Feedback to SONI FWP 2023-24

Dear Utility Regulator,

Thank you for the opportunity to comment on SONI's Draft Forward Work Plan (FWP) for the coming year 2023-24.

This response is on behalf of Mutual Energy Ltd. (MEL). MEL owns and operates three of the four licenced gas transmission networks in Northern Ireland via subsidiary companies which are licenced gas TSOs. All of the main currently operational dispatchable electricity generators in Northern Ireland rely on MEL's assets as a source of fuel. MEL also owns and operates the Moyle Interconnector, a 500MW HVDC link between the NI and Scottish electricity transmission networks. As such, MEL considers itself a key stakeholder for SONI.

1. Whole energy system planning

In our comments to the 2022-23 SONI FWP, we emphasised the need for SONI as the electricity TSO to work collaboratively with the gas TSOs in Northern Ireland, both in terms of resolving current issues on the gas networks, and going forward ensuring that the gas and electricity networks are capable of delivering on NI's net zero obligations.

To this end, we suggested the addition of a new work plan item regarding the need to establish, and subsequently deliver on an ongoing basis going forward, a suitable joint system planning approach across gas and electricity.

SONI's response to this was welcoming, but made no commitment to concrete deliverables or actions to progress this joined-up approach to gas and electricity network planning:

"*Your feedback around the increasing interdependencies between the electricity and gas networks is appreciated. We look forward to closer collaboration between these two sectors.*"

The Utility Regulator issued a Direction[1] to SONI in September 2023 emphasising that information should be shared between the electricity and gas TSOs to enable the respective TSOs to meet their licence requirements in terms of forecasting and planning. We welcome this Direction as a first step towards whole system planning and have begun engagement with SONI to enact it.

We have additionally submitted a recommendations paper to the Utility Regulator outlining a proposed new approach to gas network planning, expanding on the current annual Gas Capacity Statement process. Under our proposals, the gas network planning framework would more closely mirror that

[1] https://www.uregni.gov.uk/publications/soni-limited-provision-information-gas-network-operators

which is used in electricity transmission network planning. It would include three 10-year forecast documents[2] and two longer-term outlook documents[3].

Our ambition is to begin implementing the recommended new approach and producing the associated documents within the coming 12 months. A key tenet of the new approach will be a focus on increased engagement and consultation with key stakeholders, and in particular SONI.

As such, we recommend that the FWP is updated to ensure that key individuals and teams within SONI have the authority and capacity to engage with the existing Gas Capacity Statement process, and going forward our proposed new gas network planning framework, when required.

Failure to engage adequately with the NI gas TSOs would mean that improvements against all of the SONI Outcomes under the Evaluative Performance Framework (Decarbonisation, Grid Security, System-Wide Costs and SONI Service Quality) could not be delivered effectively. For example, the gas network might not be ready to facilitate new connections for power stations awarded capacity contracts under the SEM Capacity Remuneration Mechanism T-4 auctions without more joined up thinking in terms of network planning. Longer-term, if power-to-hydrogen technologies become relevant to long-duration renewable electricity storage, a collaborative approach would have benefits in terms of ensuring that the hydrogen produced could be used or moved to a storage facility via the gas network.

We make several suggested amendments to specific parts of the FWP below to promote this engagement on whole energy system planning in the interests of NI consumers.

1.1. FWP24-01: Introduction of NRAA

We observe that Deliverable FWP24-01 looks to complement the existing NI Generation Capacity Statement methodology with a new National Resource Adequacy Assessment in line with Article 24 of Regulation (EU) 2019/943 (also known as **The Electricity (Recast) Regulation**).

To date, there is no direct interaction between SONI and the gas TSOs in Northern Ireland in relation to producing the Generation Capacity Statement.

Article 23 of the Electricity (Recast) Regulation lays out provision for a European resource adequacy assessment. A condition of this assessment is that it "*shall be based on a transparent methodology which shall ensure that the assessment appropriately takes account of the contribution of … existing and future possibilities for generation, energy storage, sectoral integration…*".

Article 24 states that national resource adequacy assessments – which ultimately feed into the European assessment – should also be based on this methodology.

In the immediate term, dispatchable generation in Northern Ireland is currently reliant on the gas transmission network for fuel supply. Additionally, power-to-gas technologies are anticipated to play a significant role in energy storage as the energy transition develops, reducing oversupply of intermittent renewable generation and ensuring security of supply during low renewable generation periods. Therefore, to most effectively consider generation, energy storage and sectoral integration, we believe that input from gas TSOs will be required during the development of the NRAA.

[2] These would be akin to the Generation Capacity Statement, the Ten Year Transmission Forecast Statement and the Transmission Development Plan produced by SONI.
[3] These would be akin to the Tomorrows Energy Scenarios (NI) document and the associated System Needs Assessment.

At a European level, ENTSO-E and ENTSO-G[4] collaborate and produce joint scenarios to feed into their forecasts and network development plans[5] and have done since 2018. From 2025 onwards, there will be a requirement on ENTSO-E and ENTSO-G to develop a common model in addition to common scenarios[6].

Given the precedent for interaction between electricity and gas network forecasting at the European resource adequacy assessment level, and the requirements for the methodology at a national resource adequacy assessment level as laid out in the Electricity (Recast) Regulation, there would need to be an extremely strong rationale for the electricity and gas TSOs to not engage extensively with each other as part of the work to develop the NRAA.

Because of this, we feel that the *Engagement* section of the FWP in relation to FWP24-01 could be strengthened to explicitly lay out how and when SONI intend to formally engage with the NI gas TSOs in this regard. We propose that the following addition should be made to this section:

"SONI will be engaged with the various internal departments and external vendors to ensure a seamless transition to the new methodology. SONI will work collaboratively with the NI gas TSOs and put in place lasting frameworks to ensure alignment between the new methodology and the methodology used for gas network forecasting and adequacy assessments, promoting sectoral integration and a whole energy system approach. This will entail a number of regular meetings, public consultations and engagement with stakeholders and discussions on the approach and programme to deliver the methodology."

1.2. FWP23-22: Security of Supply Publications

Similarly, FWP23-22 refers to the publication of the Generation Capacity Statement and SONI's Winter Outlook.

We propose that the *Engagement* section of this Deliverable is amended as such:

"*Engagement at an early stage is important in order to ensure we achieve our target date of publication for the GCS. SONI is planning to engage regularly with the UR throughout this process to ensure transparency. SONI will also engage throughout the process to ensure that adequate and up to date information is shared with gas TSOs to develop their security of supply publications in collaboration with the electricity security of supply publications, thereby ensuring that whole energy system implications are considered by both.* "

1.3. FWP24-02: Stakeholder Management Strategy

We welcome the commitment to develop and publish a Stakeholder Management Strategy. We feel that this Deliverable would be strengthened by a statement of who SONI sees its "*key stakeholders*" as. We note that appendix 6 of the FWP outlines a commitment to: "*continuation of a strategic bilateral programme of engagement for the SONI Senior Management Team to include key partners such as: NIE Networks, the Department for the Economy, the Utility Regulator, Trade NI, the Consumer Council for Northern Ireland, the NI Business Alliance, the Ulster Farmers Union and Renewable NI*". It is striking that the NI gas TSOs are not included on this list given the high level and increasing interdependency between the electricity and gas transmission systems, and the importance that the gas network has for electrical security of supply.

[4] The European Network of Transmission System Operators for Electricity and Gas, respectively.
[5] https://www.entsoe.eu/news/2022/04/11/entso-e-and-entsog-publish-their-joint-scenarios-for-tyndp-2022/
[6] Regulation (EU) 2022/869 of the European Parliament and of the Council, Article 11

In order to ensure that key stakeholders are not overlooked under any new Stakeholder Management Strategy, we therefore propose that the *Description of Activities* for FWP24-02 is amended with the following addition:

"*Given the scale of stakeholder engagement that takes place across SONI on a daily basis, the Stakeholder Management Strategy will set out:*

- *our strategic approach and principles of stakeholder engagement in line with best practice;*
- *a list of key and priority stakeholders*
- *a framework for coordination across the organisation;*
- *a programme of strategic activity beyond business as usual; and*
- *an evaluation framework to evidence the delivery of our commitments and our effectiveness.*"

1.4. FWP24-05: Tomorrows Energy Scenarios Northern Ireland (TESNI)

We are supportive of the work to produce TESNI 2023. The previous iteration of this document, TESNI 2021, was a welcome first step to producing long-term scenario-based forecasts for electricity demand in Northern Ireland. However, TESNI 2021 was overly optimistic on the scale and pace of electrification in NI, it's scenarios being driven primarily by NIE Networks' "*Networks for Net Zero*" document, which was produced in support of their price control, RP7, and as such may well have overstated the level of electrification that is likely to occur in the near term.

We hope that TESNI 2023 will take a more realistic view of potential future scenarios and pathways for decarbonisation and welcome the inclusion of the 'Gas Evolution' scenario as a counterpoint and balance to the other scenarios. However, there has been no direct engagement with the gas sector as to the characteristics of this scenario. As outlined in Section 1.1, at a European level, common scenarios are now developed across the electricity and gas sectors for network planning out to 2050 to ensure a common view across gas and electricity sectors to promote joined up thinking about the future energy system.

Mutual Energy have made recommendations to the Utility Regulator that the NI gas TSOs should begin producing long-term scenario-based pathways out to 2050 and beyond to facilitate efficient planning of the gas network, which we are calling *Energy Horizons*. We would like to co-ordinate with SONI in producing these to ensure that there is consistency across scenarios. Given the precedent set at the European level, we believe that there would need to be very strong justification for not taking this approach.

We accept that the gas TSOs timelines for producing a first version of our *Energy Horizons* document will not be aligned with SONI's timelines for producing TESNI 2023, and that progress on *Energy Horizons* will be dependent on additional resourcing for gas TSOs. As such, we are not suggesting that TESNI 2023 and *Energy Horizons* should be jointly produced at this stage although we believe that there is merit in an aspiring towards this in the future. However, we believe that there should be a high degree of collaboration between electricity and gas TSOs in producing these documents, and that this collaboration should be recognised within the SONI FWP.

As such, we propose that the following text be added to the '*Description of Activities*' for FWP24-05:

"*SONI recognise that there are fundamental interdependencies between the electricity and gas networks, and that these will grow in future, for example as power-to-X technologies develop. As such. TESNI will be developed in consultation with the NI gas TSOs, and SONI will also proactively engage*

with the gas TSOs in their scenario-based decarbonisation pathway development to ensure that there is consistency across the electricity and gas pathways."

1.5. FWP24-06: Long Duration Energy Storage

We acknowledge the consultation that has recently been published by SONI with regards to long duration storage and we will respond in detail to that.

We welcome SONI taking a proactive approach to long duration storage, which will be vital to ensuring ongoing security of supply in a high renewable electricity generation world. We observe however that there is significant technology risk associated with potential long duration storage technologies, which needs to be properly acknowledged and managed in any future procurement exercise to ensure delivery of the storage services required by the system.

Procurement in the short term will likely result in large volumes of lithium ion batteries, as the most commercialised storage technology currently likely to be suited to an auctioned support contract. In the long term, lithium ion batteries – while important as a part of a wider mix of technologies – may not prove to be the optimal technology for provision of long duration storage services. This should be carefully considered in any future procurement exercise to meet SOEF v1.1 requirements.

For example, one potential technology which could provide extensive long duration energy storage and improve security of energy supply, facilitating a decarbonised energy system in the mid to long term is power-to-hydrogen. This approach works by using otherwise excess renewable electricity to produce hydrogen, which can then be stored and used as a zero carbon fuel in other sectors, or for dispatchable generators when renewable electricity is scarce, supporting widespread decarbonisation in areas where electrification is difficult or less suitable.

Mutual Energy were involved in Phase One of the Ballylumford Power-to-X project which assessed the feasibility of a power-to-hydrogen storage facility in County Antrim, using salt caverns to store the hydrogen. This project found that the concept was technically feasible, however there were market and regulatory blockers to the project proceeding[7].

Mutual Energy as a gas TSO would be keen to engage with SONI very closely on long duration storage via power-to-X, to ensure that the gas network is capable of accepting the renewable gases produced, moving them to a suitable storage location, and then delivering them to dispatchable power stations when needed.

More generally, some large-scale storage technologies will require high up front capital expenditure to develop and deliver with returns delivered over long asset lives, such as pumped hydro, hydrogen cavern storage, large-scale compressed air cavern storage, etc. These types of projects are likely to represent 'work-horse' storage assets that operate as the backbone of the future NI decarbonised energy system. Such assets are not suited to normal market mechanisms and tend to require more bespoke and long-term revenue guarantees – such as the cap and floor regimes already in place for electricity interconnectors, or the cap and floor regime being considered for pumped hydro development in GB.

In the context of Northern Ireland, we believe mutualisation could act as a financing mechanism to help bring forward some types of critical large-scale storage solutions, as well as other important enabling infrastructure, at a lower cost when compared to other potential approaches, benefitting NI energy

[7] https://www.mutual-energy.com/wp-content/uploads/2023/06/3105-Mutual-Energy-Ballylumford-Power2X-Summary-Brochure-2023-Artwork-Final-Reduced-Size-1.pdf

consumers, and providing key foundation stones that enable the further widespread decarbonisation of the NI energy system.

2. Specific projects

2.1. FWP039: Moyle 275kV Reinforcement

We support the inclusion of the project to strengthen the 275kV network near the Moyle Interconnector convertor station in Northern Ireland. Moyle is capable of moving 500MW of electricity in either direction, however it is currently limited by onshore transmission constraints to a maximum of 450MW from Scotland to NI, and 400MW from NI to Scotland. These onshore constraints mean that the full benefit of the interconnector to consumers is not being delivered.

We are aware that the SONI Transmission Development Plan (TDP) 2023-32[8] includes this project, however is indicating a later completion date of 2028 (compared to the 2021-30 iteration of the TDP which had a 2024 completion date), whereas the FWP is indicating that the project is anticipated to be completed in 2026.

We will respond to the consultation on the TDP separately, however we strongly believe that efforts should be made to maintain an earlier completion date. The FWP highlights that the socio-economic welfare benefits of the project are £5.6m. We believe that this is a conservative estimate and the true benefits are significantly higher than this.

Our own modelling suggests that delaying the project by two years will result in the loss of the equivalent of over £10m worth of socio-economic welfare benefits to Northern Ireland consumers[9]. Any additional cost from completing the project in a tighter timeframe will likely be outweighed by the benefits of the additional interconnection.

3. General comments

3.1. SONI Self Assessment

We note that SONI's own assessment of its performance with regard to Stakeholder Engagement for its *Role 2: Independent Expert* is "exceeds expectations". We feel that this is an overly generous view of SONI's performance to date in terms of stakeholder engagement, particularly with regard to whole-system working.

[8] https://consult.soni.ltd.uk/consultation/draft-transmission-development-plan-northern-ireland-and-sea-2023-2032

[9] Note that this exceeds the figure presented in the FWP itself as we understand the £5.6m outlined in the FWP was a figure based on SEM and GB consumers overall, whereas our analysis looked at Northern Ireland consumers only.