SONI Forward Work Plan

2023 – 24

Appendix 3 SONI Deliverables 2023-2024

Role 3 System Planning

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Contents

SONI Deliverables 2023-2024 – Role 3 System Planning

The SONI Forward Work Plan provides details on the various projects and programmes of work that will be undertaken over the period from October 2023 to September 2024. This appendix provides further detail on those deliverables for Role 3 System Planning and should be read in conjunction with the main document.

The SONI three-part Grid Development Process is the approach SONI takes to the programme of work associated with System Planning. For this plan we have included the projects associated with Part 1, Part 2, and Part 3.

Figure 1 SONI Three-part Grid Development Process

Part 1 involves identifying the optimum solution and what area may be affected. This includes appraisal of the options, the preparation of an environmental report and Part 1 Stakeholder Engagement. Once complete the TNPP[1] funding request can be prepared and submitted to the UR for approval.

Part 2 of the Grid Development Process commences, following the approval of funding, with identifying an outline design, engaging with stakeholders[2], and identifying where the project will be built. This includes all appropriate work in the approach to making a planning application submission.

Part 3 is the part of the process where SONI submits and supports a planning application leading to project handover to NIE Networks.

The number of projects is expected to increase significantly in the coming years.

Table 1 Overview of the Planned Projects over the Next 10 years

[1] Transmission Network Preconstruction Project
[2] Examples of this engagement are highlighted throughout the document

System Planning plays an integral role in the preparation and publication of the Transmission Development Plan for Northern Ireland[3] (TDPNI). The system development projects detailed in the TDPNI are progressed by SONI in collaboration with NIE Networks as Transmission Owner. The asset replacement projects are progressed by NIE Networks. SONI has detailed a number of the projects within Role 3 up to the project handover to NIE Networks for construction, commissioning and energisation, which are provided in the TDPNI. Details of our Part 1 or Part 2 engagement activities for the projects are described in our Powering the Future: SONIs Grid Development Process brochure[4].

Cost Scale

SONI have created a Cost Scale in order to assist the audience in understanding the scale and/or importance of a project, and detailed where on this scale each project lies. The costs indicated are SONI related costs and do not cover any costs accrued by any stakeholder SONI may be collaborating with on said project.

This scale applied is detailed below:

Table 2 Cost Scale

Low	Medium	High	Very High
£0 - £500k	£500k - £1M	£1M - £5M	£5M +

[3] The latest TDPNI can be found at the following link. SONI is currently finalising the TDPNI 2023-2032. Transmission-Development-Plan-Northern-Ireland-2021-2030.pdf (soni.ltd.uk)
[4] Powering the Future: SONIs Grid Development Process brochure

Overview of the projects

The table below provides a complete view of a number of projects being progressed by SONI across Role 3 System Planning. Additional detail is provided around these projects and associated deliverables following this summary.

SONI would emphasise that any TNPP submissions are also dependent on timely receipt of information from NIE Networks. We work very closely with NIE Networks to ensure projects are progressed as planned.

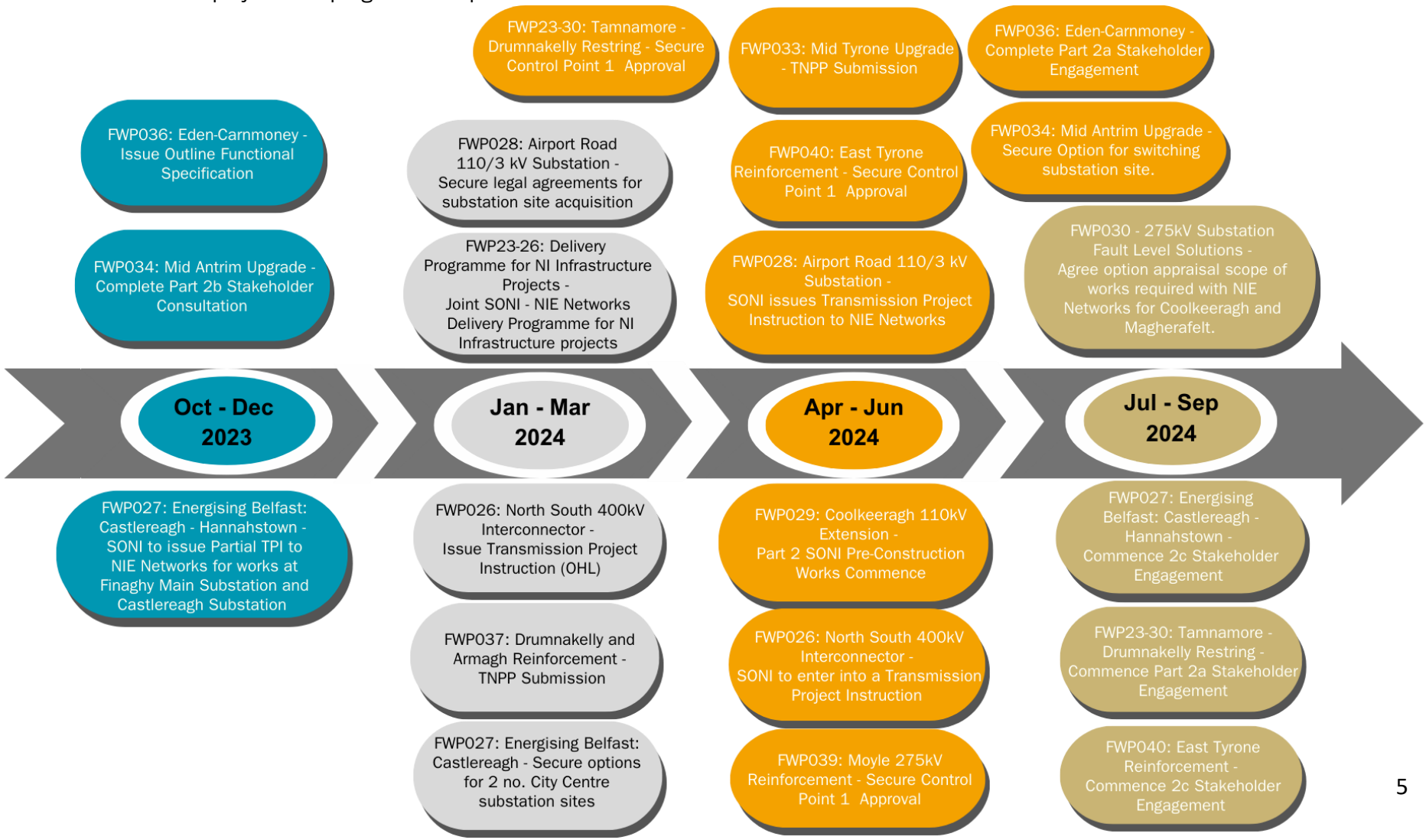

Figure 2 Role 3 Timeline

Project	Milestone	Performance Measure	Timescale
FWP027: Energising Belfast: Castlereagh – Hannahstown	**Currently in Part 2** SONI issues Partial TPI to NIE Networks for works at Finaghy Main Substation and works at Castlereagh Substation. It is necessary to issue a TPI for parts of this project that can and need to be completed earlier. After design and consents are achieved for the new substations and other works further partial TPI's will be issued for that work. This will be captured in future FWP. Secure options to purchase two sites for substation developments. Commence 2c Stakeholder Engagement.	Partial Transmission Project Instruction Secure options to purchase two substation sites 2c Stakeholder Engagement commenced	December 2023 March 2024 July 2024
FWP026: North South 400kV Interconnector	**Currently in Part 3** Issue Transmission Project Instruction (OHL) SONI to enter into a Transmission Project Agreement	Transmission Project Instruction Issued for OHL Transmission Project Agreement	March 2024 June 2024
FWP028: Airport Road Main 110/33 kV Substation	**Currently in Part 3** Secure legal agreements for substation site acquisition SONI issues Transmission Project Instruction to NIE Networks	Landowner Agreement secured. Transmission Project Instruction issued to NIE Networks	January 2024 June 2024
FWP034: Mid Antrim Upgrade	**Currently in Part 2** Complete Part 2b Stakeholder Consultation	Part 2b Stakeholder Consultation Completed	October 2023

Project	Milestone	Performance Measure	Timescale
	Secure Option for switching substation site.	Option for switching substation Site secured.	May 2024
FWP036: Eden – Carnmoney	**Currently in Part 2** Issue Outline Functional Specification Complete Part 2a Stakeholder Engagement	 Outline Functional Specification issued to NIE Networks Part 2a Stakeholder Consultation Completed	 December 2023 June 2024
FWP037: Drumnakelly and Armagh Reinforcement	**Currently in Part 1** TNPP Submission	 TNPP Submitted to UR	 March 2024
FWP040: East Tyrone Reinforcement	**Currently in Part 1** Secure Control Point 1 Approval[5] Commence Part 2c Stakeholder Engagement	 Control Point 1 SONI Approval 2c stakeholder engagement commenced	 April 2024 September 2024
FWP033: Mid Tyrone Upgrade	**Currently in Part 1** TNPP Submission	 TNPP Submitted to UR	 April 2024
FWP039: Moyle 275kV Reinforcement	**Currently in Part 1** Secure Control Point 1 Approval	 Control Point 1 SONI Approval	 April 2024
FWP029: Coolkeeragh 110kV Extension	**Currently in Part 1** Part 2 SONI Pre-Construction Works Commence	 Part 1 Site Investigation completed.	 May 2024

[5] *Control Point 1 is the internal governance to approve the confirmation of need, the appraisal of the options and the selection of the preferred option within Part 1 of the SONI Process to Develop the Grid. It also includes approval of the funding and timeline to progress preconstruction works to outline design and achieve consents.*

Project	Milestone	Performance Measure	Timescale
FWP23-30: Tamnamore – Drumnakelly Restring	**Currently in Part 1** Secure Control Point 1 Approval Commence 2a Stakeholder Engagement	Control Point 1 SONI Approval secured. 2a stakeholder engagement commenced.	April 2024 August 2024
FWP030: 275kV Substation Fault Level Solutions	Agree option appraisal scope of works required with NIE Networks for Coolkeeragh and Magherafelt.	Option appraisal scope of works for Coolkeeragh and Magherafelt agreed with NIE Networks.	September 2024
FWP23-26 Delivery Programme for NI Infrastructure Projects	Joint SONI- NIE Networks Delivery Programme for NI Infrastructure projects	Joint SONI- NIE Networks Delivery Programme for NI Infrastructure projects communicated externally.	January 2024

Role 3: Detailed Programme of Deliverables

Energising Belfast Project Castlereagh – Hannahstown

Deliverable	FWP027: Energising Belfast Project: Castlereagh – Hannahstown
Description of Activities	This 'Energising Belfast' project is formerly known as Part 1 of the Belfast Metropolitan Redevelopment Project (Castlereagh – Hannahstown 110kV reinforcement). SONI received approval for the Transmission Network Preconstruction Project (TNPP) submission in June 2021. Since then, the project has entered into Part 2 of the Grid Development Process. Planned activities for the future include: 1. SONI to issue partial TPI to NIE Networks for the works at Finaghy Main and Castlereagh substations in December 2023. This will lead to an estimate completion date of June 2025, but the site will not be energised until the City Centre works are completed in 2028. 2. SONI aim to secure options to purchase two substation sites. This is expected by March 2024. 3. SONI will commence part 2c of the stakeholder engagement plan in July 2024 which will involve meetings with local representatives and public information events.
Key Benefits	The driver for this project (also detailed in the TDPNI 2021-2030) is Security of Supply. The existing Castlereagh – Carnmoney 110 kV double circuit tower line is due for refurbishment or recovery due to the condition of the assets. The preliminary preferred option is to recover the line, and this is facilitated by the installation of a 4th interbus transformer at Castlereagh, the establish two new switching stations and establishment of a new 110 kV cable connection between Belfast North Main and Belfast Central Main substations. The project also includes the replacement of the existing Donegall to Belfast North Main cable circuits. This will enable removal of the existing 110 kV double circuit between Carnmoney and Castlereagh. As a result of this project there will be improved grid security.
Strategic Theme	**A culture of effective engagement and collaboration and whole system collaboration and coordination with 3rd parties, and NIE Networks across its various roles as a TO, DNO and DSO** Engagement with key stakeholders is important and considered as part of our Options Reports. SONI have collaborated with NIE Networks throughout the development of the Options Report. NIE Networks were supportive of the conclusions reached in this report and have worked with SONI to develop the cost estimates, scoping and project timelines discussed therein. SONI regularly meets with the Utility Regulator at the monthly SONI-UR meetings and will continue to provide regular monthly updates. SONI has progressed stakeholder engagement with the local authorities and elected representatives of areas affected by the project at an early stage. The full list of these

	stakeholders which SONI will contact over the coming months can be found in Appendix J of the Options Report[6]. Wider stakeholder engagement will take place as the project progresses in accordance with SONI's Grid Development Process[7].			
Engagement	The completion of part 2a in October 2022 allows us to move to part 2c of the engagement process in July 2024 before we submit our planning application to Belfast City Council. During part 2c, SONI will undertake full stakeholder engagement on the finalised option. We anticipate that this will be a phased project and that elements will be completed before the final completion of the project. SONI will identify vacant land for substation development and engage with key local stakeholders on the utilisation of those sites.[8]			
Performance Measure	Partial Transmission Project Instruction (TPI)[9] to NIE Networks for the works associated with Castlereagh Main and Finaghy Main to be issued in December 2023. Secure options to purchase two sites for substation developments in March 2024. Commence Part 2c stakeholder engagement in July 2024. Note: this is dependent on-site specifications and third parties.			
Timescale	Castlereagh and Finaghy Works Completed June 2025 SONI issue City Centre TPI to NIE Networks October 2025 Project Completed February 2028			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

[6] Carnmoney - Castlereagh Options Report (soni.ltd.uk)
[7] SONIs-Powering-The-Future-Grid-Development-Process-brochure-20-8-21.pdf
[8] More information is also provided in the Appendix 6: SONI Stakeholder Engagement.
[9] A Transmission Project Instruction is a work instruction to NIE Networks to construct the project. It follows the achievement of all consents. It is followed by a Project Agreement between SONI and NIE Networks.

North South 400kV Interconnector

Deliverable	FWP026: North South 400kV Interconnector			
Description of Activities	In the SONI Forward Work Plan for 2022-2023 SONI was continuing work for land access. The key activities planned for the period include: 1. SONI to issue a Transmission Project Instruction (TPI) to NIE Networks for construction of Overhead line that have easements and wayleaves secured. This is targeted to be complete by March 2024. 2. SONI to prepare TPI for substation by December 2024, this is later than Overhead line and post TPA due to the phasing in procurement for the substation contractor. 3. SONI will enter into a Transmission Project Agreement with NIE Networks in June 2023*. The North South 400kV Interconnector is estimated to be operational in 2026. *Item 3 is also dependent on ESB Networks progressing to Project Agreement in ROI.			
Key Benefits	The drivers of this project include Security of Supply, RES Integration and Market Integration. In accordance with ENTSOE 2020 TYNDP[10], the project will deliver a combined cost benefit to consumers of €100m per annum by 2030.			
Strategic Theme	**A culture of organisational learning, accountability and planning that supports SONI agility and responsiveness in meeting policy, regulatory and market development and Developing markets through competition and stakeholder engagement and collaboration.** Over the period an intensive landowner engagement process will continue, as detailed below. This process will allow SONI to demonstrate our planning processes that support SONI responsiveness to stakeholder and community engagement. The project will create a major reinforcement of the Grid for Ireland and Northern Ireland. The planning for this reinforcement of the Grid highlights SONIs development of the market through stakeholder engagement and collaboration.			
Engagement	Intensive landowner engagement with 180 impacted landowners remains ongoing, supported by political stakeholder and community engagement.			
Performance Measure	Transmission Project Instruction Issued (2 TPI's to be issued) Transmission Project Agreement entered into by June 2024			
Timescale	As indicated above, Transmission Project Agreement by June 2024, construction starting in Q3 2024 and energisation in 2027.			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

[10] https://tyndp.entsoe.eu/tyndp2020/projects/

Airport Road

Deliverable	FWP028: Airport Road Main 110/33 kV Substation			
Description of Activities	It is planned to construct a new 110/33 kV substation in the Belfast Harbour Estate, close to the existing Airport Road 33/6.6 kV substation. The substation will be connected to the existing Rosebank substation via the existing 110 kV tower line (currently operated at 33 kV) from Rosebank to Sydenham Road. During the period 2022-2023, SONI continued to progress the substation site and securing legal agreements for the site acquisition. Issues have arisen over the past year in relation to the legal agreements and as such these have impacted the timeline. These issues have eased, and legal agreement security recommenced in Summer 2023. SONI will continue towards finalisation of the landowner agreements. The project is planned for estimated energisation in 2025.			
Key Benefits	The driver of this project is security of supply. The need for this project arises from the increasing load in the Belfast Harbour and city centre area.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI works in coordination and collaboration with NIE Networks throughout this project and we continue to progress in accordance with SONI's Grid Development Process. SONI are working with NIE Networks in order to develop the transmission system at the Belfast Harbour and City Centre area. We are also in discussions with other parties involved in the project throughout.			
Engagement	SONI provides the UR with regular updates on the project during our monthly meetings. We are also actively collaborating with NIE Networks in any joint activities for the project and engaged in discussions with the Belfast Harbour Commission. SONI will be continuing these engagement activities throughout 2023 – 2024.			
Performance Measure	Finalisation of the Landowner Agreements for the site and indicative cable routes (33kV & 110kV) – January 2024 Transmission Project instruction issued to NIE Networks - June 2024			
Timescale	SONI work ongoing with regard to the substation site and progress on securing legal agreements for site acquisition. Overall project estimated to complete by 2025			
Cost Scale	Medium			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Mid Antrim Upgrade

Deliverable	FWP034: Mid Antrim Upgrade
Description of Activities	In order to ease the existing and future congestion on the Kells to Rasharkin 110kV circuit, the following is proposed: • Update of the existing Kells to Creagh side of the 110kV circuit to Terrygowan; • Construction of a new 110kV switching substation in the Terrygowan area; and • Construction of a new 110kV twin pole circuit between the new Terrygowan switching substation and Rasharkin substation (with allowance for cabling through Rasharkin town). SONI received approval for the Transmission Network Preconstruction Project (TNPP) submission in February 2022. Since this, the project has entered into Part 2 of the Grid Development Process and has completed 2a stakeholder engagement. Planned activities for the future include: 1. SONI to complete Part 2b Stakeholder Consultation where several route and switching substation site options are presented to stakeholders. Feedback from this is then gathered to determine the preferred route and substation option. 2. SONI aim to secure an option to purchase the land for the Terrygowan substation within the study area. This is expected by May 2024.
Key Benefits	The key drivers of this project are security of supply, reduction in costs associated with constraints, and increased renewable energy generation.
Strategic Theme	**A culture of effective engagement and collaboration** **Whole system collaboration and coordination with 3rd parties, and NIE Networks across its various roles as a TO, DNO and DSO** **Collaborating and coordinating to promote a holistic, customer-based service approach to digitalisation.** SONI work in coordination and collaboration with NIE Networks in order to ensure that the project will reduce network congestion and facilitate renewable generation. This joint approach to the project will result in the development of the Transmission System and contribute to the facilitation of renewables. SONI will also be actively engaged with key stakeholders, and we have already carried out extensive engagement and will continue this through so all views are given full consideration and discussed both internally and with the UR per our monthly working meetings. The use of technology throughout the engagement areas of this project also demonstrates our alignment to the UR's priority surrounding a customer-based approach to digitalisation.
Engagement	SONI is fully committed to early engagement and has already carried out an extensive round of engagement during Part 1. Part 2 will provide key stakeholders with an opportunity to have their say on the project. An extensive Pre-Application Community Consultation (PACC) for the Mid Antrim Project will be undertaken within Part 2, before the submission of the planning

	application in Part 3. During Part 2, a wide range of consultation techniques will be utilised across various stakeholder groups. During Part 2b of the Grid Development Process, a number of options will be put to stakeholders and local communities for feedback before proceeding to Part 2c; Part 2b will conclude in autumn 2023 with part 2c commencing in late 2024.			
Performance Measure	Part 2b Stakeholder Consultation Completed Option for switching substation Site secured.			
Timescale	Part 2b Stakeholder Consultation Completed – October 2023 Option for Substation Site Secured – May 2024			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Eden-Carnmoney

Deliverable	FWP036 Eden – Carnmoney
Description of Activities	This project (Eden – Carnmoney 110kV Circuit Uprate / Reconfiguration) forms part 2 of the Energising Belfast project (previously named Belfast Metropolitan Project). The existing tower line is due for refurbishment due to the condition of the assets. Following an option assessment, the preferred option involves the uprate of a large portion of the existing Carnmoney to Eden overhead line but also removal of a portion of the existing overhead line in urban and residential areas in Carnmoney and Carrickfergus which will be replaced with underground cable. A second transformer at Glengormley Main substation will also be required to facilitate this uprate. SONI received approval for the Transmission Network Preconstruction Project (TNPP) submission in August 2023. Since this the project has entered into Part 2 of the Grid Development Process. Planned activities for the future include: 1. SONI to issue outline functional specification to NIE Networks in December 2023. 2. SONI to complete 2a stakeholder engagement in Mid Antrim Borough Council and Antrim and Newtownabbey Borough Council as the project spans both councils by June 2024. The above detail provides an estimated timeline for the project overall. Over the period of this plan the main activity will be the progression of an indicative cable route and initial stakeholder engagement.
Key Benefits	The driver for this project is security of supply. The existing tower line is due for refurbishment due to the condition of the assets.
Strategic Theme	**A culture of effective engagement and collaboration and whole system collaboration and coordination with 3rd parties, and NIE Networks across its various roles as a TO, DNO and DSO** SONI continue to discuss this project with the Utility Regulator at the monthly SONI-UR meetings and continue to provide regular monthly updates. During part one of SONI's 3-Part Process, SONI progressed stakeholder engagement with the local authorities and elected representatives of areas affected by the project. During part two, stakeholder engagement will take place as the project progresses in accordance with SONI's Grid Development Process[11]. This will include multiple local councils and local representatives including MPs and MLAs. The full list of these stakeholders can be found in Appendix J of the Options Report[12].
Engagement	SONI has received funding approval from the UR to commence Part 2 stakeholder engagement activities. Part 2a will begin in autumn 2023 with a target completion date of June 2024.

[11] SONIs-Powering-The-Future-Grid-Development-Process-brochure-20-8-21.pdf
[12] Carnmoney - Castlereagh Options Report (soni.ltd.uk)

	This will require consultation with stakeholders and local communities across two local council areas and three parliamentary constituencies.			
Performance Measure	Part 2a Stakeholder Engagement Completed Outline Functional Specification issued to NI Networks in December 2023			
Timescale	Transmission Project instruction issued to NIE Networks 2027 Total Project Estimated Completion 2029			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Drumnakelly and Armagh Reinforcement

Deliverable	FWP037: Drumnakelly and Armagh Reinforcement			
Description of Activities	There is a need to reinforce the distribution system supplying Armagh city and the surrounding area due to increasing demand. It is also forecast that demand will exceed capacity at the existing Drumnakelly 110/33 kV substation. Options being considered include: • Establishing a new 110/33 kV substation adjacent to the existing Drumnakelly Main along with associated 33 kV reinforcements to the Armagh area; and • Establishing a new 110/33 kV substation at Armagh with new 110 kV circuits from Tandragee and/or Drumnakelly. NIE Networks and SONI are jointly working on their respective areas of this project. As part of Forward Work Plan 2023-2024 the following activities are required: 1. Finalising option appraisal and joint reports with NIE Networks, including the outcome of the environmental study; 2. Carry out Part 1 Stakeholder engagement with elected representatives in the project area and key stakeholders; 3. Finalise and submit a TNPP submission. This is currently expected to be complete by March 2024, subject to stakeholder engagement commencing in October 2023.			
Key Benefits	The project is expected to bring enhancements to security of supply.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI are actively engaged in working with NIE Networks and other stakeholders in order to take all views into consideration. SONI's activities across Role 3 are consistently aligned with working with partners (NIE Networks for instance) for positive change and working towards achieving our targets with regards to the NI Energy Strategy as well as enhancing the transmission system, ensuring it is a key enabler for facilitating future renewable generation.			
Engagement	Commence Part 1 engagement with elected representatives and key stakeholders in the project area in October 2023.			
Performance Measure	TNPP Submission			
Timescale	Conclude Part 1 engagement by December 2023. TNPP Submission – March 2024			
Cost Scale	High[13]			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

[13] Costs are estimated at this stage and will be confirmed through Part 1 and the TNPP submission.

East Tyrone Reinforcement

Deliverable	FWP040: East Tyrone Reinforcement			
Description of Activities	NIE Networks and SONI have jointly assessed the level of security of supply 110/33kV substation at Dungannon. It is forecast that demand will exceed capacity at the existing Dungannon 110/33kV substation. In addition, there is a particular risk to supplies following a second circuit outage. The option being considered that best addresses the objectives of this project include the extension of the existing Dungannon Main substation compound to construct a second 110/33kV substation. This will involve additional land purchase and relocation of existing infrastructure to facilitate this extension. SONI aim to submit the TNPP submission in Autumn 2023 so following UR review, it is expected that approval will be secured in January 2024 which will be followed by SONI internal governance and approval of Control Point 1 in April 2024.			
Key Benefits	• Maintain the security of supply in both transmission and distribution networks. • Minimise any loss of load due to contingencies in Dungannon Main.			
Strategic Theme	**A culture of effective engagement and collaboration** As NIE Networks and SONI have jointly assessing the level of security of supply 110/33kV substation at Dungannon and progressed options appraisal effective engagement, communication and collaboration continues to be an important theme. A coordinated approach is required in the development of this project and as stakeholder engagement progressed it was and continues important to communicate effectively to ensure stakeholders are informed on the programme so they can provide clear feedback.			
Engagement	Part 1 engagement concluded in April 2023. Part 2c engagement to commence September 2024 subject to UR funding and Control Point 1 approval.			
Performance Measure	Control Point 1 Approval Part 2c engagement commenced September 2024			
Timescale	Control Point 1 Approval estimated in April 2024			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Mid Tyrone Upgrade

Deliverable	FWP033: Mid Tyrone Upgrade			
Description of Activities	The key activity over the last period was the extensive constraint mapping required to progress the project. The 110 kV circuit between Omagh and Tamnamore is subject to high levels of constraint under high RES conditions. This project will increase network capacity in this area. The preliminary preferred option includes the establishment of a new 110kV circuit between Dromore and Tamnamore Substation and the extension of Tamnamore Substation. The circuit is expected to be composed of primarily overhead line with cabling sections in more urban areas. SONI expect to submit the TNPP in April 2024 so following UR review, it is expected that approval will be secured in August 2024.			
Key Benefits	The key benefits of this project are increasing the network capacity in the Mid-Tyrone area and facilitation of renewables.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI will be engaging with stakeholders for better outcomes for all, taking on board stakeholder views and listening to our partners as we progress the Mid-Tyrone Upgrade. Ultimately the project is to increase network capacity in the area and therefore enhance the Transmission System.			
Engagement	SONI completed Part 1 stakeholder engagement by April 2023 as per our appendix document Stakeholder Engagement. Part 2a stakeholder engagement is expected in early 2025. Within the period 2023/24 SONI will continue to engage with NIE Networks and its environmental consultant.			
Performance Measure	TNPP Submission			
Timescale	TNPP Submission – April 2024			
Cost Scale	High[14]			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

[14] Costs are estimated at this stage and will be confirmed through Part 1 and the TNPP submission.

Moyle 275kV Reinforcement

Deliverable	FWP039: Moyle 275kV Reinforcement			
Description of Activities	At present, full utilisation of the 500 MW export capability of the Moyle Interconnector is prevented by the potential for network overloads and voltage steps in the event of the loss of the 275 kV double circuit between the Moyle converter station at Ballycronan More and the nearby Ballylumford and Hannahstown substations. This project involves works to allow reconfiguration of the connection to Ballycronan More Convertor Station, which then connects to Moyle Interconnector. To address these contingencies, the option being considered is based in connecting directly Ballycronan More Convertor Station to Ballylumford Power Station through two underground circuits. SONI submitted the TNPP in September 2023 so following UR review, it is expected that approval will be secured in January 2024 which will be followed by approval of Control Point 1 in April 2024.			
Key Benefits	In a scenario where Moyle Interconnector can work always at its maximum import and export capacities of 500MW, SONI's modelling of potential solutions shows substantial benefits in terms socio economic welfare. The numerical results of our modelling are included in the Needs Report for the project which we will publish on our website at the end of the Part One processes.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI has worked with NIE Networks, Mutual Energy, and other key stakeholders to assess the best options of this project. The socio economic welfare benefits of this project were appraised as a saving of £5.6m within the study area of Great Britain and the island of Ireland.			
Engagement	SONI is engaging with NIE Networks and Mutual Energy Limited as we progress with the project, coordinating and collaborating in activities. Any engagement SONI undertakes not only gives our viewpoints but we also actively listening to the views and concerns of other key stakeholders.			
Performance Measure	Control Point 1 Approval			
Timescale	Control Point 1 Approval estimated in April 2024 Overall Project completion Q4 2026			
Cost Scale	Medium			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Coolkeeragh 110kV Extension

Deliverable	FWP029: Coolkeeragh 110kV Extension			
Description of Activities	This project will facilitate the future connection of a third interbus transformer, the restoration of the second busbar coupler and section switches and other improvements. SONI received approval for the Transmission Network Preconstruction Project (TNPP) submission in March 2023. SONI is progressing site investigations (to determine treatment options) through our environmental consultant.			
Key Benefits	The driver for this project is renewable integration and security of supply.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI will be working in collaboration with NIE Networks as the programme of activities develops in order to make improvements to the Transmission System which will enhance grid security.			
Engagement	SONI is engaged with the UR in our regular monthly meetings where we provide updates on the project and use the opportunity to enter into discussion on any challenges that we may face or mitigations we are taking on projects. SONI will continue to engage with the UR.			
Performance Measure	Part 2 SONI Pre-Construction Works Commence in May 2024			
Timescale	It is expected that Part 2 SONI Pre-Construction Works will Commence in May 2024 Overall project completion 2029			
Cost Scale	Medium			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Tamnamore - Drumnakelly Restring

Deliverable	FWP23-30: Tamnamore – Drumnakelly Restring			
Description of Activities	These circuits may be subject to overload under high wind generation conditions and are operated out of service. This project is to replace the conductor on these circuits with higher capacity conductor. This will allow these circuits to fully return to service and reduce constraints on renewables. However, as part of the existing line over sails the village of Killyman and cannot be upgraded in situ, this section will be replaced by an underground cable section on a different route. SONI submitted the TNPP submission in August 2023 so following UR review, it is expected that approval will be secured by January 2024 which will be followed by approval of Control Point 1 in April 2024 and commencing part 2a stakeholder consultation in August 2024.			
Key Benefits	The driver for this project is renewable integration.			
Strategic Theme	**A culture of effective engagement and collaboration** SONI will be working in collaboration with NIE Networks as the programme of activities develops in order to make improvements to the Transmission System which will facilitate renewable generation on the system.			
Engagement	SONI has completed Part 1 stakeholder engagement and based on the assumption of UR and Control Point 1 approval, Part 2a engagement will commence in August 2024.			
Performance Measure	Control Point 1 Approval 2a Stakeholder Engagement Commenced			
Timescale	Control Point 1 Approval estimated in April 2024 Overall Project completion Q4 2026			
Cost Scale	High			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

275kV Substation Fault Level Solutions

Deliverable	FWP030: 275kV Substation Fault Level Solutions			
Description of Activities	This project covers five substations which require a redevelopment (detailed below). **275kV Redevelopment** An appraisal of the original design using modern standards has found that the concrete structures at Castlereagh, Coolkeeragh, Kells, Magherafelt and Tandragee whilst sufficient to meet expected mechanical loading under a fault, would lead to deflections beyond standard. This is being managed through additional inspections by NIE Networks. Long-term refurbishment of the five substations is required. The key activities over the 2023/24 period will be: • Magherafelt and Coolkeeragh 275kV Consultant procurement towards option appraisal Agree option appraisal scope of works required with NIE Networks for Coolkeeragh and Magherafelt and commence the progression of procurement and award of contract for optioneering with the substation design consultant. It is expected that a contract to appraise Kells options will already be awarded in September 2023.			
Key Benefits	The driver for this project is security of supply.			
Strategic Theme	**Whole system collaboration and coordination with 3rd parties, and NIE Networks across its various roles as a TO, DNO and DSO** SONI engaged extensively with NIE Networks as Transmission Owner, to determine project need. SONI will use the information gathered to progress the project to address issues and enhance security of supply in collaboration with NIE Networks.			
Engagement	SONI will continue to engage with NIE Networks in the development of the programme of activities across the substations and coordinate activities to ensure the safety of others is a key priority. SONI will also be engaging with other affected parties such as Coolkeeragh ESB and parties hoping to connect at these substations. SONI will also be engaged with the UR in our monthly meetings where we provide updates on our projects to the UR and any mitigating actions that we may be required to take.			
Performance Measure	Agree option appraisal scope of works required with NIE Networks for Coolkeeragh and Magherafelt.			
Timescale	September 2024			
Cost Scale	Low			
SONI Outcome	**Decarbonisation**	**Grid Security**	System Wide Costs	**Stakeholder Satisfaction**

Delivery Programme for NI Infrastructure Projects

Deliverable	FWP23-26: Delivery Programme for NI Infrastructure Projects
Description of Activities	Development of a delivery programme for all Transmission Reinforcement Projects and communicate externally. In light of recent developments such as the NI Energy Strategy publication, Path to Net Zero Action Plan and the revised target of 80% renewables by 2030, SONI considers a prudent activity is to use the Transmission Development Plan for Northern Ireland Joint Working Group as a forum to (as far as possible) optimise the delivery programme in a holistic approach with NIE Networks. **Key Actions & Deliverables** • Transmission Development Plan for Northern Ireland Joint Working Group to continue to be used as a conduit for discussion and agreement of project plan with NIE Networks • Enhanced project programme to be developed and implemented. • Communicated Externally
Key Benefits	Transparent programme in place for all NI Infrastructure Projects providing increased stakeholder confidence that SONI is reviewing its delivery programme in light of the NI Energy Strategy and Security of Supply.
Strategic Theme	**A culture of effective engagement and collaboration.** **Whole system collaboration and coordination with 3rd parties, and NIE Networks across its various roles as a TO, DNO and DSO** **A culture of organisational learning, accountability and planning that supports SONI agility and responsiveness in meeting policy, regulatory and market developments.** The important themes for this project are around engagement to develop the Transmission System by having a fully reviewed programme in light of the Climate Change Act (NI) 2022 and Security of Supply. SONI will collaborate with NIE Networks through the joint working group to discuss the needs of the electricity transmission system, challenge our ways of working and revise the delivery plan to provide an accurate and transparent update to stakeholders.
Engagement	The Transmission Development Plan for Northern Ireland joint working group with NIE Networks will be used to facilitate discussion with our colleagues at NIE Networks on the programme out to 2030 for all Northern Ireland infrastructure projects. This will include looking at our ways of working, challenging our timeframes for project delivery and agreement on a final joint delivery programme which with NIE Networks.
Performance Measure	Development of delivery programme and awareness provided to stakeholders.
Timescale	January 2024
Cost Scale	Low

SONI Outcome	Decarbonisation	Grid Security	System Wide Costs	Stakeholder Satisfaction