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SONI

Shaping Our Electricity Future

Consultation and engagement report

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Author(s)	Michael Flynn, Killian Condell
Quality Assurance by	Dan Barrett
Main point of contact	Michael Flynn
Telephone	07543 223700
Email	michael.flynn@traverse.ltd

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t. 0207 239 7800 p. 2 Angel Square, London, EC1V 1NY

e. info@traverse.ltd w. www.traverse.ltd

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1. Executive summary

The Department for the Economy (DfE) is currently preparing a new Energy Strategy which is likely to state that by 2030 at least 70% of the electricity consumed in Northern Ireland must come from renewable sources. That will mean a significant increase on the current renewable electricity level of almost 50%. The amount of renewable electricity sources connected onto the electricity transmission grid today will have to double by the end of the decade if this policy target is to be reached.

This will also help Northern Ireland to achieve future carbon emissions targets, as part of the UK's drive for net zero carbon emissions by 2050, which are currently being considered by the Northern Ireland Assembly as part of proposed climate change legislation.

As the electricity transmission system operator for Northern Ireland SONI have a pivotal role to play in implementing energy policy. They operate the transmission system and plan the grid for the future. In order to prepare for a time when more electricity will be generated from renewable sources like wind and sun, SONI plan to make the grid stronger and more flexible. Its strategy for making the grid ready for 2030 is called 'Shaping Our Electricity Future'.

In March 2021, SONI launched an extensive public consultation into how to best deliver the transformative changes needed in the Northern Ireland transmission grid, while also ensuring security of supply and minimising costs for consumers.

Four draft approaches were set out and consulted upon over a 14-week period.

Traverse were commissioned by SONI to independently analyse the responses to the public consultation and to support SONI on delivering an Industry Forum and Civil Society Forum.

In addition, SONI ran more than 20 engagement events and briefings; all events were designed to help answer the following research questions:

- What do stakeholders think about the proposals for each workstream?
- Which proposals do they prefer, and why?
- What is the conditionality of their views?
- What values, motivators, and messaging influence their views, and how?

SONI intend to use the feedback gathered from the engagement events and broader consultation to inform their inaugural 'Shaping Our Electricity Future' roadmap, which will be published in Autumn 2021. The roadmap will help to advise and guide all stakeholders on the optimal pathway to delivering a transmission grid which will support 2030 renewable energy targets.

This document focuses on the public responses captured during the consultation.

1.1. The wider context

As well as discussing the draft approaches to grid development proposed in the 'Shaping Our Electricity Future' report, participants in all of the engagement streams also considered the bigger picture of climate change and the specific role SONI would play as Northern Ireland moved away from its reliance on fossil fuels. As part of the consultation, respondents were also asked for their views on DfE's proposed 2030 renewable electricity target.

1.2. The different approaches

Throughout the consultation, and all engagement activities, participants were asked to consider the four different draft approaches SONI have proposed for achieving the 2030 renewable target.

Participants were informed of the likelihood of the success of each approach and were told each of the four would require investments in network development projects across Northern Ireland, with costs ranging from £113million to £535 million.

The four draft approaches presented by SONI are as follows:

1. **Generation-led:** Putting clean electricity generation close to where most power is used.
2. **Developer-led:** Letting developers decide where to locate clean electricity generation;
3. **Technology-led:** Trying new ways to move clean electricity across Northern Ireland; and
4. **Demand-led:** Putting large electricity users close to sources of clean electricity generation.

Participants and respondents were generally positive about the generation-led and demand-led options. Most favoured the first option, but a significant number of people felt that a combination of generation-led and demand-led would be the best solution. Participants and respondents were less enthusiastic about the other two options.

1.3. Attitudes towards the four approaches

As outlined above, there was a reasonable level of support for the generation-led approach, which SONI presented as being highly likely to succeed in terms of facilitating the 2030 renewable electricity target, mainly because engagement participants and consultation respondents felt there was a high chance of it achieving the target of at least 70% renewable energy by 2030. It was also popular on grounds of low cost.

A few respondents were worried about the potential environmental, community and landscape impacts of this approach, while some said the

benefits of the approach may not be spread evenly across Northern Ireland.

The developer-led approach, which SONI described as being very unlikely to succeed in terms of facilitating the 2030 renewable electricity target, was less popular and those participants and respondents who did support it felt it should be used in conjunction with the other approaches. Most of those who opposed this approach felt that developers would be motivated more by profit than the needs of the community and environmental sustainability.

Only a few respondents and participants supported the technology-led approach, which SONI presented as being unlikely to succeed in terms of achieving the 2030 renewable electricity target. This support was mainly for the reason that it would increase innovation and may therefore lead to long-term efficiency gains. A larger number opposed it, most frequently in relation to cost and uncertainty associated with it.

A number of people were positive about the demand-led approach, which SONI said would require large electricity users to locate in preferred locations to succeed. Some felt it would be simple to implement and would support regional development. Those not in favour were generally concerned about the viability influencing future large-scale electricity users in Northern Ireland to set-up in specific locations.

1.4. Participants' feedback on engagement and consultation

Most of those who took part in the engagement activities were positive about their experience and appreciative of the time taken by SONI to engage them. A number were very positive about the Industry Forum and in particular the responses provided to questions submitted to the panel.

Civil Society participants were also generally happy with their overall experience and the activities they participated in.

Many consultation respondents welcomed the opportunity to feed back their views. A few however made negative comments about the wording of the questionnaire and some of the information presented.

1.5. Next steps

SONI will consider feedback from the consultation and engagement process before publishing their final strategy for 'Shaping Our Electricity Future' in autumn 2021. This will then help inform the new Energy Strategy for Northern Ireland being developed by the Department of the Economy and will shape how new electricity transmission grid projects are shaped over the next nine years and beyond. Each of these projects will then have extensive public consultation and will follow the normal planning process.

2. Introduction

2.1. Context

SONI operate the Northern Ireland transmission system, plan the transmission grid and run the wholesale electricity market. The transmission grid moves wholesale power around Northern Ireland by bringing electricity from where it is generated to where it is used.

As a response to the climate emergency and to support the transition to an electricity system without fossil fuels, SONI are preparing to make the transmission grid ready to carry at least 70% renewable electricity by 2030, in line with proposals set out by the Department for the Economy.

This will also help Northern Ireland to achieve future carbon emissions targets which are currently being considered by the Northern Ireland Assembly as part of proposed Climate Change legislation.

If these ambitions are to be realised, fundamental changes are required when it comes to the development of Northern Ireland's electricity transmission system. SONI's 'Shaping Our Electricity Future' report sets out four draft approaches to develop the grid in a way that will allow DfE's 2030 target to be met.

On 8 March 2021, SONI launched an extensive public consultation and engagement programme on the four draft approaches, which are as follows:

1. **Generation-led:** Government policy would influence where renewable energy is generated – favouring locations where the grid is already strong;
2. **Developer-led:** In this approach, SONI continue to connect new sources of renewable electricity as requested in any location;
3. **Technology-led:** This approach uses technical solutions to make the grid more resilient so it can better handle the variable nature of renewable energy; and
4. **Demand-led:** Government policy determines where future large energy users such a big industry and date centres would locate in Northern Ireland.

SONI confirmed that each of the four approaches require investments in grid development projects throughout Northern Ireland, with costs ranging from £113 million to £535 million.

SONI plan to publish the inaugural 'Shaping Our Electricity Future' roadmap in autumn 2021. The purpose of the roadmap is to advise and guide the Government, regulator, industry stakeholders and consumers on the optimal pathway to delivering a renewables-based power system. Traverse were commissioned by SONI to independently analyse the responses to the public consultation and to support SONI on delivering an Industry Forum and Civil

Society Forum.

In addition, SONI ran more than 20 engagement events and briefings.

The 'Shaping Our Electricity Future' consultation and engagement programme ran in concurrence with DfE's consultation on policy options for the new Energy Strategy for Northern Ireland. When published, the new Energy Strategy will set a clear direction for the energy sector over the next ten years. Significantly, it will include the formal setting of the new 2030 renewable electricity target.

2.2. Aims, objectives and scope

The consultation and engagement programme was intended to achieve the following objectives:

- Understand stakeholder views on and preferences for the four approaches.
- Understand what influences these views, including underlying assumptions, risk profiles for the proposals, and trade-offs that stakeholders make in gauging their preferences.

The engagement activities were designed to answer four key research questions.

- What do stakeholders think about the proposals for each workstream?
- Which proposals do they prefer, and why?
- What is the conditionality of their views?
- What values, motivators, and messaging influence their views, and how?

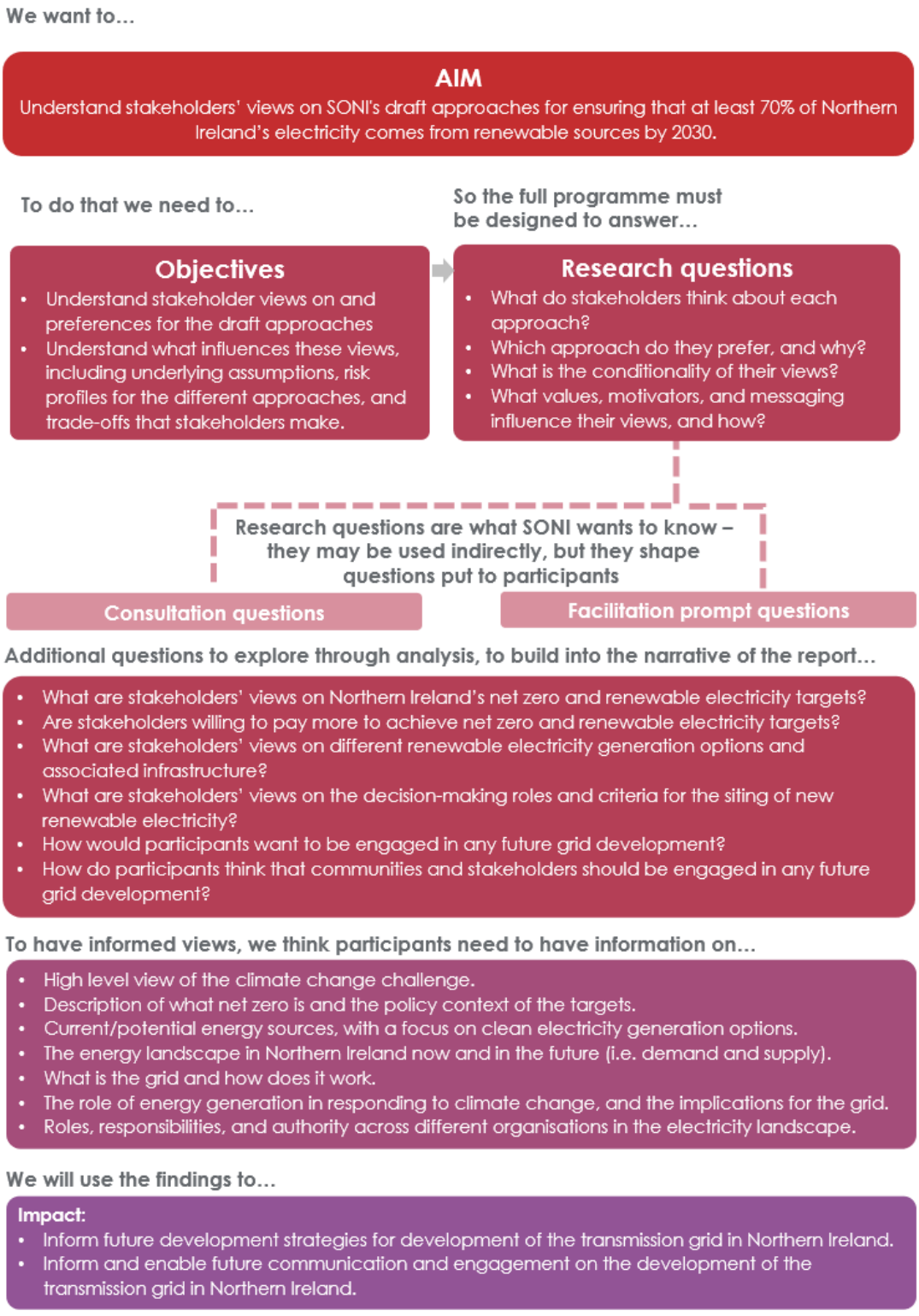


Figure 1: Agreed project framework for aims, objectives and research questions

In terms of scope, the focus of the public engagement element was on SONI's draft approaches to preparing Northern Ireland's electricity so that it can support the new 2030 renewable electricity target; the 2030 renewables target; and the ultimate UK target of net zero carbon emissions by 2050. Participants were asked to explore the four draft approaches to ensuring a greater proportion of energy is produced from clean sources by 2030.

Participants were not assumed to have any prior knowledge and were given presentations by SONI to explain the background to the project and the four approaches set out by SONI to achieve the 2030 renewable electricity goal.

Throughout the engagement process, participants discussed a wide range of subjects related to climate change and sustainability. We noted and reported on all comments but there was limited time to explore points that fell outside the scope of the project. There were however a number of suggestions which did not relate directly to SONI's four approaches and some of these will be considered in greater detail in the conclusion.

2.3. Engagement methodology

Traverse designed and delivered two forms of engagement activities, which took place in April and May 2021. In addition, SONI ran more than twenty engagement events and briefings.

2.3.1. Industry Forum

The Industry Forum was a Zoom webinar with stakeholders invited to register on the OpenConsult platform. A total of 155 participants registered for the event. The format allowed attendees to submit questions, comment on and upvote questions that had been submitted. More information on registration and attendance is available in Appendix A.

SONI delivered presentations on the following topics:

- Electricity markets;
- System operations; and
- Transmission networks.

After presenting on each of the three topics, SONI took the questions from stakeholders which had received the most votes.

2.3.2. Civil Society Forum

The Civil Society Forum was delivered using the Zoom meeting format. There was a presentation from SONI, which provided an overview of its roles and responsibilities and details about the consultation, followed by smaller group discussions in nine breakout rooms. A total of 27 stakeholders representing 25 different organisations attended the event.

Traverse facilitators introduced the first activity, which involved recapping the four approaches using 'Top Trumps' cards. The cards ranked the four approaches against a number of different criteria (such as cost, technical difficulty etc.). They then invited discussion on how the different approaches compared.

Participants were then asked to allocate tokens to one or more of the four approaches to reflect their preferences (both as a group and as individuals). Facilitators explored the reasons for their preferences in the group discussion. The process of token allocation was a tool to open up deeper qualitative discussion, rather than collect quantitative data about preferences. More

information about top trumps is provided in Appendix B.

2.4. Consultation Methodology

This report also summarises the responses to the consultation for the 'Shaping Our Electricity Future' project, which was carried out by SONI. This consultation requested feedback on the four proposed approaches for preparing the transmission grid to meet the target of at least 70% renewable electricity by 2030. The consultation also sought feedback on the overall target, as well as general feedback on the project.

2.4.1. About the consultation

The consultation was open from 8 March to 14 June 2021. It was owned and managed by SONI, and Traverse was commissioned to independently process, analyse and report on the responses received to the consultation.

Addressing the challenges of climate change is a priority for SONI. This is reflected in the level of outreach undertaken by the organisation in relation to the 'Shaping Our Electricity Future' consultation. SONI utilised all available channels and platforms to raise public and industry awareness of the consultation and to encourage participation in a cost-effective manner.

This included winning earned news coverage with outlets across print, broadcast and online channels; regularly promoting the consultation via social media; and by undertaking direct engagement with the Utility Regulator, Northern Ireland Executive Departments, local councils and local government representatives, the Consumer Council, NIE Networks, industry partners, elected representatives, the Ulster Farmers' Union, business, community, and third sector organisations, and environmental groups.

SONI placed a particular focus on ensuring the consultation attracted involvement and feedback from sections of the community that traditionally have not been engaged in conversations about Northern Ireland's energy future. This is illustrated by the Civil Society Forum and SONI's partnership with TedxStormont, which were both aimed at raising awareness of the consultation across different demographics.

2.4.2. Responses received

To ensure the consultation was as accessible as possible to everyone, four channels were provided for submission of responses to the consultation. These included:

- **Online response form:** by using the consultation webform on the OpenConsult platform, accessible via the SONI website.
- **Email:** by emailing SONI at info@soni.ltd.uk
- **Portal submission:** by using the portal function on the OpenConsult platform, allowing users to post public comments relating to part of the consultation document.
- **Postal submission:** by using the postal details provided by SONI.

The total number of public consultation responses received through all channels was 57. Industry responses were also collected and the overall number of submissions to SONI was just under 100. This report deals with the public responses only.

2.4.3. Data processing

Submissions received were recorded in a database for analysis and categorised into types (for example letter, email or response form).

Data protection

Traverse and SONI agreed processes to ensure all data was handled in accordance with the General Data Protection Regulation (GDPR).

The online response form included statements on data protection, including respondents' rights under GDPR, explaining how data would be used, and for what purpose. Though respondents who provided views in other formats did not receive a data protection statement, care has been taken to ensure that no individual respondents are identifiable in this report.

Development and use of the coding framework

In order to consistently analyse open text responses, Traverse developed a coding framework. An experienced analyst reviewed an early sample of responses and designed an initial framework of codes. The framework was then adapted as analysis of further responses was carried out to ensure it reflected the themes raised across all the responses.

Each code represents a particular issue, and these are grouped according to unifying themes and sentiments. The coding was used to group together similar comments and summarise them thematically. In this way, the summary report draws on and reflects the responses received and the full range of issues raised by respondents, regardless of where in their response a respondent raises a given issue.

2.5. Reading this report

2.5.1. Engagement sections

Quantifiers

We do not report on numbers or percentages of participants as numeric quantifiers would be misleading given the engagement method. We use non-specific quantifiers to give relative weighting to qualitative data as follows:

- 'A few' when a small number of participants shared a similar view.
- 'Some' when a minority of participants shared a similar view.
- 'Most' or 'majority' when a clear majority of participants shared a similar view.

Where multiple views on an issue are presented, more prominent views are generally reported first. We use terms such as 'consistent', 'frequent' 'commonly held', or 'less common', to show relative frequency of views.

Interpreting and extrapolating findings

Public dialogues are well respected as an approach for their ability to engage the public with complex policy issues in a meaningful and informed way. However, as with any research method, when interpreting the findings, it is important to bear in mind the potential limitations of the approach and how these have been mitigated. For example:

- Civil Fora have a limited scope and time for participants to engage with the information. Out-of-scope topics brought up by participants could not be explored in-depth due to limited time, such as the use of nuclear power or production of hydrogen.
- Any quantitative data in this report came from closed question surveys and polls. All topics were discussed in more depth during live workshops, where it became apparent that participant responses to surveys often came with caveats, meaning that the qualitative data gave a richer and more varied impression of participants' opinion than the quantitative data alone. We therefore analysed all quantitative data alongside the detailed qualitative data that we gathered. To grasp the complex narrative of the findings it is important to only consider quantitative data in conjunction with the detailed qualitative findings.
- As with all research, this report is a snapshot in time. People's views may change significantly in the future.

2.5.2. Consultation sections

Quantifiers

In summarising the responses to open questions, we use quantifiers to give relative weighting to qualitative data as follows:

- 'A few' for comments made by approximately 1 to 5 respondents.
- 'A small number' for comments made by approximately 6 to 10 respondents.
- 'Some' for comments made by approximately 11 to 20 respondents.
- 'Several' for comments made by approximately 21 to 30 respondents.
- 'Many' for comments made by more than 30 respondents.

These quantifiers are designed to provide a sense of the frequency with which issues have been raised in relation to other issues to give a sense of proportion and balance. This approach follows good practice in reporting qualitative data from open questions. Traverse's intention is to reflect accurately the range of issues raised, rather than to attribute weight to the number of respondents raising them.

The quantitative data provides useful insight into the preferences expressed by respondents in answering the closed questions; however it is important to bear in mind that a respondent may express support for a given approach, but also express concern about particular aspects of it, or express opposition to the approach, while recognising that there are benefits to it. As a result, the quantifiers for the open questions may appear not to align exactly with the numbers in the charts summarising the closed question responses.

Interpolating and extrapolating findings

As the respondents to the consultation were self-selecting, their views cannot be taken to constitute those of a representative sample of the population. The views expressed are based on the beliefs, feelings and understanding of those responding. Nevertheless, the responses offer a valuable insight into views and opinions about the proposals even if these may not be factually accurate in some cases.

3. Perceptions of Climate Change and the pathway to net zero

Chapter summary:

- Nearly all participants and respondents recognised the need for urgent action to mitigate the worst effects of climate change.
- Many participants felt there needed to be a focus on people and a 'just transition'.
- Most consultation respondents agreed Northern Ireland should work towards 70% renewables by 2030.
- Some respondents were concerned about the impact on cost and security of supply.

This chapter explores engagement participants' and consultation respondents' views on climate change, the journey to net zero and the DfE's proposed target that at least 70% of Northern Ireland's electricity comes from renewable sources by 2030.

3.1. Environmental considerations

Most Civil Society Forum participants recognised the need for swift action to manage the worst effects of climate change. Many felt that environmental considerations should be prioritised when considering which of the four draft approaches should be adopted.

Some felt that focus should be on tackling demand for energy and lifestyle changes (such as switching to electric vehicles) to reduce dependence on fossil fuels.

Other participants focused on more localised environmental impacts. One Civil Society Forum attendee thought that areas affected by development should benefit from investment to help mitigate some of the impacts. Some felt offshore wind turbines would be preferable to building infrastructure onshore, but one participant also wanted to see a greater focus on marine biodiversity.

Another participant felt that any approach adopted needed to look beyond 2030 and at the full life cycle of any new infrastructure. This would mean looking at the overall carbon footprint and not just how successful any approach was in meeting the 2030 target.

3.2. Focus on people

Many participants in the Civil Society Forum felt more emphasis needed to be placed on local communities. Several people thought it was important the burden did not fall disproportionately on those with the lowest incomes. A few participants highlighted the importance of training so people could move into greener jobs and industries.

"I would argue that what we need is a strategic plan. It can't be left to developers and it has to be planned out. It relates to a just transition and helping people with well-trained jobs. If we are going to get to net zero, we have to plan, we can't rely on people making cheap choices - it has to be proper." Civil Society Forum participant.

Some felt that it needed to be made easier for people to make sustainable lifestyle choices, both through financial incentivisation and by improving guidance on how to make homes more energy efficient (such as use of heat pumps and effective insulation). Some participants felt that subsidies on fossil fuels needed to be cut.

"Wealthier people can afford the EVs and the charging system. The poorer people on a meter can't. There is a wealth gap here. Who is going to pay for the storage heaters? There is a tax deficit. Who is paying for the infrastructure?" Civil Society Forum participant

Some participants talked about the community in relation to decentralising the grid. One participant asked if "communities can be supported to be actively involved in co-design of location and initiatives." There were a number of suggestions about microgeneration or community generation of electricity. A few participants felt that public or community ownership of wind farms would be fairer than a model of private ownership.

3.3. Further considerations

A few participants felt the maps presented by SONI needed to show more detail. One highlighted information about telecommunications and gas networks while another wanted more detail on locations earmarked for development of wind turbines, particularly where it would impact Areas of Outstanding Natural Beauty (AONB). One was interested to see how SONI plans to make more efficient use of underwater cabling.

A few participants felt that more consideration should be given to changes in society and demographic trends rather than basing approaches on the current position.

"SONI have looked at what they have currently and given themselves options. They've missed out on socioeconomic demands and they're missing the longevity of achieving net zero." Civil Society Forum participant

A number of participants felt there was space for more innovative approaches beyond the four set out in the 'Shaping Our Electricity Future' report. Some raised questions or concerns about the energy mix. One participant suggested the use of methane or biofuels would be more palatable than introducing hydrogen into the mix, particularly given the size of the agricultural industry in Northern Ireland.

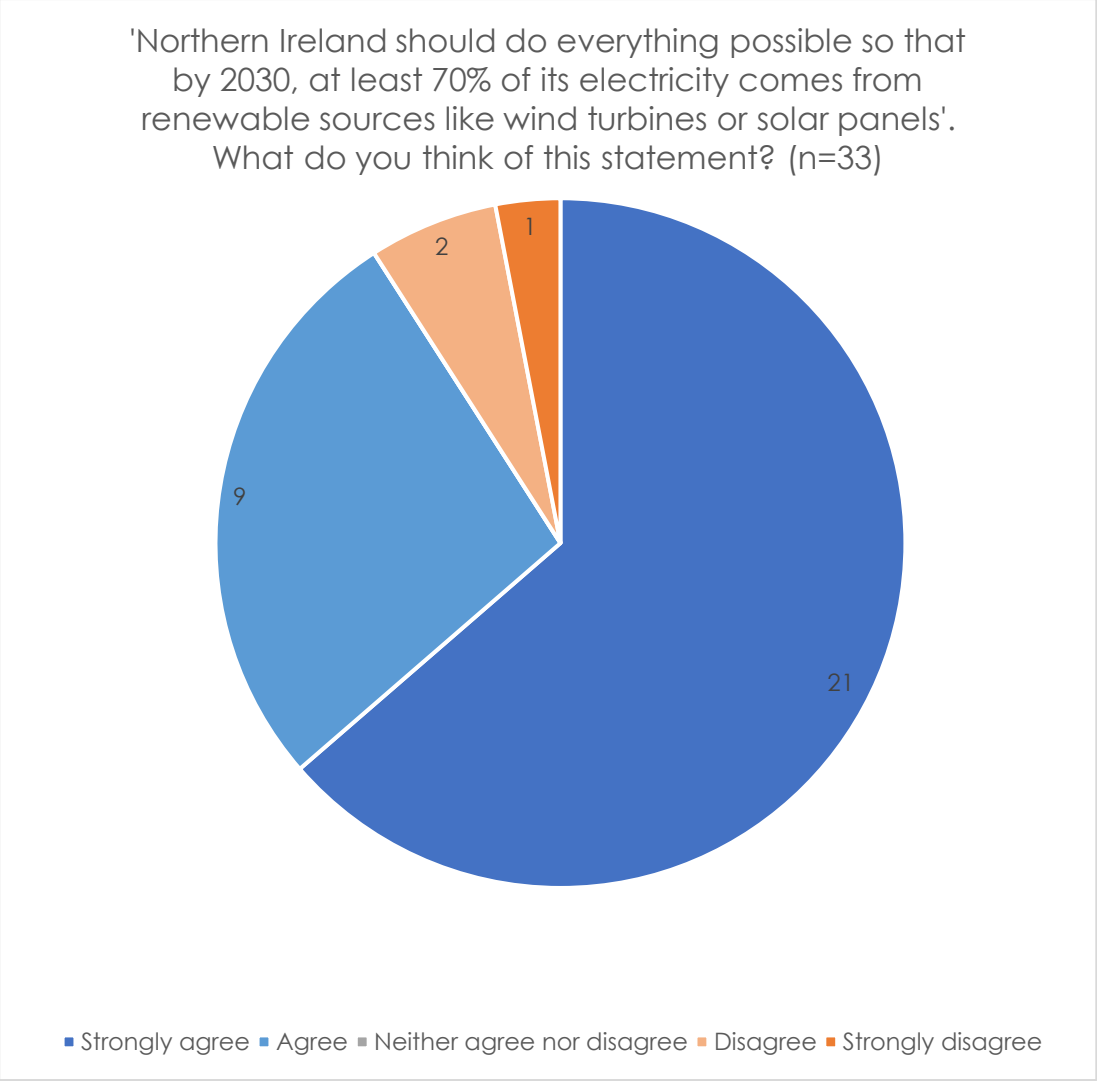
One participant felt SONI should work with EirGrid (who operates the electricity grid in the Republic of Ireland) to develop an 'all Ireland' approach to decarbonisation.

3.4. Consultation feedback on the renewables target

Question 1a of the consultation questionnaire asked respondents how much they agreed or disagreed with the statement: *"Northern Ireland should do everything possible so that by 2030, at least 70% of its electricity comes from renewable sources like wind turbines or solar panels."*

Respondents were given a Likert scale from 'strongly agree' to 'strongly disagree', as well as 'don't know'.

This question received 33 responses; the breakdown is provided in the chart below.



The linked open question 1b asked respondents to give the reasons for their answer, or to provide any other comment giving context for their views.

Question 1b received 31 responses, although some comments in responses such as emails that do not follow the structure of the questionnaire addressed this question and have been included in the summary below.

Support

Many respondents expressed support for the ambition to achieve the renewables target, with some saying that it is important for Northern Ireland to reduce its carbon emissions in the context of the climate crisis.

A small number of respondents, mostly commercial stakeholders, claimed that the renewables target offers Northern Ireland an opportunity to become a leader in renewables generation, with an opportunity to make use of the natural resources available, as well as existing maritime infrastructure, which could support offshore development. These respondents said that the decarbonisation of the energy sector could lead to jobs and economic growth, including in areas outside Greater Belfast.

A few respondents, mostly from stakeholder organisations, argued for a 'just transition' to a decarbonised economy, with vulnerable consumers protected, and community benefits delivered. A similar number of stakeholder organisations said that SONI should look beyond 2030 to plan for the target of net zero by 2050.

Concern

A few respondents expressed concern about the environmental impacts of reaching the renewables target, saying that the siting of renewable energy generation should not damage ecosystems valuable for biodiversity and carbon sequestration, such as peatland. A similar number of respondents worried about the security of supply from use of such a high proportion of renewables.

Other issues raised by a few respondents include: the need to keep costs affordable for consumers; the importance of considering potential community impacts; the management of energy demand from data centres; and the development of the transmission network outside of the Belfast area.

Suggestions

Some respondents, particularly stakeholder organisations, offered suggestions for reaching the renewables target. A small number of these respondents said that SONI should exceed the target of 70%; a few of these respondents argued for a figure of 80%, while others said that the targets in SONI's TESNI (Tomorrow's Energy Scenarios Northern Ireland) 'Accelerated Ambition' pathway should be delivered. A few respondents said that an emissions target would be more appropriate than a renewables target.

A few respondents said that improvements to the grid, for example HVAC infrastructure in South and East Down, need to be made in order to make best use of use of renewable energy, including mitigating losses due to curtailment. A similar number of respondents said that energy efficiency and demand reduction are important aspects of energy policy, alongside nature-based solutions or carbon capture and storage.

Regarding appropriate technologies for reaching the target, a few respondents said that offshore generation would be the most appropriate to use, with others suggesting onshore wind, hydro, nuclear, anaerobic digestion, or solar. Respondents also said that increased renewables production should be combined with energy efficiency measures as well as appropriate energy storage capacity, for example through pumped storage, batteries or hydrogen generation.

Other suggestions made by respondents include: to ensure cohesion with EirGrid; to ensure alignment with UK Government policy and strategy; to facilitate microgeneration; to share the financial benefits of renewables developments with local communities; to progress with the North South Interconnector, or to put it underground.

3.5. Consultation feedback about 'Shaping Our Electricity Future' generally

Question 6 of the consultation questionnaire asked respondents to provide any other feedback, or to give details on anything that respondents feel has not been considered.

This question received 46 responses, although this figure includes responses such as emails that do not follow the structure of the questionnaire, which were allocated to this question.

Support

A small number of respondents said that a combination of approaches would be necessary in order to meet the renewables target; sometimes these respondents said that SONI should suggest a combination of approaches based on technical considerations.

Concern

A small number of respondents expressed concern about 'Shaping Our Electricity Future' generally. Most of these respondents worried about the potential impact of the project on the environment and landscape of Northern Ireland, including the risks to seabirds from the construction and operation of offshore wind, and from transmission lines.

Other issues raised by a few respondents include: the potential health impacts of renewable technology or transmission infrastructure; the significant energy demands of data centres; the need for transparency in the roll-out of the project, including in associated legislation.

A few respondents referred to the possible international impact of the project, saying that renewable technology requires unsafe and ecologically damaging mining, with work carried out under conditions of slavery.

Considerations

Many respondents, particularly stakeholder organisations, outlined various considerations for the decision-making about 'Shaping Our Electricity Future'.

Some of these respondents encouraged SONI to work with stakeholders in undertaking the chosen approach, such as local councils, renewables developers, the Consumer Council and government departments. Respondents argued that a strategic plan for the transmission system is necessary, with cooperation across government departments, including alignment with the Energy Strategy and Environment Strategy. These respondents said that the siting of renewables should be subject to a spatial plan that considers the needs of the local communities and environment, with appropriate planning procedures, and consideration given to local plans.

A small number of respondents said that SONI should consider the need to manage energy demand, through use of appropriate smart grid technology, and by reducing domestic and business consumption, for example retrofitting buildings, and use of heat pumps.

A similar number of these respondents said that the need for grid development is an important consideration in making best use of Northern Ireland's capacity to generate renewable energy. These respondents said that grid improvements, including use of smart technologies, would allow for better management of existing energy sources, sometimes claiming that the transmission system has not received adequate levels of investment to date.

A small number of respondents stated that security of energy supply is an important consideration in reaching the renewables target, while a similar number argued that use of microgeneration should be considered, seeing this as a means not only of reaching the renewables target in an efficient way, but also of allowing small generators to benefit from selling clean energy.

A few respondents said that a wider consideration of potential environmental impacts, including impacts on cultural heritage, fisheries, marine ecosystems and sources of drinking water, should be included in SONI's decision-making about the approach to reaching the renewables target. Respondents said that the role of the natural environment in sequestering carbon and in flood mitigation should be recognised as part of this consideration.

A few respondents commented on SONI's relationship with EirGrid; sometimes these respondents emphasised the importance of an all-island approach to reaching the renewables target, whereas others said that SONI should focus on the Northern Irish context.

A similar number of respondents said that the role of the consumer is an important consideration, calling for the participation of the public in decision-making about the approach to decarbonisation and the infrastructure that will be required. These respondents said that increased participation could help to build public support for the changes necessary to deliver the chosen approach. A few respondents said that the cost to the consumer is also important to consider, particularly in the context of the

electrification of domestic heating.

A few respondents said that SONI should consider the capacity for regional development in deciding on its approach, including the existing infrastructure, and the capacity for economic growth.

4. Attitudes towards the generation-led approach

Chapter summary:

- Most participants and respondents offered qualified support for the generation-led approach.
- Some favoured this approach because it was the most practical solution or because they thought new development should be offshore.
- Some thought the benefits would not be spread evenly across Northern Ireland.

This chapter explores participants' attitudes to the generation-led approach. Participants in the Civil Society Forum workshops were given an extensive presentation on the detail of the proposal. Under the generation-led approach, government policy determines the optimal location for new renewable energy sources (RES).

In the Technical Report for the project, SONI has set out "that the high-level methodology is to assess the new RES pipeline and assign a higher priority to resources close to the major load or growth centres." SONI's objective behind this approach is to minimise the need to invest in new transmission infrastructure.

SONI believes that this approach means less onshore generation is required to achieve the renewable ambition by 2030. The generation-led approach assumes that 700 megawatts (MW) of the renewable electricity target

comes from offshore wind generation, located off the east coast of Northern Ireland. This will be supported by about 500 MW of new solar energy and inland wind farms.

SONI estimates this approach is a less expensive way to prepare the grid for 2030 targets. It would cost approximately £120 million for related grid upgrades across the eight required projects.

SONI presented this approach as being highly likely to succeed when it comes to facilitating a renewable electricity target of at least 70% by 2030.

4.1. Support for the generation-led approach

Most participants offered qualified support for the generation-led approach. A few liked the idea of moving some of the generation of energy offshore because they felt that rural areas in the north and west had a significant number of wind turbines. One person mentioned 'industrial-scale' development and others suggested that communities most affected at the moment were not the main beneficiaries. Some participants felt the generation-led approach would lead to development being more evenly spread across the country.

A few people also felt increasing offshore production of renewable energy would be more environmentally sustainable than building new infrastructure onshore. One participant supported the generation-led approach on the basis that less energy would be lost in transmission.

"We want to live in communities where people are happy and there are a lot of groups springing up in rural areas regarding planning. There has to be a policy which is sensitive to that." Civil Society Forum Participant.

Participants referred to the generation-led approach as 'convenient' or 'practical' and supported it on the basis that it didn't require major government intervention. Several people felt that the best strategy would be to combine the generation-led approach with the demand-led approach. One participant favoured this combination but said it should not prevent Northern Ireland from embracing technological innovation.

The other main reason participants supported the generation-led approach was on the basis that it had a high chance of achieving the target of at least 70% renewable electricity by 2030.

4.2. Concerns around the generation-led approach

There were no major concerns expressed about the generation-led approach although one participant questioned whether the electricity grid was strong enough to support it and suggested the cost of improving the grid should be included in the overall cost of this draft approach.

4.3. Suggestions

Several participants who supported the generation-led approach felt that it was still important to make local communities much more involved than they are currently. One participant said communities had been "alienated" while another talked about the need for "community buy-in." A few participants talked explicitly about microgeneration.

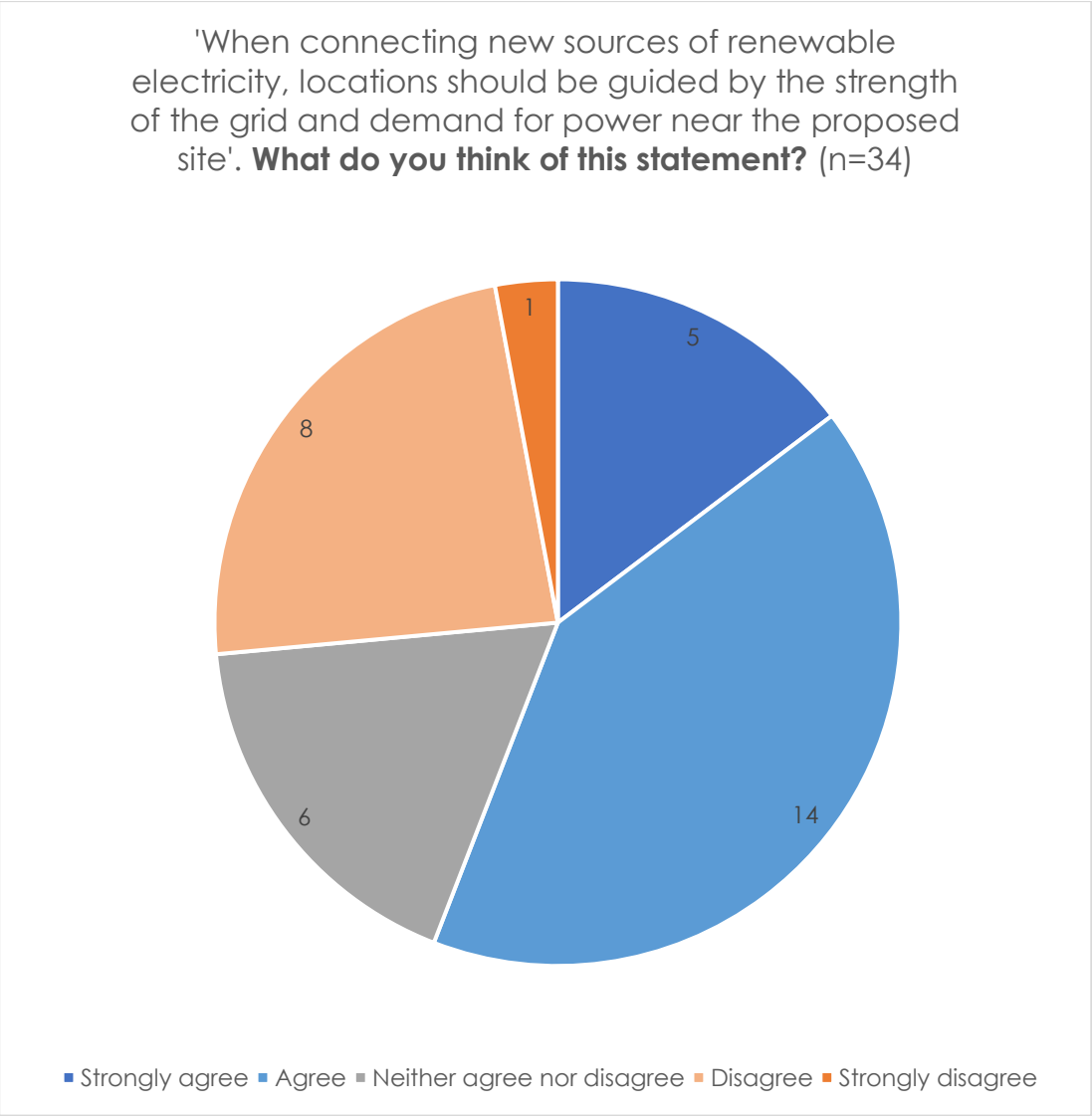
"We need to view generators as individuals as well as big companies. For example, people with solar panels on their roofs."
Civil Society Forum Participant

4.4. Consultation feedback on the generation-led approach

Question 2a of the consultation questionnaire asked respondents how much they agreed or disagreed with the statement: *"When connecting new sources of renewable electricity, locations should be guided by the strength of the grid and demand for power near the proposed site".*

Respondents were given a Likert scale from 'strongly agree' to 'strongly disagree', as well as 'don't know'.

This question received 34 responses; the breakdown is provided in the chart below.



The linked open question 2b asked respondents to give the reasons for their answer, or to provide any other comment that gives some context for their views.

Question 2b received 32 responses, although some comments in responses such as emails that do not follow the structure of the questionnaire addressed this question and have been included in the summary below.

Support

Some respondents expressed support for the generation-led approach, saying that it would be efficient to site generation close to demand, would allow for the achievement of the renewables target, and would have less of an impact on the landscape, due to use of offshore generation.

Concern

Some respondents expressed concern about the generation-led approach. A few of these respondents worried about the potential environmental and landscape impacts of this approach, saying for example that the potential impact of offshore renewables on marine habitats are not yet understood.

A few respondents said that local communities could be negatively affected by the generation-led approach, including those working in agriculture, aquaculture or fishing, while a similar number said that the benefits of the approach may not be spread evenly across Northern Ireland.

A few respondents doubted the feasibility of this approach, saying that there may not be space to locate generation close to demand centres, or that offshore wind development will take a long time, and would mean that there would not be enough generation by 2030. Other respondents said that this approach is not necessary, since energy supply and demand centres do not need to be located together.

Suggestions

Several respondents offered suggestions about this approach, with a small number of them saying that further development of the grid would be necessary to ensure that the transmission network is resilient and is able to make best use of renewable generation. Respondents sometimes referred to specific areas where they say that grid improvements are required, such as the west of Northern Ireland, while others referred to areas on the east coast.

A small number of respondents offered specific suggestions about the choice of location for clean energy generation including: in the west of Northern Ireland; on brownfield sites, or sites unsuitable for residential or commercial development; in areas with the best generation capacity, whatever the location; in areas with the best existing network.

A few stakeholder organisations make suggestions relating to offshore generation, saying that use of large offshore projects would reduce the number of new connections required, and that Northern Ireland's ports could be used in the assembly and operation of offshore wind. Others said that onshore generation capacity, including solar, should be used so as to maximise clean energy generation.

Other suggestions made by a few respondents include: to consider the environmental impact of locating generation on peatlands; to facilitate microgeneration; to manage demand by domestic users and data centres so as to maximise clean energy generation and make efficient use of the grid. Respondents suggest that SONI aligns with EirGrid and liaises with UK operators, as well as carrying out community and stakeholder engagement.

A few respondents said that the generation-led approach should be used in combination with other approaches; some of these respondents indicate that this approach should be the lead option in a blended approach.

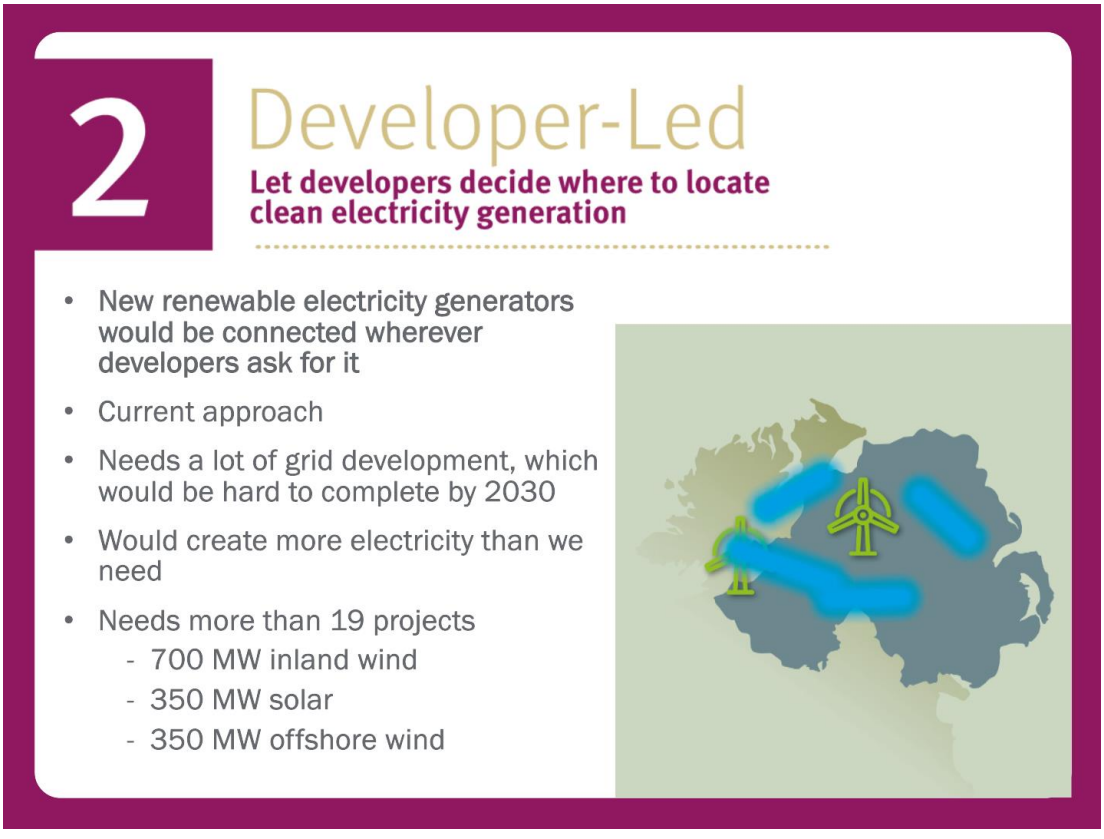
5. Attitudes towards the developer-led approach

Chapter summary:

- Engagement participants showed only qualified support for this approach.
- Of the consultation respondents who favoured this approach, a number were commercial stakeholders.
- Several people expressed concern because they lacked trust in developers.

This chapter explores participants' attitudes to the developer-led approach, where developers decide where to locate clean electricity generation. This is the current policy for Northern Ireland's electricity grid.

In their presentations, SONI explained that while by following this approach developers can build enough generation to meet the demands of the 2030 target, it will not be possible to expand the grid in time for Northern Ireland to use all of this power and to meet the 2030 target.



SONI estimates that the draft developer-led approach will need around 19 new grid development projects to add to or upgrade the transmission network. Their estimates are based on 700 megawatts (MW) of new renewable generation coming from inland wind farms and 350 MW each from solar and offshore wind.

For reasons of safety and security of supply, there are practical limits to the

number of major grid development projects that can be undertaken at the same time. SONI therefore forecast that it would be very challenging to complete this number of projects by 2030. The lack of capacity on the grid would mean that there would be excess power produced that can neither be exported nor used in Northern Ireland.

SONI believes this option would be expensive, estimating the likely cost to be £362 million for grid upgrades and additions.

5.1. Support for the developer-led approach

Participants showed only qualified support for the developer-led approach. One felt some elements of the approach should be adopted along with the generation-led and demand-led. Another felt that developers should be 'part of the process' but that more innovation was required, and that microgeneration should also be part of the strategy.

5.2. Concerns

A number ruled this option out on the basis of cost and complexity. One thought it would result in an excess of electricity being produced.

> *"I can see how they might see an opportunity here, and it's to see, is there really an opportunity for businesses to feed into this but then does it create more electricity than we really need? Is there a cost there?" Civil Society Participant*

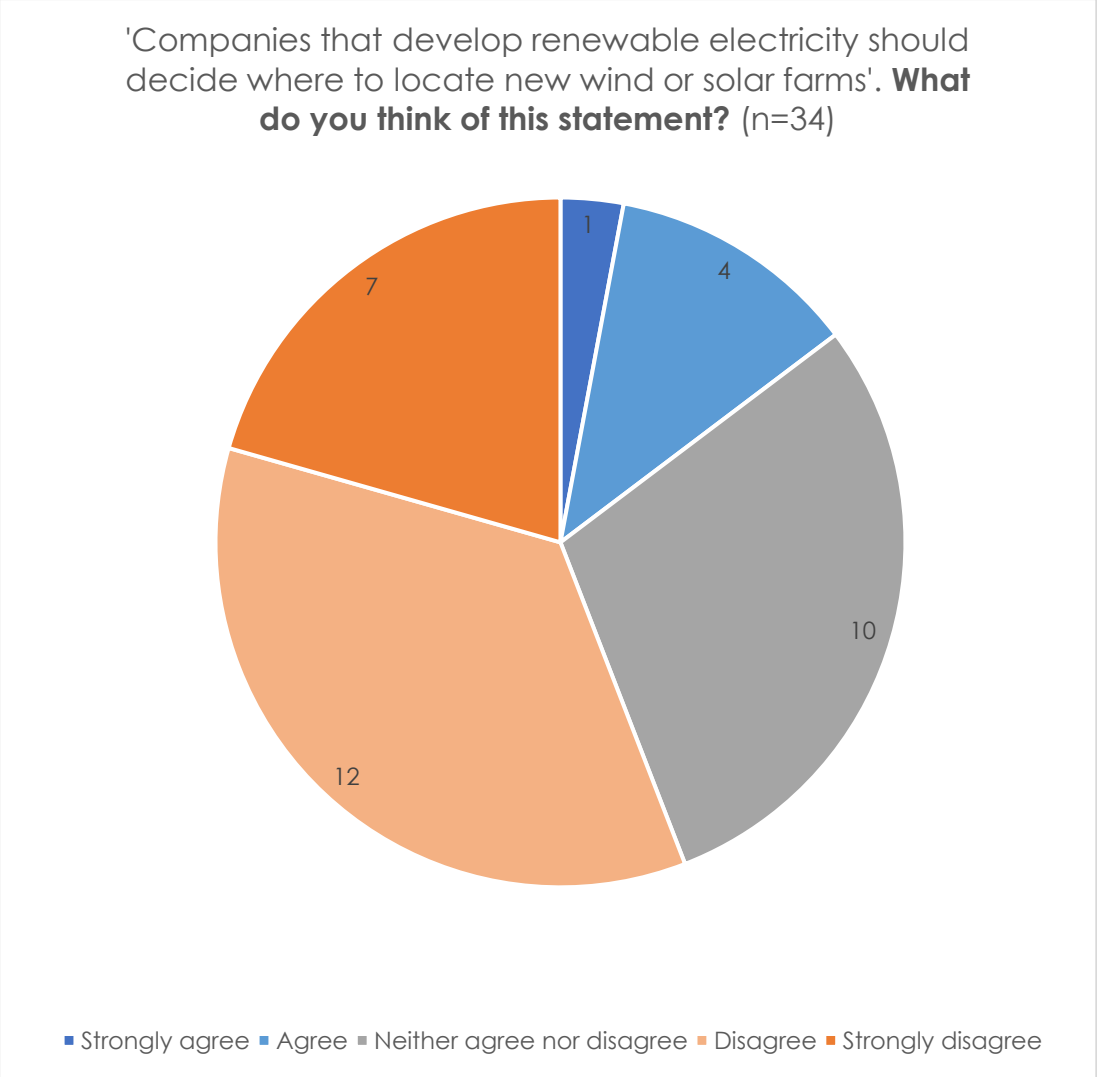
For several participants the issue was around trust with developers. One was concerned they wouldn't operate to stringent environmental standards. Another participant didn't think it was a 'viable' option.

> *"I think that approach has caused dissent and tension in communities. It's not the most conducive way for communities to have their say, and those are really important principles. When we switch focus away from communities, it doesn't work in the right way." Civil Society Forum participant*

5.3. Consultation feedback about the developer-led approach

Question 3a of the consultation questionnaire asked respondents how much they agreed or disagreed with the statement: *"Companies that develop renewable electricity should decide where to locate new wind or solar farms."*

Respondents were given a Likert scale from 'strongly agree' to 'strongly disagree', as well as 'don't know'. This question received 34 responses; the breakdown is provided in the chart below.



The linked open question 3b asked respondents to give the reasons for their answer, or to provide any other comment that gives some context for their views.

Question 3b received 33 responses, although some comments in responses such as emails that do not follow the structure of the questionnaire addressed this question and have been included in the summary below.

Support

A small number of respondents, including commercial stakeholders, supported the developer-led approach, saying that developers' existing expertise and investment would allow for the renewables target to be reached.

Concern

Several respondents expressed concern about the approach, often saying that developers would be motivated by their own interests, including the drive to make a profit, which could lead to negative impacts on the environment and landscape, as well as local communities.

A few respondents said that developers might make decisions about where

to locate without considering the local grid capacity, while others said that this approach would not allow Northern Ireland to reach the 2030 renewables target, due to project timescales and public opposition to associated infrastructure. A few respondents said that decisions made about the siting of renewables generation under this approach would not be accountable and worried about increased bills for consumers.

Suggestions

Several respondents made suggestions about the developer-led approach, often suggesting that there should be a more strategic approach to grid development, whereby developers are guided by local authorities or public bodies as to where generation infrastructure should be situated. A small number of respondents said that local communities should have a say in where generation takes place.

A few respondents said that grid development is required so that development of clean energy generation can take place more widely, while a few said that commercial incentives could be used to encourage development in particular sites. A similar number said that distributed generation should be used under this approach; that cross-border cooperation and infrastructure should be included; and that developers should be obliged to demonstrate biodiversity net gain.

6. Attitudes towards the technology-led approach

Chapter summary:

- Support for the technology-led approach was limited.
- Some respondents and participants felt it was the most innovative approach.
- Many were concerned about cost and potential environmental impacts.

This chapter explores participants' attitudes to the technology-led approach, which involves trying new ways to move clean electricity across the country. Rather than putting generation near demand, or demand near generation, this approach considers innovative ways to move the power itself.

In their presentations, SONI described how this approach would use high-capacity underground direct-current (DC) cables to exclusively move power from wind and solar farms in the north and west to the greater Belfast area where more power is needed.

High-voltage DC cables are rarely used as part of any national electricity grid because DC electricity is hard to integrate with existing alternating current (AC) grid infrastructure. The DC cables would therefore be isolated, one-way connections between renewable generation and urban centres.

To enable this approach, it would be necessary to install sophisticated electronic devices on existing AC lines to change how power flows on the

rest of the grid.

SONI estimates this approach would require more than 14 grid development projects costing approximately £535 million to upgrade and add to the network. This draft approach is based on 700 MW of new renewable generation coming from inland wind farms, and 350 MW each from solar and offshore wind.

SONI believes that there is a high degree of technical uncertainty in the technology-led approach and that it is therefore very challenging to complete all the necessary work in time to make the grid ready for at least 70% clean electricity by 2030.

6.1. Support for the technology-led approach

There was very limited support from participants in the engagement activities for the technology-led approach. Those who did favour it generally felt it was the most innovative solution and that it could reap long-term benefits. Some also believed that ultimately it would be more efficient than the other approaches.

6.2. Concerns

Participants concerned about adopting the technology-led approach tended to cite cost as the main issue. One participant said it was important to know what the potential physical impacts would be before pursuing this approach.

Another questioned how resilient underground cables would be and suggested they may need replacing at some point in the near future. One participant questioned whether the embedded carbon in creating the new technology had been accounted for.

Some were worried by the potential environmental impacts of adopting this approach. One said the topography in Northern Ireland might also prove a challenge.

> *"Technology-led scares me because there's a large investment for putting infrastructure in across pretty much the whole top of Northern Ireland. There are lots of protected areas there and would impact on communities, so that would be a red flag for me." Civil Society Forum Participant*

Others mentioned energy loss from the technology-led approach while one was concerned that Northern Ireland was lagging a long way behind the rest of the world in terms of developing technological solutions.

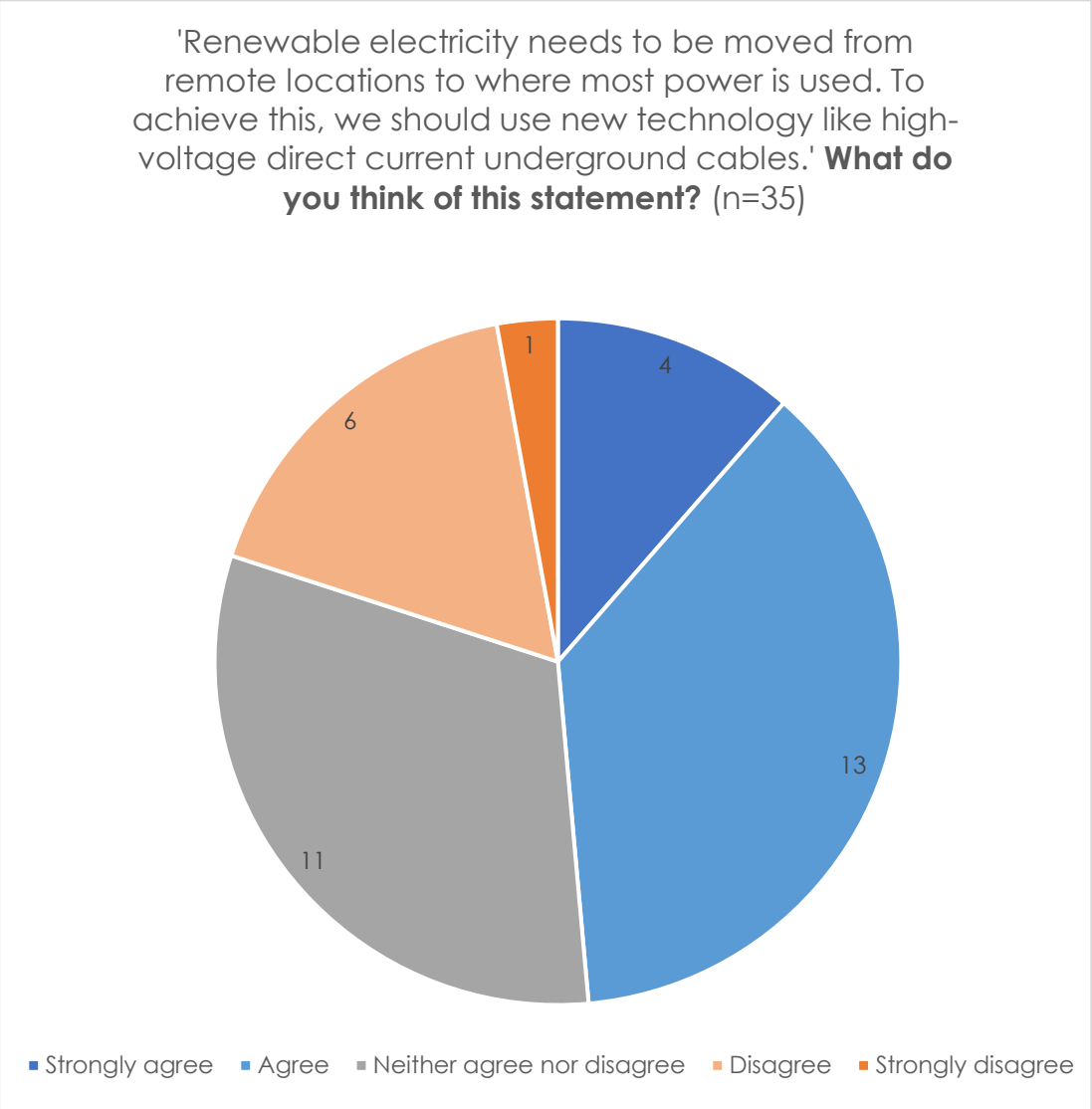
6.3. Consultation feedback on the technology-led approach

Question 4a of the consultation questionnaire asked respondents how much they agreed or disagreed with the statement: *"Renewable electricity needs to be moved from remote locations to where most power is used. To achieve*

this, we should use new technology like high-voltage direct current underground cables."

Respondents were given a Likert scale from 'strongly agree' to 'strongly disagree', as well as 'don't know'.

This question received 35 responses; the breakdown is provided in the chart below.



The linked open question 4b asked respondents to give the reasons for their answer, or to provide any other comment that gives some context for their views.

Question 4b received 31 responses, although some comments in responses such as emails that do not follow the structure of the questionnaire addressed this question and have been included in the summary below.

Support

Several respondents expressed support for the technology-led approach, saying that they approve of the use of underground cables, that innovative technology should be used in the transmission system, and that this

approach would allow for a more efficient grid.

Concern

Some respondents express concern about this approach, saying that it would be expensive and uncertain, and may not allow Northern Ireland to reach the renewables target. A few respondents said that putting cables underground would impact on the environment, while others said that this approach would allow generation to be sited away from demand centres, which could impact negatively on rural communities, but could also mean that sites of environmental importance are avoided.

Suggestions

Some respondents offered suggestions for this approach, saying for example, that technology should be used in the transmission system so as to manage increased renewables supply, and increased consumer demand.

Other suggestions include: that data centres should pay for this option; that microgeneration should be facilitated; that communities should have a say in decision-making; that offshore wind and tidal generation should be used; and that hydrogen could be used to store excess electricity.

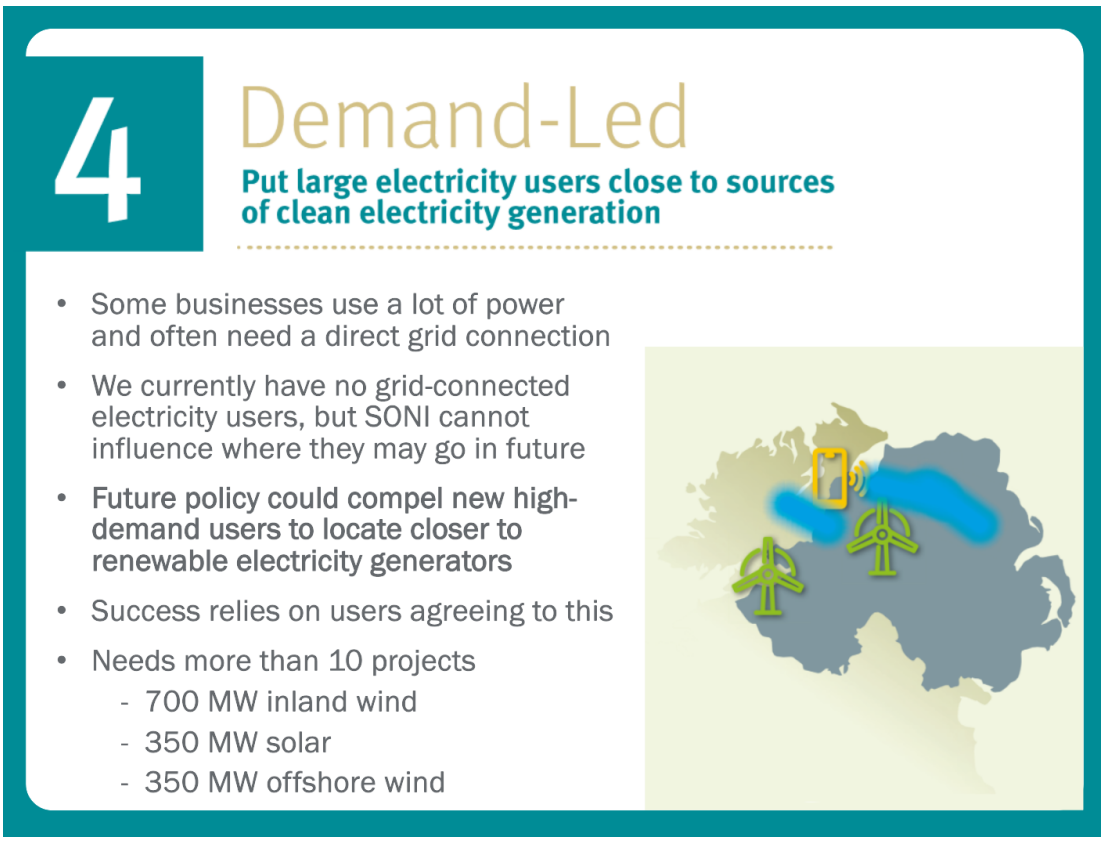
A few respondents said that this approach could be used in combination with other approaches.

7. Attitudes towards the demand-led approach

Chapter summary:

- There was qualified support for the demand-led approach among engagement participants and consultation respondents.
- A number felt it was the most efficient approach and had the best chance of achieving the renewable target.
- Many participants and respondents felt this approach wasn't viable as large-scale users would be unlikely to relocate to rural areas.

This chapter explores participants' attitudes to the demand-led approach which involves changing energy policy to move high-demand users closer to the sources of clean power. Northern Ireland currently has relatively few large electricity users, and currently none of them get their supply of electricity directly from the grid. However, in the future, high-demand users may need a direct grid connection.



In their presentations, SONI described how this draft approach would be based on 700 MW of new renewable generation coming from inland wind farms and 350 MW each from solar and offshore wind. They also stressed that this approach is one of the least expensive and estimated that it would lead to approximately 10 projects to upgrade or add to the grid at a cost of more than £113 million.

SONI emphasised, however, that this approach would need alignment and support from development agencies such as Invest NI and that would also involve future large electricity users locating to preferred regions of the grid

going forward.

7.1. Support for demand-led approach

A number of participants were in favour of the demand-led approach and many felt it had the best chance of achieving the renewable target. A few praised its simplicity or felt it was the most practical of the options.

Many participants supported the demand-led approach because they felt it would benefit rural communities and the rural economy.

> *"I like the demand led in that if you were interested in getting work into the rural economy. If you look at Covid where everyone is working remotely - the same can maybe be thought of in terms of manufacturing. Factories can be located anywhere. Government would have to take this into account. We can't just focus on delivering energy needs." Civil Society Forum participant*

> ***"The idea of the demand-led is very good; I can see a lot of opportunities to encourage big businesses into more rural areas, rather than big cities."- Civil Society Forum participant***

A number of those who supported the demand-led approach felt that it should be combined with elements of the other approaches. Many people were in favour of demand-led combined with generation-led although one participant felt that elements of the developer-led approach could also be incorporated.

7.2. Concerns

Most of the concerns about the demand-led approach focussed on the problems of influencing large energy users to set-up in a specific location. A few people felt that the demand-led approach was not viable as it meant moving businesses and people to where the grid is strong. Some were concerned that other essential infrastructure wasn't in place to enable people to support the location of large energy users in specific locations.

> ***"Is there an opportunity to spread out the economic benefits? But the difficulty is going to be incentivising them to make that big move, we talk about behaviour change, I think that could be the biggest issue there." Civil Society Forum participant***

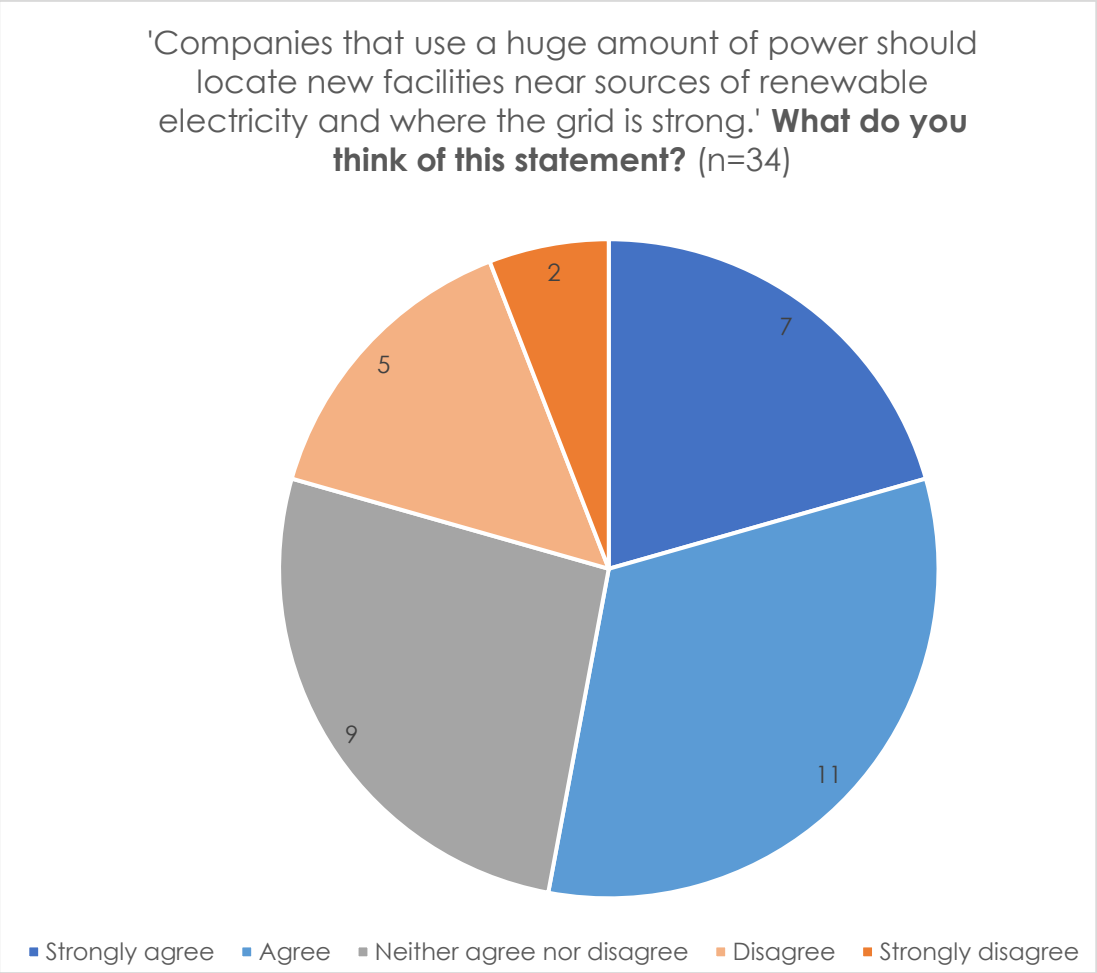
One participant raised a concern about how large electricity users would be incentivised.

7.3. Consultation feedback on the demand-led approach

Question 5a of the consultation questionnaire asked respondents how much they agreed or disagreed with the statement: "*Companies that use a huge amount of power should locate new facilities near sources of renewable electricity and where the grid is strong*".

Respondents were given a Likert scale from 'strongly agree' to 'strongly disagree', as well as 'don't know'.

This question received 34 responses; the breakdown is provided in the chart below.



The linked open question 5b asked respondents to give the reasons for their answer, or to provide any other comment that gives some context for their views.

Question 5b received 32 responses, although some comments in responses such as emails that do not follow the structure of the questionnaire addressed this question and have been included in the summary below.

Support

Several respondents supported the demand-led approach, saying that it would be efficient to locate large users close to renewable generation, as it would require less infrastructure, and there would be reduced loss of energy in transmission. Respondents also said that this approach would support regional development.

Concern

Several respondents said that they have concerns about this approach, sometimes claiming that the approach may not be viable, as large users may be unwilling to locate in remote areas. A few respondents said that they are worried about the potential impact of this approach on the environment and landscape of rural areas, while a similar number of respondents, mostly

from local councils, argued that this approach might benefit particular areas of Northern Ireland, with other areas not receiving the economic benefit of hosting large users.

Another concern raised by a few respondents was whether the cost of the approach would be passed on to the public.

Suggestions

Some respondents, mostly from stakeholder organisations, offered suggestions about this approach, particularly saying that governmental policy would be needed to support it, with appropriate planning processes put in place. A small number of respondents emphasised the importance of grid development in managing increased demand in the future, including use of energy storage technologies.

Other suggestions made include: to consider the increased carbon footprint, for example from transport, of locating a large energy user in a rural area; to limit the number of large users; to encourage such users to generate their own energy; to enable community participation in decision-making.

8. Engagement and consultation processes

The section examines participants' views of the engagement activities organised as part of 'Shaping Our Electricity Future', as well as the consultation undertaken. It considers the information presented to Civil Society and Industry Forum representatives.

8.1. Feedback on the engagement process

Most of those who took part in the engagement activities responded positively when asked about their experience. For the Industry Forum, 24 participants completed a survey with all 24 saying they found the information presented in the forum either 'very useful' or 'quite useful'.

All 24 respondents also said that they found the responses given during the Q&A sessions either 'very helpful' or 'quite helpful'. All but one of the 24 said that they felt that their overall understanding of the project had increased.

Only three participants took part in the survey for the Civil Society Forum. However, all three agreed that the approach had been transparent; that they felt comfortable contributing to the discussion; that the activities helped them understand the four draft approaches; and that they had enjoyed taking part. Two of the three said they understood how the feedback would be used.

Other comments captured during the engagement exercises were also generally positive although one participant said some of the language presented to the public might be too complex and should be more accessible.

8.2. Feedback on the consultation

Support

A small number of respondents supported the consultation, saying that they welcomed the opportunity to provide feedback on the proposed approaches.

Concern

A few respondents had concerns about how the consultation was delivered, saying that the statements in the consultation questionnaire made too many assumptions.

A small number of respondents, mostly stakeholder organisations, said that the information provided was inaccurate or lacking in detail, for example commenting that environmental assessments were out of date or incomplete.

Other comments about SONI offered by a few respondents include: that the grid in parts of Northern Ireland is not sufficient to allow for renewables usage; that approval processes for technologies and new applications should be more efficient; that consumer insights have not been included in

the project documentation, and that consumer research should inform SONI's business planning and commitments.

A few stakeholder organisations said that they would welcome continued engagement on the subject of reaching the renewables target.

9. Conclusions

9.1. Conclusions on SONI's four approaches

Participants in the engagement activities expressed a clear preference for the generation-led and demand-led approaches. Although there was support for some elements of both the technology-led and developer-led approaches, most participants did not generally favour either of these approaches.

Many said the ideal scenario would be a combination of demand-led and generation-led.

> *"When you look at the detail, I know it's simplifying it but in terms of achievability, security of supply and cost, actually being able to take it forward, demand-led and generation-led look like the most plausible options really." Civil Society Forum participant*

However, there was a strong feeling among Civil Society Forum participants that the approaches needed to go further and needed to be more flexible. Participants wanted more focus on how communities could be involved in the future of energy production and how they could benefit more directly from projects which might impact them negatively.

> *"There is no one size fits all. There are going to be certain sections of society where transmission grid is irrelevant, and some areas that rely on them, so no one approach works." Civil Society Forum Participant*

> ***"When we switch focus away from communities, it doesn't work in the right way." Civil Society Participant***

9.2. Consultation conclusions

There was a high level of support for reaching the proposed 2030 renewables electricity target amongst consultation respondents. Most support was expressed for the generation-led and demand-led approaches. Support for the technology-led approach was slightly less but had a large proportion of respondents neither agreeing nor disagreeing. The developer-led approach received less support.

Common strands raised in response to all questions are summarised in the sections below. Specific comments received in relation to each option include:

- **Generation-led:** Respondents who supported this approach felt that siting generation close to demand would be efficient and would allow for the achievement of the renewables target. The use of offshore generation was also felt to have less of an impact on the landscape. Those with concerns raised worries about potential environmental, community and landscape impacts, the distribution of benefits, the costs of the approach and its feasibility for achieving sufficient

generation by 2030. Respondents also commented that the generation-led approach should be used in combination with other approaches, with some indicating that should be the lead option in a blended approach.

- **Developer-led:** While respondents sometimes expressed support for this approach on the basis of the expertise of renewables developers, there were concerns that developers would be motivated by profit, with perceptions that communities and the environment would be impacted by developers' decisions as to where to site renewables generation.
- **Technology-led:** Respondents expressed support for the use of technology in the transmission system, and for the proposal to place cables underground. However, the cost and uncertainty of this approach, environmental impacts and the potential for negative impacts on rural communities were described as concerns.
- **Demand-led:** this approach was perceived as providing opportunities for regional development, as well as being efficient in terms of the amount of infrastructure required. There were some concerns that the approach could lead to the industrialisation of rural areas, as well as concerns that the approach might not be viable, as businesses may be unwilling to locate in remote areas. The potentially uneven distribution of economic benefits across Northern Ireland was also raised.

Potential local impacts

The primary common strand amongst respondents was the potential impact of renewables infrastructure, including associated grid developments, on the local environment, including local communities. Respondents felt that the local area, including the landscape, ecosystems and biodiversity, and the quality of life of local residents, would be negatively affected by such infrastructure.

Distribution of benefits and impacts

Respondents sometimes worried that there would be an uneven spread of the potential impacts and benefits of reaching the renewables target. These included impacts on rural communities as well as the spread of economic benefits.

Grid development and capacity

Across the approaches, respondents raised the potential need for grid development and concerns about the capacity of the grid, sometimes associated with cost.

10. What SONI will do next

SONI will now analyse all the feedback received during the engagement events hosted by Traverse and the responses submitted during the broader consultation process.

These will feed into SONI's 'Shaping Our Electricity Future' roadmap, which will be published in autumn 2021. When published, the roadmap will inform all stakeholders including the Northern Ireland Executive, Utility Regulator, industry participants and consumers on the optimal pathway to delivering a renewables-based power system by 2030.

It will also inform the Department for the Economy's new Energy Strategy for Northern Ireland, which is due to be published later this year.

As with the consultation process, SONI will undertake extensive engagement to raise awareness of the content of the roadmap among key stakeholders; and will also ensure ongoing engagement is carried out as Northern Ireland works towards the 2030 renewable electricity target and net zero carbon emissions by 2050.

Appendix A: Recruitment and attendance

Industry Forum

SONI invited stakeholders to register on the OpenConsult platform.

In addition to their name and contact details, participants were asked the following:

- Organisation name, and role within it
- What is your existing relationship to SONI?
- What is your primary interest in Shaping Our Electricity Future?
- What are your expectations of this industry forum?
- Have you any questions for SONI that you would like addressed at this industry forum?
- 155 participants registered on OpenConsult.
- Around 80 different organisations registered.
- 17 participants submitted questions when they registered.

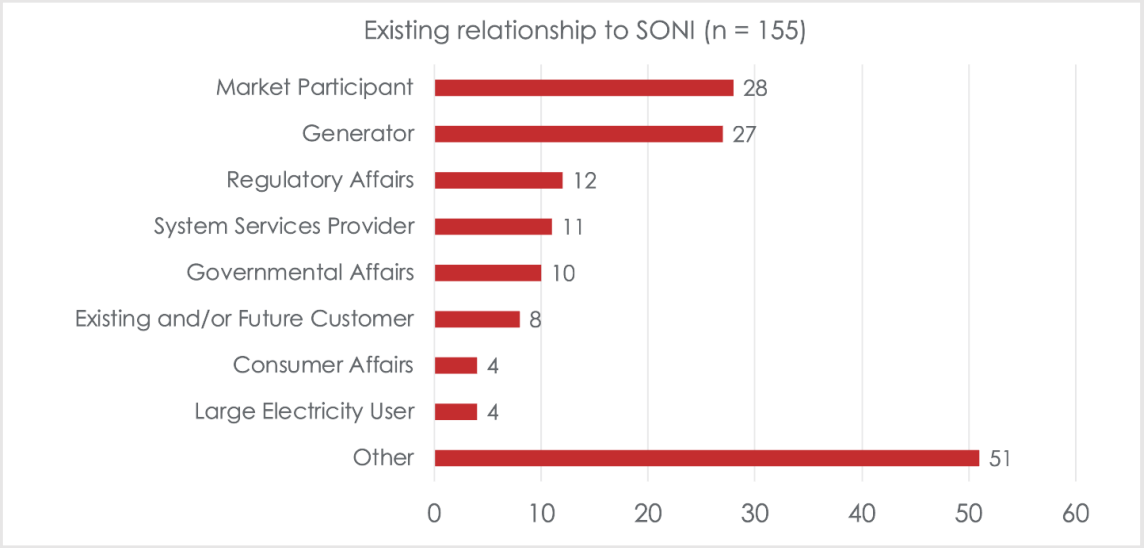


Figure 1: Breakdown of stakeholders attending Industry Forum

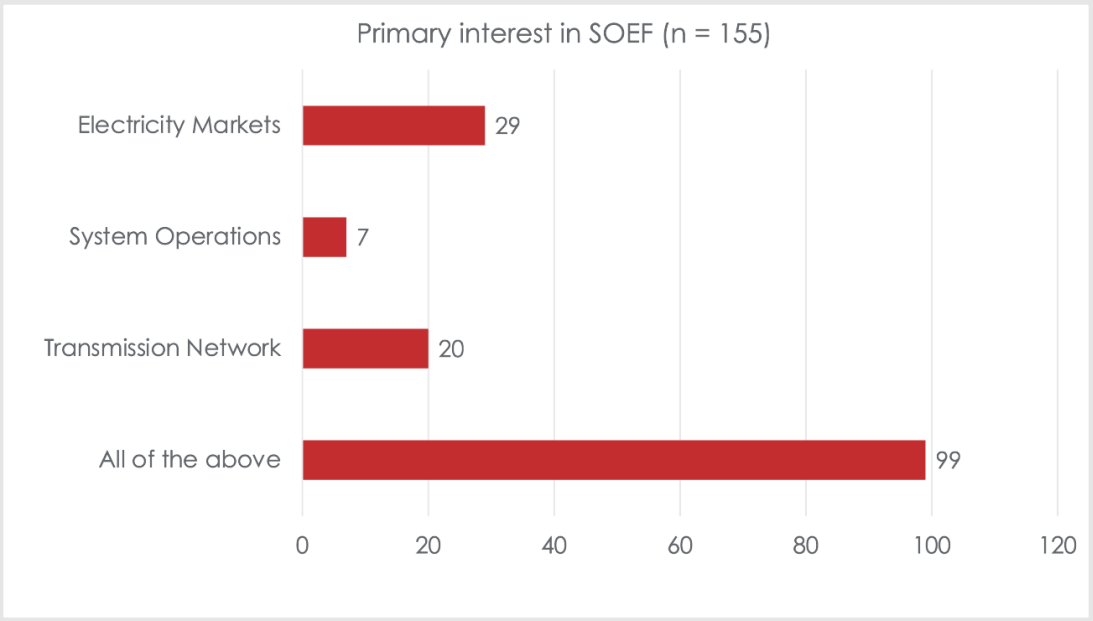


Figure 2: Primary interest of stakeholders attending Industry Forum

63 participants submitted their expectations for the event when registering on OpenConsult.

Topics they raised included:

- Insight into the future of the network.
- Ensuring regulators and TSOs are up to date with technological changes.
- Insight into the decision-making process at SONI.
- Understanding of the options.
- Hearing stakeholder views.
- Policy ideas.
- Understanding of impact on suppliers.
- An opportunity to share feedback.

105 stakeholders attended the event on Zoom. There were 114 unique viewers with 98 maximum concurrent views. In total around 65 organisations were represented.

Civil Society Forum

Stakeholders registered for the event via Zoom. In addition to their name and contact details, participants were asked to include the name of the organisation they represent and their role within it. In total 27 stakeholders attended the event, representing 25 different organisations.

Appendix B: Engagement process and activities

Industry Forum

The event was delivered using the Zoom Webinar format. This format was chosen to allow attendees to submit questions, and comment on and upvote questions that others had submitted.

Jon O'Sullivan, Head of Future Markets delivered a presentation on electricity markets, which was followed by a Q&A session chaired by Managing Director Alan Campbell.

This presentation covered how electricity markets are currently run, demands that will be placed on them in the future, aims and principles that underpin SONI's approach to them, and SONI's recommendations and considerations for the future.

Eoin Kennedy, Head of Future Operations, delivered a presentation on system operations, which was followed by a Q&A session chaired by Alan Campbell.

This covered the challenges of decarbonisation, the risks to the system in future years, the need for forecasting, Transmission System Operator-Distribution System Operator partnership, and planned programmes of work.

David McGowan, Future Networks Team Lead, delivered a presentation on the transmission network, which was followed by a Q&A session chaired by Alan Campbell.

This presentation covered changing generation and demand portfolios over the next decade, challenges of renewable generation, four draft approaches to meet targets, and the factors behind finding the right approach.

Civil Society Forum

The event was delivered using the Zoom meeting format. There was a presentation from SONI followed by group discussion in nine breakout rooms.

The forum was chaired by Jamie Delargy, a business commentator and media trainer, who welcomed attendees at the start of the session. An introduction to the project was provided by Alan Campbell.

David McGowan outlined why it was necessary to prepare the grid so that at least 70% of Northern Ireland's electricity can come from renewable sources by 2030.

He then provided a detailed explanation of the four different approaches that SONI are proposing in order to reach at least 70% renewable energy by 2030.

His presentation included comparisons between the four draft approaches

in relation to a number of different criteria:

- Technical performance;
- Economic;
- Environment;
- Social acceptability; and
- Deliverability.

Participants then formed smaller discussion groups to consider the four different approaches. Facilitators used 'Top Trump' cards to give participants a better understanding of how the approaches compared against several different criteria. Each individual within the group was asked to allocate tokens to their preferred approach. Facilitators then asked the group to make a collective decision where to allocate tokens.

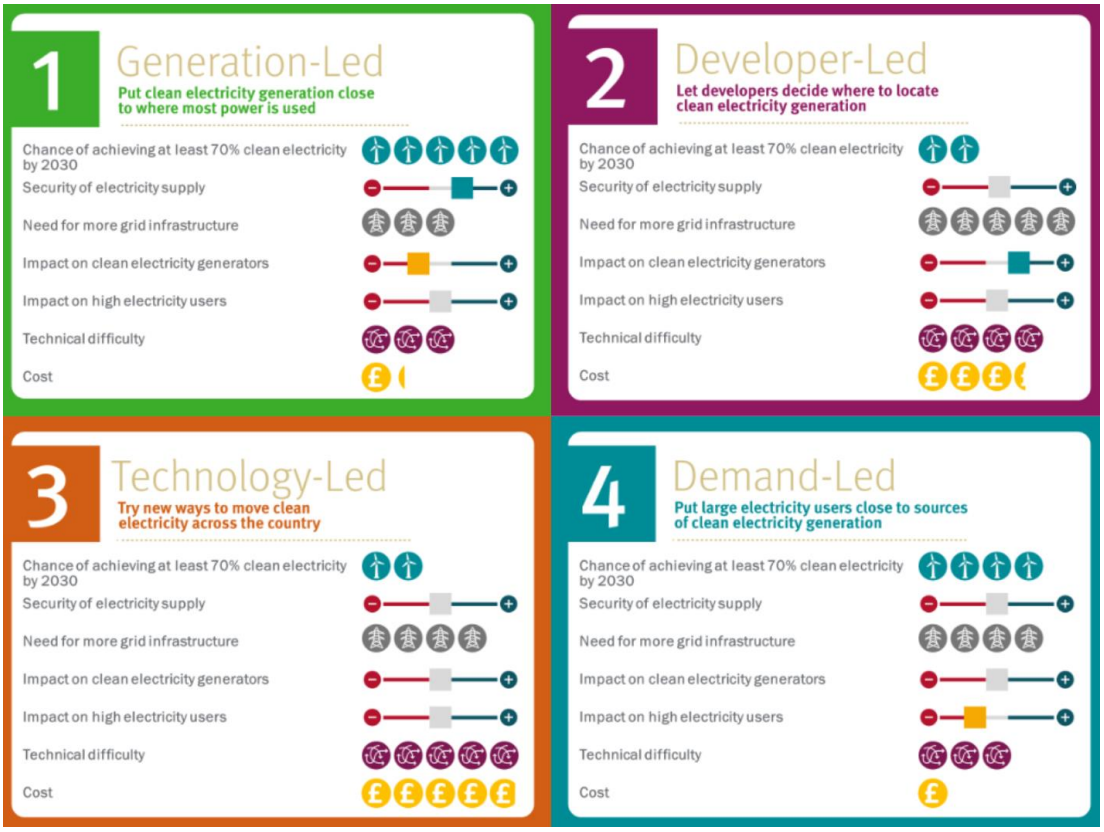


Figure 3: Top Trumps cards used by facilitators to help participants compare approaches.

Appendix C: Zoom survey data

Industry Forum

After the session closed, participants were presented with a survey that asked the following questions:

- Did you find the information presented today useful?
- How helpful were the responses given during the Q&A sessions?
- Do you feel that the Industry Forum increased your overall understanding of the 'Shaping Our Electricity Future' project?

24 participants completed the survey.

- All 24 respondents said that they found the information presented in the forum either 'very useful' or 'quite useful'.
- All 24 respondents said that they found the responses given during the Q&A sessions either 'very helpful' or 'quite helpful'.
- 23 of the 24 respondents said that they felt that their overall understanding of the project had increased.

The full results are presented below:

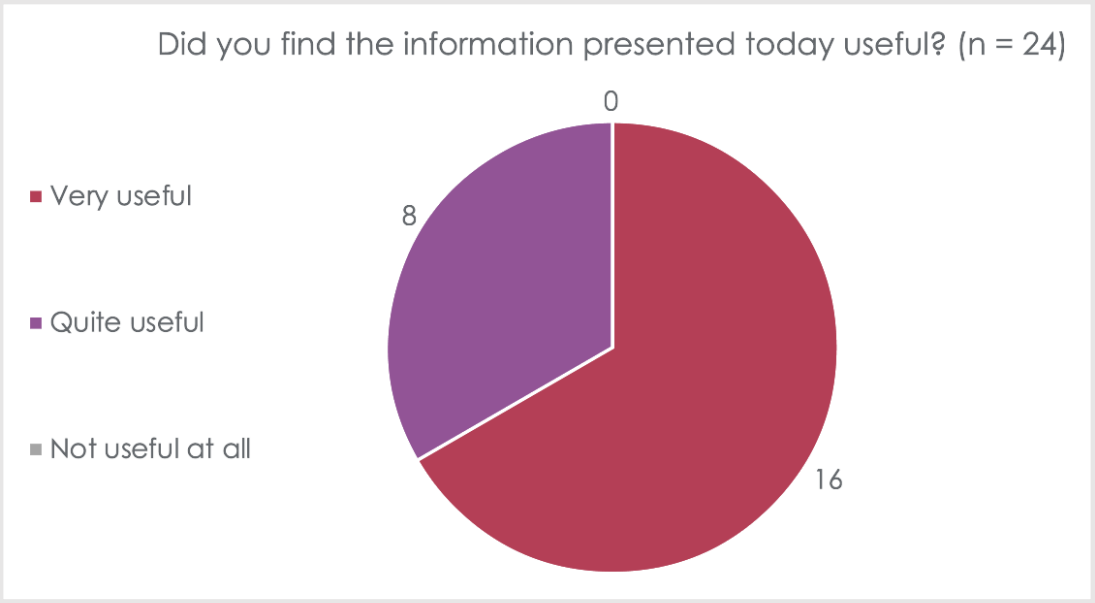


Figure 4: Poll data from Industry Forum

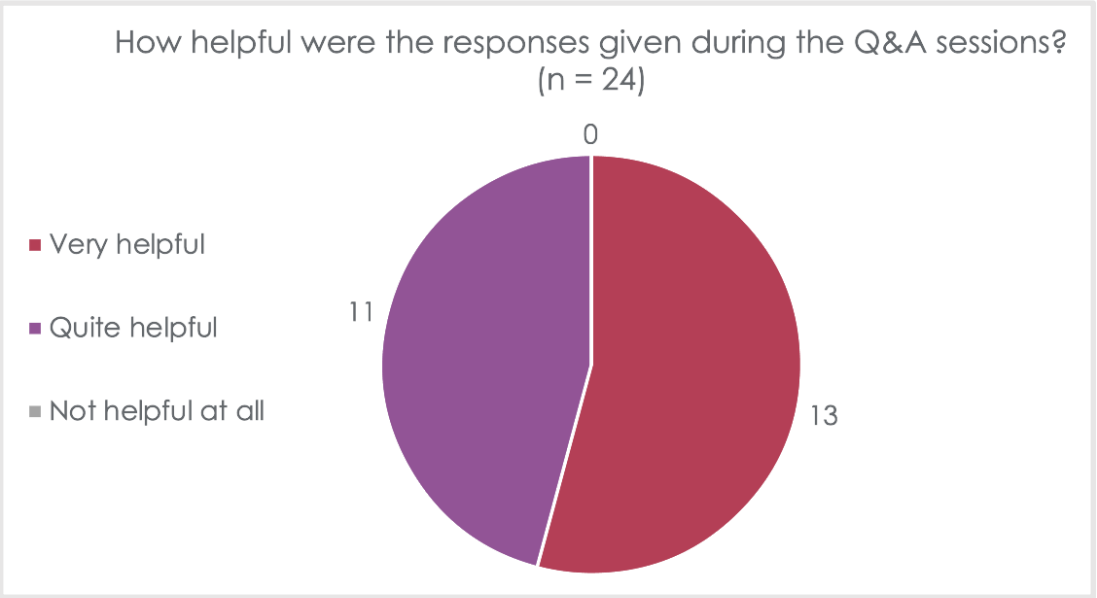


Figure 5: Poll data from Industry Forum

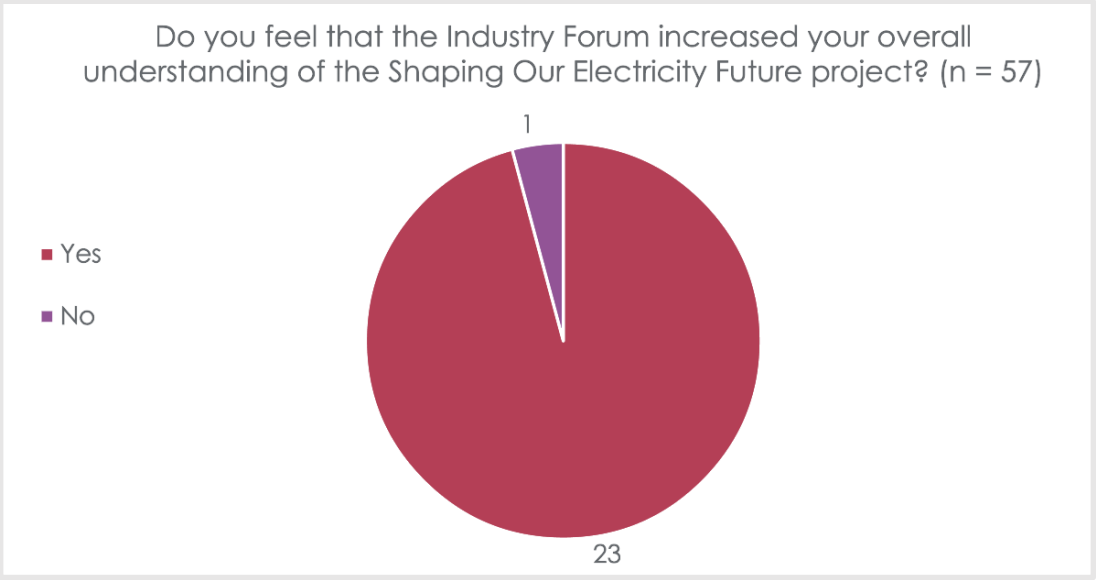


Figure 6: Poll data from Industry Forum

Civil Society Forum

At the end of the session participants were presented with a poll. They were asked to what extent they agreed with each of the following statements:

- "I understand how the feedback from this session will be used by SONI."
- "I found the information and materials provided to be useful."
- "I felt that SONI had a transparent approach to providing information."
- "I felt comfortable contributing to the discussion."
- "The activities helped me to understand the four draft approaches proposed."
- "I enjoyed taking part today."

Three participants completed the survey. Of those:

- 2 agreed or strongly agreed that they understood how the feedback

would be used.

- All 3 agreed or strongly agreed that the information and materials provided were useful.
- All 3 agreed or strongly agreed that SONI had a transparent approach to providing information.
- All 3 agreed or strongly agreed that they felt comfortable contributing to the discussion.
- All 3 agreed or strongly agreed that the activities helped them understand the four draft approaches.
- All 3 agreed or strongly agreed that they had enjoyed taking part.

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0207 239 7800
2 Angel Square, London, EC1V 1NY
info@traverse.ltd
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