

SSEN TRANSMISSION

DELIVERING A NETWORK FOR NET ZERO: PATHWAY TO 2030 AND OUR NEXT BUSINESS PLAN WORKSHOP

22 FEBRUARY 2023



**Scottish & Southern
Electricity Networks**

TRANSMISSION

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INTRODUCTION

On 22 February 2023, Scottish and Southern Electricity Networks Transmission (SSEN Transmission) held a stakeholder workshop aimed at eliciting feedback on the theme of Delivering a Network for Net Zero, Pathway to 2030 and the next Business Plan. This workshop focused on three areas to inform SSEN Transmission's future plans: Net Zero; Energy Security and Environmental, Social and Economic Legacy. The event was hosted in person at the 200 St Vincent Street conference centre, in Glasgow.

SSEN Transmission instructed EQ Communications, a specialist stakeholder engagement consultancy, to facilitate the workshop and independently 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.

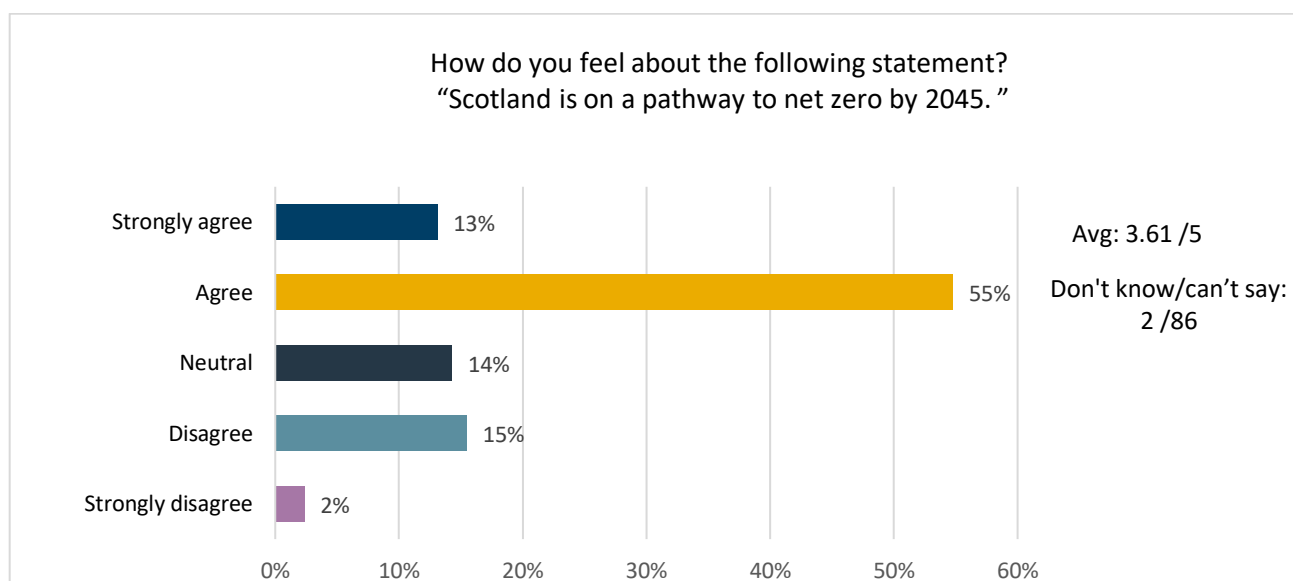
The workshop comprised presentations from SSEN Transmission representatives, followed by roundtable discussions and opportunities for stakeholders to vote on a number of propositions. In addition, stakeholders were asked to vote on a number of propositions using the Slido platform. Q&A sessions were held after the first two presentations along with a Panel Q&A at the end of the day.



Following the initial housekeeping, Rob McDonald, Managing Director (left), began the event with an introductory presentation. After providing an overview of the company and its stakeholder engagement process, he set out the key principles underpinning its T3 Business Plan (2026-2031). These included net zero, environmental protection, reliable assets, and local communities. Rob then identified key goals in the Business Plan, including energy security, value for money, and investment to support the growth in renewable generation. To finish, he invited stakeholders to put forward their views throughout the workshop to help shape the company's thinking around these areas.

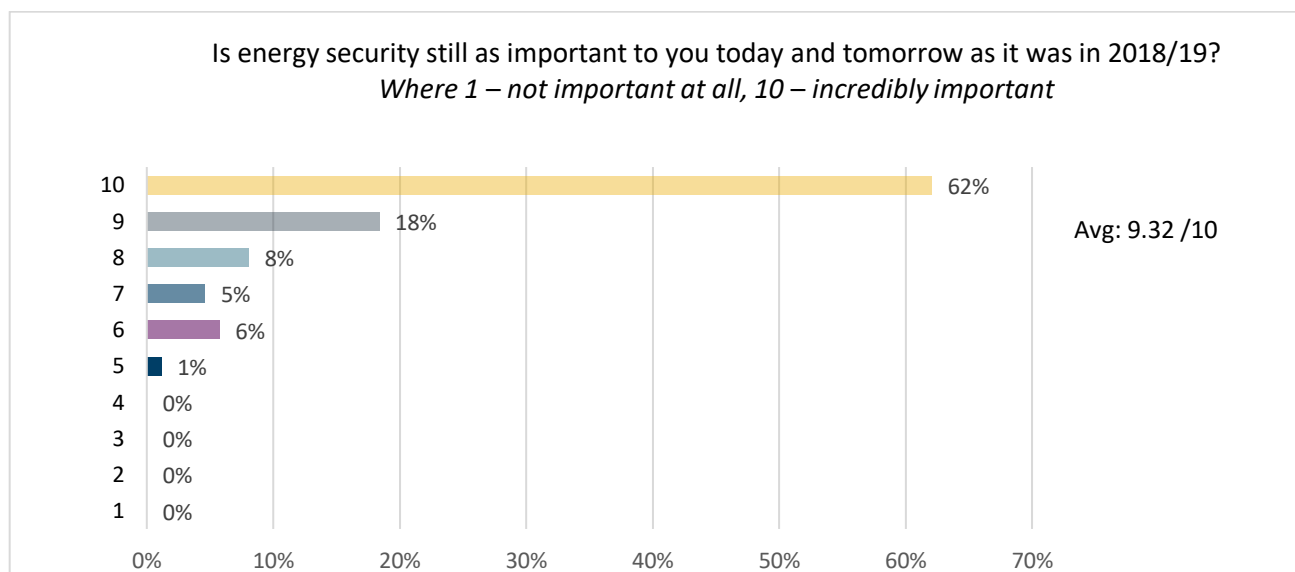
Aileen McLeod (Director of Business Planning and Commercial) then introduced the first discussion session: SSEN Transmission's approach to delivering net zero. After providing some background on the huge progress made in reducing emissions from the 1990 baseline figure, Aileen explained that the 2020 interim decarbonisation target for Scotland had only been achieved as a result of COVID-related travel restrictions.

She therefore stressed that it would require a significant amount of work on the part of Transmission Operators (TOs) to facilitate the connection of renewables and assist other sectors in decarbonisation. After illustrating the huge scale of renewable regeneration growth required within the 2045 pathway to net zero, Aileen identified three key areas to support wider societal decarbonisation efforts. The first was strategic investment in northern Scotland’s transmission motorways to allow around 25 GW to connect. This includes Accelerating Strategic Transmission Investment (ASTI), which was approved by Ofgem in December 2022 and will help to fund major onshore and offshore transmission assets. The second area was strengthening the local grid in order to accommodate new generation and changing demand. Aileen noted that the planning process for this area is very tricky, with various factors weighed up against each other and different levels of futureproofing considered. The final area was an enhanced connections process. Aileen pointed out that connected generation is forecast to triple by 2030; SSEN Transmission therefore aims to make the connections process as seamless as possible to ensure that this scale of connection can be achieved. After a short Q&A session on net zero, stakeholders were invited to provide feedback on these three areas during roundtable discussions. During Aileen’s presentation, she asked stakeholders to vote on the below proposition.



The second session of the morning was introduced by Brian Addison (Head of Asset Management), focusing on energy security. Brian began by emphasising the importance of realising benefit from SSEN Transmission’s assets as part of its asset management process, and explained how energy security was one of the key pillars of this approach. Brian then introduced the company’s three energy security goals for its T3 Business Plan. The first was operating a reliable and available network, which would involve achieving 100% reliability for homes, businesses and generators, through investing in assets that require work. Brian explained that this would maximise renewable generation on the network and would reduce constraint costs. He then moved on to the second goal: maintaining strong, modern defences for critical systems, in line with best practice, built around proactive measures to ensure system reliability, resistance, response and recovery. The final goal was creating

a system capable of 100% safe and secure zero-carbon operations, with a view to ensuring energy security from intermittent and renewable sources and reducing fossil fuel use. During Brian’s presentation he asked stakeholders to vote on the below proposition, the outcomes of which are shown in the following graph.



After lunch, the final discussion session was introduced by Christianna Logan (Director of Customers and Stakeholders). She took stakeholders through SSEN Transmission’s plans to ensure that its network delivers an economic, social and environmental legacy. Christianna began with the company’s greenhouse gas (GHG) emissions reduction initiatives, highlighting the progress made so far. She explained that there was a tension at play between supporting the required scale of renewable generation growth and maintaining an absolute reduction in the company’s own GHG emissions. She also stressed that the company needs to weigh this up against the wider carbon reduction achieved by helping to decarbonise society through supporting this renewable generation growth. Christianna then moved on to biodiversity net gain, outlining SSEN Transmission’s commitments in this area. Despite the progress made so far, she emphasised that the company would need to go further and work to restore ecosystems and increase abundance of nature, as part of a ‘Nature Positive’ approach. Christianna then discussed the company’s engagement with NatureScot to develop a Nature Positive 2030 vision and, with industry peers, to imagine how this vision could be implemented. Finally, she explained that SSEN Transmission aspires to be a leader in this area but is struggling to set specific targets due to a lack of baseline performance for benchmarking them.

The third area introduced by Christianna related to the visual impact of Scottish transmission assets (VISTA). Christianna outlined the company’s funding mechanisms for reducing the visual impact of infrastructure in national parks and the non-technical solutions for improving visual amenity. She then took attendees through SSEN Transmission’s allowance for non-technical projects involving environmental enhancement with associated landscape benefit, and gave examples of projects funded through it. Despite these success stories,

Christianna explained that the funding schemes had strict eligibility criteria, meaning that not enough projects currently qualify to use up the entire budget. Therefore, she suggested that there could be scope for expanding the scheme to cover similar approaches in other areas.

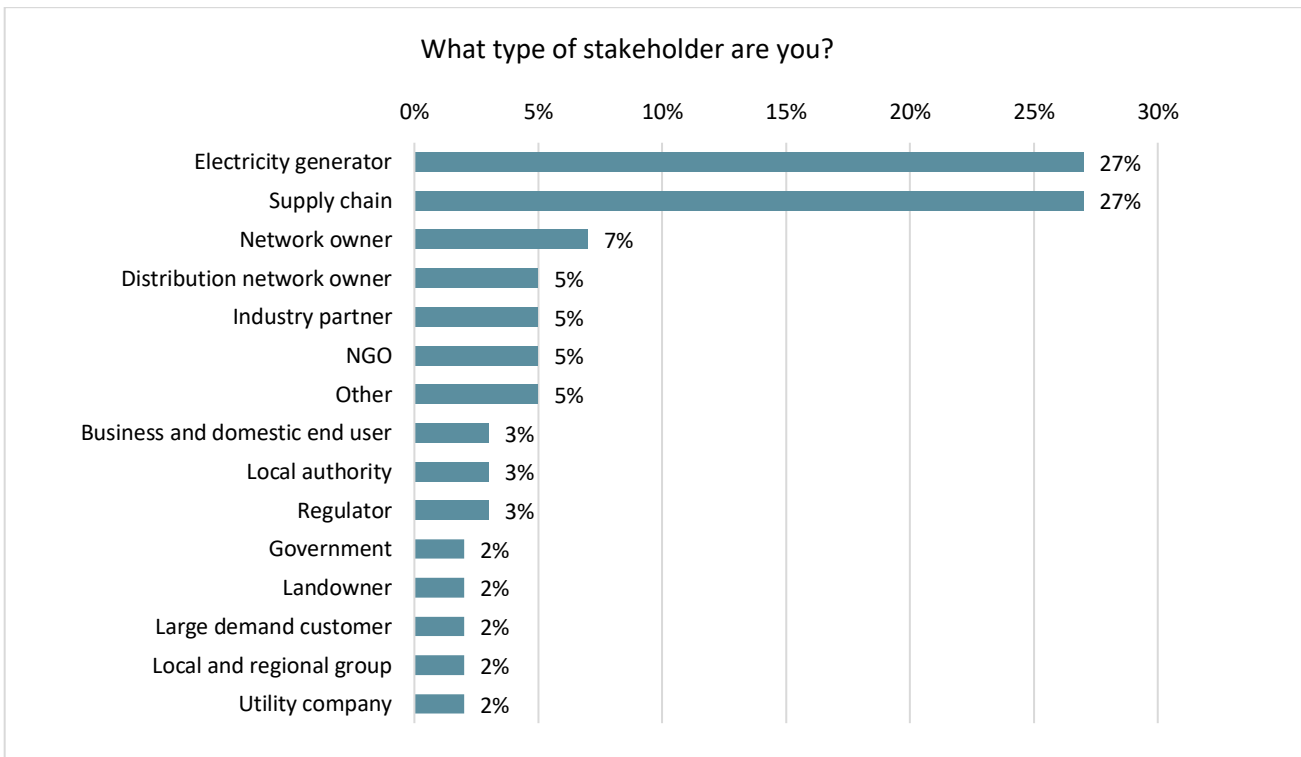
The final area covered in Christianna's presentation was socioeconomic legacy. Christianna outlined the importance of supporting local communities within SSEN Transmission's operations but noted that there is not currently a consistent fund available to all communities local to its projects. In order to address this need, she set out the company's proposed Community Legacy Fund. In its prospective form, SSEN Transmission wanted it to feature local and regional 'pots', and to focus on areas such as education, skills and employability, in order to deliver real socioeconomic benefits for communities. Stakeholders were asked, in advance of the workshop, to select which of the four topic areas were of most interest to them. After lunch, stakeholders were then asked to move to the topic area of most relevance for them. After Aileen and Brian's presentations, questions were taken from the floor. At the end of the workshop there was also a wider Q&A, with questions posed to all of the presenters. This was hosted by Greg Clarke, Head of Corporate Affairs. A full transcript of all the questions and answers is shown in Appendix 3 of this report.



EXECUTIVE SUMMARY

PARTICIPANTS

- In total, 85 stakeholders participated in the event, representing 65 different organisations.
- Following each discussion session, stakeholders used the Slido voting platform to answer questions about the topics discussed. Between 59 and 89 responses were provided for each question.



DELIVERING NET ZERO

- Stakeholders were enthusiastic about achieving net zero, but some expressed concern regarding how we could meet the exacting targets. The challenges highlighted in the discussions included supply chain sustainability, the connections process, the sheer amount of investment required, and the need to minimise the impact on communities. In addition, the lack of a skilled workforce and the need to train new recruits was a common theme that was brought up throughout the day.
- In the electronic voting after the discussion session, a large majority – 88% – of stakeholders agreed or strongly agreed that ‘environmental impact is important when planning the grid’.
- SSEN Transmission’s proposals were seen to be heading in the right direction in terms of achieving net zero, but stakeholders expressed concern about the ambitious 2045 deadline. The need to lobby

government to create a policy framework was stressed in the discussions. It was also noted that the economic viability of certain projects needs to be demonstrated.

- The opportunity for job creation, training and upskilling the workforce was seen as a benefit of the proposals put forward by SSEN Transmission. Stakeholders praised the company's technical expertise and communication, but expressed concerns about staffing issues.
- When asked to vote in response to the statement, "I think community impact is important when planning the grid," 48% agreed and 24% strongly agreed, while only 18% disagreed or strongly disagreed.
- Grid reliability and flexibility were underscored, and stakeholders were encouraged by new efforts in the field of Active Network Management (ANM). Concerns were raised about the visual impact of transmission infrastructure, although many believed that educating the public on the necessity of transmission projects would mitigate this.
- Workforce resilience, including recruiting, training, and retaining staff to support net zero, was highlighted as a need, and timeframes for grid reinforcement were suggested before permissions are granted.
- The upgrading of lines that are no longer fit for purpose was deemed vital, and the UK government was called upon to support this. Collaboration and communication between utilities, contractors and local authorities were requested, and more workshop sessions were suggested to determine how best to go about the planning process.
- Anticipatory investment was strongly supported. 58% strongly agreed with this, while just 9% disagreed, strongly or otherwise. Stakeholders were nonetheless keen for SSEN Transmission to manage its impact on communities and the environment, and suggested that the company made the data behind its investment decisions as transparent as possible.

ENERGY SECURITY

- Stakeholders strongly supported futureproofing the network, with 56% strongly agreeing and 29% agreeing that extra capacity and capabilities should be built in, even if this means more upfront cost to customers. However, a minority suggested that the focus should be on maintaining the same level of low risk rather than investing in gaining that 'extra 0.01%' in reliability.
- Suggestions were made for SSEN Transmission to work more closely with local stakeholders to better manage outages across the network, including balancing assets and deciding which upgrades are the most important to avoid outages. The importance of communicating the real cost of SSEN Transmission's work to the consumer was highlighted, along with a suggestion that the company takes a more innovative and flexible approach to asset management.

- Stakeholders were concerned about the prospect of severe weather incidents becoming more prevalent in the future, and called for better planning and communication to avoid power outages in the coming years.
- It was broadly felt that futureproofing SSEN Transmission’s assets was essential both for financial reasons and to ensure that the network delivers social value.
- Stakeholders felt that investment in cybersecurity to protect energy infrastructure is crucial and emphasised the need for contingency plans in case of a successful cyber-attack. Participants suggested that companies need to be proactive in monitoring cybersecurity, and have a specialised team to prevent these attacks. However, some stakeholders expressed concern that investing in cybersecurity could be a ‘blank cheque’ exercise, and suggested that companies should have a better understanding of what they are protecting. Participants emphasised the importance of having all plans in this area audited and scrutinised by an independent body.
- Most stakeholders believed that having spare assets was the right approach to avoid prolonged outages, with some suggesting that strategic stockpiling of spares should be utilised and banked as assets within the company.

ENVIRONMENTAL, SOCIAL AND ECONOMIC LEGACY

ECONOMIC AND SOCIAL IMPACT

- Stakeholders suggested that SSEN Transmission conducts local area assessments to identify specific needs of each community, and tailors funds accordingly to prevent ‘free-for-all’ access to funds. Seed funding was seen as crucial to enabling local communities to plan and create generational assets that would have a long-term impact and raise money on their own.
- Affordable housing, energy efficiency, load shifting and smart local energy solutions were identified as priority projects, particularly for rural communities. Community-based solutions were also highlighted as important, particularly for projects with a lack of resources and accommodation.
- Some stakeholders argued against defining a specific monetary figure for the level of funding in advance, and suggested a more nuanced approach, considering factors such as impact on property values.
- Measures of success for the fund were discussed, with some expressing concerns about relying solely on metrics, while others believed that getting a community to net zero was a measurable goal. The importance of engaging local communities to identify the appropriate use of funding was emphasised throughout the discussions.

GREENHOUSE GAS EMISSIONS

- Most stakeholders believed that reducing emissions by connecting more renewable generation is beneficial, regardless of network growth and the associated increase in emissions that this brings. It was suggested that measuring and reducing embodied carbon is important, and it was noted that there is currently no incentive for energy networks to do this. Balancing emission reductions and cost increases through innovation was considered especially necessary.
- It was felt that smaller companies and suppliers should be part of the solution, and it was commented that SSEN Transmission's Scope 3 impacts should not be overlooked.
- Stakeholders argued that the design process presents the most effective opportunity for GHG reduction. However, some stakeholders were of the view that science-based targets are often too focused on specific elements and did not look at the bigger picture.
- Some attendees expressed concerns about rigid specifications, and highlighted the need for more guidance and flexibility.
- Transparency and accountability were considered necessary for long-term solutions.
- Replanting native woodlands close to SSEN Transmission's assets, and monitoring water quality and biodiversity when restoring peatlands, were widely supported as ways to mitigate the impact of SSEN Transmission's operations.

VISUAL IMPACT OF EXISTING SCOTTISH TRANSMISSION ASSETS (VISTA)

- Stakeholders believed that VISTA projects had great value in preserving the beauty of national parks. They believed that VISTA provided great value for money, particularly given the benefits it brings to local areas in terms of tourism.
- However, some attendees thought that the VISTA projects were not worth the money, and argued that people should focus on wider environmental issues. Some stakeholders were also concerned that implementing VISTA projects in areas where it isn't needed would impact the bill payer.
- Attendees debated whether there should be a needs-based qualifying criteria for VISTA projects, instead of a blanket approach. Others argued that such criteria would result in communities demanding these projects as business as usual.
- Stakeholders generally agreed that direct visual impact should be given high priority. However, attendees recognised that in Scotland, there are fewer choices about where to put overhead lines because of its geography and often mountainous terrain.

NATURAL CAPITAL

- Stakeholders agreed that prioritising the environment and making operations environmentally friendly is essential. Some stakeholders suggested emphasising the importance of local supply chains and upskilling the workforce as the best approach to demonstrate the value of growing natural capital. The point was made that increased transparency could help strike a balance between environmental concerns and commercial interests.
- Working with partner organisations, including The Woodland Trust, and supporting community initiatives such as ‘Scenic Sandbank’ were suggested.
- Local communities’ involvement in assessing impacts on nature was seen as crucial due to their valuable knowledge and insights. However, it was noted that local community groups face difficulties in accessing information on environmental impact, especially in controversial cases like deer culling.
- Stakeholders argued that SSEN Transmission must have a solid evidence base for all of its decision-making in this area. The Scottish government’s biodiversity strategy was seen as a good model for this.
- Ancient woodland was identified as an irreplaceable habitat that must be protected. It was felt that avoiding these habitats at the earliest possible stage would increase the likelihood of a positive biodiversity outcome.

STAKEHOLDER FEEDBACK

- 68% of participants agreed and 20% strongly agreed that the event provided them with a better understanding of the company’s approach to developing their next Business Plan. Only 5% strongly disagreed, and 7% were neutral.
- 70% agreed that they had sufficient opportunity to share their feedback on the three themes identified for the next Business Plan. 18% strongly agreed, while only 2% strongly disagreed, and 9% were neutral on this.
- 57% agreed that the event provided them with information on how they can work with SSEN Transmission to shape their future Business Plan in the months ahead, while 5% strongly agreed. 25% were neutral, 14% disagreed, and no stakeholders strongly disagreed with this proposition.
- 75% of respondents agreed that SSEN Transmission has the right level of ambition for their next Business Plan, with 9% in strong agreement. 16% of respondents were neutral on the matter, and there were no respondents who disagreed or strongly disagreed with the statement.
- When asked whether they would like to engage with SSEN Transmission further on any of the subjects covered in the event as they start to shape their next Business Plan, 61% of the respondents agreed and 36% strongly agreed. Only 2% were neutral, while none disagreed or strongly disagreed.

SESSION ONE: DELIVERY OF NET ZERO

The first discussion session of the day was introduced by Aileen McLeod, Director of Business Planning and Commercial (below). Following the presentation, stakeholders were asked to provide feedback on SSEN Transmission's plans to support the delivery of net zero.



On the question of stakeholders' personal commitment to net zero carbon, stakeholders were broadly very enthusiastic. However, some expressed concern about the challenges that would need to be overcome in order to deliver this. For instance, some believed that the industry was behind schedule, with the biggest barriers being supply chain sustainability and connections services. Similarly,

others expressed the need for significant investment in transmission and infrastructure, highlighting the enormity of the task ahead.

In the electronic voting, a large majority of the participants (88%) agreed or strongly agreed that considering environmental impact is important when planning the grid. Only a small proportion (7%) of the participants disagreed or strongly disagreed, while 5% remained neutral on this issue.

When asked whether SSEN Transmission's proposals would get Scotland to net zero, the point was made that the proposals detailed in the presentation were heading in the right direction, but it was added that the scale of this ambition was not fully appreciated by many, and that political imperatives could prove to be a barrier. Some stakeholders expressed concern about the ambitious 2045 deadline, and stressed the need for more ambition on the part of policymakers to facilitate this. Stakeholders broadly supported any form of investment that added consumer value, but questioned the economic viability of certain initiatives, and urged SSEN Transmission to consider factors including potential bill increases and inevitable delays as a result of the planning process. The issue of investment to futureproof the network was raised, although stakeholders acknowledged the immense amount of work and cooperation required between the public and private sector to address this issue.

On the question of whether SSEN Transmission may have missed anything in their proposals for net zero, some believed that retrofitting homes was an important aspect that had not been sufficiently discussed.

The opportunity for job creation was widely viewed as a benefit that would be derived as a result of SSEN Transmission's proposals, as were opportunities to train and upskill the workforce.

Stakeholders also emphasised the importance of grid reliability and flexibility, and were encouraged by new efforts in the field of Active Network Management (ANM). Some stakeholders, however, raised concerns about visual impact, and it was felt that a piece of work should be undertaken in order to educate the public on why transmission projects are so necessary if we are to get to net zero carbon. This concern was borne out in the electronic voting, where 48% agreed and 24% strongly agreed with the statement, “I think community impact is important when planning the grid.” Only 18% disagreed, strongly or otherwise.

A frequent concern regarding reaching net zero was the current lack of sufficient human resources needed to build, operate, and maintain new transmission infrastructure. There was a call for a matching plan for recruiting, training, and retaining people to support net zero.

The need to futureproof the network was raised by many stakeholders. Stakeholders appreciated that a balance between cost, availability and sustainability had to be struck, but suggested that timeframes for grid reinforcement were needed before permissions were granted. Furthermore, the importance of early consultation to avoid delays in the planning process was widely discussed. Stakeholders also cited the need to consider environmental factors, particularly with regard to land use, carbon capture and biodiversity. Others agreed, and believed that engagement with local authorities and other relevant parties could help identify potential issues at an early stage in the planning process, including impacts regarding historic woodland environments.

The point was made that it was imperative to upgrade lines that were no longer fit for purpose in a cost-effective way. Grid security payments were also deemed vital, especially for island projects. The UK government was called upon to support this, otherwise it was felt that these projects would not be delivered. Stakeholders called for better communication and collaboration between the utilities sector, contractors and local authorities, and there was a desire for more workshop sessions to see how best to deliver net zero.

A majority of stakeholders believed that anticipatory investment is crucial, emphasising the point that it was important to build with future demand in mind. This was seen in the electronic voting, which saw 58% strongly agree that SSEN Transmission should undertake anticipatory investment, while 31% agreed. Just 9% disagreed or strongly disagreed with this point.

However, stakeholders were concerned about the impact of the necessary construction that anticipatory investment would have on communities and the environment. To manage this, they suggested that SSEN Transmission provide transparent data to show how they had reached their investment decisions. Others argued that anticipatory investment should be favoured, as large, albeit planned and infrequent, disruption was preferable to constant works being undertaken on SSEN Transmission’s assets in a piecemeal fashion.

Stakeholders praised SSEN Transmission's engineers' technical expertise, particularly with regard to the time it takes them to connect. Those who had experience of connecting to the grid appreciated the communication they received, which they found to be superior to that of other network operators. In addition, they noted that they would appreciate more detailed feedback and engagement with engineers earlier on in the process, which would result in saved time for all parties involved.

A common theme raised in the discussions was resource issues; particularly staff shortages. Some stakeholders felt that they were snowed under with connection applications, with no scope for working together due to limited timeframes. They suggested that having more staff could help address this issue. Others criticised wider processes inherent in the transmission system. For instance, the point was made that the tech register needs reviewing because it can be problematic at times. Others thought that the Transmission Network Use (TNU) system is outdated and serves no purpose other than creating expense and uncertainty. They argued that such systems do not help to facilitate the drive to net zero; something that should be addressed as a matter of priority.

Stakeholder feedback

1. Are you, as a stakeholder, committed to net zero carbon?

- “We’re a renewables investor and developer and we aim to develop, build and own. We were founded with the view of accelerating the fight against climate change by reducing carbon footprint in the power sector.” Business and domestic end user
- “I’m head of the T3 project, so I’m responsible for the Business Plan we submit to Ofgem. Net zero for me has been absolutely my bread and butter for many years. We want to do the right thing, get the right investment and continue the business on that path to net zero. In terms of my personal perspective, I bring my work home a lot. I’m lucky enough to have an EV.” SSEN Transmission
- “We are the biggest power distribution contractor in the UK. Yes we are committed to net zero.” Business and domestic end user
- “I am cautiously optimistic, but I’m afraid we’re behind schedule. The biggest barriers are supply chain and connection services. It’s difficult to get grid supplies.” Electricity generator
- “I think I’m a little bit cynical. There’s a massive amount of investment needed. We have to invest in transmission and infrastructure.” Electricity generator
- “Yes, we are. Supply chain matters, a lot has been delivered, more to come, but also open to new approaches.” Supply chain
- “Yes. But also pay attention to impact on communities, support work opportunities in communities.” Supply chain

- “I look at freshwater and also the sea, through the cable matrix. My workload has gone through the roof with renewable energy and net zero.” Business and domestic end user
- “We have a very strong directive to be net zero by 2030, and we’ve from now said absolutely no oil or gas use. It’s controversial but shows the commitment to going green. It’s a big market for us, so we need customer support for that investment.” Supply chain
- “We are sustainable. Our designs are governed by and restricted by SSEN Transmission design restrictions, which I feel are outdated and very restrictive. We are committed, but the design stipulations restrict us.” Business and domestic end user
- “In the last year, I have seen the issues that affect distribution that leave some of us struggling to get anything connected. This is a massive issue in the industry right now. We can’t just talk about windfarms because there are people with jobs and businesses that are being stopped from moving towards net zero. I am committed to net zero, I live my life by it.” Innovator
- “From a company perspective our factories are powered by renewable electricity, which comes at a cost that we have to factor in. But we support the 2030 push for net zero.” Supply chain

2. Do you think that our proposals will get us to net zero?

- “I don’t know if we’re going to get there in time because 2045 is extremely ambitious. All the propositions from a Scottish government distribution perspective do look like they’re headed in the right direction. What worries me, maybe because I’m coming from my history working for the government, I’d like to see more in the regulatory and policy space. The drive should come from there.” Electricity generator
- “Directionally, yes. However, I’m just not sure the scale is appreciated, and political imperatives mean it’s getting pushed to the side. I think it needs to shift from being a reactive process to a proactive process. It’s huge what has to happen. The lead times are very significant. I’d be astonished if it was achieved by 2030. I’d love to see it happen. Things have to happen fast and that’s not being appreciated. We have to get on with it: the granting of the money and the political will is needed.” Business and domestic end user
- “Yes. As a regulator we look to support any form of investment that adds consumer value, specifically environmental consumer value. I don’t think the position on ASTI has been fully thought out. There’s a couple of questions that still need to be answered. At the minute we haven’t done an assessment of whether these systems are economically viable.” Regulator
- “TENET in the Netherlands is blocking us from buying things from European factories. Let’s build to the top of FES (Future Energy Scenarios) and stop reopening. Let’s create opportunities for us to invest in our own markets.” Utility company

- “I have a concern that the plans are completely unachievable and we all know that. It won’t happen by 2030. We should talk about what will really happen rather than fantasy. There needs to be more realism in what’s being planned.” Business and domestic end user
- “We must consider cost implications, look after our clients and energy bills potentially going up. The more build, the more pushback on grid connections; there are lots of factors to juggle.” Electricity generator
- “What we talk about when we look at graphs is very good. But we want locally decentralised businesses to decarbonise themselves. What we have achieved so far is the low-hanging fruit. This is the hard stuff between now and 2030, building for 2038. There needs to be much more debate not just about local windfarms but local distribution. The problem right now is that a battery for a transformer in a windfarm can be deployed really quickly, but will drain really quickly. How can you futureproof this, also considering weather conditions? The rules around connections are outrageous.” Innovator
- “I think in terms of net zero, a lot has been achieved but what is missing is being a bit more expansive and using whole systems, which have gone out of fashion in some respects; i.e., gas networks and electricity. Are we going to use the gas network or electrify everything, and have very clear ways of doing things?” Government
- “Looks like we are on track. There are points about making sure the network is futureproof. Investment is required to achieve that.” Business and domestic end user
- “A huge amount of investment needs to come in and a large amount of work needs to be done in this timeframe.” Business and domestic end user
- “I am optimistic about the target. The amount of work involved will be immense and there will need to be huge cooperation between public and private sectors to meet the targets. There needs to be a lot of work done, but I am optimistic.” Local authority

3. Is there anything else we haven’t considered?

- “I think there are important things that we aren’t discussing today which are going to be more difficult than installing renewable energy sources. Retrofitting homes, for example.” Regulator
- “Putting turbines up is fairly easy, it’s the connection which is difficult. Everything’s there to help get from A to B, but there are things which pop up to block it. The timeline is crucial. We’ll get there, but it might not be the timescale that we want. Individual and group objections as a result of consultation slow down the process. Overhead lines have these problems.” Business and domestic end user
- “I think there should be a more considered approach to the cost on the consumer. My cost of capital is phenomenal. There should be a broader economic assessment of something like this. Reopening

ASTI is hugely detrimental to the opening of new projects generally. There are too many variables creating uncertainty.” Utility company

- “Young resource is hugely missing. We spent £2 billion on the capacity market. We should be putting billions into supporting young innovative people in training and joining the industry.” Utility company
- “Global demand is in the picture, particularly European factories and supply chain issues.” Supply chain
- “Transformers are a massive global problem.” Supply chain
- “There will be trade-offs between optimisation and localisation so we’re trying to assemble more in the country.” Supply chain
- “Augmenting and cementing with the trunk roads will help. You need to design for the future so that we have capacity for future projects. Don’t reopen ASTI, augment it to increase and progress additional windfarms.” Industry partner
- “How is storage being brought into network design? We’re looking into the best technologies for batteries. There’s a new technology that isn’t carbon based but it is very expensive.” Industry partner
- “Local content is very important. Do we do enough as a country? Examples would be Caithness, Sunderland; there is heavy bias towards certain sites or areas.” Innovator
- “Windfarm example: 33% of all work must be sourced locally (people, components) or else they are penalised. Import supply, yes, but at a greater cost. Another example is Taiwan, where 50% must be sourced locally.” Innovator
- “Rural communities want to see job creation, try and keep the young ones in the area to maintain or regain stability.” Electricity generator
- “Provide legacy programmes for locals. Encourage future use of what’s been built in the process, such as accommodation or maybe a football pitch.” Innovator
- “I don’t understand why we aren’t discussing hydroelectric. There is a plan to double the size of this in 2024 and there should be a lot more of this throughout the UK.” Local and regional group
- “I am a developer building storage projects and we are trying to change the way storage is assessed. At the transmission level this is okay as the national grid can see it, but the problem is with small generators that help small businesses generate power. DNOs have no power to generate electricity in real time and no ability to turn it down or increase load when it’s needed. DNOs are the barrier to getting connected. I can’t see that changing easily in the short term because of the equipment.” Business and domestic end user
- “Connections are a key aspect. We depend on the reliability of the grid and timescales for import and export. Perhaps we need to look at synergies?” Utility company
- “Flexibility is key. We need to get on with it. We need active network management. What do we do on days when there’s no wind? Do we use hydrogen?” Business and domestic end user

- “We need to talk about visual impact and incorporate it into the cost. We are slowly killing ourselves, so we need to tell the public why we are doing it. Education is vital.” Local authority



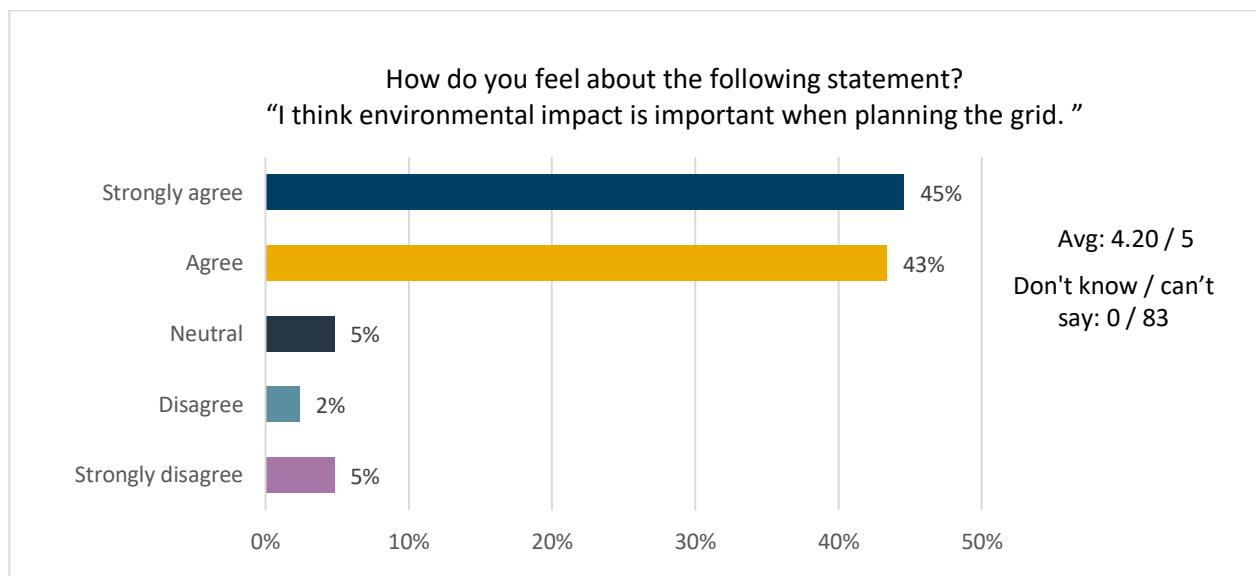
- “We are hamstrung by the transmission constraints. There are really long connection waits on projects because of these. It is all well and good having a plan to reinforce transmission, but we are just going to be static unless we can plan to build things to connect.” Electricity generator
- “It’s difficult to gather resources for a project. This needs to be addressed before planning. Once the project has been accepted, the resources need to be secured quickly.” Supply chain

4. What more can we do to deliver this?

- “SSEN Transmission needs to build and Ofgem needs to support it. Personally I think ASTI is the sort of bold idea we need, and you need to lobby support from Ofgem for this type of bold decision.” Business and domestic end user
- “Be ambitious and plan ahead. It’s not just about generation, it’s the demand connections as well.” Local and regional group
- “The biggest risk for this project is people, the people to build, operate and maintain it. You can’t have a huge ambitious plan without a matching plan for recruiting, training and retaining people.” Supply chain
- “The relationship between distribution and transmission is important. DNOs don’t have the same controls as TNOs do. There needs to be more of a link between them.” Electricity generator
- “We need to expand the grid but also use what we already have more efficiently. We are importing gas, but we have frozen assets.” Electricity generator
- “We were doing work with offshore with a strong Scottish base and the infrastructure to build this is nowhere near where it should be.” Supply chain
- “People are using the same kit but should improve it and put in more capacity.” Business and domestic end user
- “You need to do hydrogen by pipeline. We would need the infrastructure. We are going private wire because SSEN Transmission is not green and too expensive. We will be online by 2025 in Shetland.” Industry partner
- “I am all for futureproofing, capacity should be there. It’s a bit of a black art to balance cost and availability. We need timeframes for grid, before permissions are granted.” Electricity generator

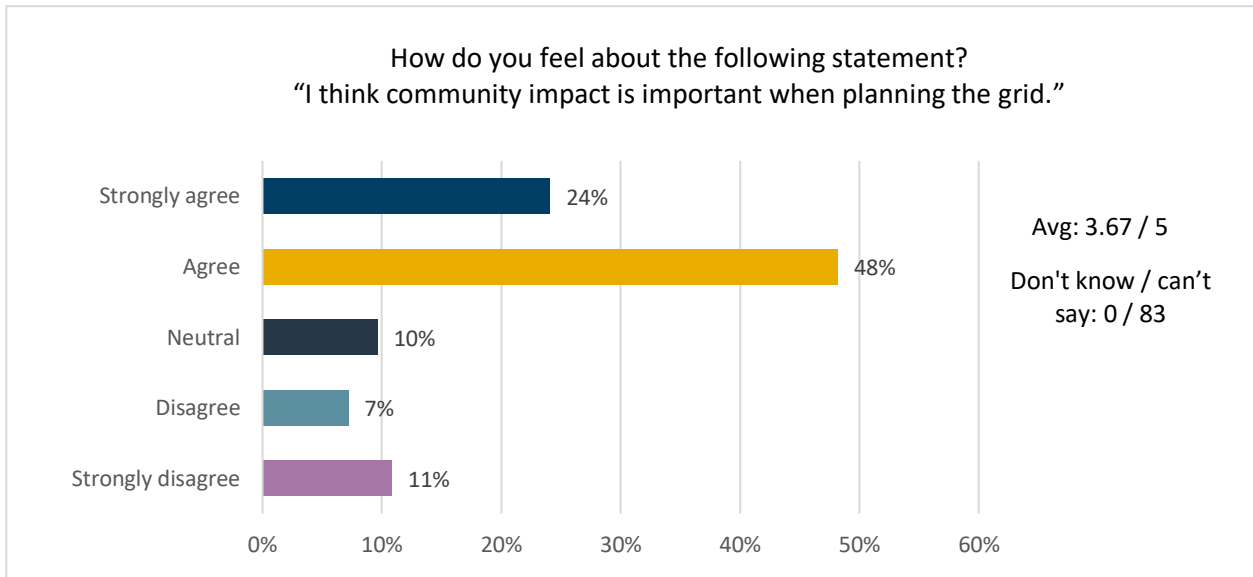
- “Grid security payments are massive, especially for island communities and projects. UK government must get behind that otherwise they will not survive.” Electricity generator
- “More storage capacity is needed on a local level. If you add storage to the load system, it should always help because it will reduce load throughout the system. Everything connects to the transmission system but they can’t see it on the distribution level.” Business and domestic end user
- “From a contractor’s point of view, lines that have been built at a great cost that are no longer fit for purpose, upgrading these lines in a cost-effective way with lots less destruction to the community. I think there needs to be futureproofing built in.” Industry partner
- “I think we need to work more closely in collaboration with the utilities sector. Before 2050 becomes a reality, we need to have more sessions to see how best we can deliver net zero. At the moment, there is a lack of it, especially on the ground. The progress is lacking. My experience is in the Middle East. There, the utilities are very much engaged with contractors. They have daily conversations and site visits. They have all kind of permissions from the authorities. Here, things are not really moving. We really need better communication.” Supply chain

5. What factors should be taken into account when planning the local grid?

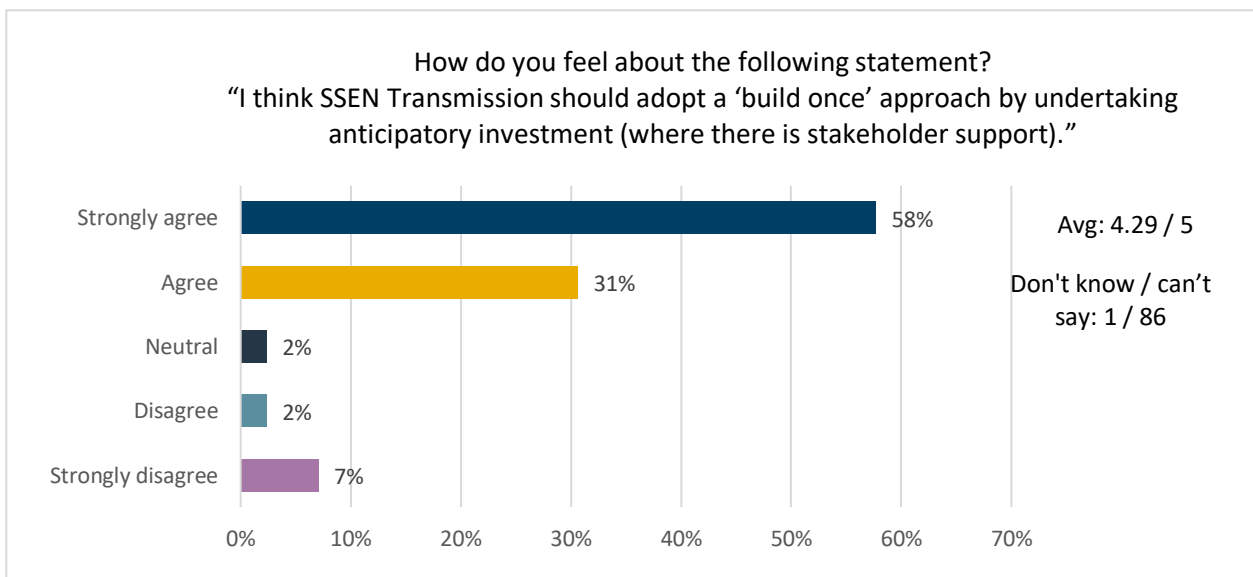


- “From my perspective, the earlier we are consulted, the earlier we can iron out these points. I’m more than happy to point out, for example, where these historic woodland environments are. Then we don’t have to to-and-fro over the granular problems. Finding something out at the later stages of planning is difficult.” Campaign group
- “From a Network Rail perspective, we’ve met the problem of getting local authority buy-in. We hit the barriers all the time about planning permissions, it takes such a long time. We’re told it doesn’t look pretty enough, or it’s too close to houses. It’s about getting that local authority buy-in to help us at an earlier stage.” Transportation

- “We don’t touch onshore winds because of the planning issues with it. What we find with a lot of the applications is they get knocked back based on who forms the committee. It’s grid connection too. For one project, we submitted our pre-planning application and heard nothing back for three months. I found it bizarre. It was a demand centre there, a point of massive demand in a location that has a load of offshore wind. For us it’s the planning, and it’s also the wait times on communicating with National Grid or SPEN. It’s not just SSEN Transmission we’re having issues with.” Business and domestic end user
- “From a small connection point of view everything we build has to be limited. We can’t afford to export a little bit. It’s 100 kW to 5 MW. The local grid needs strengthening and the work that has been done in the past has been tapped out. There’s no resilience left. We need to be building more. We have so much energy that we don’t use. In terms of ‘build once’, we need to be increasing the amount. We have a lot of opportunities to come onto the network but we are waiting and so are a lot of other companies so everything is going to get soaked up immediately. We might not be the best people to be taking that space. Even with a battery, the grid has a lot of headaches.” Utility company
- “It comes back to DNOs’ planning assumptions. Put some local storage in specific to the business that stops that export. You’re essentially selling it at a discounted cost. The cost to use that energy is such that there is a clear business case for doing it at every site of generation.” Business and domestic end user
- “As there are increasing amounts of wires in the country, there should be increased consideration as to where the substations are. There certainly should be more collaboration with the industry on locations.” Business and domestic end user
- “Local area energy planning needs to look holistically at what this area or community will look like at net zero.” Electricity generator
- “LUCF is not mentioned once in the government plans. What are the environmental considerations that are currently part of the plans from a government level? It requires government policy and industry players to give it appropriate weighting.” Campaign group
- “We need to know if we’re training more electricians or not, and where we can bring the resources from. The network needs to be maintained well.” Supply chain



6. Should SSEN Transmission adopt a 'build once' approach by undertaking anticipatory investment?



- "Anticipatory investment in distribution is huge. It's the granular part of planning. To know where the demand will come from is challenging. Talking with stakeholders on local area planning is also hugely important. Of course, there's a balance to be found in not spending too much of customers' money. It's a tricky question, I don't think we have all the answers. There's a difference between anticipatory and strategic investment." Electricity generator
- "There's a sliding scale for investment in the appetite for risk, policy etc., and it's about finding a sweet spot in that. National policy dictates that there cannot be windfarms in national parks. Depending on where they end up being designated, there could be national implications. There are things like that, unknowns which might manifest themselves." Regulator

- “The challenge that I see is that the industry doesn’t have enough resources for building new lines, particularly in terms of people and skill. The cost for the supply chain has skyrocketed – the price of steel and concrete for example. Materials are also taking quite a long time to get to us. These things will affect the speed of building.” Supply chain
- “It’s got to be built with an idea for future demand. Getting an idea of future capacity and routes allows us to identify projects and areas that need targeting from a development standpoint.” Large demand customer
- “From a developer point of view I agree that the uncertainty is difficult. Making information more transparent all through the chain would be beneficial, so we can see the reasoning behind your decisions.” Electricity generator
- “Anticipatory investment is a difficult one to assess. If you look at the technology register there’s 300 GW and it’s never going to be built so what do you use AI for. Need to get rid of schemes that will never come to fruition.” Business and domestic end user
- “You have to look at the impact on communities, doing construction like that. We’ve just had to go into the same area only three years after we did the last one. It comes down to holistic working and a longer-term viewpoint.” Supply chain
- “At a local level, most projects here won’t benefit from it, so there’s lots of community disturbance and habitat disturbance, but no actual benefit where the disruption is.” Business and domestic end user
- “Looking at the local impact, there’s seemingly no thought for maintenance or upgrading the line, as the ability to do so is taken out. This is detrimental to local communities, but with a bit of thought and goodwill could be majorly improved.” Business and domestic end user
- “Usually when there is a large investment going on, people think it’s not needed. We have several large projects going on at the moment. Every time we sit down to start planning, there is yet another project going on at the same time, so we must keep chasing people. We need to be bold and double our investments to stay on target. The capacity on the connections is not available now. When you talk about 2038 or 2040, landowners don’t care. We know we have capacity, but nothing to connect to. Locals never want generators in their backyards, even now that the awareness is much greater than 20 years ago. People are not keen to have these in their back gardens. 20 years ago, everything was done all at once and it energised Scotland. We need to plan ahead.” Industry partner
- “I’m in favour of the “build-once-build-right” approach. That’s the approach suggested to be taken UK-wide when it comes to renewables. People will never like disruption, but they will get over it. It’s hard to do initially, but rather than having a lot of small disruptions often, close five roads to develop

something big at once. It's better than closing two roads and have future disruptions over and over again." Local authority

7. What can you in your role do to help us?

- "As an individual what we can do is lobby our SMPs with regards to connectivity." Business and domestic end user
- "As a land agent I have to go out and negotiate with 15 land agents to run a cable to a substation that needs capacity. The bureaucracy of land ownership is a huge barrier to achieving net zero." Business and domestic end user
- "The role of Ofgem needs to be to facilitate that investment. It's less and less about a pound here or a pound there. There's a misconception that Ofgem go for lowest cost when really we want to go for most efficient cost." Regulator

8. What are the characteristics of an excellent connections service necessary to achieve net zero targets?

- "We need to review the tech register. That system is madness. That seems broken to me and needs fixing, or certainly a review." Large demand customer
- "People are pushed into buying up land all around a site just to ease the process of capacity. This is not a system that will encourage capacity for net zero." Regulator
- "Transmission Network Use (TNU) of the system is an outdated system from the '60s gas rush that serves no purpose now other than creating expense and uncertainty." Utility company
- "The anticipation that a certain windfarm will go through 12 different counties means that things will never get built. Trying to balance 12 MPs and 12 local policies will be a huge barrier to achieving net zero. We need some overarching policy from a governmental level." Regulator
- "Key aspect is that the supply chain secures what goes ahead and Ofgem could be open." Supply chain
- "The design and resilience of the network." Business and domestic end user
- "We're snowed under with connection applications. It's about hanging in and meeting obligations. There is no scope for working together as we are limited to half an hour so there is no chance to follow up and change course if we change our minds. This is a general resource issue with not enough staff in the communication teams." Business and domestic end user
- "There should be more collaboration, between communities, forestry and natural trusts, for example." Business and domestic end user

- “We are confident of the engineers’ technical expertise and the time it takes them to connect the networks. That’s what we see from the district network. The communication aspect has been the best. We used to be focused on England, but so far, our experience in Scotland has been better than in England. We’ve seen a better response time and more detailed feedback. Previously, we were given very vague feedback in England, and it wasted time further down the line. Initial engagement saved our time and the engineers’ time. We don’t engage engineers later because we have feedback early.”
Landowner

SESSION TWO: ENERGY SECURITY

The second discussion session was introduced by Brian Addison, Head of Asset Management (below). Following his presentation, stakeholders were asked to provide feedback on SSEN Transmission's energy security goals. Questions related to the company's approach to determining which assets require work (and when), futureproofing asset capacity to cope with changing requirements, and investment in innovation to ensure a secure energy supply is delivered through intermittent generation.



Stakeholders were strongly in favour of SSEN Transmission's proposed approach as set out in Brian's presentation. However, some argued that 100% reliability should be a baseline aim for any energy company, as that 0.1% could include hundreds of thousands of people, including hospitals and other vital infrastructure. Others, however, questioned the value of investing in gaining that extra '0.01%' of reliability, and suggested that the focus should be on maintaining the same level of risk.

Stakeholders were very much in support of futureproofing the network. This view came across strongly in the voting results, where 56% strongly agreed and 29% agreed with the principle of building in extra capacity and capabilities, even if this meant more upfront cost to SSEN Transmission customers.

There were suggestions that SSEN Transmission should work more closely with local stakeholders when it comes to better managing outages across the network. The need to adopt a balanced approach was stressed, and it was felt that the company should decide which upgrades are the most important to avoid outages. There was also a suggestion that upgrades need to take into account what is happening elsewhere. Stakeholders were concerned that future storms would be more intense and frequent, and called for better planning and communication to the public and local councils to avoid long-term power outages in the coming years.

The importance of communicating the real cost of investment to the ultimate consumer was emphasised. There was a suggestion that the company should take a more innovative and flexible approach to asset management, and that they should move away from reactive maintenance towards more planned and

preventative maintenance. The importance of data in asset management was cited, and it was noted that it was difficult to determine the condition of an asset without reliable information. Scenario planning was identified as a useful tool for determining whether it made sense to build in extra capacity. Participants also highlighted the need to ensure that customers receive value for money, and that a phase-in approach might be more appropriate in some cases.

Stakeholders broadly felt that decisions in this area should be made on a case-by-case basis, taking into account current and future demand in specific areas. Others felt that futureproofing was essential, both for financial reasons and to ensure that the network delivers social value.

Stakeholders felt that investment in cybersecurity to protect energy infrastructure is crucial, especially as the threat of cyber-attacks continues to grow. Some emphasised the need for contingency plans in case of a successful cyber-attack. They suggested that companies should plan for the worst and have response and fallout plans across the whole industry. Stakeholders also discussed the vulnerability of import/export cables, and participants felt that companies need to be proactive in monitoring cybersecurity and have a specialised team to prevent these attacks.

The point was made that investing in cybersecurity had the potential to be a 'blank cheque' exercise. They suggested that companies should have a better understanding of what they are protecting, and that a little bit of intelligence could go a long way in reducing the cost of cybersecurity. Additionally, participants emphasised the importance of having all plans in this area audited and scrutinised by an independent body.

Most stakeholders were of the view that having spare assets was the right approach, as the alternative would be more prolonged outages in the future. Some suggested that strategic stockpiling of spares was the right approach, as assets such as new transformers would always be required. However, they noted that the challenge is the need to justify the initial strategic upfront investment to investors, shareholders and, ultimately, customers.

Stakeholder feedback

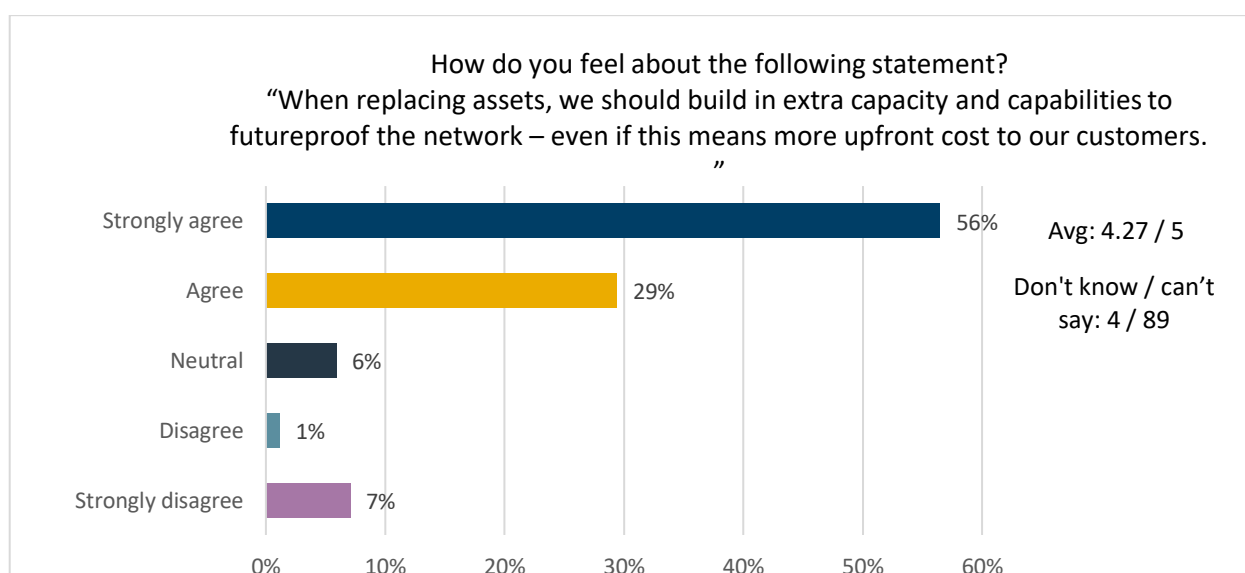
1. Do we still have the right approach in place to determine which assets to work on and when?

- "Work with stakeholders at local level with regards to masting. Manage outages better all over the network. Assets need to be balanced, decide which upgrades are the most important to avoid outages. Can we do refurbishment with regard to what's happening elsewhere?" Regulator
- "Future storms will be more intense, more frequent etc. We must plan for that, communicate to locals and councils, warn and plan, people will accept that. Long-term delays will not go down well. Logistic planning and keep the public informed." Electricity generator

- “I question the value of the investment needed to gain that 0.01%. You can imagine that scale, the different percentages was like the 80/20 rule, so is it really worth it? I understand it’s a good goal, but the focus should be elsewhere. I would be in favour of maintaining the same level of risk, rather than pouring a lot of effort into that 0.01%.” Business and domestic end user
- “Having 100% reliability needs to be a baseline aim for any energy company. It seems like a small figure but in reality that 0.1% is hundreds of thousands of people. That 0.1% includes hospitals and people on life support machines. We shouldn’t diminish the impact of that 0.1%.” Regulator
- “You need a clear message to the ultimate consumer so they see the real cost, especially the costs involved of holding up planning and getting that commitment.” Business and domestic end user
- “I have no comments from an asset management point of view, but do on their oversizing the network for future demand rather than doing it later. One example is the overhead line under the ASTI framework, which will be upgraded, but has only been updated in the last few years. Where’s the foresight, as it passes through some of the scenic land in Scotland? There is more environmental impact and cost than if they’d done it originally.” Supply chain
- “It depends on your budget. We can see something needing done as we go to do something else. This costs more but is better for the environment and community. Our priority would be to do everything in the one go.” Supply chain
- “There are two aspects to maintenance: reactive maintenance or planned/preventative maintenance. SSEN Transmission and their transmission network owners are too far towards the reactive maintenance end of the spectrum. It is industry best practice for a reason.” Business and domestic end user
- “A more innovative and flexible approach is needed. And an understanding that situations will be different. We are trying to move to digitalisation, but it is difficult to gather data. If they have an understanding of what is generating when, then they are able to make much better decisions on how to upgrade.” Electricity generator
- “From a demand users’ perspective, what is resilience in the future, in the next 20/30 years? In the future, it is about doing things smarter as we have more data. We will be able to reconfigure circuits in ways we can’t do at the moment because of the data. There are roles for different actors, like end users, generators and service providers, that need to be taken into consideration when doing a cost-benefit analysis. Of course, engineering analysis is still very important along with costing. But we need to be alive to that fact that resilience in the future isn’t the same as resilience in the past. Should we build additional resources in resilience in the future?” Campaign group
- “I’d like to see more done on maintenance and replacement of equipment in the right time. There are so many projects going on right now, which is good. Assets need to be replaced by the technical experts. They should visit sites frequently and tell us how much life is left in the equipment. I’ve seen

that WPD have been implementing this process in the last few months, but it's just plans. We need to act quicker." Supply chain

2. When we do replace an asset, the new one should last for 40-60 years. Is it right for us to build in some extra capacity or capabilities (where possible) to cope with changing requirements in the local network (such as increasing demand and climate change?)



- "It's about balance. If it's a requirement, yes, but it's a case-by-case situation. If we know there's no demand from a particular area, then it's a waste. Obviously we need to look into the future and where the demand will be." Electricity generator
- "I think futureproofing is implicit, for every reason: financially, socially, it's wise in every way. To not do it would be folly." Local authority
- "It's very clear the key areas that need to be hit. If you just take offshore and onshore wind, thanks to regulatory planning restrictions, there's very clear places that that generation is going to go. To me, there's very clear areas that need to be beefed up." Business and domestic end user
- "It makes sense to upgrade the assets. The key thing in asset management is data. The data doesn't reflect the condition of your asset on the ground." Local and regional group
- "It needs to be on a case-by-case basis. You're spending customers' money and they need to know they're getting best value. You must do scenario planning and determine. You're looking at a design of something large and you're building over capacity, and these questions overlap." Industry partner
- "In some areas if you are sure, then great, do it ahead of time, but overall a phase-in approach is sensible to me." Electricity generator
- "I like the concept of microgrids and more local generators. Localised generation and energy systems can provide additional resilience to local networks." Local authority

3. If security of supply is important to us all, is it right to continue to protect that security by ensuring we can defend against cyber-attacks and make it harder to physically damage our assets?

- “It’s something which will have a very small marginal cost, so it’s well worth it.” Regulator
- “I think the whole industry needs to invest more in cybersecurity. We are all worryingly underprepared for the very real and viable threat to energy in the UK.” Regulator
- “It is an increasingly important issue. I come from a nuclear background, that part of the industry is extremely hot on security for obvious reasons and the rest of the industry should follow that example.” Utility company
- “There’s loads you can do with technology. How are we prepared to deal with the fallout of an attack? We have no plans in place for what would happen if there was a successful cyber-attack. We need to make scenario plans for the worst.” Supply chain
- “There’s a requirement for response for fallout plans across the whole industry. Obviously they aren’t well-known enough on a more granular level. They also need to be audited and scrutinised by an independent body.” Regulator
- “Clearly it is, as a large amount of the UK’s energy comes from Scotland, then it’s important to protect the infrastructure.” Business and domestic end user
- “I agree but think it’s a ‘blank cheque’ exercise for a lot of companies. They don’t know what they’re protecting and a lot of money gets spent. A little bit of intelligence goes a long way to reducing the cost of cybersecurity.” Utility company
- “Tangible physical side should be easy to protect on British Islands. Import/export cables might be more vulnerable.” Electricity generator
- “I think cybersecurity is a big issue, it just hasn’t happened to an infrastructure provider at scale yet, and the recovery takes so long.” Local and regional group
- “I think it is similar to the previous session, it’s futureproofing and adapting to the current climate. That doesn’t seem like a choice, everyone needs to be aware of cybersecurity.” Industry partner
- “We had a cyber-attack in SEPA, and it floored our organisation for three months. Couldn’t access files. It was huge in terms of impacting the organisation. Energy security: everyone needs it, hospitals, industry; it cuts across all sectors.” Regulator
- “You want to invest a significant amount of money in cybersecurity. You would be in the headlines if you didn’t have it and it hit the fan. People could die, in hospitals on ventilators etc. It would be foolish not to.” Regulator



- “From the lining side of it, if attacks, it could be massive. The costs are huge, and repairs could take months in some cases.” Industry partner
- “We’ve done temporary structures to bypass towers. How you would make them more resilient would be incredible in terms of cost at the point of unachievable. How you would react to it would be a big factor.” Industry partner
- “There is a growing trend of cyberattacks, as more technology means more hackers. There should be more monitoring of it and a specialised team to prevent these attacks. If we get hacked, everything could get switched off.” Supply chain
- “The cybersecurity awareness at the council is growing. At a recent conference on this subject, I heard that the cyberattacks are on the rise, particularly those conducted by state actors: Russia and China. The threat of individual actors or groups should not be dismissed, though. We need to be proactive, use white hackers to hack our own systems to see how resilient they are. This method has not been used at the local government level but should be considered by the national government. I’ve not seen the public being concerned with it, but different public sectors are. Police Scotland has revamped its cybersecurity strategy. We will definitely see a better data protection and cybersecurity approach.”
Local authority

4. Accepting that sometimes things break or can be broken as a result of actions by others, is having a spare piece of equipment ready to install quickly the right thing to do or are longer and more frequent power outages more acceptable?

- “As a contractor, we propose the spares we need and calculate and manage this appropriately. The problem is when parts of the line fall over or explode, it can take 12-18 months to replace the parts. It’s the right approach to have spares.” Supply chain
- “It’s about mitigating the inevitable interruption of service. Investing in people, vans, education, spares, everything you can to limit the impact of intermittent or broken renewables. It’s also about properly researching the long-term economic benefit of making that investment for regulators and shareholders.” Regulator
- “I see no reason why they can’t utilise strategic stockpiling of spares and banking it as assets within the company. There’s no risk because you definitely know that you’re always going to need new transformers.” Utility company
- “The problem with stockpiling strategic spares is where the money comes from to buy it. How do we facilitate that initial strategic upfront investment? Again, this is something tricky to justify to schemes, investors and shareholders.” Regulator

- “I think there are spare transformers set up in the network. It would be a bit naïve not to have spares and critical infrastructures in place. It’s giving you the resilience that people are after and the protection to the system so that you’re not waiting for months for transformers if it goes down.” Business and domestic end user
- “We had a 60-year-old transformer blow up which might be a good thing. After 40 years it is fully depreciated so you are effectively using it for free. If we put in a new one immediately after 40 years we would have been paying for it for 20 years. If you don’t do this you aren’t pushing assets to the end of their life.” Business and domestic end user
- “As a customer I would like us to get the most out of all the assets connected at the expense of less resilience. I think net zero is impossible if we don’t accept risk within the network. We can’t have catastrophic failure that leads to loss of life, but there is a risk in everything we do and having a network at 99.97% resilience is far too costly. Storms will always happen due to climate change, I would like to see much more related to design risks of the network.” Innovator
- “SSEN Transmission tends to purchase transformers direct. That spare transformer isn’t sat there for 40 years gathering dust. It might move on into a new station build and it may be only two-three years before it is put into use. It’s about having them here in this country. All the ones that are 40-50 years old are built in the UK.” Business and domestic end user
- “When I visited various assets, I could see that a lot of equipment was outdated. Some of it was in an inappropriate condition. The maintenance needs to be done properly. The routine maintenance is sometimes left too late. We need to replace older assets and that must be worked on immediately to improve the network. It needs to be working on 100%, not 99%.” Supply chain
- “With storm Arwen, we learnt it the hard way. Water supply failed in our area and all the tanks on the way to us slowly emptied. We were the last house to have water because we had a tank, not a pressurised system. Phone networks had recently changed from copper to fibre, so engineers who came round didn’t know where to start. The issue to me is that batteries are part of the solution, but generators don’t need them. We need a holistic approach.” Landowner

5. Is it right for us to continue to invest in research, development and implementation of new technologies to manage intermittent generation (when the sun doesn’t shine and the wind doesn’t blow)?

- “For me it starts off by mapping these areas, we do it within our business as well, to scout land. I map where I think these areas are, and as I said it’s really clear where it has to be. Another issue is it’s tough on these communities, these areas get hit really hard. Hitting these goals from the Scottish

government, for example, is putting a lot of emphasis on single areas and that is tough. In terms of the transmission network, that makes your job easier.” Business and domestic end user

- “I have questions on the reliability figure. Reliability isn’t necessarily availability. You can have fantastic reliability, but your downtime is super high. With a higher reliability, you might have really intense frequency of your maintenance routines. Maybe that’s how you make projects more attractive.” Business and domestic end user
- “A lot more hydro schemes would be possible. Underutilised option in my view. They could prop up the grid.” Electricity generator
- “Boundaries around transmission licences affect decisions. If needed, we will burn gas to keep lights on. Facilities are lacking.” Supply chain
- “Hydrogen storage could fill the blanks, no existing provisions just now but this deserves thinking about for the long term. Value that storage.” Local and regional group
- “From a network perspective: it comes down to boundary capacity. Can we get more power to areas where it is needed? Obviously yes, but at what cost? We need more consultancy regarding hydro. Balance lines, send more to your boundaries.” Supply chain
- “You need collaborative working and a methodology of shared working in the industry. You need to share knowledge as much as possible as it does not benefit us to be better than one another.” Utility company
- “SSEN Transmission, like all the TMs, has innovation, but what’s frustrating is that the type of connection you could get in Scottish Power’s transmission area isn’t available in SSEN Transmission because it hasn’t adopted the same procedures. There is a postcode lottery regarding whether the provider has adopted a form of innovation. They are supposed to align but it is not mandatory to adopt best practice. You will find differences in approaches and the frustration is that the research either dies away in an archive or another organisation might take it on.” Business and domestic end user
- “Absolutely. Working out what is needed and who can build it as a development community. It would seem the natural way to go, given the way the industry is seeking a non-intermittent flow of energy.” Business and domestic end user
- “Sometimes there is no need to come up with new things but to look at what we have now. Hydroelectric pumps are a big thing, and we’ve had them for ages. This doesn’t happen in other areas. WPD needs to focus on this, to maximise the resources we have now. Later, when the network is built, we can think about the efficiency of our existing lines. There is a lot of improvement to be had later on. First there is a need, then you find the solution. We need to keep with the networks’ demand.” Supply chain

SESSION THREE: ENVIRONMENTAL, SOCIAL AND ECONOMIC LEGACY

The final session of the day was introduced by Christianna Logan, Director of Customers and Stakeholders (below). Following her presentation, stakeholders were asked to provide feedback on SSEN Transmission's initiatives to leave an environmental, social and economic legacy. Questions in four dedicated workshops, which stakeholders had signed up to in advance, aimed to shape the company's thinking across the following areas: economic and social impact, GHG emissions, VISTA, and natural capital.



ECONOMIC AND SOCIAL IMPACT

Stakeholders suggested that SSEN Transmission identify the specific needs of each community through local area assessments. They argued that these assessments would help tailor funds to their specific requirements, which would prevent 'free-for-all' access to the fund and ensure that the projects that receive funding will have a long-term impact. Others also believed that seed funding was crucial, as this would enable local communities to plan and create generational assets in the future. They believed that through seed funding, the multiplier effect would come into play, as this could result in communities raising their own money in the longer term.

Stakeholders felt that projects related to energy efficiency, load shifting and smart local energy solutions would be beneficial, particularly for rural communities. Education and skills were also considered important. It was commented that, while putting money into education was seen as easy, providing skills to people in smaller communities was more challenging. Apprenticeships were identified as a way to address this, but stakeholders noted that there was a mismatch between the needs of individuals and what was available.

Stakeholders highlighted the importance of community-based solutions, particularly in the case of projects where there is a lack of resources at present. On the question of funding, one participant argued that it is inappropriate to simply come up with a figure, and that a more nuanced approach is required. They suggested that the impact on property values and the local area should be considered, among other factors. Another stakeholder noted that defining the outcome in advance is essential before determining the appropriate level

of funding. Others suggested that engineers could be sent to specific areas to assess what is needed, indicating a desire for a more detailed and data-driven approach.

It was added that any funding provided to communities would need to be accepted by Ofgem, and that different regions may require different levels of funding. This participant noted that a project covering a small area would require different funding than one covering a larger area.

Some stakeholders argued that the lack of a regional focus made it difficult to determine an appropriate split of funding. Others raised concerns about identifying a 'blanket figure', and suggested that local authorities should decide how the money is spent. This sentiment was supported by others, who felt that it was important to consider the research among the community and ensure that the funds were benefiting those who need them the most.

When it came to measuring success for the funds, some expressed concerns about relying solely on metrics. They felt that this could lead to losing sight of the value of the project, and instead would result in becoming overly focused on what could be put on a promotional poster. However, others believed that getting a community to net zero was the most important measurable goal.

Notwithstanding this, stakeholders were of the view that it is vital that all projects are measured and reported, so everyone could see the outcomes. Stakeholders also highlighted the importance of engaging local communities and having more open discussions on an individual level to ensure that everyone's needs are being met.

Stakeholders were asked whether they would expect SSEN Transmission to include a circular economy target within their next Business Plan as an electronic voting question. There was strong approval, 32% strongly agreed and 46% agreed, however 18% were neutral and 5% strongly disagreed with the proposition.

GREENHOUSE GAS EMISSIONS

Some stakeholders believed that network growth should not be taken into account as climate change is related to carbon emissions more widely, so anything that can be done to reduce emissions through the connection of renewables is, of course, beneficial. However, others suggested that there should be a way to measure and reduce embodied carbon, as there is currently no incentive to do so. The point was also made that reducing emissions would result in cost increases.

Smaller companies and suppliers were mentioned as part of the solution to reducing carbon emissions, and it was stressed that SSEN Transmission's Scope 3 impacts should not be overlooked. Some stakeholders suggested that offsetting might provide a solution if it was done in partnership with local groups and

businesses. Regarding the inclusion of the three scopes, some stakeholders believed that Scopes 1 and 2 should be prioritised, while others believed that Scope 3 should at least be considered. However, the point was made that including Scope 3 might not be practicable, as it would involve applying frameworks from other countries which may be unworkable.

Regarding GHG reduction targets, one view expressed was that there was too much emphasis on science-based targets, and it was felt that the government should be leading on more elements. This stakeholder believed that science-based targets only focused on specific elements and did not look at the bigger picture. They argued that a complex area like this requires more leadership from government. Another view expressed was that the role of SSEN Transmission should be to lobby the government to do the right thing in this area. It was added that SSEN Transmission should work closely with the government to ensure that the right policies were put in place to address the issue.

Some stakeholders also expressed concern about the specifications set by SSEN Transmission in terms of GHG reduction. The point was made that certain specifications were too rigid and did not allow for flexibility. It was added that SSEN Transmission should provide more guidance on how to adhere to their own specifications.

Some attendees expressed concerns about 'greenwashing', emphasising the need for transparency. They felt that short-term solutions were not enough, and called for more accountability when it comes to verifying emissions reductions.

It was suggested that SSEN Transmission endeavours to replant native woodlands close to SSEN Transmission's assets, as long as this did not impact network reliability. Others emphasised the importance of monitoring water quality and biodiversity when restoring peatlands.

VISUAL IMPACT OF EXISTING SCOTTISH TRANSMISSION ASSETS (VISTA)

Some stakeholders were of the view that VISTA projects were particularly valuable for national parks, which are seen by many as a precious national asset. Another stakeholder shared similar views, and felt that the VISTA projects provided great value for money, particularly for tourism.

However, others disagreed, and thought that the VISTA projects were not worth the money. The point was also made that the concept of national parks was a relatively new one in Scotland, and that people should look beyond visual impact and focus on wider environmental issues. However, one stakeholder argued that they had chosen to move to Scotland because of its scenery and that it was essential to preserve it. Notwithstanding this, the point was made that the approach should not be implemented in areas where it isn't needed, as this would impact the bill payer.

Another viewpoint expressed was that the qualifying criteria for VISTA projects should be put in areas where there is demand for it, rather than having a blanket approach. However, some attendees disagreed, stating that if it was given to specific individual areas, other areas would demand it regardless of the visual impact. They believed that it should be up to individual local authorities to make the decision about the balance between customers' bills, visual impact and the importance of getting to net zero.

In the electronic voting session, stakeholders were asked whether the qualifying criteria should "be expanded to allow other projects to be considered as SSEN Transmission have exhausted the technical options within national parks and scenic areas". Most stakeholders either agreed (45%) or strongly agreed (22%), however 11% disagreed, and 3% disagreed strongly.

Stakeholders generally agreed that direct visual impact should be given high priority. However, attendees also recognised that in Scotland, there are fewer choices about where to put overhead lines in design terms because of Scotland's geography and often mountainous terrain.

NATURAL CAPITAL

Overall, stakeholders were broadly in agreement that it is essential that SSEN Transmission ensures that its operations are as environmentally friendly as possible. However, there were differing opinions on the best approach to achieving this, with some suggesting emphasising the importance of local supply chains and upskilling the workforce as a way of winning local support for projects. The stakeholders felt that transparency could help strike a balance between environmental concerns and commercial interests.

Stakeholders suggested working with partner organisations, including The Woodland Trust, as well as local community initiatives, such as 'Scenic Sandbank'. The point was made that there were synergies with developers, particularly in relation to guidance on how they interact with contractors. These stakeholders noted that there were best-practice examples for developers to follow, and that communities in Scotland were very well defined, with clear guidelines in place in relation to the running of lines through communities.

Stakeholders thought that involving local communities in the assessment of impacts on nature was crucial. They pointed out that communities often have valuable knowledge and insights about environmental impact that may be overlooked by people working from behind a computer screen. However, they also acknowledged that it can be difficult for local community groups to access information on environmental impact, particularly in cases such as deer culling, which can be controversial. They highlighted some positive initiatives, such as holiday parks encouraging people to feed red squirrels.

Regarding biodiversity, stakeholders felt that evidence was key, and that the Scottish government's biodiversity strategy was seen as a good model. Ancient woodland was identified as an irreplaceable habitat that must be protected, and it was felt that the removal of such habitats for a project would make it impossible to achieve a biodiversity net gain. Therefore, it was suggested that irreplaceable habitats such as these should be avoided at the earliest possible stage to increase the likelihood of a positive biodiversity outcome.

ECONOMIC AND SOCIAL IMPACT

1. What types of projects do you believe funds should be allocated to and who would benefit?

How should we approach setting the criteria for the local funds?

- "Accreditation would also be a good idea." Local and regional group
- "There are two elements, education and skills; putting money into education is easy and it is much more difficult to provide skills for people in smaller communities." Innovator
- "It is important to provide affordable housing." Innovator
- "It's really important that each community area gets to decide where that money is spent." Local and regional group
- "Energy efficiency and multiple skills and jobs can be introduced to smaller communities." Local and regional group
- "At the moment projects that need funding can't get it because they don't have data. We need seed funding for the provision of data so local communities can plan, and this will lead to generational assets." Electricity generator
- "You need a local area assessment to identify gaps and tailor that fund to that community." Utility company
- "A free-for-all access to a pot of money won't work, these projects have to support the local economy for 40 to 50 years, so that fund has to directly impact. A small pot of money can mushroom and have a huge impact." Utility company
- "You do get that multiplier effect from seed funding, as once the project is started they can raise money on their own. The community asset will have a community benefit fund." Electricity generator
- "Looking at the grid and the rural net zero challenges communities face with electrifying heat and transport, unless it's a planned process you don't know there's a problem until it arises." Electricity generator
- "With funding like this we can work on community solutions, so the DNO knows what's likely to go on the grid, so that we have a community approach to build in load shifting and smart local energy solutions." Electricity generator

- “We find that with natural projects we have two problems; lack of resources and lack of accommodation. Both can be given by local communities. Both participants get the benefit from the investment this way.” Supply chain
- “Part of the problem is that that huge investment and the economic boost that naturally follows is not seen by local communities. The long- and short-term economic value needs to be highlighted to local communities.” Utility company
- “It’s difficult with the skill side. There’s a lack of support for youngsters because it has to be community based. It needs to be unblocked so that it is sometimes available to an individual.” Electricity generator
- “In the case of WPD, funding SMEs is aiming too high. If you want to get to the hearts of our communities, you need to go for them. SMEs are not going to cut it.” Innovator
- “It depends on the actors in the area, as the needs will be different in different areas. It could be projects focused on employability and skills if that’s what’s needed in that area. In other areas, a different project could perhaps be appropriate.” Regulator

2. What level of funding would you expect to see from a project costing £100 million? £1 billion?

- “Ideally they would not necessarily exclude communities from the regional fund.” Local and regional group
- “Looking at energy efficiency levels in communities may be a good idea.” Innovator
- “We don’t have price transparency like in Europe. There needs to be more transparency.” Electricity generator
- “I’d like the commitment that goes beyond the baseline funding. We’re interested in where this funding is coming from.” Regulator
- “I don’t see the validity of us coming up with a number. The level of funding will be UK-wide, it will need to be accepted by Ofgem, etc. It’s complicated. Are we talking a cable? Or an overhead line? I’d like to know if the figures for the north of Scotland and the south of Scotland are different.” Electricity generator
- “It should be 1.5% for projects costing £100m. For £1bn, it depends on the area. It would be different for a project covering one square mile and one covering 100 square miles.” Innovator
- “We can’t take the number out of thin air. It’s inappropriate. We should talk about the impact on and socioeconomic conditions in the area. It’s not one size fits all. We need to consider various criteria: the impact on the properties’ values, the local area, etc. We can’t come up with a fixed number. Before you have the number, you need to define the outcome you’re going for.” Regulator

- “To reach a sensible figure, we need to know what’s needed. You could send engineers to specific areas to find that out.” Regulator

3. What split would you expect to see between local and regional allocation of funds?

- “That’s a much more difficult one as there’s no regional element at the moment as it will be time limited.” Local and regional group
- “We do accommodation facilities and I’ve been talking to SSEN, and we both agree on the community side in terms of engagement and providing them information on the benefits of certain projects.” Business and domestic end user
- “It should be case specific. Some communities might be more isolated than others, might benefit more. Make it a learning opportunity for them too. Engagement, education and transparency are important.” Utility company
- “It’s a community benefit and the community looks after it. The money will automatically go to the local community company. Investing in skills should be part of your Business Plan anyway.” Electricity generator
- “If we’re giving funding to local communities, we need to see the funds coming from the shareholders. We need to consider what the appropriate level for the general socialisation is.” Regulator
- “I’d like to know how much funding would be allocated to communities. Rather than having a blanket figure, local government researchers should be deciding how the money’s spent. If it’s benefiting a certain community, we need to look at the research among that community.” Landowner

4. What administration models would you support for the funds?

- “Fuel poverty should be addressed from a community perspective. I’d like the communities to organise themselves, as they know who’s struggling there. The funding would need to be trackable.” Innovator
- “That should be every organisation’s ambition, to utilise the community. We need to think how to add that to the Business Plan.” Regulator
- “We need to consider local communities and have more of an open discussion on an individual level. More engagement is needed in general.” Supply chain

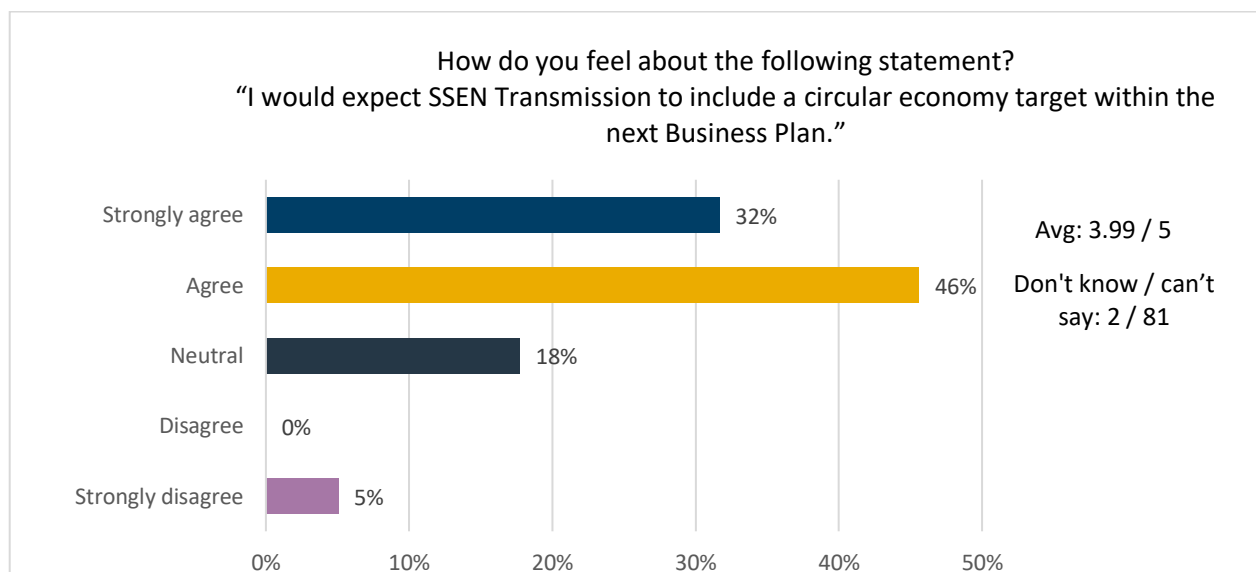
5. What would you consider to be appropriate measures of success for these funds?

- “The danger of measuring success is that you can lose the value, you end up just focusing on metrics you can measure, or something you can put on a promotional poster.” Business and domestic end user

- “Getting a community to net zero is measurable.” Electricity generator
- “If that money has gone towards starting something that is going to be there for a long time, then that’s a really big tick.” Electricity generator
- “It would be good if it was all measured and reported so we could all see it.” Electricity generator
- “Home insulation as an example. That’s an individual benefitting but it might be the right thing to do.” Electricity generator
- “The benefits need to be durable, without impacting local environment. Solutions need to be long term.” Regulator
- “You need to look at projects and their impacts on a case-by-case basis.” Landowner

6. Is there anything else we should be considering?

- “Community Energy Scotland and the ‘cares’ programme need contacting.” Electricity generator
- “There’s a huge disparity on the Western Islands between the haves and have-nots. The first ones can pretty much jump the hooks and easily apply for funding for renewable energy.” Innovator



GREENHOUSE GAS EMISSIONS

1. How should our emissions reductions targets take network growth into account? Absolute emissions reductions targets versus intensity-based targets?

- “I think it shouldn’t take network growth into account. Climate change is related to carbon emissions; therefore everybody needs to reduce.” Network owner
- “There’s no incentive in any of the programmes to measure or reduce embodied carbon. Reduction will mean cost increase, which there is no counterbalance for. We need to be able to measure and reduce carbon emissions.” Supply chain
- “What we found is that our clients always say they want innovation, in reality they want tried and tested innovation. There’s a reluctance to try and test new technologies. There is of course a cost increase/carbon reduction balance. It’s about finding the sweet spot.” Supply chain
- “Smaller companies and suppliers need to be made part of our solution. We’ve got extremely demanding carbon reduction targets and you have to have the data to support that. Digital data is helping us with that.” Supply chain
- “For us in terms of asset delivery, the most effective moment for carbon reduction is in the design process.” Supply chain
- “Offsetting might be better if we partnered with local groups and businesses whose interests aren’t monopolised and can give you specific advice. For example, earlier I was talking with someone from Angus Davidson Ltd, who does this kind of work.” Electricity generator
- “From a developer point of view, more and more people are interested in growing the network. As long as there’s transparency about that, people are willing to accept some of the drawbacks in terms of visual and environmental impact.” Electricity generator
- “I would also say yes. If they don’t take them into account, it’s just going to become an issue down the line, instead of addressing the problem at the root.” Landowner
- “It needs to take into account trying to be as low carbon as possible and do things as sustainably as a possible. Don’t ignore it.” Electricity generator
- “Designing projects that impact the least on the natural environment, people and so on could mitigate some of that, but it would be hypocritical not to follow that.” Business and domestic end user
- “Yes. I think it’s important to make sure that scopes are well documented and reduced where possible.” Business and domestic end user
- “I don’t think it’s a realistic goal to include scopes. Once you start breaking down supply chains, you have to apply cover account and frameworks from other countries and places that don’t have permission law. It’s a never-ending task and I don’t know if it’s practical.” Landowner

- “I think that Scope 3 should be at least considered. Maybe not chased like Scopes 1 and 2, but it needs to be kept into account.” Business and domestic end user
- “It’s a question of how much detail we’re able to go into with Scope 3. It’s a time and effort question.” Landowner

2. How should our greenhouse gas (GHG) footprint be balanced against our positive carbon impact through the connection of renewable generators?

- “My view is it’s not practical to replace it immediately. It needs to be phased out. It’s not easily replaceable either.” Electricity generator
- “I’m unsure of how feasible it is and what the alternatives are. I don’t know enough about the alternatives.” Business and domestic end user

3. What is best practice in relation to GHG emissions reductions targets? Who are the leaders in this area?

- “There’s a concentration on science-based targets. There’s lots of elements that the government could and should be leading on more. Science-based targets seem to hone in on specific elements, but they don’t look at the larger picture. You need to look at the bigger picture at SSEN Transmission. I think it’s such a complex area and wider corporates are just worried about green-washing. We need government and EU leadership on this. We shouldn’t criticise SSEN Transmission.” Business and domestic end user
- “The role of SSEN Transmission is to push and lobby for the government to do the right thing.” Business and domestic end user
- “We use Siemens Blue GIS technology, the long-term interest being complete removal of SF₆. That’s always going to be an option.” Business and domestic end user
- “We’re constrained by SSEN Transmission specification. We would like to see it be more of a guide than a Bible.” Business and domestic end user
- “The costs of potential energy savings should be shared between SSEN Transmission and the contractor.” Business and domestic end user



4. What does good practice look like in relation to offsetting and carbon removals?

- “There’s been a rush of greenwashing and short-term solutions that on the surface level seem to provide a reduction in emissions. We need more transparency about what long-term solutions might look like.” Electricity generator
- “There are some bodies out there who do try to verify emission reduction, but perhaps that’s a route we could go further down, if it’s simply not possible to have zero emissions when expanding the network.” Network owner
- “Offsetting might be better if we partnered with local groups and businesses whose interests aren’t monopolised and can give you specific advice.” Electricity generator
- “From a developer point of view, more and more people are interested in growing the network. As long as there’s transparency about that, people are willing to accept some of the drawbacks in terms of visual and environmental impact.” Electricity generator
- “You should offset directly, things that you can actually measure and prove to be effective.” Electricity generator
- “We’ve been pushing hard to get involved in projects really early. Engaging with landowners is a challenge. We need to be having conversations with them much earlier.” Supply chain

5. What does good practice look like in relation to land-related carbon emissions? Deforestation and peatland disturbance?

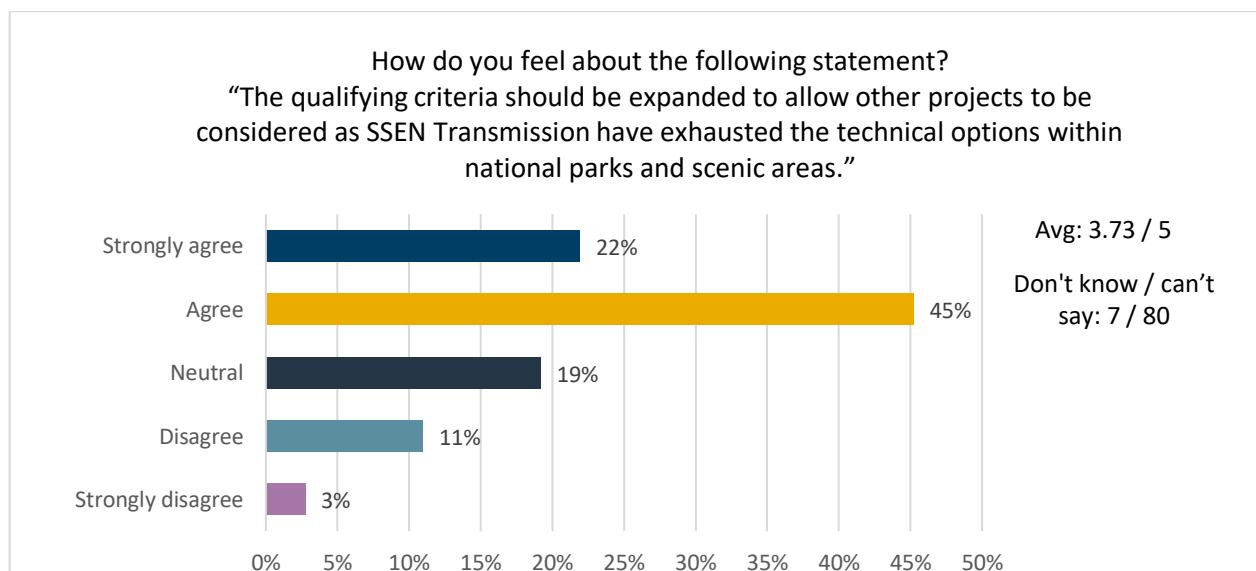
- “With peatlands, it’s relative. If you’re impacting on an area, you can actually physically restore it relatively near to the project. You can monitor water quality, or biodiversity. It makes sense that you would replant native woodland projects close to the line and make sure that you don’t have trees falling on the line in years to come. It seems to me a really basic point. Work it out beforehand. It’s relatively straightforward: woodland planting and peatland restoration.” Business and domestic end user
- “I know it’s not always possible, but avoidance of disruption of the natural environment is better than restoration. It cuts out the middle man. However, that puts constraints on site choice and locations, and I can imagine that that adds on to lead-times.” Landowner
- “We have the issue of poor access and promises that haven’t been kept by previous generations of developers. I think the developer community has matured over the past ten years. Before it was very much people trying to grapple, and they didn’t know how long the subsidies were going to last.” Business and domestic end user

VISUAL IMPACT OF SCOTTISH TRANSMISSION ASSETS

1. How far do you feel the VISTA projects offer value for money?

- “Yes, especially for our national parks. They’re an asset to the country and we need to keep them precious. It’s a stunning programme.” Electricity generator
- “The reality is that it’s too expensive to underground the lines. It’s cheaper to pay the landowners some form of compensation for their personal visual impact.” Business and domestic end user
- “I think they offer real value for money. I’ve been involved in some from the tendering point of view, and site visits to see assets to be removed. Some of the locations are really scenic and from a tourist and global community point of view they offer great value for money.” Supply chain
- “I don’t think they offer value for money for people who pay electricity bills, but the impact on scenery is priceless. I chose to move to Scotland because of the scenery and beauty, so the VISTA schemes and rationalisations can’t have a tangible cost.” Supply chain
- “From the point of view of developers, it’s more expensive on our part if it goes underground. The impact is more complicated than just connection.” Electricity generator
- “It might be better to place more consideration on the visual impact of new assets rather than existing assets.” Business and domestic end user

2. What then could be the qualifying criteria?



- “Wildlands could be qualifying for this scheme.” Electricity generator
- “I think making a blanket policy of what does and does not qualify is problematic. It should be part of the planning permission. This happens in other industries. You need to be careful not to be doing this in areas in which it isn’t needed as it will impact the bill payer.” Business and domestic end user
- “Put it in areas where there’s demand for it as opposed to a blanket approach.” Electricity generator

- “If you give it to specific individual areas, other areas will see that happening and demand it no matter what the visual impact.” Industry partner
- “It should be up to the local council to make the decision about the bill cost, visual impact balance.” Business and domestic end user
- “Visual impact must be high ranking, particularly when it’s something commonplace where many people see it.” Business and domestic end user
- “In Scotland we have fewer choices about where to put overhead lines, design wise, because we don’t have much flat land. There has to be a compromise somewhere.” Supply chain
- “Prices need to be similar for options A or B to make it cost-comparative. If you go to Cornwall and look at T-pylons but look at them from a side view, you can’t see them. T-pylons are very slim and not eye catching, whereas Eiffel Towers are more obvious. The majority of power routes are not straight. We have to do zigzags to appease multiple issues.” Supply chain

3. Would you support the fund being expanded to new transmission projects (currently only applicable to existing infrastructure) to reduce overall impact of infrastructure?

- “Customers have to pay for it and you need to be transparent about it. There’s enough pressure on bill payers at the moment without this.” Utility company
- “I think so. I don’t know how it would work in practice. Visual impact will come from new projects and new lines. The developer is paying for the connection but there should be something from SSEN Transmission to fund the visual impact projects.” Business and domestic end user
- “If it’s visually pleasing it would be easier to get it signed off for planning. People wouldn’t oppose. People and councils would be onboard.” Supply chain
- “There has to be a balance in places of high importance to tourism; national parks should be prioritised and the conductors are still visible, so the visual impact is a bit messy. Prioritise areas of great importance, including nature.” Supply chain

4. Would you support a more joint approach between VISTA non-technical schemes and biodiversity net gain/compensatory planting? Could this be seen as double-counting towards BNG targets?

- “That photo hiding pylons by planting trees seems like a great idea. They clearly go hand in hand.” Utility company

- “I think any plan that is to help the environment must be a good one. The biggest challenge for any cable line is environmental. Any investment to replant can only help and there has to be a budget for it.” Supply chain
- “You’re blurring two funding pots and I don’t know what the regulators would think of that. It probably would be seen as double-counting. Ofgem probably wouldn’t like it.” Business and domestic end user

5. Is there anything else we should be considering?

- “I’d be very nervous about anything from this category slowing down the building of infrastructure. We have an emergency situation with capacity, development and net zero. Visual impact should be on the bottom of the pile of SSEN Transmission priorities.” Utility company
- “The whole industry is waiting on grid connections, it’s critical for us to reach net zero. Any delays in that should be avoided.” Business and domestic end user
- “You should put up the infrastructure to get us to net zero. Once that is achieved and only then we can look into reducing the visual impact of that infrastructure.” Electricity generator
- “Now you’ve got a criteria to meet, but when you’re going further afield how do you decide where to go? It could open a can of worms.” Business and domestic end user
- “Use of insulators, depending on how the light hits them they can be quite intrusive. Having composite insulators instead of glass.” Industry partner
- “Woodpecker damage on lines takes quite a bit of fixing. Take the old pole and put it nearby and the woodpeckers will always go to the old pole. It’s a small gain in terms of protecting your line and creating a home for the woodpeckers. Probably won’t stop it the first time but could stop it the second time.” Industry partner

NATURAL CAPITAL

1. Given the limited information currently collated on supply chain impacts on nature, what level of ambition do you think is appropriate for delivery within the T3 period?

- “If Joe Public knew the real environmental cost of sourcing raw materials, they would be happy to pay more rather than buying energy from a producer who doesn’t give two stuffs about them. It’s about getting the message out to the consumer about their choices.” Business and domestic end user
- “In my previous role at SSEN Transmission I saw how inefficiently the work was planned and how many gigawatt hours of green energy were lost. Concentrating on a fraction of the scope to carbon emissions feels like greenwashing and a loss of focus when we can focus on efficiency. Recording megawatt and gigawatt hours of lost energy is an actionable and far better measure. If you generate a windfarm you have to reduce your output to zero while that work takes place, but there is no ability for the generator

to pay more and make that work go quicker from contractors. While that windfarm isn't producing, another gas generator appears to compensate, which creates more emissions. Thus the focus on scope to emissions is 'penny wise, pound foolish'. A far better way of reducing our carbon footprint is recording how much energy is lost as a result of other actions being taken." Business and domestic end user

- "There will always be a trade-off between that and commercial interests. As long as you're transparent about and justify why you are taking a certain route, that would be acceptable." Business and domestic end user
- "Local supply chains are important here. Windfarms were innovated here. What are the supply chain incentives that can be built into the Business Plan to stimulate the local supply chain as much as possible?" Utility company
- "Upskilling the job brings social legacy to the area. For example, HS2 creates stimulus for local businesses by bringing projects to the local community." Business and domestic end user
- "The more environmentally friendly our operations are the better." Campaign group

2. We feel a collaborative approach is the best way to develop the methodologies we need. Who do you suggest we should work with?

- "Local community initiatives; e.g., Scenic Sandbank. We will work with anyone with finance as there is no money for local projects. The council often ignores requests even though they say they are working on things like invasive species. But community groups are happy to work on it unpaid provided they get a little bit of finance and training." Local and regional group
- "We would certainly be interested in collaboration. The 'Green Economy Fund' involved elements of community projects managed by a panel. It was independent, which ensured it was allocated across the board to different projects. The 'Improve Community Benefits Fund' is a potential way of doing it that is independently managed so smaller communities can access it. It ensures that companies can be held to account for what they are doing; e.g., through annually publishing reports on the funds." Utility company
- "There are synergies with developers. The connectors/generators proposed have guidance to follow in relation to how we interact with contractors." Business and domestic end user
- "In my experience, in every community there will be knowledgeable people that will guide you and have local connections. I would definitely recommend stakeholder engagement as this will also highlight any issues further down the line. The more you engage with local communities the more they feel heard." Campaign group
- "The Woodland Trust and similar organisations are always happy to guide early policies and local engagements as much as we can." Campaign group

- “The timing is ideal. The Scottish government are recommending community ownership and every developer needs to consider this.” Business and domestic end user

3. What approach to assessing our impacts on nature should we consider?

- “There’s also a benefit that can be taken from the community as they know what’s going on ‘on the ground’ and can think of real things people behind a screen can never ever think of.” Business and domestic end user
- “It can be difficult for local community groups to get access to information on environmental impact; e.g., deer culling. There are also positive things; e.g., holiday parks encouraging people to feed red squirrels.” Local and regional group
- “My personal interest is more on a detailed design stage. We get frustrated with the detailed planning, GIS, and then you get a planning application with little detailed planning of the actual site. Keep assessment at a much more strategic level.” Local and regional group
- “There are a lot of other technical constraints for the fine detail.” Business and domestic end user
- “Frontloading as much information, especially environmental information, is important.” Campaign group

4. What could we do to ensure our approach has the greatest impact?

- “Evidence is the key thing in terms of biodiversity. The biodiversity strategy of the Scottish government is a good model.” Business and domestic end user
- “Ancient woodland as a habitat is irreplaceable. If you are removing this habitat for a project, then you will be unable to achieve a biodiversity net gain.” Campaign group
- “Ensuring irreplaceable habitats are avoided at early stages will increase BNG.” Campaign group
- “If you can’t measure something, you can’t manage it. And if you can’t measure it, don’t pretend that you can manage it.” Landowner
- “If you’re thinking about mitigating approaches, mosaics of habitats to allow integration of species and ensuring that habitats are connected is important.” Campaign group
- “Not doing these things, with climate change it will also end up destroying woodlands.” Industry partner

5. Is there anything else we should be considering?

No comments were recorded for this question.

APPENDIX 1: WORKSHOP PARTICIPANTS

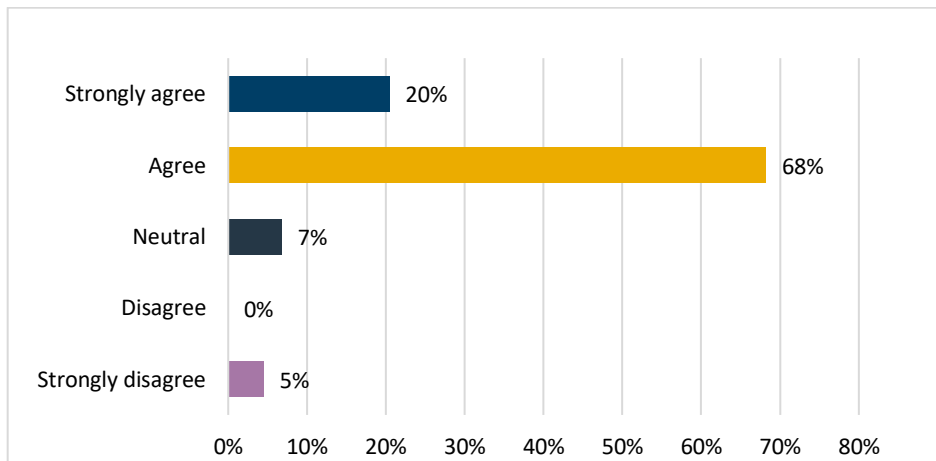
EVENT	Delivering a Network for Net Zero: Pathway to 2030 and our next Business Plan	
DATE	Wednesday 22 February 2023	
TIME	09:30-15:00	
ATTENDEES	<ul style="list-style-type: none"> • ABEI Energy • Accountability • Angus Davidson Ltd • Aquatera Ltd • Arrochar CHS • Assisting Success Ltd • Aurora Energy Services • Balfour Beatty • BAM Nuttall • BP • British Hydro Power Association • Community Energy Scotland • Corio Generation • D’Arcy Thompson Simulator Centre Limited • David Smith Contractors • Department for Business, Energy and Industrial Strategy • Dundee City Council • EDF Renewables UK and Ireland • Elecnor • Electric Land • Emtec Energy • EnQuest • Eurowind Energy Ltd • Field • Fisheries Management Scotland 	<ul style="list-style-type: none"> • Magnora Offshore Wind ASA • Malthus Uniteam (UK) Limited • MES (TN) • Mott MacDonald • National Grid • National Grid Electricity Transmission • Network Rail • Nexans • Nith District Salmon Fishery Board • NKT • Ofgem • Ørsted • Patterson Reeves & Partners • Perth and Kinross Council • PLPC Ltd • Qair Scotland • RJ McLeod (Contractors) Ltd • RWE Generation UK plc • Scenic Sandbank • Scottish Environment Protection Agency • Scottish Government • Scottish Water Horizons • Shell plc • Siemens • Solar Energy Scotland • SP Energy Networks

- Flotation Energy Ltd
- Foster Turner Hydro Limited
- Freedom Group
- Galson Energy Ltd
- Gillespie Macandrew LLP
- Hunter Hydro Services
- Infinergy Boralex
- Keir + Co
- TDI Ltd
- The Energy Workshop
- The Woodland Trust
- Wood plc

APPENDIX 2: WORKSHOP FEEDBACK

After the workshop, stakeholders were asked to complete a short feedback form. The feedback was as follows.

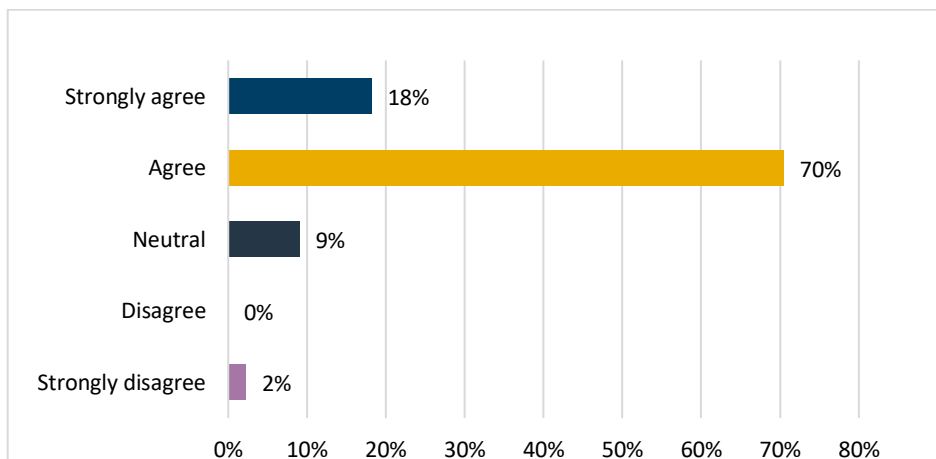
1. Did the event provide you with a better understanding of our approach to developing our next Business Plan?



Comments:

- “Good start but interesting to see how to move on from T2 in terms of legacy thinking and context.”
- “Would prefer more focus on actual grid improvements please, and timeframes.”
- “Very high level but difficult to do otherwise.”
- “Best one yet.”

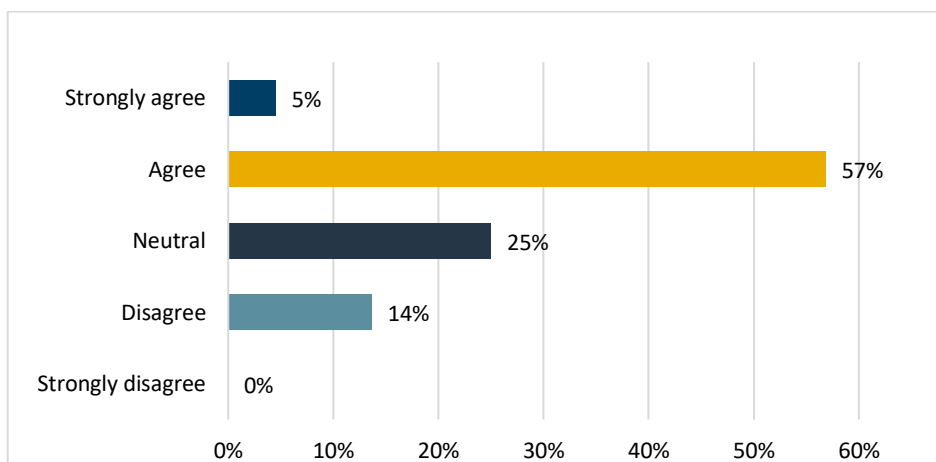
2. Did you have sufficient opportunity to share your feedback on the three themes identified for our next Business Plan?



Comments:

- “Yes, the opportunity for collaboration and information sharing was freely available, albeit a little tight on time for some subjects.”
- “Generally able to provide feedback but the nature of the discussions meant different areas received different amounts of attention – presumably broadly even on aggregate though.”
- “Q&A roundtable slightly too short in time.”

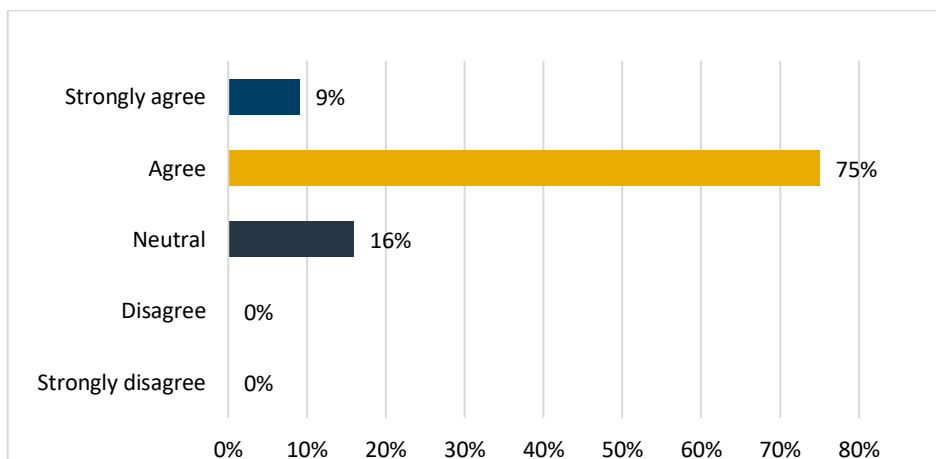
3. Did the event provide you with information on how you can work with SSEN Transmission to shape our future Business Plan in the months ahead?



Comments:

- “If the communication channels are still open and will be considered in the mix it will provide further opportunity.”

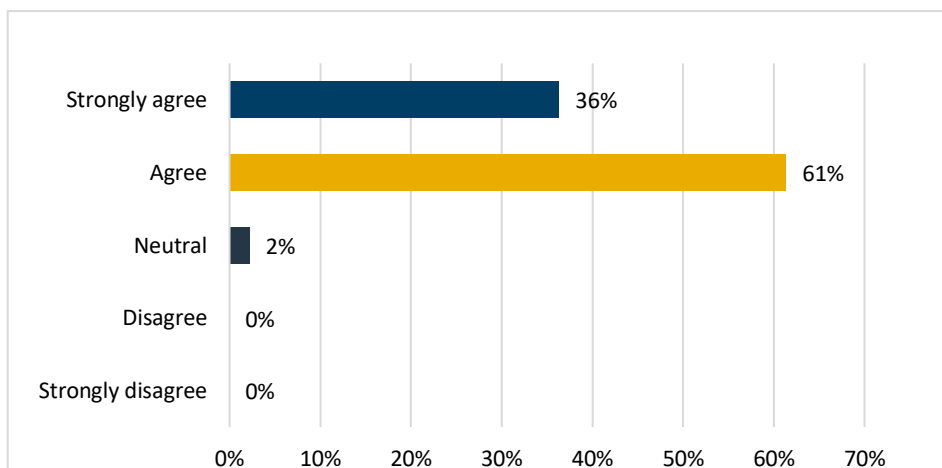
4. Do you believe SSEN Transmission has the right level of ambition for our next Business Plan?



Comments:

- “It’s a mighty task with incredible challenges. It is critical to innovate or stagnate!”
- “Certainly, to open themselves up to constructive comment and views to add to the in-house expertise and government, industry consultants and academic forums.”
- “Level of ambition seems appropriate but scope creep as technology, industry, and policy develop will always be a factor. SSEN Transmission seems to be taking this into account though.”
- “The team show a clear drive to meet net zero. It is clear that this investment is necessary! And for a relatively small cost when we put this into the perspective of the total energy bill.”

5. How far do you agree with the following statement? “I would like to engage with SSEN Transmission further on any of the subjects covered in the event as they start to shape their next Business Plan?”



Comments:

- “100%, I believe in the reinforcement works and would like to be an intrinsic part of the process.”
- “Engagement on any and all topics will be useful as a stakeholder. Appreciate the joined-up approach across industry and government that SSEN Transmission are taking.”
- “Supporting decarbonisation of demand not just generation sources. Limited mention of things such as O&G electrification.”
- “Supply chain. Procurement.”

6. Do you have any other comments?

- “Great turnout and excellent event thank you.”
- “Thank you for my invitation and I hope you have found my comments valuable.”

- “Well organised and interesting discussions facilitated in a top-class venue with state-of-the-art comms & interaction. A broad range of participants which made for interesting discussions. Having live links to presenters’ screens might have assisted delegates in far corners of the room to read some text-based screens to follow dialogue. This feedback channel is appreciated.”
- “SSEN Transmission need to keep the pressure on Ofgem to allow them to invest and build faster.”
- “It would have been good to have a discussion about the trade-offs involved in the Business Plan. We were essentially asked ‘should we spend money on this?’ multiple times, but with no info on the cost or whether any options are mutually exclusive.”
- “The nature of the moderators in the roundtable discussion sections was very useful. Very interesting to hear comments from a range of different backgrounds. Disagreements created interesting discussions and agreements were interesting to see the different routes and perspectives that led to the formation of the same opinions.”
- “Developing a larger workforce to be ready for unsecured work is very difficult if not impossible. How can we be supported to be ready for future challenges?”
- “Would be good to understand what your thinking is in terms of contracting with supply chain for T3. I.e., are you planning to develop the Delivery Partner Model? If so, how?”
- “Very good presentation from knowledgeable presenters. The roundtable discussions were very thought-provoking and I hope help drive the strategy.”
- “Informative.”
- “Excellent insight as well as seeing the business of supply and transmission from various different angles from windfarm constructors to local councils.”
- “Excellent event. Really good subject matter and informative and knowledgeable presenters.”
- “Very interesting day.”
- “Positive. But very keen to get into the detail.”
- “Excellent event which has clearly highlighted the challenge SSEN Transmission faces and how it intends to respond to these.”
- “Excellent delivery – well done all and EQ for the professional event.”

APPENDIX 3: WORKSHOP Q&A SESSIONS

After Aileen McLeod and Brian Addison's presentations, and at the end of the workshop, stakeholders posed questions to SSEN Transmission's team in a Q&A format. A transcript of each Q&A session can be found below:

Session One: Delivery of net zero, stakeholder Q&A

Q "How in Scotland can we be talking about net zero without actively discussing small nuclear? How can we discuss nuclear more as a solution when it's not government policy?" Innovator

A "From the perspective of the development of the network, one of the challenges we face is inconsistent generation. We know there's an international debate around the intermittency problem and whether nuclear can be part of that solution. It should be a public policy debate. We shouldn't rule anything out as we look forward to 2045 and 2050."

"The Scottish government stance on nuclear comes from the First Minister down, and it's very clear that there will be no nuclear generated in Scotland. Could you comment on the role of the ESO in some of the things we're discussing today?" Government

"I personally love the collaborative side of working in electricity transmission. When we think about electricity transmission, it is a system which you can't develop or build in isolation. We have to collaborate. We've seen the strength of that collaboration grow in the last few years. The ESO set out what are the requirements for net zero and we worked with them to set out a national plan. I hope to continue that journey in which the ESO plays a critical role in the pathway towards net zero."

Q "Hexafluoride is one of the highest potential global warming gases and there's a risk of leakage with windfarms being put up. Is there any discussion around using an alternative?" [no name given]

A "From the perspective of transmission, we are very concerned about our own business emissions, and hexafluoride gas is one of our biggest concerns. We've been involved in looking at new technologies."

Q "Are you considering using any carbon product calculations in producing the carbon products you need?"
Supply chain

A “It would be dreadful if we ended up creating huge emissions as part of the construction we’ve discussed. We brought carbon into our construction plans, but there’s a different trade-off: we need to move at pace but also bring down the emissions associated with construction.”

Q “Do you think you’ll be able to be more directive about what technology you’ll need on the grid in the future when you’re an FSO?” Campaign group

A “All technologies are welcome and we need a diversity of technology. At the moment there is a cornucopia of different mechanisms in order to assure that the technologies that come to the fore are the ones that are most cost effective for the consumers. That’s the basis on which we continue to plan the energy system.”

Session Two: Energy security, stakeholder Q&A

Q “Improving something that is 99.9% is very difficult. Given that we’re moving to a society where electricity will be more important and we won’t have petrol and diesel backups, are you looking at other ways of doing things; for example, running in island mode, looking at the n-1 security issues, radically different ways?” Stakeholder

A “That’s the third goal about complexity of network. Yes, we’re looking at these things. It’s not my personal expertise but the answer is yes we know we need to be better. We have thoughts on what exactly that is but we can talk about it in more detail in future consultations. You’ve highlighted something we’ve thought about.” SSEN Transmission

Q “In terms of spending money on certain things, surely it’s a question for shareholders. Are you asking us because money is being put on individuals’ bills?” Innovator

A “That’s right.” SSEN Transmission

Q “Is it completely underwritten in your investment?” Innovator

A “Our investment is costing individuals £7. The existing assets are clearly a subset. Yes, I’m asking are you happy for SSEN Transmission to spend money in that same way to keep the lights on rather than replacing assets? Our regulatory funding is paid by everyone, not shareholders.” SSEN Transmission

Q “In terms of weather, the stress comes in summer with thermal loading. Is that something that is of particular concern to SSEN Transmission as it is in other areas?” Innovator

A “As we move towards 2030 and the network becomes more important, yes it does because the loss of a motorway circuit is more significant than a B road. For thermal stability, how do we protect assets over the long term, knowing assets last 40-60 years?” SSEN Transmission

Q “What’s important in terms of spending and beefing up the system, if more transmission is going to come down through Scotland? Those issues should be in people’s minds.” Stakeholder

A “We also design for things like that, we’re looking at development and network and system and design for these issues. I think we understand these issues.” SSEN Transmission

Q “How do we know that chasing 99.9% is good value for money when we’re connected to the distribution network rather than the transmission network?” Electricity generator

A “You’re right, very few people in this room are directly connected to the transmission network. When it does happen it doesn’t just affect generators that are directly connected. We switch off a lot of people when we have a fault. It’s a tiny proportion statistically but it’s a big impact. Electricity is getting more important with heat and transport moving towards it and there are fewer backup fuels. Keeping it on is more important.” SSEN Transmission

Q “What’s more important, net zero or a 99.9% resilient network? You could deploy more renewables if you introduced more risk in the network.” Stakeholder

A “We’ve got thoughts in SSEN Transmission on that. The drive to net zero is fundamental because you told us it was in 2019. We know that some of the things we’re talking about today are mutually exclusive, we’ve got to find the right balance. We value the listening bit and you get the chance to tell us if our thinking is right or wrong.” SSEN Transmission

Stakeholder Q&A, hosted by Greg Clarke – Head of Corporate Affairs

Written Question from Alan Kelly: “How achievable are your 2030 network upgrades? What do you consider to be your main obstacles to overcome?”

Aileen – “That’s totally the right question to be asking. Let me talk you through the thought process. Around this time last year, the British Energy Security Strategy was published, we saw the war in the Ukraine and the cost-of-living crisis. We could feel that momentum in the net zero journey build in SSEN Transmission. The holistic network design shows the direction of investment, and these maps only tell a part of the story. Looking forward, it is quite something to take on, and what we need to do to achieve it is the thought process that we really engaged with in earnest. We’ve had rigorous conversations with the government and regulators to turn it into a reality. We’ve had to consider planning consent and how it can cope with this scale of investment without a detriment to the environment, and consider the supply chain and huge manufacturing and installation capability needed. These are active conversations we’ve been having over the last year. Quite simply, we’re up for it. We’ve considered how hard it will be, and identified the challenges, and if we all work together, we can do it. I personally believe that you have to believe you can do it, so I’m sitting here saying yes we can do it.”

Brian – “We have the availability of our network to do it. If it was easy anyone could do it. There are quick hard decisions to be made, I have to think about whether we can fit in all the things I think need to be done, or keep assets going to hit the next pricing period. We’ve been sitting as a group across SSEN Transmission to see how we can get better at doing what we do, and I have to think about how my decisions might impact someone else doing their job effectively, it’s all about how we make it happen.”

Christianna – “We’ve seen a huge growth already; when I started, we had 150 staff, we now have 1,300 and are looking to bring in another 500-plus to achieve this goal. This growth allows us to do the work. 25% of the business is a new investment opportunity for Scotland and it’s investment in Scotland. We want to keep some of that local and get the best out of that investment. All our shareholders are also up for it, so it’s really exciting.”

Written Question: “With a whole-system approach, what role is there to help support systems and reduce the strain on the infrastructure?”

Aileen – “With a ‘whole-system approach’ it’s difficult, as what a whole system is in London is different to here, in part due to geography but also the different mix of energy produced and consumed, and the opportunities created. It’s a local question, and we then patch work in to create an economic outcome for the whole country. I think that way, with a bottom-up approach, for example, the Scottish Islands are on one hand incredibly rich in renewable energy, but they also have the highest level of fuel poverty in the UK. If we can bring them the economic benefits it will be felt more than anywhere else. We have to look at what the community needs, and think about the long term. We are now starting to see decarbonisation, which is a further consideration for a whole-system development. I don’t have a wonderful answer, but I think beyond

the grid, beyond transmission and distribution, if we build from the bottom up we will have a whole system across Scotland and the UK without realising that's where we're going. With storage, I read a report that scared the pants off me at the back-end of this decade, which showed we will have many more intermittent generation periods where we have a gap. An uncomfortable gap. That needs to be filled by storage and long-duration storage. Batteries are important but won't cut it. Pump storage is good but there's no route to market. Hydrogen, again, there's no route to market. Network companies need to think about how hydrogen operates on the system so that it can be relied upon to keep the lights on, and have a route to consumers who need it. We're responsible for this development in the north of Scotland and it keeps me up at night."

Question from Michael Clarke of EDF Renewables: "It's more like two questions. Firstly with regards to resources, it's good to hear the numbers are going up, but National Grid by 2026 have said they will be looking at £8 billion a year. These are game-changing figures. Have we got fitters, substation designers, etc., to cope with that, it's such a magnitude of difference? Secondly, has FEZ plateaued or will it keep going up?"

Christianna – "Simply, no we don't have enough people, we are feeling the crunch in the development phase especially, we also need engineers and construction workers. We are bringing in base people through all sorts of different programmes, including getting people in from abroad. It's another reason we are deploying funds to encourage people into specialisms to deliver the scale of growth happening. This whole package of projects gives us a long plan with a supply chain, especially using apprenticeships. People know the work is there and we are working ahead to actively bring them in to build careers."

Aileen – "With regards to FEZ, it's the next generation that will solve this problem. It has maybe plateaued. Electricity has been around for a while now, we know what it is and how to generate it, transport it, how much it costs, and how to do it safely and manage it. There are other technologies being developed and coming in, not just in our sector but in heat and manufacturing. Alternatives to electricity will be sources in the future. If they don't develop quickly, FEZ will go up, if they develop quicker it will come down."

Question from Roy Foster of Hydro Power: "You said you're kept awake by the lack of long-duration storage, what do you personally define as that, and if your storage dream came true what would it be?"

Aileen – "Speaking personally, not as Aileen of SSEN Transmission but just as me, long-duration storage would cover intermittent drops in renewables, and for me it would be the deployment of pump storage. I would love to have them on the system to keep the network stable. They're expensive but so are other baseline technologies. Personally, I lived through the coal mines closing in the north of Scotland, I don't want that again. I want to see them develop hydrogen so that doesn't happen. I think we are a long way from solving the gap

in the network, but going forwards we have a fantastic track record in the UK of developing the right technologies through government support. We can't design perfectly, but why mess with things that work?"

Question: "With regards to connecting to the system, the transmission capacity calculated is out of step with modern technological solutions. With an abundance of new renewable variable generation on the system, is there a better way to manage access based on the role capacity may play? Connecting to the grid takes a long time, looking at this and reforming grid access, what form should it take to also meet net zero?"

Christianna – "I'm heavily involved in working collaboratively, what we see is that the amount of generation is significantly in excess of what we need to meet net zero. Everyone who has a contract with us to get projects connected, well not all will go ahead, but it's not our place to judge what will or won't. This is a big challenge for the sector, and we need to be real about it. We cannot sit with endless queues with projects that aren't going to progress, so we're actively working on proposals looking at assumptions when planning the systems, and how connecting parties will operate. It's a programme of work to look at methodology and what capacity is required, and all of that goes some way towards helping, but it won't fix the issues. We still have a challenge as an industry so we're looking at what bold moves we can make, and determined consultations are underway so stakeholders can feed into that. We are on the case, and we recognise the challenge. Our main focus is meeting the needs of customers while delivering net zero."

Written Question from Alan Kelly: "With construction, planning assumptions are intended to mitigate the queue. Will you conduct a review and revise assumptions in the near future?"

Aileen – "When we plan the transmission system or make offers for connection, we make assumptions about how they use the system, so for instance we are not assuming a windfarm operates 100% output every day of the year. These assumptions have been around for a long time, and we don't have a long-term historic record of new technology. We're looking at an intuitive process with more data to improve assumptions, and changing these assumptions effectively creates more capacity because we make more of the system we already have. Part of the reform process underway at the moment is looking at what it means for everyone who has a connection at the moment. For context, the queue is huge, we make over 30 offers every month and that's continuing to grow. How do we look at everyone who already has a connection, and the new ones? The short answer is, I don't know. We're still figuring it out. We've not done anything of this scale before. What we aren't doing is putting connections on hold in Scotland while we figure it out like other companies are. We know how important it is to juggle our way through this change. It might be messy, but it will be worth it."

Question from Greg Clarke: “What gets you up in the morning?”

Christianna – “It sounds like I’m just saying this, but it’s the fact that we are going to deliver net zero. I’ve always been called a bit of a hippie, but I want to have a healthy planet. There are very few jobs where you can see the scale of contribution you’re making, which is so far beyond your own impact. Plus I love a challenge!”

Brian – “I have a lot of colleagues in industry, and I’ve been here for 35-plus years, first as an engineer and now as an asset manager. This is such a challenge, why wouldn’t you want to be involved?! I wish I was 15, 20 years younger. When I joined this industry, it was just as privatisation was happening, and you got a job for life. I’m at the top of the age group saying the same things to graduates coming into my team. It’s one of the biggest challenges, who wouldn’t want to be involved in that?”

Aileen – “When we asked who wanted to come to this event today from SSEN Transmission, we had over 50 people who said yes. We get our energy from the people we work with. This business has grown so rapidly, we’ve ramped up our apprenticeship and graduate programmes, and the scale of excitement they bring and the opportunity to be involved in the face of that enthusiasm for what we are trying to achieve; you can’t beat it.”