



TNUoS Road to Reform Webinar
Stakeholder feedback report
October 2021

About us

We are SSEN Transmission, part of the SSE Group, responsible for the electricity transmission network in the north of Scotland.

We operate under the name of Scottish and Southern Electricity Networks, together with our sister companies, Scottish Hydro Electric Power Distribution (SHEPD) and Southern Electric Power Distribution (SEPD), who operate the lower voltage distribution networks in the north of Scotland and central southern England.

As the Transmission Owner (TO) we maintain and invest in the high voltage 132kV, 220kV, 275kV and 400kV electricity transmission network in the north of Scotland.

Our network consists of underground and subsea cables, overhead lines on wooden poles and steel towers, and electricity substations, extending over a quarter of the UK's land mass crossing some of its most challenging terrain.

We power our communities by providing a safe and reliable supply of electricity. We do this by taking the electricity from generators and transporting it at high voltages over long distances through our transmission network for onwards distribution to homes and businesses in villages, towns, and cities.

Find out more: www.ssen-transmission.co.uk

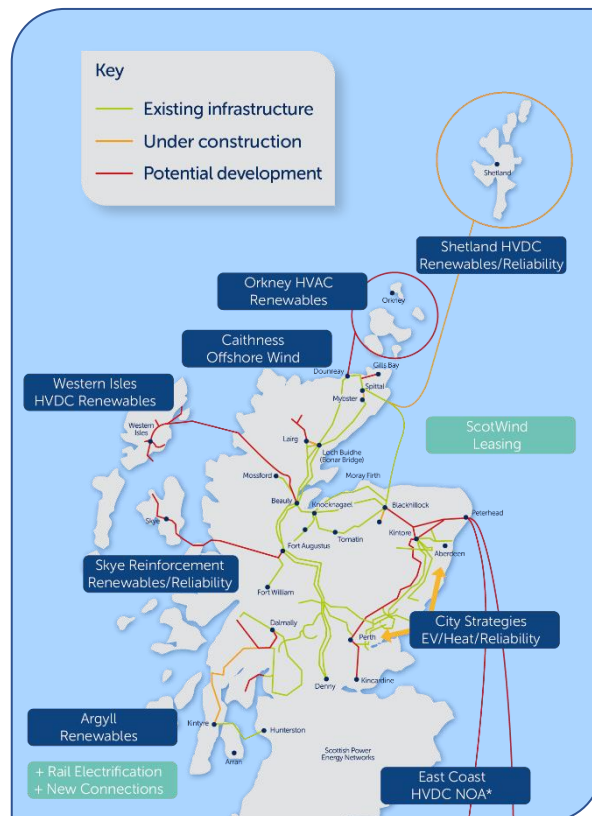


Figure 1 Overview of SSEN Transmission Infrastructure including potential future development

Introduction

Our customers and stakeholders consistently tell us that high, volatile, and unpredictable Transmission Network Use of System (TNUoS) charges are acting as a barrier to developments and effecting the sustainability of renewable energy projects.

We have been publicly advocating for urgent action to be taken to reform the current TNUoS charging regime, in the context of the climate emergency. We have published a series of papers showing the impact of TNUoS on our stakeholders, our business and broader society. Through an evidence-based approach, we have highlighted that current TNUoS charges are a barrier to both the achievement of national decarbonisation objectives and are increasing the cost of energy for end consumers. Our work to date can be found on our newly created [TNUoS Hub](#) on our website, this includes a short explainer video and a Q&A section, making the subject easily accessible for all our stakeholders.

Stakeholders continue to tell us that there is a problem with transmission charging, and our analysis supports this. The question is how best to address this problem in the interests of all stakeholders; those who pay directly and indirectly, now and in the future.

At the beginning of October 2021 Ofgem published their much welcomed [Call for Evidence \(CfE\)](#) on TNUoS, with the intention to collate information which informs on the extent to which a review of TNUoS would be beneficial and how and where any reform should be implemented. To help our stakeholders fully understand the CfE we held an interactive webinar, supported by RenewableUK on Thursday 28th October 2021. Entitled 'TNUoS The Road to Reform', the webinar chaired by Barnaby Wharton, Director, Future Energy Systems, RenewableUK, provided stakeholders with an overview of the CfE and was an opportunity for us to capture stakeholders' views and opinions on what factors they felt need to be considered when reforming TNUoS.

We hope the discussion encourages attendees to respond to the CfE with clear evidence, which demonstrates the need for reform.

Feedback received from stakeholders during the webinar overwhelmingly supported the need for fast, simple and fundamental TNUoS reform with a just and affordable transition to Net Zero being at the forefront.

Webinar engagement process

- We have listened to the views of our stakeholders who have told us the current TNUoS charging methodology results in volatility and unpredictability, which is a barrier to investment.
- We explored this on our TNUoS Charging Paper published in February, then further examined the impacts on Offshore Wind in our recent Offshore Wind Addendum, published in September 2021.
- Ofgem’s recent CfE provides an opportunity for stakeholders impacted by TNUoS to provide feedback to Ofgem which illustrates the problems they have been telling us about for some time.
- The webinar was an opportunity to share with our stakeholders our evidence-based approach to TNUoS reform, highlighting some of the already publicly available publications which show the issues of the current regime.
- We provided an overview of the CfE and explained some detail around the technical parameters outlined by Ofgem.
- We sought stakeholder feedback on what they thought Ofgem should consider when reforming TNUoS and the best approach for delivering change.
- Finally, we encouraged attendees to respond to Ofgem’s CfE, with their own evidence as to how TNUoS affect them and their business.

Agenda

1. **Opening Remarks**
Barnaby Wharton, Director, Future Energy Systems, RenewableUK
2. **A Stakeholder & Evidence Led Approach**
Andrew Urquhart, Head of Whole System, SSEN Transmission
3. **The Call for Evidence**
David Boyland, Commercial Policy Manager, SSEN Transmission
4. **Slido Q&A**

To make today's webinar as interactive as possible we will be using SLIDO. Please use your smart phone or laptop and follow the instructions below.



Go to: www.slido.com
Enter Code: #roadtoreform



Figure 2 Extract from TNUoS Road to Reform Webinar slide pack, Oct 2021

Stakeholder participation

Invitations were sent to our TNUoS stakeholder distribution list and the webinar was advertised on our social media channels, with the event hosted on Microsoft Teams.

The webinar attracted a wide demographic of stakeholders shown in figure 3.

- 186 people registered
- 106 people attended
- 89 people engaged with SLIDO (84%)

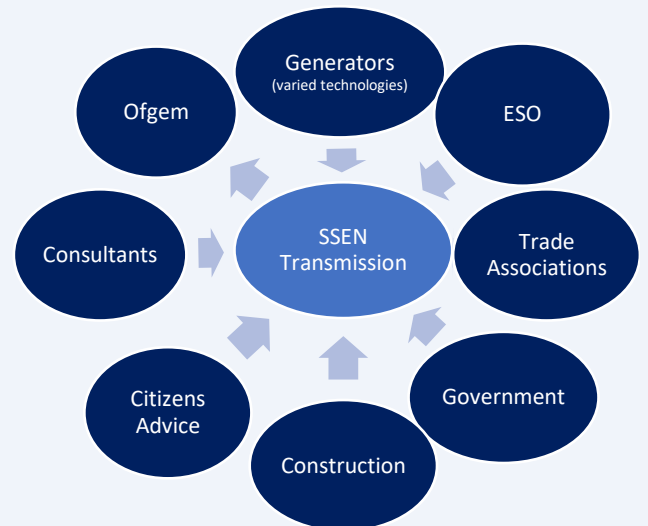


Figure 3 The summary of stakeholders who participated

Your feedback

We used SLIDO during the webinar to seek stakeholder feedback in this interactive session. The following is a summary of the questions asked and the feedback received:

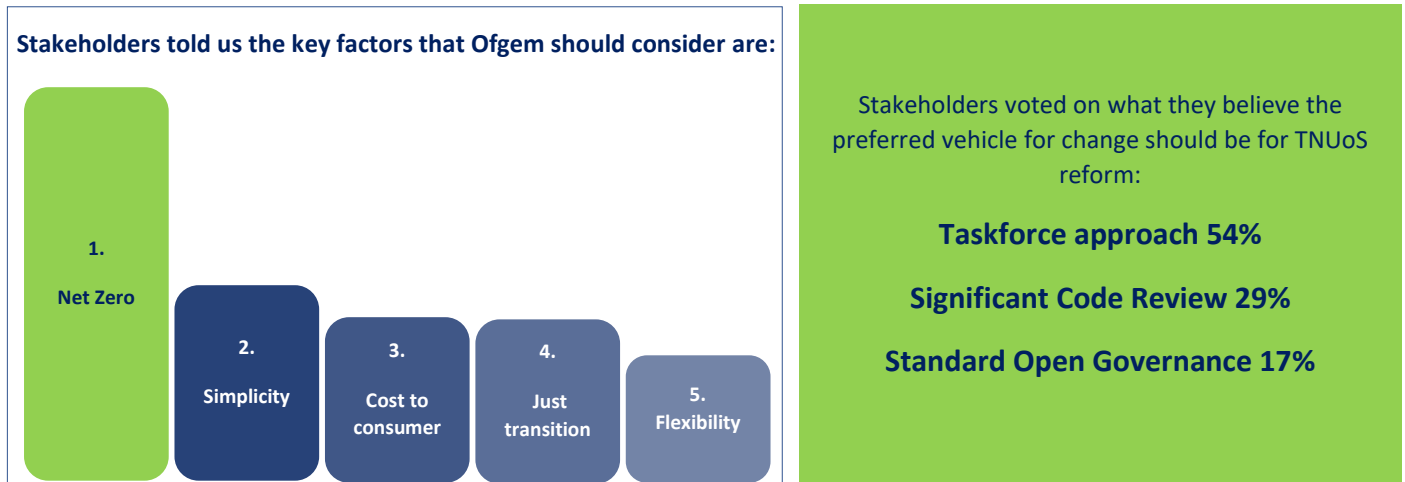


Figure 4 Results from slido survey questions

Qu.1 Have you read Ofgem's Call for Evidence and are you planning to respond?

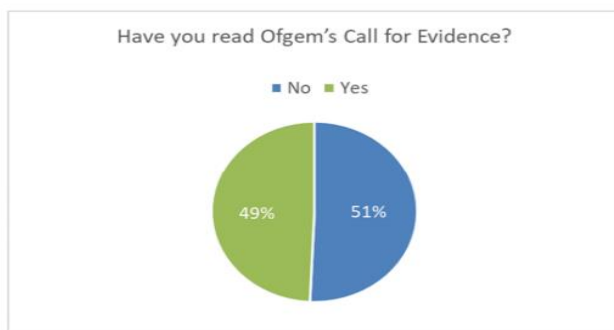


Figure 5 survey results

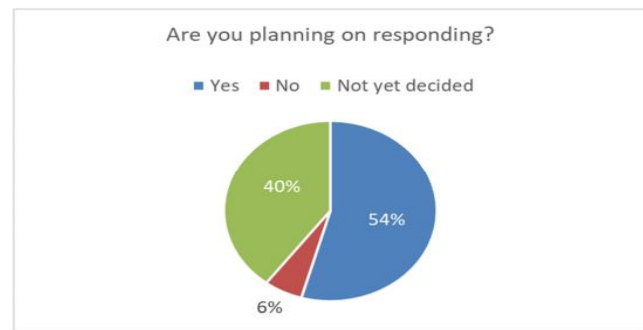


Figure 6 survey results

Of those who responded to these questions, 51% had read Ofgem's recent Call for Evidence but 49% had not. 54% planned to respond, while 40% had not yet decided. The webinar provided an opportunity to summarise Ofgem's thinking within the CfE, highlight the key points stakeholders may find interesting and encourage stakeholders to consider submitting a response.

Qu.2 Are you aware of any other publicly available evidence that may be a useful reference?

We shared with stakeholders a list of the publicly available research and papers (see appendix 2) which have been published on TNUoS to date and asked for stakeholders to share any other material they are aware of. Stakeholders suggested:

- Arup (Spr) CfD Impact Paper
- Lots of Historic Evidence from the Scottish Islands Working Group
- Nera Reference Node Paper
- Some of the work done on the CUSC Mod to retain the SGD
- Project Transmit Research Papers
- University of Strathclyde

Our Action: Our Policy team will now review and consider any evidence within these publications.

Qu.3 In your opinion, what the key factors to consider when reforming TNUoS?

Stakeholders shared a wide range of views, but overwhelmingly Net Zero was stated as the most important factor when reforming TNUoS.

A further 3 factors were highlighted as important, these were simplicity, costs to the end consumer and a just transition. While flexibility, cost reflectivity, enabling offshore wind, a level playing field, long term viability and the timeline for reform were also seen as key considerations by stakeholders when considering TNUoS reform.

Qu.4 Considering the issues evidenced so far, do you think Quick Wins will suitably address them?

Overwhelmingly attendees felt that quick wins were not the best way to address the issues evidenced. Further suggestions included:

- Small wins are good in principle; however, they need to be joined up in how they influence the bigger picture
- Progress open governance now and inform wider, comprehensive reform
- Greater levels of reform (longer term) probably needed in all charging reform for net zero. Quick wins may be necessary as interim
- Net Zero is a long-term goal (2050), it therefore required a long-term rethink
- Quick wins will be a plaster over the issue, full reform will still be needed

Qu.5 What vehicle of change do you think would work best?

In our online poll the following responses were received. A Task Force was strongly favoured by stakeholders as the most effective way to implement change in the TNUoS regime.

- Task Force- 54%
- A Significant Code Review (SCR) - 29%
- Standard Open Governance Procedure – 17%

Qu.6 Please let us know if there any further comments or observations that you want to share.

Our final SLIDO question asked stakeholders to share any other thoughts and observations they may have, a selection of the 22 responses are below.

- “TNUoS charges is a major obstacle to economics of onshore wind development in (northern) Scotland. This needs reforming ASAP if we want onshore wind to contribute significantly to reaching net zero, as there is not enough space, wind or will in England.”
- “Provide Ofgem with real specific examples of how renewable generation projects are impacted financially.”
- “Demonstrate the risk is real and present, not just theoretical.”
- “Can we follow a better model from a different country”
- “Need to manage expectations, no-one should get a free ride on network charges”
- “Transmission charging should be designed to encourage the most EFFICIENT transition, not to subsidise the transition itself (that is the job of explicit policy) – make TNUoS long-term cost reflective and this will flow”

➔ Next steps and how we will use your feedback

The CfE closes on 12th November 2021, and we urge stakeholders to respond providing evidence to Ofgem which illustrates how TNUoS affects them directly. Responses should be sent via email to tnuosreform@ofgem.gov.uk, addressed to Harriet Harmon.

SSEN Transmission will use the insight gathered from stakeholders during the webinar as evidence in our response to Ofgem’s CfE. This will highlight stakeholder views on what Ofgem should be considering when reforming TNUoS and what they think would be best approach to implementing this change. We welcome further discussion with stakeholders and will continue to work on our stakeholder’s behalf to advocate for change which supports the transition to net zero.



How to get in touch

We welcome any comments and feedback on this report. If you would like to get in touch with the team to ask questions, and provide feedback and comments then please use the following contact methods:

David Boyland, Senior Commercial Policy Manager

Email: david.boyland@sse.com

Post: David Boyland, SSEN, Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ



For further updates on our business including events and announcements you can register to join our mailing list by emailing transmission.stakeholder.engagement@sse.com

Appendix 1 Transcript from the live Q&A session during the webinar

These were in addition to the pre-decided Slido interactive questionnaire.

Question 1. What will the impact on consumer bills if we removed TNUoS from generators and it went onto the demand side, is there any modelling which shows impacts to end consumers. Will we see consumer bills go up?

David Boyland: It's been an important topic of conversation we've had internally since the first paper we published back in February. Anecdotally, we're hearing that the risk that's attached to the volatility and unpredictability of TNUoS results in increased costs which flow through the markets, whether it's through CfD bids or whether it's going through the energy pricing itself, ultimately ending up on consumer's bill. The only evidence that we have seen in terms of quantifying that figure is the is the NERA economics paper we referenced earlier.

Question 2. Keeping with ICRP model - Does SSEN have quantified evidence of the incremental cost of 1MW generation capacity? versus "Expansion Constant"?

David Boyland: It's something that we're looking at internally, it's a good point. It's not simple to get that information, and if we do, then it is something that we will be considering putting to Ofgem in a confidential manner.

Question 3. Is this a Scottish political issue?

Barnaby Wharton: Yes, there is a political aspect to this as we see higher costs in Scotland, but it is a regulatory and practical issue for the delivery of net zero.

David Boyland: The publication from the Scottish Affairs Select Committee, does contain a number of appendices from different areas of industry which contain evidence and are worth a read.

Barnaby Wharton: While there is still a really great pipeline of onshore and offshore wind in Scotland which might make it look like TNUoS isn't having an effect. Having spoken to developers, it's not the case and there are real impacts which I'd urge developers to share with Ofgem which demonstrate that volatility of costs is meaning that projects have not gone ahead. While there is a strong pipeline, actually it could be stronger. It could be cheaper, and we need to evidence that really clearly.

David Boyland: It's a chicken and egg situation. Developers don't find out charges until they go through the processes and with future forecasting being so uncertain it makes projects commercial unviable and projects lapse. We have evidence which shows of projects cancelling in the north of Scotland due to the uncertainty of TNUoS alone and we will put this into our response, but we would encourage developers to put their own evidence into their responses.

Question 4. What is SSEN's and RUK's vision of what TNUoS should do and how would you do it?

Barnaby Wharton: For RUK we are working through the details of that right now. We have subgroup looking at this. I think weight and burden of heavy locational charges is probably too much.

Andrew Urquhart: We need to work across industry to find something that works for everybody. There are elements that are an issue for some, elements are an issue for all, and we need to come together to get a decent long term enduring reform that works for us all.

Question 5. If the TNUoS signal is removed, there could be implications on BSUoS and end consumers. How do we ensure that the whole system is considered?

Andrew Urquhart: There's a number of different things that account system charges, for the variability and thus the system operational requirements within TNUoS, BSUoS is only one of these. It feels like the approach to service payments and the signalling is a little bit disparate, it's across a number of different things, so potentially there could be an impact, but you could argue that you know having a single place in a single way of signalling would support simplicity and straightforwardness.

David Boyland: This is another example that the industry needs to work together, all these things are going to contribute towards making sure that net zero as possible, in a just and affordable way. So, it needs to be considered.

Questions answered after the event.

Question 1. Is a "locational CFD" a possible solution to addressing the imbalance in TNUoS costs?

David Boyland: This is an area that we have not researched and will take away to explore in more detail.

Question 2. What is it about the locational signal that reduces costs closer to demand that is not working?

David Boyland: The current charging methodology for demand and generation TNUoS should be somewhat equal and opposite. That said, through our analysis we are yet to see how the current methodology for generation TNUoS benefits consumers. We expect that the high cost, volatility, and unpredictability is likely to be increasing costs for consumers. Although TNUoS is split into generation and demand, there is a common misconception that the revenue recovered stops there. Generation TNUoS has to be built into the cost margins of each project, these costs flow through the market to the supplier and eventually are paid by consumers, resulting in consumers paying both generation and demand TNUoS at one point or another. The volatility and unpredictability of generation TNUoS significantly increases the risk for generators, subsidies as well as other pass-through costs etc we expect that this is increasing consumers bills in the long run. NERA Economic Consultants carried out a study on this, on behalf of Ocean Winds, which sought to quantify the two impacts of cashflow volatility and CfD bid mispricing. They estimate that uplifts to the rate of return arising from the risks in TNUoS charges could result in a total cost to consumers of between £122 and £391 million per year by 2030. We estimate this equates to an additional £4-14 per GB household in 2030.

Question 3. Has anyone done actual cost reflectivity analysis of different technologies/locations/etc. in a 2050 net zero grid? We seem to be flying blind at the moment.

David Boyland: At SSEN Transmission we have identified many issues with the current regime and over the coming months we will be working to establish what positive solutions could be brought forward, this will include modelling. We hope that modelling of this nature will also be undertaken as part of Ofgem's review. What we do know about 2050 is that based on the Future Energy Scenarios the capacity of renewable generation has to increase exponentially and we know that the charging methodology does not support this, especially in the north of Scotland.

Question 4. How far would addressing volatility and unpredictability alone go in addressing the concerns of generators?

David Boyland: In our view the volatility and unpredictability of TNUoS is a huge concern. Timing and sizing uncertainty for generation developments results in timing and sizing uncertainty for network investment. There is also considerable evidence that the unpredictable nature of TNUoS comes with great risk and cost to developments which ultimately is passed through to the end consumer. Stable and predictable charges would go a long way in reducing the risk attached to TNUoS, that said, there is many other questions that need to be answered in conjunction to this, including, are the disproportionate high costs in the north of Scotland suitable to enable the renewable generation required to reach net zero alongside what is the purpose of this high and ever increasing cost being levied on existing generation sites, if its initial purpose is to provide a signal where to locate.

Question 5. What do we believe stakeholders mean by 'quick'? Weeks/Months/years/decades?

David Boyland: This is an excellent point and one that requires clarity as no timelines have been attributed to quick wins etc. Ofgem have however asked for views specifically around timescales to which industry considers any reform programme should work. We would urge attendees to respond to the CfE with what they believe the timescales should be.

Question 6. Do you think the current CUSC mod (315/375) on expansion factors will resolve this concern?

David Boyland: CMP315/375 is an example of how the current methodology is not working and is not cost reflective even in the theory of the current methodology. I do not believe that CMP315/375 will solve all the concerns with TNUoS and I believe that a siloed approach on different parameters of the methodology and other areas under review may come with some serious unintended consequences.

Question 7. We're considering a CUSC mod which imposes a €2.5.MWh wider TNUoS cap in Scotland to cap cost fluctuations and increase investor confidence. Do you agree?

David Boyland: A cap of some sort may go towards providing some stability in TNUoS charges for generation however this must be properly assessed and looked at in conjunction with the rest of the TNUoS methodology. We have not done any research or modelling on this and would urge if you have, the CfE is a great opportunity to submit this to Ofgem.

Question 8. Are these potential areas of reform tinkering around the edges rather than a wholesale reform of the grid charging system?

David Boyland: Ofgem's CfE is a good opportunity to present your views as to what reform should look like and that if you feel there should be a fundamental review of TNUoS to provide evidence of that effect.

Further comments received as part of the Q&A session.

- The reference node change can still enable locational signals but dampen it down the total cost for generator
- It is imperative that whatever reform or CUSC mod is considered takes generators in all of GB into consideration and not just Scottish generators.
- Remote island wind and the other challenges of TNUoS also need to be captured - rezoning, uncertain new links and Ofgem decisions around it.
- Ofgem's TCR SCR impact assessment showed reducing generator TNUoS is neutral to customers - Ofgem showed higher CapMech and CfD cancelled out lower demand TNUoS (edited)
- Need to consider security of supply
- Simplification and removal of locational signals
- Great SEN are leading this, but the lack of joined up change from all from the other TOs with SEN is disappointing
- "Vehicle" for change - Ofgem keen to hear other ideas too.
- OTNR approach could work well. Managed by both BEIS and Ofgem to keep net zero as a priority. Enables different timescales: early opportunities and longer term

Appendix 2 - List of publicly available resources.

RenewableUK & RIDG	Charging the wrong way
SSEN Transmission	TNUoS Charging Paper Feb 2021
SSEN Transmission	TNUoS Stakeholder Feedback Report May 2021
SSEN Transmission	Offshore Wind Transmission Charges September 2021
Scottish Renewables	SR TNUoS Explainer
Scottish Renewables & Cornwall Insight	Charging differentials for 132kV generation
Scottish Renewables & Baringa	Baringa Grid Charging reforms
Scottish Affairs Committee	Renewable Energy in Scotland Inquiry



Scottish & Southern
Electricity Networks

TRANSMISSION



SSEN Community



@ssencommunity

ssen-transmission.co.uk

