

SHE TRANSMISSION

RIIO-T2 SUSTAINABILITY, WHOLE SYSTEMS & COMPETITION STAKEHOLDER WORKSHOP

SEPTEMBER 2019



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INTRODUCTION

On 3 September 2019, SHE Transmission hosted a stakeholder workshop, aimed at gathering feedback from its stakeholders on its approach to sustainability, whole systems and competition for the RIIO-T2 plan.

The workshop took place at The National HVDC Centre in Cumbernauld. The workshop covered the following topics: sustainability, including vulnerable consumers and losses; competition; and whole systems. The event consisted of four presentations given by SHE Transmission representatives, each followed by round-table discussions. Quantitative feedback was gathered via feedback forms which stakeholders were asked to complete at the end of each session.

SHE Transmission instructed EQ Communications, a specialist stakeholder engagement consultancy, to independently facilitate the workshops and take notes of the comments made by stakeholders.

Every effort has been made to faithfully record the feedback given. In order to encourage candour and open debate, comments have not been ascribed to individuals. Instead, notes have been assigned to the type of organisation that each stakeholder represents.



EXECUTIVE SUMMARY

The workshop began with a brief introduction from Nick Carthew, EQ Communications.

WORKSHOP ONE: COMPETITION

The first feedback session started with a presentation from Zoé Dick, Transmission Commercial Manager. After this presentation, stakeholders were asked to give their feedback. The key points raised by stakeholders were as follows:

- The majority of stakeholders (85%) agreed that the proposals met the minimum requirements set out by Ofgem.
- Stakeholders were not particularly positive about Native Competition, saying that they wanted more information about assets and specifications.
- Early engagement was considered desirable, but it was agreed that involving stakeholders too early on in planning could be counterproductive.
- Going forward into RIIO-T2 SHE Transmission needs to provide information on future sightlines and innovation, and more detailed information was called for when specific projects are being developed.
- Stakeholders were concerned about the Price Finder approach in terms of: timelines being a constraint; the cost and resources of unsuccessful bids; up-front costs; preventing innovation and alternative solutions; and limiting competition by potentially excluding smaller companies.
- Some stakeholders felt that some of SHE Transmission's procurement process was quite onerous, leading to calls for more transparency and accessibility.
- Just over one third of stakeholders (38%) agreed that SHE Transmission's proposals will deliver the benefits Ofgem is hoping to achieve. When asked what more SHE Transmission could do, stakeholders suggested: being more open to innovation; a more ambitious approach to (long-term) partnering; providing an efficient framework for the supply chain; a supply chain procurement process that has a mechanism for removing or sharing bad risks.

WORKSHOP TWO: SUSTAINABILITY – VULNERABLE CONSUMERS

The second session was introduced with a presentation from Alex Sutton, Sustainability Officer, on vulnerable consumers. After the presentation, stakeholders were asked to give their feedback. The key points raised by stakeholders were as follows:

- Stakeholders felt that Transmission Owners do have a pro-active role in supporting vulnerable consumers, with a joined-up approach with DNOs and other relevant stakeholders advocated.
- SHE Transmission's actual level of contact with the public, and thus the opportunity to engage, was queried; therefore, a supporting role facilitating the bigger picture was suggested.
- Vulnerable-consumer processes have been ad hoc and more direct visibility was required, with SHE Transmission needing to formalise a long-term strategy so it can be rolled out across projects.
- Half of stakeholders (50%) agreed the proposed action and support for consumers in RIIO-T2 were appropriate with 21% disagreeing, and some suggested a stronger statement of purpose was needed, with plans being unambitious and lacking in detail.

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- Stakeholders proposed that SHE Transmission build more grassroots partnerships and widen coordination to align with whole systems including gas. Similarly, coordinating with essential services and tying into wider community stakeholder engagement plans was advocated.

WORKSHOP THREE: SUSTAINABILITY – LOSSES

Roddy Wilson, Network Planning Manager, presented the third session on losses. After this presentation, stakeholders were asked to give their feedback. The key points raised by stakeholders were as follows:

- 75% of stakeholders strongly agreed or agreed that the proposed strategy and action for transmission losses was appropriate.
- Stakeholders wanted SHE Transmission to start engaging with contractors who could provide solutions around costs and timeframes, and suggested SHE Transmission needs to find a way to quantify and value losses for contractors.
- Just over half of stakeholders (55%) were neutral that the approach of spending more to control carbon towards the 2050 ambition would be justified, even though quantified CBA tells different results. The remaining 45% agreed or strongly agreed, with those that agreed advocating it would achieve the ambition that SHE Transmission's strategy desires.
- Some stakeholders admitted they do not consider energy losses when designing products as it is not mandated by clients. Others said they mainly focused on packaging and manufacturing when it came to lowering energy losses.
- As part of its strategy for minimising transmission losses it was suggested that SHE Transmission also looks at: reducing flexi control and fibre cables; more digital substations; retrofitting inefficient transformer cores; driving through more HDVC interconnectors; highlighting the consideration at tender submission.

WORKSHOP FOUR: WHOLE SYSTEMS

The final session was introduced by Andrew Urquhart, Head of Whole System, who explained SHE Transmission's proposed approach to whole systems. Afterwards, stakeholders were asked to give their feedback. The key points raised by stakeholders were as follows:

- Nearly half of stakeholders (46%) agreed the data identified was sufficient to deliver SHE Transmission's whole systems plans; the other half (46%) were neutral and did not seem sure about whether there was sufficient data identified.
- 92% of stakeholders strongly agreed or agreed with the notion that there can be winners and losers, asserting that as systems get bigger it will be much more difficult to ensure that everyone wins.
- Stakeholder agreed that SHE Transmission had not missed any Focus Areas.
- Stakeholders in the table discussion were largely uncertain regarding how the funding model worked. However, on the feedback forms 62% of stakeholders strongly agreed or agreed there is a funding gap, with 31% neutral and 8% disagreeing.
- 67% of stakeholders agreed SHE Transmission is engaging with the right people to progress its plans for whole systems. It was suggested SHE Transmission also looks to engage gas networks, consumer groups, investors, developers, DNOs and National Grid about its plans. It was noted supply chain engagement is implied but not specifically listed.

EVENT FEEDBACK

After the workshop, stakeholders were asked to complete a short feedback form. Some of the key findings are shown below:

- 100% of attendees responded that they found the workshop 'very interesting' or 'interesting'.
- 91% 'strongly agreed' or 'agreed' that they had the opportunity to make their points and ask questions.
- 91% also 'agreed' or 'strongly agreed' that the right topics were covered for them on the day,
- 91% thought EQ Communications' facilitation was 'very good' or 'good'.
- All respondents indicated that they would like to receive the post-event report as well as invitations to similar events in the future.



ATTENDEE LIST

A total of 17 stakeholders attended the workshop, representing 13 organisations. The organisations represented on the day are shown below:

ABB Ltd	Morgan Sindall
Balfour Beatty	RJ McLeod
EDF Energy Renewables	Southern Electric Power Distribution and Scottish
Energy Saving Trust	Hydro Electric Power Distribution - Future Networks
GE Grid Solutions	Scotia Gas Networks
Innogy	Siemens
LS Transmission Consultancy Ltd	Xero Energy Ltd

WORKSHOP ONE: COMPETITION

The first workshop began with a presentation from Zoé Dick, Transmission Commercial Manager, who outlined Ofgem's proposals in relation to competition in transmission, with a view to gathering feedback to further refine ongoing engagement with the regulator and ESO. Stakeholders were also provided with an update on SHE Transmission's proposed 'Competition Plan', and proposals in relation to Native Competition via 'best practice' and 'price finder' approaches were outlined. Finally, SHE Transmission procurement plans for RIIO-T2 were explained.

After the presentation, stakeholders were asked to give their feedback in a round-table discussion session. At the end, stakeholders were asked to complete a short feedback form. The feedback below has been summarised according to the questions asked during the discussion session, with the results from the feedback forms supplementing the feedback where appropriate.



SUMMARY

85% of stakeholders agreed that the proposals met the minimum requirements set out by Ofgem; no stakeholders disagreed with the remaining 15% expressing neutrality. However, it was felt that some models would be costly up front for contractors. It was proposed that SHE Transmission could go further, for example by providing contractors with greater certainty about contracting plans. One issue raised was future-proofing now for rapidly advancing technology.

Stakeholders were not particularly positive about Native Competition, saying that they wanted more information about assets and specifications. Concern was also voiced about Native Competition stifling innovation in order for timescales to be met.

Early engagement was desirable, but it was agreed that involving stakeholders too early on in planning could be counterproductive. It was suggested anticipatory investment would be beneficial.

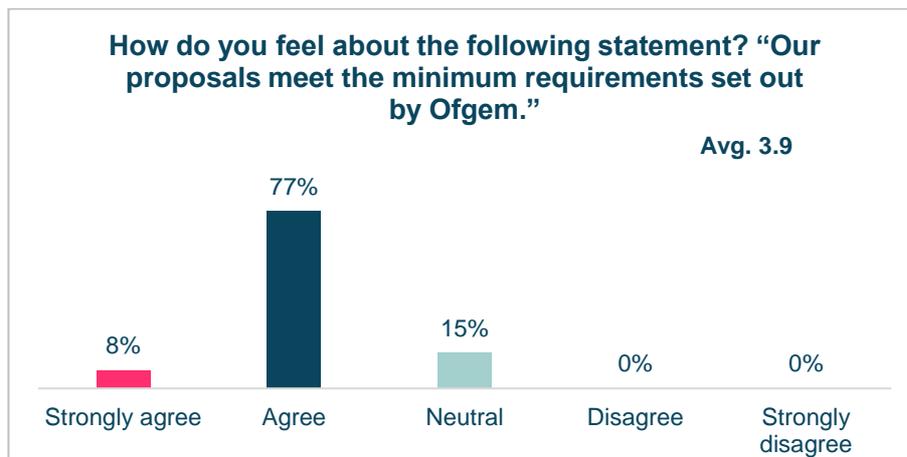
It was asserted that stakeholders are constantly second guessing the printed information SHE Transmission provides, and that going forward into RIIO-T2 SHE Transmission needs to provide information on future sightlines and innovation. Much more detailed information was called for when specific projects are being developed. Greater detail about long-term plans for the network in key areas, such as electric vehicles, was also requested. One stakeholder proposed that the information needed would depend upon how interventions affect the grid and at what point they come into the process; s/he gave electric vehicles as an example. Another stakeholder said they would like to be involved at a stage in the procurement process where there are two or three workable solutions rather than six or seven.

Stakeholders were concerned about the Price Finder approach in terms of: timelines being a constraint; the cost and resources of unsuccessful bids; up-front costs; preventing innovation and alternative solutions; and limiting competition by potentially excluding smaller companies. Clarity was called for on what weighting would be applied to competitive processes; a strategic partnership framework was thought to be an excellent concept but there would need to be some mechanism for guaranteeing elements such as innovation would be weighted. It was asserted that the Price Finder approach does not consider the commercial market in which the supply chain operates, market forces or bespoke project costs; the focus is too much on price rather than value. It was suggested that SHE Transmission should look to share the risk for the Price Finder approach, as stakeholders felt it unfair to load all the risk onto contractors. One stakeholder also proposed Price Finder needs to be a collaborative working group between clients and a reputable group of suppliers who understand the whole scope. The challenge of benchmarking across TOs was also raised.

Some stakeholders felt that some of SHE Transmission's procurement process was quite onerous, leading to calls for more transparency and accessibility.

Finally, just over one third of stakeholders (38%) agreed that SHE Transmission's proposals will deliver the benefits Ofgem is hoping to achieve; 46% were neutral, with 15% disagreeing. When asked what more SHE Transmission could do, stakeholders suggested: being more open to innovation; a more ambitious approach to (long-term) partnering; providing an efficient framework for the supply chain; a supply chain procurement process that has a mechanism for removing or sharing bad risks. One stakeholder felt that in the current market state the proposal will deliver, but SHE Transmission needs to keep in mind how the market may change as more demand shifts to electricity.

1. Do you think that our proposals meet the minimum requirements set out by Ofgem? Do you see any potential issues/other opportunities?



- “What do you mean by agnosticism of technology? By the time we get involved, the technology has already been decided on.” Supply chain representative
- “The issue is future-proofing now for technology that’s advancing rapidly. You need to do what’s necessary at the moment and look to push it to the next level now, which is difficult.” Supply chain representative
- “I do feel that your proposals meet the minimum requirements set out by Ofgem. However, I think that complying with the law and best practice are not necessarily the same thing. You can do more.” Supply chain representative
- “You’re licensed as an operator and get a cut providing that you comply with requirements. On the other hand, we only get paid for what we deliver. As a result, there isn’t the same hunger on your side to push things forward.” Supply chain representative
- “If the bigger companies cannot add value to you, you just become a commodity.” Supply chain representative
- “Certainty about how you contract would be fantastic. We want to be engaged and kept incentivised. SHE Transmission needs to work within that framework.” Supply chain representative
- “Nobody is going to pay to develop things if you’re not guaranteed to get the job at the end. SHE Transmission needs to lobby Ofgem to change the models.” Supply chain representative
- “You can’t ask your stakeholders for one million pounds if you’re not going to get something back. It’s a huge leap of faith. You need to feel a sense of certainty.” Supply chain representative

2. Regarding Native Competition – what benefits do you foresee in earlier engagement with the supply chain?

- “Regarding RIIO-2, we’ve spoken a lot about the benefit of early engagement in terms of planning and meeting client requirements at the right time. Sometimes technology can dictate the direction of a project at an early stage and take it in the wrong direction. Early engagement can allow for a constructability mindset to things. Sometimes contractors are frustrated as when they come in everything has been decided and you have no flexibility.” Supply chain representative

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- “It is possible to engage too early; it can seem like the client hasn't quite worked out their requirements.” Supply chain representative
 - “Our experience is that we run according to existing processes and there's no issue. We'll look to create the best possible offering at the time. How do we change things to introduce them into the network at the time rather than just next time around? We want to offer a good service and discount to the lowest levels, but it's difficult.” Supply chain representative
 - “If we get involved early we can certainly reduce costs, but it's about demonstrating that benefit.” Supply chain representative
 - “One of the challenges for Native Competition is the timescale. At the front end, things look great, but then things get squashed and rushed at the back end, causing you to quickly run through horribly complex design processes. This process is unfortunately stifling innovation because you're just rushing something out of the door.” Supply chain representative
 - “There needs to be a more efficient way of dealing with the unknowns.” Supply chain representative
 - “As contractors, we want to see more detailed information about the assets in the field. SHE Transmission has a huge variety of them, but no one seems to be able to provide you with a simple diagram about how the network is laid out and what components are included in it. As a result, when you use the Native Competition model, there is a lot of guesswork for a contractor.” Supply chain representative
 - “The early discussion needs to set out the specifications, so that everyone knows what they're working towards.” Supply chain representative
 - “Companies need to be able to continue to innovate, so SHE Transmission really needs to bear time requirements in mind.” Supply chain representative
 - “My company tries to work with SHE Transmission in strategic-innovation strategies in order to showcase its new innovations.” Supply chain representative
 - “It would be great if people were to share technology but, understandably, companies aren't willing to put forward certain technological secrets because they are commercially sensitive. There should be a business case in supplying certain information to SHE Transmission to make it easier for it to put together its costs.” Supply chain representative
 - “Strategic innovation is becoming more popular. The direction of travel seems to be SHE Transmission approaching different organisations in to encourage them to start working together. However, this could be difficult to get off the ground, due to reluctance to share commercial secrets.” Industry representative
 - “It feels like a very inefficient process. People go around and around, but nothing gets done.” Supply chain representative
 - “Anticipatory investment would be great, even if Ofgem is terrified of it.” Supply chain representative
 - “I agree with making anticipatory investments, as we have five goals that we need to hit in the next few years. It may cost a lot in the very short term, but it will be very beneficial in the long term.” Supply chain representative
 - “The key is ensuring consistency, reliability and quality. If you work closely with companies, you can engage to ensure what they're providing is reasonable and good value for money. You have that facility to consult on what we're delivering, review what's good and what needs to be improved. A closer working relationship is needed with newer consultants in particular as not everyone is working on the same playing field. It's getting a lot better across the industry.” Supply chain representative

3. What information do you consider SHE Transmission should publicise throughout RIIO-2 in order to provide sight on upcoming competitive processes, and at what point in the procurement process should information be made available in order to reveal the best price?

- “It’s difficult investing time and intellectual property on a solution, only for someone else to go to market with that solution. How can you protect that IP as a supplier? It always goes back to a competitive situation, but it doesn’t help much as we’re guarded about what we have.” Supply chain representative
- “If SHE Transmission wants to establish strategic partnerships, one thread needs to be innovation and one thread needs to be about providing future sightlines. We feel like we are constantly second-guessing the printed information that you are providing.” Supply chain representative
- “Giving us a direction of travel is fine to a certain extent for long-term planning, but when we are developing specific projects, we need to look at much more detailed information.” Supply chain representative
- “I do understand that it’s hard for SHE Transmission to provide a razor-sharp medium-term picture of how the grid’s needs will change, as energy sources are changing so rapidly and people are generating energy from their back gardens, for example.” Supply chain representative
- “You should provide greater detail about your long-term plans for the network in key areas (such as electric vehicles), so that everyone knows the direction of travel.” Supply chain representative
- “The information that we would need depends upon how interventions affect the grid and at what point they come into the process. Electric vehicles are a good example of this.” Industry representative
- “We’re proposing using market indicators as a better way to predict the future. This could help SHE Transmission to generate information for its business plan.” Industry representative
- “Other operators are spending huge sums of money. SHE Transmission needs to be aware that others will see its smaller sums of money on innovation and will be less likely to focus their efforts on working with the company because there are fewer market opportunities as a developer.” Supply chain representative
- “We’d want to come in at the stage where there are two or three workable solutions rather than six or seven.” Supply chain representative

4. Do you perceive any risks (as a bidding market) associated with Ofgem’s ‘Price Finder’ approach?

- “Timelines are a big issue, as you sometimes have to adapt your system to get things through and time can be a constraining factor.” Supply chain representative
- “With cost analysis you can work out a reasonable price, you price a job thinking you’re going to get it, but you now have to win on price and then work out actual costs. You have to find people to work with.” Supply chain representative
- “If you’re a supplier, the cost of production is always increasing and it’s difficult to have a bid backed, we can burn money bidding and not being successful. There’s a lot of mileage in removing that risk, such as within the Transmission framework for example. In the past with other clients it was so onerous and costly to bid, we don’t live in a world with unlimited bidding resources.” Supply chain representative
- “Some of SHE Transmission’s models will end up costing contractors a lot of money up front. For example, some could cost one million pounds on the design.” Supply chain representative

- “Certainty about how SHE Transmission is contracting would be fantastic. We want to be engaged and kept incentivised. SHE Transmission needs to work within that framework.” Supply chain representative
- “Cash-rich companies have funds to contract like this, but SHE Transmission is limiting itself to the top end. The smaller companies simply do not have the money up front for this. Rather than broadening competition, it’s limiting it.” Supply chain representative
- “The variety of topography in Scotland proposes a great challenge for SHE Transmission in relation to benchmarking across TOs. It needs to think about how it will get around this.” Industry representative
- “Another potential risk could be providing commercial information to regulators, but it would really depend on how much information you are being asked to provide.” Supply chain representative
- “The risk needs to be shared. SHE Transmission cannot push all the risk on the contractor as it has done.” Supply chain representative

Feedback form comments

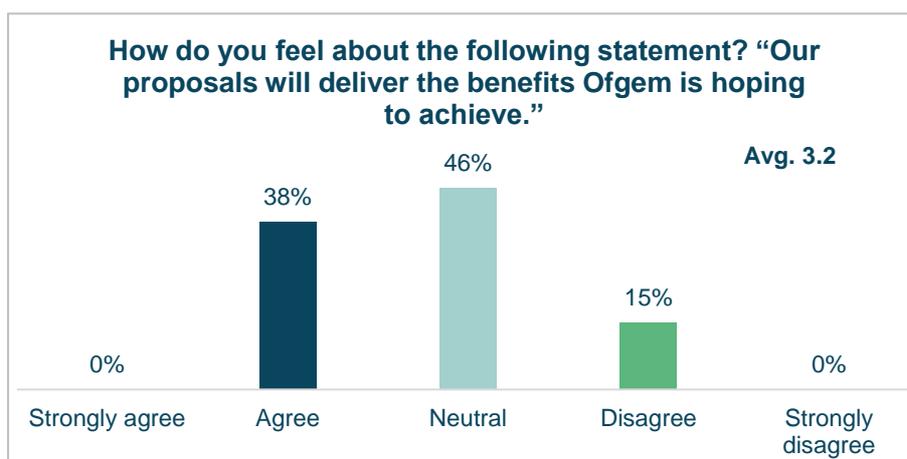
- There was no clarity given on what weighting would be applied to competitive processes - a strategic partnership framework seems like an excellent concept, but it does seem like it would have to have some mechanisms for guaranteeing that innovation etc. would be a ‘weighted element’.
- It presents a risk that bidders may drive up the price on future bids if costs are not reconciled. These may be passed onto the customers which may be detrimental to the viability of some projects.
- The suppliers may not want to share fixed prices at the concept stage.
- There is a need to ensure competition is facilitated, so clarity is required surrounding IP of new technology and approaches.
- This does not consider the commercial market in which the supply chain operates and market forces. Nor does it consider bespoke project costs.
- Timescales could prevent innovation and alternative solutions.
- Long term interest of supply chain if awards not received. Cost of tender support without overhead recovery.
- Focussed too much on price rather than value.
- Is it a true reflection of the costs? Does it promote innovation?
- Determining what the allowable cost is for a project; ensuring that innovation is not stifled; constantly bidding for projects, which takes up a lot of time. Also, cost for contractors and supply chain partners.
- Price Finder needs to be a collaborative working group between client and a reputable group of suppliers who understand the whole scope and should be led by an informed client project manager.
- Companies may not bid due to costs and perceived risk of project not proceeding.

5. Based on your experience of SHE Transmission, what could be done to improve upon our procurement practices?

- “I don’t think the specifications are too restrictive, but some of the processes are onerous and it’s difficult for us. I’d perhaps make it more transparent and accessible if possible.” Supply chain representative
- “I don’t think the standards are an issue, but perhaps there are one or two areas that could be looked into.” Developer

- “We say a lot that when there’s six suppliers involved and then it’s reduced to one or two, it’s much better to be told as soon as it’s clear you’re not in the running.” Supply chain representative
- “The call-off contract has been very helpful, I’m not sure whether there’s a benefit in continuous tendering for external contracts.” Supply chain representative
- “The trouble is that if your suppliers are busy throughout the UK, you’re tied to the framework they’ve set up but if they’re not busy they can help you. If there’s competition, there’s a chance to get a better price.” Supply chain representative

6. Do you think that our proposals will deliver the benefits Ofgem is hoping to achieve (i.e. Cost savings and information asymmetry?) If not, what more do you think we can do?



Feedback form comments

- The connection offer expenses de-risk new connections objectives. Your supply chain has no obligations to submit tenders, but it seems that consumers could benefit if the supply chain procurement process had some mechanism for removing or sharing bad risks.
- In the current market state yes but need to keep in mind how the market may change as more demand shifts to electricity.
- You should provide an efficient framework for the supply chain, with multiple bidders for same projects, as all have overheads which only the winners will recover.
- Needs a more ambitious approach to partnering, with early engagement and frameworks required to identify and realise benefits.
- Depending on delivery model, long term partnering will deliver benefits.
- You should be more open to innovation.
- There is a need to build a working team both sides of client or supplier procurement to ensure value engineering, value for money and cost effectiveness.

WORKSHOP TWO: SUSTAINABILITY – VULNERABLE CONSUMERS

The second feedback session was introduced with a presentation from Alex Sutton, Sustainability Officer, on the topic of vulnerable consumers. He outlined SHE Transmission's sustainability ambitions and its proposed approach and actions to support vulnerable consumers during RIIO-T2, along with Ofgem's perspective.

After the round-table discussion, stakeholders were asked to provide written comments to build on the questions asked during the session. The feedback below has been summarised according to the questions asked during the discussion session, with the results from the feedback forms supplementing the feedback where appropriate.



SUMMARY

Stakeholders felt that Transmission Owners do have a pro-active role in supporting vulnerable consumers, with a joined-up approach with DNOs and other relevant stakeholders advocated. However, SHE Transmission's actual level of contact with the public, and thus the opportunity to engage, was queried; therefore, a supporting role facilitating the bigger picture was suggested. It was noted reaching out to certain vulnerable groups can be challenging. Stakeholders suggested that vulnerable-consumer processes have been ad hoc and more direct visibility was required, with SHE Transmission needing to formalise a long-term strategy so it can be rolled out across projects.

Some stakeholders thought they also had a role in supporting vulnerable consumers and needed to understand what was happening in communities so they could minimise disruption from their projects. Others felt that what they could do to help was not very clear and more of a steer from SHE Transmission would be welcomed.

Half of stakeholders (50%) agreed the proposed action and support for consumers in RIIO-T2 were appropriate, with a fifth (21%) disagreeing and the rest (29%) being neutral. Those disagreeing suggested a stronger

statement of purpose was needed. Stakeholders stressed that the company should be accessible to vulnerable customers and the process made as simple as possible, for example an information line where people can speak to a company representative. More user-friendly resources for the general public, such as bi-lingual literature and highlighting the benefits of PSR, was also proposed.

Some stakeholders supported SHE Transmission's proposal to build up more grassroots partnerships, for example with energy trusts and consumer groups as they were seen as more trustworthy and widen coordination to align with whole systems including gas. Similarly, coordinating with essential services and tying into wider community stakeholder engagement plans was advocated. Finally, it was suggested that supporting vulnerable consumers' needs to be considered alongside managing costs.

1. What role do you think Transmission Owners should have in supporting vulnerable consumers?

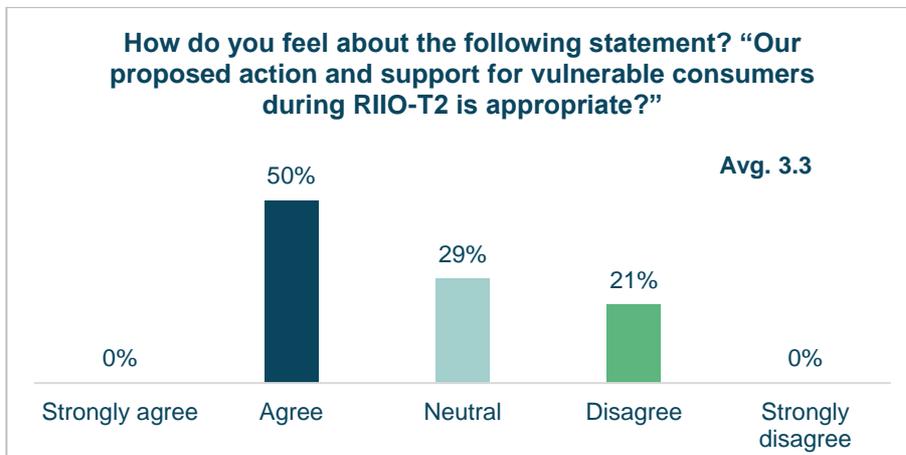
- “How much interaction do you actually have with the general public in terms of having an opportunity to engage?” Supply chain representative
- “It's not beyond your control, but it can be difficult reaching out to certain vulnerable persons.” Supply chain representative
- “Is loss of power the main issue in this area?” Supply chain representative
- “From a supply chain point of view, we need to be aware of going into small areas and these communities. We need to consider the impacts of our projects in terms of minimising disruption.” Supply chain representative
- “What exact targets has Ofgem set for vulnerable consumers and who does Ofgem consider these people to be? It's not very clear to us what we can do as things stand.” Supply chain representative
- “The vulnerable-customer processes have been ad hoc, which is great, but SHE Transmission needs to formalise the strategy so that it can be rolled out across projects.” Supply chain representative
- “Transmission owners already have a role to go out and talk to people that SHE Transmission has not yet reached. The company needs to implement more user-friendly resources for the general public, such as literature that comes in different languages and contains user-friendly terms.” Industry representative
- “How much more infrastructure is required in order to get people onto the PSR?” Supply chain representative
- “A publicity campaign is required to make people less scared of the PSR. Transmission Owners need to make sure that people are aware of its benefits.” Supply chain representative

Feedback form comments

- I believe they should have a vested interest outside construction projects.
- It should be considered in terms of impact with every project, also should be built into longer term strategy.
- They should have a supporting role relevant to their projects and impacts on communities.
- There should be more direct visibility.
- Identify and cater during investment projects to minimise impact.

- Investing or otherwise supporting community focussed projects which encourage resilience and greater optimisation of community benefit, with renewable generation for on-site use, or grid export.
- It shouldn't be left to the DNOs and energy suppliers. Transmission operators should be pro-active and get more publicly and actively involved in a fairer energy system.
- Have a joined up approach with the DNO and other main stakeholders.
- Provide information, such as easy access to emergency phone lines. Know who the vulnerable customers are and share the database with third parties where possible.
- Better communication with DNOs to provide solutions.
- Firstly, it starts with collaboration with DNOs and perhaps contractors to ensure vulnerable customers' needs are met. Secondly and most importantly, vulnerable customer is a forever evolving environment and therefore it requires regular involvement and updates.
- Difficult to ascertain direct role, however key is the link with the DNO, planning around distribution outage planning etc. to minimise disruption.
- A very much supporting role facilitating the bigger picture
- There should be a bigger push from the transmission operators to re-address the use of system charging frameworks. At the moment this area adversely balanced against the people in the north of Scotland, which as a knock on drive up the likely occurrence of 'fuel poverty'.

2. Do you think our proposed action and support for vulnerable consumers during RIIO-T2 is appropriate?



- "People need to be made more aware of SHE Transmission and what it can do to help them. Some people are already too vulnerable and scared to get in touch. We have to create a 'community' so that people feel confident enough to approach companies in the industry about these kinds of situations." Industry representative
- "People need to feel like that they can contact and flag up what their electrical-system needs are." Supply chain representative
- "Things need to be made as simple as possible. Most people just need an information-line number so that a company representative can tell them what's going on." Supply chain representative

Feedback form comments

- Challenge is in ensuring customers understand what is being done and what the benefits there are. Perhaps widen coordination to align with whole systems (include gas distribution and transmission).
- Have a stakeholder engagement plan to target all levels we impact, such as business users.
- Needs a stronger statement of purpose.
- Doesn't seem particularly ambitious and a little lacking in detail. Pursuing opportunities to work with third parties who specialise in this activity has promise.
- Difficult as TOs are a step removed from the vulnerable customers. A more holistic approach would seem sensible.
- Information is valuable however moves to re-address and better spread the cost of transmission is more important.

3. Are there any other activities important to supporting vulnerable consumers that you consider missing from our proposals?

- “In the case of customers who are vulnerable living in a worse-served area, do we want SHE Transmission to try and raise that awareness of service levels in different areas?” Supply chain representative
- “Grassroots contact would probably be best. People just want to feel a basic level of support. For example, an elderly person will simply want to know why the road is being dug up and get the appropriate information about it.” Supply chain representative
- “SHE Transmission needs to build up partnerships, such as with energy trusts, which are seen as more trustworthy.” Supply chain representative
- “Being considerate of vulnerable customers doesn’t necessarily match up with lowest cost. These elements need to be considered alongside one another.” Supply chain representative

Feedback form comments

- Aim to blend into wider community and stakeholder engagement plans.
- Coordinate with essential services, such as bins, emergency services.
- Consider infrastructure plans and options from a minimum whole life disruption perspective.
- Should direct costs associated with DNOs supporting vulnerable customers be passed to transmission operators when transmission operators can be responsible for outages or issues?
- Re-addressing the use of system cost for generators to better socialise the cost and create a fairer playing field.

WORKSHOP THREE: SUSTAINABILITY - LOSSES

Roddy Wilson, Network Planning Manager, presented the third session on SHE Transmission's proposed approach and action to tackle losses during RIIO-T2. He explained the difference between technical and non-technical losses, and that SHE Transmission is looking to take action on losses they can control to reduce overall carbon impact. The proposed target areas were outlined: material and equipment specifications, new and alternative technologies, substation energy usage, quantifying with Cost Benefit Assessment (CBA) and annual reporting.

After the round-table discussion, stakeholders were asked to provide written comments to build on the questions asked during the session. The feedback below has been summarised according to the questions asked during the discussion session, with the results from the feedback forms supplementing the feedback where appropriate



SUMMARY

75% of stakeholders strongly agreed or agreed that the proposed strategy and action for transmission losses was appropriate. Stakeholders on one table wanted SHE Transmission to start engaging with contractors who could provide solutions around costs and timeframes. The other table agreed that energy losses were a huge concern, but queried how losses were measured. They suggested SHE Transmission needs to find a way to quantify and value losses for contractors, who can then put forward solutions in order to help mitigate them.

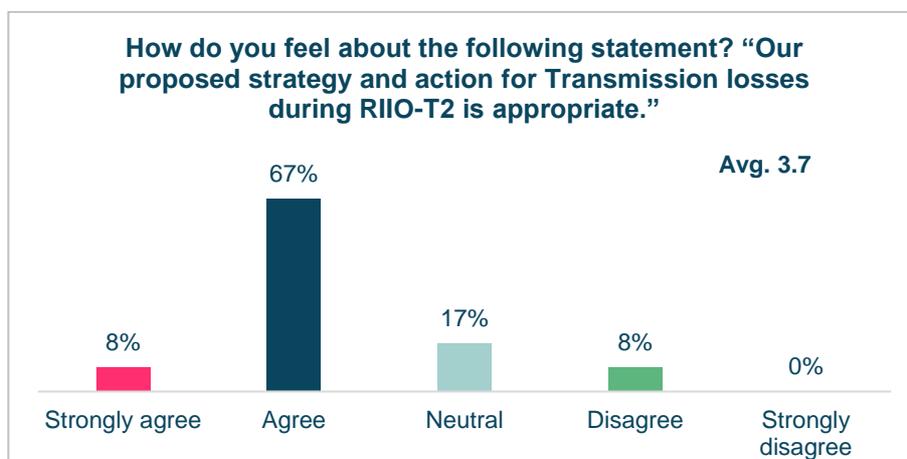
Just over half of stakeholder (55%) were neutral that the approach of spending more to control carbon towards the 2050 ambition would be justified, even though quantified CBA tells different results. The remaining 45%

agreed or strongly agreed, with those that agreed advocating it would achieve the ambition that SHE Transmission's strategy desires.

Some stakeholders admitted they do not consider energy losses when designing products as it is not mandated by clients. Others said they mainly focused on packaging and manufacturing when it came to lowering energy losses and admitted that they do not consider cable losses enough, although it is one of the biggest loss areas.

As part of its strategy for minimising transmission losses it was suggested that SHE Transmission also looks at: reducing flexi control and fibre cables; more digital substations; retrofitting inefficient transformer cores; driving through more HDVC interconnectors; highlighting the consideration at tender submission

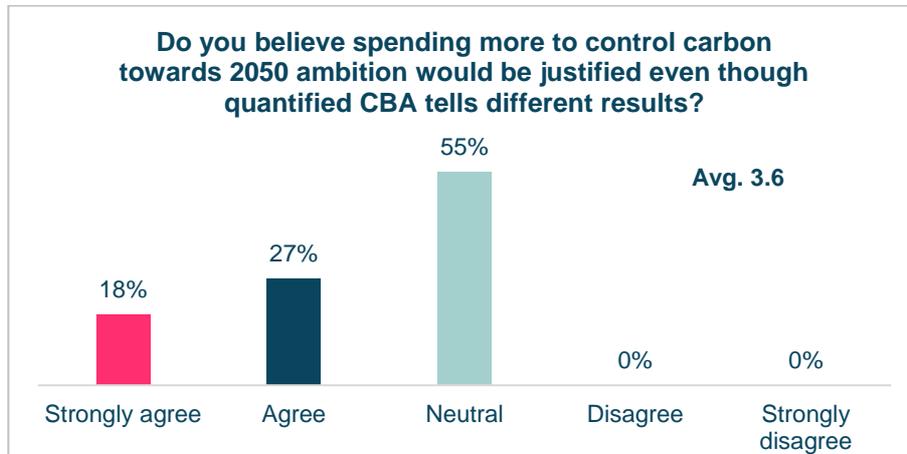
1. Do you think SHE transmission's proposed strategy and action for transmission losses during RIIO-T2 is appropriate?



- “Is the value ever checked after the fact?” Infrastructure representative
- “Energy losses are a huge consideration during the design process.” Supply chain representative
- “Energy loss is one of the standard questions we get as a supplier, though there is perhaps a lack of verification. There may be good performance on certain levels but not on others.” Supply chain representative
- “How much of an impact does the equipment have in these calculations?” Infrastructure representative
- “Is there a policy for forced cooling?” Supply chain representative
- “When SHE Transmission has connections which are outside of its control, how does it measure losses? We need to know what it is currently working towards.” Supply chain representative
- “Nobody wants to pay a premium for something that is not being measured. SHE Transmission needs to find a way to quantify and value these losses for contractors.” Supply chain representative
- “If SHE Transmission quantifies these losses, we can put forward solutions in order to help it to mitigate them. SHE Transmission needs to get better structures in place and then formalise its processes in this area.” Industry representative
- “You should start approaching contractors who could provide you with the technology to help you with your transmission-loss reduction strategy.” Supply chain representative

- “It’s great that there is the 33% reduction target by 2026. However, at some point, SHE Transmission needs to approach us contractors so that it can engage with us about suitable timeframes and costs for developing solutions.” Supply chain representative
- “You can’t suddenly transfer from AC to DC wholesale. SHE Transmission needs to do this as part of a controlled scheme.” Supply chain representative
- “However, moving from AC to DC is something that SHE Transmission can control. If it decided to do this, it would be a step in the right direction.” Supply chain representative

2. Do you believe spending more to control carbon towards 2050 ambition would be justified even though quantified CBA tells different results?



- “This is why establishing the value of losses with the National Grid is so key.” Supply chain representative
- “The context of the area you’re working with is key, you can’t achieve things in the context of losses when the constraints are against you.” Supply chain representative
- “Where I struggle is that the notion of saying we have 2% here and looking to arbitrarily reduce loss by X, if the general goal is a percentage loss reduction, that may just be one major project that absorbs all the funds. Is this an acceptable strategy if that’s the most inexpensive solution?” Infrastructure representative
- “Transformers are a really good topic to discuss in this area because you’re trying to look for something which is efficient and falls within your ambitions. I would be in favour of spending more.” Supply chain representative
- “SHE Transmission needs to spend more money to get the results that it wants in this case.” Supply chain representative
- “I do think that SHE Transmission needs to spend more, but it also needs to look at the language used when measuring results. It needs to have a dialogue and strike a balance between different developers. This is can help ensure consistency. I realise that this is wider industry issue, however.” Supply chain representative

3. How do you consider energy losses in the design of your products and how significant are they?

- “We look at losses when manufacturing products. We look at how they can be assembled in an eco-friendly environment.” Supply chain representative
- “We try and think about the packaging. We want to get everything into one piece of packaging, so that you’re not incurring losses through transporting things piece by piece.” Supply chain representative
- “We don’t consider cable losses enough, but that is one of the main loss areas. We can tell you what the charging losses are, but we can’t tell you what the lifetime losses are.” Supply chain representative

Feedback form comments

- We account for losses as a cost to the generator and therefore a cost to the consumer as a knock-on. We note these are regional and outside control of SHE Transmission directly. However, as a transmission operator there must be some form of feedback into the wider transmission network.
- Heightened levels of consideration are now given to the total cost of delivery for the projects. Lowest cost solution doesn’t necessarily provide the most cost-effective solution when taking the total cost to deliver and it certainly opens up the question to which solutions are best from an environmental concern. In summary this is done at the design stage.
- In terms of gas distribution, we are obliged to measure leakage and shrinkage, reducing this is a key driver for us.
- They form a key element of transformer design to offer energy efficient solutions and these are weighted and stored internal events.
- Energy losses is a large part of our design and are thus involved in making more carbon friendly equipment.
- Losses are key but gains can be expensive.
- Losses are considered but design needs to be driven by value or capitalised cost as used in tender evaluation.
- Consider carbon reduction in civil engineering methods and materials.
- Design is spec driven for OHL and cable connections.
- Very theoretical, as this is a post-installation responsibility of the client.

4. Are there any other activities important to minimising transmission losses that you consider to be missing from SHE Transmission’s strategy?

- “Do you know where your worst-performing transformers are?” Supply chain representative
- “You should be looking at changing flexi control cables. You have reams and reams of them.” Supply chain representative

Feedback form comments

- An indication at tender submission.
- Fibre optics replacing control and signal cables.

-
- Using fibre cables, more digital substations.
 - Consider how to use inevitable losses (for example R&D into energy storage or utilise worked energy to hydrogen (power to gas)).
 - Deployment of modular substations and digitalisation of substations.
 - Retrofitting inefficient transformer cores.
 - CBA across whole transmission planning to maximise impact of spending. This may mean targeting fewer 'big impact' projects rather than small gains on many projects.
 - Surely driving through more of the HVDC interconnectors will have a positive impact on the losses' profiles. However, the impact of these is not represented in current loss predictions from my understanding.

WORKSHOP FOUR: WHOLE SYSTEMS

The final session was introduced by Andrew Urquhart, Head of Whole System, who explained SHE Transmission's proposed approach to whole systems. He began by talking stakeholders through the feedback received at the previous workshop and the company's final definitions and objectives for whole system. He then outlined the data requirements across the various timeframes, discussed CBA and benefits, explained the focus areas and identified funding options. Finally, he outlined the stakeholders SHE Transmission was talking to about its plans.

After the round-table discussion, stakeholders were asked to provide written comments to build on the questions asked during the session. The feedback below has been summarised according to the questions asked during the discussion session, with the results from the feedback forms supplementing the feedback where appropriate.



SUMMARY

Nearly half of stakeholders (46%) agreed the data identified was sufficient to deliver SHE Transmission's whole systems plans, with one stakeholder highlighting that monitoring a large amount of data is a major challenge, but it will eventually pay off. The other half (46%) were neutral and did not seem sure about whether there was sufficient data identified, asking questions and enquiring if SHE Transmission had access to certain databases. 8% disagreed sufficient data had been identified.

92% of stakeholders strongly agreed or agreed with the notion that there can be winners and losers, asserting that as systems get bigger it will be much more difficult to ensure that everyone wins. Concern was expressed for smaller suppliers who may be excluded due to costs and risk.

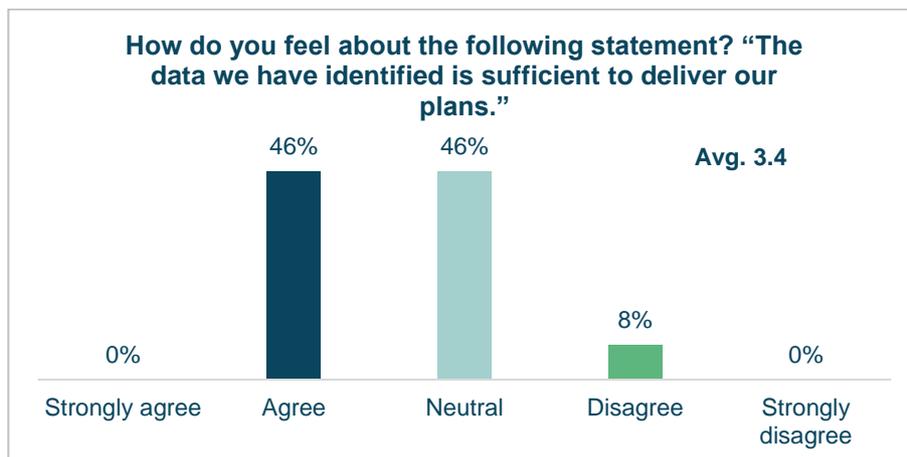
Stakeholders agreed that SHE Transmission had not missed any Focus Areas.

Stakeholders in the table discussion were largely uncertain regarding how the funding model worked; asking many questions rather than being able to put forward a view as to whether the funding model was sufficient. However, on the feedback forms 62% of stakeholders strongly agreed or agreed there is a funding gap, with 31% neutral and 8% disagreeing.

67% of stakeholders agreed SHE Transmission is engaging with the right people to progress its plans for whole systems, with 17% neutral and 17% disagreeing. It was suggested that SHE Transmission should also look to engage gas networks, consumer groups, investors, developers, DNOs and National Grid about its plans. It was noted supply chain engagement is implied but not specifically listed.

Finally, it was suggested whole system thinking could create many issues for TOs and requires investment from suppliers, DNOs, TOs and Ofgem. Delivering within time constraints was also identified as an issue, and five years was felt to be a very short period.

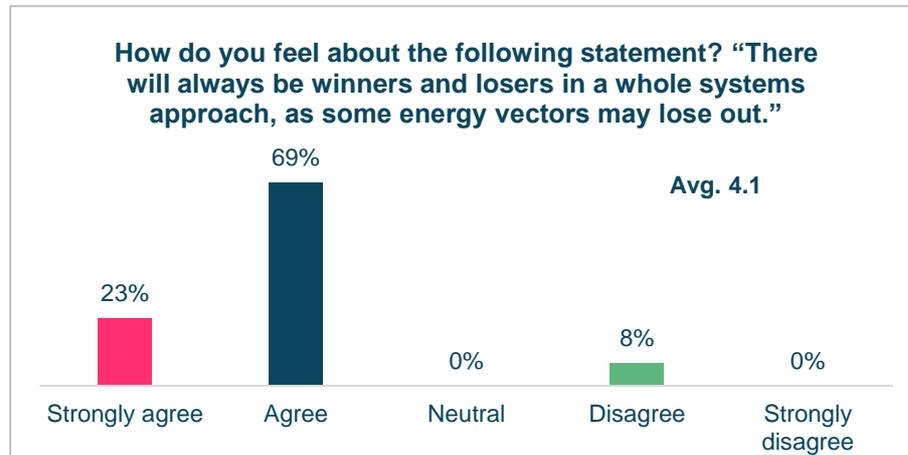
1. Do you think the data SHE Transmission have identified is sufficient to deliver its plan?



- “What happens if it doesn’t work? Are you penalised? Is a regular review process observed to ensure you’re on the right track?” Supply chain representative
- “What are you going to do with the data? You can either use it to plan the network going forward, or give more foresight for outages.” Supply chain representative
- “When you mention GIS, what are you thinking in relation to network mapping?” Consumer group
- “Is the work taking place linked to the GIS register?” Consumer group
- “What are SHE Transmission’s demand data requirements? How will the system work in reality if there is an electricity and/or gas demand cannot be met and how will data be shared?” Industry representative
- “On the transmission side, is SHE Transmission allowed to access the asset-level data so that it can be used for comparing with its monitoring?” Consumer group
- “From a distribution point of view, SSEN is trying to monitor quite a large level of data. It’s a major challenge. There’s also time needed to get used to any major migrations in data processes. It will pay off eventually, however.” Industry representative

- “We’ve always acted on assumptions with gas use. Use is changing rapidly and it’s really hard for us now. We need to change tack and find out more about what’s going on downstream.” Industry representative

2. Is SHE Transmission correct in thinking there can be winners or losers across the whole solution?

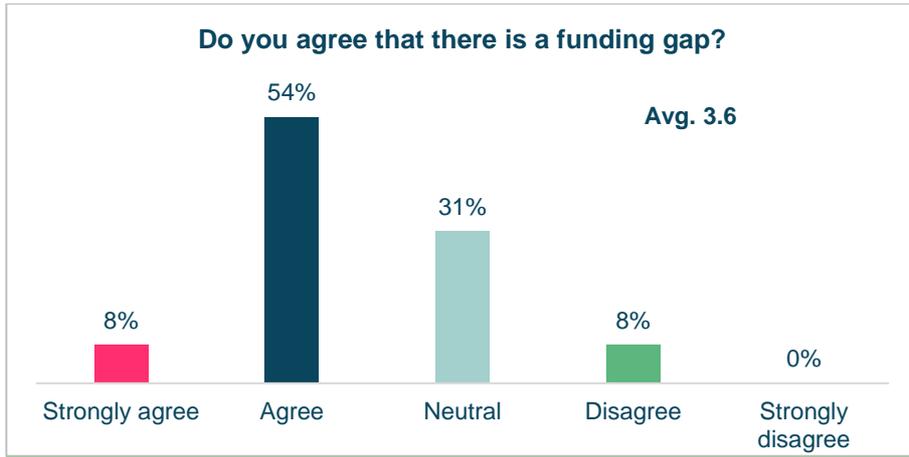


- “If you look at the design construction phase, imagining that we then decide to collocate different assets. In terms of tendering, I imagine a lot more data will be required from providers to address the risk of overrun.” Infrastructure representative
- If you’re suddenly bidding for a piece of work that becomes two or three large items together, this may then exclude some smaller suppliers. Who takes the risk if one provider is running late for example?” Infrastructure representative
- “As you start considering more components and systems get bigger, it will be much more difficult to ensure that everyone wins. It will only get more challenging from here on out. I don’t know how viable the proposition is from Ofgem.” Consumer group
- “The data issues play a major role in this. For example, as some people are unaware of what’s going on downstream, it’s impossible to make proper comparisons.” Supply chain representative
- “Everyone has different operating mechanisms, so it’s very hard to sew them all together.” Industry representative

3. Has SHE Transmission missed any areas to focus on?

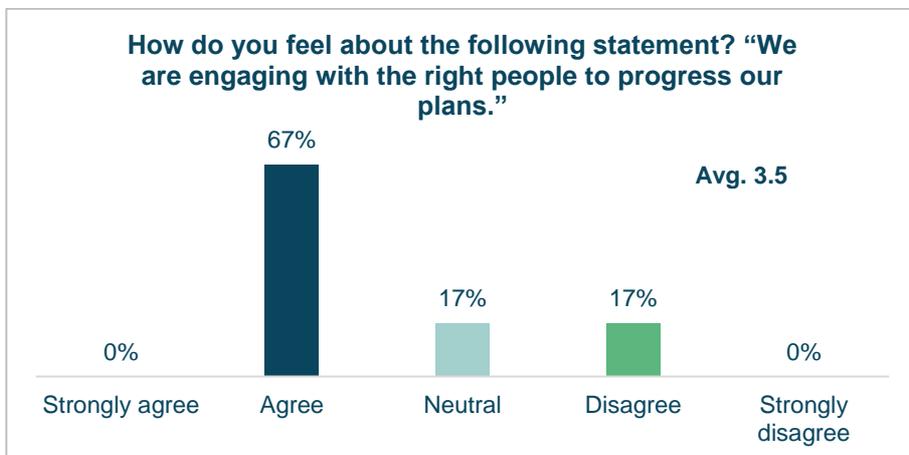
- “You seem to have covered everything.” Supply chain representative

4. Is the funding model sufficient?



- “Our output for GD2 is get the R&D to ensure that you are business as usual.” Industry representative
- “How is Ofgem going to incentivise people to innovate?” Supply chain representative
- “The money from Ofgem is an incentive admittedly.” Supply chain representative
- “Would you be put off going for a contract if there’s that additional level of context to consider from a costs standpoint?” Infrastructure representative
- “If it’s a real project going ahead, who decides to opt for one scheme over another? What’s the assessment involved? I don’t know how you’d publish this information as there are so many organisations involved.” Supply chain representative
- “Is Ofgem asking SHE Transmission to look at whole systems on a scheme-by-scheme basis?” Supply chain representative
- “How do you get paid to demonstrate value?” Supply chain representative
- “Is NOA the closest thing so far? It sounds like an extension of looking at a project in an overall sense?” Supply chain representative

5. Is SHE Transmission engaging with the right people to progress its plans? Is there anyone else SHE Transmission should be talking to?



-
- “You need to get gas transmission onto your list of potential people to target.” Industry representative
 - “Your list didn’t include any organisations that focus on social benefits. You could look into targeting organisations that have consumer interests at heart.” Consumer group
 - “I think suppliers know who their stakeholders are with each project. There’s an understanding of how everything fits in with SSE Transmission and Distribution, but we’re focused on a specific job rather than a wider strategy, which suppliers would have to agree to invest in with you.” Supply chain representative
 - “I guess thinking about how CBA may be involved, you can imagine within that there’s the option to build your own, or build together. A lot of assumptions would need to be made in terms of costs; on the other side you need to balance out the additional risks to factor in alongside cost. If you forget about co-construction, with the consumer you can plan things together to minimise traffic disruption for example. That feels like a simpler starting point. I’m still really sceptical about a whole systems approach in terms of construction in particular.” Infrastructure representative

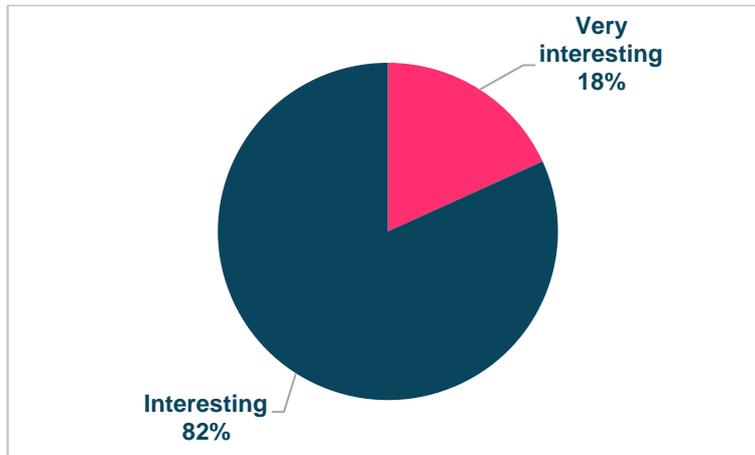
Feedback form – other comments

- GIS systems should look beyond current 'industry standards' towards more innovative systems that offer improved user interactivity e.g. 3D, street level and augmented reality. This will have a positive effect on safety in the field etc. Consumers interest groups are a "whole system" stakeholder.
- What data, what is done with data, software to collate data. Consider who "referees", as Scottish, UK, local government have a lot of variables, with different agendas and interests.
- Need to engage with gas distribution and transmission (NG). Have real-time data.
- Investors and developers should be engaged with.
- Supply chain engagement implied but not specifically listed.
- Whole system thinking will create many issues for TO, as it requires investment from suppliers, DNOs, TO and Ofgem.
- The issue is delivering in the time constraints, as 5 years is a very short period.
- Whole system approach could add cost as suppliers add risk overheads due to increased complexity and parties involved. May affect small suppliers disproportionately. Should not require all sectors to see a benefit as long as delivers on overall systems benefit.

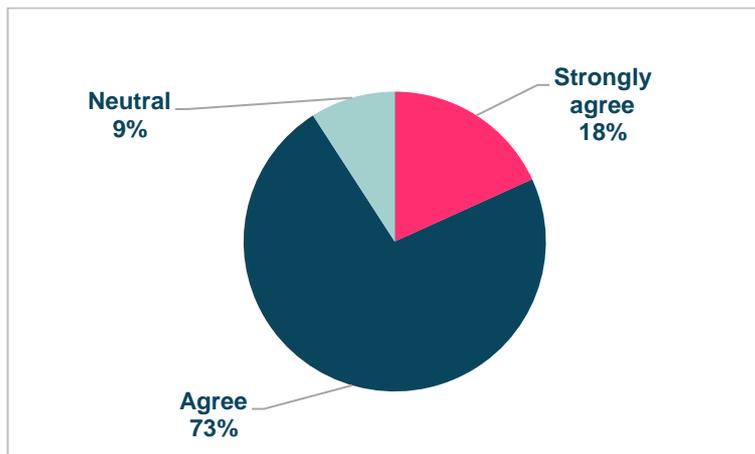
APPENDIX 1: EVENT FEEDBACK

After the workshop, stakeholders were asked to complete a short feedback form on what they thought about the workshop itself. The feedback was as follows:

1. Overall, did you find this workshop to be:



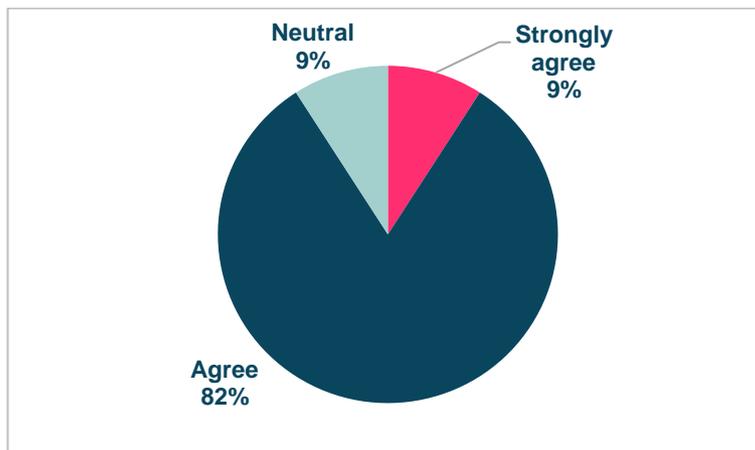
2. Did you feel that you had the opportunity to make your points and ask questions?



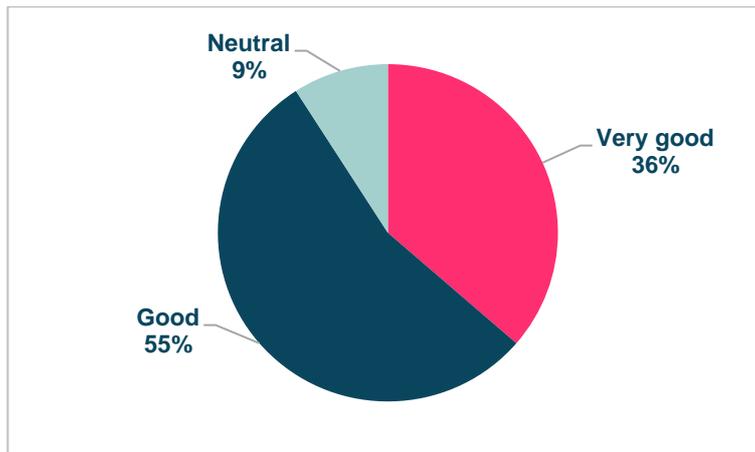
Comments:

- “Good opportunities for discussions.”

3. Did we cover the right topics for you on the day?



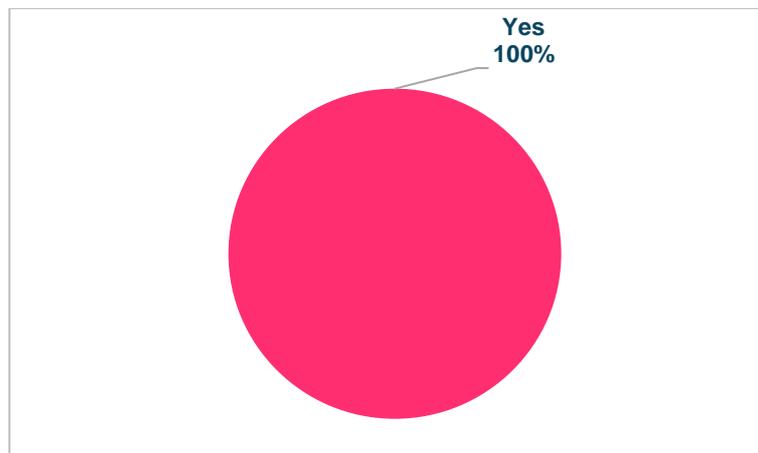
4. What did you think of the way the workshop was chaired by your facilitator?



Comments:

- “Very engaging.”

5. Would you like to receive our post-event report, and invites to similar events in the future?





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