Annex A16.07

Responsible Demolition Engagement log

December 2019

As a part of the NGGT Business Plan Submission

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ANNEX A16.07 - ENGAGEMENT LOG

Stakeholder Priority: I want to care for communities and the environment
Topic: Responsible demolition of our assets

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Stakeholder Group meeting: SG7 | Meeting Date: 17/04/2019 **– updated October & December 2019**
Document Version Number: 3

EXECUTIVE SUMMARY

This topic, 'Responsible demolition of our assets', is associated with the responsible removal of National Transmission System (NTS) redundant assets with a spend of approximately £82.6m over the RIIO 2 period. The stakeholder priority – I want to care for communities and the environment centres around a commitment to cost effectively reduce our impact on environment including, embedding carbon price into investment decisions as well as meeting our social obligations.

The assets we are considering within this topic are both smaller individual assets such as valves or water bath heaters, and large assets such as compressor units, pipelines or above ground installations. Broadly our activities to date within this area have been quite limited. The National Transmission System (NTS) was built predominantly in the 1960s and 70s and went through a significant period of growth with the 'dash for gas' in the 1990s. However, with limited significant network expansion in recent years and when considering the age of the assets and uncertainty in future flow patterns understanding our stakeholders' expectations as we develop our strategy for redundant assets is extremely important. We have a number of assets that have been identified as redundant and are not in use on the network currently. Some of these have already been disconnected from the network and others are still live and being maintained as part of our business as usual operations, but all will form part of our strategy for responsible demolition developed as part of our RIIO-2 business plan.

The insight we have gained to date indicates that our stakeholders expect us to take a prioritised risk approach to responsible demolition; neither delivering all possible demolition in RIIO 2 nor deferring all works for costs to be picked up by future consumers. We will therefore look to develop a strategy and cost – benefit based methodology for assessing the best approach for redundant assets on this basis.

This is version 2 of the engagement log, updated to include new insight generated since November 2018 and to address challenges raised through discussion at the Stakeholder Group meeting, SG4. Any new text is coloured purple.

This is version 3 of the engagement log, updated to include new insight generated since July 2019. Any new text is coloured blue.

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Do you agree with the conclusions drawn from the engagement?

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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)*
   II. *Where are we today/what do we deliver today, and what do we currently understand from stakeholders on future development*
   III. *The industry drivers for this topic*
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Consumer Impact

Our engagement on this topic has been designed to enable us to make the right decisions for current and future customers and consumers on the demolition of assets; maintaining the correct balance between risk, cost and future flexibility.

The topic impacts gas consumers as demolition costs will form part of our TOTEX allowance which flow through shipper charges to the end-consumer bill. Ongoing maintenance costs of assets not in use would also flow through to end consumers so it is critical that the most efficient decision is taken forward. In addition, our approach to demolition has wider societal impacts related to environmental benefits to local communities and could significantly impact on future consumers if in a changing energy landscape, assets are demolished but at a later stage are required. There will be a clear trade off between demolition costs under RIIO 2 for current stakeholders versus delaying any demolition activities such that they are borne by future stakeholders, whilst incurring ongoing maintenance costs on redundant assets.

We also need to consider demolition activities carried out as a result of the disconnection of directly connected customer assets. Over a five year price control our expenditure on Responsible Demolition could be in the region of £80m. These activities will influence the portion of the gas transmission consumer bill, but have limited effect in the other aspects e.g. wholesale costs.

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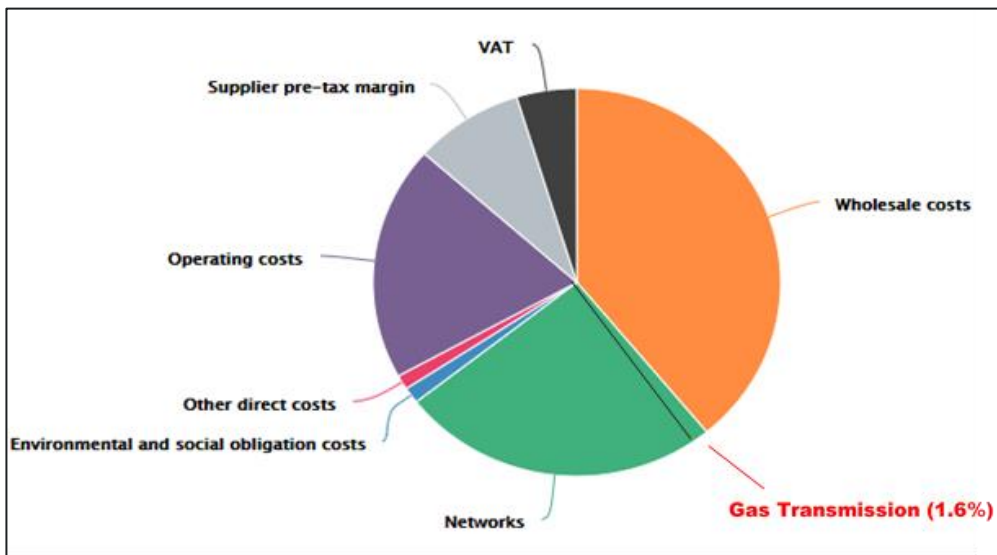
Context and Drivers

Construction began on the NTS in the early 1960s, with the first terminal constructed at Bacton 50 years ago. Work to further expand the NTS continued on into the 1970s, alongside the conversion of domestic and industrial properties from town gas to natural gas which was ongoing until 1977. The NTS was effectively a pipeline corridor for moving gas north to south from the offshore facilities in the North Sea through to the UK towns and cities. A second phase of network expansion occurred in the 1990s with the dash for gas, and a sharp increase in large industrial and power station connections onto the NTS. Then in the late 2000s the network expanded further into South Wales with a 48" pipeline connection to LNG terminals at Milford Haven. The demolition of major assets (with no associated asset replacement) has therefore not formed a large part of our asset management activities, either as part of RIIO 1 or previous price controls. However, as we look forward to the next price control, growth of the network is unlikely and there are more assets, both above ground and underground that are no longer required.

We do however, have current legislative obligations under the European Waste Framework Directive 2 (WFD) whereby assets that are no longer required and are therefore considered redundant should be treated under the relevant Waste Legislation. Within UK Legislation the Waste (England and Wales) Regulations 2011 Act translates the WFD into UK law. This legislation applies to National Grid assets to the extent that any deposits on or in the ground which the producer no longer requires or has a use for, is classed as waste. We also have to ensure compliance with asbestos legislation. Asbestos is present on our sites, and is often a costly overhead associated with the removal of any civil infrastructure.

Subsequent to the Stakeholder Group challenge of this engagement log, our legal team reviewed the legislation and our proposals. Our legal team concluded that, as long as there are no issues of contamination or pollution, there does not appear to be any legal obligation requiring us to decommission our redundant assets. Waste is not produced until most of the activities relating to decommissioning has been completed. The flow chart below explains the process of identifying

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redundant assets, undertaking the decommissioning and removing the waste from decommissioning.
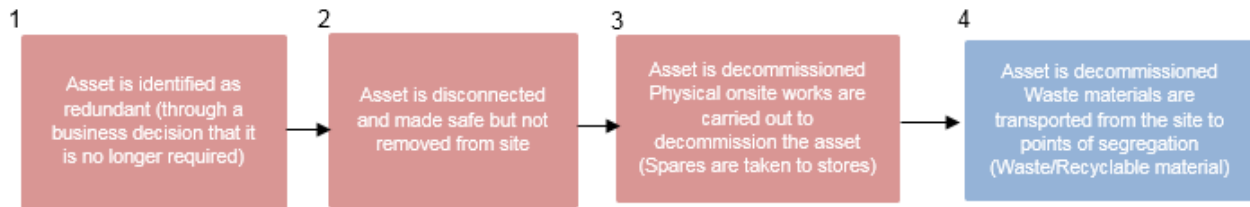
Waste is only produced at step 4, and this is the point that Waste legislation is applicable. Therefore, only the costs associated with the removal and of the waste, alongside other specific elements relating to asbestos are legal requirements. The other costs are business decisions i.e. discretionary.

Since the start of RIIO 1, we have removed eight primary assets (above ground installation and compressor assets) with an associated spend of £12m (17/18 price base). We have also undertaken three demolition-related investments (totalling approximately £500k) in relation to asbestos including asbestos removal at St Fergus terminal and asbestos surveys at Bacton terminal and Kings Lynn compressor station.

A number of other assets have been identified for demolition. These assets will have been recorded by our operations teams as not having a current use on the network at the current time, and form the basis of our strategy for responsible demolition in our RIIO 2 business plan.

There are two main categories of activity within scope of this topic:
1.   Sites and assets currently redundant: 67 assets or groups of assets have currently been identified as redundant. Some if these have already been disconnected from the network and others are still live and being maintained as part of our business as usual operations.
2.   Future sites and assets that will become redundant during the RIIO-T2 period: it is recognised that the behaviour of our customers may change in the future which may impact on our operation of the network. Existing customers use of the network may change, making NTS assets and sites redundant in the future and we also need to consider the needs of future customers who might want to disconnect although the scale and extent of this is not fully understood.

The term 'demolition' means that redundant assets have been fully removed from site, useful spares have been harvested and the land is return to either greenfield or brownfield or given some other alternative use where possible. We do however look to consider alternative uses for assets, before demolition is agreed as the best solution.

Whilst there are a number of factors that need to be considered in the demolition of network assets, the environmental aspect is particularly important. For our sites, removal of environmental hazards will have a big impact of the local environment and local communities.

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Remove environmental hazards that potentially risk polluting the land (and to an extent other environmental media)	Remove/ Remediate pollution which may have occurred during the life of the permit	Demonstrate that the site is in the same state as at the start of the permit

Compliance with the waste legislative requirements is a critical consideration as we develop our business plan for RIIO 2 but also striking the right balance for current and future stakeholders. There will be a clear trade off between demolition costs under RIIO 2 for current stakeholders versus delaying any demolition activities such that they are borne by future stakeholders, and whilst incurring ongoing maintenance costs on redundant assets.

Therefore, we need to explore with our stakeholders the best course of action as we develop our strategy for demolition as well as plan for a future network under uncertain conditions. The insight from this engagement will then inform the options we put forward in our business plan.

Link to Stakeholder Priorities and interactions with other Topics
The stakeholder priority "I want to care for communities and the environment" comprises of two topics:
- Environmental impacts to the NTS
- Responsible Demolition of our Assets

Responsible Demolition of our Assets has a mid-level materiality in terms of the overall RIIO 2 TOTEX and there is a strong community and wider societal aspect to our engagement. The scope of this topic delivers against the stakeholder priority through the removal of redundant assets which otherwise would be left on sites potentially causing the contamination of ground, air and water. Additionally, redundant assets on the NTS can pose a safety risk in relation to identification of live versus redundant assets and costly inefficiencies when undertaking maintenance and asset health works on sites with both operational and redundant assets. There is also a strong link to the 'I want to take gas on and off the network when and where I want' priority; with redundant assets no longer playing a part in our overall network capability. This is particularly important with the large pipeline and compressor assets when assessed against a backdrop of uncertainty in the energy landscape.

Innovation, safety and customer service will be addressed as embedded subjects within the overall stakeholder priority and there is also an important balance between the needs of current and future

stakeholders. The importance of the issues to our stakeholders, in conjunction with the materiality mean that this is a key area of relevance for engagement with our stakeholders. At the Stakeholder Group meeting 2 the topic 'Responsible Demolition of our Assets' were classified as having a high materiality and high ease of engagement and therefore deemed relevant for discussion at the Stakeholder Group, as demonstrated by the following matrix:
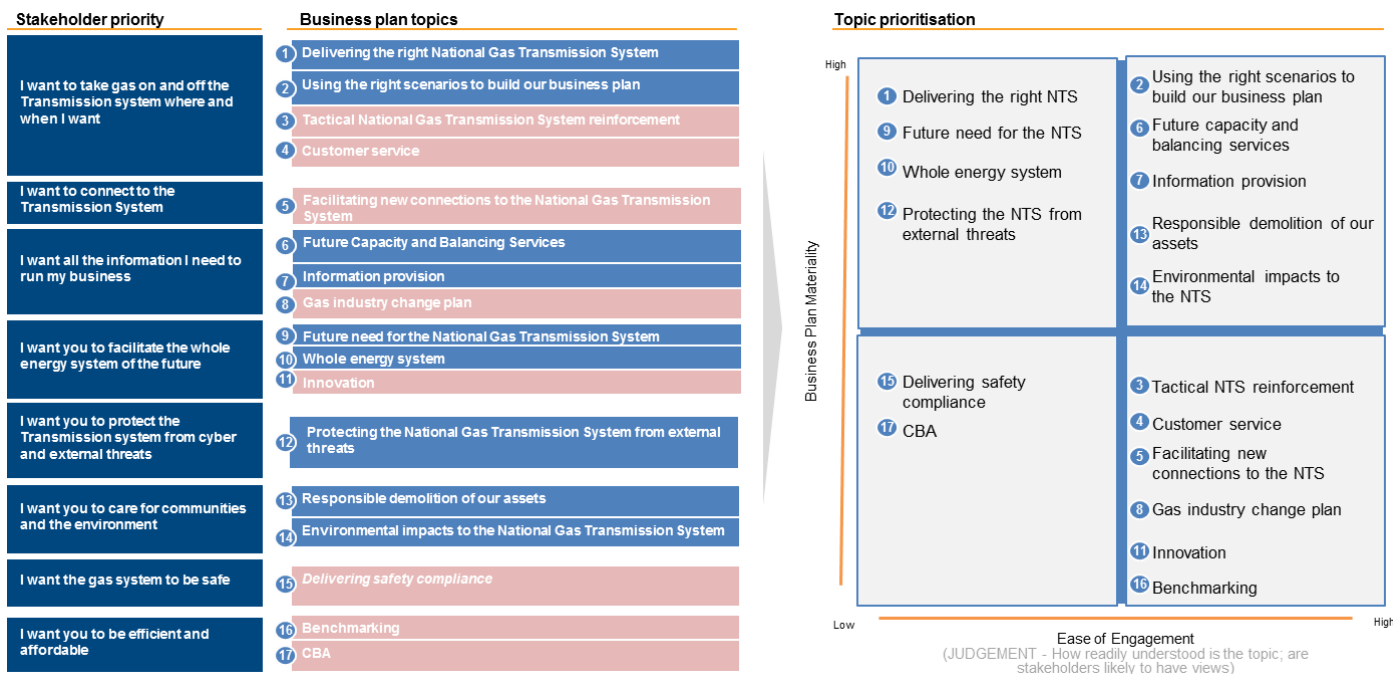
1.2 What existing insight has been utilised?

I. What existing insight has been drawn upon; BAU engagement, satisfaction survey insight, FES horizon scanning; output from listen phase
II. What are the gaps in existing insight you wish to fill from this engagement? (Stakeholders not previously engaged or no existing insight exists)

We have a several sources of existing insight we can draw upon to feed into this topic in particular options for decommissioning assets developed within RIIO 1 and legislation and industry guidelines.

Options for redundant assets considered within RIIO 1
Although our demolition activities under RIIO 1 have been limited, as part of our current asset management activities and engaging with stakeholders in the development of options to meet with environmental legislation, we have given consideration to the pros and cons of four different high level approaches for our redundant assets; Do Nothing, Disconnection, Demolition and Disposal and Re Purpose, each of which could be considered when assessing redundant assets on a case by case basis. An overview of the key pros and cons is presented below:

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Do Nothing

In the "Do Nothing" state no action is taken on the assets once they have been identified as redundant apart from an isolation, in accordance with the necessary policies and procedures. This approach has numerous implications & risks including:

Pros	Cons
Cost: This presents the lower immediate cost option for Quasi-Capex spend on removal of assets	Continued asset health expenditure: Assets are still on the asset list and energised. We are still required to maintain in accordance with our asset health and maintenance policies.
Future Proofing: If the required asset health maintenance is undertaken, this option could enable us to retain some assets that could be used in the future.	Environmental implications – Assets that have passed their original design life and may be in a state of decay which could result in the assets impacting on the environment around them.
	Reputational Damage – This approach could leave redundant assets in a visible state of disrepair. With some of our sites visible to the general public there could be public perception that impacts negatively on the business.
	Compliance – Our sites could get audited by various regulatory bodies including the Environment Agency and the HSE. The Do Nothing approach could place the company at risk of non-compliance with waste legislation and financial penalties.
	Future costs: This option pushes the complete costs of returning a site to green or brownfield state onto future customers

Disconnection

The disconnection state involves disconnecting the asset or site from all supplies of energy (gas, electrical and control equipment). The disconnected asset is then left in situ.

Pros	Cons
Future Proofing: If the required asset health maintenance is undertaken, this option could enable us to retain some assets that could be used in the future.	Continued asset health expenditure: Assets are still on our asset list and although not energised, maintenance and inspections should must be carried out as appropriate.
Cost: This presents a relatively low cost option for redundant assets.	Environmental implications: Assets may be past their original design life and therefore may be in a state of decay. This may result in assets impacting on the environment around them.
	Future costs: This option pushes the complete costs of returning a site to green or brownfield state onto future customers

Decommissioning

The decommissioning approach involves disconnecting the asset or a number of assets on a site from all supplies of energy and removing all process fluids (Methane, Odorant, Condensate), and de-pressurising the equipment. Useful spares are also removed.

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Pros	Cons
Environmental implications: The removal of asbestos, process fluids and assets from site negates the majority of environmental concerns.	Future Proofing: Once in this state the option to reconnect is removed without significant reinvestment
Reduced asset health expenditure: Some assets are removed from site and therefore there will be a reduction in asset health costs.	Future costs: This option pushes the complete costs of returning a site to green or brownfield state onto future customers

<u>Demolition and Disposal</u>

The demolition and disposal approach involves total removal of all assets from the network. The site can be returned to its original state (either brownfield or greenfield) and sale of land considered.

Pros	Cons
Reduced asset health expenditure: Some or all assets are removed from site and therefore there will be a reduction in asset health costs.	Future Proofing: The option to reconnect is removed without significant reinvestment.
Cost: Utilising this approach we may be able to offset some of the cost of removing redundant assets through the recycling of materials, selling parts as spares.	Future costs: This option retains the complete costs of returning a site to green or brownfield state on current customers.
	Land implications: Land is either owned by National Grid under a Compulsory Purchase Order (CPO) that requires the land to be offered to the previous occupier, or could be National Grid owned land that can be disposed of.
	Dust: We shall need to control construction dust and Naturally Occurring Radioactive Materials (NORM) as part of demolition and disposal activities.
	Contamination: In the case of a redundant site, once the redundant assets have been removed and the site returned to its original state an environmental survey is required to be carried out having regard to contamination which may have occurred. This will need to be remediated to an extent that seeks to eliminate future liabilities for the site post disposal.
	Financial accounting: From a statutory accounting and tax perspective the decommissioning and demolition costs of the assets need to be treated separately from the proceeds of sale of land

<u>Re-Purpose</u>

Where redundant sites are identified, we could re-purpose the sites for alternative uses.

Pros	Cons
Innovation: A redundant site could be used for innovation purposes (e.g. hydrogen testing) or for use as training facilities	Cost: high cost activity
Cross business: Where National Grid is the land owner then alternative usages by other business units e.g. Electricity Transmission, National Grid Ventures or by	

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other network companies could be considered before sale of the land.	
Temporary options: For pipelines specifically, we can consider whether lines can be temporarily abandoned, filled with nitrogen and maintained until another use can be found.	

Legislation and industry guidance

As previously mentioned, there are a number of applicable legislative obligations under the *European Waste Framework Directive 2 (WFD)* whereby assets that are no longer required and are therefore considered redundant should be treated under the relevant Waste Legislation. This applies to the extent that any deposits on or in the ground which the producer no longer requires or has a use for, is classed as waste. Within UK Legislation the *Waste (England and Wales) Regulations 2011* Act translates the WFD into UK law. There are also a number of applicable National Grid policies and industry guidelines, including the *Pipeline Safety Regulations 1996* and *Control of Asbestos Regulations 2012,* which are all listed in Appendix 6.

Regional Variations

The nature of this topic means that there will be some specific site-based considerations for any redundant asset considered for demolition. The proximity to domestic properties or the risk of environmental damage in certain locations would be examples of this. The NTS is however a country-wide network and so we would develop a strategy that was flexible around these site-specific factors and variations, rather than develop multiple regional strategies.

These high-level approaches alongside the relevant legislation, policies and industry guidelines helped to develop our approach to questions for stakeholder engagement and to subsequently guide our strategy for redundant assets

1.3 WHAT ARE THE DESIRED OUTCOMES FOR THIS ENGAGEMENT?

I.   What are the desired outcomes from this engagement? (incl. where you most need to engage)
II. What are the measures of success?
III. What are the questions being asked from engagement? Have they been reviewed to be transparent and unbiased?

Desired outcomes of engagement

The desired outcome of this engagement is to agree our high-level approach to redundant assets with our stakeholders and to be able to reflect this in our redundant assets strategy and business plan.

Stakeholder Mapping

The matrix below shows our assessment of key stakeholder groups impact and interest with the table below providing the detail of specific groups which we have attributed to each category for the purpose of this topic. The key stakeholders for this topic are the top right quadrant of the matrix below. They are characterised as having high impact and interests.

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Responsible demolition of our assets: Stakeholder mapping
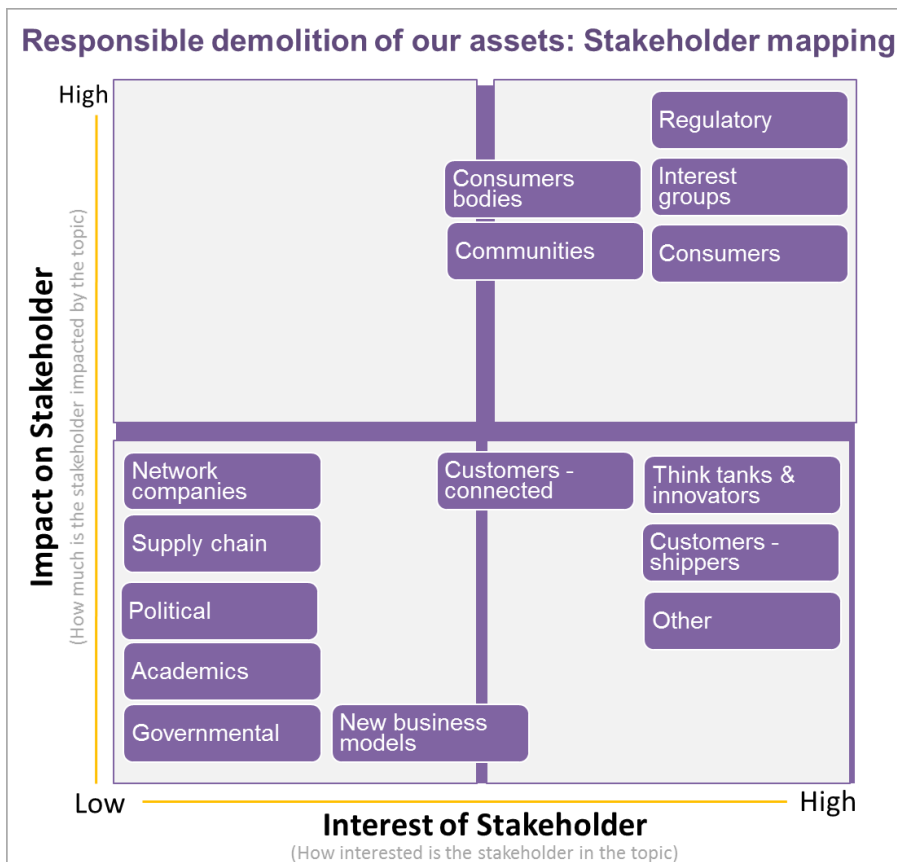
Stakeholder Segment	Description	Example Organisations
Regulatory	Energy, environment and safety regulators	Ofgem, HSE, environmental regulators
Interest Groups	*Groups representing specialist interests including environment*	UKOPA, Green Alliance, Sustainability First
Consumer Bodies	*Representatives that protect the interest of consumers*	Citizens' Advice
Consumers	Household consumers Major energy users who use gas as feedstock	Members of the public and businesses e.g. ceramics and chemical industrial companies
Communities	*People who are impacted in local regions / areas where we operate or have major projects*	Relevant local authorities

Engagement questions to be asked

In developing the stakeholder engagement questions, there was one overarching question designed to be asked after explaining the context of the topic, and before the start of each engagement session:

'On a scale of 1 to 5, where 1 is not impacted at all and 5 is impacted a great deal, how impacted are you (or those you represent) by what we've just spoken about?'

There were then three more topic specific questions on 'Responsible demolition of our assets'

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1. What are the implications of each option of removing redundant assets and to whom?
2. What factors should we consider when we no longer require assets for operational use?
3. When should National Grid responsibly demolish redundant assets?

In the formation of the questions and development of the interactive sessions for workshops, a third party company, Frontier Economics reviewed the material and gave some very useful insight:

- There are some risks associated with asking stakeholders for feedback on the direction of your strategy. Because of this, it's probably right to be cautious over how much you can read into the stakeholder responses as it may be hard for stakeholders to take meaningful positions on some of the more technical points, without having access to a lot more information on the issues. Stakeholders may well come with strongly held priors that you won't shift one way or the other. ("you should be doing this anyway". "any environmental impact is bad".) and unless you manage the attendance list carefully, you end up getting a self-selected crowd that might have stronger views than is typical.

- Open discussion with large groups can be hard to manage. A small number of vocal individuals can easily drown out everyone else. It takes a certain kind of personality to be willing to talk openly in a large room. Voting pads can help overcome this, particularly when attendees are asked to vote before as well as after the open discussion.

- You can ask stakeholders about the information they would like to see published in each area. This might help ensure you have some concrete and practical actions to take away. It might also help address any frustration that stakeholder might feel if they are asked questions that they are not armed to answer.

- Some questions stakeholders might feel should just be answered by careful analysis, so it might be better to focus the stakeholders on considering trade-offs around costs within the context of a limited budget.

1.4 WHAT IS THE ENGAGEMENT APPROACH?

  I.   *What insight have been gathered to inform engagement approach?*
 II.   *Approach to engagement and why have you chosen this approach, is it: inform, consult, involve, collaborate, empower*
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.*
IV.   *What innovative engagement methods have you considered?*
 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)*
VI.   *How has any feedback from Frontier been incorporated?*

Our Planned Approach
Our RIIO-2 engagement approach has three phases – the first being to inform and educate our stakeholders on the key issues, then to move into open conversations and finally present costed

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options based on the insight we have heard. We have currently completed the inform stage and are moving through from open conversations towards costed options.

Inform	What is our current demolition strategy, and why What assets are impacted How we're demolishing responsibly – including reuse, recycling and safety impacts
Open conversations	**Qualitative** Who should pay for this work, current or future consumers? What should we consider when looking at disposing of assets that are no longer required by National Grid Gas?
Costed Options	**Quantitative** Cost benefit approach Green field vs brown field vs disconnection: should we leave below ground assets in situ or remove? Pay now vs pay later: cost on consumer bills today vs paying in the future with fewer consumers

The planned activities included several different engagement methods, including regional events with connected customers and communities and bi-lateral engagement with stakeholders such as Ofgem, the HSE, and the environmental agencies.

What	Who	Location	Outcome	Engagement status
Environmental Stakeholder Engagement Workshop	Network Companies, Regulators, Interest Groups Consumer bodies	Surrey	Understand environmental impacts and considerations by stakeholder segment	Complete
Workshops at our Terminals	Terminal operators Offshore producers Government (Local Authorities)	Bacton St Fergus	Understand environmental impacts and considerations by stakeholder segment and geographical location	Complete
Regional engagement	Network Companies (Gas Distribution Networks) Other connected customers Storage operators Government (Local Authorities)	Chester London		Ongoing
Bilaterals	Regulators	N/A	Share outcome of engagement Comfortable with options and impact on Safety, Environment and Security of supply	Ongoing
Consumer engagement – Immersion events, Willingness to pay survey	Domestic consumers	TBD during the propose phase	Evidenced preferred costed option	Ongoing

Regional and Terminal Events

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The structure of the regional and terminal events was a one day event which included welcome and introductions from senior National Grid Gas Transmission management. This was followed by a series of overview presentations giving context to our business, our performance and the challenges we face. Throughout the morning sessions we used a series of quick polls with voting through an app to gather fast insight and feedback. The latter sessions then focused on the key topics we're engaging on with the stakeholders and we asked questions at facilitated round table sessions as well as continued with the quick polls.

The description of the 20 minute session Responsible Demolition of our Assets is presented below:

Overview presentation on our approach to demolition

Discussion question 1:
There are three options for setting our approach to responsible demolition:
1. Deliver all in RIIO 2: Increased costs for current consumers
2. Prioritise: Cost is shared between current and future consumers
3. Defer all works and manage risk: Majority of cost is picked up by future consumers

What are the implications of each option and to whom?

On table mats, attendees were asked to complete a green post it for positive impact and pink post it for negative impact for each of the three options for 'customers', 'end consumers' and 'local community'.

Discussion question 2: What factors should we consider when we no longer require assets for operational use?

Discussion question 3: When should National Grid responsibly demolish redundant assets?

Voting questions
- o On a scale of 1 to 5, where 1 is not impacted at all and 5 is impacted a great deal, how impacted are you (or those you represent) by what we've just spoken about?
- o As a principle, should current or future consumers pay for demolition of assets that are no longer required for operational use?

The sessions at the three other regional and terminal events were run in a similar manner.

The Environmental Stakeholder Workshop
The Environment Stakeholder Engagement Workshop was a focussed event with presentations and facilitated discussions on a number of areas within the Environmental Impacts topic. The outcome, structure and questions presented to the attendees on the day is presented below:

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Outcomes	To gain a clear understanding of : • **What you'd like us to consider when we no longer need an asset** • **Your views of who should pay for demolition and when**
Structure	• Overview of our approach and the issues we face • A facilitated discussion on tables with a scribe to capture qualitative feedback • Vote
Questions	Open discussion: • What factors should we consider when we no longer require assets for operational use? Vote • As a principle should current or future consumers pay for demolition of assets that are no longer required for operational use?

2: POST-ENGAGEMENT

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

I. *Stakeholders involved – all impacted stakeholders have been engaged (planned vs actual). What did they score themselves on impact, interest or knowledge?*
II. *What were the outcomes?*
III. *Overview of responses (must provide as deep dive if required)*
IV. *How were the outcomes measured and what evidence do you have? Quantitative and qualitative. How often did points come up and how often responses received?*
V. *Does it meet the needs of targeted stakeholders?*
VI. *Articulation of options plan or process presented (benefits/limitations/ timing)?*
VII. *How have you considered impact on safety in options?*
VIII. *How have you considered impact on customer in options?*
IX. *How have you considered innovation in options e.g. innovative approaches to engagement or innovation projects?*

Workshops and Regional Events

A significant proportion of RIIO 2 stakeholder insight on this topic has been delivered through two regional events, held in London and Chester and two events held at our terminal facilities at St Fergus and Bacton entitled 'Future needs of the Network'. In addition, we held an Environment Stakeholder Engagement Workshop.

A summary of the events and respective attendees in their stakeholder segments is provided in the table below:

Event	Date	Customer-connected and Customer-shipper	Regulatory and Government	Network Company	Academics and Think tanks and Innovators	Supply Chain	Consumer Bodies, Interest Groups and Other
Future needs of the Network St. Fergus	03/07/2018	4	1	0	1	0	0
Future needs of the network London	09/07/2018	6	1	1	2	0	1
Future needs of the network Bacton	12/07/2018	5	0	3	1	3	1
Future needs of the network Chester	17/07/2018	5	1	1	2	10	1
Environment Stakeholder Engagement Workshop	26/06/2018	1	1	2	0	2	1

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As per the event structure described in the previous section, the quick poll questions were use to gauge stakeholder impact. We asked "On a scale of 1 to 5, where 1 is not impacted at all and 5 is impacted a great deal, how impacted are you by what we've just talked about [responsible demolition]?" and received the following response:
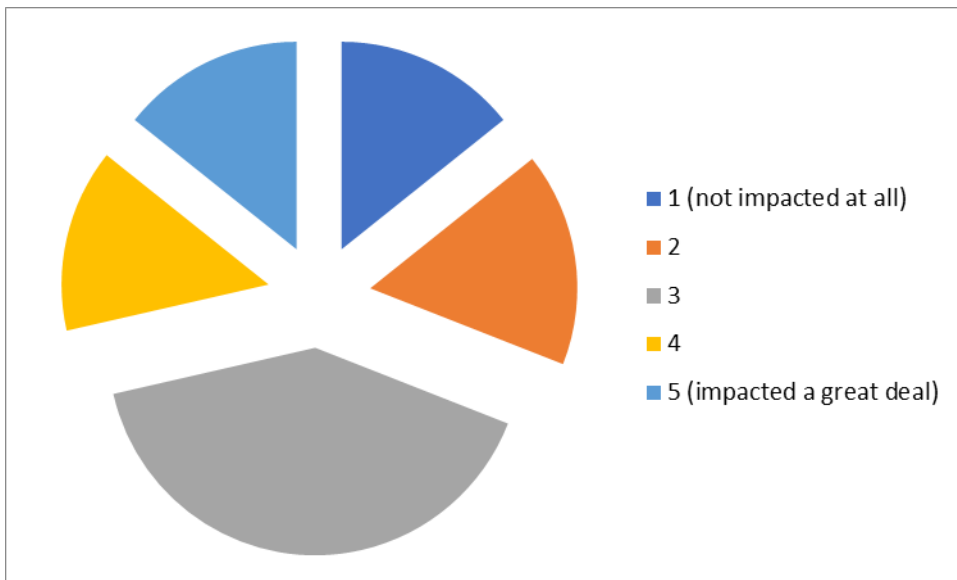
In spite of the low number of total attendees, the impact score is quite dispersed across the 1- 5 scale which seems reflective of the wide range of representation from the stakeholder segments relevant to this topic.

However, the quick voting poll for 'As a principle should current or future consumers pay for demolition of assets that are no longer required for operational use?' generated a very strong response in support of the second of the three options, 'cost shared between current and future customers'

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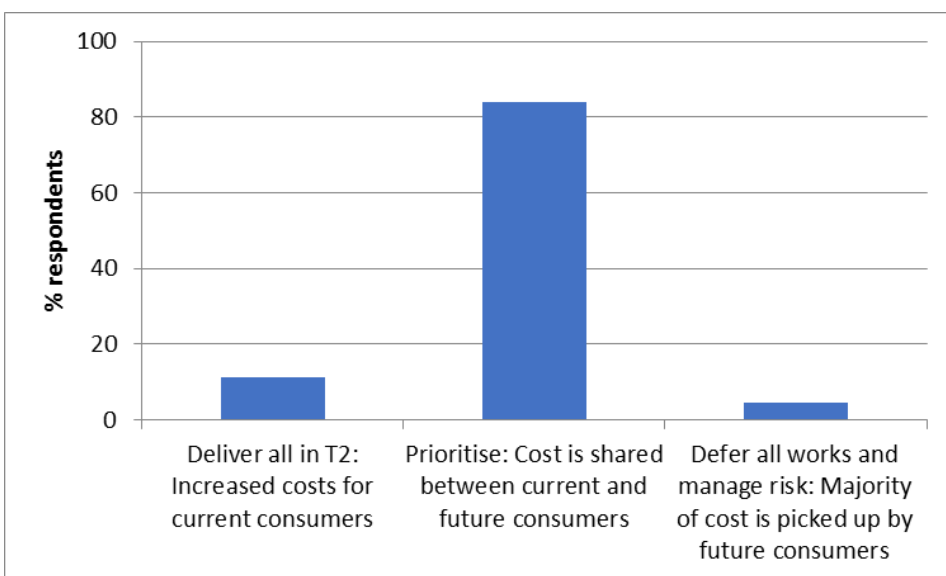
When asked the question 'What are the implications of each option of removing redundant assets and to whom?' responses were provided in a free text, qualitative format. Based on a subsequent review and categorisation of these written responses, 19% of responses refer to development of a risk based approach to our management of redundant assets whilst another 16% refer to consumers, communities and customers in their response, highlighting the need to consider a range of factors in our strategy:

> *"National Grid need to prioritise high risk projects and maintain remaining assets, as commercially the right answer is to leave it. Yet, they should take into account stakeholders and the impact on them, for example if redundant assets are an eyesore for local communities then it may be best to demolish the asset."* - ▮▮▮▮, Customer-connected

> *"You need to think about the visual impacts of pipelines vs compressors. It makes sense to remove compressors to reduce the visual impact, but why would you dig up a pipe? Leaving assets visible on the surface has a greater impact on reputation."* – ▮▮▮▮, Customer - connected

The second question – *'What factors should we consider when we no longer require assets for operational use?'* generated over 180 responses, with many attendees providing more than one response. The approach to risk was the most frequently mentioned factor (42 responses) and future needs were also (22 responses) an important factor for our stakeholders. Other factors attendees cited were the environment, maintenance and land.

> *"If by decommissioning a plant an area will improve visually National Grid should decommission redundant assets in T2, as this will stop the asset leaving a legacy."* – Environment Stakeholder Engagement Workshop

> *"If you were to defer all works and manage the risk it may make economic sense."* - ▮▮▮▮▮, Customer-connected, Bacton Future Needs of the Network

In response to the third question – *'When should National Grid responsibly demolish redundant assets?* Responses reflect the quick poll, with the majority of stakeholders supporting a prioritised, risk based approach.

> "*National Grid need to look at decommissioning on a risk based approach. Maybe the key focus should be in T2 and T3, they need to take into account customer engagement, maintenance cost and visual impact."* - ▮▮▮▮, Supply Chain, Environment Stakeholder Engagement Workshop

> *"If National Grid are to prioritise high risk projects and maintain the remaining there will be a lower cost to industry if that asset is needed in the future"* - ▮▮▮▮▮▮▮▮▮ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ Chester Future Needs of the Network

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The feedback from these events is therefore summarised as follows:
- o National Grid should consider all alternative uses especially for pipeline assets before removing.
- o National Grid should prioritise projects on a risk basis and maintain the remaining assets until the point of removal.
- o We should consider the societal fairness in developing our approach to removing redundant assets; sharing of cost between current and future consumers.
- o There is a visual impact when assets aren't decommissioned. Therefore, when thinking about the societal impact on local communities above ground assets should be considered for demolition.

There was broad consensus on these points, with a minor difference between the supply chain attendees and the academic and think tank segment with the supply chain more likely to support an approach of prioritising projects based on risk and continue to maintain the other remaining assets versus deferring all works and managing risk.

Feedback Webinars

Following the engagement activities, we carried out we held two feedback webinars.

Event	Date
Future needs of the network - feedback webinar 1	31/07/2018
Future needs of the network -feedback webinar 2	07/08/2017

With over thirty stakeholders attending the feedback webinars, this was an opportunity to play back what we had heard. This included the key stats from the question '*As a principle should current or future consumers pay for demolition of assets that are no longer required for operational use?*' and some summarised points from the qualitative responses.

Learn from the offshore industry

Consider future optionality and alternative uses

Tailor your approach based on the asset type

National Grid have leading risk methods which are pretty clear and there is transparency
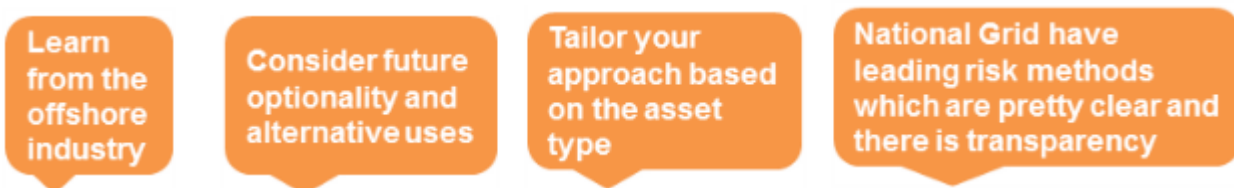
At the end of the feedback section, when asked the question, 'Do you feel your voice has been reflected in what we've just talked about?' 68% of responders answered yes. 8% answered partly and 24% gave their answer as not applicable. Of the two attendees who answered 'partly' further follow up explanation was given as:

"Information provision was not discussed. Also concept [og] NGG legislative safety standards"

and

"As before I think there needs to be a regular series of events to gather more data and make it more robust".

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Offshore Decommissioning Reference Information

To enhance our approach, we also investigated the decommissioning in the Offshore Oil and Gas Industry to understand the processes and legislation that is applicable to this industry.

> *"National Grid need to consider cases such as those off shore. In the North-sea gas pipelines are left on the sea bed, because it has been decided that it is worse for the environment to move them then to leave them on the ocean floor."*- Supplier, Environment Stakeholder Engagement Workshop

The decommissioning of offshore oil and gas installations and pipelines on the United Kingdom Continental Shelf (UKCS) is regulated by the Department for Business Energy and Industrial Strategy (BEIS) Offshore Decommissioning Unit and by the UKs Oil and Gas Authority (OGA). through the Petroleum Act 1998. The UK's international obligations on decommissioning are governed principally by the 1992 Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention).

Before commencing any decommissioning activity, once the asset is reaching the end of its operational life, each operator is required to submit a decommissioning programme to the Department for BEIS and the OGA. This programme sets out the measures to decommission disused installations and/or pipelines, and will describe in detail the methods required to undertake the work (including where it is proposed that an installation or pipeline is to remain in position, provision for maintenance), and the cost for these activities. Once the decommissioning programme is approved, following the OGA's review of the details including the cost estimates, the notice holder is legally obliged to carry it out on a joint and several liability basis. If a programme is not carried out, or its conditions are not complied with, the Secretary of State may, by written notice, require remedial action to be taken. Failure to comply with any such notice is an offence and the Secretary of State can carry out the remedial action and recover the costs from the person to whom the notice was given.

The applicable legislation and industry guidance for onshore operators are not so heavily regulated and activities are not as prescribed as for the offshore industry where the relevant waste legislation is our primary driver.

National Grid Gas Stakeholder Group

At the second Stakeholder Group meeting during a discussion on the Future of the Gas Network topic, the stakeholder group indicated they would expect to see evidence of National Grid considered all possible uses of our assets before removal given the uncertain energy landscape.

October & December 2019 update

Following the July submission of the business plan, some further stakeholder insight on the topic of responsible demolition was generated through the 'slider tool'. The online tool was designed to understand the value consumers place on different services, and allowed respondents to see in

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real time the impact of their choices on their annual bill. A summary of this is provided in the table below:

	Evidence
New information	Consumers were asked what NGGT should do with redundant assets. Consumers were overwhelmingly in support of demolition. However, there was less consensus over whether to demolish only high-risk assets (38%) or all above ground assets (37%).
Stakeholder source	Domestic consumers
Trade-offs between priorities	Consumers may be signalling they would prefer a smaller cheaper programme when asking for only high-risk assets to be demolished.
Source document	Interviews with bespoke tool ('slider tool')
Robustness	The findings are relevant and representative. There are some issues with validity - respondents' ability to answer meaningfully may be limited by the experiences that they have had, and making choices based on very small sums of money.
Relation to existing stakeholder evidence in business plan	Generally supportive, although the lack of consensus over whether to demolish all assets or not may warrant analysis and a clear explanation.
Changes to the business plan conclusions and proposed actions	The question of whether all assets or only above ground assets should be demolished could be addressed in the plan

2.2 WHAT WAS THE FEEDBACK ON THE ENGAGEMENT APPROACH?

I. *Was the engagement channel effective?*
II. *What feedback was received from stakeholders on the engagement approach?*
III. *What lessons have been learnt and has this been shared?*
IV. *Has best practice been shared?*

The engagement activities we have used to date, although quite limited in range, have been effective in capturing the necessary stakeholder insight to develop our strategy further. The feedback through the feedback webinars was positive and we have applied our learning from these initial engagement activities to the planning of future events and interactions.

We have also begun work with a third party company Truth to develop our stakeholder engagement approach and to identify gaps and solutions to those gaps in the activities we have undertaken to date. Truth has logged, catalogued, reviewed, examined and analysed a range of documents provided by National Grid related to existing RIIO2 specific engagements and, where available BAU engagements, and conducted initial exploratory conversations with a number of National Grid staff. Truth have provided the following feedback

SUMMARY: The utility of the engagement to date is strong, with clear conclusions emerging that National Grid should prioritise demolition of assets (particularly compressors) based on risk and maintain other assets. Further engagement of key segments is required before conclusions can be identified across different stakeholder groups beyond those in the energy industry

The Truth feedback has been useful in validating our initial conclusions although we are not looking to undertake extensive further engagement at this time. We also asked Truth to consider

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any third-party research for review as part of the development of our RIIO 2 business plans as part of which they have highlighted three decommissioning reports from the Netherlands, Scottish Highlands and Australia which we will be reviewing:

1. Netherlands masterplan for decommissioning and re-use
2. Highlands and Islands enterprise – Oil & Gas decommissioning plan
3. Blueprint for marine science Western Australia – decommissioning offshore infrastructure: a review of stakeholder views and science priorities. Draft report.

2.3 WHAT WERE THE INITIAL NATIONAL GRID CONCLUSIONS

I. *Was there clear agreement on the outcomes from stakeholders? This outcome will directly inform our conclusions*
II. *If there was disagreement on the outcome across which stakeholder groups?*
III. *Have we drawn conclusions by placing greatest weighting on the views of those stakeholder most impacted?*
IV. *Was the outcome inconclusive?*
V. *Is our conclusion endorsed by other sources; bespoke engagement, BAU or external third parties for example is there existing third party research?*
VI. *Will further engagement activities be required to reach a conclusive outcome?*
VII. *Outcomes against decision making framework:*
    a. *Regulatory requirements - Do the outcomes meet all National Grid regulatory requirements? (check with regulation, all options presented should meet this requirement)*
    b. *Ofgem's RIIO2 outcomes and Strategy - giving consumers a stronger voice; responding to changes in how networks are used; driving innovation and efficiency; simplification?*
    c. *Government agenda - Do the outcomes align with latest Government direction (e.g. industrial strategy)*
    d. *Meeting the needs of targeted stakeholders*
    e. *End consumer bill impact*
    f. *Transparency of trade-offs – has a trade-off been made? If so what considerations allowed you to reach a conclusion?*
    g. *Benchmarking and CBA analysis*

In drawing together the existing activities on this topic, legislation and the new insight generated through our stakeholder engagement some key principles for our redundant assets strategy have started to emerge. This is helped by a fairly strong consensus from the stakeholders we've engaged to date around considered a prioritised risk based approach. We have begun to develop this strategy with the development of a number of principles aligned to the requirement for legislative compliance and the stakeholder insight that should be followed when determining on the approach to be taken for the redundant assets.

Legislative compliance
- o We shall assess our redundant assets for non-compliance with legislation, identified above, including where specific environmental permitry is required.
- o We shall undertake decommissioning/demolition of assets in a manner that complies with the UK legislative requirements and industry best practise.
- o Where redundant assets contain Asbestos Containing Materials (ACM), the ACM shall be removed
- o We shall assess the environmental impact of disposal of assets, including hazardous waste

National Grid should consider all alternative uses especially for pipeline assets before removing.
- o We shall assess the alternative uses for redundant assets, both within the site and throughout National Grid Gas Transmission Operations.

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National Grid should <u>prioritise projects on a risk basis</u> and maintain the remaining assets until the point of removal.

- o We shall assess, through network analysis, the impact of the removal of redundant assets including the inability to deliver the level of network services required by our customer.

We should consider the <u>societal fairness</u> in developing our approach to removing redundant assets; sharing of cost between current and future consumers. There is a <u>visual impact</u> when assets aren't decommissioned. Therefore, when thinking about the societal impact on local communities above ground assets should be considered for demolition.

- o We shall assess the residual value of assets, and in accordance with the waste hierarchy to recover residual value before disposal, including for use as spares or through recycling of assets. We should consider whole life cost analysis and review the number of these assets in our network, the age of these assets and the spares already held in store.
- o Where no operational requirement is determined and no likely future options are identified, we shall demolish assets and return the site to pre-investment conditions.
- o We shall leave land in a condition that is safe, stable, and non-polluting and compatible with the intended post-operation land use and enable effective transfer to third parties.

Our next steps will be to further develop a tool to quantify the options for responsible demolition and demonstrate a robust, transparent methodology for the decisions we make. This will include consideration of future optionality, and where redundant assets are located on a site continuing in operation, options for removal of the assets will need to consider temporary retention of the assets to a point in time at which the assets can be removed without significant risk and/or disruption to operation of the site. It is also recognised that our customers' behaviour can impact on the volume of work on redundant activities on our network, specifically in relation to assets at customer connection sites. We also have additional engagement with the communities segment as part of the next phase of work as well as one to one engagement with the environmental regulators. There is likely to be a further consumer insight on this topic through our work on Willingness to Pay.

3.   STAKEHOLDER GROUP CHALLENGE & REVIEW

3.1 WHAT POINTS OF CLARIFICATION AND INTEREST WERE RAISED?

National Grid circulated version 1 of this engagement log in advance of the Stakeholder Group meeting on the 29th of November 2018. Pre-meeting calls were held to collect feedback on the log and any points of clarification, as set out in Section 3.1.

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Topic specific feedback and points of clarification		
Pre-meeting calls	Feedback	National Grid Response
███████	Most tangible and easy to understand Options clear and pros and cons useful Rough costings would be helpful for more context What happens to the proceeds of sale of land seems a key question – couldn't see this (other than it is different) As neither current or future consumers are likely to use the assets, is the intergenerational fairness question one of affordability? Prioritise projects on a risk basis – on the risk of what and did all stakeholders have the same interpretation? Foreign comparators good Grid view looks to reflect stakeholder feedback Will it need another loop when forecast costs are available?	Costs became available after our TOTEX 2modelling process, in time for the meeting day itself. Costs will be updated again in time for the July business plan submission.
███████	Seems like a local issue (round particular assets) rather than individual. And emphasis on compliance so this should help to prioritise engagement.	N/A
███████	5-10 year planning - how are decommissioning decisions made (materials used, environment etc) EU funding for off grid properties – how does this impact plans post BREXIT?	Predominantly the RIIO2 assets proposed for decommissioing have been monitored for a number of years now. They have no current usage and it has been ascertained their future usage is also redundant. BREXIT will not impact the legislative aspects of this work as it is all transcribed into UK law.
███████	Demolition- needs greater reference to communities and is the baseline assumption demolish as soon as possible (i.e. local community view)	We are exploring more localised community engagement where there is highest value for stakeholders. The scale and materiality of demolition works at Theddelthorpe terminal mean that this is the most suitable site for local engagement. The specific future engagement is to be completed around plans and options for the site with the relevant stakeholders between now and the end of the year.
███████	"As with the environmental impact log, I understand the technical nature of the topic makes it difficult. The questions seem mostly the right ones – with the exception of the question re whether existing or future consumers should pay for demolition. Is this a somewhat artificial either/or? Given that the choice on if and when to decommission has an impact on end consumer bills, albeit limited, and that TRUTH's view was that more engagement was required, why was the decision taken not to do further engagement?"	There are decisions that stakeholders can influence about the extent of demolition works between the RIIO 2 and RIIO 3 periods. We are seeking insight into the right balance between 'pay now and pay later' through ongoing consumer engagement programme. Agree – we have proceeded to do some more targeted engagement in line with the Truth recommendation as explained in challenge #85.
███████	Referenced previous presentation from Tony Current vs future customers Pipelines - Just isolate and ascertain future benefit.	There is a very limited amount of pipeline in the RIIO 2 decommissioning proposals.
███████	GT Demolition "of pipelines"- sees this as a RIIO 3 or RIIO 4 issue given the need to consider options	There is a limited amount of pipeline (98km) in the RIIO 2 decommissioning proposals. We will seek to gather and assess innovative options for pipeline re use in the RIIO 2 period in part, as part of our innovation portfolio.

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

I.   Capture all questions and challenges raised by Stakeholder Group
II. Capture agreement/disagreement
III. Executive summary for RIIO Challenge Group

At the Stakeholder Group meeting held on 27th November National Grid gave an overview of the NGGT RIIO-1 activities in the area of demolition, the current engagement activity and the changes in strategy, methodology and investment required for the RIIO 2 business plan.

Issues raised by the Stakeholder Group included a question on what risks are associated with redundant assets. The Stakeholder Group also commented on the need to critically evaluate the learning from the offshore sector for third party research and articulation of legal requirements versus activities and investments that are discretionary.

The Stakeholder Group identified a number of positive aspects including:

- Pros and cons table was very useful
- Recognition of the issue
- Good to learn from the offshore O&G industry
- Good to engage on this and who pays

Seven formal challenges were agreed and incorporated in the challenge log. There was one action which was closed at the next Stakeholder Group meeting.

Topic specific <u>challenges</u> from Stakeholder Group discussion. Meeting SG-04 27/11/2018		
ID	**Challenge**	**National Grid Response**
85	Consider third party sources - international parties and Truth recommendations re targeted approach to engagement	We have undertaken work to review the additional recommended third party reports: • Netherlands masterplan for decommissioning and re-use • Highlands and Islands enterprise – Oil & Gas decommissioning plan • Blueprint for marine science Western Australia – decommissioning offshore infrastructure: a review of stakeholder views and science priorities. These have helped shape the development of our demolition prioritisation matrix and will also help inform the scope of works for our contractors within the RIIO 2 period. The Truth report recommended taking a more targeted approach to engagement with specific stakeholder segments including stakeholder groups: environment interest groups, consumer bodies, consumers, communities and local authorities. We have responded to this with further direct engagement with the EA and SEPA. After further discussion, it was decided that we would not prioritise additional engagement with consumers above the consumer engagement already documented in our consumer engagement strategy. As part of our ongoing consumer engagement programme, we are including a question on the 'pay now vs pay later' issue and the associated consumer impact. Engagement with local authorities has been prioritised to high value sites. For RIIO 2 this is specific

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		to local engagement at Theddlethorpe terminal. The local authority is keen to engage on options for the site. This engagement will be progressed over the coming months.
86	Explore options and ideas for repurposing- imaginative on partnership, engagement and CBA not just in monetary terms. Explore re use value in waste including procurement approach	Following further assessment of options and ideas, repurposing will primarily be a consideration for pipeline assets (rather than redundant valves for example). The main challenge is the proximity of other live, high pressure assets in the majority of instances limits the options for repurposing. We have a five sections of pipeline (98km) pipeline proposed for decommissioning in our RIIO 2 proposals. This is likely to be a much greater consideration within RIIO 3. Hence developing options and alternatives for repurposing pipelines will form part of our RIIO 2 innovation portfolio, rather than our RIIO 2 business plan.

The re use value of waste is a key consideration. In particular, the demolition activities will contribute towards the National Grid Group Environmental Strategy "Our Contribution". This strategy details the following targets which we shall ensure that our approach to redundant assets adheres to:

• Reuse of recycle 100% of recovered assets by 2020

• Send zero waste to landfill by 2020.

• Recognise and enhance the value of our natural assets on at least 50 sites by 2020.

• 50% waste reduction by 2020 from 17/18 baseline.

Our chosen procurement option will depend on the tender process but we have examples from RIIO 1 where the contractor is responsible for the complete job, and will sell on the scrap metal and that value is taken off the price of the works. Alternatively, we will remove any high value items prior to contracting the works. |
87	Reference to environmental legislation framework and plans to adhere to this	Our legal team have reviewed the relevant legislation and concluded that, as long as there are no issues of contamination or pollution, there does not appear to be any legal obligation requiring us to decommission our redundant assets. Waste is not produced until most of the activities relating to decommissioning has been completed. See page 5 for more information including process flow chart.
90	Clarity on scope - articulate legal requirement and what is discretionary with timing implications	
88	Consider more localised stakeholder strategy	The focus of our recent activity has been to develop a broader framework including a prioritisation matrix which encompasses the range of issues from individual assets and large sites. However, we are exploring more localised elements where there is highest value for stakeholders. The main area for this is at Theddlethorpe terminal. we have begun an engagement programme to explore options on the 'environmental' aspects of the site. This will be ongoing between now and the end of the year.
89	What is driving redundancy of assets (mindful of asset stranding)	Changing operational requirements are the primary driver behind the demolition proposals with the RIIO 2 business plan. This has occurred over a period of time where NTS flow patterns have changed, assets are no longer required and there is no foreseeable use. Stakeholder insight has been valuable in helping assess the future requirements. Customer activities are the second main driver i.e. NGGT assets that are linked to customer

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			connections. If the downstream activity closes, we need to ensure the assets on the National Grid side are removed.	
91	What are the key decision gates (mothball, repurpose etc.)		In developing the scope of works within the responsible demotion topic we consider if repurosing assets or mothballing is an alternative option to decommissioning. Once it is established that decommissioning is required then the prioritisation matrix can be used to compare the relative value of the different assets and sites in order to deliver the work effectively.

Our base assumption for the assets and sites within this topic assumes decommissioning is required. This is because these assets and sites have been evaluated over the RIIO 1 period and other options are not viable or cost effective.

Mothballing in particular, can be problematic. For compressor sites, this would mean losing the permit to operate from the EA as the unit could not undergo regular emissions testing, and advantage of retaining future optionality would be lost. | |

Actions from Stakeholder Group discussion

ID	Date	Meeting	Action	National Grid Action
SG04-G05	27/11/19	SG04	Clarity on what we mean by assets rather than sites and clarity on order of magnitude	With regards to assets these can be primary assets- pipelines and different types of 'sites' such as compressor stations and above ground installations. There are also secondary assets (valves, meters, pre-heaters) which smaller assets, make up the primary assets. Demolition costs are approximately a 10-fold increase from RIIO 1 to RIIO 2.

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4. CONCLUSIONS

4.1 WHAT IMPACT HAS THIS FEEDBACK HAD ON THE 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?*

Our business plan commitment on this topic is consider how any redundant asset can be reused for existing and future customers before disposal. Where whole sites are affected, we will remove equipment totally, and for partial sites reduce to ground level. We will take proactive steps to return redundant sites to a better state than they were in before, in line with government strategy and stakeholder feedback. For RIIO 2 period, we will leave redundant pipelines in place, isolated and made safe, but will reassess these pipelines for RIIO-3.

The direct influence of feedback from the stakeholder group is presented in the table below:

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)**
N/A	
Stakeholder Group feedback	**Impact on National Grid Business / Processes**
Consider more localised stakeholder strategy	This challenge has resulted in us considering sites and assets where a local stakeholder strategy could have most value – both the options available for stakeholders to influence and the materiality of options considered. Theddlethorpe, a large entry terminal, is a site whereby stakeholders can influence the environmental aspects of the demolition options. We have gone onto plan a local stakeholder engagement which will be developed and undertaken between now and the end of the year.
Clarity on scope - articulate legal requirement and what is discretionary with timing implications	This challenge resulted in a thorough legal review of our proposals against the legislation which has resulted in a change between activities which are discretionary (obligation to decommission or activities relating to dismantling assets on site) and the legislative requirements (correct disposal of waste and treatment of asbestos)

4.2 BUSINESS PLAN OUTPUTS ALIGNED TO STAKEHOLDER ENGAGEMENT OUTCOMES.

The golden thread diagram below illustrates how the business plan outputs align to the stakeholder engagement outcomes:

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Responsible Demolition,
Draft position, subject to further work

Consumer outcomes

I want to use energy as and when I want	I want an affordable energy bill

Consumer bill component

£XX indicative consumer bill/year

Percentage of overall budget

%

Totex

Indicative cost range £73m pa.

Outputs

Price Control Deliverable (PCD) on redundant assets

Supporting material/evidence

Justification report	Asset Depreciation report	Prioritisation matrix	Responsible Demotion Engagement Log	Unit Cost assumptions

How is NGG responding? What are we doing in T2? What were the trade offs? What will we not be doing?

Development of a prioritisation matrix tool to support the risk based approach	Undertaken a review of the relevant legislation and clarification of legal requirements	Development of a local engagement strategy for Theddlethorpe terminal.

What have we heard? Outcomes

Consider alternative uses before decommissioning	Prioritisation	Societal fairness – buy now, pay later	Societal impact of the visual aspect of redundant assets

Engagement Channels

Consumer – deliberative; slider tool; WTP survey	Workshop/ regional events	One-to-one meetings

Stakeholder Engaged (Direct/Other)

Interest Groups	Regulators	Consumer Bodies	Consumers
Communities	Network Companies	Customers - connected	

T1 Narrative & performance

RIIO 1 spend and activity has been limited– £12m (17/18 price base) across 12 primary assets plus additional work relating to asbestos at St Fergus, Bacton and Kings Lynn. We have kept other records on assets not being in use on the network and as we have now ascertained there is no future use for these assets, these records form the basis of our RIIO 2 submission.

Topics

Responsible Demolition

Priority

I want to you to care for communities and the environment

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5. DOCUMENT CHANGE CONTROL

Version Number	Date Updated	Updated by	Comments
1		Tamsin Kashap	SG4
2		Tamsin Kashap	October submission
3		Adelle Wainwright	December submission

6. APPENDICES

APPENDIX 6.1 TERMS, ABBREVIATIONS AND ACRONYMS

Terms, abbreviations and acronyms	Meaning
Decommissioning	*A state where the isolated plant has been purged of all process fluids (Methane, odourant, condensate etc) and is not pressurised. Useful spares could start to be recovered, following an assessment of the health of the assets.*
Demolition	*A state where all NG assets can be transported from the site, with the site returned to the predetermined condition, as per any connection agreements/NExA. Assets could be sold for scrap, recycled or sent to landfill.*
Disconnected	*A state where there is a physical air gap separation between energy sources and assets. This includes the disconnection from gas at all pressure tiers and disconnection of all electrical and control equipment. E.g. for pipework systems a suitable removable section of pipework is isolated and removed. The open ends are then closed by the use of blank flanges or welding of suitable end caps.*
Extended Isolation	*The Extended Isolation state is where an Isolation (as defined below) remains or is to remain in place for more than one month. The Isolation should be a 'Positive Isolation' and fully detailed on plant drawing records.* *Recommissioning requirements should also be considered at this stage along with a very firm backstop not exceeding 12 months.*

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APPENDIX 6.2 STATUTORY ACTS AND LEGISLATION

The below table contains a list of the most pertinent acts of legislation that are applicable to the redundant asset topic.

Act	Summary of Act
European Waste Framework Directive 2008/98/EC	Assets that are no longer required, and are therefore redundant should be treated under the relevant Waste Legislation to the extent that anything deposits on or in the ground which the producer no longer requires or has a use for, is classed as waste The **European Waste Framework Directive (WFD) 2008/98/EC** is the appropriate EU waste legislation. This directive sets the basic concepts and definitions related to waste management, recycling and recovery. In this directive waste is described as "*any substance or object which the holder discards or intends or is required to discard*" In accordance with Article 14 of the European WFD the "*costs of waste management shall be borne by the original waste producer or by the current or previous waste holders*". Since the National Transmission System (NTS) was a Nationalised industry there is an argument that costs should be borne by the Government for the removal of redundant assets, supporting the reclaiming of costs through allowances from Ofgem in RIIO-T2.
Waste (England and Wales) Regulations 2011	Within UK Legislation the Waste (England and Wales) Regulations 2011 is applicable. This act translates the WFD into UK law.
Environment Agency RPS8 Leaving Decommissioning pipes in the ground	This legislation specifies that old pipes that are taken out of use are classified as waste. If you leave the pipes in the ground you're carrying out a waste disposal operation that would normally need an environmental permit. RPS will be reviewed by April 2020. This provides an exception to the legislation.
Pipeline Safety Regulations 1996	Which specifies *"To ensure safe operation and use of the pipeline, the duties of a "pipeline operator" include: Maintenance and Decommissioning of Pipelines".* Regulation 14 specifies *"The Operator shall ensure that a pipeline which has ceased to be used for the conveyance of any fluid is left in a safe condition".* Regulation 64 specifies that *"Pipelines should be decommissioned in a manner so as not to become a source of danger. Once a pipeline has come to the end of its useful life, it should be either dismantled and removed or left in a safe condition. Consideration should be given to the physical separation and isolation of the pipeline. It may be necessary to purge or clean the pipeline; due consideration should be given to the hazardous properties of any fluid conveyed in the pipeline or introduced during the decommissioning."* Regulation 65 specifies that *"Depending on the physical dimensions of an onshore pipeline and its location, under the general provisions of the HSW Act, it may be necessary to consider the risk of the pipeline corroding and causing subsidence or acting as a channel for water or gases."*
Control of Asbestos Regulations 2012	The Control of Asbestos Regulations govern all activities regarding asbestos encapsulation and removal.

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	"If existing asbestos containing materials are in good condition and are not likely to be damaged, they may be left in place; their condition monitored and managed to ensure they are not disturbed"
The Construction (Design and Management) Regulations 2015	Defines that "Demolition or dismantling of a structure must be planned and carried out in such a manner to prevent danger or reduce it to as low a level as is practicable." Structure meaning *"any building, timber, masonry, metal or reinforced concrete structure, railway line or siding, tramway line, dock, harbour, inland navigation, tunnel, shaft, bridge, viaduct, waterworks, reservoir, pipe or pipeline, cable, aqueduct, sewer, sewage works, gasholder, road, airfield, sea defence works, river works, drainage works, earthworks, lagoon, dam, wall, caisson, mast, tower, pylon, underground tank, earth retaining structure or structure designed to preserve or alter any natural feature and fixed plant;"*

APPENDIX 6.3 NATIONAL GRID GAS TRANSMISSION POLICIES

There are several National Grid Gas Transmission (NGGT) policies that detail asset management frameworks and give some direction on our approach to redundant assets.

Policy	Summary of Policy
T/PL/AMS/10 Gas Transmission Asset Management Policy	Our Asset Management Policy provides a framework for asset management which is consistent with Company and Gas Transmission strategies and policies. Two aims are to optimise NTS performance in terms of availability, reliability, health, safety and environmental performance and optimise Lifecycle costs. This includes how we decommission redundant assets.
T/PM/G/33 – Management Procedure for Redundant or Decommissioned Assets	This is the relevant NGGT procedure for redundant assets.
T/PM/TR/41 – Management Procedure for National Gas Transmission System Spares	This is the management procedure that details the process for identifying and managing all categories of spares. For assets identified as redundant, there needs to be consideration to the treatment of spares as per this policy.
NGUK/SHE/92 Protection of Health from Asbestos Standard	This National Grid standard covering the protection of health from Asbestos. This includes the procedure to follow to manage the risk for Asbestos Containing Materials (ACMs). Our assessment on asbestos is undertaken using a risk based approach.
NGUK/SHE/109 Associated Task Sheet (ATS) 07	Covers National Grid companywide good practise to follow when there is a need to dispose of Asbestos Waste or ACM.

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APPENDIX 6.4 INDUSTRY STANDARDS

There are a number of Industry Standards and Guidance documents that will be referenced and feed into our strategy for redundant assets. These are listed below:

Industry Standard	Summary of Standard
IGEM TD/1 Steel Pipelines and associated Installations for high pressure gas transmission	This Standard contains information on the construction, operation and maintenance of onshore steel pipelines used for the large-scale transmission of natural gas. It includes advice on the decommissioning of high pressure gas assets.
HSE RR509 Plant Ageing: Management of Equipment containing Hazardous Fluids or Pressure	These two HSE publications were written to increase awareness of the factors to consider when managing equipment containing hazardous fluids or pressure and to help those responsible for equipment to understand and assess the risks of deterioration.
HSE RR823 Managing Ageing Plant: A Summary Guide	
Institution of Civil Engineers Demolition Protocol 2008	This protocol was developed to provide an overarching framework which enables the waste hierarchy to inform the approach to managing structures at the end of their life. Includes targets for recycling & material recovery

APPENDIX 6.5 REGIONAL EVENTS ACTIVITY DESIGN

To ensure stakeholders are able to contribute on all topics, the sessions for all our engagement activities are designed as follows:

Aspect/consideration	Outcome
Overview of the topic	Gives all stakeholders a common level of understanding about the topic. Provides key information and opportunity to ask high level questions
Facilitated discussions: Open question is given to the group. Each table has a facilitator with additional prompt questions to help dig deeper into stakeholders' views. A scribe captures the conversation.	Generates detailed conversation and discussion about the topic. Enables all stakeholders' views to be heard and captured. Helps stakeholders to think broader than obvious thought to extract deeper and wider views and insight.
Table mats: Provide structure to support our stakeholders' thinking and insight capture process	When topics are multi-layered, table mats give stakeholders more support to structure their thinking and therefore their answers. It ensures we get the outcome we need to build our business plans whilst allowing enough flexibility for stakeholders to contribute in a way that works for them
Impact polling questions: Stakeholders are asked to self-select how impacted they feel they are on each topic.	This information is used in our decision-making framework where we will apply weightings to stakeholders to help us triangulate conflicting responses
Topic specific polling questions: Following table discussions we ask stakeholders polling questions to summarise and capture their views on the topic.	This is a good way to capture quantitative insight from our stakeholders about each topic

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APPENDIX 6.5 RIIO 1 PERFORMANCE

Within the RIIO 1 framework we don't currently have an output specific to redundant assets, however an overview of our environmental and customer satisfaction outputs relevant to this overarching stakeholder priority 'I want to care for communities and the environment' are provided below.

Our output	Our Performance Targets	2013/14 Performance	2014/15 Performance	2015/16 Performance	2016/17 Performance	2017/18 Performance	2017/18 Performance Comment
Develop an integrated and cost-effective plan to ensure the remainder of our compressor units are compliant with the Integrated Pollutions Prevention and Control (IPPC) and Industrial Emissions Directive (IED) legislation	Delivery date 2018	🟢	🟢	🟢	🟢	🟢	Integrated plan submitted as part of the May 2018 Industrial Emissions RIIO-T1 Reopener submission
Undertake works at Peterborough and Huntingdon Compressor Stations as part of the IPPC legislation	Delivery date 2020	🟢	🟢	🟢	🟢	🟢	On track to deliver one new unit at each site as part of IPPC 3
Undertake works at Aylesbury Compressor Station to ensure compliance with IED	Delivery date 2020	🟢	🟢	🟢	🟢	🟢	Catalytic converter solution successfully commissioned at the beginning of 2018
Report on our business carbon footprint	Publish in annual report	🟢	🟢	🟢	🟢	🟢	Published in our annual report
Meet greenhouse gas emissions targets	<2,897 tonnes for 2017/18	⚫	⚫	⚫	⚫	🔴	3,928 tonnes
Meet our targets for the amount and the cost of the energy we use to run the network	<3,352 GWh gas equivalent usage target in 2017/18[1] <£83.2m cost target	🟢	🟢	⚫	🟢	⚫	3,816 GWh £71.2m
Customer Satisfaction outputs							
Undertake annual satisfaction survey with our customers and stakeholders.	Customer 6.9/10 Stakeholder 5/10	🟢	🟢	🟢	🟢	🟢	7.6 for customer 8.0 for stakeholder
Submit annual stakeholder engagement report	Cap of 9 and collar of 4	🟢	🟢	🟢	🟢	🟢	Achieved a score of 4.3

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APPENDIX 6.6 DEFINITIONS OF STAKEHOLDER SEGMENTS

Stakeholder Segment	Definition
Political	Elected officials and advisors including Westminster, Scotland and Wales
Governmental	Civil service and committees including BEIS
Regulatory	Energy, safety and environmental regulators
Domestic and industrial consumers	Household consumers Major energy users who use gas as feedstock e.g. Ceramics and chemical industries
Consumer bodies	Representatives that protect the interest of consumers
Local communities	People who are impacted in areas where we operate or have major projects
Customers - Entry	Customers connected to the NTS that put gas on to the network. Including terminals, producers and storage operators
Customers – Exit	Customers connected to the NTS that take gas off the network. Including power stations and major industrial users
Customer – Shippers	Customers that buy and sell gas
Network companies	Other regulated network companies including distribution networks
Think tanks, innovators, academics	Energy specialists, innovators and advisors
Interest groups	Groups representing specialist interests including environment
Supply chain	Developers and suppliers of network assets
Industry trade bodies	Groups that represent specific groups of customers or stakeholders including IGEM, UKOPA, Oil & Gas UK
Other	Stakeholders that are not defined in other segments

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APPENDIX 6.7 ENGAGEMENT PRINCIPLES CHECKLIST

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

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APPENDIX 6.8 DECISION MAKING FRAMEWORK CHECKLIST

PLAN AND PREPARE	IMPLEMENT & REVIEW	ACT
Clear scope and outcomes defined ☒	Triangulate diverse views ☐	Use conclusions to build business plan ☐
Information sources identified ☒	Share outcomes and conclusions ☐	
Unbiased material produced ☒	Evidence to justify conclusions ☐	
Tailored to our diverse stakeholders; targeting those most impacted ☒	Undertake further engagement where required ☒	
Options consistent with our checklist ☒	Articulate where trade offs or no action taken and why ☐	
Ensure inclusivity of views ☒		

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