



Shaping Our Electricity Future SONI Industry Webinar

Questions and Answers

April 2022



Castlereagh House, 12 Manse Road, Belfast BT6 9RT
Telephone: +44 28 9079 4336 • www.soni.ltd.uk

Disclaimer

SONI have followed accepted industry practice in the collection and analysis of data available. While all reasonable care has been taken in the preparation of this data, SONI are not responsible for any loss that may be attributed to the use of this information. Prior to taking business decisions, interested parties are advised to seek separate and independent opinion in relation to the matters covered by this report and should not rely upon data and information contained herein. Information in this document does not amount to a recommendation in respect of any possible investment. This document does not purport to contain all the information that a prospective investor or participant in the Single Electricity Market (SEM) may need.

For queries relating to this document contact:

soef@soni.ltd.uk

Published April 2022

Introduction

The inaugural Shaping Our Electricity Future Roadmap was prepared by SONI and EirGrid in consultation with stakeholders across society, government, industry, market participants and electricity consumers. The final roadmap document was published in November 2021.

SONI hosted a webinar on Monday 13th December 2021. Attendees at the event submitted questions either in advance of the session or during the session. This document provides a register of all questions received and responses to those questions.

A video recording of the industry webinar and the slides presented can be found [here](#).

Engagement

Question: Are all policy responses available for review on your website?

Response: Answered in the webinar between 18 min and 20 min.

Question: How will you appoint/elect the shaping our electricity future advisory council?

Response: Answered in the webinar between 19 min and 21 min.

Question: What surprised you the most from engagement?

Response: Answered in the webinar between 20 min and 23 min.

Question: Perhaps you could explain the steps of engagement for the public?

Response: Answered in the webinar between 22 min and 25 min.

Networks

Question: Two potential barriers to delivery will be financing and planning permission. i.e. What input has there been to date from the Utility Regulator in respect of financing and ii. How confident are you that projects can receive planning permission and be built out by 2030?

Response: Answered in the webinar between 44 min and 49 min.

Question: How did you determine the location of new onshore wind and solar in the Final Network Approach slide?

Response: Answered in the webinar between 50 min and 52 min.

Question: By "replanted" is that Repowering? and if so, is the value a net increase on what is there already or is the existing capacity excluded?

Response: Answered in the webinar between 42 min and 45 min; and 53 min and 54 min.

Question: When will SONI revise SOEF to account for 80% RES-E target in CAP 2021, what changes are expected?

Response: Targets in CAP 2021 are not relevant to Northern Ireland. The final scenario used in the SOEF roadmap was designed to meet an anticipated target of 70% RES-E by 2030 in Northern Ireland. The Energy Strategy for Northern Ireland was published by DfE after publication of the SOEF roadmap and ultimately confirmed the RES-E target of at least 70%.

With the publication of the Energy Strategy, we will now have a clearer understanding of potential changes to the energy system, and how that will impact electricity demand and generation over the coming decade. We also note that the Northern Ireland Assembly recently voted in favour of new climate legislation which, when enacted, will set a new RES-E target of 80% by 2030.

SOEF will be updated in 2022 to take account of the most up to date information available.

Question: Will the SONI Roadmap be revised to take account of the 1GW offshore target and if so, what is the timeframe for this? Will the developer led approach in NI also apply to offshore development?

Response: In the SOEF roadmap we received feedback that delivery of offshore wind before 2030 in Northern Ireland was unlikely. SONI anticipated that offshore would likely play a larger role beyond 2030 and we included a small amount of offshore wind in the final approach, as a demonstration project that would ultimately develop further beyond 2030.

The subsequent publication of the Energy Strategy set a target of 1GW of offshore generation to be delivered from 2030. Therefore, at this stage, and based on the feedback received, we still expect offshore to develop significantly beyond 2030. We will be updating the SOEF roadmap and TESNI, which will take the aims of the Energy Strategy into account.

Question: In the SOEF review document, it was noted that the rate at which the grid is being developed does not match the rate at which renewable energy projects are developing. What are the grid operators doing to resolve this issue?

Response: SONI has implemented a three-part process to better engage with stakeholders and the public to allow them to have their say on potential new projects and influence the final design. This is aimed at delivering new projects as efficiently as possible and avoid lengthy delays during the planning application phase of the proposals. SONI also looks to maximise use of the existing network before planning new projects. However, delivering new infrastructure is a lengthy and often challenging process.

As part of the multi-year plan in the SOEF roadmap, SONI is developing joint process with NIE Networks to aid delivery of infrastructure development. SONI has also committed to investigating the use of non-wire-based solutions to deliver grid capacity as part of a proposed Flexible Network Strategy.

SONI is of the view that the planning system requires reform to facilitate the energy transition and has fed those views into various consultations undertaken by the Department of Infrastructure, including the Review of the implementation of the Planning Act and the Review of the Strategic Planning Policy on Renewable and Low Carbon Energy.

Question: How is procurement of Dynamic Line Rating equipment to be run, by TSO or TAO and when is it likely to be done?

Response: This would be carried out by the TAO. Any procurement of a DLR scheme would be following identification of a need, determining that the DLR is an appropriate solution and approval from UR. SONI and NIE Networks are currently investigating the potential use of a DLR scheme on a circuit identified in the SOEF roadmap.

The SOEF roadmap has also identified a need for a Flexible Network Strategy, looking at how non wire solutions such as a DLR become part of the technology toolbox. This is expected to take several years to prepare.

Question: Is there UR approval for Shaping spend in NI?

Response: Some of the work outlined in the final SOEF roadmap has funding approval. The majority of the work, however, will require funding approvals from UR. Some of this will be under SONI's funding mechanisms (uncertainty mechanisms).

Question: NW upgrades and Armagh substation in TDP. Why are these not included in Shaping and are they still part of SONI's plans?

Response: SOEF looks at what projects are needed most urgently to deliver a potential 70% RES-E target for 2030. Many upgrades in the North West are part of the urgent solutions identified in SOEF. The Drumnakelly and Armagh reinforcement is a project to improve security of supply in Armagh city and the wider area; it is not related to integration of RES and as such has not been identified in SOEF.

Question: What does "Some upvoting is required on the corridor between Omagh and Tamnamore" mean. Is it planned to increase the voltage?

Additional transmission capacity is likely to be required in the North West area of NI to deliver at least 70% RES-E by 2030. Several recent TDPNIs have included reference to the 'large scale north west of NI reinforcement' project. SOEF identified that new capacity was particularly needed between Omagh and Tamnamore, and upvoting of an existing circuit and some network reconfiguration could provide this capacity. The project is still at a very early stage and there is currently no final design for this reinforcement. As part of our three-part grid development process we will be carrying out further detailed technical analysis and engagement with public and industry.

Question: The reinforcements in the Table below are projects that are in the last SONI TDP but do not appear to be in SOEF. Can SONI provide comments against the status of each project with regard to SOEF.

Response: SOEF looks at what projects are needed most urgently to deliver a potential 70% RES-E target for 2030. We are also planning and taking forward a number of projects that are not directly related to delivering the 2030 renewable ambition but are required to reinforce and upgrade the existing transmission network. Such projects are included in the TDPNI but are identified in SOEF. A brief update is included for the requested projects. The draft TDPNI 2021, currently out for consultation, can be accessed [here](#).

Project	Type	Response
Moyle 275 kV Reinforcement	New Build	This project is underway with a targeted completion date of 2024.
Drumnakelly and Armagh Reinforcement	New Build	The project is still progressing with an estimated completion of 2027.
Coolkeeragh – Trillick new 110 kV Circuit	New Build	A need for this project was not identified in the SOEF analysis and not included in the SOEF roadmap. This project is not in the draft TDPNI 2021.
Omagh Main – Dromore Third Circuit	New Build	The SOEF analysis identified only a very minor need for this project, so it was not included in the SOEF roadmap as a critical project needed to deliver the Renewable Ambition for 2030.
North West of NI Large-scale Reinforcement	New Build	The list of indicative options for this project has been updated in TDPNI 2021, presently out for consultation. We have identified one of the options in the SOEF roadmap.
Eden-Carnmoney 110 kV Circuit Uprate/ Reconfiguration	Refurbish/ Replace	These projects are related to security of supply and asset replacement. As a result, they were not identified in the SOEF roadmap as projects critical in delivering the Renewable Ambition for 2030. Both of these important projects are progressing and are discussed in TDPNI 2021 as part of the Belfast Metropolitan Plan Redevelopment Project.
Castlereagh – Hannahstown 110 kV Reinforcement	Refurbish/ Replace	

Question: Why is there 550MW of long duration storage batteries assumed for RoI and 0MW for NI?

Response: They were not required in NI to deliver the renewable ambition. In Ireland, they were needed to mitigate the requirement for new infrastructure in heavily congested areas of the network.

Markets

Question: What is the latest on GB returning to the day ahead market?

Response: Answered in the webinar between 1 h 36 min and 1 h 39 min.

Question: The price volatility, we need market design to enable this transformation, how do you see price volatility?

Response: Answered in the webinar between 1 h 38 min and 1 h 44 min.

Question: What is the energy storage volume required and how it will be delivered regarding investor confidence?

Response: System services and the volume of services needed are analysed and procured on a technology neutral basis. The volume of a service, for example FFR, is procured in line with what the system needs, regardless of where it comes from.

The use of technologies in predicted portfolios is done for simplification, to have the portfolios consist of technologies with certain characteristics. This does not indicate that other technologies with the same characteristics are not desirable. When looking at the system services volumes, it is important to consider what services a certain technology can provide; this technology will be used to provide services if it is the most economically efficient. The goal of the system services future arrangements is to move away from segmented fixed contracts to a volume-based procurement auction.

To incentivise long term investment in service providing technologies, the risk associated with operational policy and non-market forces altering system service volumes should not be borne by the investor.

Question: Market design is required to enable this transformation. How will wholesale price volatility be managed?

Response: Wholesale price volatility is affected by several drivers, including:

- small-size market;
- interconnection constraints; and
- reduced diversification of generation mix.

This configuration can lead to very frequent and substantial changes in DAM prices, compared to EU neighbour markets.

We believe improving the import/export power flows with EU and GB can reduce price volatility in the SEM and bring beneficial effects both on the demand and supply sides. Moreover, increasing energy storage can provide a greater stock of electricity to be used when needed and absorb wind oversupply when it takes place. All these countermeasures can reduce DAM prices volatility and bring more market stability and reduce uncertainty, all key-points needed to drive the necessary investments for the SEM.

Therefore, it is extremely important to allow for a market design which is able to drive these investments in order to reduce price volatility which is a barrier for investments.

Question: What will the future markets look in terms of future system service needs?

Response: System services is evolving into a volume-based procurement process which should centre around a system service auction design that allows for choice between service types, rather than the current fixed term contract arrangement for a pre-specified type of service. The main issues with segmenting the system services market are:

- Individual product procurement restricts choice - new technology or sources capable of offering numerous products cannot engage efficiently with separated and individual product auctions; and
- Technologies capable of offering numerous products are excluded from participating fully in all markets, so competition is restricted.

There are two stages in these future arrangements – the transition and the enduring arrangements.

The transition to this volume-based procurement process must provide clarity and confidence to investors on what services are needed to operate a high RES system.

Operations

Question: Why are you still referencing 4 minimum generation units in 2030? Why can't that constraint be removed altogether by 2030 when you have zero-carbon technology alternatives for everything the conventional can do in system services-Maintaining that 4 min gen rule will have a very material negative impact on wind curtailment and result in millions of tonnes of avoidable CO2 emissions? Will there be a lesson learned exercise from the DS3 2020 programme to assist with having an efficient and successful 2030 programme?

Response: Answered in the webinar between 2 h 5 min and 2 h 9 min.

Question: Should operational policy roadmap for 2030 be updated every year instead of every 2 years?

Response: Answered in the webinar between 2 h 8 min and 2 h 10 min.

Question: Working across an entire ecosystem, are we taking lesson learned from 2020 program so will be best plan for 2030?

Response: Answered in the webinar between 2 h 9 min and 2 h 11 min.

Question: Demand for flexibility services by SONI over the SOEF period and the likely source of them

Response: Under the Standards and Services workstream of our Operational programme we will be developing our System Services requirements. Flexible resources can already participate in the provision of the existing suite of System Services and in the future we will be considering the development of additional System Services such as congestion management which is a form of flexibility service.

Question: Innovative products and services included in SONI's SOEF analysis?

Response: There is already a wide range of System Service products contracted by SONI. Under the Standards and Services workstream of our Operational programme we will be developing our System Services requirements to meet the future needs of the power system and this may lead to the development of new products.

General Queries

Question: Data is key, what plans are there to help provide the framework for 3rd party access to data assists to help drive the development of innovative products and solutions.

Response: SONI publishes a significant volume of data via both the SONI and SEMO Websites.

We are currently considering what additional data we could publish as part of future publications such as SOEF and TESNI. Presently, we publish network data files as part of the TYTFS process. Input assumptions to SOEF were published in the main report. The scope of data we can freely publish is limited due to commercial sensitivity. Should any third party require data, they can contact SONI and we can see how that request can be facilitated as best as possible.

Data and Digitalisation is a key feature of the Northern Ireland Energy Strategy. One of the objectives is:

An accessible and digitised energy system where data provides value for consumers and system operation.

SONI expects to support the DfE and the UR to assist in the delivery of this objective.

Question: How much will be invested by government to SONI between 2022 and 2030?

Response: SONI is a regulated company; our funding is ultimately determined by the Utility Regulator (UR). SONI is not funded via government grants; rather, the revenue approved by the UR is collected via electricity tariffs (which are approved by the UR).

Every five years, the UR will set a Price Control for SONI that provides an allowance to enable SONI to deliver its necessary TSO functions. The amount of money allowed for each Price Control period is subject to an extensive consultation and review. SONI's current price control runs from 2020 to 2025. It is therefore not possible to state how much money will be allowed to SONI over the rest of this decade.

Question: Energy efficiency and long-term funding arrangements must be considered i.e. Finance lead (5th approach) could replicate "project finance deals" for industry capital investment and network development.

Response: SONI operates the Capacity and System Services markets. The Capacity Market currently offers long term reliability option contracts to new providers that meet the criteria determined by the SEM Committee. The future arrangements for System Services are currently the subject of a SEM Committee workstream, where the potential for longer term contracts to assist with financing risks could be considered. The DfE has identified potential support mechanisms for renewable generation.

These are/will be designed to balance the risks between service providers and consumers. All arrangements of this nature are subject to State Aid procedures, and where they are classed as State Aid, approval must be obtained.

Transmission Network development in NI is funded on a case by case basis following the processes set out for SONI and NIE Networks in their respective licences.

Question: Demand forecasts for electrification of heat and transport in NI incorporated into SOEF

Response: Both electric heat demand and transport demand in 2030 are aligned with those in our Addressing Climate Change scenario in TESNI 2020.

Question: Assumptions about energy efficiency in NI building fabric over the SOEF period

Response: These assumptions would form part of the TESNI process, where the whole energy system is included in assessments to inform decarbonisation pathways. SOEF looks at a single point in time, 2030, to see how an expected target of 70% RES-E can be delivered.