BRUNSWICK RESEARCH

National Grid
Talking Networks

Summary Report for Stage 3 Transmission Stakeholder Consultation

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Introduction

This report sets out the findings from the third wave of National Grid Transmission Talking Networks stakeholder consultation events. This is the final part of a four stage process, following on from the Preliminary, Stage 1 and Stage 2 consultations.

The four Stage 3 events were held over the course of six days during November 2011 and ran alongside a separate written consultation and a series of one-to-one meetings conducted by National Grid. National Grid will report on these components separately.

The overall aim of the consultation is to understand the views of National Grid's stakeholders regarding the future of its gas and electricity transmission networks. This will inform National Grid's Business Plan which is to be submitted to Ofgem in March 2012 as part of the RIIO-T1 Price Control Review, effective from April 2013.

National Grid's Gas Distribution business has conducted its own programme of consultation to inform its submission to the RIIO-GD1 Price Control Review.

Previous stages of consultation

- Preliminary consultation: In July and August 2010, National Grid Transmission conducted a series of in-depth interviews with stakeholders, in order to understand how they would like to see National Grid engage with them, the findings from which were used to inform the design of the main stage of the consultation process.
- Main Consultation Stage 1: The first stage of the main consultation took the form of eight stakeholder events, held between October 2010 and January 2011. The findings from this series of events were summarised in a report submitted to National Grid in February 2011.
- Main Consultation Stage 2: The aim of this second stage of the main consultation was to build on the findings from Stage 1 and to examine the key issues in greater detail. The findings from this series of events were summarised in a report submitted to National Grid in June 2011 and which subsequently informed the Business Plans it submitted to Ofgem at the end of July 2011.

The latest stage of consultation events

The Main Consultation Stage 3 events represented a new chapter in National Grid's engagement with its stakeholders. In designing them National Grid sought to build on the programme of consultation completed to date, drawing on stakeholder feedback to develop its proposals and to identify unresolved questions. National Grid was particularly keen to hear stakeholders' views on the Business Plans it submitted to Ofgem.

How National Grid consulted

As for Stages 1 and 2, the latest phase of consultation included a series of stakeholder events, held in London and Glasgow between 8th and 23rd November.

The events for industry participants (held on 8th, 9th, 10th, 11th and 15th November) followed a similar format to those in Stages 1 and 2, consisting of presentations by National Grid, followed by plenary discussion and smaller roundtable conversations. The aim was to provide an opportunity for stakeholders to discuss and debate the issues as openly as possible and so more time was put aside for discussion than had been in previous rounds.

All discussions were facilitated by independent facilitators from Brunswick Research, whose role was to ensure the discussions were conducted in an impartial way, that everyone was given an opportunity to share the views and that these views were properly recorded and reported on.

In contrast to previous events, National Grid representatives took a much more active role in the discussions, primarily due to the increased level of technical content. Their role was to provide further context and to respond to technical queries, plus identify technical points that might warrant further exploration.

The event for those stakeholders with a particular interest in the natural landscape and other environmental issues (held on 23rd November) followed a somewhat different format. National Grid representatives played a less active role in discussions on the tables and a greater proportion of discussion was conducted in plenary debate. Debate in the afternoon was less structured, with participants asked to comment on broad policy issues.

Who National Grid consulted

The events continued to be well attended, including many who had attended the previous events, which in itself can be interpreted as an endorsement of the process, showing that events are seen as a worthwhile use of stakeholders' time.

The industry participants included:

- Major energy users
- Industry groups, trade associations, industry consultants
- Distribution network operators
- Gas and electricity suppliers
- Gas and electricity interconnectors
- Gas storage companies, LNG terminal operators
- Producers
- Generators
- Construction and engineering companies, technology suppliers
- Academics

Participants at the 23rd November Environment event included, among others, representatives of organisations with an interest in the natural landscape. A full list of participants has been included as an appendix.

What National Grid consulted on

A key aspect of the latest wave of events was that they represented a progression from those conducted previously. The events focussed in detail on a set of specific issues, including topics that had yet to be consulted on or that had yet to be resolved in previous waves of consultation, plus issues that stemmed from more recent developments with the industry, including new guidance from Ofgem.

The content of the events is briefly set out in the table below. The full set of slide decks and other materials presented at the events can be found on the National Grid Transmission Talking Networks website.

Date	Event	Location	Focus of Event
8th – 9th November 2011	Gas Transmission	Chesterfield Hotel, London	Day 1: Overview of the July 2011 Business Plan, Proposed Uncertainty Mechanisms, Effects on Charging Day 2: Network Flexibility, The Connections & Capacity Process, The SO/TO Interaction
10th – 11th November 2011	Electricity Transmission	Chesterfield Hotel, London	Day 1: Overview of the July 2011 Business Plan, Proposed Uncertainty Mechanisms, Effects on Charging Day 2: The SO/TO Interaction, SO Investment
15th November 2011	Electricity Transmission (Scotland)	IET Teacher Building, Glasgow	Overview of the July 2011 Business Plan, Smart Operation, SO Investment
23rd November 2011	Electricity Transmission (Environment)	Chesterfield Hotel, London	Overview of the July 2011 Business Plan, National Grid's New Approach to the Design and Routeing of New Electricity Transmission Lines, Visual Amenity in Relation to Existing Lines and Infrastructure

National Grid also set aside time on the 11th and 15th November for RenewableUK to present some of its proposals and capture stakeholder feedback on them. National Grid did not contribute to the presentation or participate in the roundtable discussion that followed. Findings from these sessions will be reported on separately.

Approach and what the process delivers

Stakeholder events were chosen as they are an effective method for National Grid to engage with a broad range of stakeholders and stakeholders had identified workshops as one of their preferred methods of being engaged. Events of this kind also provide an open forum for an inclusive two-way discussion between National Grid and its stakeholders.

However, it must be noted that such events do not provide the opportunity to collect attributable comments from specific individuals or organisations. For this reason, and as already stated, a separate consultation document has been produced for stakeholders to provide written responses. The qualitative approach also means the findings cannot be considered statistically robust or representative.

About this report

This report is a summary of all four Stage 3 stakeholder engagement events. Throughout the report key findings are highlighted in boxes. Questions posed to the stakeholders during the consultation events are represented in bold and italicised text. Verbatim quotations have been placed in quotation marks and are italicised. To ensure views cannot be attributed to individuals or the organisations they represent, the verbatim quotations used throughout this report have been anonymised.

EXECUTIVE SUMMARY

Gas

General responses to the Business Plan

- Overall, stakeholders who had looked at the Detailed Plan thought the structure worked well. The concepts of the Headlines and Overview documents to accompany the Detailed Plan were praised. There was general agreement that all significant issues are covered in the plan, and stakeholders were not surprised by the inclusion of any specific issues. However, the volume of information and lack of signposting were seen to act as barriers to easier navigation, and potential areas for improvement.

- The process feeding into the Business Plan was generally considered to be transparent. This was contrasted with previous price control reviews where there was much less documentation and, for some, a lot of surprises. The RIIO price control has seen greater engagement and stakeholder involvement. The majority of stakeholders agreed that the issues raised throughout the consultation process have, where possible, been included in the plan.

- While the overall approach to the plan and the different documents was welcomed, it was also generally agreed that the summary document could benefit from more detail on the actual proposals that may change customers' bills. A number of stakeholders stated that it was quite difficult to determine whether the plans delivered what they, as stakeholders, want from the network, which is clearly of critical importance to their organisations.

Uncertainty mechanisms

- There was some initial scepticism over the use of uncertainty mechanisms but as stakeholders discussed the use of these mechanisms, there was a general agreement that the principle behind them is sound. However, stakeholders still required some reassurance about how these mechanisms would actually work, and what impact there would be on customers and end consumers.

- There was widespread agreement that the use of uncertainty mechanisms is appropriate to enable revenues to be adjusted where risks and associated costs are outside National Grid's control. Stakeholders also reiterated that it must be transparent as to why the risk would be better managed by another party.

- The majority considered that using uncertainty principles to reduce risk, and therefore the rate of return required by National Grid, is appropriate. However, some stakeholders found it difficult to reach a definitive position on this issue, given its complexity and their lack of a precise understanding of exactly how the different uncertainty mechanisms might affect their organisations via charging levels. There was also some concern about specific uncertainty mechanisms (these are discussed in the main Uncertainty Mechanisms section).

- It was noted by a number of stakeholders that a critical element of the uncertainty mechanisms is the base-line criteria for each mechanism. As the mechanisms trigger an increase / decrease in costs, consequently it is important to know when this will happen and that the criteria are transparent and clearly justified.

- The majority of stakeholders agreed that the number and range of mechanisms is appropriate, although many felt unable to comment in detail as they did not have a full understanding of the mechanisms and impact on cost. It was generally agreed that the impact of uncertainty mechanisms will ultimately relate to the costs that are passed through to customers. This is potentially a cause for concern, as these costs are not yet clear.

- Many stakeholders commended National Grid for having produced the risk model and presenting it to stakeholders. It is considered comprehensive and, importantly, provides reassurance to stakeholders that National Grid has taken into account all of the key risks. However, only a minority of stakeholders believed their organisations would examine the risk model in detail.

Charging

- Most stakeholders agreed that both predictability and transparency are critically important in relation to charging. Both can be vital to the investment, marketing and pricing decisions made in their own organisations.

- It was generally felt that National Grid need to be clear about the actual prices customers will likely be required to pay, not only the inputs and methodology used to calculate charging levels. For most stakeholders, what affects the charging levels was of less interest than the *amount* by which those charges might change. Stakeholders are looking for an easier way of understanding what the actual costs/range of costs is likely to be. While many welcomed National Grid's openness, if this specific information is not made available, greater general transparency on the issue of charging may be of limited use.

- Volatility is a key concern for many stakeholders. In particular, it has the potential to make investment decisions considerably more challenging. A number of stakeholders also argued that transparency and predictability per se can be of limited use when making long-term decisions, if prices continue to become increasingly volatile.

- In general, stakeholders felt that enhanced predictability does make volatility easier for organisations to accommodate, but many stakeholders felt that predictability could not entirely mitigate the negative effects of volatility. Minimising price volatility is therefore a key concern for many stakeholders, particularly when large investment decisions need to be taken.

- It is generally accepted by most stakeholders that the next price control period will see greater price volatility as additional investment is required across the network. However, it should be noted that not all stakeholders felt they understood the link between the increases in National Grid's allowed revenue over the course of the price control and more volatile charging.

Network Flexibility

- Network Flexibility is still an important issue for many stakeholders; indeed, it was raised at many different points during the course of the two-day workshop. It also remains a potentially divisive issue – while there was widespread recognition of the need for some increased flexibility on the network, how this is to be funded can be contentious.

- There was general agreement that the proposed investments in Scotland are necessary to meet the 1 in 20 commitments. A small minority of participants rejected the plans, stating that they require more evidence of the need case from National Grid. Participants also generally agreed that the case for investment in Scotland should be considered distinct from wider discussions around Network Flexibility.

- There was general acceptance that the proposed initial level of investment in Network Flexibility (outside Scotland) of c. £10m is about buying time to keep the option open to do further work in the future. Stakeholders broadly considered this a sensible proposal.

- There remains a need for transparency and on-going engagement around the broader issue of Network Flexibility. It was generally agreed that there is a need for greater and more detailed information in order for stakeholders to fully support the investment need case in the future. This includes: information on rules and tools, clarity on costs and charging as well as more detail on the proposed investments.

- In terms of planning for the future, stakeholders agreed that the system is changing and that it is important to take account of new ways of operating. At the same time it was noted that the debate around the impact of wind intermittency on the gas industry is "immature" and thus creates a potential risk when planning for the future. There was a general feeling that the topics of wind intermittency and the 1 in 20 planning obligation were being taken forward through consultations such as this event and one-to-one discussions with individual stakeholders.

- In principle, many stakeholders agreed that there should be greater interaction between gas and electricity operators where this will improve the efficiency of the system. However, it was acknowledged that they may be commercial ramifications for companies and that the debate is complex. In practice this needs to be carefully thought through and proper ways of working need to be established.

Connections and Capacity Processes

- The workshop did not reach a consensus as to whether they would prioritise either capacity (or equivalent compensation) available in defined timescales or physically firm capacity. Several stakeholders commented that there is no simple answer to what is a serious and complex challenge. Further, stakeholders often struggled to prioritise one or the other, because it was felt that both were critically important.

- Many stakeholders expressed deep concerns about the significantly increased timelines that are likely to result from the Planning Act. It is felt that a concerted effort is required across the industry to ensure that the connections and capacity processes can operate as smoothly as possible and minimise lead times in the future.

- Stakeholders generally support the prioritisation of UNC Modification 373. It is generally viewed positively, as a step in the right direction. Stakeholders felt that the modification will provide a solid timeline on connections, and eliminate some of the uncertainties around the connections process.

- In terms of combining the connections and capacity process in the future, there was *in principle* widespread support for a unified connections and capacity process. (This is in line with responses to previous consultations, and is recognised in National Grid's July 2011 Business Plan submission).

SO/TO Interaction

- Many stakeholders found it difficult to comment on an issue in which they have limited experience and expertise. A number felt that SO/TO interaction is an issue for National Grid and Ofgem to decide, rather than other stakeholders.

- Stakeholders generally felt that they did not have enough information to judge whether there was sufficient depth and long-term certainty in the provision of commercial services to negate the need for large-scale physical reinforcement.

- There was widespread recognition that investment solutions allow greater certainty and reliability while reducing volatility, but will also increase costs. While costs are critical to all stakeholders, the ability of stakeholders to absorb increasingly high levels of volatility depends to a considerable extent on the nature of their business and ways of working. Therefore, reactions to the possibility of higher volatility or increased but predictable costs varied significantly among stakeholders.

- It was generally felt that any decision to invest above the level required by environmental legislation is up to National Grid and is a choice that may reflect the company's corporate social responsibility and environmental policies. As it is a choice for National Grid, any cost should be for National Grid and the relevant internal budget. It should not therefore be funded by customers and end-consumers.

Customer and stakeholder satisfaction survey development

- Initial responses to the concept of a customer and stakeholder satisfaction survey were mixed. A number of stakeholders voiced concerns over the use of a survey and commented that processes are already in place to monitor performance. There was some concern about whether or not surveys could capture all the necessary information.

- Stakeholders were keen to stress that the number of surveys they are required to complete should be kept to a minimum, as "survey fatigue" can be an issue. They generally supported the idea of a single survey that covers all the UK's transmission network companies.

- There was general agreement that it would be appropriate to employ an external company to carry out the survey, to ensure it is conducted objectively. This would also ensure the survey is credible. A number of stakeholders also stressed that very careful thought would need to go into the survey, and interviewers would need to have expertise in the subject areas, to ensure the right questions were asked.

Electricity

Business plan Q&A

- The Business Plan was welcomed and the process of developing the plan and engagement with stakeholders was praised for being much better than in previous years. Whilst most stakeholders were positive about the plan, few had read the detailed Business Plan and supporting documentation. They said they found it difficult to find information that clearly demonstrated the impact on their organisation, and made a number of suggestions as to how the material could be improved to help them understand and navigate the plan better.
- Stakeholders found it difficult to judge whether all their previous feedback had been represented correctly, some agreed that it had been, others were less able to see their specific input.

Uncertainty mechanisms

- Overall, stakeholders were comfortable with the coverage and number of uncertainty mechanisms proposed. They were not able to comment on the balance between uncertainty mechanisms and the rate of return. Although stakeholders had lots of specific questions about the mechanisms, they made no proposals as to how to improve them.
- Stakeholders are concerned about the anticipated volatility of charges, which might also mean large price rises for consumers.
- None of the stakeholders had looked at the risk model and few were intending to use it. Nevertheless, the stakeholders welcomed the transparent approach and the efforts undertaken by National Grid to share the model.

Charging

Predictability and transparency

- Transmission charging is important for a number of stakeholders, including suppliers; the regime will shape the network and the market for years to come. However, stakeholders have different levels of experience and resources to dedicate to charging, which affected the extent to which they engaged with and discussed the issue.
- Predictability and transparency were agreed to be major concerns in relation to electricity transmission charging. Transparency is viewed as a means to predictability. Long term stability would be the ideal, simplifying charging and informing investments.

- Views on the relative importance of stability and predictability varied between established users and new developers. For a few stakeholders, the ideal would be stable prices, but most accept that this is not realistic, and the more experienced anticipate that any period of stability would be followed by a correction.

- There was no agreement as to which elements are most important (whether changes to the methodology that dictates how tariffs are calculated, the inputs to that methodology and new products being offered). There was a feeling that they were all important and to an extent all will concern and/or impact stakeholders.

- Opinion was split on prioritising the predictability of either residual or locational cost elements.

- Predictability and transparency are seen to derive mainly from information sharing, in a pre-planned way. A combination of more detailed information, pre-set timings for price changes and a consideration of fixed price products were proposed.

Volatility

- Many stakeholders appreciate that volatility will increase, in part due to supply and demand, but also due to the uncertainty mechanisms in RIIO. Some stakeholders less familiar with charging were not aware of the level of volatility associated with RIIO before this workshop.

- The key impact is making planning more difficult; for developers this affects investment in infrastructure assets, suppliers' concerns are consumer bills and fixed rate tariffs.

- There was a debate about whether revenue recovery should be smoothed. Some felt that some kind of smoothing/fixed price would be helpful and make charges more manageable; others have concerns about fixing charges, as in their experience this can make things difficult for other customers.

SO/TO interaction

Smart operation and targeted N-1

- No major issues or actions were consistently thought to be missing across the groups of stakeholders. Each table highlighted different issues and potential actions that they thought should be considered when balancing risk and investment.

- Stakeholders generally agreed with National Grid that risk trade-offs must balance meeting customer requirements (for reliability and security) against costs (including the constraint costs that the industry will have to fund). Others described this slightly differently, as considering alternatives in terms of the best value approach, best response to needs and overall cost-benefit.

- Most stakeholders would be happy for National Grid to make more use of existing lines through targeted N-1, as long as there is no impact on reliability. It is definitely an option that National Grid should weigh up against building assets, but before each implementation it is important to look at the balance between the risks and costs of transmission build and/or constraints. Most were also broadly comfortable with the balance between reliability and freeing up capacity, as it was defined at this stage.

Impact of Smart on Transmission?

- Most stakeholders accept that the transmission system is reasonably smart. However many stakeholders see scope for it to become smarter still, and see this as a priority.

- There was a widespread feeling that all the proposals made by National Grid are sensible. Most stakeholders felt that National Grid had identified the right priorities – most people didn't highlight any approaches unlikely to bring benefits.

Planning wider works

- In general, stakeholders accepted the proposals; no one questioned the overall approach being proposed and several commented that "it's difficult to think of a better way."

- Stakeholders discussed the role of ODIS in identifying scenarios; most agreeing this was a sensible way forward.

- Stakeholders also strongly support the two-stage approach to identifying and assessing reinforcement options for wider works. The stakeholders gave a "ringing endorsement" for accelerating pre-construction work and also providing increased transparency of the process. They acknowledge that it may mean some pre-construction money gets wasted, with a few thousands of pounds spent on academic studies to inform this.

SO investment

- There was strong and widespread support for the plan. The control room team is trusted and the investment plan was seen as sensible and good value for money. The challenges, the development of the network, smart and N-1, it all "is predicated on having a sophisticated control room."

- The timing of the investment plan is also seen as sensible. There is a strong feeling that this needs to happen as soon as possible.

- Participants agree that the balance struck by National Grid between investment in people and IT systems was the right one - the hybrid approach is the right approach, as long as the balance is right.

- National Grid control room system outages have had a minimal effect on most stakeholders to date. Most stakeholders had limited or no experience of any control room system outages, and hold a general belief that outages are well managed and don't currently create issues. However, there is some sense that outages may be more frequent going forward, echoed by National Grid, if the systems are not maintained.

- The stakeholders said that with the proposed investment, the control room will be improved – with added IT systems and the ability to receive more information to do better modelling and forecasting. Enhanced control room capabilities would benefit stakeholders, including the end consumer, in a number of ways.

Customer satisfaction

- There was no great appetite for this survey amongst a majority of participants for a range of reasons. Some saw no value in it and were unclear as to what it would achieve, whilst others felt over-consulted already and emphasised that there are existing ways to provide feedback.

- There was general agreement that it would be most appropriate to employ an external company to conduct the survey, thereby ensuring a consistent and unbiased approach. However, there was concern that it would be difficult for stakeholders to differentiate between the TOs. As a result it was generally considered that the survey would need to be carefully designed and expertly thought through, with appropriate consideration given to who is best placed to complete the survey in the stakeholder organisation.

- In general few had specific comments on the topic areas at this stage, however topics that received positive endorsement included 'interruptions and outages' and how National Grid deal with them. Some stakeholders suggested other additions including gathering views on the website, press releases and communications.

- Stakeholders did not want surveys to be conducted too frequently as they consider that they already invest a lot of their time in stakeholder consultation and surveys in general. The clear priority mentioned by stakeholders is that the length of time needed to complete the survey is kept to a minimum.

Scotland – Electricity

- Although only a minority of stakeholders had read any of the Business Plan documents, there was a general approval of the format and style in which it had been presented; this was considered more accessible than in previous years. There was a general appreciation of the need for investment as set out in the Business Plan and an understanding of the changing environment. There were no major criticisms of the content of the plan, although some queries were voiced by individual stakeholders.

- In terms of Smart Operation, there was broad agreement that the network is already smart (to a certain extent), and also that it is essential to take further action in order to ensure the network is sufficiently smart going forward.

- There was also general agreement that the approaches proposed by National Grid are relevant and will yield benefits for the network. Stakeholders discussed which approaches should be prioritised, and also made suggestions of additional approaches that should be considered.

- There was broad agreement amongst stakeholders with National Grid's description of the changing SO environment, and also agreement with the need for investment. Stakeholders felt that the timings proposed by National Grid and the drivers that were identified were correct, but a number of suggestions were made as to additional drivers that should be considered.

- There was general agreement with National Grid's approach to system operation capabilities, with a general sense that stakeholders trust National Grid to make the correct decision in terms of balancing resources and IT systems.

SECTION 1: GAS TRANSMISSION

1. General Responses to the Business Plan

National Grid outlined the Business Plan and the fact that it had been developed in conjunction with all stakeholders. They outlined the key features of the plan and the action to be taken over the RIIO period. In particular, the underlying principles of delivering and maintaining reliability along with safety were stressed. E.ON then presented its view of the National Grid Business Plan, to provide an alternative viewpoint. This was followed by a series of roundtable discussion, in which participants were asked to give their opinions on the plan and process as well as to comment on the impact on their businesses.

Overall opinions on the Business Plan and the process

The general response on the Business Plan was that it is very impressive although the size and detail of the Detailed Plan can be daunting: *"It's voluminous"*, commented one stakeholder.

- Many stakeholders viewed the plan and process positively with National Grid seen to be showing that the process has been transparent. This contrasts with previous price control reviews where there was much less documentation and, for some, a lot of surprises. This time there has been more engagement and involvement.
- The majority of stakeholders agreed that the issues raised throughout the consultation process have, where possible, been included in the plan.

Q: Have you read our detailed plan since it was published at the end of October? What did you think of it?

- Only a limited number of stakeholders had taken the opportunity to read the Detailed Plan or the Overview, although the majority had read the Headlines document. The key reasons for not reading the Detailed Plan and the Overview were lack of time and the need to *"get on with the day job".*

  "I have not had the time to read it. I mostly work on the Continent so I have come along today to find out more."

- Where stakeholders had the opportunity to review the documentation they felt that the plans were well prepared and written; they welcomed the transparency and openness with which the whole process had been approached.
    - Some stakeholders noted that it was difficult to connect National Grid's document with the strategy document originally issued by Ofgem.

- It should also be noted that where stakeholders had not had (or taken) the opportunity to look in detail at the plan, they sometimes struggled to understand how the measures under discussion would actually impact their businesses.

- It was also noted that the Detailed Plan is extremely long and complicated, and it is therefore very difficult for stakeholders to give a view of how the plan in its entirety is likely to impact their businesses.

"It's hard to determine impact on us for use of the system. It's a very long document."

Format, style and content of the Business Plan

Following stakeholders' general reactions to the Business Plan, debate centred on the format, style and content of the Business Plan. As noted above, while many stakeholders had read some or all of the Headlines and Overview documents, a relatively small number had read the Detailed Plan. Many stakeholders were keen to join the discussion, but these differing levels of knowledge amongst them should be borne in mind.

Q: Was the Business Plan documentation easy to navigate?

- Overall, stakeholders who had looked at the Detailed Plan thought the structure worked well. The concept of the Headlines and Overview documents to accompany the Detailed Plan were praised. However the volume of information and lack of signposting was seen to act as barriers to easier navigation.

- Some stakeholders commented on the "overwhelming amount of detail" and felt that it was difficult to navigate the Detailed Plan. Others welcomed the detail and felt that it underlines the transparent and consultative approach.

- A number of stakeholders commented that it can be difficult to locate the issues which are of specific interest to their businesses in the plan, because of its size and complexity.

  "It is challenging to locate issues most relevant to stakeholders' particular businesses."

  "Even though I have read the plan it's almost impossible to understand it all… and that's not a criticism."

- Some noted that beyond the sheer time it would take to digest in its entirety, the formats of the three documents present several other issues (although there was also acknowledgement that the plan's complexity means these problems are, by definition, difficult to overcome.

    - Several stakeholders commented that it can be difficult to use the Headlines or Overview documents to quickly locate relevant sections in the Detailed Plan.

      "It is difficult to trace issues raised at multiple points in the report through the document. If you reading about an issue in section 240-290, but the issue is also covered in sections 315-325, you are not sign-posted to the next section at the end of 290 … This would be useful for those interested in understanding all the proposals relevant to them, guiding them through the Business Plan."

Q: Were you surprised by the inclusion or omission of anything in there?

- There was widespread agreement that all significant issues are covered in the plan, and stakeholders were not surprised by the inclusion of any specific issues. In general, they indicated that they were satisfied with the content.

"Nothing sprung out as not being there. For everyone this is a new approach – this is a step change. It delivered more than I was expecting in terms of content and scope … it was all there for me."

- However, a number of stakeholders expressed concern over the fact that the plans are based on the Gone Green scenario, which, they argued, by definition requires substantial investment. Some stakeholders argued that the Gone Green scenario is unrealistic, and that they do not use it for their own planning purposes.

  "One thing we found quite odd all the way through the plan was that National Grid have gone with this 'Gone Green' Strategy. The views that we have had are that yes that is an aspiration but that it's maybe not doable in reality… politically there seems to be the view that we need to say this … but shouldn't it be that the forecast is what we are really going to do?"

"The base line is the Gone Green scenario. When you fundamentally change the system by having more wind generation, that means [you will need] investment. But is that the right assumption?"

Q: What improvements could be made in terms of content, structure or format?

- While the overall approach to the plan and the different documents was welcomed, it was also generally agreed that summary document could benefit from more detail on the actual proposals that may change customers' bills.

  - This could include having more numbers presented in bulleted style to demonstrate, as one participant put it: "this is the plan … this number, this is base case and it could extend up to that or down to that." It was felt that this would help transparency and understanding.

  - Some stakeholders observed that it would be useful to have individual summaries written from their "point of view". (For example, shippers wanted to know what the impacts would be for shippers in particular.)

  - Some stakeholders also talked of a summary document somewhere between the 16-page Headlines document and the 100-page Overview document. There was also general comment that people where unclear about what some of the proposals actually are and they wanted more information about the effect these proposals would have on their organisation.

    "I'd like more numbers and fewer words … Like something that says here are the issues, here is the problem, here is how we are going to fix it and here is how much it will all cost – that's all a bit 'ideal world' but it would be very transparent and then we would all see where we would fit in."

    "There are key numbers missing from this summary [Headlines] document … What are you going to spend over what period of time and what is it going to cost if things change significantly? You don't really say what money is going to be spent on. And then you talk about risk and uncertainty but it doesn't say what the upside and the downside is – I don't get a sense of what you are aiming to get at and what the issues might be and what each customer might get as a result."

    "In a few slides you can unpack the detail like you did today ... but some of that is not in here (the Headlines document)."

- It was generally agreed that the Business Plan is a considerable improvement on those developed under previous price control regimes. The openness and transparency of the process was welcomed, even if it was not always entirely understood.

  "I don't remember this kind of transparency on finance-ability … that was helpful, but I didn't really understand all the detail."

- The stakeholder engagement element has been generally well-received, and seen to be an improvement on the previous approaches.

  "It's good to see different perspectives. Previous price reviews were Ofgem-led, now it's much more stakeholder engagement … Last time was driven by the commercial regime. 2002-7 was about entry capacity auctions, then exit … It was all about the commercial side. Now we're all party to the wider discussion … it's definitely a good thing."

Q: In terms of the Business Plans themselves were your views and previous feedback represented correctly?

- The plans were generally seen to represent accurately the feedback given in the earlier consultations although for some there was a lack of transparency and information on how the feedback had been incorporated.

Q: Do our plans deliver what you want from our network? If not what is missing?

- As previously noted in relation to the content, form and structure of the plan, a number of stakeholders commented on the fact that it was quite difficult to determine whether the plans delivered what they, as stakeholders, want from the network. The information was presented from National Grid's point of view and it was felt that it is not always easy to understand the impact of the plan on individual stakeholders.

  "It would be best to put this information to us from our perspective – what is going to be the impact for us?"

- Some stakeholders highlighted the fact that the assumption of the Gone Green scenario will have a significant impact on their own Business Planning and may not deliver what they want from the network.

  "For our forecasts we haven't gone with 'Gone Green' … We have to go with investment for 1 in 20 … it just means that we are coming at the Business Plan from a different point of view."

- Some stakeholders felt that there should have been more detail on planned investment in Network Flexibility – especially that relating to the impact of wind. It was questioned whether the investment levels are those required to help the country cope with an uncertain energy future or to maintain the network.

- More information would be welcomed on the connection between capacity and connections and the direct impact on stakeholders.

2. Uncertainty Mechanisms

Stakeholders were presented with the different uncertainties surrounding National Grid's forecasts; uncertainties that are driven by delivery of outputs, input prices and volumes of activity. The aim of the discussions was to enable stakeholders to consider uncertainty mechanisms in principle and to understand whether they feel that the proposed range of uncertainty mechanisms is appropriate – both in terms of numbers and the uncertainties that are being covered. They were also asked to consider whether uncertainty mechanisms should be employed to adjust revenues and to outline what might be an appropriate balance between uncertainty mechanisms and rate of return.

Initial response to the presentation

A significant number of stakeholders were unclear on the concept of uncertainty mechanisms and how they work. Consequently a considerable amount of time was spent on explaining the mechanisms in greater detail and how they would help National Grid to mitigate risks that are out of National Grid's control.

- While stakeholders agreed that risk should be managed by those can best manage it, it was maintained that National Grid must be transparent about the risks it is taking, and which are owned by other parties.

Uncertainty mechanisms in principle

- There was some initial scepticism over the use of uncertainty mechanisms but as stakeholders understood more about how the mechanisms will be used, and the rationale for their usage, there was a general agreement that the principle behind the mechanisms is sound. However, stakeholders required some reassurance about how these principles would actually work, and what impact there would be on customers and end consumers.

Q: Should uncertainty mechanisms be employed to adjust allowed revenues where the associated costs are uncertain and outside of National Grid's control?

- There was widespread agreement that the use of uncertainty mechanisms is appropriate and should be allowed to adjust revenues where risks and associated costs are outside National Grid's control. The majority considered that using uncertainty principles to reduce risk, and therefore the rate of return required by National Grid, is appropriate.

- A number of stakeholders expressed initial concern that National Grid could be rewarded for "doing what it is meant to do anyway" and more information and transparency is required so that stakeholders can be certain that this is not the case. Stakeholders were very concerned that uncertainty mechanisms be limited to things outside National Grid's control.

- National Grid explained that the uncertainty mechanisms were designed to reduce risk outside of National Grid's control and therefore the rate of return on equity required by National Grid, not as a reward. When this was explained, most accepted this as to be logical. However, it should be noted that the uncertainty mechanisms (and interactions between the various mechanisms) proved to be a complex issue throughout the table discussions, with stakeholders requiring assurances on these issues throughout the debate.

  "It depends whose risk it is. Not if it's something you'd expect National Grid to manage themselves. If it's outside their control – it's almost a no brainer."

- Some respondents queried the correlation between risks, uncertainty and investment. It was felt that the collateral impact of investments/products designed to mitigate risk in a particular area need to be carefully understood. They were unsure as to whether the risk/uncertainty had been included in the base line, and if there was a chance that risk had been double-counted.

- For example, it was felt that should investment be required for the Industrial Emissions Directive, this could also result in reduced risk for National Grid in terms of Network Flexibility, since the investment could also help correct issues relating to network Flexibility.

    - There were initial concerns around the relationship between uncertainty mechanisms and the funding needed to meet the network flexibility requirements.

    - National Grid stated that the investment required for Network Flexibility would be subject to a specific re-opener that would increase or decrease allowances depending on the requirements, as and when these become clearer.

- Some stakeholders questioned the fact that asset health has been included as an uncertainty mechanism given the fact that National Grid has responsibility for the assets and this is seen to be a core part of the business. Other stakeholders were in favour (as long as it is clear what types of issue are covered by the scheme, and National Grid is not able to pass on its ordinary maintenance costs to customers/consumers.)
    - National Grid explained that this uncertainty mechanism is designed to deal with unexpected type faults. Some of the stakeholders accepted this argument, but a few were unconvinced that this risk sat outside of National Grid's control.

- It was noted by a number of stakeholders that a critical element of the uncertainty mechanisms is the base line criteria for each mechanism. These mechanisms trigger an increase / decrease in costs and consequently it is important to know when this will happen and that the criteria are transparent and justified.
    - National Grid confirmed that these criteria would be available.

"There are only certain bits of uncertainty measures that I am interested in – I need to understand when they are triggered, what the detail is that sits behind them – I can say they look generally ok but I'm not really sure what I'm signing up to."

"This is a tricky area. This stuff is needed … but it is looking through a particular window at it all. For us, it is all about how it relates to costs but this is not yet clear."

- There is a perception among some stakeholders that National Grid is likely to be overly conservative in its estimations and therefore the uncertainty mechanisms would be triggered unnecessarily.
- There were questions about the TO/SO split and how it relates to current practice (e.g. around revenue drivers).
- There were specific questions around the breakdown of incremental exit and entry with some stakeholders indicating that this seems to be accounted as a higher uncertainty than current low rates would suggest.
- Some stakeholders raised the question of how the uncertainty mechanism relating to incremental entry and exit would function, and how the standard deviation of £500m was reached for incremental entry and exit.

- It was noted by some that it is vital that these are carefully scrutinised by Ofgem/the industry, to ensure National Grid does not "sidestep" its responsibilities.

Q: Would you prefer the balance to be weighted towards uncertainty mechanisms or a higher rate of return?

- It should be noted that a number of stakeholders found it difficult to answer this question, because they were unclear of the potential impact of the various uncertainty mechanisms on cost and hence the charges they would be expected to pay. It is therefore difficult to identify areas of consensus on where stakeholders would prefer the balance to weighted.

Against this background:

- Overall, there seems to be some appetite for National Grid to take on less risk through use of the uncertainty mechanisms (thus reducing the rate of return on equity).
    - However, some stakeholders found it difficult to reach a definitive position on this issue, given its complexity and a lack of understanding of exactly how the different uncertainty mechanisms might affect their organisations.

- There is a relatively high level of trust that National Grid is best placed to know the detail and manage it – with Ofgem providing oversight.
    - Many stakeholders felt that the Business Plan has already considered and taken into account the many different factors that could have a significant impact on the network during the price control period. Therefore this is an appropriate balance.
    - It is appropriate to strike a balance between levels of uncertainty and rate of return. However, it is important that customers should be given maximum notice of the activation of an uncertainty mechanism to factor price changes into their business models.
    - It was also noted that it is possible for charges to be reduced as well as increased via some uncertainty mechanisms – although there was some scepticism whether this would indeed be the case and whether an appropriate process would be put in place to ensure this happened.

Q: What are the alternatives?

- Stakeholders generally felt unable to suggest any alternative except owning more risk, where appropriate:

  "This is essentially risk management – you either price it in up front, or take the risk."

Specific mechanisms

- Stakeholders generally agreed that the mechanisms included are broadly appropriate and while there may be an overlap between the individual mechanisms, they capture the issues that need to be taken into account.
    - As previously mentioned, here was some concern about the detail of the mechanisms – and in particular the impact on charges.

- Looking in more detail at the specific mechanisms:

"We are interested in impact on charges and without this it is difficult to judge them."

"There is a need for more information on costs and transparency of charges."

    - As previously stated, opinion was somewhat divided on the asset health mechanism: some stakeholders were in favour (as long as it is clear what types of issue are covered by the scheme). Others felt that this risk should be managed by National Grid, as it is a core aspect of the Transmission Owner's role.
    - Some stakeholders questioned the entry capacity buy-backs mechanism as this looked to be a high number based on past experience.
        - National Grid stated that this was higher than in previous Price Controls, because the future will see increased volatility, and therefore greater risk.

Q: Is the range of the uncertainty mechanisms proposed appropriate? What other could be appropriate?

- It was generally agreed that the range of uncertainty mechanisms is appropriate.

"You've got ranges, specific reopeners … it seems a balanced set of approaches."

    - Some were unsure whether critical national infrastructure should be included in the uncertainty mechanism, though it was ultimately agreed that decisions on CNI are generally outside of National Grid's control.

- One stakeholder expressed support for the principle of triggers and specific reopeners – *"You're trying to put in a process here…If you don't need a quick decision, you need a due process set up at the time. The approach is right, i.e. through an Ofgem conversation agreeing the appropriate risk management process. As a consumer/user, both [National Grid and Ofgem] looking at this is better than just one – fundamentally it's a good idea."*

Q: What is your opinion on the number of uncertainty mechanisms?

Q: What impacts will these uncertainty mechanisms have on your business?

- The majority of stakeholders agreed that the number of mechanisms is appropriate, although many felt unable to comment in detail as they did not have a full understanding of the mechanisms and impact on cost.
- It was generally agreed that the impact of uncertainty mechanisms will ultimately relate to the costs that are passed through to customers – and this is potentially a cause for concern, as these costs are not yet clear.

"What it will mean for our businesses is still unclear – until we get to charging we don't know. In this way uncertainty mechanisms don't help us in our organisations."

"The magnitude of this is potentially huge. I view it as potential costs consumers and shippers will be picking up depending on what happens."

- Stakeholders identified two key impacts of the uncertainty mechanisms on their businesses:
  - Significant effect on planning and businesses' longer term investment decisions.
  - Increased price volatility leading to a lack of short term predictability.

The risk model

Stakeholders were presented with the background to National Grid's risk model and the extent to which it allows the impact of uncertainties faced in both TPCR4 and RIIO-T1 controls to be compared. Participants were advised that in order to aid transparency and enable them to consider National Grid's risk management strategy, the risk model had been published on the website. To increase accessibility, the risk model had been modified (and somewhat simplified) so that it runs in Microsoft Excel rather in the propriety At Risk software. The discussions were informed by a detailed presentation of the risk model itself. Participants were asked for their thoughts on the model.

Overview of the model

- The majority of those attending the workshop were unfamiliar with the risk model. Very few had examined it closely.

Specific comments and concerns

- Following the detailed presentation of the tool, there was a widespread feeling that National Grid is to be commended for having produced the risk model. It is very comprehensive and, importantly, provides reassurance to stakeholders that National Grid has taken into account all of the key risks.

  "It is very reassuring to know that National Grid have such a model."

  - At the same time there were concerns over the complexity of the model, the extent to which it would translate to the "real world" and the practical benefits to stakeholders.
  - Some stakeholders noted that the model does not show the impact of the different elements on the costs to the end consumer.
  - There was also a sense that uncertainty mechanisms could be better explained, without the need for detailed understanding of the risk model.

"I would like to see something that is much more simple; something in which I could change the criteria and see what happens. Something than is more real world; something that says this situation would generate more need for flexibility and would cost X."

"*This is fine but how does it relate back to consumers' bills?"*

"This is a useful tool to understand uncertainty mechanisms but you shouldn't be put in the position where you need to use the tool to understand the document."

- Many stakeholders said that they are unlikely to use the model themselves (although others in their businesses might be interested). Some questioned its direct relevance and usefulness to their business.
    - However, a number of stakeholders felt that it was important to understand where the different values in the model came from.
    - Others wanted to be able to look at the model against a number of different scenarios and to be able to calculate the cost to the end consumer of triggering a particular uncertainty mechanism.
    - One or two also asked whether the more detailed model (which runs using At Risk software) might be available on request, if people had the proprietary software required to run it. For them the key question was: *"How close is the simplified model to the National Grid model that's actually being used?"*

      "It is not practically useful at this stage without a greater level of understanding. I appreciate the effort but don't understand the practical benefit of it at this stage."

      "We appreciate the transparency – but for me it is not a key priority."

      "*The more important thing is how the numbers were generated in the first place. What level of uncertainty has been assumed?"*

      "Intentions of transparency are always good ones but when will it be used?"

Q: What can we do to make this more accessible?

- The majority of stakeholders queried whether it is important for individual stakeholders to know / understand the detail of the model – and therefore the importance of making the model accessible.

  "It looks good. Ofgem should be able to see the more detailed model. It is appropriate that we don't get to see it all."

- Among those who were interested in learning more about the risk model, there were also more technical questions about the data.
    - One participant asked why a normal distribution had been used in the modelling.
        - NG explained that simplified distribution had been used for the Excel version
        - In response, the participant felt that the Business Plan needed to describe the distribution used in its Business Plan submission.

3. Charging

The final session of Day 1 was devoted to a discussion on charging in general, and how the RIIO-T1 price control will affect charges paid by customers. The discussion followed a presentation by Mark Ripley, Regulatory Frameworks Manager at National Grid. His presentation outlined the consideration of predictability, transparency and stability in relation to charging, as well as outlining the factors which contribute to the TO and SO charges.

Predictability and Transparency

Understanding the importance of predictability and transparency of charges to stakeholders was a key objective in this discussion. While most stakeholders agreed that both are important to decision-making within their businesses, opinions differed on which is most critical, and the extent to which their usefulness is potentially undermined by increased volatility which is forecast across the industry during the next price control review period. (The issue of price volatility is discussed in more detail in the following section.)

Q. Are predictability and transparency your concerns in relation to charging?

- Most stakeholders agreed that both predictability and transparency are important in relation to charging. Both can be vital to the investment, marketing and pricing decisions made in their own organisations.

    - Some stakeholders (especially shippers) argued that predictability and transparency are felt to be particularly important for stakeholders in the short-term, as they affect the charges which will need be to be passed on to consumers.

    - However, a number of stakeholders noted that industry is inherently "short-termist", which creates an environment in which short-term predictability is difficult to achieve.

Q. Can National Grid do more to help you understand and predict NTS charges?

- It was generally felt that National Grid need to be clear about the actual prices customers will likely be required to pay – not only the inputs and methodology used to calculate charging levels. Stakeholders are looking for an easier way of understanding what the actual costs/range of costs is likely to be. If this is not the case, greater transparency may be of limited use.

- Several stakeholders noted that transparency around the details of *how* these charges are calculated is most useful for the larger companies, who will devote substantial resources to the modelling of the way in which fluctuations might affect their businesses.

- However, this is not the case for smaller organisations. Stakeholders representing smaller organisations lack the scale and resources to devote staff to work through all the variables that may affect prices in general. Instead, they need to be clear on what the actual costs are likely to be for them, and require greater guidance from National Grid.

"When [National Grid] ask stakeholders to have a view I really struggle to answer the questions without the bigger picture. I really want to help but I need the complete picture without the actual figures for how the mechanism works, I can't give my opinion."

- Several stakeholders commented that they feel this sort of transparency on how charging will actually impact their businesses had yet to be reached in current discussions about the effects of the RIIO framework.

- A number felt that details about charging are missing from the Detailed Plan.

- Some stakeholders also raised issues about the current levels of predictability and transparency in the industry.

"When clients come and say how much does it cost to get gas into X. You need to be able to give them an answer. As it is you have to say: "It depends". That is not acceptable. You need to be able to give them a number."

Q. Do you have any suggestions as to how we can improve predictability?

- Several specific areas in which National Grid would enhance predictability were identified by stakeholders:

  - In general, information could be provided more frequently.

  - Longer term forecasts would also be welcomed.

    - E.g. Exit capacity – more could be done to communicate longer term predictions.

- More information provided three years out – though it was accepted that given the likelihood of increased volatility, such long term predictions may be too uncertain to use as the basis for investment decisions.
- One table suggested that National Grid could offer longer-term fixed price contracts to encourage investment in major projects.

- However, a number of stakeholders argued that transparency and predictability *per se* can be of limited use when making long-term decisions, if prices continue to become increasingly volatile.

  - For instance, knowing that prices are likely to be volatile does not necessarily protect those making long-term investment decisions from the effects of that volatility. In the long-term, many stakeholders feel price stability is more important.
  - Despite this, it was also accepted that in a more volatile future, more transparency and enhanced predictability can help to mitigate the effects of fluctuations, and are therefore welcomed.

- It should be noted that a number of stakeholders questioned the extent to which it will be possible to enhance predictability, given the likelihood that volatility will increase significantly.

  "The new model will lead to greater volatility and charges and the challenge is to what extent can it be predictable? At the moment they are published 2/3 years out and we are adding things that might make that worse not better. We need to complement Totex with something that might improve indicative charging."

Q. Changes to tariffs can be caused through changes to the methodology that dictates how tariffs are calculated, changes to the inputs to that methodology and new products being offered. Which of these factors are of most concern to you?

- For most stakeholders, *what* affects the charging levels was of less interest than the *amount* by which those charges might change.
    - Some commented that it was useful and informative to know what contributed to the charges, and welcomed National Grid's openness.
    - However, others stated that they did not really pay close attention to how their charges were derived, because of the levels of complexity involved in these calculations.

"Keeping up with the methodology forums is a full time job."

"From a shipper's basis, we just pay the charges."

"It would be good to have greater transparency on what costs go into the TO and SO bucket – just to understand the rationale."

- As stakeholders were focussed on the actual changes to tariffs, all the factors which can potentially affect charging levels are of concern, if this results in price movements.

Q. Charges are made up of a residual element, changes to which alter the charges all customers pay, and a locational element, changes to which change the relative signals between customers. The predictability of which of these elements is most important to you?

- Once again, it should be noted that for many stakeholders, the predictability of individual elements affecting the charges is only of interest insofar as it affects the overall level of predictability.
    - In essence, stakeholders' main concern is to understand what they will be asked to pay in the future, so that they can plan accordingly.
- Some stakeholders highlighted the challenge locational charges represent when businesses take major investment decisions. For example, shifting localised costs over a project's duration can lead to generation or storage schemes being sited in uneconomical locations by the time projects are completed.

Volatility of pricing

As noted above, issues relating to price volatility were raised throughout the discussions of transparency and predictability. It is important to bear in mind that for many stakeholders the three issues cannot be separated or prioritised, since all three of them are critical to the decision-making processes of their organisations.

- In general, it is accepted by most stakeholders that the next price control period will see greater price volatility as additional investment is required across the network.
    - However, it should be noted that not all stakeholders felt they understood the link between the increases in National Grid's allowed revenue over the course of the price control and more volatile charging.
    - Some stated that while they accepted the likelihood of increased volatility, more information and discussion between National Grid and its customers is needed, to explore exactly how this might happen and what it will mean for customers.

- Stakeholders' opinions differed on the impact transmission costs would have on price volatility in general, and therefore the level of concern relating to transmission volatility.
    - Some stakeholders argued that while transmission represents a relatively small proportion of the overall cost of gas, transmission price volatility will be compounded by distribution price volatility. It is therefore important to consider the effects of increased volatility throughout the system, as this will have an impact on customers and end consumers.
    - Others were less concerned, because of the comparatively small cost of transmission compared to distribution and generation costs.
- The issue of commodity charges – particularly relating to the SO – was also raised by a number of stakeholders during the debate.
    - Several felt that these charges had a major effect on the short-term volatility of pricing.
    - A few stakeholders were strongly opposed to the SO commodity charge.

"The commodity charge within SO is not appropriate. Other operators charge for use of capacity and they don't worry whether you use it or not. Why does National Grid charge a commodity element?"

Q. What impact does the RIIO phasing of incremental revenue have on you?

- One table felt strongly that the effects of funding the incremental capacity increases through the TO control (and thus being subject to the fast/slow money) would be to significantly increase price volatility.
- There were mixed views on the balance between the smoothing of charges over time and cost reflectivity.
    - Some were strongly in favour of smoothing, as it is most similar to the current charging regime, ensuring that the costs are spread across the price control period and resulting in greater predictability.
    - However, other stakeholders argued that smoothing was not the best answer, as it would simply leave other areas of the business open to greater volatility.
        - Some were also concerned about cumulative costs, which could be exacerbated by interest charges.
    - It was also recognised that cost-reflective pricing has already been mandated (e.g. by the E.U.)

Q. Is stability an issue provided charges are forecastable and predictable?

- Overall, volatility is a concern for many stakeholders. In particular, it has the potential to make investment decisions considerably more challenging.
- Enhanced predictability does make volatility easier for organisations to accommodate, but many stakeholders felt that predictability could not entirely mitigate the negative effects of volatility

    - This is considered especially important for longer term projects (4/5 years in duration).
    - As previously noted, some stakeholders also questioned the extent to which future charges will be predictable, if volatility increases substantially.

4. Network Flexibility

In a presentation on proposals in the plan for Network Flexibility, National Grid outlined the need for a more dynamic network and the ways that investment in the Business Plan is focused on enabling National Grid to cope with this situation. They highlighted the process, which looks at commercial and operational solutions in the first instance but where these are insufficient or uneconomic, more network is required.

It was also noted that it is important to avoid confusion in the use of the term "network flexibility" and it could be better explained as "system integrity" or "network resilience". It relates to making the existing network work better by providing National Grid with the ability to control the movement of gas better. The areas for discussions focused on the investment plans for Scotland and the approach required for other regions.

Initial reactions to the presentation

- Network flexibility is still an important issue for many stakeholders; indeed, it was raised at many different points during the course of the two-day workshop. It also remains a potentially divisive issue – while there was widespread recognition of the need for some increased flexibility on the network, how this is to be funded can be contentious.

The Scottish network

It was noted during the presentation on the Scottish network that the proposed investment is required to ensure that National Grid continues to be able to meet its 1 in 20 obligations in Scotland. The investment in the July Business Plan is £71m, although this has since been revised down slightly following the identification of certain commercial solutions in Scotland. This figure compares to a total investment in network flexibility of £224m within the July business plan.

Q. Do you agree that we should retain the investments in our plan that relate to supplies in Scotland?

- There was general agreement that the proposed investments in Scotland are necessary and that it is now National Grid's job to get on with it.
    - A small minority of participants rejected the plans, stating that they require more evidence of the need case from National Grid.

"The country faces huge challenges we can't afford to delay unnecessarily … it's a little bit of spend … If we don't get it right then the issues will be massive."

"*The need case seems quite compelling. Who else is going to give you the signal? Does that investment cover the full 8-year period and wind generation in Scotland? … If for any reason you did get it wrong the uncertainty mechanisms would be able to be considered."*

"If that's what needs to be done – as long as it covers all relevant scenarios. You are working against a forecast, you've got to pick one and go with it."

"'My only thought on the spend which I totally agree with but I just ask is it covering enough at this early stage: Are you looking at extreme scenarios? Should you be considering more spend. Have you covered all the options and looked at them and looking at them as they are in the next price period?"

- Participants also generally agreed that the case for investment in Scotland should be considered in terms of meeting the 1 in 20 commitments, rather than as part of the wider discussions around network flexibility. It was also argued that National Grid should have made this distinction clearer in the initial Business Plan and in earlier discussions.

    - Some participants also expressed concerns over the accuracy of demand forecasts behind the 1 in 20 commitment. In particular, they questioned how accurate the demand forecasts made in previous price controls had been in predicting current actual levels of demand.

    - National Grid agreed that previous forecasts had not predicted as rapid a decline in supply at St Fergus. However, this was felt to be the case across the industry at the time. National Grid also reiterated that the investment of c. £71 million is based on current levels of supply and ensuring security today, rather than on forecast. As noted above, this point was generally accepted by stakeholders.

    - More generally, it was also noted that forecasting is likely to become more challenging in the future because of increased volatility.

      "For instance, what would happen if the modelling used in the past was done again today? What would the forecast say?"

- There was also some confusion as to why National Grid is consulting on the investment plans for Scotland if these investments are required to meet the 1 in 20 obligations.

- Some stakeholders felt that they did not have the requisite tools to agree or disagree with the investment decisions based on the 1 in 20 obligations, since National Grid is required to meet this commitment.

  "As a market operator, I don't feel qualified to comment."

  "National Grid should just be getting on with this"

- Some stakeholders also requested further clarification in a few areas:

  - Will the cost be smeared, given it's a geographical investment? National Grid's response was, yes, these costs will be socialised.

  - How long will the c. £71m solve the problem for, and will more investment be needed in the future? National Grid responded that this will be sufficient to meet 1 in 20 obligations during the price control period. However, it was also pointed out that beyond the 1 in 20 obligations, the triggering of specific uncertainty mechanisms may mean more investment is delivered during the price control period.

    "How long is £71m for? Will more be needed for St Fergus? Is there a rolling period to look at? "

The other regions

During the presentation on investment plans in other regions, National Grid recognised that significant investment should only take place if their analysis/further stakeholder discussion demonstrates that this is the right option. National Grid would continue to carry out initial design work but at the same time, would carry out further analysis / stakeholder engagement to find out if there are any more commercial solutions available, as well as furthering discussion among the industry in general.

Q: Do you agree or disagree with the proposal that for network flexibility investments (other than Scotland), National Grid continue to do the initial low cost development work to keep the investment option open?

- There was general acceptance that the proposed initial level of investment in Network Flexibility (outside Scotland) of c. £10m is about buying time to keep the option open to do further work in the future. Stakeholders broadly considered this a sensible proposal.

  - However, there were concerns that actually National Grid should be more aggressively moving forward with this investment and not looking so much to the market for consensus.

- There was widespread agreement that National Grid must enable gas to "get to where it needs to go", but that development work is needed to justify further major expenditure.
    - Some stakeholders asked about how much development work is included, suggesting the numbers should be resolved before the plan is submitted.

      "Development work is needed to justify big spend, but when does it stop. The debate about the numbers must stop before the plan is submitted."
    - However, a number of stakeholders found it difficult to comment on this approach as many felt that they did not have sufficient information on which to comment on National Grid's investment decisions on network flexibility.
    - Some participants also felt that while they could understand the external drivers for investment, it is difficult for them to know whether it is being done in the most efficient and effective way possible.

- These issues demonstrate a need for further transparency and on-going engagement on uncertainty mechanisms, but it also makes it difficult for stakeholders to reach a definitive answer on the need for investment.

"They (National Grid) are considered to be the experts and we (the stakeholders) do not have enough information or expertise to decide."

- A number of stakeholders voiced concerns over the fact that the future investment plans did not take account of the significant changes / transformation of the whole system resulting from the changes / potential changes to government policy.

Q: Do you agree that our uncertainty mechanism provides enough comfort that investment will only be undertaken when it has shown to be the best option for UK plc?

- There is a general acceptance that the future is uncertain. Many stakeholders showed a high level of trust of National Grid, and this would allow them to get on with the job, with the proviso that Ofgem acts to oversee the process.
    - There was also a sense among some stakeholders that some of these issues are matters for Ofgem and National Grid to decide and to make the decision in the UK's best interests. Indeed, it is not always appropriate to involve stakeholders in the decision itself, because they lack the detailed knowledge at National Grid and Ofgem's disposal.
    - This also meant that some stakeholders felt they were unable to give a definitive answer to some of the questions about uncertainty mechanisms, as they did not feel fully "qualified" to do so.

- There was general support for the use of the uncertainty mechanism, given the lack of evidence at this stage about the network flows. Despite this, stakeholders also raised a number of queries about how the uncertainty mechanisms would actually be implemented.
    - Some stakeholders queried the interactions/potential synergies between the buy-backs uncertainty mechanism and the network flexibility uncertainty mechanism and outlined the need for clarity from National Grid. They did not feel that it was clear how the different uncertainty mechanisms might interact with one another.
    - There were concerns over how the exactly the uncertainty mechanism might work

      "What is the actual trigger for the mechanism [coming into play]?"
    - Some felt that planning should recognise the uncertainty mechanisms that are in place – and start with commercial incentives until the different "triggers" and criteria are reached.

      "I am struggling to find which amount of flexibility is required – how much is triggered by real wind? Surely, everything starts with commercial incentives and as things happen you plan investment. E.g. will not undertake any investment until a certain point is reached."

- A number of stakeholders expressed concern over the fact that the discussions around network flexibility had focused on investment and that potential "rules and tools" had not been covered in detail.

- In response to these comments, National Grid table facilitators explained that they would continue to look into commercial alternatives to investment with stakeholders, before committing to significant investment – an answer stakeholders generally accepted.

Q. In order for you to support an investment need case, what information or analysis would you want to see?

- It was generally agreed that there is a need for greater and more detailed information in order for stakeholders to support an investment need case. This includes information on rules and tools, clarity on costs and charging as well as more detail on the proposed investments.

"'The discussion has been about investment, what is the balance between rules, tools and investment. Is it assumed that the current framework is carried through but what are some of the changes?"

"More clarity needed on where the money is to be spent. Have you got the detail behind the £220M?"

"We need ongoing data on network flows, line pack, data constraints, plus more information about the development work and where it may take place."

"Fundamentally we are talking about ramp rates, as they are around the system at the moment, some are historic. Are we talking about distributing those around the network differently, perhaps making those pay for them who today enjoy them for free?"

"I agree there is a lot of uncertainty on future status of the network so I agree that the discussion should be kept open ... Ofgem also has a role to say what their vision on this is … At the moment there are a number of visions … but in terms of quantifying it's challenging the difference between Gone Green and Slow Progression is huge – so further evidence is needed."

Planning for the future

In planning for the future, National Grid outlined the need for the network to be much more dynamic to cope with CCGT intermittency and to support the electricity network. It was acknowledged that National Grid need to work with stakeholders to understand the different ways in which the network will be affected so that they are in a position to identify suitable tools.

- Stakeholders agree that the system is changing and that it is important to take account of new ways of operating. At the same time it was noted that the debate around the impact of wind intermittency on the gas industry is "immature" and thus creates a potential risk when planning for the future.

- While stakeholders accepted that commercial frameworks would provide National Grid with system management tools, some argued that National Grid is not expected to design the market – only to support it.
    - There was some concern that National Grid are not considering all of the options when planning for the future and may not therefore be acting in the most efficient way.

      "Are you doing things in an efficient way or are you hiding behind the complexity of the system?"

- Some stakeholders expressed concern at the length of time that has been spent debating these issues rather than making decisions. This is seen to have a negative impact on stakeholders and their investment decisions.

  "It [the debate] has been going on for a few years – which is unacceptable. Investors will not stay around forever. We will not sit here and fund inactivity – we will go elsewhere."

  "Some believe that ramp rates are for free – if you are booking capacity are you booking a right to access the capacity? … Is there an assumption about this within the plan?"

  "Are there any initial thoughts on what the changes might be – charges for ramp rates, incentives, information from consumers … If you made all those changes does that have an impact on the £153 million?"

Q. How should the topics of wind intermittency and developing the 1 in 20 planning obligation be taken forward within the industry?

- This subject did not create a great deal of debate among participants. There was a general feeling that the topics of wind intermittency and the 1 in 20 planning obligation were being taken forward through consultations such as this event and one-to-one discussions with individual stakeholders.

"Include lots of people in the room today. I don't think it should be exclusive, keep it nice and wide. It should be a formal industry group, almost a panel."

"'I don't have a view either away … I'd just say that anyone who is going to pay more for something needs to attend. You may need to make sure industry groups are there and you can collate a view."

"We have fed back on this already with National Grid [in bilateral conversations] and they know our issues. The point I want to make is about tools allowing gas to be made available through the current portfolio. If that gas is available that is great. That is what the interconnected market is all about. The issue is when we suffer a problem, then Europe comes to be a problem and this needs to be investigated further ... The market needs to be liquid."

- In order to progress discussions it was agreed that greater transparency of information and the assumptions behind the plans is required.

"Further clarity is needed on exit flexibility products with the binding substitution process you have to run. I think there is no discussion on this; it will start next October so I think more clarity will be useful. From a storage perspective managing in-day flexibility is important."

Q. Should there be greater interaction between the gas and electricity system operators?

- In principle, many stakeholders agreed that there should be greater interaction between gas and electricity operators where this will improve the efficiency of the system. However, it was acknowledged that there may be commercial ramifications for companies and that the debate is deeper. In practice this needs to be carefully thought through and proper ways of working need to be established.

- A number of stakeholders noted that the existing separation of gas and electricity system operations exists for good reason, and a similarly good reason would be needed to allow more interaction than is currently allowed.

  "Electricity operators are not allowed to share information on potential increase in gas off-take because of a reduction in wind. And yet this has a significant impact on investment decisions – it means you have to be very conservative. The system is changing and needs to take account of the new ways of operating."

  "It is about greater liaison … there are reasons that exist that prevent this exchange of information at present. What should happen is a review of that reasoning – and that is a different thing to saying simply that this increased interaction should happen. It is a bigger debate. Not having that debate as you move forward from a policy perspective seems odd. There needs to be a process to address that before you go down the RIIO route."

  "We want to have a discussion with NG about which tools. So yes, there is a need for this on-going discussion."

5. Connections and Capacity

The penultimate discussion of Day Two focussed on the interrelated subjects of Connections and Capacity. Duncan Burt, Customer Services Manager at National Grid, presented an introduction to these issues. His presentation highlighted feedback received from customers and in earlier stakeholder consultation workshops which stressed the need for streamlining and simplifying the connections and capacity processes. The presentation also set out the potential impacts of the 2008 Planning Act on project timelines, as well as some of the commercial rules, SO tools and physical assets which may be used to improve processes in the future.

The importance of capacity within defined timescales vs. physically firm capacity

The issues of connections and capacity occasioned a substantial amount of discussion throughout the workshop. Different stakeholder groups frequently articulated divergent opinions and preferences.

There was general agreement that these are complicated and important issues, and will require more detailed discussion over the coming months and years. A large number of stakeholders also felt that the process in the future should be made clearer and more consistent.

It should also be noted that a few stakeholders felt unable to comment on specifics, as they are currently engaged in bilateral discussions with National Grid around these issues.

- In the plenary Q&A session following the presentation, one stakeholder raised the issue of what would happen to those customers who had already been through some of the consents process. For example some CCGTs have already been through the initial stages. The stakeholder queried whether there proposals set out in the presentation missed a transitional step between the current process and a new process that incorporates the Planning Act 2008.
    - National Grid responded that for those in this situation they are developing bilateral agreements with the organisations involved.

Q. What is most important to you – having capacity (or equivalent compensation) available in defined timescales or physically firm capacity?

i.e. Would you be happy to be compensated when capacity isn't available if it had been released at the same time as your connection?

- This issue created a great deal of discussion among stakeholders, and the workshop did not reach a consensus as to which issue they would prioritise. Several stakeholders commented that there is no simple answer to what is a serious and complex challenge.
    - Further, stakeholders often struggled to prioritise, because they felt that both were critically important.

"I could be blunt and say both are important [timeliness of capacity / physical firm capacity]… that's the principle under electricity."

- It was also argued that the relative importance of each one depends very much on the specific project. For example, the developer's business model and how a particular project is being financed will impact on whether the timescale or physically firm capacity is most critical to them.
    - One table noted that the demand for firm or non-firm capacity may vary over the lifespan of a project, and thus flexibility around this issue is important.
- In general, those stakeholders focussed primarily on putting gas on and taking it off the network at particular times (specifically, storage companies and several shippers) were vocal about the need for physically firm capacity.
    - A few commented that the compensation they would require if they were unable to meet their contractual obligations would be very large and difficult to evaluate, since such a failure would also damage their reputation.
    - It was also noted that physical capacity is vital for CCGTs.

      "There is no point in having a connection without capacity."

"If you ask a storage facility there are not so many commercial tools available to cover the risk. Storage companies look at physical capacity. Without that we are nothing … We need to be able to meet obligations under contract – take gas in and push it out. We need a firm commitment because we are giving a firm commitment to our customers … The financial tools to move away from that would be onerous – they would not just be about lost physical gas, but lost trading opportunities and reputation."

- The issue of how increased uncertainty (and therefore increased risk for service users) could be mitigated was also discussed at one of the tables.
    - Buy-backs and interruptible contracts were cited, with stakeholders at the table broadly in favour of commercial rules.
    - Some stakeholders were interested in the relationship between connections and capacity in the future and the buy-backs/constraint management uncertainty mechanisms.
    - It should be noted that the level of compensation for those whose capacity is constrained is recognised as a very significant factor affecting whether or not customers will accept non-firm capacity.
    - Several stakeholders noted that while in the past there had been limited use of buy-backs, these would be likely to be more widely used in the future. It was also stated that the network in the South East of England is already constrained.
- Some stakeholders called for "Connect and Manage" for gas to be explored further.
- Several stakeholders also questioned whether the high costs of compensation for users not being able to access the network should be socialised. Socialisation was seen as good for the developers of particular projects (who would otherwise incur the full costs) but not for other customers or end consumers.

Impact of the Planning Act 2008

The vast majority of stakeholders were aware of the impacts of the Planning Act on project timelines, and the issue had been discussed at earlier stakeholder consultations. However, stakeholders were still keen to discuss the implications of the Act for their organisations.

- Many stakeholders expressed deep concerns about the significantly increased timelines that are likely to result from the Act. A concerted effort is required across the industry to ensure that the connections and capacity processes can operate as smoothly as possible and minimise lead-in times in the future.

  - While a number also accepted that the Act has important positive implications (in terms of providing increased certainty), many stakeholders still believe that a 7 year project timeline is not workable.

    - A few stakeholders were surprised that the Planning Act was passed in its current form, given the implications of the Act on large projects.

      "3- 4 years is where you make the decision for electricity. At 7 years out you won't get anyone signing up especially in what is currently a volatile market...you won't get anyone to sign up to some sort of commitment."

  - Specific concerns were raised about the length of time allowed for routeing and optioneering, and public consultation in general. Some stakeholders suggested that the optioneering and routeing processes should run concurrently.

  - The potential impact on future large-scale investments was also cited as a major cause for concern.

  - It was also raised that the planning environment will become even more challenging as the complexity of network and the number of new connections increase during the next decade.

    "Is the government really thinking this planning act is a good idea? Rather than everything running in parallel as before they have now put it end to end."

    "The only good news [with the Planning Act] is that it does give a certainty of timescale – a clear yes or no."

"Things will be aggravated by the additional levels of complexity on the network – with a congested network and the interaction of different connections"

- Despite these concerns, it should be noted that a number of stakeholders argued that the 7 year timeframe is a "worst case scenario". They argued that in reality, the industry would find ways of ensuring the process is made more efficient.
- Stakeholders on one table felt that where connections and capacity are being considered, brand new pipelines and incremental increases to the network should be viewed separately, as they are likely to involve very different amounts of planning and construction.

- Stakeholders generally felt that there should be further discussion of how the lead times can be minimised, though there was no consensus at this stage about how this might be achieved.
  - Of the possible options covered, some stakeholders supported the use of pre-works agreements.
  - The importance of considering precisely when and how the big investment decision should be taken was considered a key priority on one of the tables.
  - It was argued that those looking to connect would not put out a full capacity signal seven years before completion, but may make a smaller capacity commitment, to give the project greater certainty.

    "You won't put a capacity signal in seven years in advance … You could maybe commit a smaller amount that gives us a bit of signal that underwrites some sort of commitment so that we get to the point where we have some certainty over our project."

- Stakeholders also pointed a number of concerns and issues that they felt must be taken into account when considering connections and capacity.
  - There is clearly a tension between the need to signal early in the process and increasing the risk of a stranded asset.
  - Ensuring potential investors are on-side is also important, or there is a risk that investors will go elsewhere. This could then become a security of supply issue.
  - One table felt there be may be a need for further UNC modifications in the light of the Planning Act.

UNC Modification 373 and combining the connections and capacity process in the future

Q. Do you agree or disagree that the development of a time driven connections process (i.e. the UNC modification 373) should be prioritised ahead of aligning the connections and capacity processes?

- Stakeholders generally support the prioritisation of modification 373. It is generally viewed positively, as a step in the right direction. Stakeholders felt that the modification will provide a solid timeline on connections, and eliminate some of the uncertainties around the connections process.

    - It should also be noted that a number of stakeholders already see the modification is more or less inevitable that it will come into operation before the connections and capacity process is aligned. Some felt that whether or not or UNC modification 373 should be prioritised is slightly academic, as it is being prioritised.

    - One table felt that further modifications to modification 373 may be required in the future.

    - Some consider modification 373 as a step in the right direction, but expect the need for further changes to the connections process in the future.

      "UNC 373 starts to address some of this; it is a step on the way but we need to finish that and move forward. However, the danger is that once 373 is done there's a collective "phew". [It] needs to be a stepping stone in the process and on basis the thing thats missing from National Grid are part of a new mod prepared by National Grid with a commitment and timescale for son of 373."

- In terms of combining the connections and capacity process in the future, there was *in principle* widespread support for a unified connections and capacity process. (This is in line with responses to previous consultations, and is recognised in National Grid's July 2011 Business Plan submission).

    - However, there is also an acceptance among stakeholders that combining connections and capacity is potentially a long and complicated process which may take several years.

- It is also recognised that the issue requires further discussion across the industry (as discussed below).

  "If you were starting with a blank piece of paper, you'd probably go down the route of combined connections and capacity. But the reality is we're not starting with blank sheet of paper."

Future discussions on these issues

As mentioned above, stakeholders firmly agreed that there is a need to take discussions forward in the future. Issues around connections and capacity and the impact of The Planning Act 2008 are considered vitally important to the industry.

Q. What is your preferred forum for taking these discussions forward? Should they:

- Go through the transmission work stream group?

- Through an alternative/new industry group?

- Via another route?

- Many stakeholders felt that the transmission work stream group should play a prominent role as a forum for future discussions, although opinions differed on exactly what this role should be.
  - Those who supported felt that the transmission working group would provide a logical forum for debate. They suggested that this forum – under the existing UNC process – would enable a balanced, considered outcome to be reached in the quickest time.
  - One table argued that while the transmission work stream group is the "natural" place to go to discuss much of the technical detail, it would also be valuable to broaden the debate and engage a full range of stakeholders on some broader themes. Therefore, it should not be a case of "one size fits all in" – the forum should vary depending on the issue under discussion.
    - Suggested attendees included: Ofgem, DECC, Planning Act experts, commercial gas people and electricity experts.
  - Another table called for National Grid to take the lead on setting up a suitable forum for discussion, and present National Grid's view on the most effective way to improve the connections and capacity process.

"Set the place to discuss this and get started. And do it now. Grid needs to come up with something. If [National Grid] don't have capacity to do it [another party] can take these discussions forward."

- Finally, one table argued that a new group of industry representatives should be set up, rather than relying on the transmission work stream group. They felt that the new group should comprise experts in both the technical process of connection and experts in regulation, to ensure discussions are informed by both regulatory concerns and practical concerns. They felt that the transmission work stream group is too focussed on the codes.
    - They also felt that the group should be flexible, to ensure the right people are involved at each step of the process.

6. SO/TO Interaction

National Grid provided participants with an overview of the interface between the SO and TO functions and outlined the ways in which this is managed to optimise the balance and ensure the most beneficial outcome for both customers and wider stakeholders. Stakeholders were asked to consider a number of issues including the use of commercial solutions to negate the need for large-scale physical reinforcements of the network, investment to mitigate environmental impacts beyond that which is required by legislation and solutions to meet the requirements of network security (including 1 in 20 obligations). Consideration was also given to the value of a maintenance incentive.

Initial reactions to the presentation

- The presentation was seen to be valuable as an information sharing session and consequently it prompted a number of different questions and requests for clarification. (These are included below).

- It should be noted that many stakeholders found it difficult to comment on an issue in which they have limited experience and expertise. A number felt that TO/SO interaction is an issue for National Grid and Ofgem to decide, rather than other stakeholders.

- These reactions meant that the views expressed by stakeholders varied substantially.

- What is the composition of the TO and SO?

  "Technology investment doesn't that fit into the asset infrastructure? I'm not clear on what goes into SO and TO, for me I'd have expected soft starts and things to be in that number … there are legislative bits to do and then there are system requirements and at some point they are compared together but do you end up doubling up … Paying 5 million for efficiency upgrades and then 50 million to change the compression station?"

- How do the two areas work together? How are issues handled between them?

  "How does it work? For example, SO puts forward an investment case – has there ever been a situation in which TO has refused to invest? Where do the relevant rules and incentives lie between the two? What are the ground rules?"

  "*We understand the different positions but why are they separated? Does this always generate the best performance?"*

"If there is a conflict because of different regimes, who sets the rules and who wins?"

- What is the impact on the customer of a "no-invest" decision by National Grid?

  "Does the system allow the TO and SO to find the most efficient solution. Are the right rules in place? e.g. National Grid receive a new signal but choose to take risk and not invest and use commercial tools. How does this work? What is the impact on the customer? Are they consulted?"

- What are the incentives between the SO and TO and what is the impact of the change in overall financial reward from Capex to Totex?

  "'The challenge to that is how the Totex is being combined and calculated so that it isn't to the maximum asset investment? And the uncertainty mechanisms, how do they inter relate to that mechanism? Part of the solution in one area might be part of the solution in another area? ... Is it the same team that does the compression station work, or is it three people sitting under three areas?"

  "In the RIIO period what is the shape of SO incentives?"

  "*Now you changed the overall financial reward from a Capex to a Totex incentive mechanism, how does that impact on the 50/50 split and overall charging methodology?"*

  "What is your incentive to invest? You have some financial incentive on Totex but you have different mechanisms pricing the uncertainty. Where is the overall incentive to invest having all those mechanisms?"

  "There is a financial incentive on Totex, with other mechanisms driving uncertainties – so how will these interact? It matters to us if it is through commercial investment or other mechanisms."

Use of commercial solutions instead of investment

Q: Is there sufficient depth and long-term certainty in the provision of commercial services to negate the need for large-scale physical reinforcement of the network?

- Stakeholders generally felt that they did not have enough information to judge whether there was sufficient depth and long-term certainty in the provision of commercial services to negate the need for large-scale physical reinforcement.

"*I haven't been close enough to be able to experience it, there may be a level of nuance that I haven't been able to see in this.*"

- There was general agreement that National Grid is best placed to look at opportunities for both commercial solutions and investment. They are uniquely placed to identify costs and risks associated with both solutions. It was also acknowledged that uncertainty mechanisms would play a significant role in any decisions.
    - Some stakeholders felt that the current balance is the appropriate one and gives (for them) the right level of reliability.

      "Keep to the same level of reliability that we have at the moment … that feels quite comfortable."

    - Some concerns were expressed over the use of commercial solutions, with a number of stakeholders expressing a preference for investment solutions and putting forward the view that commercial solutions should only be for the short term.

      "It is definitely weighted towards investment – the commercial bits are there to get you through the short term."

      "If you ask me if I want 100% availability or 80% commercial availability – I'd rather have 100% availability. There is a tendency to like infrastructure that is built to guarantee availability rather than a commercial solution."

Q: Commercial solutions have the potential to create volatility in charges whereas investment solutions allow greater certainty. To what extent should this be taken into account in deciding on the optimal solution?

- There was widespread recognition that investment solutions allow greater certainty and reliability while reducing volatility. While costs are critical to all stakeholders, the ability of stakeholders to absorb increasingly high levels of volatility depends to a considerable extent on the nature of their business and ways of working. Therefore, reactions to both higher volatility or increased but predictable cost varied across stakeholders, depending on the type of business they engage in.

"At the end of the day we value stability of charges; we are not happy about volatility."

"It needs to be recognised that not all shippers use the system in the same way. Some use fast acting storage where volatility can have a significant impact. In turn, their impact on the overall system [and potential investment needs] should be considered."

- Some stakeholders also questioned who should manage the volatility.
- A number of stakeholders also commented that it would be necessary for National Grid to give reassurances on the confidence with which the solution can be viewed.

  "What comfort do we have that you are incentivised to seek out the most commercial route and won't leap for investment … I don't understand the threshold … how do we know that you are looking for the most commercial option?"

  "National Grid has a firm physical commitment, so you could think about commercial solutions but you better be sure that it's 100% reliant. You need to look at the commercial risk of the two options ... Again it seems like a bit of a simple solution but I'd say just take a sensible commercial approach."

Q: Should we consider Investment to mitigate environmental impacts beyond that which is required by legislation

- It was generally felt that any decision to invest above the level required by environmental legislation is up to National Grid and is a choice that may reflect the company's corporate social responsibility and environmental policies. As it is a choice for National Grid, any cost should be for National Grid and the relevant internal budget. It should not be funded by customers and end-consumers**.**

"This is something that is voluntary; don't ask us to pay for things that National Grid decide to do that is over and above that which is required."

"Emissions and the impact of emissions is a different matter. That is a different investment decision because it would be possible to demonstrate economic benefits."

Q: Should network security (including 1 in 20 obligations) be met through physical/asset solutions only, or should we consider greater risk through SO/commercial solutions?

- It was generally agreed that National Grid is best placed to look at commercial solutions. They have the overview and are in a position to identify costs and risks associated with both solutions.

"National Grid is the one with the information and that can manage the risk; there may be some incentive for them to use uncertainty mechanisms."

"If you cast the net for security to include things like safe run down – it is managed in part by commercial solutions through the OM tender ... It depends what you define as network security – it's got to be a network solution."

- For many, the most important issue in addition to network security is stability in charges, at minimum cost

"If you have got a lot of the obligation … go for the least risk option and forget the financials … it's a general rule … you don't want problems on the gas network."

Q: Do you consider that a maintenance incentive would have value? If so, what behaviours should any incentive drive?

- A number of stakeholders found it difficult to understand the logic for a maintenance incentive when maintenance is seen to be a core part of National Grid's role.

"Why should National Grid be incentivised to do their job?"

"There is a danger that it would become an incentive to maintain assets"

- Other stakeholders queried how the incentive would work and whether it would be effective in driving behaviour to co-ordinate maintenance or whether it would become an incentive to maintain assets. It was felt that maintenance is much more about the relationship between the parties.

  "*A maintenance incentive ... What would it look like? It's hard to make an incentive that could drive behaviour to co-ordinate maintenance."*

  "How would this actually work? Exit maintenance scheduling fits in with their customers' timescales."

  "I think it's generally around what is the appropriate level of maintenance. You guys are the experts – it's your call. It's more the interface between the parties … The issue is one of timing between the parties."

- National Grid representatives explained that maintenance incentives could be used to encourage National Grid to co-ordinate its maintenance programmes with customers' timelines. Where this was understood, stakeholders generally felt this would be a positive behaviour to drive.

- There was general agreement that it would only be appropriate for National Grid to have incentives for maintenance if there are similarly penalties for non-performance according to contract. Stakeholders noted that they are required to respect National Grid's timeframes but receive no compensation when these are not adhered to.

  "We are expected to conform to National Grid's timeframes but there is no compensation if they fail to meet these. It would need to work both ways and for them to be subject to penalties too."

7. Customer and stakeholder satisfaction survey development

The discussion on the customer and stakeholder satisfaction survey development was introduced as an additional subject because National Grid wanted to obtain feedback on the work they have been carrying out with other Transmission Operators (TOs) to formulate a survey. National Grid outlined the reason for the introduction of a survey and highlighted the fact that this is in line with Ofgem's strategy document. Stakeholders were asked to give their views on who should carry out such a survey, areas for measurement, the frequency with which surveys should be carried out and who should be included in the survey.

Initial response

- Initial responses to the presentation were mixed. A number of stakeholders voiced concerns over the use of a survey and commented that processes are already in place to monitor performance. There was some concern about whether or not surveys could capture all the necessary information.
    - For example, around specific issues (such as the connections process) it was suggested by some stakeholders that any major problems would be communicated at the time (e.g. via complaints), not through a survey after the event. There would therefore be a risk that serious issues could be under-represented if the survey is the only way information is gathered.
    - Some argued that a customer satisfaction metric should not be restricted to survey responses, but should also incorporate other measures (such as the number of complaints reported per annum).

      "Major construction projects, are already covered by National Grid and Ofgem processes (e.g. post project review), plus the Planning Act. Major issues should be handled through direct contact rather than a survey."

      "There's already a route through Ofgem if there are particular problems like connections, or complaints. What will this deliver that's different?"
- Other stakeholders felt that surveys are valuable if it is clear what the survey is trying to achieve and there is appropriate benchmarking data to ensure the findings are valid.
    - When discussing this issue, several stakeholders questioned which data would be used to benchmark National Grid's performance.

"How do you benchmark this? Is there benchmark information available? Who makes the decision on appropriate benchmarks?"

"They need to get a baseline soon … With the 1 April 2013 start you need a benchmark then or just before so you can track changes."

- A number of stakeholders recognised that the survey will be a regulatory requirement with financial implications. As such, it needs to be very rigorous, credible and transparent, as well as being easy to complete.

  "Customer satisfaction is generally difficult to judge, but a necessary thing to do."

- Some stakeholders were concerned that the details of the revenue driver were not contained in the presentation. Some felt it was difficult to respond to National Grid's proposal in detail.

  - There was also some uncertainty about the behaviours the customer satisfaction survey ought to drive.

    "In principle it's a good idea but what will the outputs be and what behaviours will it drive? …Ofgem will have to work out where it needs to focus and keep it tight."

    "What is the framework [for the customer satisfaction incentive]? Are the different companies competing for the same bonus pot?"

- Several stakeholders pointed out that the survey could introduce a perverse incentive structure that might impact the survey's objectivity.

  - If National Grid were in charge of the questionnaire, they would be incentivised to gather as much positive feedback as possible.

  - In contrast, customers would be incentivised to score National Grid harshly, as this could penalise National Grid and reduce their charges.

    "It seems that there would be little incentive for customers to speak positively about Grid, if this means they will simply have to pay more [because Grid would receive an incentive for good performance]. Conversely, Grid is incentivised to collect positive feedback on itself. These issues need to be carefully considered."

- Several stakeholders expressed annoyance over the fact that they were being asked to comment on customer satisfaction surveys at the workshop. For them it is not a priority issue (in comparison to some of the bigger issues around RIIO) and also, it had not been included in the original agenda for the consultation event.

- Other stakeholders felt that it is quite late in the process to be discussing this issue for the first time, and that they lacked necessary detail on how exactly the rewards or penalties would be allocated. They reiterated that this has the potential to have a (positive or negative) impact on the prices paid by customers and end consumers.

  "Will people be able to communicate all their responses in time? Will there be more opportunities to view proposals?"

About the survey

Stakeholders were asked to consider a number of key questions in relation to the survey itself.

Q: Should the transmission companies carry out the survey individually or should an external company be employed to carry out a single survey on behalf of all the companies?

- There was general agreement that it would be appropriate to employ an external company to carry out the survey, to ensure it is conducted objectively. This would also ensure the survey is credible.
  - However, a number of stakeholders also stressed that very careful thought would need to go into the survey, and interviewers would need to have expertise in the subject areas, to ensure the right questions were asked.

"I agree that an external company is more appropriate to do the work, as they are impartial and the customer can give good or bad feedback, as the company has no vested interest."

"We have been interviewed in the past by 'clueless interviewees.' But it is good to have an independent person asking the questions but they need to be someone who is able to understand what you are saying."

"A joint approach to the survey would be useful [i.e. involving all the transmission companies], but would require good targeted questioning."

- A few stakeholders felt that Ofgem should conduct the survey as they are more likely to conduct an objective assessment.

Q: Which organisations/individuals should be surveyed?

- The proposed audiences were generally thought to be relevant, although because there is such a wide range of interests, it was felt that it would be very difficult to group or compare stakeholder feedback.

- For example there will be a difference between those with an on-going relationship with National Grid and those involved in specific one-off projects.

  "There's an extensive list of stakeholders. Consumers would have a very different view on a major pipeline."

  "Do you include people involved in the 'nitty-gritty', codes, regulatory or someone who has a big gas pipe?"

  "You should separate enduring customers compared to standalone, one-off projects or geographies."

- A number of stakeholders talked of the need for coordination and targeting individuals/ departments within an organisation to get maximum benefit from a survey.

  - For example, at larger organisations it may be necessary to speak to a number of people who deal with National Grid rather than just one person. Careful consideration would need to be paid to the sampling process.

    "This will want co-ordination about how they [the surveys] come out from the research team… and also targeting coordination within the organisation – what interactions the companies have had with different people."

    "There is difficulty in carrying out the survey. Different parts of organisations would have different views … you would have to break it down."

- There was some concern over the inclusion of consumers. It was felt that consumers do not often understand the relationship between National Grid and their individual supplier – and which company is responsible for which aspect of supply. As a consequence, it would be difficult to collect meaningful feedback from them.

- Some stakeholders suggested that because of the interconnection with Europe, relevant stakeholders from European countries connected to the UK should also be surveyed.

Q: Should the network companies survey each other?

- Views were mixed on whether network companies should survey each other, with some stakeholders expressing concern that this could "skew" the results.

- It was argued that it should include an element of comparison between the networks where appropriate.

- Again, this was felt by a number of stakeholders to support the case that the survey should be carried out by an independent body, so that a fair comparison could be made between companies.

Q: What are your thoughts on the proposed question areas?

- Stakeholders had little to add to the question areas, although they reiterated how important the questionnaire design and wording would be.
    - Some stakeholders also felt that care would have to be taken that the survey responses are not dominated by current issues (for example, a particular complaint at the time the survey is taken).
    - However, others felt that it is important the survey retains its topicality.

      "The topic areas are very general. Only certain topics are meaningful [to an individual or organisation] at any one time. It's only when you're in dispute that they are at the top of your radar. You would need to carefully design it, or it'd be dominated by hot live issues and disputes."

      "These are about the right areas. We've had comments about maintenance so it is right that those things should be included."
    - Some stakeholders felt that planning should be added as a topic due to the changes in infrastructure.

      "You should add in Planning. The work has changed and to get new infrastructure changed you have to build that in."

Q: What do you believe the frequency of these surveys should be? On a regular basis (e.g. once a year, every six months), or related to key project milestones e.g. construction on site, commissioning, etc.? Or a mixture of the two?

- There was a general feeling that while it is important to have regular surveys, they should not be too frequent as there was a concern that companies would not participate. It was noted by a number of stakeholders that there is "survey overload" which led to a clear preference for fewer surveys in general.

  "Ofgem should just do one survey, once a year."

  "It's been annual so far and that feels right… 6 months is ridiculously quick".

- Some stakeholders felt that it would be more appropriate to carry out a survey at the end of a particular process e.g. the new connections process. They felt that this would have value and would keep the questions more focused and timely.

- A number of stakeholders raised concerns over the resources and cost to the industry of participating in the survey and whether this is effective use of funds.

  "If the electricity survey was 15 minutes, four different ones would be an hour – across the industry this is a lot of time."

SECTION 2: ELECTRICITY TRANSMISSION (TRANSMISSION OWNER)

1. General Responses to the Business Plan

The first session of Day 1 focused on gathering general comments on the Business Plan, assessing levels of engagement with it and views on the format and style in which it was presented. The discussion followed a presentation by Pauline McCracken, Price Review Manager at National Grid. Her presentation provided an overview of the submission to Ofgem and outlined the role of stakeholder feedback as part of the RIIO-T1 price control consultation. Stefan Leedham of EDF Energy kicked off the discussion by giving a short presentation on his organisation's thoughts on National Grid's Business Plan and the stakeholder engagement that informed it.

Business plan

- The Business Plan was welcomed and the process of developing the plan and engagement with stakeholders was praised for being much better than in previous years. Whilst most stakeholders were positive about the plan, few had read the detailed Business Plan and supporting documentation. They said they found it difficult to find information that clearly demonstrated the impact on their organisation, and made a number of suggestions as to how the material could be improved to help them understand and navigate the plan better.

Q: Have you read our detailed plan since it was published at the end of October? What did you think of it?

- Approximately two-thirds to three-quarters of stakeholders had reviewed the headlines document but only a handful had read the longer overview document or the full Business Plan and associated annexes. Stakeholders commented that this was because they did not have the time to review the material. A minority mentioned 'consultation fatigue' and a number of others also commented that they did not see the need to read all the detail, seeing that as Ofgem's role.

  "It's not our role to scrutinise, that's Ofgem's role … The industry shouldn't do it, as it would mean the industry would be duplicating efforts."

- In general, most stakeholders were positive about the Business Plan. However, few individuals had a full understanding of the plan at this stage. Many were keen to discuss the details and to better understand the possible scenarios.
  - The National Grid experts who were sat with each group of stakeholders added essential information in response to their queries, enabling them to better understand the plan.

Q: Were you surprised by the inclusion or omission of anything in there?

- For some, the headlines document lacked some of the detail they wanted to see, whilst the detailed documentation was viewed as too long and inaccessible.
- Stakeholders struggled with the uncertain nature of some of the plans. They asked for more detail on how some of the projections might play out, so they could understand the full ramifications of those scenarios. They wanted to be clear as to what was definitely happening compared to what might happen.
    - See the section on Uncertainty Mechanisms for a summary of stakeholder feedback on this topic.

Q: What improvement could be made in terms of content?

- In general, it was considered that the Headlines document lacked some of the specific detail required, especially in terms of financial information that would communicate the impact on stakeholder organisations and the end consumer. There was also interest in understanding the methodology / justification for the numbers.

  "What we really want is a plan of what investment is being delivered, and when, and at what cost."

  "There is a general lack of information [relating to the financial impact on plans]; normally the first thing that happens is the control documents are published and you know what that does to the bottom line, this doesn't seem to be the case."

  "There is a question of the remoteness of the end customer from those who put the numbers together. We need to know what the impact would be on customers; what the charges will be and what is driving it."

- Most stakeholders wanted to see materials that focussed on how the content of the Business Plan specifically relates to their perspective.

  "For me, it's hard to get a good feel of what it would mean for the business. It makes sense at a top level, but it's hard to drill down in terms of what it means for us."

- There was a general desire to see the plan simplified in places.

  "They [National Grid] need to work harder to make it comprehensible."

  "You need to get the right balance between information and detail."

Q: How does the Business Plan compare to those under previous price control regimes?

- The approach to business planning for this price control was considered to be better than previous efforts and the transparency of the consultation process was generally welcomed.

  "…The level of detail, [there is] so much more than before. It's a good thing, it's good to have that transparency … [there are] issues with the volume, but it's good it's there."

  "I think in terms of process … it is much, much more transparent than other price controls have been … National Grid is to be commended for that level of detail and it does seem to hang together, it is a comprehensive story … It allows a better level of engagement."

Q: In terms of the Business Plan, were your views and previous feedback represented correctly?

- Stakeholders found it difficult to judge whether all their previous feedback had been represented correctly, some agreed that it had been, others were less able to see their specific input.

  "From our context, yes our views were in there. What was refreshing was that it is a very transparent document that you have put out there and that is a credible approach. You've opened everything up for people to come back to you and created energy by doing so."

  "[We] only had bilateral conversations. Are they reflected in it? Nothing specific, a lot of what we had discussed was generic, relating to all TOs. Whether they have been influenced by our discussion it is hard to tell."

Q: Was the Business Plan documentation easy to navigate?

- Whilst the headlines document was seen to be accessible, the detailed plan was considered lengthy and hard to navigate, especially when trying to find information from a specific stakeholder point of view. The headlines document was considered appropriate for senior management.

  "The detailed plan was inaccessible; hard to find the information you wanted."

  "There is a big gap between the level of detail in the overview document and the detailed plan … The overview document needs more detail … I think people will have different levels of interest in different parts and it's about being able to go through and find the bits that are of interest to you."

Q: What improvements could be made in terms of structure or format?

- A number of suggestions were made in relation to how the documentation might be improved, including: providing a "roadmap" so that stakeholders know which documents contain which information; sections or summaries written from an audience-specific point of view (e.g. a generator); creating links in the headlines document to more detailed information and a summary of what has changed since the previous version of the plan.

  "It would have been good to have a top-line roadmap, so you can navigate things … I've had a look at the one hundred page document, and it didn't make it easy, [it was] quite hard to find the details.'

  "Tailor it depending on who is going to read it… either you're regulator, customer, generator, supplier, you can tailor it."

  "[It would] maybe be good to have with the headlines [a] link to [the] rest of the documents, so you can scan the headlines, and it will tell you where to go if you want more information."

  "What would I like to see in the next version? An idea of what has changed … If it's not possible to reflect all the structural changes then just provide a summary of what has changed … I think it would be useful for everybody when reviewing the plan again."

2. Uncertainty Mechanisms

Hêdd Roberts, Price Control Commercial Manager at National Grid, presented on 'Managing risk and uncertainty'. Hêdd outlined a range of uncertainties around National Grid's forecasts over the eight years of the RIIO-T1 control period, driven by the volumes of activity, input prices and delivery of outputs. National Grid have quantified and analysed these risks, and propose that the risks should be managed by a number of uncertainty mechanisms, which adjust National Grid's revenues, depending on how the future turns out.

The objective of the discussion was to gain stakeholders' views as to whether the approach is valid and whether the mechanisms are appropriate.

- Overall, stakeholders were comfortable with the coverage and number of uncertainty mechanisms proposed.
- They were not able to comment on the balance between uncertainty mechanisms and the rate of return. Although stakeholders had lots of specific questions about the mechanisms, they made no proposals as to how to improve them.
- Stakeholders are concerned about the anticipated volatility of charges, which might also mean large price rises for consumers.
- None of the stakeholders had looked at the risk model and few were intending to use it. Nevertheless, the stakeholders welcomed the transparent approach and the efforts undertaken by National Grid to share the model.

Uncertainty mechanisms in principle

Q: Should uncertainty mechanisms be employed to adjust allowed revenues where the associated risks/costs are uncertain and outside of National Grid's control?

- Overall, there was widespread support for uncertainty mechanisms in principle, where there is a risk beyond National Grid's control. Stakeholders appreciated the need to manage risk.

  "It is so uncertain in this area, but looking at this it seems fair enough… You obviously have to make sure that it's done in an orderly and transparent way and there needs to be enough of a period to see going forward what is going to happen."

- A number of stakeholders initially found the concept of uncertainty mechanisms hard to understand (an issue also highlighted in the Business Plan discussions). Several tables needed a more detailed explanation about how the mechanisms work, particularly how they either add to or reduce National Grid's base case revenues.

- For example, National Grid facilitators reiterated that as a regulated business, operating in an uncertain environment, National Grid needs to ensure some degree of certainty; at least more certainty than is provided by an estimated fixed sum with any difference resolved at the end of the price control.

- Some stakeholders were uncomfortable commenting before they had reviewed the mechanisms in detail (a few plan to make a written response).

- Many stakeholders raised concerns about practical details and impact on consumers – particularly the suppliers, who are more familiar with the mechanisms:

  - How will the mechanisms impact price stability and predictability? How much more might this add to consumer bills?

  - Timing is critical – stakeholders asked when the increased charges might hit

  - Visibility is important. What are the triggers and how will progress against these be reported?

    "What does this convert into for the customer?"

    "For me… it is a matter of do you scale it within the year, or next year? ... What we are trying to do is forecast what the tariffs are going to be. If there are mechanisms which allow for big swings, then consumers end up paying for it"

    "How would this work in practice? What are the notification timetables? What we are looking for is stability … From a supplier's point of view we would want to know two years in advance of it going into revenue … It would help our knowledge of charges."

  - Others were concerned that the mechanisms were set up appropriately. The mechanisms must allow revenue to decrease as well as increase, and be monitored by Ofgem.

    "Are there any examples of re-openers that have reduced National Grid revenues? My suspicion is that there haven't been any re-openers to push them down."

"National Grid will clearly talk up the expenditure. What sorts of audits will be done?"

- There must be no double counting, either with existing instruments or duplication within the uncertainty mechanisms.

  "Will this remove income adjusting events?"

  "Offshore and local generation connections … how much is that double counting?"

  "What is included in each one [uncertainty mechanism] … is that undergrounding just National Grid's bit? … It depends on how you've split it … Is there a bit of double counting?"

- After the discussion, most stakeholders accept that the combination of National Grid's expertise, with Ofgem scrutinising and monitoring the mechanisms, is a good way to manage the risks outside National Grid's control.

- More generally, stakeholders expressed a desire to understand the range of uncertainty in the plan. Some were keen to understand the range of possible scenarios within a particular uncertainty mechanism. For example, the investments and costs associated with a particular scenario. Currently, they feel that although the baseline plan is clear, there is much less clarity as to what might happen to that baseline should different uncertainties materialise. This was particularly true for those who had not reviewed any of the detailed plans.

Q: Would you prefer the balance to be weighted towards uncertainty mechanisms or a higher rate of return?

- It was difficult for stakeholders to make this comparison. However, some stakeholders stated they have a limited appetite for National Grid to be exposed to too much risk, as they want continued access to a reliable network.

- The key issue about risk that was raised by many stakeholders across the industry is the predictability of price for customers and consumers (supported by a reliable network), especially in light of the fact that the RIIO framework, by definition, will see a greater volatility in pricing.

  "Customers will want the lower prices but also won't want to see swings in prices."

"On the consumer side I want to make sure the lights stay on … so yes I think National Grid is incentivised to do that at the lowest cost option whilst considering risk … that's a good, more standard, business approach."

Specific mechanisms

Suppliers were the most engaged in the detailed debate about uncertainty mechanisms, as they are most familiar with them and they already appreciate the impact they may have on their businesses.

Q: Is the range of the uncertainty mechanisms proposed appropriate?

- The range of mechanisms is thought to be about right. Stakeholders on several tables believe that the mechanisms should be reviewed during the 8 year RIIO period.
    - At a number of tables, the stakeholders were keen to learn about the detail in each mechanism, in order to enable them to judge whether it was appropriate; others felt unable to comment as it wasn't their area of expertise.

      "The devil's in the detail … but there's nothing on the list that looks like it shouldn't be! National Grid are free to propose what they want, but it needs to be regulated … This conversation needs to be repeated once the prices become clear!"

Q: Looking at the specific uncertainty mechanisms, is there anything unexpected here?

- Various stakeholders questioned the coverage of the mechanisms - whether an issue was already covered, or whether it might need its own mechanism, these included: achieving/not achieving planning, anticipatory investment, stranding risk, undergrounding, regulatory changes, EMR, governmental policy changes, smart metering impact, demand-side response and beneficial innovations (e.g. halving the cost of dynamic line ratings).
    - Some stakeholders were surprised that the impact of offshore was so small.
    - A couple questioned what was included in RPE: just copper, or also aluminium, steel and manpower?
    - The timing on notification of reopeners that affect the price control was queried by one supplier.

      "With regards to reopeners, the earlier we can get information that a price control is going to reopen really helps us... The early warning that it is coming is important, regardless of the scale… T+2 is better than we have currently, but the sooner the better. If we knew at the point you were going to Ofgem … that buys us some time."

Q: What other mechanisms could be appropriate?

- No other types of uncertainty mechanism were identified as more appropriate than the range proposed.

Q: What is your opinion on the number of uncertainty mechanisms outlined here?

- Most people were broadly comfortable with the number of uncertainty mechanisms.

  "Well I haven't seen any I would cross off … the only way to reduce them is to lump them together."

  - A few people thought there seemed *"quite a lot".* Others suggested the number reflected the large number of risks. One person pointed out that it was *"good that the re-openers don't have to re-open everything."*

Q: What impacts will these uncertainty mechanisms have on your business?

- The key impact that is widely anticipated is increased volatility of charges, particularly unexpected price rises. This is a significant concern for many suppliers (and some other industry players); they are concerned they will have to manage large increases with their customers and domestic consumers, whilst consumers are looking for stability and fixed prices.

  "It's a real issue, with volatility, larger businesses are seeking fixed contracts over a long period, so volatility is clearly an issue over that time … Invariably it ends up being more expensive."

  "National Grid's system charges recover around £1.3bn, so it makes a huge difference, even with a small percentage change on figures."

  "There's not a lot we can do to manage your copper risk, apart from taking it on the chin, so we can all try and put the rate of return up in a highly regulated business. We can't do anything about it, and so it will lead to higher costs to the customer."

  - Offshore revenue is a particular concern for some, as its impact on charges is difficult to predict. One stakeholder with an interest in renewables questioned how this industry could help National Grid with clearer signals of its commitment to getting connected.

"Offshore revenue when it comes will come – the more and more stuff you build in, the trickier it becomes, it's hard for companies to work out things. You haven't got a choice but to put a major risk premium on your customers."

- A few stakeholders didn't expect a direct impact. Another network company felt his business was insulated by its own uncertainty mechanisms (commenting that they were exposed to less uncertainty than National Grid). A contractor was more interested in ensuring transparency of the investment programme as it changes.
- Some stakeholders at this stage started to discuss whether and how these increases and decreases could be averaged, levelled out, or some sort of adjustment applied. This was covered in detail in the next session on charging.

The risk model

Hêdd Roberts then gave a short presentation on the risk model, explaining how National Grid has modelled statistically the risks and uncertainties. This model helps to understand and assess the impact of the uncertainty mechanisms and management responses on National Grid's financial performance. It indicates the changes that might result to load and non-load related CAPEX, OPEX and the outputs – and hence the potential impact on National Grid's internal rate of return, return on equity, present value and cash flow. This helps National Grid to analyse the required allowed return on equity.

A simplified version of the model, based in Excel, had been made available for stakeholders to use to assess different combinations of uncertainty mechanisms.

Q: Have you had a chance to look at our risk model? What did you think of it? Is it a useful tool?

- None of the stakeholders said they had looked at the model, although one supplier had tried to download it.
  - Only a couple of suppliers and an academic thought they were likely to investigate it further.

    "I am interested in the risk model … I will have a go at it…we built something similar for distribution … it is very useful to be able to model the price control."
  - Most stakeholders thought it was not relevant to them; it was more a tool for National Grid's management and for Ofgem.
- Although few were intending to use the model, the stakeholders welcomed the transparent approach and the efforts undertaken by National Grid to share the risk model.

- Several admitted that they didn't understand how the risks of the uncertainty mechanism would impact the required return on equity.

Q: What can we do to make this more accessible?

- The stakeholders didn't suggest any ways of making the model more accessible, but equally none agreed it needed to be any more accessible.

3. Charging

The final session on Day 1 was devoted to a discussion on charging. Mark Ripley, Regulatory Frameworks Manager at National Grid presented on National Grid's charging methodology, Transmission Network Use of System (TNUoS) and Balancing Services Use of System (BSUoS) charges, locational and residual elements and how RIIO will impact on charges.

The objective of the discussion was to gain stakeholders' views on charges, looking at stakeholders' concerns and how to alleviate them, particularly in relation to predictability, transparency and stability.

Predictability and transparency

Transmission charging is important for a number of stakeholders, including suppliers; the regime will shape the network and the market for years to come. However, stakeholders have different levels of experience and resources to dedicate to charging.

It is vital to bear in mind that only a small number (around five) of people at this charging session could be described as 'experts', with charging a large part of their day-to-day role, most of whom work for the large generators/suppliers. These stakeholders were already aware of much of the detail regarding transmission charging; some model revenues and forecast charges for their businesses. Several keep informed about transmission charges via National Grid's Transmission Charging Methodologies Forum, plus the Charging Issues Standing Group and the Ops forum. These experts wanted to examine very detailed, technical issues.

A second (smaller) tier of stakeholders is also profoundly affected by charges, and want to understand the plan, but find it hard to dedicate the time and focus to understand the complex charging regime. These include investors, wind farm developers, some academics and consultants, and those at smaller, more entrepreneurial organisations.

Many other stakeholders have at most a limited interest in the charges, for example contractors and technology companies; it is just one industry issue they need to monitor.

At each table 1 or 2 stakeholders who have a deep understanding of charges, debated technical details with the National Grid experts, while some less informed stakeholders used the session to develop and clarify their understanding of the system and planned changes.

Q: Are predictability and transparency your key concerns in relation to electricity transmission (TNUoS) charging? In what ways does it affect you?

- Predictability and transparency were agreed to be major concerns in relation to electricity transmission charging. Transparency is viewed as a means to predictability. Long term stability would be the ideal, it would simplify charging and inform investments decisions.

"It is always more about predictability and transparency [than stability]."

"We are open to risk by getting it wrong - which is why predictability is more important than stability."

"The gold plated solution is stability, but it's not possible. If it's [at least] transparent, you know [what to expect]."

- Views on the relative importance of stability and predictability varied between established users and new developers. For many stakeholders, the ideal would be stable prices, but most accept that this is not realistic, and the more experienced anticipate that any period of stability would be followed by a correction. More generally, predictability and transparency are seen as the best achievable alternatives, aided by the improved communication seen in RIIO.
    - Charging experts at the major suppliers are looking for detailed data to put into their pricing models, for the next few years, and are keen to set fixed price tariffs. Developers are looking for a clear understanding of the charges they must factor into their financial projections for new generation plant over the coming decades.

      "Predictability and transparency go hand in hand, so we can forecast future charges and transparency so everyone in the market has the same view about what charges are."

      "Size and stability is the big one for us. When we prepare financial models for the project, we need to be able to forecast. Predictability and transparency are important too. It carries a huge weight in the value of the project; we make our decisions over 20 years."

      "From a supplier point of view… this does stop us offering fixed price deals … This is a very real issue… Transparency is an enabler to predictability… BSUoS is more of an issue than TNUoS as you have no period of certainty with it, at least with TNUoS you do have certainty."

- For other stakeholders, charging predictability is complicated by the uncertainty resulting from new industry developments. Some see a role for National Grid to help to educate and update stakeholders around charging issues such as TNUoS and BSUoS, localised vs. residual costs, the capacity mechanism, k factors, T+2, along with newer variables such as fast/slow money, TransmiT and Offshore charges.

  "The problem with offshore is that it is evolving … if we were connecting new kit into existing it would be easier ... but it's not evolving quickly enough … We have two or three decisions on how we go re. operations and charging."

  "We do face a period of uncertainty whilst markets and charging play themselves out … when we may find different charges arising as a result … We would like as much clarity as soon as possible."

  "National Grid works very hard to inform and educate through TCMF… National Grid should publicise it more."

  "With RIIO, TransmiT, etc. going on and all the various changes, there's a big need for National Grid to go out and do national training and the awareness thing again."

  "Should National Grid do more in the Ops forum? ... [for] BSUoS they now do a forecast each time ... it hasn't been very accurate but it's reasonable."

Q: Changes to tariffs can be caused through changes to the methodology that dictates how tariffs are calculated (e.g. through Project TransmiT), changes to the inputs to that methodology and new products being offered. Which of these factors are of most concern to you?

- There was no agreement as to which elements are most important. There was a feeling that they were all important and to an extent all will concern and/or impact stakeholders.

  "You can't treat each of these as independent things. It is a whole picture."

  - However, at most tables, one or more stakeholders stressed that they cannot comment in detail on charging until the outcome of Project TransmiT becomes clear.

    "Right now the biggest uncertainty is TransmiT and until that is sorted it makes no difference, as we don't know what tariff we are putting this information onto."

"There is merit in Ofgem sharing the burden on this. The TransmiT methodology is something that Ofgem is leading on. National Grid is about the absolute charges, but the methodology comes through TransmiT which is Ofgem. Will there be an explanation of how the new charging methodology has been arrived at and the implication of that across sector and across the country?"

- Some stakeholders pointed out that it's the total package of charges that matters, and (for example) they must pay both TNUoS and BSUoS charges, and BSUoS is inherently more volatile, plus locational charges are complex.

  "We have focused a lot on TNUoS. BSUoS is by its nature volatile. While the MBSS report [Monthly Balancing Services Summary] is useful, it would be helpful to have more information on how that is compiled."

  "One issue that is quite complex is the locational charge. This will get worse with offshore and needs to be addressed and information provided."

  "Trying to read the generation mix is difficult. We're working out a design configuration for the future … seeing how the capacity mechanism is finally settled on."

Q: Charges are made up of a residual element, changes to which alter the charges all customers pay, and a locational element, changes to which change the relative signals between customers. The predictability of which of these elements is most important to you?

- Opinion was split on the priority for predictability, between residual or locational cost elements.

  - For those investing in generation, especially offshore, locational costs are crucial. These can be very high, but something that the developer can influence, by deciding where to build. However, some stakeholders are concerned about the 'black box' model that dictates locational charges, particularly how one group's charges are affected by others' decisions. One questioned whether any information was available about how locational costs influence where generators are built.

    "For us, the locational element part is the important part. If we're working in a far flung part of the country we will we have to pay more … And for offshore developers this is even more of an issue."

"I should be concerned about wider works (which I ignore as they're socialised under TNUoS), but I'm more interested in local enabling works – this has more effect on my Business Plan."

"We need earlier information to make a decision about location. When forecasting locational charges, we take a view about demand and assets in an area … in terms of in a tight area and your generation tips it over. What is the default reaction – in the new regime, will it review other options to building? You are giving transparency for a pre-baked methodology, but generators want to understand the reason for the cost, and how this option has been chosen."

"It is important to remember that stuff that happens on the other side of the country might impact on your charges … and it isn't controlled by anyone. It is the way it is, but it appears unfair. You have no influence over it."

- However, for other stakeholders, the balance is irrelevant; what is important is the total cost they must pay, and the level of predictability.

  "As a customer – you can't pick up and move. You can only close."

  "If you are interested in fixing your charge you are not bothered if residual goes up or down or locational goes up or down. If you are taking it and it's fixed, then you have a perfect forecast of it ... People like to fix so they can fix outputs … For transparency, I think that for the locational element there is a lot of info out there … as you have got the model, you can add generators into it … as a big player with analytical results we can do that whilst others may not have the capability."

- There was also a debate about residual values and concerns over how these can be recovered.

  "How important is residual to generation? It's not an energy based charge; it's a capacity based charge, so it can't be passed through."

  "You still have to recover it as part of long run charges."

- Some comments were made in relation to the way that National Grid looks at the need for investment and how transparency of data could affect the market.

  "The trouble is that National Grid look at what assets are there (in theory) to do, rather than what they actually do."

"We are nervous about National Grid using information that isn't published information. Contracted capacity should be the only thing that is out there."

Q: Do you have any suggestions as to how we can improve predictability/transparency? Can we do more to help you understand and predict transmission charges? How should we change things?

- Predictability and transparency are seen to derive mainly from information sharing, in a pre-planned way. A combination of more detailed information, pre-set timings for price changes and a consideration of fixed price products were proposed.

- The main suggestions were:
  - Publish more detailed information, e.g. quarterly forecasts, for expert users.
  - Publish simpler, more transparent numbers for other stakeholders, e.g. cost to consumers, predicted ranges of charges.
  - Set pre-agreed timings for changes to charges, with longer notice periods for any changes and bands of charges. Ensure timing fits with suppliers' price changes.
  - Consider fixed price products, such as a fixed price access product for generators.
- A key request from the suppliers was for National Grid to publish more detailed regular information summaries, similar to the gas quarterly updates, and those of DNOs. A range of very specific comments were made at different tables.

  "The more information and reporting, the better. It will help us to know what the revenue will be for the period; what is really going in for generation background. At the moment we may know things, but we have to forecast what we think National Grid will be forecasting."

  "What would help? A quarterly summary report on key drivers in advance of the indicative tariffs or final tariffs."

  "Electricity transmission gets least information about revenues … in gas they do get quarterly reports of revenue forecast for the next 5 years … there was a first step towards that … [For] gas we get that quarterly for distribution, forecast for the year we are in and for the next five years for what allowed revenue will be – it always breaks down for each licence item."

"You [National Grid] are in the best position to give indicative charges as you have the totality of the information … we can run a charging model … you need a situation where in good faith you can do good predictions but you don't want to be punished if in a year's time a project goes wrong."

"I don't have a problem with the amount of information that is available I'd just like a bit more in way of forecast without prejudice."

"You do provide a model for the current year, but do not provide input for future years."

"As a business we can forecast what generation is doing, so we can run the TransmiT model itself. What we can't replicate is National Grid revenue and what is happening in your business. Give a forecast including a breakdown of fixed and forecast elements – RPI price effects etc. … which is what every other network does."

"On BSUoS it would be helpful to have costs and volumes as well as just tariffs."

"Our biggest concern is talking about fixing charges; what access product do you have? It might be desirable for some plants to have stable charges and not others."

Volatility

Q: Do you understand how RIIO makes revenue recovery and thus charging more volatile? What are your views on this increased volatility? How would it affect you?

Q: Is stability of charges an issue, providing it is forecasted and predictable? Are you happy with transparency being addressed – is that enough to offset the volatility?

- Many stakeholders appreciate that volatility will increase, in part due to supply and demand, but also due to the uncertainty mechanisms in RIIO. Some stakeholders less familiar with charging were not aware of the level of volatility associated with RIIO before this workshop.
- The key impact is making planning more difficult; for developers this affects investment in infrastructure assets, suppliers' concerns are consumer bills and fixed rate tariffs.

- Stakeholders acknowledged that prices may remain volatile but stated that in order to best accommodate this volatility, they need to be able to predict prices and they reiterated their call to National Grid to facilitate this through increased use of forecasting. Support with predicting the long-term shape of charges would be helpful.

"My impression is that RIIO will mean the charges passed on will be more volatile. The impact of volatility is the same for any business … it makes life hard for planning and investment, especially for infrastructure assets. It depends on the contribution of the charge and the relative importance to scale."

"Will charging become more volatile? … We accept that is how it is. We acknowledge it is there and we have to accept it. From a feedback to Grid point of view … there is so much uncertainty behind this in terms of TransmiT and T+2, so we can't conclude."

"Scenarios are very helpful to understand what it means, but I will chew on it [the revenue projections in the scenarios] before expressing a view."

- How would volatility affect you?

  "Any short notice period given on charging methodology [changes] has a significant impact on every supplier."

- Transparency is again seen to be very important to stakeholders as this helps predictability and, to a certain extent, reduces volatility.

  "We need to continue with the existing dialogue."

  "We need regular reporting on all the key points and what will change revenue."

  "We need more information about the fast and slow money."

- But it was also recognised that there may be difficulties in making the relevant data available.

  "The problem is getting the base data – there are significant confidentiality issues."

Q: Would you want to see more smoothing of the National Grid revenue recovery? What is the balance that should be struck between smoothing and cost reflectivity?

- There was a debate about whether revenue recovery should be smoothed.
    - Some felt that some kind of smoothing/fixed price would be helpful and make charges more manageable.
    - Some stakeholders (particularly those with a long experience of pricing and/or previous price reviews) have concerns about fixing charges, as this can make it difficult for other customers.

"It is like squeezing a balloon. Fix it for someone and you can't fix for someone else. Or else you go for some sort of hedging, that doesn't squeeze the balloon."

- A compromise was sought between short-term stability offered by smoothing, followed by sudden shocks.

  "Some smoothing would be good; if you know your revenue for the next 8 years – you can smooth some of the changes. But what happens when you get to the end of the 8 years; [you] could be staring at a cliff face! Maybe a combination is better. People can live with some change."

- Stakeholders expressed most concern about in-year changes to charges. They say these are incompatible with suppliers offering fixed tariffs, and need an agreed timetable of changes, plus of smoothing, and when changes will be seen.
    - There was debate about whether the management of any under/over recovery via 'k' could be pursued; it was generally agreed that to be carried forward, the current approach would have to change, especially timing of recovery.

      "The issue is the extent of carry over that can be accommodated. Realistically 'k' may be something that could be pursued."

      "Is it possible to spread 'k' over a number of years, over the price control period?"

      "We have some reservations on the extent of any under-recovery."

4. SO/TO Interactions

David Wright, Electricity Network Investment Manager at National Grid introduced the System Operator/Transmission Owner (SO/TO) session. He stated that the network required by customers in the future will not just be a continuation of the past, explaining that National Grid is actively considering how to meet the challenges of the next ten years. National Grid plans to use a balance of investment and other approaches to release capacity on the system – it is actively considering how to weigh up increased risk of unreliability and/or constraints against deferred or reduced capital investment in assets. Where assets are required, the case for wider works will be set out as part of the needs-based case.

The objective of the afternoon's discussion was to gain stakeholders' views as to how risk of unreliability and constraints should be balanced against a need for investment in assets.

Smart operation and targeted N-1

The first presentation was by Lewis Dale, Regulatory Strategy Manager, who gave an overview of smart operation and targeted security. He explained that stakeholders had previously expressed a desire to maintain reliability, make best use of assets and explore targeted N-1 further.

The objective of the discussion was to gain stakeholders' views as to whether any issues had been missed, and how risk and investment should be traded off.

Q: Are we missing any issues and / or actions?

- No major issues or actions were consistently thought to be missing across the groups of stakeholders. Each table highlighted different issues and potential actions that they thought should be considered when balancing risk and investment.

    - Alternative solutions - Stakeholders recognise that the network faces big operational challenges, but one table were concerned whether anyone has questioned how else the problem might be solved. One stakeholder thought consumers should be incentivised to manage their demand.

      "No one has questioned how else the problem might be solved. Everything is predicated on investment and that the consumer will pay … We may need to test willingness to pay … And what is here in 2020 that wasn't in 1990? Wind. What other solutions are there?"

"Curtailment isn't necessarily a bad thing at the right price. Industrial demand is responsive. It is the domestic [demand that isn't] … get them the right incentive … and that fixes that."

- Another table discussed alternative scenarios with National Grid.

  "How many scenarios have they really looked at in meeting Gone Green? There are many other options and scenarios … There might be a case for bringing power generated from thermal sources which wouldn't have to come from Scotland. Have they done many variants around this?"

- Some stakeholders wanted to clarify whether N-1 is being considered as a temporary measure or a permanent change. National Grid said it is being used now and could become more widespread.

  "Is the move to N-1 a temporary measure or an enduring solution? Is it an alternative to investment in more infrastructure / lines?"

- VoLL (Value of Lost Load) – The opportunity for demand side response was discussed at one table, with National Grid helping to clarify the issue. The VoLL for a 'voluntary' decision made by an individual/aggregator to drop their load was anticipated to differ significantly from a 'non-voluntary' VoLL, e.g. the value/cost of the whole of London going black.

  "You'd need to do this on a case-by-case basis … Everybody has a different value for risk … to turn down non-essential loads"

- Analysis of cost per customer was suggested.

  "What is the trade-off between the costs of building and the savings per year on each customer's bill?"

- Changing tolerance for risk - Tolerance of loss of security is expected to change over time, as reliability changes. To date UK power disruptions have been very limited, but as they increase, tolerance for loss of security will change – National Grid pointed out that there's evidence of this from California, Italy, Fukoshima and Korea.

- Wider risks – One table suggested this risk must also be balanced against other sources of risk, such as disruption in the distribution network.

- EU impact – The role of interconnectors in this will be determined once EU targets are clearer. Also, N-2 is the European standard; does the UK have to respect regional security standards? Could the EU restrict the UK's use of N-1?

Q: What views do you have on risk trade-offs?

- Stakeholders generally agreed with National Grid that risk trade-offs must balance meeting customer requirements (for reliability and security) against costs (including the constraint costs that the industry will have to fund). Others described this slightly differently, as considering alternatives in terms of the best value approach, best response to needs and overall cost-benefit.

- At each table, stakeholders stated that reliability and security need preserving (no one dissented).
  - Understanding and measuring risk is a priority. A number of stakeholders said they would like to see a growing body of evidence built up by National Grid to understand N-1 reliability, the risks involved, the cost implications (including constraint costs) and any wider ramifications not envisaged.

    "We don't yet have enough information to be able to make this decision [re N-1] … whether it's appropriate … and like having different VoLLs, everyone may have a different risk propensity…"

    "Until someone experiments with this for a few years- until it's tried on the network there isn't much we can add."

  - At some tables, stakeholders said that risk trade-offs are a judgement call and that ultimately National Grid should simply lay out the method by which it has reached its decision. Although many felt they did not have the expertise to judge, they felt it is important for them to understand any changes to the risk profile resulting from these decisions.

    "We need to be clear about the methodology – what are the different risks in different areas and the different costs associated with those risks."

  - Some stakeholders highlighted that it may not be possible to apply the same trade-off across the country, or to different means of generation. For example, nuclear has unique safety and security requirements.

"There is a flat rule of thumb that may not be appropriate for the whole of the country."

"A loss of a mega-Watt is serious in wind, but the wider network needs more reliability. Almost all wind farms are on a single circuit, but this is very different to the cost of a bigger double circuit down the line."

"Renewables businesses in Scotland will look to recover energy that they can't sell … that needs to be factored into any solutions."

"I'm concerned over the security of nuclear stations … existing and new nuclear stations."

- At this stage, a few stakeholders believe that the risk trade-off is more favourable for N-1 as a temporary solution, to get over immediate operating issues, rather than as something permanent.

"If you are proposing this as an enduring system, increasing loading on the line … I'd have concern about using this on a long term basis … I can see the benefits of it on a one-off basis but the next time you don't have that option."

"Reinforcements … you can't just deliver them quickly ... you may find this deeply smart grid type approach is useful then you build up again … it may be a tool that you use in and out."

Q: What will be the impact on you?

- Most stakeholders would be happy for National Grid to make more use of the lines through N-1, as long as there is no impact on reliability.

- The potential impact on different stakeholders will depend on their propensity to be exposed to risk, driven by their role in the industry.

"It depends on who you are. Ask a generator and they will always say they want maximum reliability. Ask someone else and they will opt for a lower cost/high risk solution."

"Most transmission lines used are nowhere near full capacity. This means you can run the kit more efficiently … so as a user I'm happy."

"As a supplier of energy to users, the downside for us is when the consumer gets annoyed with us. So it is the trade-off. We want high reliability."

"We don't want lower reliability. If you pass more power through and have more reserve in England…we have shown you can utilise the network more in that way, but you can keep the reliability the same. There are cost implications, though."

Q: Does this strike an appropriate balance between reliability and freeing up capacity?

- Most stakeholders are broadly comfortable with the balance between reliability and freeing up capacity, as it was defined at this stage.

  - Some stakeholders are reassured that this will work given the experience garnered in other parts of the world. Others would like to see an international comparison document.

    "You use it [N-1] to a limited extent"

    "They should do an international comparison and publish it."

  - However, as already discussed, a number of stakeholders are looking for more data from short-term use of N-1, to understand more about how moving from N-2 to N-1 will work in practice before wider implementation.

    "If you are going to reduce to N-1, for a period the network will be less reliable. You need to tread carefully to ensure you have mitigation measures in place for when problems occur and a measure for assessing how consumers value reliability on the network. Obviously it will reduce costs, but it must increase risk. There is a need to capture/record that risk. Lewis mentioned specifically the Anglo-Scotland boundary … I wouldn't be too comfortable with it being expanded greatly … We should review after 6-9 months."

    "We have talked about the dangers of unwanted interaction between these clever things. This needs to be taken account of. Putting something really clever in one side of the country can launch problems at another side of the country.

Q: We believe that operating to N-1 when conditions allow rather than investing to allow operation is an efficient trade off, do you agree?

- There was general support across the room that targeted N-1 is a good option, with the caveat that reliability must be maintained. It is definitely an option that National Grid should weigh up against building assets, but before each implementation it is important to look at the balance between the risks and costs of transmission build and/or constraints.

  - N-1 is seen favourably by most stakeholders as a temporary fix.

    "It is a big enhancement on an engineering solution"

    "It recognises the risks, consequences and human factors – rather than trying to engineer them out"

    "I've absolute support for this … it's not a temporary measure, but the beginning of the new world … It's a beginning of what a smart transmission system should look like in the 21st century"

    "I think there is great potential in the idea ... it would be good to see some numbers on the benefit of this … it sounds very promising. ..Some studies on UK N-2 demonstrate that we are in a mal-operating system."

  - On two out of four tables, some stakeholders proposed that N-0 should also be considered.

    "You can go to N-0 if you have sufficient confidence to resolve any faults. Occasionally that happens, for example in Wellington"

    "I'm sure they can do better than N-1 – in many countries they are going to N-0. It is about understanding risk. I give my full support, but you could go further. We need to think N-1 or N-0. It doesn't have to mean more risk if you have the right counter measures. Think about corrective and preventative control."

What does Smart mean for Transmission?

Andy Hiorns, Future Networks Manager at National Grid highlighted areas where the transmission system already implements smart techniques to manage generation and demand, both through its design and operation. He outlined the Electricity Transmission Strategy, designed to meet the challenges posed by the next ten years and the RIIO framework. Andy gave an overview of the R&D pilots underway and the new technology being implemented, plus an analysis of the impact a smart network has on stakeholders.

The objective of the discussion was to gain stakeholders' views as to how smart the network should be and which approaches should be pursued.

Q: Do you agree the transmission system is (already) reasonably smart?

- Most stakeholders accept that the transmission system is reasonably smart. However many stakeholders see scope for it to become smarter still, and see this as a priority.

    - One stakeholder said the definition of smart should be combining power with communications, which is being piloted in the Humber Smart Zone.

    - Another compared the UK with other leading countries.

      "Let's take 10 other countries – in comparison we are in the early stages."

- Most stakeholders agree that the network must continue to improve to meet the big challenges that are coming. However, stakeholders made diverse suggestions about the priorities, e.g. implementing N-1 and ensuring constraints on wind generation are removed.

  "I do agree it is smart … but until the R&D inputs come through the system you can't do anything till then … I know Imperial is working on this … it's about finding the easiest route to innovation … perhaps using Targeted N-1 where resources are already available … There is going to be a cost benefit question about proving this new technology."

  "I guess I would say is it smart yes … could it be smarter? If we're constraining wind on the system, then it needs to be smarter."

    - The issue of the cost of making the network smart was raised by several stakeholders. One supplier is very concerned about this cost. Another stakeholder said that the cost of making it smarter needs to be balanced against the total cost of not making any changes, whilst a third stakeholder said it is smart to minimise costs and not being smart is very expensive.

"It is extremely smart, but has cost us quite a lot to get where we are, but I'm afraid it will be even more costly and I don't support that."

"A failure to incorporate new technology means more constraint costs which are socialised … If Ofgem is saying change things in view of changing generation … I do think that making the system smarter is a key part of RIIO … Lower costs of operating … It's all got to be positive things that come out for the consumer … As long as it's managed."

Q: Which approaches do you consider relevant/important/likely to bring benefits over the next ten years?

- There was a widespread feeling that all the proposals made by National Grid are sensible.

- A number of specific approaches were discussed, including trials to demonstrate very clear user benefits and/or operational efficiencies.
    - One table anticipated that a smart network may need less additional investment in assets, which may mean fewer planning issues.

      "There must be benefit in looking at things where engineers say it will help with the challenges. These must be trialled and investigated – which is low risk to company and consumer."

      "Identify the value of what we are going to see from some of these things over the next price control period and demonstrate the benefits."

      "In a lot of cases the secret of smart is going to be the fact that technology just gets on with it, you give it permission to do it."

Q: And which approaches do you consider to be irrelevant/ unimportant/ unlikely to bring benefits over the next ten years?

- Most stakeholders felt that National Grid had identified the right priorities – most people didn't highlight any approaches unlikely to bring benefits.

"They'll all bring benefits; they'll all bring good stuff."

- A few specific issues were mentioned:
    - There was a debate on one table as to whether series compensation would bring the anticipated benefits or not.
        - A stakeholder thought there was a risk resulting from the complexity of the new IS.

          "Increased reliability on IS…Not the catastrophe that it won't work, but that you have to do more modelling to test it against the myriad of scenarios you might face on this."

Q: Have we missed anything, e.g. is there technology that we are not considering but should?

- No important technologies were thought to be missing from National Grid's plan, but a couple of wider points were raised.
    - Two tables emphasised the importance of looking at experience elsewhere in the world, including technology transfer from National Grid's US operations, and especially countries in which there was pressure to connect but where assets were not built.

      "In South America Brazil has been running real time managed schemes where connection in case of a fault can be changed in seconds. The UK is not in that position."

      "In Germany a lot of wind use was connected with no reinforcement."

      "If users in Canada are getting better value than we are in the UK, Ofgem are not doing their job. We need to know, are consumers getting value for money?"

- A number of stakeholders questioned whether more focus on the 'big picture' issues by the regulator, government and the industry could obviate the need for National Grid to implement so much smart technology and/or constraints.

    - Two tables suggested that more use could be made of the market and demand management/ response solutions, including 3rd party demand aggregators.

    - Another issue discussed at two different tables was how the smart work at the Distribution Network level can be complemented, perhaps using tele-switching regimes and storage. Some suggested that the regulator should incentivise this improved co-ordination, as it is outside of RIIO.

    - A generator commented how he had lost generation to keep the boundary stable. At another table, a stakeholder debated whether a market solution, with improved generation signals and more sensible locational decisions, may be smarter than a technical network solution; National Grid suggested that this is a 'UK plc.' decision.

      "We don't have the right kind of generation operating in the right places…it goes back to the earlier point about developing thermal generators near to major conurbations."

      "It only needs to be smart because we're in a bad situation, because we need so much compensation. Do we get signals right about generation? It might mean we're not forced down this road. Transmission charging has a locational element. National Grid is forced to play 'catch up' to cover decisions made based on locational decisions, but it's not ideal."

- A few stakeholders saw a risk that the focus on smart technology may distract National Grid from building assets when they are needed, or solving problems with locational services. National Grid reassured them about this.

Planning wider works

Hêdd Roberts, Price Control Commercial Manager at National Grid presented National Grid's proposals on wider works, to accommodate stakeholder requests regarding anticipatory investment. Hêdd outlined the generation and demand uncertainty and the proposed decision-making process, including the ODIS offshore scenarios. He explained how the options would be analysed using the least regrets analysis and how the process was proposed to become a part of National Grid's Network Development Policy.

The objective of the discussion was to gain stakeholders' views on the proposed process.

Q: Do you think that we have chosen the most appropriate mix of RIIO-T1 methodologies for reflecting investment in wider works? If not, what alternative arrangements would you propose?

- In general, stakeholders accepted the proposals; no one questioned the overall approach being proposed and several commented that *"it's difficult to think of a better way."*

- In this context, stakeholders discussed the specific details of the proposal.
    - The methodologies used are in line with the Ofgem proposal and the process is sensible.
    - Most stakeholders thought small pre-construction studies may waste small amounts of money, but are worthwhile (although what exactly is included is still unclear). One stakeholder was concerned TOs might be incentivised to conduct numerous studies.
    - It is felt to be hard to get the balance between being too early and too late, although the stakeholders couldn't think of a better alternative. One stakeholder suggested late may be preferable.
    - It is important to be clear and objective about how success will be measured, i.e. whether the asset was needed.
    - There remain questions over where the base lines have been set.
    - Least regrets analysis is seen as an appropriate tool.
    - The implications of Connect & Manage for generation requirements and constraints must be considered.

      "Of course it is the right direction. This is about if National Grid is spending a little bit more, they should receive some money back, out of what is already approved. But the problem is the measurement of success isn't very clear. What if they decide to build HVDC, and then they claim the money it is out of the plan? What is the measure of success – you need to measure that it is actually needed."

      "But what will pre-construction funding deliver. Have you got finalised planning work through?"

"How do you develop and implement such an arrangement without incentivising TOs to go out and do lots of studies even if they never go ahead? … What is incentivising you to go out and get on with it, whilst keeping it efficient?"

"This is so big, it might be better to build it too late than too early; once it is built there is no going back. If it has to be delayed, we can always cope with some curtailment while we wait."

"In terms of least regrets analysis, it is a simple way of demonstrating that decisions have been made based on information available at that time."

Q: Do you have any comments on the ODIS future scenarios stakeholder engagement process?

- Stakeholders discussed the role of ODIS in identifying scenarios; most agreeing this was a sensible way forward.

- Few fundamental objections were raised, but there are a number of specific concerns that need to be resolved.
    - The ODIS scenarios will need developing, if they are to be used to assess and justify major strategic investments.
    - Some stakeholders are concerned as to whether the ODIS scenarios are consistent with the scenarios from DECC, ENSG (Electricity Networks Strategy Group) and the seven year plan; this needs to be resolved. One stakeholder suggested the seven-year statement may be a better vehicle for setting out scenarios.
    - The issue of how emerging scenarios, such as demand response, should be incorporated and National Grid said it would consider this further.
    - A few stakeholders discussed their concern about using Gone Green as the base line with National Grid, with one stakeholder wondering how the option values could accommodate moving from one scenario to another (e.g. Gone Green to Accelerated Progress).
    - A stakeholder worried that the public may not understand the scenarios, or why electricity suppliers must charge them for building this infrastructure.

      "If the scenarios at present are there as informative information for ODIS, then fair enough. If they are moving to become a main driver of investment activity, you need more in terms of sensitivities in them around investment."

      "The scenarios have their roots in offshore, but these scenarios are going to move much more centre stage … they will need to be more consistent with other scenarios such as DECC's. So scenarios will need more worth placed upon them and to shift into the centre of National Grid's business."

      "Why does it come from ODIS? The other alternative is the 7-year statement – a better vehicle for setting out scenarios."

"An example for an alternative scenario I'd like to see considered is the HVDC link ... Other options of building onshore overhead lines to various parts of the network with relaxed N-1, with harmonisation of the DNO network, integrating that with transmission … Instead of going off-shore, take the AC route onside onshore … an ACDC transition point."

"I think that we haven't hit it right with Gone Green … we can do it for less. ENSG - I want that to be revisited and linked, coordinated and communicated to the public."

"Gone Green is not necessarily the best base case to use; I don't know what the unit costs are going to be for that scenario. It feels as though we are paying too much."

"I'm not sure that this [ODIS] is well communicated at the moment. Does the public know what is in this? [Suppliers] have to collect the money from the public for the network operators … to take the money from them, to give to the NOs, to build wires into Norway. We need public education."

Q: Do you agree with our proposed approach to identifying, optimising and triggering wider works in a timely fashion?

- The stakeholders strongly support the two-stage approach to identify and assess reinforcement options. The stakeholders gave a *"ringing endorsement*" for accelerating pre-construction work and also providing increased transparency of the process. They acknowledge that it may mean some pre-construction money gets wasted, with a few thousands of pounds spent on academic studies to inform this.

- A few issues were raised and then discussed with National Grid at this stage:
    - Can the consumer bear the higher cost, particularly as a re-opener? We should ensure we look at the lower-cost options.
    - How will National Grid decide on the options and how will it measure success?
    - A stakeholder asked if National Grid, DECC and industry might agree baseline scenarios, because a consensus on the minimum should speed things up through the price control.
    - Are National Grid and others double counting with other risk trade-offs and uncertainty mechanisms?
    - What might operational measures cost and have National Grid and others made sure there is enough money? Are the operational benefits included in the cost-benefit?

"What was encouraging was that whether you agree or disagree with the build, if you decide it is needed, you're accelerating pre-construction work, so if you decide you need to, you can get on it quickly. I give that a ringing endorsement."

"[Do you agree with proposals…?] Not fully … I think we should examine a little more the lower spend, rather than just high spend … Can the consumer bear that high cost? Have they considered future incomes projection? I want to see more options on the table. There's a long delay on the HVDC, so we should look at cheaper alternatives. It needs fine tuning. It might mean spending an extra 10K on academic studies to inform this, but that will be very worthwhile."

"The re-openers as a supplier/generator do cause us a problem … especially if we have to reopen with our customers … and they are always re-openers upwards ... It hits us ... We don't like re-openers being used too often."

"Maybe if we go N-1, maybe you don't need the 2GW … tricky for how you decide the different options without the request from the generation side … and it goes back to how are you going to measure success."

5. SO Investment

Nigel Williams, Electricity Operations Manager at National Grid presented the proposed electricity SO plan, to replace ageing systems and enhance capabilities. He presented an indicative timeline of key change drivers and challenges, and explained why the SO systems require investment now. He gave an overview of the programmes, and explained the hybrid approach to increase staff and improve IT systems. Nigel summarised the benefits that would be gained from the investment and the net BSUoS saving.

The objective of the discussion was to gain stakeholders' views as to the benefits and timing of the plan, plus the mix of staff and IT system development.

Q: What are your views about the SO investment plans?

- There was strong and widespread support for the plan.
- The control room team is trusted and the investment plan was seen as sensible and good value for money. The challenges, the development of the network, smart and N-1, it all *"is predicated on having a sophisticated control room."*

  "It is all appropriate. Because of the numbers involved, I agree with all the measures, upgrades and studies. For the saving, it is good value for money and going along the right route. They seem to be doing a great job and long may that continue. I'm sure they'll come up with some nice systems!"

  "Basically the UK should have a state of the art control centre for the challenges that they are facing and I bet that it is going to be cheaper than building the network. All the stuff that they were saying about N-1, smart etc. is going to need this state of the art system. I think this is going to be much cheaper than building wires. This is getting smarter, trying to be cheaper."

  "You can't see it, but the value for money is there."

- Although the plan was welcomed, some specific concerns were raised by individuals and debated with National Grid:
  - Are there sufficient good engineers to deliver this?
  - Why aren't the systems already state of the art? They have been patched and fixed, but should be rationalised and replaced.

- The systems are not "open architecture."
- Is there contingency or a risk/reward scheme or re-opener, in case IT costs exceed expectations?
- A stakeholder who had looked at this issue in New Zealand felt that *"National Grid doesn't have any options. It's expensive, but IT is more often late, and this is a detailed analysis."*

  "People are a very important part of this; there's disappointing evidence from ground experience regarding salaries and the fact they are unable to attract or are losing good engineers."

  "This is seen as an upgrade from the existing system. Why aren't the systems already state of the art? Systems have been patched and fixed. There is a rationalisation of the system required; this would give an opportunity to look forward, rather than patch and mend."

  "The control infrastructure is supplied by three key suppliers. The system is not an open architecture system. This is worrying – and new smart applications can't be linked on the software because they would not communicate. For the smart grid application, that is a worrying thing."

  "Knowing the complexity and challenge of IT products – is there contingency built in or, for example, a risk/reward sharing that might be appropriate? Would you look to come back on a re-opener if systems costs start exceeding what was predicted?'"

Q: Is the timing of the SO investment plan appropriate?

- The timing is seen as sensible. There is a strong feeling that this needs to happen as soon as possible. However, some appreciate the need to phase the work.

"Timing ... Get on with it! This table endorses that … It might let you push back the big investments a tiny bit into the future."

"It looks like a linear spend needed to cope with increased capacity ... so yes, it's fine, the logic seems to be there."

"As long as it keeps ahead of when the operational challenges will come."

- A couple of stakeholders made specific comments on timing priorities, during detailed discussions of the proposed timeline and drivers with National Grid.

  "Balancing mechanism actions … if we can get that sorted, it is great, then we can put it into our power stations and it means we can start reaping the benefits right now"

  "SRD (Standing Reserve Despatch) needs a refresher, but I understand it's not such a priority"

  "I'm worried about timing. I can't say if it's right or wrong at this stage, especially in terms of where you are today, but what if the demand side accelerates? You will need to talk about it."

Q: Is the approach of balancing the mix of resources (staff) and IT systems appropriate?

- Participants agree that the balance struck by National Grid between investment in people and IT systems was the right one - the hybrid approach is the right approach, as long as the balance is right.

"We have to make sure you have the people to interpret the data."

"You will always need people as a back-up … I'm not saying it should be fully automated"

"The people seem appropriate … it seems sensible. I don't know what the age profile is of the control room but I'm sure they will need some young blood … so keep the knowledgeable ones and let the older ones retire ... It's a natural way of doing it."

"This is often an HR issue. The issue is with the people who have been doing the job for 20 or 30 years; you need to capture their experience for the next generation. Also there is a tipping point coming where the whole regime is going to change as there is a limit to how much people can achieve. It is about getting the mix right … getting the right people and the right systems ... Expect some resistance when it comes to de-skilling someone's job."

Q: How do planned / unplanned outages of our control room systems affect you?

- National Grid control room system outages have had a minimal effect on most stakeholders to date. Most stakeholders had limited or no experience of any control room system outages, and hold a general belief that outages are well managed and don't currently create issues. However, there is some sense that outages may be more frequent going forward, echoed by National Grid, if the systems are not maintained.

"At the moment it is fine. Our power stations haven't had many problems with it."

- A few stakeholders have been directly affected by outages (planned and unplanned) of the control room systems, which has impacted on their organisations. Planned outages are generally preferred, although they can affect hedging prices. Unplanned outages are a particular concern for nuclear generation.

  "The planned ones we get good notice of … the notification gives pretty good information ... and when they change, they are usually fairly good at keeping us up to date with changes … How will you manage IT system outages on an on-going basis – and will there be more of them going forward?"

  "Planned can be difficult because as information goes to the market, there are cost implications as we try to hedge supplies."

  "Unplanned is very difficult from a safety and reliability point of view."

- One consultant queried National Grid's obligations for IT back up facilities. National Grid said there were none, but it chose to run dual redundancy on key systems, which may need to be increased moving forward.

Q: Would outages in different systems affect you in different ways/to different extents?

- Most people had no experience of IT outages, nor any comments.

  "We have back-up systems and ours are manned. Even our renewable ones are."

- Only a small number of stakeholders had any experience or comments, with the affected stakeholders tending to be in newer parts of the electricity industry, such as demand response, new technology and renewables. They highlighted the implications of outages in the systems for wind data, ancillary services and SRD (Standing Reserve Despatch) - market and security implications.

"There have been SRD outages in the control room … faxes were used … faxes are a concern in this century … who has a fax machine? It's scary as a consumer if they say 'The SRD is down. We'd like to despatch, can you please do your thing?' Specifically about the SRD, it does the minimum it has to do most of the time, but it's 20 year old technology, it can't do beyond the bare minimum."

"Ancillary services like Black Start – how important is the availability of those services to you at National Grid? At the moment most of those are provided by generators, but this might broaden out, if you can ditch demand for an hour…"

"We have commented on some of the wind data systems – some of them haven't been highly reliable … we've had times when that data has disappeared – our concern is that it looks like wind is doing bad things when it is the data … we would like to see more transparency around that data given the importance … it doesn't allow for good forecasting."

"In relation to ancillary services – it wasn't clear from the presentation what tools are being used to manage a greater level of ancillary services providers, which I think we are going to need … interconnector variations ... wherever it's coming from, we need methods to deal with inertia , fault level in feed etc. – what's the management capability to deal with that? …. Benchmarking – there was a claim about wind forecasting being as good as in Europe I'm not sure I agree with that … Independent benchmarking might mean we can gain greater resources to do that better."

Q: Do the benefits identified from the investments justify enhancing the control room capabilities?

- Everyone who commented was in agreement that the control room enhancements plan is justified. There was strong agreement that it all makes sense and needs to start as soon as possible.
- The stakeholders said that with this investment, the control room will be improved with added IT systems and the ability to receive more information to do better modelling and forecasting. Enhanced control room capabilities would benefit stakeholders, including the end consumer, in a number of ways**.**

"It all looks good and the right thing to be doing."

"This gives a sense of long term strategy."

"Yes it all sounded logical … it's the first time I have heard that from Nigel … it's new information, the logic and understanding is there. I think the benefit is that the system will be managed better so that's fine."

"It's all pretty important. It will feed back to the consumer getting better value for money."

6. Customer and stakeholder satisfaction survey development

The discussion on the customer and stakeholder satisfaction survey development was introduced as an additional subject because National Grid wanted to obtain feedback on the work they have been carrying out with other Transmission Operators (TOs) to formulate a survey. National Grid outlined the reason for the introduction of a survey and highlighted the fact that this is in line with Ofgem's strategy document. Stakeholders were asked to give their views on who should carry out such a survey, areas for measurement, the frequency with which surveys should be carried out and who should be included in the survey.

Overall approach

- There was no great appetite for this survey amongst a majority of participants for a range of reasons. Some saw no value in it and were unclear as to what it would achieve, whilst others felt over-consulted already and emphasised that there are existing ways to provide feedback.

"They need to realise that a lot of things can be done through KPIs rather than customer satisfaction surveys. That at least is an objective measure."

"[I] might not be right but I don't think that there is a massive amount of value in the survey. I'd rather have a strict regulatory incentive between the two [SO and TO] rather than a survey."

"If I have a problem, I'll go to Warwick and I'll talk to somebody"

  - A handful of stakeholders could see the need for some form of satisfaction assessment, others emphasised that it was only worthwhile if it was 'genuine consultation'.

    "Avoiding escalating things with the regulator is good, and a feedback loop can help this – it can flag issues."

    "Can't just be a survey for survey's sake – they've got to do different things as a result."

- Some stakeholders discussed the role that the survey might have in determining an incentive for National Grid or another TO. However it was generally considered that an incentive might encourage the network company to skew the results and that therefore, it would be better if there was no incentive associated with the survey.

- There was some discussion over Ofgem's role in relation to the survey with some stakeholders advocating that they take a key role in overviewing the survey by: producing guidelines on the type of questions to be asked, providing information on best practice, auditing that the surveying is happening and that any outcomes are followed up on.
    - One stakeholder considered that the survey could provide material that would enable National Grid to usefully 'stand up' to Ofgem for example in relation to charging.
- A minority spontaneously mentioned the value of being able to give National Grid feedback, for example when they have problems with their Account Manager. They considered it best to be able to provide this type of feedback through a website or telephone line rather than a survey.
    - Further to this it was considered important that any survey / feedback is handled sensitively to ensure relationships remain good even when feedback is negative.
    - One table raised the possibility of customers feeding back to someone at National Grid who was not their account/relationship manager. This would encourage open and honest feedback.

Q: Should the transmission companies carry out the survey individually or should an external company be employed to carry out a single survey on behalf of all the companies?

- There was general agreement that it would be most appropriate to employ an external company to conduct the survey, thereby ensuring a consistent and unbiased approach. However, there was concern that it would be difficult for stakeholders to differentiate between the TOs. As a result it was generally considered that the survey would need to be carefully designed and expertly thought through, with appropriate consideration given to who is best placed to complete the survey in the stakeholder organisation.

"[It] saves time only one company doing it."

"A joined up approach is advantageous, as you will get overall a greater response."

"People can't distinguish between TOs, well maybe in the big companies but not [the] smaller ones. At best you may have a suspicion."

Q: Which organisations/individuals should be surveyed?

- The complexity of the wide range of stakeholders who could answer the survey was appreciated across our discussion. As a result, concerns were expressed over which stakeholders should be surveyed and the relevance of responses from different groupings e.g. those further down the supply chain such as end consumers, or those with infrequent one off contact e.g. a local authority through whose land you have just built some infrastructure. A number of stakeholders felt strongly that end-consumers, who do not have direct contact with transmission companies, should not be included.
    - Further to this it was appreciated that National Grid would also have different relationships with different parts of organisations. Some commented on the difficulty of comparing and weighing up a diverse set of responses.
    - Suggested stakeholder additions were: wind turbine manufacturers, third parties such as the Highways Agency.

      "The lower down the customer base … you go … do they know the difference and do they care? They just want to turn on the light switch and [for the] bills to be correct."

Should the network companies survey each other?

- There was general agreement that the TOs should not survey one another as it could potentially bias the results. If they were required to survey one another it was considered that this should happen outside any incentive mechanism.

  "There is a danger it would just become self-congratulatory. Certainly not objective."

  "Network companies, they shouldn't survey each other, they should talk to each other. Just talk, don't survey."

Q: What are your thoughts on the proposed question areas?

- In general few had specific comments on the topic areas at this stage, however topics that received positive endorsement included 'interruptions and outages' and how National Grid deal with them. Some stakeholders suggested other additions including gathering views on the website, press releases and communications.

- A number of stakeholders did comment in more general terms in relation to the importance of getting the questions and format right, whether that is the choice of wording or making the survey meaningful for all parties.

Q: What do you believe the frequency of these surveys should be? On a regular basis (e.g. once a year, every six months), or related to key project milestones e.g. construction on site, commissioning, etc.? Or a mixture of the two?

- Stakeholders did not want surveys to be conducted too frequently as they consider that they already invest a lot of their time in stakeholder consultation and surveys in general. The clear priority mentioned by stakeholders is that the length of time needed to complete the survey is kept to a minimum.

"Whatever format, it should take less than half an hour."

- Some considered that an annual survey would be most appropriate, whilst others considered that gathering feedback could be more effective following a particular experience or event e.g. a connection.

"On an annual basis … if it's horrendous performance today then you could understand greater frequency of survey but it's not horrendous performance … annual is about right, when trying to discuss specific work it's more difficult. But I wouldn't have waited that long to feedback on a particular process you should be able to feedback through the process."

"For many it would be more relevant if it was event-driven. However for us it would need to be periodic and measure the ways we work together."

  - A minority mentioned that they did not want the surveys to get in the way of the on-going dialogue already in place.

  - It was also suggested by one stakeholder that care is taken to ensure that the timing of the survey considers what other consultations are happening at the same time, to ensure that it does not clash and that stakeholders are given adequate time to respond.

SECTION 3: ELECTRICITY TRANSMISSION (SYSTEM OPERATOR)

Introduction

Following the electricity transmission event held in London on 10-11 November, a second event was held in Glasgow on Tuesday 15 November. This event was focussed primarily on SO investment, but also covered similar subject areas to those covered in London, including reactions to National Grid's Business Plan, SMART Operation and the changing SO environment.

The event was attended by a range of stakeholders from across the industry, as well as academics and representatives of local authorities. The majority of attendees were based in Scotland.

Business Plan

Richard Lamb delivered a presentation outlining National Grid's recent Business Plan submission to Ofgem. This included an overview of the Business Plan, including baseline expenditure and uncertainty mechanisms, as well as a summary of feedback from previous stakeholder consultation and how this contributed to the final submission.

Stakeholder response to the Business Plan

Stakeholders were asked for their opinions on the Business Plan, both in terms of content and format, and also the impact that they feel it will have on their own businesses.

- Although only a minority of stakeholders had read any of the Business Plan documents, there was a general approval of the format and style in which it had been presented; this was considered more accessible than in previous years.
- There was a general appreciation of the need for investment as set out in the Business Plan and an understanding of the changing environment. There were no major criticisms of the content of the plan, although some queries were voiced by individual stakeholders.

Have you read our detailed plan since it was published at the end of October?

- Only a very small minority of stakeholders had read the detailed plan, principally those who were representing Ofgem.
- A larger proportion, although still a minority, had read the 16 page headline document, with others reporting having given the document a cursory read. None reported having read the 100 page overview.

- As a result of this, participants found it difficult to comment in any detail on the Business Plan document and its content and format, and discussion was quite limited. Conversation was in many cases dominated by stakeholders posing questions to the National Grid representatives on each table.
- There were a number of suggestions that stakeholders felt that they were not the intended audience for the full Business Plan document – Ofgem are seen to be the primary audience, with it being their job to work through the document in detail.
- Stakeholders did feel that the headlines document was intended for them, and that it was an effective summary of the Business Plan and also more accessible for those who are not close to the industry. However those that had not read this pointed to time pressures as being the reason why they were yet to do so.

What are your opinions about the Business Plan?

- There was a general appreciation of the need for investment and understanding of the changing environment, and therefore an understanding of the need for an investment response, as set out in the Business Plan.
- Some concerns were voiced around uncertainty mechanisms. Although stakeholders did not object to this in principle, there was significant concern about reopeners and any change that would impact charges, largely due to the likely need to pass any increases on to consumers.
- A series of other points were raised by stakeholders
  - A few stakeholders voiced queries around the focus of the Business Plan on the 'Gone Green' scenario, and the absence of other scenarios from the headlines document. There was a desire to understand how these other scenarios would affect the Business Plan, and this point was discussed with the National Grid representatives.
  - There were some questions as to the flexibility of the plans, for example if the anticipated nuclear generation is delayed, or if more renewable generation comes online than expected – in this context, there was a recognition that National Grid is trying to take these variabilities into account, and an acknowledgement that this is very difficult in what is felt to be a very uncertain period for the future of the network.

- There were also a few queries around TNUoS and BSUoS charges, particularly aspects that will come into play in the current financial year, due to their potential impact on on-going fixed price contracts.
    - In one discussion group, the National Grid representative posed the question of whether information on TNUoS and BSUoS charging should be prioritised over the other. Stakeholders' views differed here, with one arguing for prioritisation of TNUoS, while others felt both are equally important.
    - Some expressed a desire for better access to this type of information, particularly as it is changed or updated – there was a suggestion that an email highlighting any such changes would be very useful.
- One stakeholder questioned whether skills and resources and been sufficiently considered; this reflected a sense that the Business Plan was focused on assets.

Impact on the network

In terms of the Business Plans themselves, were your views and previous feedback represented correctly? Do our plans deliver what you want from our network? If not, what is missing?

- There was a general willingness to engage, but few participants had made specific comments during the consultation process so were unable to assess whether their feedback had been taken on board.
    - One group commented on a feeling of stakeholder consultation fatigue, particularly for smaller organisations with fewer resources.

Format and style of Business Plan

What did you particularly like/dislike about the presentation of the plans?

- There was general approval of the format of the Business Plan, particularly the range of different formats in which it has been presented – from the headlines document through to the full detailed plan. This allows the reader to choose the level of detail that is suitable to their position.
    - There was specific praise for the 16 page headlines document, which was felt to provide a neat summary of the full Business Plan, and to condense a lot of information into a manageable summary.

        - There were isolated criticisms of the headlines document, including a suggestion that it lacked content and contained too many photographs/images. One stakeholder felt that it was difficult to link the headlines document to the detailed plan – which made it difficult to find the corresponding detail if required.

    - There was also a suggestion that the plan could have been differentiated by audience type – as different groups of stakeholders have very specific interests. This would allow people to easily locate the information that is most relevant to them.

Smart Operation

Lewis Dale, Regulatory Strategy Manager, delivered a presentation outlining National Grid's approach to Smart Operation. This covered the extent to which the network is already smart, how this needs to evolve and the investment that is required and also the impact that this will have on stakeholders.

Participants were asked for their views on the extent to which the network is smart, the benefits of this approach and the most effective ways of improving the network.

- There was general agreement that the network is already smart (to a certain extent), and also that it is essential to take action in order to ensure the network is sufficiently smart going forward.
- There was also general agreement that the approaches proposed by National Grid are relevant and will yield benefits for the network. Stakeholders discussed which approaches should be prioritised, and also made suggestions of additional approaches that should be considered.

Is the network already smart?

- There was general agreement that smart actions are already being implemented on the network.
    - However a number of participants suggested that there is still a long way to go, and that the network needs to be smarter still.

        "The question is, 'is it smart enough?' You can always say you need to be smarter…"

"It is reasonably smart but with the volume of work that has to be done and the rate the network needs to grow it has to be smarter still."

- There was some discussion of the definition of 'smart', and suggestions that this is not a clearly defined term.
- There was a general sense of the importance of considering wider issues that affect the network.
    - For example, a number said that it is important to factor in the interaction with the distribution network.
        - At present, where generation is connected to the distribution network it cannot be monitored or factored in.
- There was also some discussion of whether the network can cope with external meteorological factors, such as cold weather or high wind.
        - One stakeholder posed a question regarding the scale of enhanced ratings when the weather is colder, an issue which was then discussed by the National Grid representative.

The need for a smart network

- There was general agreement that there is a need for action, to ensure the network is sufficiently smart.
    - Some made the point that the result of these actions will be to increase the resilience of the network, which is of great importance in many regions of Scotland.
    - Others also suggested that making the network smarter could potentially reduce costs to users and consumers.

      "If it is not smart there are immediate cost implications for everyone. There is potential for costs to go down if things are made smarter."

Which approaches are relevant/irrelevant or likely/unlikely to bring benefits over the next ten years?

- There was general agreement that all of the approaches proposed by National Grid are sensible proposals.

- There were suggestions that if we are to meet the ambitious targets set by the 'Gone Green' scenario, we will need to adopt as many of these approaches as possible.
- A number of participants also made the point that smart solutions are particularly valuable in alleviating short-term restrictions while assets are built. It was felt that this will be particularly helpful as Connect and Manage comes online.

- Stakeholders felt that some approaches are quicker and easier to implement than others, and as a result these should be adopted first, in order to increase capacity as quickly as possible and to allow new generation to come on line.
  - But there was also an acknowledgement of the importance of long-term thinking alongside this – both during and beyond the 8 year price control period.
- A minority expressed some concern about a perceived push to minimise assets and maximise management, but the general view was that there must be sufficient slack to accommodate a mix of fuels and ensure a competitive market.
- A small number of stakeholders brought up the subject of inter-trips, and how this might be used.
  - One respondent queried whether there will be more obligations on generators to provide this capability.

Have we missed anything? E.g. Is there technology that we are not considering but should?

- Few stakeholders identified additional aspects that National Grid should consider, although some suggestions were made.
  - There was some concern around the potential implications for generators of making the network 'smarter' – some felt this could make things more complicated and create problems for generators.
    - One stakeholder expressed concern that costs would be passed on to generators, in order to minimise cost to the transmission system.
    - Another stakeholder queried the absence of programming.

      "Programming wasn't mentioned. There doesn't seem to be a way forward on extending outage planning to the earlier years (of RIIO.) We should be looking at way beyond year 1 and year 2 with a view to identifying constraints earlier and then having the tools to manage these constraints."

- There was general agreement that a smart network needs smart systems and technology – but there were also suggestions that there is a need for a smart commercial and operational approach as well.
    - Constraint costs are a financial solution, but several commented that there must be sufficient assets to accommodate different fuels and to facilitate a competitive market, in order to serve the customers and consumers.
    - There were also calls for smarter approaches to planning and policy.

      "It is not necessarily about using the same smart measures [those outlined in presentation]. It is not just technical. It goes right down to consumers and planning interactions."

      "The other thing missing is it could be regulatory at an end user level i.e. to change consumer behaviour."

      "The focus here is on SO tools. Ancillary services perhaps weren't covered in the presentation and are very important … so there should be more about the role of SO in reaching out to service in the demand side and service side to make it smarter still."
    - One stakeholder raised the issue of resourcing in the industry suggesting that there could soon be a shortage of technical experts.

SO Investment

Nigel Williams, Electricity Operations Manager, delivered a presentation which outlined National Grid's approach to System Operator investment. This covered a range of aspects relating to the changing SO environment, and set out National Grid's investment plan.

- There was broad agreement amongst stakeholders with National Grid's description of the changing environment, and also agreement with the need for investment.
- There was also general agreement with the timings proposed by National Grid and the drivers that were identified. Stakeholders made a number of suggestions of additional drivers that should be considered, but these were generally isolated comments.

Do you recognise the changing environment NG describes?

- There was a general sense among stakeholders that they recognised the changing environment presented by National Grid, and hence see a strong need for investment now to ensure we maintain the situation or ideally catch up, plus build up experience before the problem grows.
    - One respondent challenged the way that wind is treated in this depiction of the current environment

      "Sometimes, as a wind proponent, I feel a bit defensive that it is something new on the system and people need to get used to it. With better forecasting you would get a better blue line than on the forecast shown here. SO has an incentive to make it [wind] sound harder than it is … It depends on how the forecast is presented i.e. 1 day or 4 hours ahead."

Have they made the case for investing now?

- Most stakeholders agreed with National Grid's suggestion that there needs to be investment in the network now.
    - Some stakeholders expressed regret that the investment plan had not been implemented earlier, although they acknowledged that this is with the benefit of hindsight. With that in mind, most agreed that National Grid's proposed timings are as early as they can be.
    - One table stressed the need for investment now and highlighted the long lead time for building physical assets once the need is identified. For example the Beauly Denny transmission power line upgrade, which was initially discussed around 2004, but is not now due to be completed until 2015.
    - One table cited the September wind example presented by National Grid as being very important, and one from which we should learn lessons now, as this issue is only likely to become more severe.
    - One stakeholder argued that while there is a need for investment now, it is important that this is aligned with the investment from other stakeholders.

"You can argue there is a case for frontloading some of that [investment] … Yes, there are cases that need to be front loaded but working with the SO, TO, DO to ensure investment is aligned with potential investment from other stakeholders is important."

- A small minority argued that the figures presented by National Grid were insufficient for them to be able to make a judgement on this. They felt they would need to see more detailed numbers and figures before they could make a decision.

Do you think that the timing of National Grid's SO investment plan is appropriate?

- In this context, there was general agreement that the proposed timings are realistic.
    - Although some voiced concerns that they were not sufficiently informed to be able to make a better judgement regarding the timings.
    - There was an acknowledgement that the timings will be influenced by a range of external factors, such as numbers of staff.
        - One made the point that any future work on the network is limited by the fixed pool of people in the industry, and that this must be considered alongside any investment plans. It was suggested that the industry workforce needs to be increased, or resources found elsewhere.
    - One group of participants expressed concern that Ofgem will push back on timings, despite the clear need for investment now.
    - There was some pressure from a minority of stakeholders that investment needs to be begun as quickly as possible.
    - There were also suggestions from a small number of participants that there needs to be a higher level of innovation more generally.

Have they identified the correct drivers?

- There was general agreement that the drivers identified by National Grid were correct.
    - Some participants suggested that the issues of frameworks and closer integration of the various drivers were key aspects to address. The drivers should not be considered in isolation, there should instead be a coordinating theme.

- One group of stakeholders stressed the importance of distributed generation, which is expected to become more significant going forwards.
    - Some questions were raised as to how this will be coordinated, and by whom, for example by the DNOs?
    - Questions were also asked as to how information from distributed generation will be communicated, and whether real time data feeds will be necessary. The point was made that much wind is not metered, so is invisible 'beneath the radar' and cannot be managed.

If not, what is missing?

- As in the previous session, there was a suggestion that 'smart' thinking should not be limited to assets/technology. It was felt that there is also a need for smarter commercial arrangements, such as different contracts, and more innovative ways of working with generators.
    - There was a sense that this should motivate and incentivise cost efficiency and/or flexibility.
        - One participant argued that there is a need to further consider how smart contracts and relationships can deliver outcomes and benefits for operation, financial gain and the end consumer.

          "We need smarter thinking as well as smarter pieces of kit."
- There were other isolated suggestions and comments related to these drivers.
    - One stakeholder asked whether National Grid have considered marine, wave and tidal energy, as these were not included amongst the drivers. This respondent stressed that these forms of generation will play an increasingly important role in generation in Scotland in the future.
    - Another stakeholder raised the issue of energy storage, and whether this was being sufficiently considered and coordinated into any plans

      "Energy storage – are measures put in place for this? It is important to address this – is it being covered and coordinated?"
    - As in earlier sessions, the issue of whether there is sufficient demand side integration in this plan was also raised.

- Some stakeholders commented on the role that wind generation has to play in the future.
    - One group of stakeholders discussed how wind generation is accommodated in the network. Concerns were expressed that as wind generation increases, the network needs to receive better data (local wind speeds and meter data) from generators to enable control mechanisms to work.
    - There was some discussion of the potential negative PR if wind generators are paid to not generate.
    - There was a suggestion that some wind generators currently have no interest in 'flexing', and that in the future this will need to change as generators play a more prominent role in managing the system.

System operation capabilities

Graham Dolamore delivered a presentation that set out National Grid's system operation capabilities. This covered National Grid's investment plans, the drivers behind these and also the issue of how to achieve the correct balance between staff and IT capabilities.

- There was broad agreement with National Grid's approach in balancing resources and IT systems, and a general sense that stakeholders felt this is National Grid's decision to make, and that they trusted them to make this decision correctly.
- Again, there was agreement with the drivers and capabilities that National Grid identified, with some suggestions as to additional aspects that should be considered.

Do you agree with our approach in balancing the mix of resources (staff) and IT systems in undertaking the SO role?

- There was general agreement that this is the correct approach, and an awareness that both staff and IT systems play a crucial role.
    - The general sense was that there needs to be a balance of both, rather than relying totally on one or the other.

      "There are drawbacks to going all one way or the other."
    - There was a suggestion that not everything can be achieved by increasing staff numbers, as the network is too complex to rely on human judgement alone.

        - One stakeholder suggested that for the consumer, it is reassuring that the network does not rely entirely on IT/automated systems.

          "From a consumer perspective, I would be glad that there are people there, rather than being totally reliant on IT systems."

    - On one table there were suggestions that National Grid could draw more on external expertise, so rather than relying on internal resourcing, instead sometimes look to outsource to industry experts.

      "National Grid sometimes does too much internally rather than outsourcing … we could be more effective as an industry in identifying options for change with regards to this."

    - One stakeholder suggested that it is important how new and more experienced staff is used, to maximise their knowledge; the more experienced staff should focus on developing the new system tools, whilst the newer staff run the current systems.

    - Another stakeholder argued that the timescales to reach the various scenarios presented would vary hugely. For example, improving the IT system would take much longer to achieve than increasing the number of staff; if the hybrid approach is adopted, it may be necessary to rely initially on human resource until IT systems are up and running.

      "Time scales to deliver the 'either/or', would be totally different. How you get to the hybrid, might be a holy grail, where you go more towards one side or the other until you finally get there. There will have to be a heavily resourced front end until the IT solutions are in and credible."

- Some stakeholders expressed a desire for greater detail, and felt that the options presented (Increase staff/Improve IT/Hybrid approach) were too high level, and did not provide sufficient information for them to be able to make a judgement.

  "Investment on this is critical but on what? The hybrid approach yes … but what areas of IT is it talking about?"

- There was a general sense of this being National Grid's decision to make, and that they have sufficient expertise to make this decision correctly.

  "This is an internal management decision."

- Some stakeholders articulated this clearly, saying that they trust National Grid to make the right judgement.

  "Different businesses do it different ways; National Grid's may be different to our balance, but I trust National Grid."

- There were also comments that it is important to consider the knock-on effect on the market of any changes that are made, as they may have significant commercial ramifications for other companies.

  "One of the issues for us is how it impacts on us and what that means for us operating in the market … for example as you get more and more 'Smart' … the DNO networks become more active as they have to deal with more embedded generation and there is the hand off between the other TOs and then there is the implication on the commercial side of things."

- One table argued that National Grid must be careful that, while reducing its own operating costs, it does not unwittingly drive up costs to a much larger degree for others in the energy market.

  "The only thing that people are arguing about is that by doing the automation that the commercial arrangements that take place are taken into account and that there aren't unreasonable arrangements put on the commercial side e.g. adjusting imbalance exposures. It is not a massive deal but it does need to be considered … One real concern is that you (National Grid) only think within your own area … what's good for system operation for the network and that the pressure points that occur as a result, e.g. you ask too much of generation units … that you end up driving a small amount of cost out of your business but push huge costs onto the industry."

Have the correct drivers been identified?

- There was general agreement that the drivers that have been identified are correct, and should all be considered.

- However, there were a number of suggestions of additional drivers that should also be considered.

  - One stakeholder suggested that the list of drivers is missing the end user; there is an overall customer (domestic and commercial) expectation that must be considered. They felt that this was an important omission, given that the consumer is at the centre of the Business Plan.

- Other suggestions for drivers that were missing included outages, industry codes and frameworks, access to the network and also integration and coordination.

  "Other drivers missing: outages, pressure on access to the network, system access. National Grid's coordinating role on codes (including the upcoming EU codes). Integration and coordination."

  "There is a question about hand over. Integration and coordination across SO and TO. When the system is going to be so busy there is a need for far greater coordination and for joined up thinking across NOs, SO, TOs."

  "If you are asked to do it [create a list of drivers] yourself you would do it this way. The drivers I would expect are reducing costs and reaching targets."

  "The codes and frameworks in which we operate. The Grid has a crucial role in engaging with GB stakeholder's in this process. It is a big chunk of work – the things you do with SYS, ODIS, ENSG, scenario planning. We need to check if these are fit for purpose as we move into that paradigm."

- There was some discussion of nuclear generation and the role it has to play going forwards.
  - One stakeholder queried the assumption that nuclear generation is inflexible, which tends to mean that the responsibility for flex falls on other types of generation. However, it was suggested that nuclear can be flexible, and that pressure should be put on nuclear developers to build in this flexibility.

Are the SO capabilities identified correct?

- There was general agreement amongst stakeholders that the SO capabilities that had been identified are correct.
  - Some stakeholders also expressed their approval that the drivers and capabilities have been mapped onto programmes.

What else could National Grid learn from overseas?

- Following discussion with National Grid representatives, who outlined work and interactions with other markets, some stakeholders stated that they felt reassured that National Grid is already learning from other countries.
  - The work with Spain, Portugal, the USA and in the Far East was seen as valuable input, as well as the work with the European co-ordination centre.

- One stakeholder suggested that National Grid could learn from EirGrid.

  "They could learn from the EirGrid which has two forecast mechanisms. National Grid could do their own and contract one out so as to improve their tools. It is an interesting approach. SOs should be better at forecasting."

Benefits from SO investments

National Grid set out the benefits that their proposed investment in the SO network should deliver, and also the expected BSIS savings.

- There was general agreement with the case for investment set out by National Grid, as it is seen as critical for the network.
- A number of stakeholders expressed the opinion that it is difficult to forecast the benefits from investment exactly, rather a range of benefits can be identified.
- In terms of unplanned outages, while there was agreement that outages can have a significant impact on the industry, most stakeholders felt that the industry is well prepared to cope with such events.

Do the benefits identified from our investments justify enhancing our control room capabilities?

- There was general agreement that the investment is justified, primarily due to its importance to the future of the network.

  "[National Grid has] demonstrated that there's a problem looming and spending money means we can address it."

  - Some stakeholders were impressed by the projected saving of £0.6bn over the eight years of RIIO.
  - A small minority of stakeholders suggested that the proposed innovations should already be in place and that National Grid has been slow to innovate in this area.

- Some participants struggled with this session, as they did not feel equipped to answer the question or judge the numbers with the level of detail that had been provided. While agreeing with the need for investment, there was a desire to know where the proposed investments would come from, and also a number of other questions.

- There was some discussion of whether National Grid has struck the right balance between costs and benefits, though many found this a difficult question to answer.

  "It is hard to say if it is the right level of investment without saying exactly what that means. [i.e. what do you get for your money] Is the amount you are asking for high enough? Or is that just what is achievable … this question is a case of how long is a piece of string. Or is it IBM's restriction on it – are there other resources that could be used to deliver? I'm being suspicious."

- Some queried whether spending more money than has been proposed would mean that even greater savings could be achieved. And if so, there was a desire to know how National Grid had decided on the proposed levels of investment.

  "If we spent more than this, how much more could we save?"

- One group of participants asked whether National Grid have considered the cost of *not* carrying out the proposed work.
  - There were suggestions that the opportunity costs of not carrying out work must always be considered – sometimes not doing work can result in greater long term costs for the consumer.

Are the ways we have forecast the benefits a suitable approach?

- There were comments that the benefits are very difficult to forecast, as they require very complicated models.
  - There were suggestions that it is possible to forecast a *range* of benefits, but that it is difficult to be more exact.
    - One stakeholder stated that the proposed saving of £0.6bn was 'about right', but cautioned that that there are a great deal of uncertainties.
  - Others argued that it is hard to identify the benefits at this point.

    "It is not really possible to say whether the benefits are right at this stage."

- Stakeholders also offered a range of other opinions regarding the suggested benefits.
  - One acknowledged the proposed benefits in terms of keeping the system running and reliability, but asked how the necessary development would fit into the proposed plans.

"The benefits are reliability, keeping the system running but there is still a large chunk of development that needs to be brought onto the system. How does that fit in?"

- One suggested that some of the proposed benefits could in fact be achieved without the need for investment.

  "Some of the benefits might be available through working harder with what we have got."

- Another questioned whether the prospect of European integration had been taken into account.

  "Maybe it is covered in market efficiencies but European integration would deliver more competition and will have impact for prices and a benefit for us – where is this covered?"

How do planned / unplanned outages of our control room systems affect you?

- There was general agreement that outages can have significant impacts on the rest of the industry.
  - However most stakeholders felt that the industry is well prepared to cope with such events and that control room systems are fairly resilient across the industry, through the widespread use of dual systems and disaster recovery sites.
  - Some stakeholders commented that planned outages are much easier to manage than unplanned outages, and have fewer financial implications for customers. For example, suppliers can buy in electricity for retail consumers in advance (note: no specific examples given here).

    "Yes they do impact, significantly. Unplanned [outages] have a significant knock on effect."

What market information flows are critical to your business models?

- Some stakeholders identify SCADA systems and BM reports as being crucial to their businesses.

  "From the TO side, if there is an outage in TOGA, it just delays information. If the SCADA systems were to go down, it would have a much bigger impact."

- Some identify BM reports as being most important to their businesses, particularly from a trading point of view.

- There was also some agreement that the settlement system for ancillary services is in need of updating, and stakeholders were pleased to see that National Grid is looking to do this.
    - One participant described the current system as inefficient and overly time-consuming.

      "I'm glad to see National Grid is looking to update the settlement system for ancillary services, we've found this very difficult. At the moment you get a letter telling you you're entitled to £xx, and then we make a counter argument. This is not very effective; we spend a lot of time and effort trying to agree/reconcile the settlement."

ELECTRICITY TRANSMISSION (ENVIRONMENT)

1. Business Plan Question and Answer session

National Grid outlined the Business Plan and explained the ways in which stakeholders had been involved in its development. The presentation highlighted the key aspects of the plan and actions to be taken over the RIIO period. It outlined the baseline expenditure plans and how these contribute to transforming the network to meet customers' needs. It also focused on uncertainty mechanisms in the plan and in particular the visual amenity uncertainty mechanism. Participants were invited to ask questions on any part of the plan and to give their opinions on the process and documentation.

The questions from stakeholders were wide ranging and a number of key issues were raised relating to the perceived 10% limit in undergrounding of new lines, the impact of and financing for undergrounding, willingness to pay and the impact of the 2008 Planning Act process.

Perceived 10% limit in undergrounding

- A number of different questions were raised over a perceived 10% "limit" for undergrounding that has been included in the Business Plan. Stakeholders wished to understand the basis for the limit as well as the associated uncertainty mechanism. A number felt that the percentage should be considerably higher.

  "Why was 10% undergrounding chosen as the aim?"

  "Why start with such a low figure why not 100%?"

  "When you are managing risk and uncertainty and the second most important element is undergrounding, should it not be a higher value (than 10%). I thought that point of mechanism was to maintain revenue – so it needs to be more realistic"

  "The plan has underestimated the amount of undergrounding that should take place. I can't see why there wouldn't be 100% undergrounding of new lines and undergrounding all existing lines as they come up for renewal."

  National Grid advised that the 10% is not an aim, but is a nominal figure used for business planning purposes only. It was based on a range of values that had been obtained from earlier stakeholder consultations – and these varied between 0 and 50%.

National Grid also emphasised the fact that actual level of undergrounding of new lines is subject to a proposed uncertainty mechanism in the business plans which is linked to the planning process and levels of undergrounding can vary – both up and down. Using a lower value as the basis for the mechanism enables National Grid to allocate funds as required and then recover it from customers through the mechanism. If National Grid has used a higher value there is a greater risk of an underspend which would result in the need to reimburse customers which, logistically, can be quite difficult.

- Some stakeholders queried how the uncertainty mechanism works and the range of values within the mechanism. This reflected concerns that use of a low figure (i.e. 10%) could have a negative impact on individual projects where the need for undergrounding may be greater than 10%.

  National Grid advised that the figure could be 0% or it could be 100%. They reminded participants that the 10% applies to overall plan and is a planning assumption. They reassured stakeholders that this is not the approach that would be taken on a project specific basis. It would not be appropriate to prejudice the outcome of local planning submissions.

- Stakeholders remained uncertain about how the uncertainty mechanism would work.

  "But how do we know that we can go through the planning process, get a stamp from the Secretary of State under the localism act. National Grid need to find a way of working with Ofgem that keeps everyone happy and reassured that this will work. Critically, it will be important to do this in conjunction with the National Policy Statement."

  National Grid advised it was talking to Ofgem about their role in the process and how the two parties work together.

The impact of undergrounding

- A number of stakeholders expressed concern over the narrow focus in the discussions on the importance of undergrounding. It was felt that it is equally important to understand the wider environmental impact of undergrounding and to have an holistic view of the whole issue

  "Environment is isn't just about low carbon it is about visual impact; it is about impact on wildlife etc. it is important to think about it holistically"

  National Grid advised that as an organisation they do think about the environment holistically, about their own carbon footprints, how it can utilise its assets, how it can adopt a circular economy principle and through specific programmes such as the Ellen MacArthur initiative.

Finance for undergrounding

- Concerns were expressed over the cost of undergrounding, how this would be financed and how lack of finance would affect plans.

  "Notwithstanding the negative impacts of undergrounding, it is important to understand what will happen if there is no money for undergrounding. How would that affect the plans?"

- It was acknowledged that 100% undergrounding could be a possibility and that this would be very expensive. What are the pressures on National Grid to look at other alternatives?

  "What pressure is there on NG to look at overhead instead?"

  "If the infrastructure planning commission gets an application for 100%, what guidance are they working to?"

  "Can Ofgem resist that expenditure?"

  National Grid advised that the process of RIIO is still on-going and that Ofgem are going through a detailed review of the initial proposals submitted in July. They noted that in terms of volatility in numbers, they still have to try and manage the process and look at it on a case by case basis.

  National Grid also noted that they are trying to respect the planning process while having a regulatory framework that puts mechanisms in place to deal with the next 10 years. If the uncertainty mechanisms are right and there is confidence in them – it is something that makes National Grid neutral to the situation.

- One stakeholder noted that in Scotland, when new lines are built, charges can only be passed on to customers if the Minister allows.

  National Grid advised that this is not relevant in England as all plans go through the new MIPU process and therefore money would be made available once the scheme has planning permission.

Willingness to pay

- Some stakeholders queried the extent to which the "willingness to pay work" had informed the business plan. They wanted to know how this fits against National Grid's statutory responsibilities for economic and efficient delivery. There was concern that the end results may not be the most economically efficient in terms of delivery.

  Ofgem advised that through the process, they will be able to understand amenity values better. *"Idea is that we are looking at the most effective option for the longer term."*

- Stakeholders noted that information on the results of the willingness to pay survey would be given later.

The impact of the Planning Act (2008) process

- A number of stakeholders expressed the view that the relationship with the IPC is an unresolved issue and described it as the "elephant in the room". Many felt that it could have a significant impact on the whole process.

  "National Grid and Ofgem can agree between themselves on a situation but if IPC disagree it fails - everything falls down."

- Some stakeholders asked whether it would be possible to get the IPC or the Minister in line so that there is a reasonable idea of what the answer will be in advance.

  National Grid advised that they have accepted that this is the way it is. *"This is the process that we have to follow."*

  Ofgem noted that the regulatory framework says that NG has an obligation to deliver an economic and efficient network. There is a need to look at costs and benefits of individual projects. This includes visual impact and impact on bio-diversity. There is scope for stakeholders to influence the wider goals e.g. around need for supplies / generation to support this.

- One stakeholder asked whether National Grid feels that the developing regime and regulatory requirements are adding to planning risks.

  "The way the IPC process is driven at the moment - this is a risk."

  National Grid advised that it recognises this as a challenge but the situation is probably no riskier than before.

- Another stakeholder requested more information on how the whole process would work

  "Looking at an individual project after full consultation –would this be presented to Ofgem before going to IPC? How would it work?"

National Grid advised that they do not know at this point in time but is talking to Ofgem about their role in the process.

Opinions on the business plan itself

Participants were invited to comment on the Business Plan documents and to give their opinions on the format and accessibility of the information.

- Some initial questions were raised over the basis of the Plan – whether it is financial or aspiration and in terms of flexibility.

  "Is the Plan finance led or aspiration led? It is hard to tell."

- Some stakeholders representing local interest groups noted that National Grid had acknowledged that there could be a spread in expenditure of around £2billion. Concern was expressed over the matrix that would be required to recognise the flexibility and whether this would be manageable.

  "Obviously NG needs to have a spread in terms of technology and methodology. But won't the matrix have to be huge to recognise the flexibility."

  National Grid advised that it is what they are used to dealing with.

Q: Have you read the business plan? What did you think of it?

- Several participants had read the business plan and while there was general praise for documents, it was noted that it is very lengthy and a number of stakeholders were suffering from information overload. Comments included:

  "I thought it was very good. I like the 2 tiers. Given how complicated it was I found it pretty easy to use. I got the hang of the info on the website pretty easily."

  "The three tiers approach was sensible (i.e. 15 page, 100 page, annexes)."

  "It is a very long document."

  "Everyone is suffering from overload of information."

Q: Was the content contained within the documentation easy to understand?

- It was generally agreed that for an audience such as present at the workshop, there is a need for greater simplicity in the information that is presented.

  "Documents like this have to be prepared because it is such a complex thing but more work on how to make it simpler, more accessible, less jargon are very important if you want to get good consultee feedback"

  "Most of us are non-professionals – that is a big issue."

Q: Was the business plan documentation easy to navigate?

- A number of stakeholders pointed out that while parts of the Plan were accessible, it was quite difficult to locate some of the information and that more signposting would be helpful. It would also have been useful if the Plan had highlighted the many key issues for consideration.

  "National Grid approach to presenting information in the 'routing new lines' doc is highlighted as a model which could be replicated – e.g. Q&A briefing, summaries of the document should be tailored to the audiences that the information is going to."

  "You need to direct the reader to where the stuff is."

  "You should highlight things to think about."

  "Considerable amount of information to be relayed – but came unstuck where information wasn't in the right section – signposting would be great."

Q: What did you particularly like/dislike about the presentation of the plans?

- There was general agreement that the overall presentation could be improved to enhance understanding of the content as well as making the Plan easier to navigate.

  "Somewhere there is something visual that could be done with documents – colour, the way you use text."

  "Could you use flow charts to describe things?"

2. Approach to the design and routeing of new electricity transmission

Stakeholders were given a presentation on National Grid's new approach to the design and routeing of new electricity transmission lines. The presentation outlined the consultation process that has been followed and the resulting key principles within the new approach. Importantly, National Grid stressed that this is a process not a policy and that stakeholder involvement and engagement is critical.

Following this presentation, Ruth Chambers from the Campaign for National Parks presented their reaction to National Grid's approach.

- Ruth introduced the presentation by outlining the need for a more strategic approach to avoid landscape harm. She highlighted the need for mitigation to be serious and for funding to be put aside for the purpose. However, she noted that all landscapes matter, although it was accepted that some may matter more than others. The underlying principle is that it is critical for people to have the right to participate in decisions about landscape.
- Commenting on specific aspects of National Grid's new approach, Ruth noted that:
    - By using routing and not just looking at undergrounding, it is a more strategic approach.
    - The fact that it is a process not a policy will allow more flexibility although it will provide less certainty.
    - The engagement and consultation contained within the approach is crucial' but:
        - Could there be earlier input on optioneering?
        - Is there a danger of consultation fatigue?
    - Although the greater emphasis that is being placed on visual amenity mitigation is welcome, it is important to consider avoidance too. There is a need for a true, sequential approach.
    - Factoring in environmental and social impacts is the basis of a sustainable development approach.
- She also highlighted a number of elements that, in the view of the Campaign for National Parks, are missing from the approach.
    - While the approach is joined up to a certain extent, there is not as much as they would have liked.

  - There is an issue over the replacement and refurbishment of existing lines which is not addressed.
  - The approach seems to ignore ambition on innovation.
  - There is a lack of information on "hard cash".

- Finally Ruth pointed out that it is important to avoid some of the mistakes of the past. It needs to be accepted that the approach is theoretical and therefore it must be tested. Ruth stressed the need for continuous evaluation leading to improvement. The ultimate aim though is that the "*lights must stay on".*

Stakeholders' response to the approach

Following the two presentations, stakeholders were invited to comment on the issue and / or ask questions of both National Grid and the Campaign for National Parks.

- In general, stakeholders welcomed the new strategic approach and appreciated the opportunity to participate in a transparent process and community consultation strategy.

  "I welcome aspirations in new approach but want to stress importance of early work and the early application of socio-economic analysis".

  "We really appreciate opportunity to engage in a more transparent, front loaded consultation".

  At the same time, questions were raised in relation to refurbishment of existing lines and whether there is relevant guidance and a policy covering existing lines.

- Some stakeholders queried the flexibility and transparency of the process. One stakeholder sought reassurance that options ruled out early in the planning process can be revisited if the models which are being taken further change or unexpected challenges/circumstances come to light.

  "You talk about back checking and review processes. How does this work? How much wriggle room is there once you have decided to go down a particular route?"

  National Grid advised that they have a needs analysis and strategic review available as a start to review options. There is always the potential to revisit earlier stages throughout the process.

- There was general agreement that this is an approach in which National Grid is a "neutral developer" with no preference to undergrounding or overgrounding. However, this represents a significant change in ways of working within National Grid, who traditionally have built overhead lines. Stakeholders wanted to know what steps had been taken to address this:

"My experience of National Grid is that it builds overhead lines why would they change now? This sounds more aspirational that reality. Is it really true?"

"It is a significant change for National Grid to become the neutral developer rather than overhead first. I applaud that but given their history – how will it be embedded across the company? It will require a major culture change."

National Grid advised stakeholders that there is a major roll out programme of the new approach across the company. To date, 40 workshops involving 500 people have been delivered. They also pointed out that this is normal for them to research and refresh ways of working.

- Some stakeholders expressed concerns over the use of multi-criteria analysis and the fact that this could lead to lack of transparency. It was suggested that it would be appropriate to include a social cost benefit analysis at an early stage to overcome this issue.

  "I find that the emphasis on multi-criteria analysis is suspect. There is no transparency about how it would work. National Grid needs to be more specific as to how this will work stage by stage. At earlier stages – a straight forward social cost benefit analysis will prove to be genuinely transparent and genuinely relevant."

  "We would like to see a social cost benefit analysis at the early stages and that would be generally transparent and relevant. National Grid needs to demonstrate that it is not throwing dust in our eyes."

  "Earlier involvement in pioneering stage would be helpful."

- Stakeholders wished to know whether this approach will apply to current projects from here on.

  National Grid advised that was the case.

Key issues relating to undergrounding

During the discussions, stakeholders identified three key issues relating to undergrounding: social and environmental impact and costs, financing the work and location of demand versus generation. A number of local issues were also identified.

Social and environmental impact and costs of undergrounding

- A number of stakeholders put forward the view that National Grid needs to understand more fully and to take account of the full environmental and social costs of undergrounding. There were concerns over the extent to which National Grid takes full account of these costs – especially as they lack experience of undergrounding.

  "They need to think about the full cost to the environment. Is it 40 years or 60 years? We haven't yet got to a full understanding of what real social cost is because they need to think about loss of tourism income, lower property values, health issues, loss of visual amenity caused by undergrounding."

  "Thinking about the social and economic impact of the lines, I am pleased to see the approach to routing. But National Grid has no track record of undergrounding and understanding the physical impact on use of land for farming. I want to make sure that there is evidence to build on"

- One stakeholder suggested that while it can be very contentious to evaluate, a UK natural ecosystem assessment project could help.

  "National Grid needs to read that document and build it in."

Financing undergrounding

- A number of stakeholders expressed concern over who will pay for undergrounding

  "The principle is that allowance and payments are for National Parks and Areas of Outstanding Natural Beauty. Has the issue of whether customers will pay for areas they will never visit been addressed?"

- Stakeholders noted that willingness to pay – who pays for what – will be discussed in the afternoon session.

Location of demand versus generation

- A number of stakeholders highlighted the fact that there is an issue of where energy is generated in relation to demand. It was questioned whether this has been recognised in the plan.

  I admit I haven't been through it with a fine tooth comb but I didn't see much in the plan about distributed energy. Where was stuff about distributed generation closer and small plants – closer to centres of population?

- There was widespread agreement that there is a role to be played nationally in looking at the demand versus generation questions and the impact on the network.

"The biggest problem for National Grid and landscape interest groups is that you can currently develop energy generation plans wherever you are and National Grid have to link into the network."

"Many of the renewable energy sites are far removed from areas of demand and this can have a significant impact on the landscape."

"There is an argument for saying that National Grid and Ofgem need a fuller and more frank discussion with national government on to have generation near centres of demand."

- One stakeholder indicated that it is important to distinguish between community and national interest. For example, there are serious implications of "Scotland becoming the Saudi Arabia of renewables".

  "What constitutes community – is it national? People move through it from everywhere. For me landscape is an extraordinarily valuable asset. Maybe we should say "forget the wind farms there [in a particular location]?"

  "If we generate power in Shetland for use in London – there are economic, environmental and social costs."

  National Grid advised that the Future of Energy document spells out its view on how it sees energy developing over next series of decades. For the RIIO decade this is about connecting up with low carbon, nuclear, gas power stations. For the decade after that period it is more about the distribution networks and local distribution as consumers' behaviour starts to change with people buying more electric cars for example.

Local issues

- Representatives involved in two specific projects asked for National Grid to consider points specific to these:

  "We've been involved in the study of the Woodhead to Stalybridge line. One of the things we asked for at the beginning was that it would look at undergrounding between the two as if it was compelled to look at this as if it's given from a greater authority to see what the cheapest way of doing this was. This hasn't happened in three years."

  "With regards to the statement of Sedgemoor community consultation it would be good for the Grid to look at that in light of recent history and give some feedback."

  National Grid offered to follow up on these discussions with concerned parties.

3. "Willingness to pay" consumer research

Brunswick Research made a presentation on a piece of consumer research that had been carried out in relation to willingness to pay for undergrounding. They outlined the willingness to pay was part of a wide survey seeking consumers attitudes on a number of transmission topics. The presentation raised a number of concerns and questions relating to the way the research will be used, the value of the results and the way the research was structured.

- Stakeholders asked what the research will be used for.

  National Grid advised that the research was used to give feedback and information and to help look at uncertainty mechanisms to address key issues such as socialising of costs. The aim was to help shape thinking going forward. It was also noted that nothing has been specifically ring fenced in the plan. The assumption is that 10% is there for business planning purposes. The critical thing is the creation of the uncertainty mechanism.

- Some stakeholders felt that health warnings should be given at the bottom of the results of the survey to indicate the nature of the questions and the way the research was conducted.

  National Grid advised that they have published the survey and all the data sets behind it.

- Questions were raised on why "environmental costs" had been included in the knowledge of electricity bill breakdown. It was questioned whether it is for compliance reasons or for other reasons.

  "What does environment mean in the cost breakdown? Carbon is not the basis of environmental costs and so the survey was asking people to comment on something they don't understand"

  "It is important to point out that to the man in the street that environmental means lots of different things because to him it means mainly streets, leaves etc."

  National Grid advised that the information was based on the Ofgem fact sheet and the information included in the breakdown of customers' bills

- A number of stakeholders noted that this survey was step 1 and wanted to know whether there would be a Step 2. They also wanted to know how the work relates to the London Economics review that has been carried out.

National Grid advised that they are looking at next steps and the options around conducting another survey to derive a "willingness to pay" value. This will take account of the London Economics report. National Grid also noted that they are in discussion with Ofgem on whether to go forward with a fuller and more comprehensive willingness to pay survey. There is a discussion over timing and the difficulties of tying this in with the RIIO timetable.

- A number of stakeholders challenged the use of prompted and unprompted questions and a couple of stakeholders felt that certain questions made them challenge the value of the research. One stakeholder expressed strong concern that in the questionnaire the timescales associated with payment were not clear to respondents. He explained that it was important for people to understand what their '75p' would pay for and for how long.

- Others queried whether different geographic areas (e.g. rural areas) should be broken out in future surveys, This is especially relevant as undergrounding is already the norm in many towns and consumers in these locations have no experience of the concept.

  "You need to capture the granularity of views. It is important to understand the nature of differences in geographic areas."

  "We need to bear in mind that we are also talking about towns where there is virtually no transmission structure."

  "How do you break down willingness to pay across the total range of consumers."

  National Grid advised that in terms of their income – one third comes from householders, one third from businesses and one third from generation and costs need to be worked out across all of the groups.

- It was felt by some stakeholders that there is a broader policy debate to be had over willingness to pay rather than just rely on research such as this, there is a disconnect between opinion and behaviour.

  "The thing is fuel bills will keep rising and rising, so there is something about making it a zero sum game. National Grid looking at energy bills, and why they're going up, willingness to pay is renowned for disconnect between opinion and behaviour."

4. Determining an approach in relation to the visual amenity of existing electricity transmission lines and funding

Following a brief introduction to the visual amenity of the existing infrastructure in which National Grid spoke about an allowance being established under RIIO to mitigate the visual impact of existing infrastructure in designated landscape area, participants were asked to consider three key issues. These were the factors that should determine the level of funding to be made available to address the visual amenity of existing lines, the appropriate level of funding and priorities for action. In addition, participants were asked to think about different forms of mitigation.

All of the issues generated wide-ranging discussions and while there was a level of agreement on some points there were also key points of difference. These are highlighted in the following summary.

The factors that should determine the level of funding

- It was generally agreed that it is difficult to identify the different factors that should determine an appropriate level of funding. Participants felt that they were not sufficiently aware of National Grid's overall strategy or the specific priorities within this strategy. This made it difficult to judge the criteria by which funding should be allocated.

  "It's difficult to say without knowing what the specific projects are. It's almost a case by case basis, with WTP, then deriving it that way."

- Some stakeholders raised concerns over the potential conflict with National Grid's statutory responsibilities (to determine the most economical route).

  "The trouble is on the law, you have been told by law to go for the most economical route."

- There were also a number of concerns raised on the impact of imposing increased charges on consumers to cover the additional costs of undergrounding at a time when they are already subject to higher charges as a result of carbon reduction targets.

  "Then you have the issue of cost of bills – it's probably the worst time to open this up, given the recession, and carbon cost on top of bills."

- When asked to consider in more detail the factors that should determine the level of funding, a number of participants expressed the view that the first step is to consider what the allowance should be used for. Opinions on this varied but there was a general agreement that some of the funds could pay for National Grid to go through mitigation on the existing lines. Hence one of the factors would be "need for replacement."

"The pot of money could be applied to the approach to replacement of existing lines; but only when it needs replacement. "

- However, some stakeholders were concerned that the allowance would enable National Grid to by-pass other procedures and processes and that there still needs to be a robust analysis of the requirements. As a result, a second factor would be that the project meets a robust analysis.

  "Would projects be eligible for funds from the pot and not go through the normal process?"

  "There should be a proper needs analysis and strategic overview of what is appropriate not just a guess of what to put in."

- There are also practical considerations to be taken into account and an assessment needs to be made of the extent to which the total projects fit into National Grid's 8 year work programme.

  "Is there a practical consideration over what you can do over an eight year period? You need to see if things are realistic. Could you underground national parks and AONBs in eight years?"

  National Grid acknowledged that this would be quite difficult.

- Some participants also pointed out that the discussion had focused on undergrounding and there seemed to be an assumption that undergrounding is the best way to ensure visual amenity. Some felt that this is not necessarily the case.

  "The other end of the spectrum would be with the presumption to underground, as a way forward, whereas with wetlands, you should look at routing."

The level of funding to be made available

- Even though National Grid outlined the concept of the allowance and the need to maximise the value out the available funds, participants found it difficult to estimate a value.
  - Some participated in a debate around ownership and leadership and questioned whether the onus should be on Ofgem or National Grid to estimate the level of the allowance. No clear agreement was reached.
  - Others indicated that they want numbers to be driven by strategy not vice versa.

"I think doing it this way is the wrong way round. We need a strategy first….rather than coming out with an arbitrary figure which, at best is hypothetical…and no one will agree."

"I think doing it this way is the wrong way round. We need a strategy first….rather than coming out with an arbitrary figure which, at best is hypothetical…and no one will agree."

"Just ask National Grid how much it thinks it could do in the 8 year period, and then make it that sum."

- Others felt that they did not have enough information to make an educated assessment and asked for more details on costs, the geographical spread of the work and National Grid's priorities. Some participants also called for more extensive, conclusive willingness to pay research to inform the calculation.

"It's hard to come up with a precise number. It is very hard to say what should be in the pot when you don't know the approach."

"The question of what it should be in the pot depends on what the pot should be used for."

"To work out what is needed – you need more information. There's no sense of geographical spread, or where the pinch points or what National Grid's priorities are."

"It is quite hard to understand the costs – if we could have more clarity on costs, that would be easier. It seems that National Grid don't want to reveal some specific costs."

"It is impossible to work out. Looking through the materials and the way it is tabulated – when says £ x for y amount of miles. How long is that for?

"From this [willingness to pay] research a figure should be set corresponding to what people are willing to pay. Transmission operators should then be asked what could be delivered within this budget."

- Many agreed that the allowance should be related to willingness to pay and to the intended use of the funds (especially taking account of location). The majority of stakeholders felt that the allowance should be socialised but there was some debate as to whether some of the cost should be localised to recognise the benefit to the affected community. There was no common view on this.

"I agree that it should be based on willingness to pay. That should be the first cut."

"Costs should be socialised 100%"

"Could there be some voluntary aspect to it? [You could have a] lower base which is statutory, but there could be an additional contribution."

"It needs to be a bit of both, personal vs. national – locally because you are protecting property values."

"Would those who are unwilling to pay, take into account that most people live in towns so are already benefit from alternative ways of getting electricity. So this is overlooked. It is the other way about as well."

National Grid asked whether it would be beneficial to carry out additional work on the willingness to pay study. Does that give meaningful answers? It was agreed that it would be helpful.

Ofgem advised that they want to understand willingness to pay and indicated that there is an argument over whether it should be just domestic or commercial customers too. This information would allow National Grid / Ofgem to get to a number related to willingness to pay, which in turn would enable National Grid to agree an allowance.

Priorities

Participants discussed priorities and highlighted a number of key factors that are considered to be important to the process. During the discussions they also discussed which landscapes should be prioritised as well as giving their thoughts on different forms of mitigation.

- The majority of stakeholders stressed the importance of a transparent process, which is iterative and reviews and responds to emerging data (e.g. looking at how demand and supply lines evolve). It should place an emphasis on reviewing and back checking and should be initiated by stakeholders.

  "It needs to be stakeholder initiated. Talking to groups like ours and getting them to generate projects is important."

  "It should be an iterative process. We give you a hit list and take it from there."

  "But you have to put it in the wider context of other natural and environmental concerns, this is the first step in opening up those things. Hence, the importance of the back check, review process. Don't just set yourself on a course, you need to consider other things as obstacles come up."

- To take this forward, a number of stakeholders discussed the value in using the groupings that the DNO has set up and where there are local groups already used to working together coming up with agreed solutions. It would be better to "make the most" of this structure rather than create a new structure.

- The majority of stakeholders stressed the importance of talking to communities and looking at the social and economic impact on the wider community. Questions such as "What are the actual undergrounding impacts on the total environment?" need to be considered.

  "It is important to consider the character of the landscape as well as sensitive areas for wildlife and designated leisure areas (e.g. cycle tracks)."

- It was widely agreed that all decisions need to take into account costs, landscape value and benefit to the landscape, opportunities created in terms of renewal need, outages and coordinating with related projects to maximise the value, other environmental impacts *"Cost needs to be one of the factors but you need to consider landscape benefit too."*

  "How do you get a view on landscape benefit? We have resources we can use to characterise sensitivities of landscape. We have lots of tools available which stakeholders can use."

  However, some felt that it is also important to consider boundary issues in the overall analysis.

  "There is no value in working to preserve/enhance a landscape if the view from the top of the hill is straight onto pylons stacked up on the border of the AONB or National Park."

- It was generally agreed that once the process has been agreed, it is appropriate to consider priorities, and for many, the priority was the replacement of existing lines on a "needs" basis. In addition, it was felt that priorities would emerge from the cost benefit analysis outlined above.

  "One priority is to look at the age of different lines and underground on a replacement basis. There is a need for expenditure anyway so it is not additional work although it might be incremental cost."

  "When there is replacement – take it back to the first strategic level; it might justify a totally different approach including rethinking infrastructure."

  "I think you do the full cost benefit analysis, where the greatest benefit can be achieved."

- One Local Authority suggested that given there is potentially a pot of money available, the process could be a grant application process.

  "Interested parties would have to get together in a partnership and submit their proposals."

Prioritising landscapes

- There was general agreement that Areas of Outstanding Natural Beauty and National Parks have the same physical characteristics and that there should not be a distinction between the two. It was acknowledged that there is public misunderstanding around the two areas but that this should not influence policy. The two areas should be treated in a similar way.

- It was also noted by many that it is important to consider areas outside these boundaries as these may also be impacted by new lines / replacement lines.

  "It is just as important to consider the views from NPs and AONBs as it is to protect the landscape within their boundaries. There are sensitive landscapes just outside boundaries so you need to look at indirect landscapes too."

  "Landscape flows across the boundaries. OFGEM distribution mechanism doesn't have any flexibility for that."

  "Could we apply the pot to areas outside those of National Parks – can get distracted on issue that undergrounding is good – but it doesn't suit everyone."

- A number of stakeholders raised the issue of how sites with redundant infrastructure are treated. Many felt that where the existing infrastructure needs to be dismantled, those sites should "revert" to their natural state and should be treated the same as any other areas without infrastructure. (i.e. they should become just as difficult for developers to develop on).

Forms of mitigation

Views on the appropriate forms of mitigation to be used varied considerably between different stakeholders. Some believed that undergrounding is the only acceptable form of mitigation while others felt that there is a need to take account of all the wider issues and potentially use other forms of mitigation.

- For some participants, mitigation equals undergrounding in the vast majority of cases. The only exceptions to this would be where it would result in negative environmental impact.

  "I don't think there are many other kinds of mitigation. I think it would be more honest to call it an undergrounding allowance."

  "For us mitigation = undergrounding (unless the bigger picture of other environmental factors outweighs this principle)."

"What does amenity or mitigation means. For us, this is about undergrounding….in the majority of cases nothing else cuts it."

"Hiding towers behind hills, using trees to screen is ineffective on things other than telegraph poles."

- Other participants felt that there are a number of other solutions including screening, integration with the landscape and integration with other projects (e.g. roads) that would have a visual impact on the area. They felt that it is important to consider the options and the costs / benefits of each option.

  "There can always be another alternative to undergrounding – there could be tree planting for some things."

  "There could be funky new pylons."

  "Is there an offshore solution in the offing within the integration projects then [you] may not need to go through the National Park."

  "When you are looking at options for addressing visual amenities consideration needs to be given to character based sensitivity assessment – e.g. going for a dip in the ridge rather than on top of the ridge economic assessment, a landscape visual impact assessment and an assessment of the bio-diversity eco-system including the soil structure, archaeology. For example disruption to the farming business of undergrounding is horrendous."

  "Consider the different options and make sure that all the relevant issues are taken into account. There is a need for a full range of tools to enable you to look at the environmental impact on an integrated basis. For example, landscape visual impact assessments are going on. Have these been taken into account? What about the guidelines put forward by the Landscape Institute?"

- It was also noted by some stakeholders that there is the possibility of paying compensation - and gave the example of gas in the Brecon Beacons.

- One group put forward a number of steps that could be taken when considering mitigation:

  - Take the proposed approach of looking at all replacement of assets and carry out an economic benefit approach.

  - Look at all the candidates and consider "what is the cost of undergrounding?"

    - Does it add significant cost? Can you demonstrate that the money is worth spending?

- Is there an issue of localisation and is there a mechanism to consider localisation of willingness to pay – e.g. add a levy to B&Bs in the area.

- Consider the following key actions: Avoid, Reduce, Enhance, Compensate.

- When necessary, take action and plan appropriate mitigation that:

  - If lines are above ground – use the landscape, planting; use other detractors / visual intrusions such as existing roads

    "There is a need for joined up thinking (e.g. if Dept. of Transport is building a new motorway it makes sense to site pylons along the road). There is a need for National Infrastructure Intelligence to minimise impact."

  - Only underground where socio-economic benefits outweigh environmental costs.

  - If undergrounding, look at the most effective and acceptable option which may not be the same as a pylon route. E.g. it might be possible to underground under B roads.

Closing the workshop

National Grid thanked everyone for their input into the workshops and said it would be using the information gathered to start informing its thinking and next steps on the visual impact of existing infrastructure.

PARTICIPANTS' EVALUATION OF EVENTS

Participants' evaluation of events

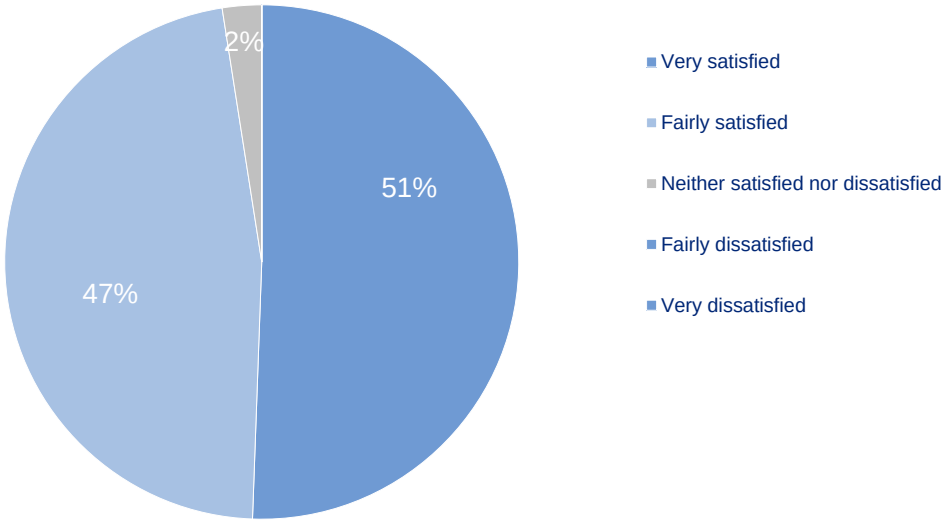
Stakeholders who attended the events were asked to complete an evaluation questionnaire in order to assess their level of satisfaction with the event and to obtain their feedback on the consultation process.

Questionnaires were completed by 82 of the stakeholders who attended at least one of the four Stage 3 events held on November 8th-9th, 10th-11th, 15th and 23rd 2011.

Overall satisfaction

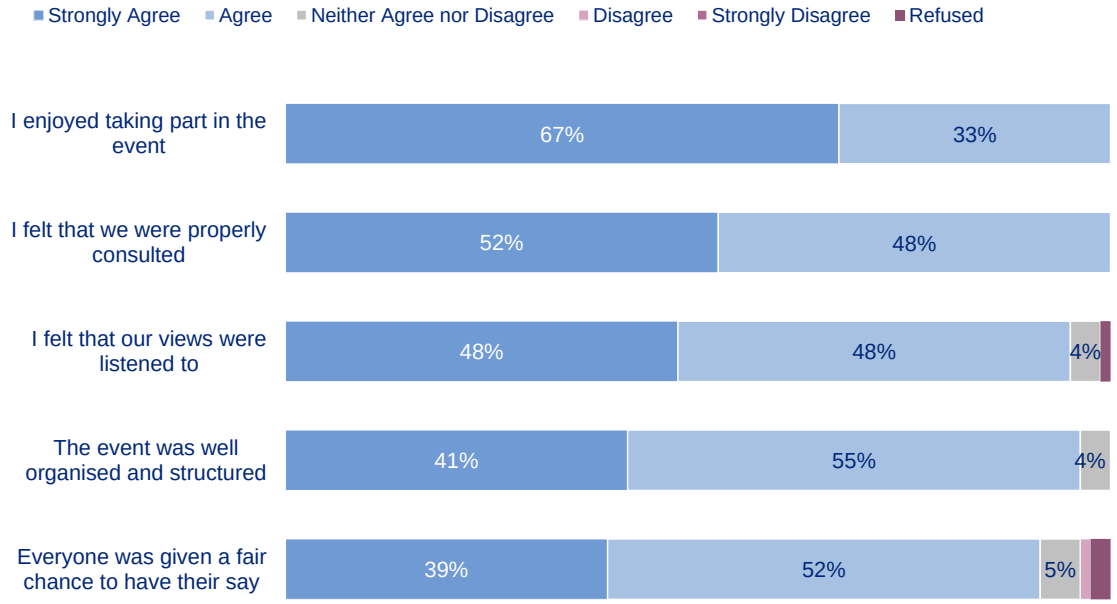
In terms of overall satisfaction, stakeholders were very positive, with 97% saying that they were satisfied with the Stage 3 event that they attended, marginally more than in Stage 2 (89%) and Stage 1 (88%.) Fifty one per cent said that they were 'very satisfied,' a significant increase on Stage 2 (29%) and Stage 1 (25%).

Q. Overall, how satisfied were you with today's event?



Base: Stakeholders attending National Grid Transmission's Stage 3 consultation events who submitted a questionnaire (82) (November 2011)

Q. Based on your experience today, please indicate whether you agree or disagree with each of the following statements:



Base: Stakeholders attending National Grid Transmission's Stage 3 consultation events who submitted a questionnaire (82) (November 2011)

Further measures

Stakeholders were also very positive about a number of other aspects of the consultation events.

- All attendees said they'd enjoyed taking part in the event, compared to 95% in Stage 2 and 89% Stage 1.
- All attendees also felt that they were properly consulted, an increase on Stages Two (66%) and One (83%). Over half of attendees (67%) strongly agreed.
- 96% said they felt that their views were listened to, an increase from Stage 2 (87%) and in line with Stage 1 (96%)
- 96% of attendees felt that the event was 'well organised and structured' an increase from 89% for Stages 1 and 2.
- The vast majority of attendees (91%) agreed that 'everyone was given a fair chance to have their say, slightly lower than the agreement in Stages 2 (95%) and 1 (100%)
- Two in five (40%) strongly agreed, slightly fewer than strongly agreed during Stage 2 (46%.)

Stakeholders were also asked a number of further questions regarding what they had learnt at the event, the impact it would have on their behaviour, and any suggestions that they would make to improve future events.

What, if anything, did you learn from this event?

Attendees gave a range of answers to this question, but some main themes emerged. As was the case at Stage 1 and 2 events, a number of attendees highlighted the opportunity that the event provided to gain an insight into how National Grid operates and some of the challenges faced:

> *"I developed a greater understanding of how National Grid are engaging and how well informed stakeholders are."*
>
> *"National Grid's perspectives on the future challenges for operating the system."*
>
> *"The very broad abbey of concerns that National Grid has to listen to."*

Another theme common with both previous stages was that attendees identified National Grid's willingness to listen to its stakeholders as being their key learning from the event:

> *"National Grid are much more approachable and open to engagement and discussion with stakeholders than we've previously experienced - very welcome!"*
>
> *"Better insight into National Grid activities and future plans; better understanding of the proper channels and people within National Grid to go to for various matters."*

Many respondents reported learning more about specific plans or business areas, specifically RIIO and SO, uncertainty mechanisms and the balance between fast and slow money in the RIIO price control money.

> *"Learned more about how the structure the RIIO price control is designed e.g. Totex versus separate opex/capex; fast vs. slow money."*
>
> *"Learned about RIIO and NGET future plans."*
>
> *"Areas where I had no previous knowledge or experience were interesting - charging and SO activity."*

What, if anything, might you do differently as a result of what you have learned?

Attendees made a range of suggestions here. As with both Stage 1 and Stage 2, a key theme to emerge was that the event led stakeholders to endeavour to engage further with National Grid:

"[In the future I will] directly approach National Grid staff I have met and talked to."

"Reach out to specific people within National Grid who have authority/responsibility for key areas for us."

"Be more proactive as an organisation in approaching National Grid and providing views, feedback etc. rather than waiting to be formally consulted."

Do you have any comments or suggestions about future events?

Attendees were broadly happy with, and complimentary of, the consultation process, in particular the organisation and content of the events:

"The format worked very well."

"Organisation of event was good with presentations followed by round table sessions."

"The table based discussions were well facilitated. It was also helpful to get an industry presentation."

Some attendees commented that there could have been a better mix during table discussions; a few suggested a pre-decided seating plan would have solved this:

"Pre-prepared seating plan if a mix is required at tables."

"It would help if there was a better balance at the tables of National Grid, policy makers and other stakeholders. Perhaps consider seating arrangements in advance."

"Ensure each table has a mix of stakeholders."

Stakeholders responded positively to being able to meet and discuss topics with National Grid experts:

"Poster session was very good – directly talking to someone from National Grid who is an expert on the topic."

"The table based discussions were well facilitated. It was also helpful to get an industry presentation."

Summary

In summary, feedback from stakeholders who attended the Stage 3 consultation events is generally positive. Where there is criticism, it is constructive. As was the case for both previous stages, attendees were very satisfied with the events and the clear majority felt that they had the opportunity to put forward their opinions, and that these opinions were listened to.

Stakeholders seem to have noted improvements through the stages, appreciating, for example, the opportunity to meet with National Grid experts, and aiming to approach them directly in the future.

APPENDIX: LIST OF ATTENDEES

Gas Transmission Event, London – 8th & 9th November 2011

NAME	ORGANISATION
Antonio Ciavolella	BP Gas Marketing Limited
Charles Ruffell	RWE npower
Chris Wright	Centrica plc.
Christiane Sykes	Statoil (U.K.) Limited
Erika Melén	Scotia Gas
Federica Maranca	Eni SpA – Gas & Power
Fiona Strachan	Gazprom
Frasier Ashman	WINGAS Storage UK Limited
Haren Thillainathan	Northern Gas networks
Jacopo Vignola	Centrica Storage
Jeff Chandler	SSE (8th only)
Julie Cox	Association of Electricity Producers
Lewis Hodgart	Ofgem
Maria Weiss	EdF Energy
Mark Dalton	BG (8th only)
Nick Bradford	EdF Energy
Richard Fairholme	E.ON UK
Samia Adel	Storengy UK
Sandro Fuschillo	ENI UK
Simon Witter	ENI UK
Stathis Mokkas	Ofgem
Louise Schmitz (replaced Stefan Leedham)	EdF Energy
Richard Cook (replaced Steve Marshall)	Scottish Power Generation
Steven Sherwood	Scotia Gas
Bruno Laray	Storenergy UK (9th only)
Clare Hamner	The Carbon Trust (9th only)
Darren Reeves	Interconnector UK (9th only)
Bethan Winter	Wales & West Utilities

Angus Paxton	Poyry
Will Cutler	DECC
Christian Moger	APX
Laurey Bickford	Challenge Energy (8th only)
Steve Husbands	Challenge Energy (9th only)

Electricity Transmission Event, London – 10th & 11th November 2011

NAME	ORGANISATION
Abby Greenall	Horizon Nuclear Power
Anna Kulhavy	Ofgem (10th only)
Charles Ruffell	RWE npower
Chiara Redaelli	Ofgem (10th only)
Diana Chklar	RWE npower Renewables (10th only)
Frank Prashad	RWE npower (11th only)
Goran Strbac	Imperial College London
Guy Nicholson	RenewableUK (11th only)
Helen Inwood	RWE npower (10th only)
Ioannis Konstantelos	Imperial College London
Jennifer Higgins	RWE npower (10th only)
Jose J Calvo Mestre	Gamesa Energy UK (10th only)
Justine Dade	Ofgem
Landel C Johnston	SSE
Lisa Waters	Waters Wye Associates (10th only)
Marina Hod	KiWi Power Ltd
Nick Bradford	EdF Energy
Paul Hawker	DECC
Paul Jones	E.ON UK (10th only)
Peter Waghorn	Cornwall Energy
Richard Clay	The Crown Estate
Robert Longden	Mainstream Renewable Power
Rodrigo Moreno	Imperial College London
Simon Holden	Stag Energy
Stefan Leedham	EdF Energy (10th only)
Tim Sargent	Morrison Utility Services
Vanja Munerati	Ofgem (11th only)
Zoltan Zavody	RenewableUK
Simon Vicary	EdF Energy (11th only)

Andy Manning	Centrica/British Gas
Amardeep Singh	GDF Suez UK (10th only)

Electricity Transmission Event (Scotland), Glasgow – 15th November 2011

NAME	ORGANISATION
Alan Kelly	SP Transmission Ltd
Chuan Zhang	The Crown Estate
David Cameron	EDF Energy
Gareth Williams	Scottish Council for Development & Industry
Grant McEachran	Ofgem
Guy Nicholson	Renewable UK
Ian A J Anderson	SSE
James Anderson	ScottishPower Energy Wholesale
John Cunningham	Comhairle nan Eilean Siar (Western Isles Council)
Keith Bell	University of Strathclyde
Kirsty Murray	University of Strathclyde
Lisa Hardie	Argyll and Bute Council
Manolis Belivanis	University of Strathclyde
Fiona Muir	S P Power Systems
Neil Sandison	SSE
Paul Jones	E.ON UK
Paul Swan	SSE
Rodrigo Moreno	Imperial College London
Simon Swiatek	SSE
Zoltan Zavody	Renewable UK
Alice Baylis	Energy Policy, Scottish Office

Electricity Transmission Environment Event, London – 23rd November 2011

NAME	ORGANISATION
Adam Sedgwick	Essex and Suffolk coalition
Alan Kelly	Scottish Power
Andrew Darke	PLACE
Anna Kulhavy	Ofgem
Christine Tudor	The Landscape Institute
Daniel Gotts	Scottish Natural Heritage
Denise Libretto	DECC
Ian Lomas	DECC
Jeremy Hill	CPRE
John Foster	Essex and Suffolk coalition
Jonathan Adamson	PLACE
Kate Russell	The Central Association of Agricultural Valuers (CAAV)
Michael Wilks	Suffolk County Council
Owain Lloyd-James (am only)	English Heritage
Paul Sobcyzk	Sedgemoor District Council
Rosie Manise	Natural England
Ruth Chambers	Campaign for National Parks
Jess Orr	Countryside Council for Wales Maes y Ffynnon
Tom Leveridge (pm only)	CPRE
Alex Dinsdale	NFU