Engagement Log: Safe and Reliable Network
NGET_A9.01_Engagement Log December 2019

As a part of the NGET Business Plan Submission

nationalgrid

Section	Progress	Status
Pre-engagement	✓	Final
Post-engagement	✓	Final
Challenge & review	✓	Final
Conclusions	✓	Final

ENGAGEMENT LOG

Priority: I want you to provide a safe and reliable network, so that electricity is there whenever I need it

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Stakeholder Group meeting: 7 | Meeting Date: 16/04/19
Document Version Number: 4

EXECUTIVE SUMMARY

1. PRE-ENGAGEMENT

This stakeholder priority covers the safety of our network, the public and our staff. It also covers the work we do to maintain a reliable network such as replacing or refurbishing assets in poor condition, asset maintenance, asset monitoring and emergency repairs. We have hundreds of thousands of assets on our network. Maintaining these assets to ensure the reliability of our network for consumers is typically our largest area of expenditure.

How we invest in maintaining a safe and reliable network can have both short and long-term impacts on the electricity network and the service we can provide. Desired outcomes from this engagement are to: (i) inform stakeholders on the interactions between our safety and asset management approach; and the impact on services they receive, (ii) understand stakeholder priorities and their views on investment options we could take to manage reliability over the short and long term, and ultimately, (iii) conclude what RIIO-2 price control framework targets and business plan investments we should deliver from the insights gained.

A fundamental building block of our reliability plans, is the Network Asset Resilience Metric (NARM) methodology. We led a number of workshops and consultations with our stakeholders from 2015 through to an agreed methodology by Ofgem in December 2018. Whilst this is referenced in this log and is a key building block of our plans, this log focuses on engagement in addition to this.

In planning engagement, insight has been gathered from publicly available documents, business as usual engagement and from stakeholder user group feedback. In addition to focused engagement on reliability, it is crucial engagement in this area also draws on the stakeholder feedback received in other topic areas, e.g. facilitate the energy systems of the future, because reliability has both short and long term impacts on the network.

With this in mind, the following engagement plan was developed for the *provide a safe and reliable network* priority using a mixture of consult and inform (on the spectrum of engagement in section 6.4):

Channel	Who	When (green= complete)
Initial Workshop	NGET stakeholder list invite	September 2017
Initial Consultation	NGET stakeholder list invite	September 2017
Attitudinal research	Domestic consumers	Autumn 2017 & 2018
Tri-Laterals – monetised risk	TOs and Ofgem	Twice monthly 2018
Load & Non-Load Bi-Laterals	DNOs	Sept to Nov 2018
Bespoke session	Energy UK	November 2018

Consumer listening session	Members of public (targeted)	January 2019
Willingness to Pay	Domestic & business consumers	Feb to April 2019
Reliability education document	NGET stakeholder list	March 2019
Webinar	NGET stakeholder list	March 2019
Qualitative research	Domestic consumers	March to May 2019
Cultural research	Domestic consumers	March to June 2019
Load & Non-Load Bi-Laterals	DNOs	April to June 2019
Workshop	NGET stakeholder list	May 2019
Webinars	Targeted stakeholder list	July 2019
Interactive slider tool	Domestic consumers	July to August 2019
Acceptability testing	Domestic consumers	July to August 2019
Webinar	Targeted stakeholder list	October 2019

2. POST-ENGAGEMENT

Summary of engagements on this topic to date below (more detail of outputs in the main body of log). Learnings and outcomes were used to inform our business plans and our ongoing engagement approach throughout creation of the draft business plans, with conclusions only being drawn upon conclusion of our engagement activities, to feed into our formal submission in December.

<table>
<tr><th colspan="4">Summary of engagement to date:</th></tr>
<tr><td></td><th>Channels</th><th colspan="2">Stakeholder segments engaged</th></tr>
<tr><td></td><td>Workshops,
Online survey,
Webinars,
Consultation,
Bespoke sessions
Bi-lateral’s</td><td>Academics
Consumer bodies
Regulatory
Consumer
Small / new cust.
Interest groups</td><td>Large customers
Network companies
Supply chain
Governmental
Other</td></tr>
<tr><td>Engagement feedback to date</td><td colspan="3">• In all scenarios - maintain current levels of reliability (asset risk) in T2
• Increased future dependency on electricity
• Value of Loss Load (VoLL) updates (Energy Not Supplied incentive)
• Do not limit future network development
• Demonstrate long term consumer benefit
• Innovate to deliver an affordable network
• Comply with all relevant safety legislation
• National Grid are safety exemplars in the industry
• Expand NARM to include more assets
• Consumers willing to pay for a reduced probability of power cuts
• Stakeholders had an improved understanding of reliability through our engagement activities
• We should take account of specific local forecasts, sensitivities and projects
• We should ensure that short term decisions do not limit future growth
• Investment decisions should be subject to a whole system assessment
• More of our plan should be covered by outputs (Price Control Deliverables)
• The ENS target should be tougher, and be weighted more towards recent performance
• We should continue with our plans to retain current reliability, and not reduce costs and allow reliability to decrease,</td></tr>
</table>

Learning for future engagements	• Stakeholders like easy access channels such as webinars and bespoke sessions • Resilience and Reliability terms can be confused, important we are clear how these two priorities differ to ensure quality feedback • To consider options for investment, a depth of understanding is required to get to a meaningful discussion. • We should use the same stakeholders as their level of knowledge on the subject improves

3. STAKEHOLDER GROUP CHALLENGE & REVIEW

We had a series of pre-meeting calls asking for clarification on several topics such as our ENS incentive or the actual meaning of our reliability number (99.999964%). Development of these themes has extended the interest areas raised to date which has helped us reflect and change some of our plans, for example, around our stakeholder engagement.

The outcome of the Stakeholder Group challenge and review has resulted on a variety of responses from National Grid:

- We have broadened our scope and reach of consumer & stakeholder engagement resulting in a richer set of feedback from multiple engagement channels
- We have included within the chapter how our ET strategy aligns to stakeholder needs
- We have improved the narrative for our closely associated IT spend in reliability.
- We have reviewed the deliverability of our plans, particularly around non-lead volumes.
- We have provided further justification for the proposed ENS target.
- We have moved from an 'inform' method of engagement to a 'collaborative' approach which will be used for ongoing engagement
- We have developed reliability scenarios, and engaged on these with stakeholders through the October webinar

4. CONCLUSIONS

The feedback obtained to date from the Stakeholder Group has had an impact in the Business Plan in the following points:

- Consumer and stakeholder engagement for reliability is more in depth, covering a variety of channels
- A new three step approach to engage with stakeholders has been adopted ("consult, involve, collaborate")
- Simpler more accessible and transparent narrative is now used in our business plan.
- We have reduced our reliability costs by 2% responding to challenges from stakeholders

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1. PRE-ENGAGEMENT

1.1 WHAT IS THE TOPIC AND WHY IS IT BEING ENGAGED ON?

I. What is the subject: background and all information (evidence) required to understand what is being engaged on; link to outputs (or incentives)

The stakeholder priority, *'I want you to provide a safe and reliable network, so that electricity is there whenever I need it',* is comprised of three main topic areas shown in figure 1.

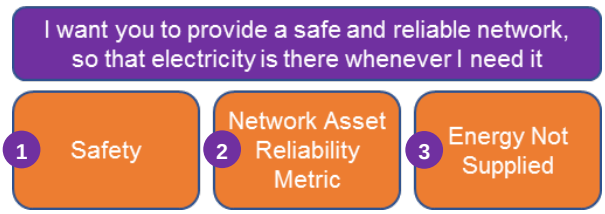


Figure 1 – Key topic areas for engagement

Our business plans which will work towards meeting the stakeholder priority above will include our proposed investments in the areas of **safety** and **reliability**.

1) Safety

Our number one priority as a business is safety. The safety of our employees, contractors, stakeholders and general public is paramount in importance to us and we invest in ensuring we provide a safe environment to work in and around. Whilst we understand that safety is a topic our stakeholders are interested in, the work we do in this area is mainly driven by legislation and standards which must be followed. For this reason, we do not consider safety to be an area in which we can meaningfully engage with stakeholders to develop our plans. We will however look for opportunities to inform stakeholders of the work we are doing to ensure they are confident that we operate a safe network for those that work with or around our assets and educate the public on the dangers of our system to keep them safe.

We are measured on our network reliability through the following outputs and incentives:

2) Price Control Deliverables – e.g. Network Asset Reliability Metric (NARM) & Volume

A fundamental building block of our reliability plans, is the Network Asset Resilience Metric (NARM) methodology, which defines how we assess the 'risk' of the assets on our network. NARM replaces the previous Network Output Measures (NOMs) methodology, and now allows for us to compare risk across our assets in a common currency (£). We led a number of workshops and consultations with our stakeholders from 2015 through to an agreed methodology by Ofgem in December 2018. The NARM methodology, enables a target level of network risk to be calculated. To achieve the target, we condition assess, maintain, refurbish and replace assets, which removes 'risk' from the installed network. To implement NARM we will engage with stakeholders to understand their views on this topic, their desired level of reliability (informing what target we should aim for) and how they think it should be managed throughout RIIO T2 and beyond.

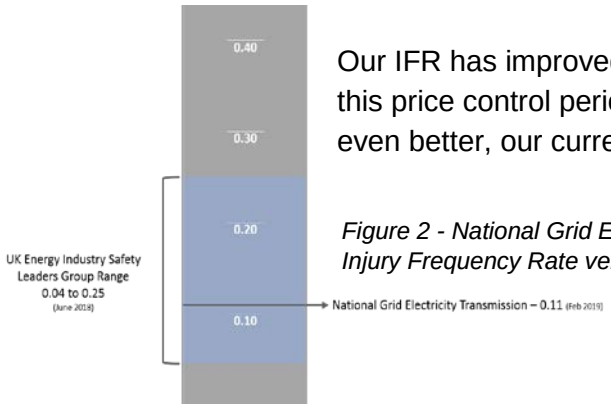
3) Output Delivery Incentives - Energy Not Supplied (ENS)

Reliability is also measured through a lagging incentive called 'Energy Not Supplied' which has an associated penalty or reward depending on the volume of energy to customers that is lost as a result of faults or failures on the network. The target for RIIO-T1 is 316MWh/year, the incentive is asymmetric and has a maximum reward of £3.7m for 0MWh/year and a collar of 3% of revenue penalty per year (approx. £48m).

II. Where are we today/what do we deliver today, and what do we currently understand from stakeholders on future development

1) Safety

Our safety performance is measured by our injury frequency rate (IFR), which counts the number of injuries sustained for every 100,000 hours worked.



Our IFR has improved from an average of 0.16 in the first two years of this price control period to 0.12 in 2017/18. We continue to strive to do even better, our current IFR for the 12 months to end Feb 2019 is 0.11.

Figure 2 - National Grid Electricity Transmission Safety Injury Frequency Rate versus comparators

We have had two major safety incidents in T1:

- East Claydon fatality in 2016 - Where one of our members of staff suffered fatal injuries when operating a lorry loader. This incident resulted in a wholesale review of our safety management systems, and improvements in competence management and setting to work of our staff.
- Impressed Voltage (IV) related near-misses in 2016 that led to improved training and controls for both our staff and contractors for managing IV. The training was rolled out with across our staff and contractors and was shared with the industry through the ENA and recognised as the benchmark standard

2) Price Control Deliverables – Network Asset Reliability Metric (NARM)

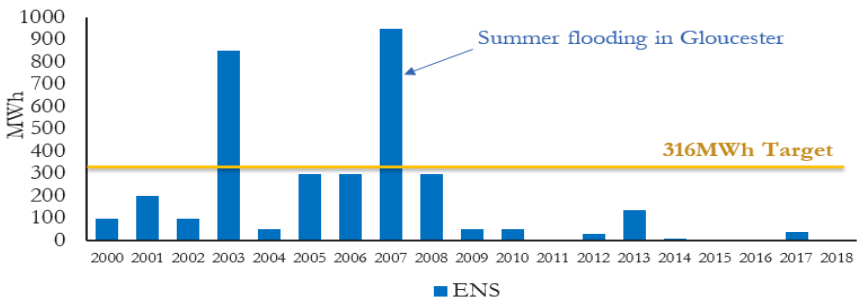
We are forecast to deliver our required level of network risk in RIIO-T1 (i.e. against our NARM target), spending less than allowances to achieve this through innovation, efficiency measures and improved productivity. Where it is justified, we are forecasting to over-deliver on our target (provide a greater level of reliability) but still spending less than allowances.

3) Output Delivery Incentives - Energy Not Supplied

Figure 3 below shows our performance throughout RIIO T1 on our 'Energy Not Supplied' incentive. We propose to keep this incentive for RIIO T2 and given our recent performance under this incentive, we will be suggesting a lower ENS target for T2; incentivising us to continue providing low levels of ENS. This will reduce the potential reward under this incentive and result in quicker penalties for Energy Not Supplied levels worse than the target.

We will be seeking stakeholder views on whether they feel that an incentive mechanism appropriately drives performance and therefore should remain in this area.

Figure 3 - Energy Not Supplied performance from 2000/2001



III. The industry drivers for this topic

Reliability is critical and central to the provision of electricity. Through our engagement on our 'Facilitating the transition to the energy system of the future' priority, it is clear that there will be a continuing, and likely greater, dependence on the electricity network in the future. This view is based on expected future growth of electric vehicles and some electrification of heat. With a greater

dependence on the electricity network, our stakeholders may need a greater level of reliability in the future.

Our initial engagement through the 2017 workshops and consultation helped gain initial feedback on this;

- In regard to future reliability, the various stakeholders had different opinions. Some believed that reliability will become more important because of our increasing reliance on electronic devices. Others believed domestic side generation and batteries could cover 'gaps' in network reliability.
- There was however a general view that current levels of reliability have become the norm and that lower levels would not be acceptable. This ultimately came down to our dependence in modern life on power, with reliance on electronic communication and broadband/wifi.

IV. The link to the stakeholder priorities and the scale/materiality of the topics

We have engaged with our wider stakeholders to inform early development of our RIIO T2 business plans. Our initial RIIO T2 engagement workshop and consultation was published in July 2017, the purpose of which was to both understand what is important to our stakeholders and what they would like to see within our RIIO T2 business plans.

Through this engagement, it was clear that reliability is a key topic which is important to our stakeholders. Within the workshop, we asked stakeholders to rank topics based on the feedback we had already received in order of importance to them.

The top two results were;

1) Provide an uninterrupted supply of energy.
2) Deliver value for money

This has been confirmed in our subsequent engagement activities, including consultation in March 2018 to validate our priorities with stakeholders. As a result, ***'I want you to provide a safe and reliable network, so that electricity is there whenever I need it'*** is one of our key stakeholder priorities in our RIIO T2 business plans.

A reliable network is achieved by ensuring our assets are sufficiently reliable through 'interventions' such as inspection, maintenance, refurbishment and replacement. Significant investment is required in order to achieve the 'status quo' where the amount of risk on the network does not increase year on year. This level of reliability is expected by our stakeholders and as such, the **materiality of this priority is high**.

This is illustrated in Figure 4, which highlights the total expenditure deployed on delivering outputs within this priority (i.e. non-load related) over the first five years of RIIO-T1 was approximately £2bn.

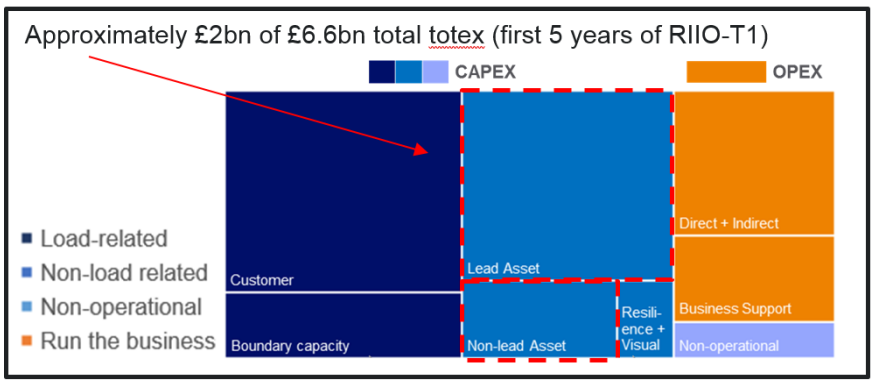


Figure 4 – Materiality of priority

V. Flag interactions with other topics

As this topic focuses on both the short and long term impacts our assets have on the network, it is crucial that engagement in this area also draws on feedback received in the following topic areas:

- **Facilitate the transition to the energy system of the future** – what role is there for transmission in the future, how might the need for the network change over time. If there is a greater dependence on the electricity network in the future. We will want to understand from our stakeholders if they consider this to be a driver for a greater level of reliability and if so, what does this mean for investment within RIIO T2
- **Protected from external threats** – relating to protecting the electricity network from external threats such as cyber-attack, physical attack and extreme weather. How the system is tested (resilience) over time may affect what reliability is required from our assets.
- **Easy to connect and use** – the type of customer connections will contribute to the overall asset health of the network, and what service will our customers want now and in the future
- **Be innovative** – we will also detail within our wider business plans how we plan to improve network reliability through innovative solutions.
- **Care for communities & environment** – through managing our asset health through maintenance and replacement, what standards we should be aiming to meet.
- **Provide value for money** – how do we strike the right balance of investment over time to meet consumers' requirements now and in the future.

It also directly relates to one of our consumer priorities **"I want to use energy as and when I want it".**

VI. Topic prioritisation: materiality vs ease of engagement

During our initial engagement, we set the context for those stakeholders which potentially were not previously informed in this area. Based on the feedback received, it is clear that this was a complex topic for which we needed to provide context and explain in a simple manner. Some were left questioning:

1. ***How close are we to network failures?*** We explained that during 2015/16, 374 of the GB events were on the National Grid system and only 1.3% resulted in loss of supply. However there remained confusion around the interactions between transmission and distribution failures and the impact on energy not supplied.
2. ***What does 99.999996% actually mean?*** Whilst we have high levels of system reliability, explaining it as 'we're reliable 99.999996% of the time' left consumers wondering how that relates to them. Therefore, we will be changing our approach going forward and will focus instead on 'Energy Not Supplied' and how this relates to hours lost for consumers.
3. ***How much are we paying for each part of our bill and what do we receive in return?*** Whilst the breakdown of electricity bills proved useful, with National Grid costs and the proportion of which relates to 'reliability', it became apparent more context was needed to get to a useful debate on investment options.

With regards to the engagement with stakeholders and consumers we will aim to (i) take time to educate, (ii) bring to life for each stakeholder, and then (iii) the trade-offs associated with different levels of reliability, especially regarding costs.

VII. Establish boundaries of disclosure for engagement – what is shared, what is not shared, and what is shared after the engagement.

We should be relatively open to sharing information with our stakeholders on this topic, with the exception of detailed asset and locational information. This topic impacts many stakeholders in different ways, so we will need to tailor our engagement accordingly.

1.2 WHAT ARE THE DESIRED OUTCOMES FOR THIS ENGAGEMENT?

I. What are the desired outcomes from this engagement? (incl. where you most need to engage)

Desired outcomes from this engagement are to:

i. Inform stakeholders on the interactions between our safety and asset management approach; and the impact on services they receive,
ii. Gather stakeholder views on priorities and investment options we could take to manage reliability over the short and long term, and ultimately
iii. Conclude what RIIO-2 price control framework targets and business plan investments we should deliver from the insights gained.

We identified that historically consumer engagement has been a gap for us – our consumer bill impact is relatively small and we are two steps removed from the end consumer. However, consumer needs are now very much in focus for two main reasons:

- Consumers are **facing cost pressures** from multiple sources, not just energy bills
- In the case of the **fuel poor**, new technologies such as electric vehicles and domestic low carbon generation could push them further into fuel poverty.

We are seeking to play our part in meeting consumer needs both now and in the future and are engaging directly with them to give a whole new source of insight which we will use to shape what we do.

II. What are the measures of success?

Measures of success in planning engagement and engaging with our stakeholders on the topic of reliability can be summarised as follows in table 1;

Principles		Check
1	**Define and map our stakeholders** – We want to understand who our stakeholders are, which of them are either impacted or interested in this topic and why and determine how many stakeholders we will want to engage with and how.	✓
2	**Be clear what we want to achieve with "engagement"** – Our desired outcomes for engagement are outlined above in section 1.2 I, summarised as understanding our stakeholders desired balance between risk, availability and affordability and agreeing an approach for sharing plans for our stakeholders to help develop.	✓
3	**Understand the "spectrum of participation" and difference between each part of that spectrum** - This is part of our stakeholder mapping and understanding the impact and interest of our stakeholders as shown in figure 6.	✓
4	**Engage early in the process, review and improve throughout** – We are already adapting our engagement based on feedback received from previous engagement approaches on this subject.	✓
5	**Leadership** – effective stakeholder engagement must be led from the top of the organisation. Our BAU engagement with top down NPS demonstrates our ongoing relationships with our customers, whereby we actively seek to gain their viewpoint. Reliability will be one of the topics within our RIIO T2 plans that could potentially be discussed at executive level.	✓
6	**Commitment** – to listen to stakeholders' views and act on or respond to them. We have been responsive to date in designing our business plans are created on the back of stakeholder feedback to date. To be checked once all evidence and engagement is complete.	✓
7	**Objectivity** – We aim to have open approach to obtaining stakeholders' views and to interpreting them. Our planned engagement aims to share our current plans and ask for stakeholder views with opportunity to discuss their priorities and expected main challenges in the next few years.	✓
8	**Transparency** – to build stakeholder trust and show that we take their views seriously. We aim to do this by sharing all views back with our stakeholders following engagement through minute taking. Through our DNO engagement we plan to revisit our DNO's following our January consultation document to play back views and share more detailed and developed business plans.	✓
9	**Be inclusive**: We plan to engage with a range of stakeholders on this topic and understand their views to help shape our business plans. The topic of reliability impacts different stakeholders in different ways so it is important for us to gather a range of views.	✓
10	**Be aware that those who often participate** - As we did not receive any engagement from energy suppliers within our consultation or workshop, this may be the case. Even if it is to confirm that a	✓

	stakeholder is not interested in this topic, we aim to engage with them to confirm this and ensure they have not just missed an opportunity to be engaged.	
11	**Be accessible to all** – Whilst considering who to engage with on this topic, we are also considering the most appropriate way of engaging with stakeholders.	✓
12	**Use targeted approaches to tailor engagement to suit the knowledge and awareness of different groups -** we will be looking to tailor our engagement based on the interest of the stakeholder e.g. DNOs have shown high levels of engagements due to the coordination and cooperation that we will be capable of having going forward with our reliability plans.	✓
13	**An ongoing process that is embedded across the business** – not just a stand-alone business planning/price control review exercise. Whilst we want to gain stakeholder views on RIIO T2 business plans, we want to establish ongoing forms of engagement with them if this is a topic in which they would like to continue engagement.	✓
14	**Evidence based** – use a full range of available sources of info to identify priorities, views and challenges (e.g. operational insight, bespoke research)	✓
15	**Gather evidence through a range of methodologies and tools including willingness to pay, qualitative research, surveys, complaints intelligence, market data** – this is planned for (see engagement approach and post engagement feedback for updates)	✓
16	**Be responsive** – seek to adopt a flexible process to engagement, responding to the information revealed as the process progresses. We have been responsive to date (how we design material following listen phase feedback and in DNO engagement feedback) and will continue through ongoing engagement.	✓
17	**Demonstrate impact of engagement** – ensure that the engagement design process plans for and allows evaluation of success	✓
18	**Innovation** – trying new and innovative ways of engaging. See section 1.4 IV for planned engagement innovation including Slider tools, live feedback and online mediums.	✓

Table 1 – Principles of successful stakeholder engagement

III. What are the questions being asked from engagement? Have they been reviewed to be transparent and unbiased?

Figure 5 below gives an overview of the **topics areas** and **outputs** which we sought feedback through our July engagement activities, including why they are being asked. A variety of **inputs** were used to decide stakeholder question areas. These include Ofgem framework consultations, feedback from the 'Listen' phase and stakeholder user group feedback. They do not represent the final questions to be asked externally, these will be made bespoke for each engagement activity, and confirmed in later sections

of this log.

In October more focussed questions were asked on specific proposals regarding PCD development, options for the ENS incentive and the impact of a low capex plan.

To what extent do you agree with the asset areas that we are considering? **PCDs:** Gain stakeholder opinion on asset areas where we propose to develop PCDs	**Do you think that this is a credible scenario that should be explored further?** **NARM:** Gather stakeholder opinion of a lower Capex plan with resulting increase in network risk
To what extent do you agree that we should be taking into account recent performance when determining the ENS target for T2? **ENS:** Gather stakeholder opinions on how ENS target is calculated	**Which option best reflects your views?** **ENS:** Gather stakeholder opinions on how ENS target is calculated

To make sure the questions asked were transparent and unbiased we: (i) used best practice developed through engagement to date (ii) reviewed with an independent consultancy.

1.3 WHAT EXISTING INSIGHT HAS BEEN UTILISED?

I. What existing insight has been drawn upon; BAU engagement, satisfaction survey insight, FES horizon scanning; output from listen phase

Due to the vast amount of change the energy industry is undergoing, there is a considerable amount of publicly available documents which have helped shape our thoughts. Most of the documents capture the views of a diverse background of stakeholders from Distribution and other Transmission Owners to consumers. The following are just some of the examples of relevant insights considered in the topic reliability of our network.

Publicly available insights on the role of electricity transmission

The following documents are useful in **understanding future potential operating environment** of our network to allow us to understand uncertainties and associated value/risks associated with long term investment. They also help **inform us of our stakeholders views** of the future, ahead of engagement on reliability.

Distribution Network Owners

Energy Networks Association – *Future Worlds*

"'Future Worlds' is the output of a substantial stakeholder engagement process to map and describe a number of potential future electricity networks ("Future Worlds") capable of supporting the smart decentralised energy industry that the UK is transitioning towards." LINK TO DOCUMENT

The document below is useful to understand from industry experts; how our network could be tested over time thinking about the changing energy landscape. The work also **concludes that there will be a greater dependency on electricity in the future**.

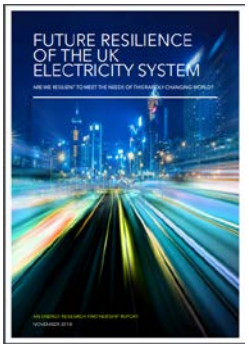
Electricity System Operator

Future Energy Scenarios 2018

This is a document produced by NGESO every year that identifies a range of credible scenarios for the next 30 years and beyond. These consider how much energy we might need and where it comes from. They also look at what the changes might mean for the industry and for its customers. NGET uses these scenarios as the basis of our studies and get an idea of future investments. LINK TO DOCUMENT

The document below is useful **analysis**, as VoLL is used in **calibrating** our current **Energy Not Supplied** incentive mechanism.

Think tanks & Working groups



Future Resilience of the UK Electricity System – Energy Research Partnership Report

This is report is based on the information provided by a range of stakeholders which formed part of the Working group (of which NGET was a member) and set out to express their organisation's views on the UK electricity system resilience and potential future impact of the changing energy landscape LINK TO DOCUMENT

Economic consultancies

The Value of Loss Load (VoLL) for Electricity in Great Britain – London Economics

This is a report that estimates the value of loss load for domestic, small and medium sized businesses and industrial and commercial electricity consumers in GB. It represents the value that electricity users attribute to security of electricity supply. LINK TO DOCUMENT

A new network risk metholdogy have been developed

A fundamental building block of our reliability plans, is the Network Asset Resilience Metric (NARM) methodology. We led a number of workshops and consultations with our stakeholders across the energy industry from 2015 through to an agreed methodology by Ofgem in December 2018. It is key that we **now use this methodology** to describe investment options and set our business plan targets for T2, through engagement with our stakeholders and consumers.

We also have a wealth of business-as-usual (BAU) engagement ongoing across our organisation, which we can use to inform our approach for reliability in T2. These include:

BAU engagement

Joint Technical Planning Meeting

There are well established relationships between National Grid and our DNO's through their regular Joint Technical Planning Meetings (JTPMs) where discussions are held around the technical aspects of network development. Our asset replacement and maintenance plans form a regular item on the JTPM agendas.

Outcomes: lessons learnt and feedback on operational issues during T1, for example on co-ordination and **early communication of our asset replacement plans**, have been taken forward into our T2 engagement approach.

Participation in trade associations

We are active members in asset management and engineering associations, which bring a wealth of knowledge sharing and best practice information into our organisation.

These forums are used to understand new technologies, latest developments in the energy industry and views on the future of energy networks.

Outcomes include **development of whole system approaches** from the ENA open networks project

Top down Net Promotor Score & Customer Satisfaction Surveys

High level insights are gained through these mediums which we can use to bespoke engagement our approach. Examples include insight into electricity suppliers concerns over volatility of charging. Other examples include where work and cost could have been mitigated through early dialogue between our organisation and DNOs. This was emphasised during our Phase 1 engagement with DNOs and it was agreed that cooperation and **whole system thinking** are key moving forward with our RIIO T2 plans.

We will also further test investment option impact on volatility of charges with electricity suppliers.

Legislative and regulatory

We regularly meet with governmental and other regulatory bodies to ensure the work we carry out meets the standards set. We recognise that good stakeholder engagement with the UK energy supply industry, HSE and wider industries is important for us to continually improve our company and industry safety performance.
This also includes involvement in the development of security of supply standards (SQSS), to **ensure our asset replacements plans continue meet the standards set**.

Our initial engagement has provided valuable insight for our safety and reliability plans, with results covered in more detail in section 2. The feedback below represents some of the wider views expressed on the future of the network that will be taken into account in our approach to reliability engagement.

"The system that we've used over the last few decades are not ready and not suitable to embrace this new change in technology that is coming onto our system."

"What they should be responsible for is making sure that we have a transmission level system that is absolutely capable of dealing with all of the changes that are likely to be thrown against it."

II. What are the gaps in existing insight you wish to fill from this engagement? (Stakeholders not previously engaged or no existing insight exists)

Our initial phase of engagement gave some valuable insight, identifying gaps in gathering of views of some of our stakeholder segments. An example of this was limited participation and feedback from electricity suppliers. The proportion of transmission costs that flow through electricity suppliers and onto consumers is also significant, as can be seen in the table 2:

	Generators	Electricity Distribution Networks & Interconnectors	Electricity Suppliers	Directly Connected Demand
Number	**109** on/off shore customers	**14** licensed DNOs owned by 6 groups	**96** licensed suppliers	**13** customers
Total TNUoS Charges	17%	-	83%	-
Total National Grid Charges	22%	4%	73%	1%

Table 2 – Stakeholder proportion of TNUoS and NG charges

This engagement gap is one we aim to fill in the next phase, seeking to understand what matters to their business and the customers they serve.

1.4 WHAT IS THE ENGAGEMENT APPROACH?

I. What insight have been gathered to inform engagement approach?

The primary purpose of engagement on this topic is to consult our stakeholders on what we need to include in our plans for RIIO-2, by sharing options (including our current/default approach where appropriate), understanding their priorities and preferences, and including any new insight in how we build our plans. In order to do this effectively, we also need to inform stakeholders. Different stakeholders have differing levels of knowledge about what we do, so informing stakeholders sufficiently at the beginning of our engagement is important to allow them to contribute in a meaningful way and provide an informed opinion.

II. Approach to engagement and why have you chosen this approach, is it: inform, consult, Involve, collaborate, empower

The approach chosen to engaging with stakeholders is both topic and stakeholder specific. Stakeholder mapping across segments (see Section 6.3 for a full list) was undertaken to establish the approach, as illustrated in Figure 6.

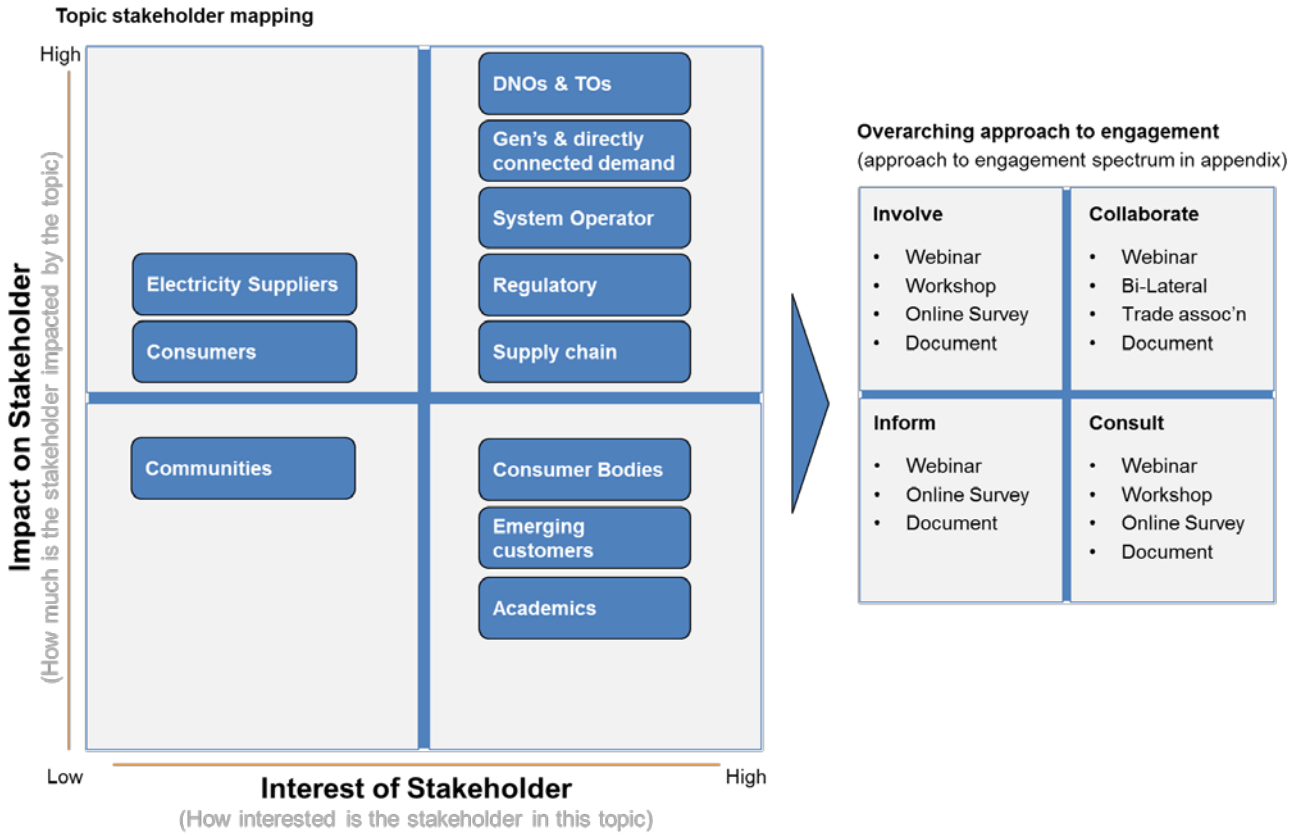


Figure 6 – Topic stakeholder mapping

We sought to understand the impact and interest of the stakeholder group to tailor engagement:

Engagement approach for stakeholder each group

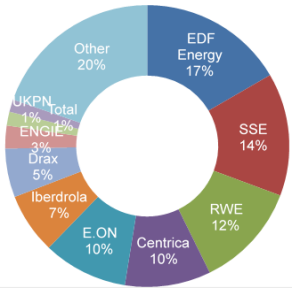
Distribution Network Owners

The approach to the meetings held with the various DNO's will aim to discuss our assumptions on which our current T2 thoughts were based, considerations of Monetisation of Risk[1] and whole system thinking. The purpose of the meetings will be to agree how we can work together to share our non-load plans, to allow for flexible planning, coordination of site activities and interventions, as well as gaining views on levels of reliability needed for a changing energy landscape. From feedback received we will discuss both load and non-load related plans around their grid supply points in the next phase.

In addition to their feedback on the questions in section 1.2, we are seeking a common agreement of localised plans that **delivers the best whole system approach**.

Electricity Suppliers

Plug the attendance gaps from the listen phase by targeted engagement advertising using existing relationships. Create interest and offer innovative engagement approaches to reduce the resource burden. In addition to their feedback on the questions in section 1.2, we are seeking specific feedback on the impact of our plans **on their business and customers**. We aim to target the 6 biggest suppliers, and newer, smaller suppliers who may be impacted differently by our plans including volatility of charges.



Generators & directly connected demand Due to the high number of generators and directly connected demand stakeholders, which are spread out across England and Wales it will be best to use the engagement technique of webinars in order to approach as many as possible. From there, we will be able to gain further insight on their priorities in the topic of reliability. We understand the limitations of webinars as they are unable to provide a personal engagement and gain their specific views. We will therefore also be making use of trade organisations and offering bi-laterals where suitable. We will be keen to understand their business drivers, co-ordinating locals plans to ensure optimal interventions over the long term.	**Academics & Asset Management experts** The stakeholder mapping exercise, carried out internally, showed that academics would likely have high interest but may not be impacted by reliability. We have a large number of partner universities working on various projects and which are utilised for consulting purposes. We will use existing relationships held across the business to engage with the academics and asset management, to **test our asset management approach**. We have engaged bilaterally with Strathclyde University on a number of topics, including reliability and NOMs to understand their views. The experts at Strathclyde often work on a consultancy basis with Ofgem and Scottish Government giving important insight into a wider perspective on regulatory issues.
Ofgem & other gov bodies & TOs Framework developments, including how we define cost benefit analysis parameters and set reliability targets, will be driven through working groups as part of the consultation. We will engage bi and tri-laterally on top of these to align views and take share stakeholder feedback received. We will be seeking attendance at webinars and workshops to hear stakeholder views and their participation in discussions.	**Electricity System Operator (ESO)** Our reliability and safety approach will have an affect on system availability. We will share our business plans with the ESO bi-laterally to understand any deliverability constraints and optimise plans. We will also seek their input in wider stakeholder sessions through webinars and workshops. The ESO will be able to describe the impact of any plans and options on the operation of the network and SQSS assumptions, including how might saving transmission charges
Supply Chain Those who provide contractor resources, materials and who deliver the end solutions for our business plans will be engaged through webinars and workshops. We will seek their views on how asset management approach affect each business, what is important to them in managing and resourcing their organisation, what affect any changes may have on costs.	**Consumer bodies and communities** We will make use of recognised representatives of communities and consumer bodies, where engagement channels only allow for limited attendance, for example during workshops. Representatives will be able to bring to life impact of costs and consequences of options on people and communities they represent.

Consumer engagement approach

We recognise that historically consumer engagement has been a gap for us – our consumer bill impact is relatively small and we are two steps removed from the end consumer. However, consumer needs are now very much in focus for two main reasons: (1) Consumers are facing cost pressures from multiple sources, not just energy bills, and (2) In the case of the fuel poor, new technologies such as Electric Vehicles and domestic low carbon generation could push them further into fuel poverty. This was also one of **challenge areas from the Stakeholder User Group** in November 2018 in promoting **further consumer engagement** for reliability topic. This is being addressed as we are seeking to play our part in meeting consumer needs both now and in the future and are engaging directly with them to give a whole new source of insight which we will use to shape what we do.

Within **our consumer engagement programme, reliability features heavily** as one of our consumer priorities.

Channel	Why	How	Scope	Use
Willingness to Pay	To generate values for different levels of products/services.	Combined with other TOs, nationally representative stated preference survey (online/in-home) Qualitative and Quantitative testing of topics and questions Triangulations of results with other published data	Domestic and business consumers	Willingness to pay for an increased, decreased or the same risk of power cuts. Results compared to other VoLL studies to set reliability targets (Energy Not Supplied)

Interactive Slider Tool	To provide another source of willingness to pay data, asked in a more interactive way, with a wider scope and being slightly less theoretical than our willingness to pay research.	Using the tool as the focus of a nationally representative study of domestic consumers. Beyond this, the tool will be published on our website for anyone to use, and we will update the tool on an annual basis as part of our ongoing consumer engagement programme.	Domestic consumers only.	As a further source of data to ensure our plans are within the parameters of what consumers' value.
Qualitative research	To explore reliability topics (amongst others) in more detail, to provide more in-depth views than the channels above.	Working with consumer research experts, using deliberative research techniques, focus groups and consumer workshops as appropriate.	More in-depth on the topics with greatest consumer relevance.	As a check against other stakeholder feedback. May highlight the need for further research/ engagement
Acceptability testing	To understand consumers' willingness to pay for our actual plans.	To be defined, but via an expert third party.	All areas of our plans (post-July submission).	To understand what we need to change before our next business plan submission.
Cultural research and consumer trends data	To understand broader consumer attitudes and trends, particularly useful when looking at the needs of future consumers.	Paid-for access to third party data	Attitudes and trends, current and future.	Understand likely future trends and therefore the future need for a reliable network
Attitudinal Research	To understand consumers' attitudes and priorities. To gauge current awareness and perceptions of National Grid.	Commissioned with a third party, high volume, nationally representative survey.	Awareness and perceptions only. This is not two-way business plan engagement.	To potentially highlight areas for other research/ engagement.

III. Engagement activities, methodologies and tools (ongoing engagement, bespoke engagement, willingness to pay, qualitative research, surveys, complaints intelligence, market data) and sources from which decision will be made.

Channel	Who	When (green= complete)
Initial Workshop	NGET stakeholder list invite	September 2017
Initial Consultation	NGET stakeholder list invite	September 2017
Attitudinal research	Domestic consumers	Autumn 2017 & 2018
Tri-Laterals – monetised risk	TOs and Ofgem	Twice monthly 2018
Load & Non-Load Bi-Laterals	DNOs	Sept to Nov 2018
Bespoke session	Energy UK	November 2018
Consumer listening session	Members of public (targeted)	January 2019
Willingness to Pay	Domestic & business consumers	Feb to April 2019
Reliability education document	NGET stakeholder list	March 2019
Webinar	NGET stakeholder list	March 2019
Qualitative research	Domestic consumers	March to May 2019
Cultural research	Domestic consumers	March to June 2019
Load & Non-Load Bi-Laterals	DNOs	April to June 2019

Workshop	NGET stakeholder list	May 2019
Webinars	Targeted stakeholder list	July 2019
Interactive slider tool	Domestic consumers	July to August 2019
Acceptability testing	Domestic consumers	July to August 2019
Webinar	Targeted stakeholder list	October 2019

Table 3 – Engagement activities

IV. What innovative engagement methods have you considered?

1. When engagement events are carried out, the incorporation of **live feedback tools** prove to be effective amongst stakeholders. It allows for all members to see the questions that others have which embraces more thoughts to be raised.
2. In our consumer engagement, we will design an **online Interactive Slider tool** (see detail in to gather feedback and bring reliability to life for consumers.
3. We will also make use of **online mediums** such as webinars, from which we have seen positive feedback (across engagement priorities) as they **require less time and resource commitment from stakeholders** to attend, and should help us to plug the attendance/feedback gaps we've previously experienced and reduce any engagement fatigue from our stakeholders.

V. Stakeholder mapping – who are key stakeholders (anyone who believes they are affected by your decisions), which segment (and why, including impact and interest of topic on stakeholder) Recognising the different threads of the public interest – stakeholders, customers, consumers, citizens, communities (geographical and interest)

The following illustration presents a summary of the earlier detailed stakeholder mapping:

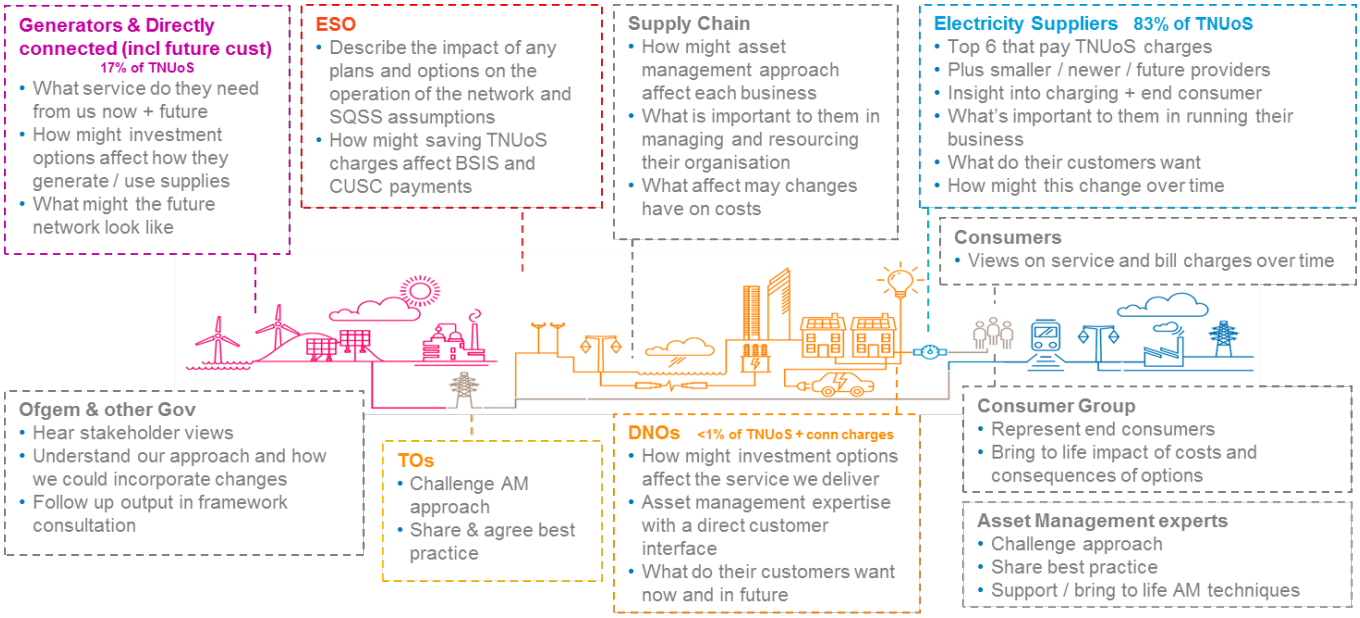


Figure 7 – Topic stakeholder mapping summary

The approach chosen to engaging with stakeholders is both topic and stakeholder specific. We have further reviewed the question topic areas from section 1.2 and mapped them to each stakeholder group, based on interest and impact of each question:

(note these do not represent question wording to be used externally, and serve only to highlight question topic areas)

	Question around our AM approach?	What level of reliability should we have?	Period target should be set	Manage overall level of network risk?	How do we ensure the best whole system solution?	Should we weight conseq'c in different areas?	Should we be rewarded for reducing ENS?	How should we manage changes to network risk?	Invest to accelerate the low carbon agenda?	Increased protection near urban env	Should we remove PCBs from our assets?
AM experts	x	x	x	x	x	x			x	x	
DNOs	x	x	x	x	x	x	x	x	x	x	x
TOs	x	x	x	x	x		x	x	x	x	x
Other Gov		x	x		x	x	x	x	x	x	x
Ofgem	x	x	x			x	x	x	x	x	x
Consumer Rep		x	x		x	x	x	x	x	x	x
Consumer		x	x		x	x	x	x	x	x	x
Gen's & direct		x	x			x	x		x	x	
Emerging cust		x			x	x	x		x		
ESO		x			x	x	x		x		
ET suppliers								x	x		
Supply chain			x						x		

Table 4 – stakeholder question topic mapping

This matrix will be used to target and track stakeholder attendance and feedback, in the planned engagement activities.

……

2. POST-ENGAGEMENT

2.1 WHAT WERE THE ENGAGEMENT OUTCOMES AND HOW HAS THIS INFLUENCED OPTIONS?

2.2 WHAT WAS THE FEEDBACK ON THE ENGAGEMENT APPROACH?

Summary of engagement feedback on this topic to date below. No final conclusions will be drawn until engagements have been completed, however learnings and outcomes inform the development of our business plans and to inform our ongoing engagement approach.

Channel	Who	When (green= complete)
Initial Workshop	NGET stakeholder list invite	September 2017
Initial Consultation	NGET stakeholder list invite	September 2017

In order to get the most out of our workshops (both for us and our stakeholders), we developed a format to give our attendees the maximum opportunity to have their voices heard. We used learning from other organisations (what to do and what not to do), and created events based around four of the key topics that came out of our previous research.

These were:

1. Reliability of the Transmission network: what levels of reliability do our stakeholders want from our network?
2. The future role of Transmission: given the ongoing developments in new technologies and uncertainty around what the future might look like, what do stakeholders want from our network in future?
3. Connections to our network: what options could we explore around this?
4. The environment and our work with communities: covering a range of sub-topics, what should we be doing in this area?

46 attendees in total at the workshop, in addition, we received 14 responses to our online consultation from stakeholder organisations. We asked organisations to classify themselves into stakeholder groups. 58 of the 60 respondents provided data, split shown in the table.

Stakeholder group	Attendees	Percentage
Energy network owner or operator	15	26%
Environmental organisation	11	19%
Other energy industry	7	12%
Customer	6	10%
Other non-energy industry	6	10%
University, think tank or academic	4	7%
Regulator or government	4	7%
Consumer interest organisation	3	5%
Energy supplier	2	3%

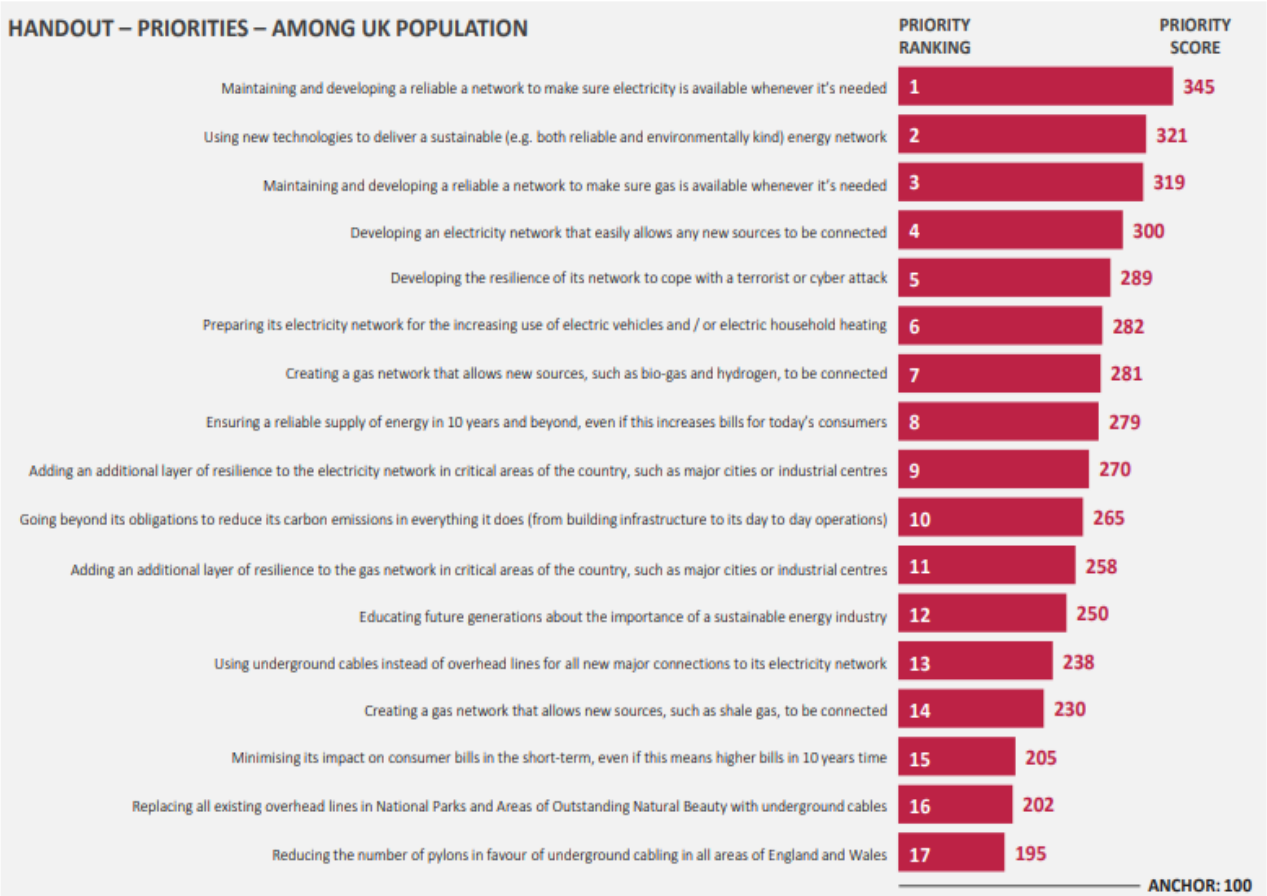
At the three workshops, two clear priorities emerged regarding what stakeholders need from National Grid:
1) A reliable network to provide security of supply
2) Value for money

We also received a further 665 responses from members of the public. Whilst we covered a fairly wide spread of stakeholder groups across organisations, the public response was heavily concentrated on people who live in areas where new network building projects are currently proposed.

Summary of feedback
Reliability of the Transmission network, both now and in the future, is key to ensuring the required levels of security of supply, but National Grid needs to explore options with stakeholders in more detail, particularly regarding the cost-reliability trade-off. There is some appetite to explore options which could vary reliability geographically or by time of day.

Attitudinal research	Domestic consumers	Autumn 2017

Our first specific piece of consumer research to include this topic was our 2017 Populus survey, within which we asked over 2,000 consumers to tell us what their priority areas of focus are when it comes to transmission-related topics. From 17 different electricity and gas options, consumers clearly rated '**maintaining and developing a reliable network** to make sure electricity is available whenever it's needed' as their **number one priority**.



Tri-Laterals – monetised risk	TOs and Ofgem	Twice monthly 2018 to '19

Framework developments, including how we define cost benefit analysis parameters and set reliability targets, have been driven through working groups as part of the consultation. We have also conducted extensive engagement bi and tri-laterally on top of these to align views and take share stakeholder feedback received. This has included DNOs.

- *Full analysis and summary to be updated following sector specific response.*

Load & Non-Load Bi-Laterals	DNOs	Sept to Nov 2018

Segmental analysis		**Organisations**	
Network companies	6	Western Power Distribution Northern Power Grid Southern Scottish Energy Scottish Power Energy Networks	UK Power Networks Electricity North West

We set out to get feedback on:

- Our generation and demand assumptions
- How we work together, including on whole system solutions
- Investment plans in their areas, both load related and non-load plans
- Allowances and uncertainty mechanisms

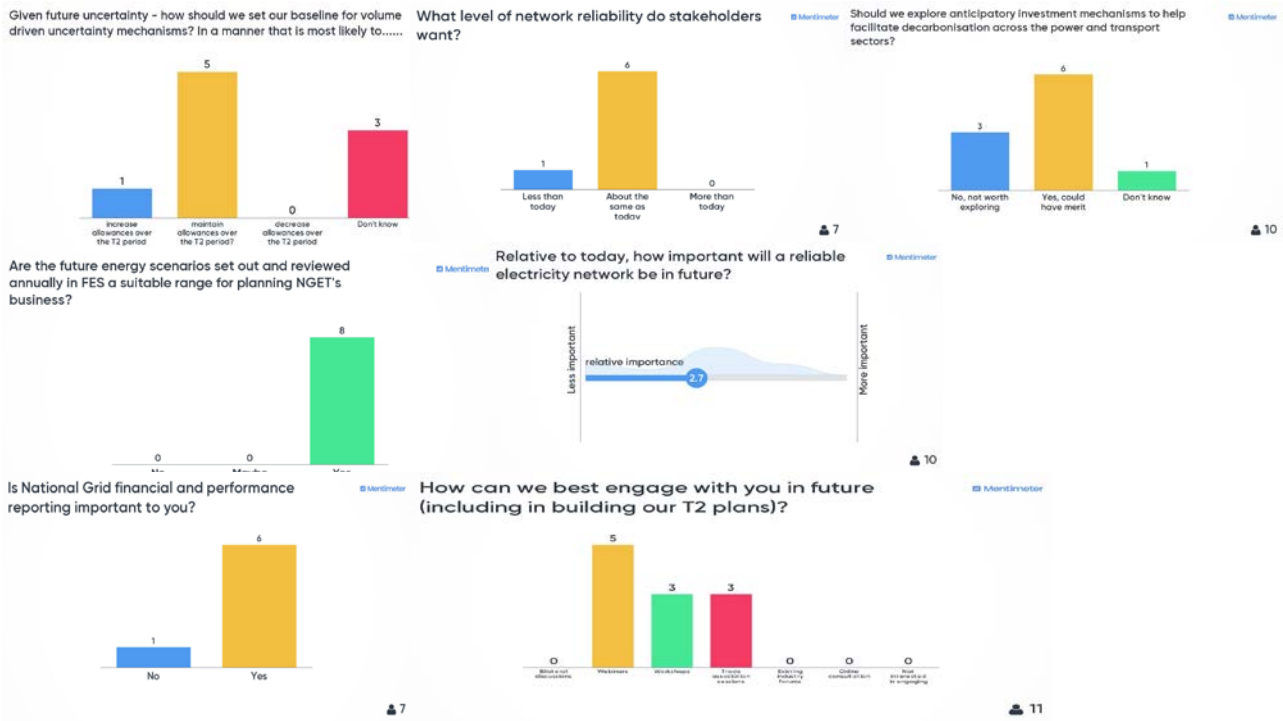
What were the key outcomes? What do we need to follow up on in Phase 2?

1. DNOs stated overall national trends assumed are reasonable.
2. DNOs are keen for our plans to take account of specific local forecasts, sensitivities and projects – the national trends will not capture all investment needs.
3. DNOs want to ensure that NGs short term decisions do not limit future growth – e.g. asset replacement and removal at sites where customer may want to connect.
4. DNOs understood the change in NOMs methodology may change our plans, and requested a detailed discussion when we have transitioned the plan to monetised risk. Our approach will change as a result of feedback (content & medium)
5. Investment decisions should be subject to a whole system assessment to find the best option. Collaborative working and increased data sharing between networks and the ESO will be necessary to deliver this

Bespoke session	Energy UK	November 2018

Segmental analysis		Organisations	
Large customers	1	OVO	Green Frog Power
Supply chain	2	Ward Williams Associates	UK Power Reserve (Sembcorp)
Other	2	Orsted	ESB Energy
Network companies	8	Vitol	Innogy
		Energy UK	RWE Supply & Trading
		Renewable Energy Systems	Shell
		Centrica	

On the 30th November 2018 we formed part of a bespoke session in the Energy UK – NECC. We set out to engage on explaining the RIIO T2 process, ensuring our plans deliver hat we want, both our load and non-load related plans and finally view on transparency – reporting. Throughout the session, we collected information using *Mentimeter* in certain aspects. The following diagram shows the results taken from the participants as in the table above.



Summary of feedback

With regards to reliability it was seen that the average score reflected that the participants thought maintaining a level of reliability in future relative to today was relatively important with score of 2.7 out 5. The sample size, although small, still showed that various stakeholders agreed that the reliability of our network is important and it would have a direct impact on them.

Consumer listening session	Members of public (targeted)	January 2019

On 23rd January, we ran a workshop with a small group of consumers between the ages of 18 and 45+. The goal of the session was to understand the views of members of the public in relation to our business. This session was run with the help of *explain* and the material was reviewed *frontier* to assure that our questions were unbiased and allow the members of the workshop to have freedom to express their views. With relation to the discussion material *frontier* were pleased and thought that it was well structured and appreciated our ranking exercise.

In terms of areas of focus participants were asked to think about different responsibilities National Grid have and whether they thought each area was something National Grid should be focusing on. They were asked to order each of the areas discussed in terms of how important they were. The scores were then combined to give an overall ranking. As with our previous Populus research, having a "**Reliable supply of electricity" was voted as the top priority**.

Area	Order of importance	Mean score out of 5
Reliable supply of electricity	1st	4.1
Being a responsible business	2nd	3.4
Helping the move towards low carbon economy	3rd	2.8
Keeping electricity bills down	4th	2.6
Helping the fuel poor and vulnerable consumers	5th	2.1

Participants were also asked who should pay for some of the areas that had been discussed throughout the workshop. They were asked whether they would be willing to pay slightly more on their annual bill (less than £1) to help pay for the areas discussed. Results were as below, with **reliability again ranked top**:

Area	Yes	No	Unsure
Ensuring a reliable electricity supply	69%	22%	8%
Helping the move towards a low carbon economy	61%	28%	11%
Helping the fuel poor and vulnerable consumers	44%	50%	6%
Generally being a responsible business	28%	72%	0%

Below are some comments made by the sample group in relation to reliability related to the questions outlined above for those who voted yes:

So, how important do you think it is for National Grid to help keep bills down for everyone?
"If they were to compromise the reliability of that energy source to make it cheaper then no., I think it is more important that I have reliable electricity rather than a cheaper bill"

Those of you who votes yes, why did you say that?
"For me, I think it should be standard, they should be doing that but also, its only £1 a year..."

So, you would pay the £1 to keep the same standard of service?
"Otherwise we will go back to keep having black outs with candles"

Willingness to Pay	Domestic & business consumers	Feb to April 2019

A research study was carried out in early 2019 by NERA and Explain to have a better idea of the Willingness to Pay (WTP) of our consumers.
For this 1,000 domestic and 600 business consumers were surveyed.
This is a hypothetical research and it is not suitable for all elements of our plan, therefore the values could not be used to set the size of our plan and they should be triangulated with other data.
These results could be interpreted as supporting evidence or for prioritisation. The values obtained, shown in the table below, could be used to evidence consumer support for reliability.

Attributes	**Scaled WTP (£/year)**
Risk of powercuts	
2 hours decrease in the hours of powercuts at a 1.5% probability	7.70
4 hours decrease in the hours of powercuts at a 1.5% probability	9.70
Every fewer day to recover from a blackout	3.58

Summary of feedback:
Consumers have told us they are willing to pay for a reduced probability of power cuts (i.e. a more reliable electricity supply). They have also told us that they are willing to pay **more** for a **greater** reduction in probability (4 hours vs 2 hours). This shows that reliability is a priority for consumers.

Qualitative research	Domestic consumers	March to May 2019
Cultural research	Domestic consumers	March to June 2019
Bi-Laterals	Targeted stakeholder list	July to August 2019
Load & Non-Load Bi-Laterals	DNOs	April to June 2019
Interactive slider tool	Domestic consumers	July to August 2019
Acceptability testing	Domestic consumers	July to August 2019

Consultation document and Webinar	NGET stakeholder list	March 2019

On the 26th March 2019, we held a webinar attended by 34 stakeholders representing 29 different companies.
The webinars main purpose was to further educate stakeholders and talk through the Managing Electricity Transmission Network Reliability Document. This document describes what National Grid Electricity Transmission (NGET) means by the term "reliability", how we measure it, and how we can influence the reliability of our network. This laid the groundwork for future planned consultation with stakeholders.

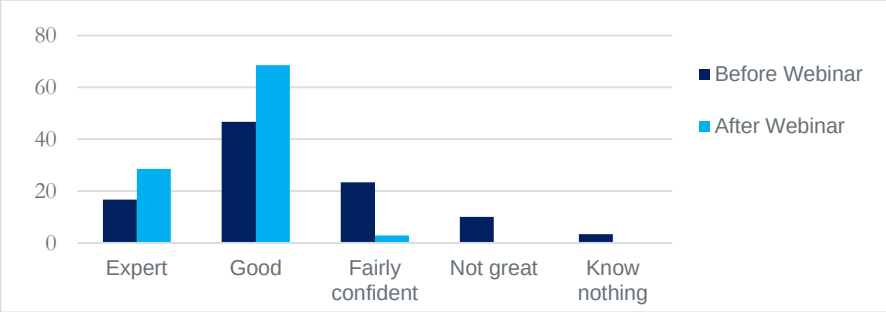
In the webinar, we explained the difference between resilience - *the ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such events' (FERC, 2018*) and reliability - *Day-to-day challenges of running a network, within 'normal' operating conditions.*

We also discussed the following measures, which are some of the activities we undertake to manage our assets to reduce their risk of failure:

- Energy Not Supplied
- Incentivised to reduce loss of supply events, Average Circuit Unreliability
- Measures proportion of network switched out due to faults or defects and Network Risk

- Considers asset probability of failure and consequence
- Interventions

We used a polling function at certain stages during the presentation to collect views and feedback from stakeholders. The graph below shows how the reliability understanding increased greatly by listening to the webinar.



We also had a question and answer session at the end of the webinar, which we used to cover any additional questions submitted through the chat function. We published the Q and A after the webinar.

Summary of feedback:
76% of stakeholders agree or somewhat agree that that the decisions we make in RIIO-T2 impact the long-term reliability of the network.
75% of stakeholders fully or somewhat agree that the measures provided a sufficiently broad representation of reliability.
We got feedback on what they wanted to see at the May stakeholder event, and stakeholders said they will want to see more about types of interventions, especially around Condition Monitoring and the associated uncertainties in any measurements or parameters that are included within our submission. There was also an interest on reliability metrics and the Probabilistic vs Deterministic approaches implemented by National Grid.

Workshop	NGET stakeholder list	May 2019

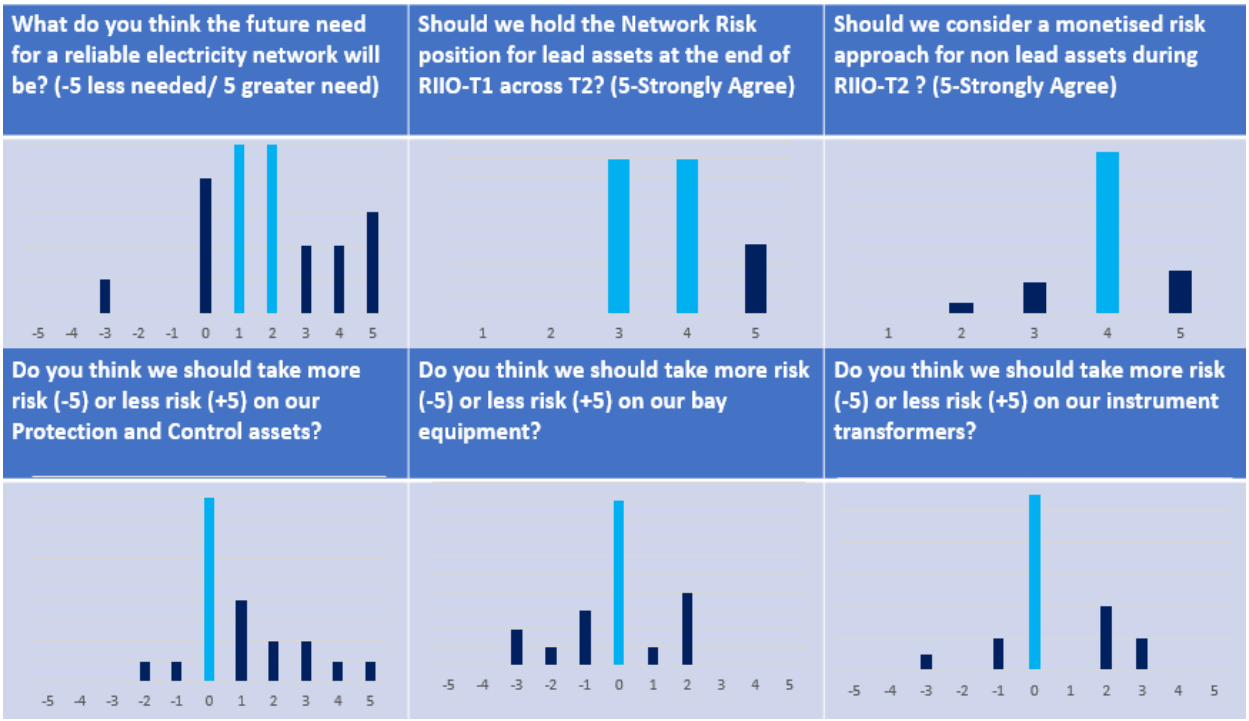
On the 21st May, we held a workshop attended by 27 stakeholders representing 23 organisations, covering seven of our main stakeholder segments.

Stakeholder group	**Attendees**
Supply chain	9
Regulator or government	3
Consumer interest organisation	1
Energy network owner or operator	4
Other energy industry	4
University, think tank or academic	1
Other non-energy industry	1

The aim of the workshop was to further educate stakeholders to allow them to make informed decisions about the choices they would like us to make, and gave them the opportunity to suggest improvements to us.

We presented some background information on reliability at the start of the event, to allow everyone to be at the same knowledge standard so an informed conversation could take place. The event covered 5 topics in a carousel format. The topics were Condition Monitoring, Interventions, Protection and Control, Instrument Transformers and Substation Bays.

We collected feedback at the end of the day from the stakeholders, some of the questions with the distribution of answers received are shown below:



Summary of feedback:
The 27 stakeholders in attendance, which 70% considered themselves to know 4/5 or 5/5 about reliability, rated the event with a 9 out of 10 on average, due to the level of engagement, information, discussion and possibility of interaction, in between others.

More than 77% of our stakeholders think the future need for a reliable electricity network it's somewhere between of some need or a greater need.
More than 60% agreed or strongly agreed that we should hold the Network Risk position for lead assets at the end of RIIO-T1 across RIIO-T2.
More than 82% think we should consider a monetised risk approach for non-lead assets during RIIO-T2.
Around 45% think we should take the same risk on our Bays and our Protection and Control assets. And 55% of the stakeholders agreed about the same when related to Instrument Transformers.

We also asked them to identify topics they'd like to talk to us more about, since this will allow us to focus on areas of most interest or concern to our stakeholders.

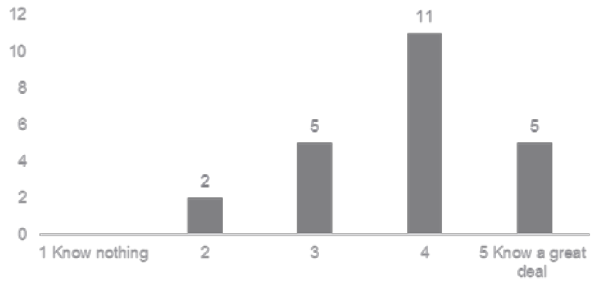
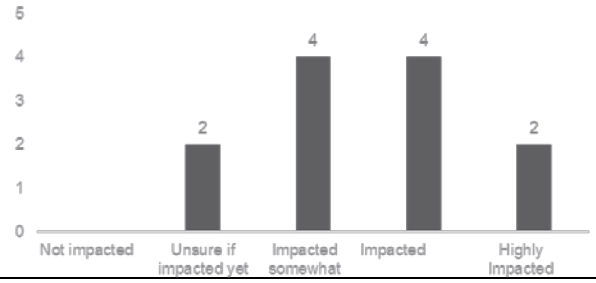
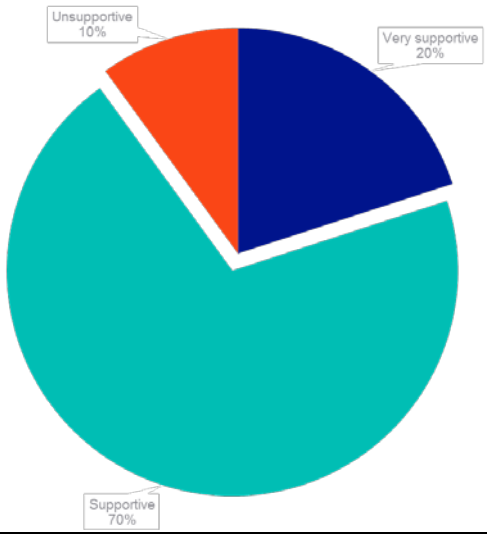
Webinar (Feedback on May Workshop)	NGET stakeholder list	July/August 2019

In the May workshop, we asked stakeholders whether we should maintain levels of network risk, or allow network to increase in some areas, which could lead to a reduced level of investment. The May workshop confirmed that reliability was one of our stakeholders priorities, and therefore we should maintain network risk at current levels. To maximise opportunities for feedback, two identical webinars were given in July and August to maximise opportunity for feedback.

We undertook further work to assess the impact of our stakeholders requirements; calculating what levels of investment would be required to maintain a given level of risk. We presented a

summary of the impact within each asset category; a comparison of T1 and T2 investment; and their impact on bills. Feedback were sought from stakeholders on the knowledge, importance and appropriateness of the draft business plan with regards reliability; prior to inclusion in the December submission.

We had 16 attendees representing 10 stakeholders.

On a scale of 1 - 5 where 1 is "know nothing" and 5 is "know a great deal", how much would you say you know about electricity transmission reliability	How impacted are you by the topic of electricity transmission reliability?
	
To what extent do you support our draft plan to maintain current levels of reliability?	
	

Summary of feedback:
90% of stakeholders in attendance were either very supportive or supportive of the investment required, and subsequent consumer bill impact of our draft plan to maintain current levels of reliability.
The majority of stakeholders are somewhat impacted, impacted or highly impacted by the topic of reliability and the majority of stakeholders have a good understanding or expert understanding of reliability. One attendee commented "Support for the business case is provided as it seems appropriate for a critical infrastructure asset".

As part of developing our plans for RIIO-T2, EFTEC undertook a programme of consumer research to test the acceptability of the Electricity Transmission (ET) and Gas Transmission (GT) Business Plans. At the heart of this research was a quantitative survey that has measured the acceptability of the business plans; supported by qualitative research to ensure we have a rich and detailed understanding of consumers views on our proposals.

The research consisted of three key stages:

Stage 1 Qualitative research to understand consumer views in general on the energy industry, energy bills and National Grid; and to support the design and development of the quantitative survey of Stage 2;
Stage 2 Quantitative research to understand acceptability across a representative sample of consumers, including a pilot and main study; and
Stage 3 Qualitative research to drill down into the acceptability findings of Stage 2, and to explore in depth the key issues around acceptability and affordability.

We received the draft report summarising Stage 3 of the programme, which tested and validated the quantitative survey findings from Stage 2, giving a deeper understanding of consumer views on our business plans.

Summary of feedback:

Overall, participants in the groups said they considered the electricity transmission plan to be acceptable, and they understood why a high percentage of survey respondents agreed with the plan being acceptable in the quantitative research. The levels of support for the electricity transmission plan were considered a huge endorsement.

'It's a Strong Mandate'

The overall view was that the bill increase is small – and whilst no one wants to pay more on any bill – the plan covers a good range of improvements. When asked if it is acceptable for bills to go up a small amount if its efficient, the view across the groups was that it was not worth the risk of keeping bills flat.

'No, I want to be able to get up in the morning, put the kettle on and have a coffee'

As a result, the general consensus was that keeping bills flat would be less acceptable than the proposed plan for electricity transmission.

Stakeholder Webinar	NGET stakeholder list	October 2019

Following on from previous stakeholder engagement workshops and webinars, an additional webinar was called to seek feedback on three specific areas prior to the December submission.

1. Whether we should set outputs for our non-lead areas of spend
2. Whether we should explore a lower investment scenario and the resulting negative impacts on reliability
3. How we should set the target for the Energy Not Supplied Incentive

The webinar was held on the 23 October, and attended by over 30 stakeholders representing 18 organisations.

During the webinar we discussed our proposal to develop price control deliverables (PCDs) in the following areas:

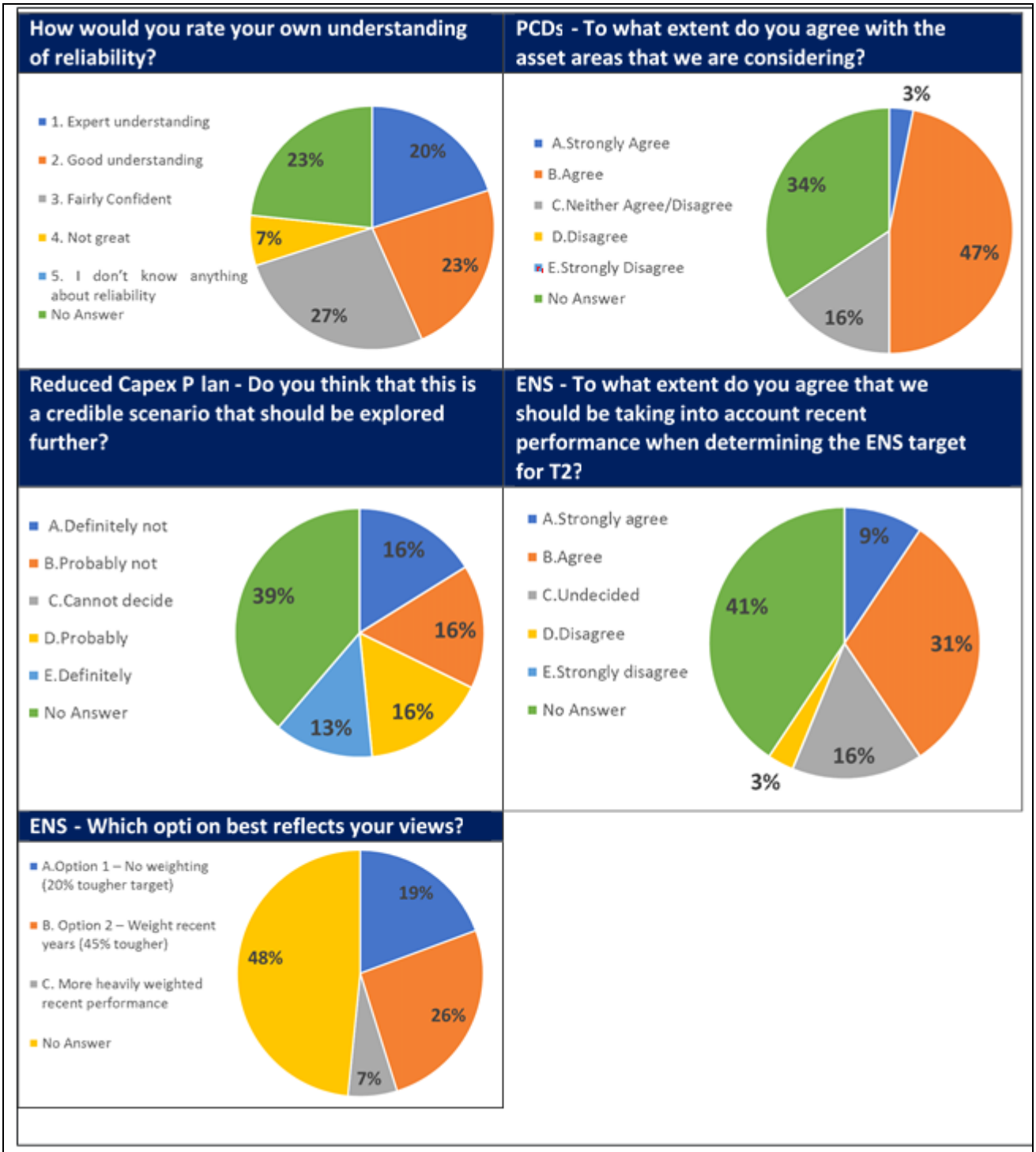
- Protection and Control
- Switchgear bays
- Reactive Plant Protection
- Cable Tunnels
- Tower Steelwork
- Instrument Transformers/Wall Bushings

This information was presented to gauge support for these deliverables and test if our approach were acceptable to stakeholders.

We presented an alternative “Reduced Capex Plan” and explained the impacts of this plan on reliability. Finally, we presented 2 approaches to calculating the ENS target in T2.

We collected feedback at all stages from stakeholders. The output of this can be seen below.

Summary of feedback:



PCDs

50% of stakeholders agreed with the asset areas that we proposed. This equates to 76% of stakeholders who responded to the question. No one disagreed with the proposal.

Reduced Capex Scenario

52% of respondents felt that the scenario was not worth exploring further and the remaining 48% that it was. Given these results; further clarification were sought from stakeholders after the event via an online survey.

ENS

67% of respondents agreed or strongly agreed with taking recent performance into account when determining the ENS target for T2. Only 5% disagreed.
We asked a question about which of the options that we proposed best reflected their views and 36% of respondents felt that the current approach was preferable while 64% felt that some form of weighting against recent performance was preferable.

n

2.3 WHAT WERE THE INITIAL NATIONAL GRID CONCLUSIONS?

From what we have heard so far, above anything else, stakeholders want a reliable network. Whilst there are uncertainties in how the network may operate over the long-term, even in a more decentralised world you have told us there is a role for electricity transmission.

You have told us that, for the T2 period, you want us to maintain reliability similar to the level we currently provide. And you want it at a fair cost. You have also told us that our plans should support the future demands on the network. So the decisions we take in the short term do not limit future opportunities.

We have used this feedback to inform how we manage reliability over the T2 period. Stakeholders have told us the metrics we use to manage reliability, Energy Not Supplied incentive and network risk outputs, enable us to manage reliability appropriately. In the T2 period we will maintain network risk in line with stakeholder feedback, whilst setting more challenging targets to reduce energy not supplied.

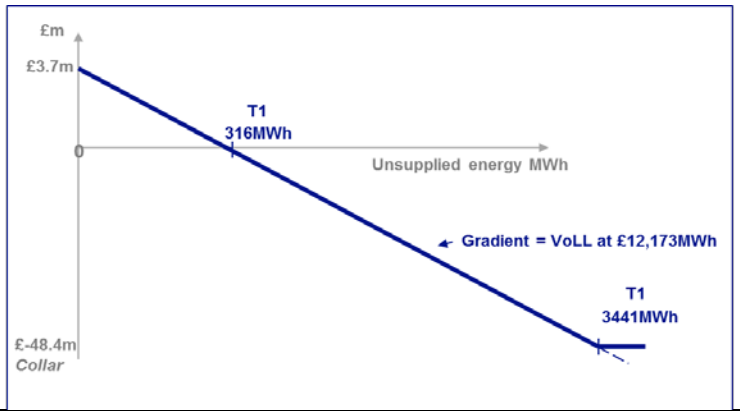
We will also be ambitious with our innovation strategy in order to demonstrate lower unit costs in the T2 period. We will also commit to being transparent about the life time consumer benefit of our decisions, through long-term cost benefit analysis.

STAKEHOLDER GROUP CHALLENGE & REVIEW

3.1. WHAT POINTS OF CLARIFICATION AND INTEREST WERE RAISED?

SOURCE: PRE-MEETING CALLS AND POINT OF CLARIFICATION LOG

Topic specific feedback and points of clarification				
ID	**Date**	**Meeting**	**Point of Clarification**	**National Grid Response**
			N/A	

Source	Feedback	National Grid Response
Pre-meeting calls	Wanted clarification on ENS and how this incentive works i.e. how NG earns money here / how target is set	**Energy Not Supplied:** Energy not supplied (ENS) is the sum of the MWh lost by the Transmission network during each incentivised event (some exceptional events are not covered). The calculation is **MWh loss = Demand Loss * Event Duration** 
Pre-meeting calls	Value of rewards/penalties and any specific costs to deliver would be useful for context	
Pre-meeting calls	What are the compensation consequences if we fail to meet targets?	

		The RIIO-T1 target was set by analysis of historical energy not supplied events from transmission to give the 'break even' point of 316MWh. If ENS is kept below this figure, there is a yearly reward up to £3.7m per year. If we do not meet this target the penalty increases up to a maximum collar of 3% of revenue every year (~£48m per year in RIIO-T1). The gradient of the incentive is the Value of Loss Load, the figure used for T1 was the output from a study carried out by Ofgem on the value stakeholders placed on energy not supplied. **Network Output Measures (NOMs):** Special Licence 2M sets this risk target for our network risk position at the end of the T1 period. It will be determined against the whole T1 period i.e. is not calculated . The arrangements for compensation / penalties for under or over delivery against this target are still in discussion with Ofgem. **We will add context of costs to achieve targets through engagement and update in our logs**
Pre-meeting calls	"1. How close are we to network failure? 2. What does 99.999996% actually mean? 3. How much are we paying for each part of our bill and what do we receive in return? " What does this all mean for the consumer in £/ minutes lost	This is one of our biggest challenges, as it is difficult to articulate how increased reliability directly affects ENS. The incentive uses value of lost load, and therefore should directly cover consumer impact in £s. We will look to explore this further during stakeholder engagement, about how we can bring transmission ENS to life for the consumer, when many will not have seen a Transmission related black out. In 2016/17 reliability of 99.999964% reflects 89.26MWh of energy not supplied across England and Wales. The comparison below is against relevant European transmission owners participating in the International Transmission Operations & Maintenance Study (ITOMS). Shows MWhrs not supplied / GWh transmitted
Pre-meeting calls	99.999996% reliability: could we give this some international context. How does it compare to other TOs?	
Pre-meeting calls	What's your approach to engagement on safety?	Safety is non-negotiable, we will strive to be world class, ensuring that no-one is harmed through our operations (public or employee). We don't believe that there are any options to offer stakeholders in this area and therefore we are not intending on engaging on safety specifically. Our Jan consultation will include a statement to reflect this, allowing stakeholders to raise concerns.
Pre-meeting calls	Have you engaged with stakeholders on feedback on when things go wrong and their tolerance to risk?	Following any equipment failure or loss of supply event there is a robust process of investigating the event, learning from the event and ensuring changes are made to prevent similar events in the future. OFGEM also undertake an investigation for major events.
Pre-meeting calls	Can we provide the research reports on how the questions have been framed (?)	The questions raised can be found (from page 8) in the listen report published here (copy to browser): https://consense.opendebate.co.uk/files/nationalgrid/transmission/2017October_National_Grid_workshops_and_online_consultation.pdf
Pre-meeting calls	"1) Do you agree that there will be a greater dependence on the electricity network in the future? 2) Should we be increasing our reliability in line with changes in dependency on the network aiming for a greater level of resilience in 10 or 20 years time? 3) Should we start working towards a	Agree, we won't be asking questions in this way during engagement with stakeholders. Our stakeholder engagement team has worked with Frontier and Truth to establish best practice, and that team will review all content prior to us engaging (regardless of channel).

	higher long-term level of reliability within RIIO T2?" Questions looking like they are leading questions	
Pre-meeting calls	Regional variation – slightly confused as to whether this is important / considered or not. Possible two different views given in the log	It is an important factor, and one we aim to engage further on. It will likely lead to healthy debate and needs to be framed in the right way to prevent bias. It also relates to resilience, if we hear a need for increased or decreased energy supply in certain areas, this could be achieved by more/less circuits (resilience) or by decreasing/increasing probability of asset failures (reliability). We aim to gather views on this through engagement, as it could impact investment required in T2.
Pre-meeting calls	Will made a comparison between our log and what Gas presented on the same topic last on 2nd October and felt our log was a bit unfocussed as compared to the Gas Log. Are we only talking to users about NOMs and ENS. How do we get from that to establishing what our asset management strategy should therefore be and do we envisage talking to users about it?	We'd like to explore this with Will to ensure we understand the question. We don't intend to engage with stakeholders on our asset management strategy (NOMs/NARMs) as this has been done already through the OFGEM led work on monetisation of risk. We recognise that the engagement log needs to incorporate this engagement better. We will engage with stakeholders on what our long term network risk target should be, and when that target needs to set taking into account future uncertainty.
Pre-meeting calls	Pg 81 table 2 "what outputs are we looking for" column …who's voice is this?	This title and table needs to be revised as the narrative underneath is mixed, and not the voice of one person. Some contains feedback received, others are questions we want to answer during engagement. It will be revised to make this clear. Update: engagement log content has been revised and original table that caused confusion removed.
Pre-meeting calls	Slido – how was this used in workshops. Considered gamification? Implies don't give fully rounded / serious answers	Slido (www.sli.do) has not yet been used in stakeholder engagement for reliability as we haven't carried out the workshop yet, it was referenced as an example of how we could capture feedback during sessions but we are considering all options.
Pre-meeting calls	Is ENS itself in scope? Grid are in discussions (alongside others) with Ofgem about this and has clear views – risk of trying to persuade stakeholders	Yes, we will engage stakeholders on whether we should be incentivised to minimise ENS (through the context of how available we are) with directly connected stakeholders to gather feedback, and bring the concept to life during consumer engagement. The calibration of the incentive will be kept to the Ofgem working groups.
Pre-meeting calls	Does the retail price cap impact supplier interest (and for the connections piece)?	We're not seeing anything that might indicate a changing supplier interest due to the price cap, their recent feedback remains focussed on volatility of charges.
Pre-meeting calls	Reliability engagement mapping – surprised we have the consumer bits as low but may not be productive to…	We will still engage consumers / consumer groups on reliability, the low impact and interest mapped for consumers relates to transmission reliability specifically, as many will not have seen transmission related outages impacting them. The mapping here allows us to frame and plan for engagement, whether the content should be detailed or simple, and whether we should expect deep or high level insight. Update: On reflection, we have: • Increased the impact of reliability on consumers as more impacted on the stakeholder engagement mapping matrix (Figure 6 in this log). • Revised our consumer engagement approach (see section 1.4 consumer approach and timeline) to ensure reliability features heavily.

Pre-meeting calls	Evidence of changing approach to meet stakeholder requirements (How close are we to network failures etc.)	As we engage with more stakeholders we will be able to reflect the changes in approach and update the log. We are changing our engagement approach as a result of feedback received from DNOs on who we target, the medium and content. This revised approach should give us the ability to discuss detailed information and update our plans accordingly. We will share evidence as our co-create engagement matures showing how we have acted on the feedback received.
Pre-meeting calls	Engagement DNO-heavy (as above, care needed – ensuring the customer angle is present in the debate)	The engagement log is DNO heavy currently as they are the stakeholder we engaged with first for co-create. We are engaging across the electricity value chain and will update the logs with feedback received and how we have changed our approach.
Pre-meeting calls	DNO costs could be argued to really be supplier costs (and supplier costs could be argued to customer costs – especially in a price cap world)	Agree, being mindful of this is why we are keen to engage with DNOs on detailed plans in the next phase to ensure our reliability plans offer the right whole system solution and provide value for money for suppliers and customers. Suppliers are also a key stakeholder we will engage with during co-create, we aim to engage and receive stakeholder feedback on the impact of reliability across the whole transmission value chain.

3.2 WHAT WAS THE OUTCOME OF THE STAKEHOLDER GROUP CHALLENGE AND REVIEW?

SOURCE: CHALLENGE & ACTION LOG

SG Meeting	Date	Challenge Ref No.	Challenge	Answer	NG Owner	SUG Response
SG4	29/11/2018	38	Further engagement / activity required to satisfy consumer engagement.	Nov '18 - This is one of ET's biggest challenges, as it is difficult to articulate how increased reliability directly affects ENS. The incentive uses value of lost load, and therefore should directly cover consumer impact in £s. ET will look to explore this further during stakeholder engagement, about how they can bring transmission ENS to life for the consumer, when many will not have seen a Transmission related black out. We will still engage consumers / consumers groups on reliability, the low impact and interest mapped for consumers relates to transmission reliability specifically, as many will not have seen transmission related outages impacting them. The mapping here allows us to frame and plan for engagement, whether the content should be detailed or simple, and whether we should expect deep or high level insight. Update : Apr '19 We have: • Moved consumers as more impacted by reliability on the stakeholder engagement mapping matrix (Figure 6 in this log). • Revised our consumer engagement approach (see section 1.4 consumer approach and timeline) to ensure reliability features heavily.	JW	Closed as per [redacted] email 5/11/19
SG4	29/11/2018	39	A more formulated plan is required on how ET engages with consumer (linked to challenge 102)			Closed as per [redacted] email 5/11/19

SG7	16/04/2019	81	NGET to provide a stronger narrative on the strategic context and on T1 performance and outcomes. What learning and efficiencies have been baked into T2 and what is the clear forward plan for the next 5 years into T3. Demonstrate that stakeholder feedback strongly indicates a reliance on electricity. Ensure deliverability is more strongly demonstrated in the business plan. Ensure the narrative clearly explains what the NARMs actually means for the network rather than a purely technical reflection of the methodology.	We have included within the chapter how our ET strategy aligns to stakeholder needs and provides the 'golden thread' through to our proposals for reliability. We have clearly indicated the benefits that consumers have received through our performance in T1, and how much lower the T2 plan is due to these efficiencies being baked into our T2 plans. Our stakeholder and consumer engagement indicates a clear reliance on a reliable electricity network. We focussed on this specific topic in our most recent workshop in May, the results of which are summarised in the appendix. We will reflect the changes required following this workshop in our formal business plan submission. The initial plan we shared has changed, we have carried out work which proves that our proposed T2 plan is deliverable. We have updated the reliability chapter to make the language simpler on NARM, and what it means for consumers.	JW	Closed as per [redacted] email 5/11/19
SG7	16/04/2019	82	NGET to provide a more detailed justification/needs/business case(s) the IT investment.	We are working hard to improve the narrative for our closely associated IT spend in Reliability. The chapter has been updated following feedback from the stakeholder group. We feel that this needs more work, and so will continue to improve the wording to better explain the benefits that this investment brings. We have commissioned Gartner (an IT consultant) to benchmark our IT costs. In the majority of areas our costs were below benchmark, where we were above benchmark, we have reduced our costs. We have now included the benefit associated with risk trading in our chapter. 84. This is actually £[redacted]m. £[redacted]m is for other CC costs. There is no duplication – SO will have another cost for changing. Both entities are still in process. We have benchmarked these costs with both Gartner and Coeus. Costs breakdown is approx. £[redacted]m for delivery and £[redacted]m for network refresh. Other costs are consistent with other control centres and recent deliveries. 85. This is made up of more than just an asset management system and encompasses Asset registry, scheduling, all field devices and apps and OT Cyber. Ellipse cost has been benchmarked. The justification for replacing Ellipse with another product has been outlined in Just Report. 86. At least £[redacted]m is attributable to	JW	Closed as per [redacted] email 5/11/19
SG7	16/04/2019	83	On Item 1 (page 25) justification is required for the spend in each category. What is it that these systems are providing that NG does not already have with existing systems and that they need as an asset owner, and not a system operator, going forward.		JW	Closed as per [redacted] email 5/11/19
SG7	16/04/2019	84	The £[redacted]m for separating out the energy management system from the network control system does not show what would be the split with the system operator IT spend. Is there duplication. Again, if NG only need a network control system, and not the functionality of an energy management system, what is the basis of these costs?		JW	Comparison to other control centers?
SG7	16/04/2019	85	£[redacted]m for an asset management system upgrade seems high given NG has a system already.		JW	Still Seems expensive but accepts benchmarking evidence - closed as per [redacted] email 5/11/19

SG7	16/04/2019	86	£[redacted]m on a data platform and analytics is also a high figure. What is the basis for the £[redacted]m?	the integration and analytics of condition data. This has been benchmarked and is line with SAM deliveries in T1. £[redacted]m is for non-condition data and analytics – build on ET's Data Lake. Is in line with benchmark. £[redacted]m on AI that has been benchmarked. 87. Very little on 'optimisation' product – Highest proportion of spend in T1 (Developing platform and data models/integration. Largest cost is in consolidation other portfolio mgmt. tools in environment which will reduce ongoing Opex costs in long term.	JW	Still Seems expensive but accepts benchmarking evidence - closed as per [redacted] email 5/11/19
SG7	16/04/2019	87	£[redacted]m on an investment risk optimisation tool is also a very high figure given the scale of the asset base. Water companies that used such an approach did not appear to fare too well in the recent assessments. How are NG satisfying themselves that this an efficient investment both in procurement costs and expected benefit? Risk trading is mentioned on p.13 but no benefit assigned yet		JW	Still Seems expensive but accepts benchmarking evidence - closed as per [redacted] email 5/11/19
SG7	16/04/2019	89	How has NG have tested the deliverability of the proposed scope of works relating to the £96m of proposed protection systems investment (This is a general question on the totality of the work programme as well as this particular asset group).	We have undertaken significant work to further assess the deliverability of our plans, and can assure the group that our plan is deliverable. We will have a whole section of our business plan submission dedicated to 'our plan is deliverable' which gives assurance that we have the right people, delivery models, supply chain strategy and system access (from the ESO). Our stakeholders have informed us that we shouldn't take any more risk on our protection assets, due to the critical role they play on the reliability of our network. We have therefore had to be innovative in our approach. For P&C, we will further embed the innovative delivery methods used in T1 across new protection types in T2. This allows us to deliver the same risk level with less resource and hence lower cost.	JW	Closed as per [redacted] email 5/11/19

SG7	16/04/2019	90	Provide further justification for the proposed ENS target and defend the level of stretch and ambition. The discussion on ENS targets suggests that there is a minimum loss position i.e. if an event occurred and it was the minimum scenario, then that should be the target. It brings into question whether this is a suitable target if it is a not possible to go lower.	ENS is an incentive to reduce the likelihood of an energy not supplied event, by rewarding network companies for good performance, and penalising for poor performance. It is a way of ensuring delivery of reliability at levels requested by stakeholders in an efficient manner. The incentive values the loss of demand for consumers and calculates a reward (max of £3.7m) or penalty (max of £48m). Performance in T1 has been good so far, however a single incident could move the reward into penalty. The target for ENS is based on a long-term average, to ensure the incentive captures rare high impact low probability events. For this reason we intend to keep the methodology for T2, with the target being tougher due to our recent performance. The ENS drives a variety of processes within NGET: • There is a cross business weekly demand at risk web conference to identify actions to reduce ENS. • The ERTS (Early Return To Service) is the earliest the circuit can be returned from outage in an emergency, a quicker ERTS can often be realised to minimise ENS, but this often incurs additional cost. • Daily weather reviews. Circuits are recalled to provide additional security if inclement weather is expected. • Weekend/ Bank Holiday working. Work can be moved to lower demand times where ENS is a consideration. • A more expensive off-line build is sometimes delivered to minimise the risk of ENS.	JW	Closed as per [redacted] email 5/11/19
SG9	03/09/19	140	NGET to clearly demonstrate where there have been any trade-offs.	The stakeholder has been changed to include 'key trade-offs and how engagement influenced our plans' (p86). Our golden threads have also been updated to include key trade-offs	JW	Closed as per [redacted] email 5/11/19
SG9	03/09/19	141	NGET to pull out the key material changes that have been made to the business plan as a result of stakeholder feedback.			Closed as per [redacted] email 5/11/19
SG9	03/09/19	142	NGET to articulate where they are in their Stakeholder Engagement journey.	We have a further webinar planned for the 23rd October to get feedback on options for PCDs, scenarios and ENS. A further buddy meeting is also planned to share this with the SUG.	JW	Closed as per [redacted] email 5/11/19
SG9	03/09/19	143	NGET to better articulate the context from T1 to T2 and how asset management approach has changed.	We have included a new 'T1/T2 interactions' Annex to articulate the context of what has changed between T1 and T2. The plan build annex explains our asset management approach and how this has differed with T1	JW	Closed as per [redacted] email 5/11/19

SG9	03/09/19	144	NGET to provide better case studies to support granularity and consistency especially in relation to the RDPs.	We don't remember this specific challenge and therefore will pick up with Barry at the next buddy meeting	JW	
SG9	03/09/19	145	NGET to articulate the £80m reduction and clearly demonstrate in the plan how this was achieved taking into consideration benchmarks and savings.	In the 'key trade-offs' section we have included how the 2% reduction (£80m) has been led by stakeholders challenge on efficient costs, and how our internal challenge on justification and CBA has resulted in some changes being made to our plan. We will share greater granularity at the next buddy meeting.	JW	

4. CONCLUSIONS

4.1 WHAT IMPACT HAS THIS FEEDBACK HAD ON NATIONAL GRID AND THE RIIO-T2 BUSINESS PLAN?

- *What changes have been made to the RIIO-T2 business plan as a result of direct feedback from the Stakeholder Group? (be explicit about outputs)*

- *What changes have been made to future approach to engagement, other business processes, etc. as a result of feedback from Stakeholder Group?*

How feedback from the stakeholder group impacted National Grid and the RIIO-T2 business plan?	
Stakeholder Group feedback	**Impact on RIIO-T2 Business Plan (Outputs)**
More extensive consumer engagement required, make electricity transmission reliability accessible to end consumers	Consumer engagement for reliability is more in depth, covering a variety of channels. We have made the topic accessible and have proposed real options for them. We now have a rich set of consumer feedback, in which we can be confident we can tailor our business plan to meet their needs. Informs ~60% of the T2 plans (~£4bn)
Stakeholder engagement; if the subject is complicated then educate before bringing options to life.	Affected how we engaged with stakeholders, adopting a 3 step approach for reliability (i) educate (ii) bring to life (iii) present options. This not only has brought more useful insight to building our business plans, it has also broadened the reach of engagement, bringing the views of a wider group of stakeholders to inform our plans . Informs ~60% of the T2 plan (~£4bn)
Chapter language, feedback on the accessibility of the words used in our business plan.	Simpler more accessible and transparent narrative now included in our business plans, so that stakeholders and consumers can see how we have used their feedback to shape our plans.
Stakeholder Group feedback	**Impact on National Grid Business / Processes**
Degree of consumer engagement	Techniques and confidence have grown how we can continually engage and communicate who we are and how consumers can have their say on what we do
Stakeholder engagement reach	Who and how we engage. Moved from predominantly inform for this priority, to a consult, involve, collaborate approach which will be used for ongoing engagement.

4.2 BUSINESS PLAN OUTPUTS ALIGNED TO STAKEHOLDER ENGAGEMENT OUTCOMES.

- *Insert Golden Thread diagram*

DOCUMENT CHANGE CONTROL

Version Number	Date Updated	Updated by	Comments
0.1	07/11/2018	Jade Clarke	Submitted for internal review
0.2	14/11/2018	John Wilson	Submitted for User Group
0.3	31/03/2019	Karl Lawson	Submitted for internal review
0.4	02/03/2019	John Wilson	Submitted for User Group
0.5	10/06/2019	Karl Lawson	Submitted for internal review
0.6	11/06/2019	John Wilson	Submitted for User Group
0.7	18/10/2019	John Wilson	Updates following July engagement
0.8	8/11/2019	Damien Culley	Updated to include October Engagement
0.9	13/11/2019	John Wilson	Final updates

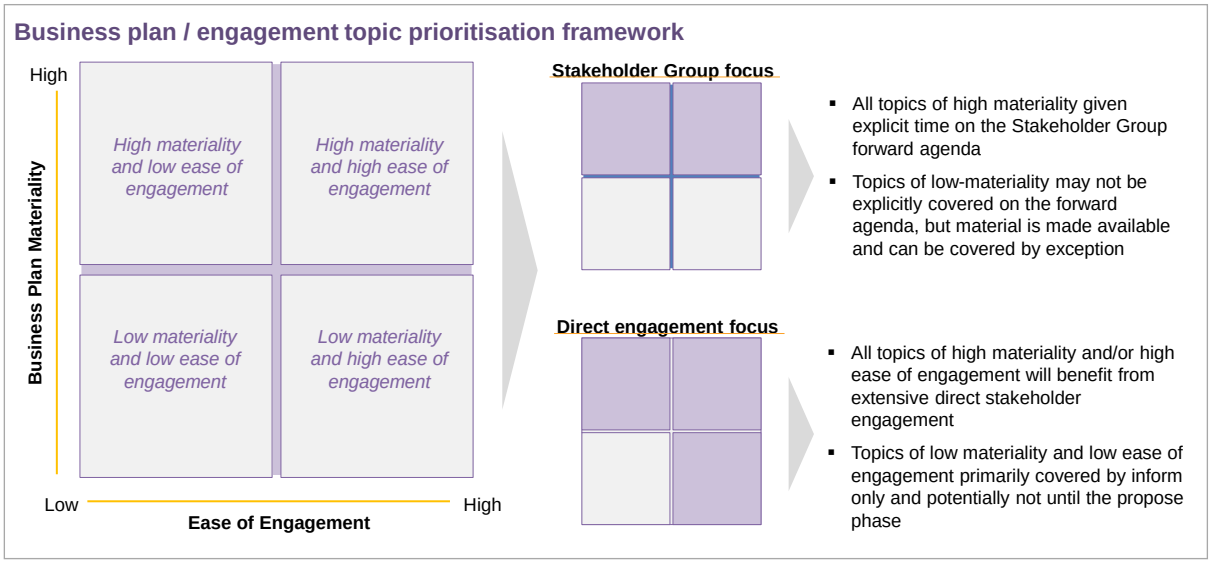
5. APPENDIX

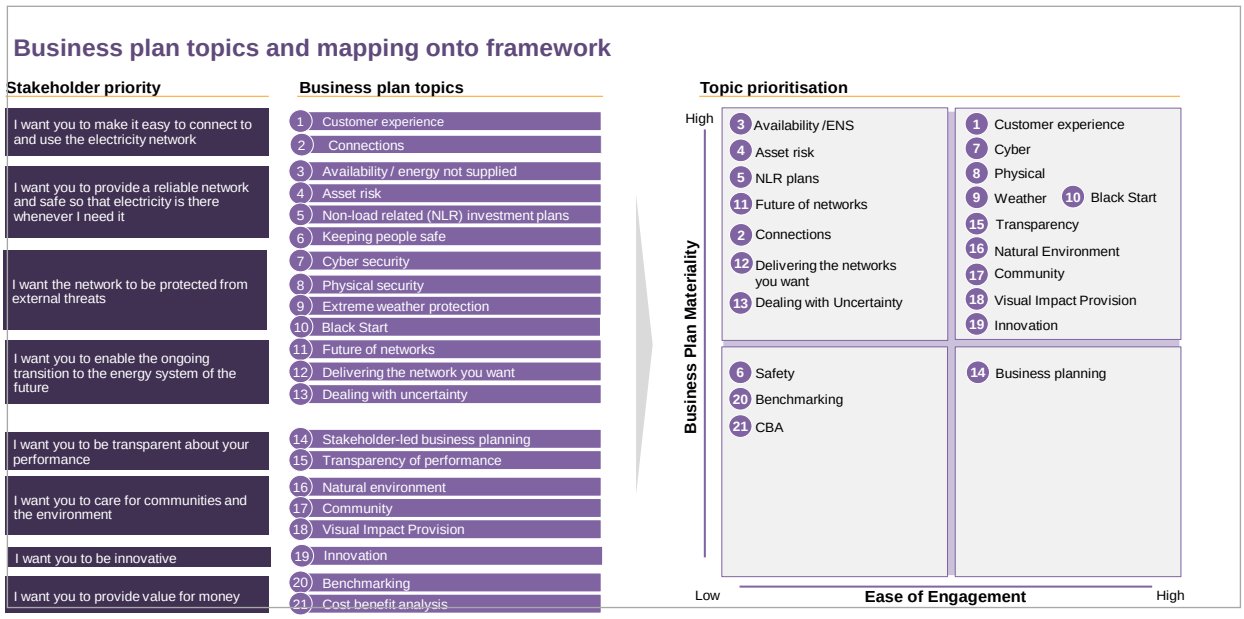
6.1 ENGAGEMENT PRINCIPLES CHECKLIST

Principle		Check
1	Define and map your stakeholders - anyone who believes they are affected by your decisions. Recognising the different threads of the public interest – stakeholders, customers, consumers, citizens, communities (geographical and interest)	
2	Be clear what you want to achieve with “engagement” – have clear policy objectives and measures of impact; (incl. where you most need to engage)	
3	Understand the “spectrum of participation” and difference between each part of that spectrum: inform, consult, involve, collaborate, empower	
4	Engage early in the process, review and improve throughout	
5	Leadership – effective stakeholder engagement must be led from the top of the organisation	
6	Commitment – to listen to stakeholders’ views and act on or respond to them	
7	Objectivity – an open approach to obtaining stakeholders’ views and to interpreting them. Seek to understand views on a range of topics and on all aspects of the business plan, rather than pre-determining their priorities or seeking to endorse your own priorities	
8	Transparency – to build stakeholder trust and show that you take their views seriously (incl. how we’ve considered views, weighted and managed trade-offs)	
9	Be inclusive: work with stakeholder groups to gather the fullest range of interests. Understand and balance the differences between different segments. Understand and balance the differences between existing and future stakeholders	
10	Be aware that those who often participate i.e. the “usual suspects” are not always representative	
11	Be accessible to all (e.g. in consideration of the tasks, timelines, contact person, tech., locations, challenges of communication, etc.)	
12	Use targeted approaches to tailor engagement to suit the knowledge and awareness of different groups	
13	An ongoing process that is embedded across the business – not just a stand-alone business planning/price control review exercise.	
14	Evidence based – use a full range of available sources of info to identify priorities, views and challenges (e.g. operational insight, bespoke research,	
15	Gather evidence through a range of methodologies and tools including willingness to pay, qualitative research, surveys, complaints intelligence, market data	
16	Be responsive – seek to adopt a flexible process to engagement, responding to the information revealed as the process progresses	

17	Demonstrate impact of engagement – ensure that the engagement design process plans for and allows evaluation of success	
18	Innovation – trying new and innovative ways of engaging	

6.2 BUSINESS PLAN / ENGAGEMENT TOPIC PRIORITISATION FRAMEWORK





6.3 STAKEHOLDER SEGMENTS

Stakeholder Segments – Electricity

Segment	Description	Example organisations
Political	Elected officials and advisors; Westminster + Cardiff	MPs, SpAds, Assembly Members
Governmental	Civil service and committees	BEIS, DEFRA, NIC, CCC
Regulatory	Energy and safety regulators	Ofgem, HSE
Consumers	Members of the public, commercial & industrial	Members of public and businesses
Consumers bodies	Members of the public, commercial & industrial	Citizen's Advice, NEA, Which?, MEUC, CBI
Communities	Local councils, community representatives	Greater London Authority, Anglesey County Council
Large customers	Large, often vertically integrated and international	Big 6, Drax, Orsted, Network Rail
Small / new customers	Small, often specialist organisations or non-energy	OVO Energy, Robin Hood Energy, JLR
Network companies	Other regulated energy network companies	UKPN, WPD, NPG, ENW, SPEN, SSEN
New business models	New business exploiting the '3 Ds'	Pivot Power, Limejump
Think tanks & innovators	Elected officials and advisors; Westminster + Cardiff	Energy Systems Catapult, IET, EIC
Interest groups	Groups representing special interests	Green Alliance, Sustainability First,
Academics	Energy specialists and researchers in academia	Imperial College, Exeter Uni., Newcastle Uni.
Supply chain	Developers and suppliers of network assets	Siemens, ABB, Prysmian
Other	Stakeholders not defined in other segments	Media, Consultants, EU bodies, etc.

6.4 ENGAGEMENT APPROACH – SPECTRUM

Approach to engagement – spectrum

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
STAKEHOLDER ENGAGEMENT GOAL	To provide stakeholders with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions	To obtain stakeholder feedback on analysis, alternatives and/or decisions	To obtain public feedback on analysis, alternatives and/or decisions	To partner with stakeholders in each aspect of the decision including development of alternatives and the identification of the preferred solution	To place final decision making in the hands of the stakeholder
PROMISE TO THE STAKEHOLDER	We will: ▪ keep you informed	We will: ▪ Keep you informed ▪ Listen to and acknowledge concerns and aspirations ▪ Provide feedback on how you have influenced our decision ▪ Seek feedback on drafts and proposals	We will: ▪ Work with you to ensure that your concerns and aspirations are directly reflected in alternatives developed ▪ Provide feedback on how you have influenced our decisions	We will: ▪ Work together with you to formulate solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible	We will: ▪ Implement what you decide

Adapted from the International Association of Public Participation – Public Participation Spectrum, 2007