide the information in Excel format. We thought this was a good suggestion and included a new action in our mid-year update to create a page on our website featuring an archive of contracted capacity register data. We also committed to provide the information in Excel format to allow

customers to access, manipulate and understand the data more easily.

We delivered our commitment, launching a new page on our website. The information contained there is updated monthly and provided in Excel and PDF formats. It also features the archive of historical capacity registers as requested by our customer.

For more information visit www.northernpowergrid.com/contracted-capacity-register

Our customers said...

When contacted by NPg to be told that our feedback had yielded positive change I gave additional feedback on the way this information was presented which was acted upon very quickly to get an even better result.

Nicola Percival
Innogy Renewables UK Ltd.
via email



³⁰ Figure correct as of April 30, 2018

Action

2.1 Theme 2: Improving our application and delivery process
Storage applications

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will modify the G59 application form on our website to include an option to connect energy storage.	Customers will have a quick and easy method of applying for an energy storage connection online.	G59 form modified and new option available. Number of applications made and new option available.	EHV HV LV	DG	Complete to forecast

01/05/17

22/12/17

Outputs achieved

- ✓ We modified our G59 application form and created a new option on our online application page to connect energy storage.

The G59 regulations govern the connection of any form of generator device that runs ‘in parallel’ or which is ‘synchronised’ with the distribution network. The G59 regulations apply to all types of generators, and therefore, as new technology is developed and introduced it is important that our connection application processes keep abreast of this technology. This will ensure it is easy for customers to request a connection using the new technology.

Following feedback from a customer who was struggling to understand how to make an application for a battery storage system, we made a commitment to improve our process. To that end, we changed the G59 application form that is available to customers and modified our online application process to enable customers to include details of storage battery devices they wish to connect.

Having delivered this commitment, we believe that the improvements we have made will make it easier for customers to apply for a storage connection. Looking forward, we will seek to make further changes to the application process to keep abreast of different technologies as they are adopted.

Having delivered this commitment, we believe that the improvements we have made will make it quicker and simpler for customers to apply for a new storage connection. Since the new online application process went live in December 2017, we have processed one³² application. Looking forward, we will continue to engage with stakeholders about new technologies they are seeking to connect to our network and update our application processes accordingly.

Our customers said...

“ I have been using the NPg on-line service to submit budget estimate and connection offer applications for the last few years and find it to be user friendly. I like that applications are stored for future reference and that you can dip in and out of any application if need be. The addition to allow Energy Storage schemes to also submit applications is no different and if customers are used to filling in the information needed for such schemes, they will have no problems using this NPg on-line service. I would certainly recommend it to others. Morgan Donnelly, REG Windpower Management via email

³¹ Figure correct as of April 30, 2018

Action

2.2 Theme 2: Improving our application and delivery process
Distributed generation connections

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will create a quick cost calculator for generation connection applications and make it available on our website.	Customers will be able to obtain an upfront, indicative cost for their generation connection.	Generation calculator available online. Usage rates and customer feedback.	HV LV	DG	Complete to forecast

01/05/17

12/12/17

Outputs achieved

- ✓ We developed a quick cost calculator for generation connections and launched it on our website.
- ✓ Since the new tool was launched in December 2018, it has been used 539 times³².

Our DG customers told us that it would be helpful to have an early indication of the cost of their generation connection, as it would help them to understand the financial viability of their proposed project.

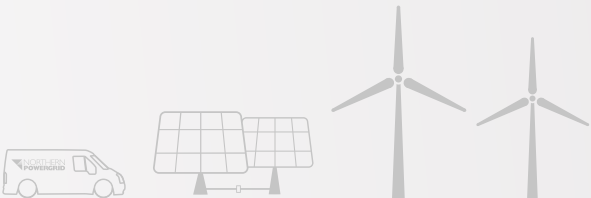
We already run monthly connections surgeries where customers can sit down with our engineers to have an upfront discussion about a planned connection project, including the likely timescales and costs. However, following feedback and to help our customers further during the important project scoping stage, we said we would develop an online calculator to enable generation customers to obtain an indicative cost and timescale for connection schemes up to 8MW, covering different types of technologies, from solar PV to battery storage (a ‘DG calculator’). 8MW is the threshold for EHV connections, after which a self-service budget estimate process is difficult to achieve due to the bespoke nature of such large connections.

We launched our online DG calculator in December 2017, fulfilling the commitment we made. Customers can now use our generation

availability heat map, with its simple red, amber, green traffic light system to locate areas of our network with the capacity to accommodate their generation connection, measure the route from our substation to their development and use the DG calculator to quickly calculate an indicative cost.

This is another way in which we are extending the provision of information we make available to our customers to help them make informed, upfront decisions on where it is most feasible to connect to our network. We have also made the new calculator fully compatible with smart phones and tablets so the information is always at our customers’ fingertips.

🔗 You can try our new DG calculator at <http://www.northernpowergrid.com/budget-generation-calculator>



³² Figure correct as of April 30, 2018

Action

2.3 Theme 2: Improving our application and delivery process
Multi-optioneering service

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will create a new page on our website that promotes our multi-optioneering service and explains the process to customers.	Customers will be made aware of the multi-optioneering service available to them and given a better understanding of the process and how to access it.	New web page available online. Webpage usage and customer feedback.	EHV HV	M DG	Complete to forecast

01/04/17

28/07/17

Outputs achieved

- ✓ We launched a new webpage to make customers aware of the multi-optioneering service we offer and how to access it.
- ✓ We promoted the new page on our website and via our social media channels.
- ✓ Since the new webpage was launched in August 2017, it has been accessed 26 times³³.

In 2016 we introduced a multiple design application optioneering service, similar to Scottish Power's Quote+ process, which allows customers to consider multiple connections solutions whilst maintaining their position in the formal connections queue.

During discussions at our Connections Customer Forum in November 2016, it became evident that many of our customers were not aware we provided this service. To address this, we said we would create a new page on our website which explains our multi-optioneering process step by step, including how to apply.

We delivered this commitment in August 2017 and promoted the new page on our website homepage; via our social media and in our communications to customers.

✉ You can visit www.northernpowergrid.com/multiple-application-optioneering-process for more information on the service we offer.

Our customers said...

“ I am very pleased that NPg listened and took on board my suggestion at a recent Connections Forum. This has now become a service improvement commitment in their ICE report which will lead to improved communication between NPG and connections customers.

Paul Leeuwerke
Utility Consulting and Engineering via email



³³ Figure correct as of April 30, 2018

Action

2.4 Theme 2: Improving our application and delivery process
Who's my energy supplier?

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will benchmark our find my MPAN online service against other DNOs and make improvements as required.	Customers will be able to locate MPANs more easily and will have more accurate information.	System benchmarked and improvements made if necessary. Customer feedback on any changes made.	All	M DG UM ICP	Complete to forecast

01/05/17

08/03/18

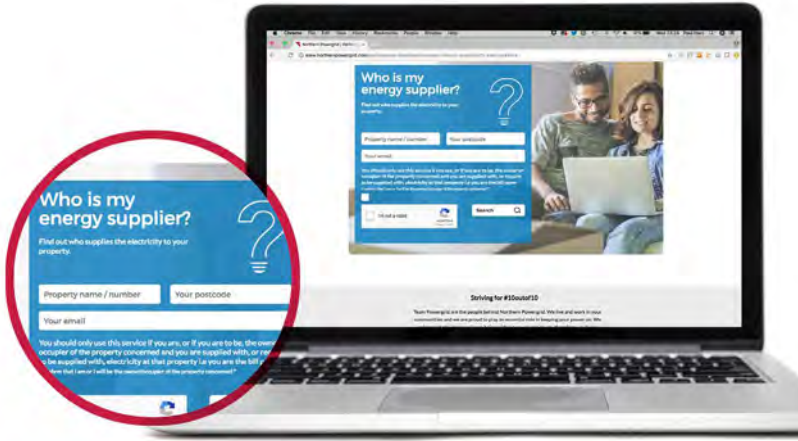
Outputs achieved

- ✓ We benchmarked our service each quarter against that offered by other DNOs.
- ✓ We concluded that our service compared well to the other offerings.
- ✓ We made a few minor improvements that made using the service quicker, easier and more secure.

During one of our Connections Customer Forums in 2016, we received feedback about our online service that allows users to identify their energy supplier and MPAN³⁴ number. We looked at the service provided by other DNOs and in August 2016 we made improvements to our own service so that it was more user-friendly.

We also committed to benchmarking our service against other DNOs and to make improvements as required. During the ICE plan year we have compared our service each quarter against the other DNOs' services.

All DNOs use the same source data – which is updated daily - to update MPAN systems, giving us confidence that our users had access to the most up-to-date and accurate information. We concluded that our service compares well and that we did not need to make any significant changes. We have made some minor improvements, such as making the service more prominent on our website³⁵ and enhancing the security of our customers' personal data.



³⁴ A Meter Point Administration Number, also known as an MPAN, electricity supply number or supply number is a 13-digit reference. A MPAN is used to uniquely identify every electricity supply point in the country.

³⁵ www.northernpowergrid.com

Action

2.5 Theme 2: Improving our application and delivery process
Summary page for EHV quotations

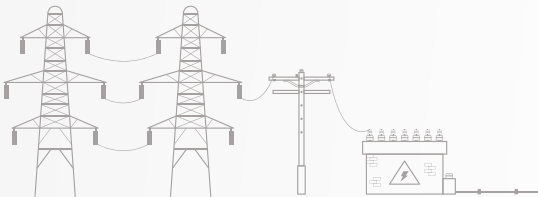
Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will add a front page summary to EHV quotations.	Customers will be able to see all key information contained in their offer at a glance.	Summary front page added to all EHV quotations. Customer feedback.	EHV	<div>M</div> <div>DG</div>	<div>✓</div> Completed early

31/10/17

31/01/18

Outputs achieved

- ✓ We added a summary of key information from the connection offer to the front page of all our EHV quotations.
- ✓ Since the new standards were introduced in January 2018, we have issued 53 EHV quotations using the new format.



At our Connections Customer Forum in April 2017, we asked attendees to tell us three things we could do to improve our overall connections service. Rickard von Poten of Suncredit suggested adding a front cover to our grid connection offers that featured key information cited in the quotation.

We thought this was a good suggestion and something that we could implement quickly, so we made a commitment in our October mid-year update to add a front page summary to all EHV quotations. The summary page provides a snapshot of key information presented in the offer including the capacity, costs and connections date. We moved quickly to introduce this new standard and since January 2018, ahead of our target completion date, all our EHV quotations now feature a front page summary featuring key information presented in the offer.



Action

3.1 Theme 3: Improving our communication and engagement
Connections workshops

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will hold targeted workshops on emerging connections topics suggested by our customers.	Customers will be able to shape our workshop programme and gain access to Northern Powergrid subject experts.	Four targeted workshops held, one per quarter. Attendee numbers and feedback from events.	All	<div><div>M</div><div>DG</div><div>UM</div><div>ICP</div></div>	<div><div>✓</div><div>Complete to forecast</div></div>



Outputs achieved

- ✓ We ran four connections workshops exploring emerging connections topics, one per quarter.
- ✓ We asked our customers to tell us about the topics they wanted us to cover.
- ✓ In total, **114** customers attended the four connections workshops we ran.
- ✓ Some workshops proved so popular we ran them on more than once.

Our customers asked us whether we could run workshops on emerging connections topics. We already run a twice-yearly Connections Customer Forum which provides an overview of what’s happening in our industry and our business. However, we thought the suggestion of smaller, subject specific workshops where customers could engage with our experts and other likeminded individuals, was a good one.

We made a commitment to run four workshops, one per quarter, on topics suggested by our connections customers. In reality, some of our workshops proved so popular that we chose to re-run them for a second time.

Our first workshop took place in June 2017 and explored the topic of local energy supply of electricity (i.e. local customers purchasing energy from local electricity generation suppliers). At this workshop, as part of the wider programme of activities, our Head of

Connections Services led a surgery for stakeholders struggling to understand our connections process.

Our second workshop on domestic energy storage held in September 2017 proved the most popular, with all available spaces filled within the first few hours of us announcing the event. This was one of the workshops that we chose to re-run (in November 2017) for customers on our waiting lists. The workshop, which focused on current and emerging solutions and what we could do to facilitate the connection of more domestic storage, generated a significant amount of discussion. All attendees who responded told us they were ‘very satisfied’ or ‘satisfied’ with their experience on the day.

For our third workshop we sent an email to our connections customers asking them to vote on the topics they would like to see covered. The overwhelming response was in favour

Our customers said...

“ Just a quick email to say thank you for the workshop yesterday. I found the workshop informative and useful, which is what you need from a workshop. Please pass my thanks to the rest of the Northern Powergrid team.

Steve Watts, Patrick Parsons domestic storage workshop, September 2018

of Connection Offer Expenses (A&D fees). We ran two drop-in workshop sessions at our Connections Customer Forum in November 2017, attended by approximately 30 customers. During the workshop attendees had the opportunity to ask us about the introduction of Connections Offer Expenses and what it could mean for them and their clients, they also told us how they wanted us to communicate with them about the changes that were happening. Customers who attended told us they found the event beneficial.

Our final workshop on connecting Electric Vehicles (EVs) took place in March 2018 and was attended by 33 customers. During the workshop we discussed the impact of EVs on local energy networks and answered questions on diversification and the introduction

of unmetered charging points posed by representatives from Local Authorities in our region. EVs are a topic of interest and as uptake continues to increase, we expect to have on-going discussions with our stakeholders on the topic.

Looking forward, we will continue to operate our successful programme of quarterly connections workshops and to talk to our customers about the topics they would like to see covered at future events.



“ The seminar was very useful and well run, the content was well presented.

Andrew Rollo, George F. White domestic storage workshop, September 2017

Workshops a good idea – good opportunity to discuss relevant issues.

Jim Caldwell, YLEM Energy Limited A&D Fees workshop, November 2017

The event was well run and the presenters were very knowledgeable on their subject. A very useful and informative event.

Steve Crowe, Omnia Projects EV workshop, March 2018

Action

4.1 Theme 4: Improving our application and delivery process
Assessment & Design fees

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will continue to contribute to the national debate on A&D fees and keep our customers informed of the outcomes. On conclusion of the BEIS consultation, we will implement any changes to our existing policies or practices required and communicate these to our customers.	Customers will be kept informed on the outcome of the national A&D fees debate. We will revise our approach to A&D fees as necessary.	Progress reported and new policy and processes implemented as necessary. Revised processes applied to all relevant connection applications.	All	M DG	Complete to forecast

01/04/17

31/03/18

Outputs achieved

- ✔ Throughout 2017/18 we engaged with BEIS to support the development of new Connection Offer Expenses (A&D fees) legislation.
- ✔ We changed our business processes to align with new legislation which came into force on 6 April 2018.
- ✔ This resulted in an important change to the way in which we recover connections costs, making the process fairer.
- ✔ Stakeholders have supported our position and we made sure we kept customers informed about the changes with updates given at our engagement events and a dedicated workshop.

Our customers said...

“ I have noticed Northern Powergrid have a lot of correspondence with workshops. It gave me a understanding of A&D fees which I did only find out about through Northern Powergrid and did not know of them through any other DNO. They have very good customer interaction and informing us of any information. They are overall very helpful.

Stakeholder preferred not to be named
our broad and inclusive consultation with stakeholders on ICE, April 2018³⁶

We carried forward a commitment made in our previous year’s ICE plan, to continue to support the ongoing consultation on Connections Offer Expenses (also known as A&D fees) and to keep our customers informed of the outcomes. We said that we would make changes to our existing policy and processes, in response to new legislation being introduced, making the way we manage the cost of connections fairer.

Previously, irrespective of the complexity or number of applications made, all the costs associated with preparing connections offers were recovered from only those customers who accepted an offer and proceeded with the connection.

Our customers told us and Ofgem they did not think this was fair and we agreed. We took

action on behalf of our customers, playing an active role in the national working party that made the case to BEIS³⁷ that DNOs should be able to charge a fee, for the work they undertake preparing quotations, to the individual making the request.

This action, which had the backing of industry stakeholders, led to new legislation which came into force on 6 April 2018.

We made sure that we kept our stakeholders and customers informed throughout the industry-wide consultation, with updates given at our Connections Customer Forums in April and November 2017, and at our ICP Seminar in June 2017. In March 2017, ahead of the introduction of A&D fees, we held a dedicated briefing for connections customers and ICPs to share our position.

28 stakeholders attended on the day. The slides that were presented at that briefing were published on our website and circulated via email to >6,000³⁸ connections customers and ICP contacts.

On 6 April 2018, when the legislation came into force, we introduced A&D fees for all of our connections activities, except for small works customers seeking a service connection, and sent an email to all our connections and ICP contacts with links to an open letter and new webpage where they could find more information. We expect to see a significant reduction in the number of speculative applications we receive, which will free up our engineering resource to focus on projects that are more likely to proceed to energisation.

“ The key one is the A&D. I hope now that it stops the process from being clogged up and they have more time to spend on actual projects rather than the prospective stuff.

Mark Lawrence
our broad and inclusive consultation with stakeholders on ICE, April 2018³⁹

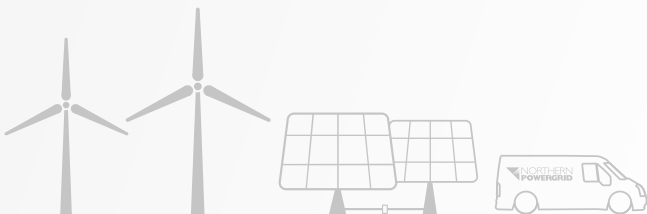


³⁷ The Department for Business, Energy and Industrial Strategy

³⁸ Figure correct as of March 2018

³⁹ Figure correct as of March 2018

³⁶ Source: Explain telephone survey, April 2018



Action

4.2 Theme 4: Improving our application and delivery process
Transmission/Distribution (T/D) interface

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will continue to support customers through the T/D interface and engage on their behalf in the activities of the national working parties. Where necessary, we will implement changes to our existing policies and working practices to reflect best practice recommendations.	Customers will be better informed and supported through the T/D interface.	Progress reported and new policy and processes implemented as necessary. Revised processes applied to all relevant connection applications.	EHV	<div>M</div> <div>DG</div>	<div>✓</div> <div>Complete to forecast</div>

01/04/17

31/03/18

Outputs achieved

- ✓

We kept customers informed about the issues with Statement of Works and the progress of the national working party through updates given at our connections engagement events.
- ✓

We have changed our internal processes, submitting bulk Statement of Works requests from September 2017 and receiving our first offer from National Grid with materiality limits in February 2018.
- ✓

We continue to participate in the activities of the national working party, seeking to reform the Statement of Works process.

We carried forward a commitment made in our last ICE plan, to continue to support the ongoing reform of the Statement of Works process.

We continue to play an active role in the activities of the national working group tasked with reforming the Statement of Works process. Over the past 18 months, trials have been taking place at different places across the country to develop an improved process. The objective of these trials is to give customers greater visibility on the transmission costs and liabilities, as early as possible in the quotation process.

Wherever possible, we would like to be able to provide this information with our connection quotation, which can take up to three months to prepare. While it is not always possible to do so, the trials that have already been undertaken

show that many customers can receive this information with their connection offer.

The main trials of the working party have been to implement new processes including;

- bulk Statement of Works requests;
- materiality limits;
- planning limits; and
- regional development programmes.

In September 2017, we began submitting bulk Statement of Works requests to National Grid. All of our Statement of Works requests are now submitted on a bulk basis unless there is only one new contracted customer in the grid supply point network. This is already reducing the timescales for obtaining details of the required transmission works.

Where we already know that transmission related works will be required, we move straight to the confirmation of progression stage (also known as a Modification Application stage). This can typically save up to two months in the overall process by avoiding the need to go through the initial Statement of Works request process.

In February 2018, we received our first offer from National Grid with materiality limits for Saltend North grid supply point, where we have received high volumes of connection applications. This arrangement will allow us to make further offers to other customers, as well as allowing the contracted customers who triggered the request to get connected.

Action

4.3 Theme 4: Improving our application and delivery process
Undergrounding of networks in AONB

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will engage in a discussion with Ofgem on behalf of our stakeholders on the treatment of the costs for undergrounding of rural network in AONB.	Improved visual impact of the distribution network in AONB whilst optimising the use of the ED1 allowance to carry out such works.	Discussion held with Ofgem on whether AONB ED1 allowances can be incorporated into the provision of connections. Number of customer connections in AONB incorporated into the programme of undergrounding.	All	<div>M</div> <div>DG</div> <div>UM</div> <div>ICP</div>	<div>✓</div> <div>Completed early</div>

01/06/17

19/03/18

Outputs achieved

- ✓

We prepared a case for Ofgem, outlining the strength of stakeholders' views that undergrounding allowances should be used to reduce the visual impact of new connections in AONB.

We work closely with representatives from our National Parks and Areas of Natural Beauty (AONB) to minimise the visual impact of overhead lines in some of the country's most beautiful rural landscapes.

During one of our regular meetings, an issue was raised about the treatment of connections and asset replacement costs. The comment was made that DNOs are provided with allowances to underground assets in National Parks, thereby reducing the visual impact of overhead lines. It was noted however this was not the case with new connections.

In line with the commitment we made in our ICE plan, we prepared a case for Ofgem outlining the views of relevant stakeholders on the use of undergrounding allowances to improve the visual impact of new connections works. We then entered into discussions with Ofgem on behalf of our stakeholders.

Ofgem engaged in discussions with us and, after we had explained what the stakeholders were looking for and why, Ofgem confirmed that we had made our case very well and that the request was a fair one for them to consider.

Following its consideration of the case, Ofgem has confirmed that it was not possible under the current licence conditions for undergrounding allowances to be used for new connections activities. Therefore we cannot take this action any further.

Ofgem has suggested ways in which the funding can be used to extend the amount of existing overhead network that can be undergrounded and we are now discussing these possibilities with National Park and AONB stakeholders.

Action

5.1 Theme 5: Enabling competition
ICP input services

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will develop an end-to-end process map that covers all aspects of our input services and explains how ICPs can interface with us more effectively.	ICPs will have a better understanding of the input services Northern Powergrid provide and how best to access them.	End-to-end process map produced and published. Customer feedback on changes made.	All	ICP	Complete to forecast

01/04/17

09/06/17

Outputs achieved

- ✓ We created an interactive, end-to-end process map.
- ✓ We launched it at our ICP Seminar in June 2017 and invited attendees give feedback on what we had produced.
- ✓ The process map is published on our Competition in Connections website and given to all new ICPs who attend one of our monthly surgeries.

Meeting the needs of all our connections stakeholders is key. An important aspect of this is the work we do with ICPs and IDNOs. Our Connections Input Services team is dedicated to working with this group to understand their specific needs and how we can work together to remove barriers and facilitate fair and open competition in connections.

Following feedback given at one of our ICP seminars, we became aware that ICPs wanted a better understanding of the input services we provide and how best to access them. Acting on this, we made a commitment to develop an end-to-end process map that covers all aspects of our input services and explains how ICPs can interface with us more effectively.

We introduced a new interactive process map at our ICP Seminar in June 2017

and invited those who attended to give us feedback on what we had developed. The document was also published on our Competition in Connections webpage in June meeting the commitment we made and is given to all new ICPs who attend our monthly surgeries.

The map gives ICPs clear visibility on every stage of the connections process – from application through to connection. It is especially useful for ICPs who are new to the market or those that are unfamiliar with our processes, and it helps to minimise the input services ICPs require from us, allowing them greater ownership of the connections process.

- 📄 You can view our end-to-end process map at <http://www.northernpowergrid.com/downloads/3437>

ICPs said...

“The end to end maps in matrix form are very useful and helpful as guidance through the full process of the specific connection applications. As an experienced ICP we tend not to have to use them much as we have learnt the process but I do see them as essential for ICPs that are new to the industry.

Alan Horner, MDH Utility Services Ltd
via email

As a business new to ICP work the end to end Process map has made roles & responsibility clear giving guidance on every step of the process.

Jim Grayson, Distribution Cable Jointing Ltd
via email

Action

5.2 Theme 5: Enabling competition
Schedule of rates for input services

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
Publish a schedule of rates for input services available to ICPs so that they can 'pick and mix' the services they require.	ICPs will have a better understanding of the cost of input services Northern Powergrid provide.	Schedule of rates produced and published. Feedback on changes made.	All	ICP	Complete to forecast

01/05/17

21/07/17

Outputs achieved

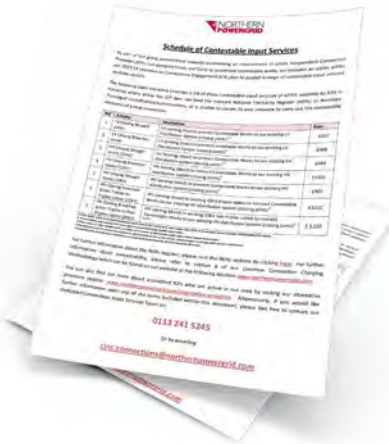
- ✓ We developed a schedule of rates for ICP input services and published it on our website.

ICPs also told us that it would be helpful if we were able to provide more guidance on the fees associated with the various input services we provide. We therefore committed to publish a schedule of rates for the input services available to ICPs, so that they could 'pick and mix' the services they require as part of any connection.

Our schedule of rates was published on our website in July 2017 and it offers clear visibility on the price of all contestable elements of the connections process. This action is helping to facilitate fair and open competition in connections, providing key information to all ICPs and therefore allowing them to accurately forecast the cost of a connection, inclusive of the input services they may or may not require from us.

We presented the new schedule of rates at our ICP seminar and sought feedback on what we had produced from attendees. We will continue to engage in conversations with our ICPs around the schedule of rates and will make further improvements in line with their feedback.

- 📄 You can view our schedule of rates at <http://www.northernpowergrid.com/downloads/3557>



ICPs said...

“The schedule of rates is used by our design team to help us quote customers with clear costs.

Jim Grayson, Distribution Cable Jointing Ltd
via email

It is very clear what services we can use and the cost associated with it. When we make a non-contestable application we can easily decide whether we want to do it as a self-connect or not. It is also very easy to submit a design as a self-approved design or to be approved by NPg.

Peter Adams, Power On Connections
via email

Action

5.3 Theme 5: Enabling competition
Standard design matrix

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will update our standard design matrix rules to include unmetered connections and simplify the technical specification.	The action will extend the scope and ease with which ICPs can self-determine point of connections.	Updated standard design matrix produced and published. Feedback on changes made.	LV	<div>UM</div> <div>ICP</div>	<div>✓</div> Completed early

01/04/17

03/09/17

Outputs achieved

- ✓ We updated our standard design matrix rules to include unmetered services and simplified the technical specification, **ahead of forecast**, in September 2017.

We received feedback from ICPs that they wanted to extend the scope of their works to include more unmetered connections. Local Authorities are undertaking major street lighting replacement schemes and ICPs want to be in a position to react quickly and compete for these connections services.

We have a standard design matrix which details the criteria required for a connection to be designed without the need for a formal electrical design. We made a commitment to update our standard design rules to include more unmetered connections and simplify the technical specifications. This change was designed to facilitate an increase in the volume of unmetered work ICPs could carry out and give customers more choice over who delivers their connection.

We updated our standard design rules and published them on our website in September 2017, and in doing so, have made it quicker and easier for ICPs to self-determine point of connections.

We briefed ICPs about the new resource available and published the document on our Competition in Connections webpage. We also highlighted key changes at our ICP Seminar and during our monthly surgeries. New cable equivalent spreadsheets for both metered and unmetered connections have also been published on the website.

- 📄 Our updated standard design matrix is available on our website at <http://www.northernpowergrid.com/asset/3/document/1992.pdf>

ICPs said...

“*We used this tool initially in the beginning which helped us understand the design principles. We don't rely on it as much these days as our knowledge has expanded and we have learnt what fits within the SDR's and what doesn't. This knowledge was formed thanks to the matrix and also the ICP surgeries conducted by NPg, again an essential tool for new ICPs.*

Alan Horner, MDH Utility Services Ltd
via email

This is in place now and the only reason we currently aren't doing self-point of connections is because of our own IT systems which we are currently working on.

Peter Adams, Power On Connections
via email

Action

5.4 Theme 5: Enabling competition
ICP design approvals

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will publish the average time it takes us to issue ICP point of connection and design approvals on our website.	Customers will have visibility on the time it takes Northern Powergrid to issue point of connection and design approvals to ICPs.	Data published every quarter. Webpage usage and customer feedback.	All	<div>M</div> <div>DG</div> <div>UM</div> <div>ICP</div>	<div>✓</div> Complete to forecast

01/04/17

27/06/17

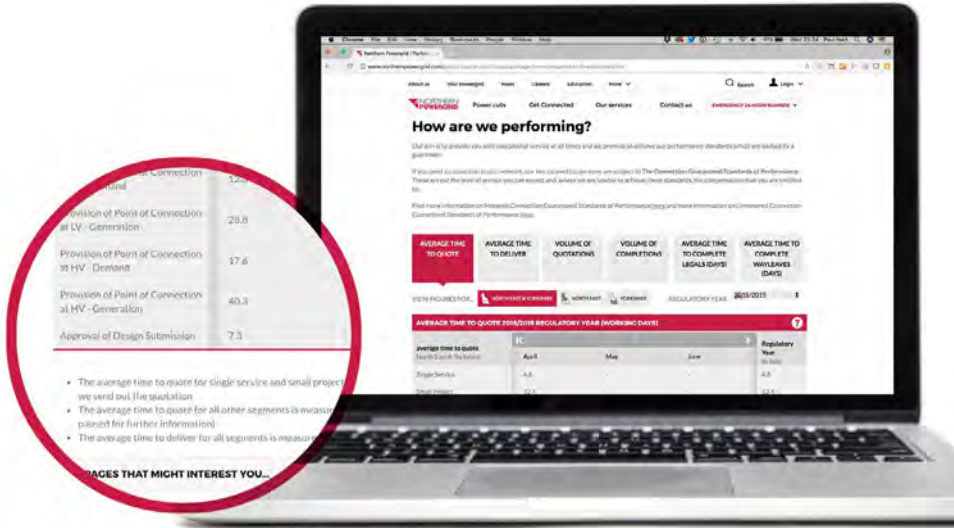
Outputs achieved

- ✓ Since June 2017, we have published the average time it takes us to issue ICP point of connection and design approvals on our 'how are we performing?' website dashboard every month, over delivering on the commitment we made.
- ✓ Since the information was first added to the dashboard in June 2017, the webpage has been visited **243 times**⁴⁰.

A comment was made during our ICP Seminar about the time it takes us to issue ICP design approvals. To address this, we made a commitment to publish the average time it takes us to issue ICP point of connection and design approvals so that information was more visible and accessible to all.

Since June 2017, we have published the data on the 'how are we performing' page of our website every month, thereby over delivering on the commitment we made.

- 📄 Our performance dashboard is available on our website at <http://www.northernpowergrid.com/performance-dashboard/>



⁴⁰ Figure correct as of April 30, 2018

Action

5.5 Theme 5: Enabling competition
Independent inspections

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will secure long term independent inspection services to inspect SLC15 and Section 16 connections delivery operations.	All installed connections assets will be inspected in the same manner by an independent organisation.	Percentage of independent quality assurance inspections carried out on Northern Powergrid and ICPs and non-conformance rate from inspections. Independent quality assurance inspections carried out.	All	ICP	<div>✓</div> Complete to forecast

01/06/17

01/09/17

Outputs achieved

- ✓ We entered into a three year contract with Lloyds Register to carry independent inspections starting from 1 September 2017.
- ✓ 280 independent inspections have been carried out between 1 September 2017 and 31 March 2018: 117 (42%) on ICP works and 163 (58%) on Northern Powergrid works.
- ✓ The non-conformance rate for ICPs is 25% and Northern Powergrid is 23%.
- ✓ Over the same period ICPs carried out 4,164 end connections of which 3% were inspected by Lloyds Register and Northern Powergrid carried out 10,153 of which 2% were inspected.

To support fair and open competition in connections, we think it is important that when assets are being installed on a DNOs network that all parties are dealt with on an equal basis. Therefore, the work of either the DNO or an ICP should be inspected by a completely independent organisation which can carry out a fair and objective inspection.

We were the first DNO to engage an external agency to independently inspect both ICP SLC15 and DNO Section 16 works in equal proportions. Following a successful trialled implementation, we discussed the new regime with ICPs operating in our region who told us that it was a good way forward. We therefore decided to extend the practice and secure long term service provision. This action was added to our work plan at the mid-year update point. We saw no reason to delay and acted quickly to secure the services of Lloyds Register Energy to carry out independent inspection services into the future.

ICPs said...

“As we are relatively new to the ICP world all our work is inspected by NPg’s independent auditors Lloyds to ensure the asset installation quality is to the highest standard at all time. We have a good working relationship and frequent communications with the audit teams on site.

Jim Grayson,
Distribution Cable Jointing Ltd
via email

Inspections are being carried out and the audit always comes back on the day of the inspection. NPg always listen to us if we contest an audit grade but over the last 6 months we haven’t contested any. The inspection process is very clear.

Peter Adams,
Power On Connections
via email



Action

6.1

Theme 6: Innovation
TSO/DSO roles

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will continue to support and contribute to the national working party on the development of TSO/DSO roles and keep customers informed of the outcomes.	Customers will be better informed about the development of TSO/DSO roles.	Communicate the outcomes of the national working party on TSO/DSO to our customers. Customer feedback.	All	<div>M</div> <div>DG</div>	<div>✓</div> <div>Complete to forecast</div>

01/04/17

31/03/18

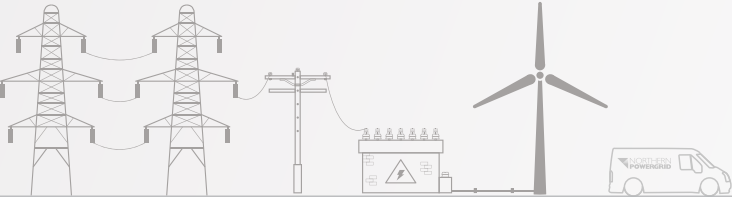
Outputs achieved

- ✓ We continue to actively participate in the activities of the Open Networks Project.
- ✓ We have kept our customers informed about progress and outcomes with regular updates at our connections events, workshops, webinars and at DSO stakeholder events held in November 2017 and January 2018.

Our stakeholders said...

Northern Powergrid has been active through the year in the ENA's Open Networks project for which I am Programme Director. I have also witnessed first-hand how they have shared the direction of this national programme with their own stakeholders at their DSO related events. I was pleased to participate in Northern Powergrid's November 2017 London DSO event where they asked me to chair a Q&A panel session. I also know this was not a one-off in terms of linking their work to the industry's work and communicating with their stakeholders. For example, the ENA (Paul Fidler, Operations Director) was also present at their January 2018 event in York.

Jason Brogdon, ENA Open Networks Programme Director via email



We have actively participated in the activities of the TSO-DSO national working party project, which in 2017 became known as the Open Networks Project. This major industry initiative will transform the way our energy networks work, underpinning the delivery of smart grids and a more flexible energy system.

The project brings together key industry players including electricity grid operators, academics, non-Government organisations, government departments and Ofgem. It will:

- give households, businesses and networks the ability to take advantage of new energy technologies to take control of their energy and lower their costs;
- help underpin business growth, attract investment and deliver real economic benefits to the UK; and
- take a whole energy system approach to designing solutions by consulting with

a wide range of stakeholders, including the gas networks, and through an Advisory Group.

We engaged with our stakeholders on the Open Networks Project throughout the course of the ICE plan year. We hosted a DSO webinar and Twitter Q&A in September 2017, held dedicated stakeholder events and gave updates on the progress of the Open Networks Project at our connections forums and workshops. These events have given us the ability to share our vision, but, more importantly, customers have been able to engage with us and share their views which has shaped our thinking and been fed back into the workstream activities.

The focus of Open Networks Project in the last year has been to:

- develop improved T/D processes around connections, planning, shared TSO/DSO services and operation;

- assess the gaps between the experience customers currently receive and what they would like, and identify any further changes to close the gaps within the context of a 'level playing field' and common transmission and distribution approach;
- develop a more detailed view of the required transition from DNO to DSO including the impacts on existing organisation capability; and
- consider the charging requirements of enduring electricity Transmission/ Distribution systems.

The activities of the Open Networks Project workstreams are on-going, and we have therefore carried a commitment forward into our 2018/19 work plan to keep customers informed about this important topic and implement best practice outcomes as required.



Action

6.2 Theme 6: Innovation
Sharing our DSO vision

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will share our vision for the transition of DNOs to DSOs. We will describe the work taking place at Northern Powergrid and seek our customers views on how to shape the outputs of this work.	Customers will be kept informed about Northern Powergrid's transition and will have the opportunity to engage and shape future outputs.	Vision and strategy shared with interested stakeholders. Customer feedback.	All	<div><div>M</div><div>DG</div><div>UM</div><div>ICP</div></div>	<div><div>✓</div><div>Complete to forecast</div></div>

01/04/17

14/09/17

Outputs achieved

- ✓ We shared our DSO vision and strategy at engagement events throughout the course of the year.
- ✓ We hosted a live Twitter Q&A and webinar to share information and seek our stakeholders' views.
- ✓ 91%⁴¹ of those who responded 'strongly agreed' or 'agreed' that they felt better informed about our DSO thinking following our webinar.

Our stakeholders said...

“ Thank you so much. Useful to have Andy and Jim's narrative alongside the slide and hear some of the audience questions.

Domencia Lewis, BEIS on our DSO webinar



The UK energy industry is undergoing one of the greatest periods of change for decades as we move towards a smarter, more flexible energy system. We are playing an active role in the transition and seeking views from key stakeholders in our industry on the challenges and opportunities ahead. Our stakeholders, in particular, will have an interest, as they look to new and innovative connections options that fit with a future energy system that is truly customer-led.

At our Connections Customer Forum in November 2016, attendees asked us for more information on our DSO strategy and when we would be involving them in the consultation process. Following that we made a commitment to share our DSO vision, describe the work underway at Northern Powergrid and seek our stakeholders' views.

During the course of the year, we have sought every opportunity to engage with stakeholders and to seek their views to shape and inform our thinking. We have given updates at our connections forums, workshops and at Stakeholder Panel meetings

in September 2017. We also continue to play an active role in the ENA Open Networks Project and to share the outputs of this group with our stakeholders.

To satisfy the criteria for this action, in September 2017, we held a Twitter 'Ask the Expert' session hosted by Northern Powergrid's Head of Trading and Innovation and our Head of Network Trading. The Q&A was promoted via our social media channels and generated significant interest online ahead of time, although little interaction took place on the day.

Later that month, we hosted a webinar to share our DSO thinking, 75 stakeholders registered their interest ahead of the webinar and 34 took part in the live session. During the webinar we described our vision and the work that was already underway. Those taking part had the opportunity to interact with the presenters, ask questions and give feedback on our strategy. We posted the recording of the webinar on our YouTube site where it has been viewed a further 430 times⁴² since it was first published.

We continue to engage with our stakeholders on this important subject. In November 2017 we ran a dedicated DSO event in London titled 'Unlocking the Future of Energy'. The event was attended by 81 stakeholders and significant debate took place on the day. Those attending had the opportunity to meet with senior members of our team and share their views on what we are proposing. This was followed by a second event in York which was webcast live for anyone unable to attend on the day.

Looking forward, we will continue to actively seek the views of our stakeholders and use their feedback to shape our thinking and inform our future business priorities.

📺 You can watch our DSO webinar at <https://youtu.be/nYj7olyj5AU>



⁴¹ Source: Live poll during Northern Powergrid DSO webinar

⁴² Figure correct as of April 30, 2018

Action

6.3 Theme 6: Innovation
Energy storage connections offers

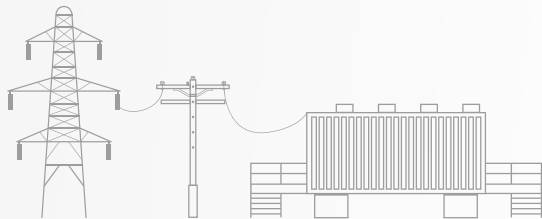
Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will engage with storage developers to create a suite of standard storage service offers.	The application process will become easier and more understandable.	Suite of storage offers developed and available for use. Number of applications made using the new process and customer feedback.	EHV HV	DG	Complete

01/04/17

31/03/18

Outputs achieved

- ✓ We consulted with the Electricity Storage Network group to develop a suite of standard storage connections offers.
- ✓ These new offers make it easier for customers to understand which type of connection they require, speeding up the application process.



We are committed to supporting the uptake of generation and storage and we are working with our stakeholders to understand what more we can do to help them get connected to our network.

Battery energy storage systems (BESS) can be used in a number of different ways to provide benefit. Some of our customers are using batteries to store the electricity they generate for their own use, whilst others are using a BESS to actively support the electricity network through commercial contracts. The two scenarios are very different and so is the cost of the connection.

To help our customers obtain the right kind of connection, we have developed three

standard storage arrangements covering self-consumption, reserve capacity and response services scenarios. We developed these new arrangements with input from stakeholders and introduced them at the ENA's DER Connections Forum in September 2017, where those attending had the opportunity to give feedback on what we were proposing. All of those who responded to the ENA's survey rated our presentation as 'excellent' or 'good'.

This new suite of standard storage offers is intended to make it easier for customers to identify the kind of connection they require and for our engineers to process their application. The new connections offers were introduced in March 2018 and we are yet to process any new applications.

Our standard battery storage system connections arrangements can be viewed on our website at <http://www.northernpowergrid.com/asset/0/document/4204.pdf>

Action

6.4 Theme 6: Innovation
Energy storage case studies

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will develop and publish case studies that share future use cases and applications for energy storage.	Customers will have a suite of energy storage case studies to help shape their future business plans and direction.	Two case studies produced and published on our website. Customer feedback.	EHV HV	DG	Complete to forecast

01/09/17

07/03/18

Outputs achieved

- ✓ We developed two new case studies and published them on our website.
- ✓ Since the case studies were released in March 2018, they have been downloaded 189⁴³ times.

We have been involved in a number of innovative trials of energy storage over the years and made a commitment to share what we have learned. We made a commitment to develop cases studies on two of the projects we have been involved in, to share our experience and give customers an insight into what is involved in deploying this technology. The case studies present the business case, including some of the technical and commercial considerations customers should be aware of before embarking on similar projects and an indicative timescale and cost for the connection.

We published two case studies on our website in March 2018 and asked stakeholders to provide feedback on what we had produced. We expect these case studies to become a useful resource for our storage customers. Hopefully they will help shape and inform their thinking during the important scoping and optioneering phase of a project.

Looking forward, we will continue to engage with our storage customers, both on an individual basis and through our support of industry groups like the Electricity Storage Network, to understand their specific needs and what more we can do to help them get connected. Our case studies can be viewed on our website using the links provided.

- Future use cases for large scale storage devices <http://www.northernpowergrid.com/downloads/4187>
- Future use cases for multiple small scale domestic storage devices <http://www.northernpowergrid.com/downloads/4194>

Our stakeholders said...

“Both case studies are a helpful guide for a first time applicant to steer them through the NPg system and processes. They will help to give an indication of the likely cost of any storage scheme too. I think as a general guide they give enough information to be worthwhile and answer a lot of questions people will have.”

Bryan Dixon, Narec Distributed Energy via email



⁴³ Figure correct as of April 30, 2018

Action

6.5 Theme 6: Innovation
Updates on our ANM solution

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will engage with customers on the progress of our first replicable ANM scheme in Driffield, South East Yorkshire.	Customers will understand how the Driffield ANM scheme works, the network communications, charging policy and how it can be applied to different areas of the Northern Powergrid network.	Progress communicated. Customer feedback.	All	DG	Completed to target

01/04/17

06/03/18

Outputs achieved

- ✓ We gave updates on the progress of our Driffield ANM scheme at our Connections Customer Forums in April and November 2017.
- ✓ We hosted a webinar in February 2018 and 29 connections stakeholders took part.
- ✓ 93%⁴⁴ of those who took part and responded to our poll agreed the webinar had helped improve their understanding of Northern Powergrid's ANM strategy.
- ✓ We held a dedicated ANM workshop in March 2018, 18 stakeholders attended and all of those who responded said they were 'very satisfied' or 'satisfied' with the workshop session they attended.

“Very useful webinar - thank you!”
David O'Hare,
Smarter Grid Solutions

Connecting new customers to the electricity network is one of the most important jobs of a DNO. We are committed to helping as many customers as possible connect to our network and have made assurances that where necessary we will develop flexible and innovative solutions to address constraints on our network.

When developing our 2017/18 ICE work plan, a number of stakeholders' expressed interest in our first, replicable ANM scheme which we deployed on our network in Driffield, East Yorkshire. They wanted to know how the scheme would work, the cost structure and where and how it could be applied to other areas of network.

We provided ANM updates for customers at connections events throughout the course of

year and as we rolled out the scheme in Driffield. We acknowledged however, that customers wanted to know more. In quarter one of 2018, we undertook a focussed programme of ANM engagement, hosting a webinar and a dedicated workshop. 29 stakeholders took part in our ANM webinar, where they had opportunities to interact with the presenters, ask questions and take part in polls. 93% of those who responded agreed that our webinar had helped improve their understanding of our ANM strategy. A recording was uploaded to our YouTube site where it has been viewed a further 154⁴⁵ times.

We held a dedicated ANM workshop in March 2018 which was attended by 18 customers. During the workshop we gave an update on the progress of our Driffield scheme and its operation and explored how it could be

used for future follow on flexible connection schemes. All of those who responded indicated they were 'very satisfied' or 'satisfied' with the workshop session they attended.

We want to continue the dialogue we have established with stakeholders and acknowledge their requests for more information on when and where we will be deploying future flexible solutions. We have therefore made a commitment in our Looking Forward work plan to continue to engage with stakeholders on the topic and keep them informed of our plans.

✂ You can watch our ANM webinar at <https://youtu.be/nwpmIFSvXMg>

⁴⁴ Source: Live poll during Northern Powergrid ANM webinar.

⁴⁵ Figure correct as of April 30, 2018

Action

6.6 Theme 6: Innovation
Low-Carbon Connections Gateway

Action	The outcome	Measures of performance, impact and success	Voltage	Market segments	Status
We will develop and launch a new Low-Carbon Connections Gateway on our website.	Customers will have access to a new resource that provides information on different types of LCTs, how to apply for a connection and when to notify Northern Powergrid about their installation.	New Low Carbon Connection Gateway available on our website. Webpage usage and customer feedback.	All	DG	Completed early

01/04/17

11/01/18

Outputs achieved

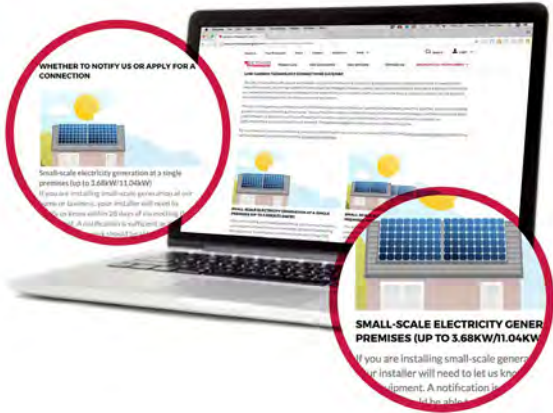
- ✓ We launched a new online portal to help customers connect Low-Carbon Technologies (LCTs).
- ✓ The gateway gives customers all the information they need to follow our connection processes.
- ✓ Since we launched the new gateway in January 2018, the webpage has been visited 289 times⁴⁶.

We said we would develop a new online portal to help customers who want to connect low carbon technologies including solar panels, heat pumps and electric vehicles.

In January 2018, ahead of our forecast, we launched a new low carbon connection gateway that provides customers with all the information they need to follow our connections processes; including when to apply and when to notify us about a new installation. The portal also provides information and a route through our connections process for customers domestic or large scale generation and battery storage. All the information is contained in one easy to access online location, with links to application forms and useful external resources and sources of information.

We were keen to understand if what we had developed met our customers' needs and so we accelerated its development and launched the gateway ahead of forecast. We introduced this new resource to customers attending our EV workshop in March 2018. We also promoted it via social media and invited stakeholders to give us feedback on our new resource. Looking forward, we will continue to evaluate and update the information that is contained on our gateway to reflect latest industry standards and to seek our customers' views on the usefulness of this tool.

✂ Our new Low-Carbon Connections Gateway is available on our website at www.northernpowergrid.com/low-carbon-connections-gateway



⁴⁶ Figure correct as of April 30, 2018



Executive summary

- As part of their Incentive on Connections Engagement (ICE) programme, Northern Powergrid commissioned Explain in April 2018 to conduct a market research exercise
- 302 major connections customers were contacted from market segments covered by the ICE initiative – metered, unmetered and distributed generation connections. Independent Connection Providers were also contacted
- Within the research, there was a ‘Looking Back’ element in order for feedback to be gathered on actions and outcomes achieved as part of the 2017/18 ICE plan.
- The ‘Looking Forward’ element of the research aimed to establish whether Northern Powergrid’s proposed 2018/19 work plan was endorsed by customers
- The majority (61%) stated they have been dealing with Northern Powergrid for more than 12 months, whilst the remaining 39% stated their relationship had existed for 12 months or less
- An overview of the stakeholder types engaged in the research is as follows:

Overall	Metered	DG	Unmetered	ICPs	Unknown
302	238	53	8	2	1

Looking back

Those who stated they had been dealing with Northern Powergrid’s connection service for more than 12 months were asked to look back at the actions and outcomes achieved and delivered as part of the 2017/18 ICE plan. They were given a short overview of each area of the plan and asked if in their experiences this action had improved the service provided. It is worth noting across all actions, the majority were in agreement that these had improved service.

- Changes to improving information made available to connections customers
 - 80% stated that this had improved service in the last 12 months
- Changes to application and delivery process
 - 85% stated this had improved service in the last 12 months
- Improving communication and engagement
 - 82% stated that this had improved service in the last 12 months



- Changes to technical and commercial developments
 - 79% stated that this had improved service in the last 12 months
- Promoting fair and open competition
 - 88% stated that this had improved service in the last 12 months
- Focus on innovation
 - 88% stated that this had improved service in the last 12 months
- When asked about the last 12 months overall, just under three quarters (72%) stated that the service had improved (55% got better / 17% got much better)

Looking forward

All customers engaged were taken through the proposed 2018/19 workplan, with supporting information on each action and the outputs that would be delivered. Following this, they were asked if they endorsed each action. A high level of endorsement was observed across all individual actions.

- Action one: providing connections customers with access to detailed asset records to support/inform design activity**
 - 98% endorsed this action
- Action two: Making network data available in GIS and KMZ formats**
 - 99% endorsed this action
- Action three: Starting a forum for generation customers to discuss issues and access information**
 - 97% endorsed this action
- Action four: Working with the Energy Networks Association to revise and update the DG connections guide**
 - 98% endorsed this action
- Action five: Create a new web page where customers can find the contact details of regional connections engineers**
 - 99% endorsed this action
- Action six: Include a description of connection and enquiry number at the beginning of customer correspondences**
 - 99% endorsed this action
- Action seven: Create a new web-based process where customers can register by type to enable targeted communication and engagement from Northern Powergrid**
 - 97% endorsed this action



- **Action eight: Hold dedicated engagements for hard to reach stakeholders, with specific connection needs**
 - 98% endorsed this action
- **Action nine: Continue to engage with stakeholders about the ANM strategy**
 - 98% endorsed this action
- **Action ten: Continue to work with the Open Networks Project to develop Statement of Works process**
 - 98% endorsed this action
- **Action eleven: Develop, trial and implement a new self-service process for ICPs**
 - 95% endorsed this action
- **Action twelve: Provide customers with better technical guidance about how to make connection applications for hybrid generation-storage sites**
 - 99% endorsed this action
- **Action thirteen: Continue to share Northern Powergrid’s vision and strategy to transition to a DSO with stakeholders**
 - 98% endorsed this action

Communication and engagement


- 88% of customers were in agreement that Northern Powergrid engages with Connections stakeholders and facilitate joint discussion, with agreement levels consistent amongst metered, DG and unmetered customers
- Both ICP customers engaged in the research were also in agreement
- Of those who felt that communication could be improved, a majority suggested that Northern Powergrid could improve to be more responsive (8 customers) and proactive in the communication delivered (5 customers).


Considerations and next steps

- There is a clear sense amongst customers that the proposed work plan is comprehensive, with an overwhelming majority having endorsed each action within the plan. It is therefore recommended that Northern Powergrid continue with the 2018/19 work plan, knowing it has underpinned the needs and requirements of customers

- Consideration must be made to the needs of customers, in that their reflection on the last twelve months and areas for improvement mainly focused on timings of service delivery, and the price of service; Northern Powergrid must ensure these are key areas of focus in day to day operations, but that these are addressed and considered as priority areas in delivering the 2018/19 work plan
- In terms of engagement and communication, it is clear customers expect and support the plans for continued enhanced engagement. Customers who are less satisfied with communication and engagement to date would like to see greater responsiveness and proactive communication from Northern Powergrid, so consider these expectations within the communication and engagement focused actions within the 2018/19 work plan when delivering this.

CONNECTIONS ENQUIRIES

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