19/08/2025

Low Carbon Inertia Service (LCIS) Procurement Phase 2

Webinar

Objective

To provide an overview of the ongoing LCIS consultation on the Requirements, Contractual and Procurement Arrangements and to allow time for questions.

Agenda

15:00 Welcome and Introduction

15:05 Presentation of the LCIS consultation

16:00 Q&A session

16:25 Concluding Comments

16:30 Close

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10.07.2025 - 09:00
05.09.2025 - 17:00

OPEN

Low Carbon Inertia Service Procurement Phase 2 – Requirements, Contractual and Procurement Arrangements

0 SUBMISSIONS

Presentation of the consultation

Presentation of the consultation

Background and LCIS Phase 1

System Needs and Service Providers requirements

Contractual Arrangements

Procurement Arrangements

Next steps

LCIS is a critical service to allow the relaxation of the operational constraints

Our operational policy includes several system constraints to ensure that we operate the All-Island power system in a stable and secure manner.

Key Operational Constraints	August 2025 Requirement	Aim to enable a 100% Renewable Power System
System Non-Synchronous Penetration limit	75 %	100 %
Minimum Synchronous Area Inertia	23,000 MVA.s	Meet with LCIS
Minimum number of large synchronous units (MUON)	7 Units (All-Island)	0 Units

Low Carbon Inertia Services (LCIS) are critical for reducing the minimum number of conventional units (MUON) and enabling higher level of SNSP, which will increase renewables integration and reduce carbon emissions, enhance security of supply and reduce electricity production costs.

LCIS is being procured in a phased approach via award of fixed-term contracts to service providers.

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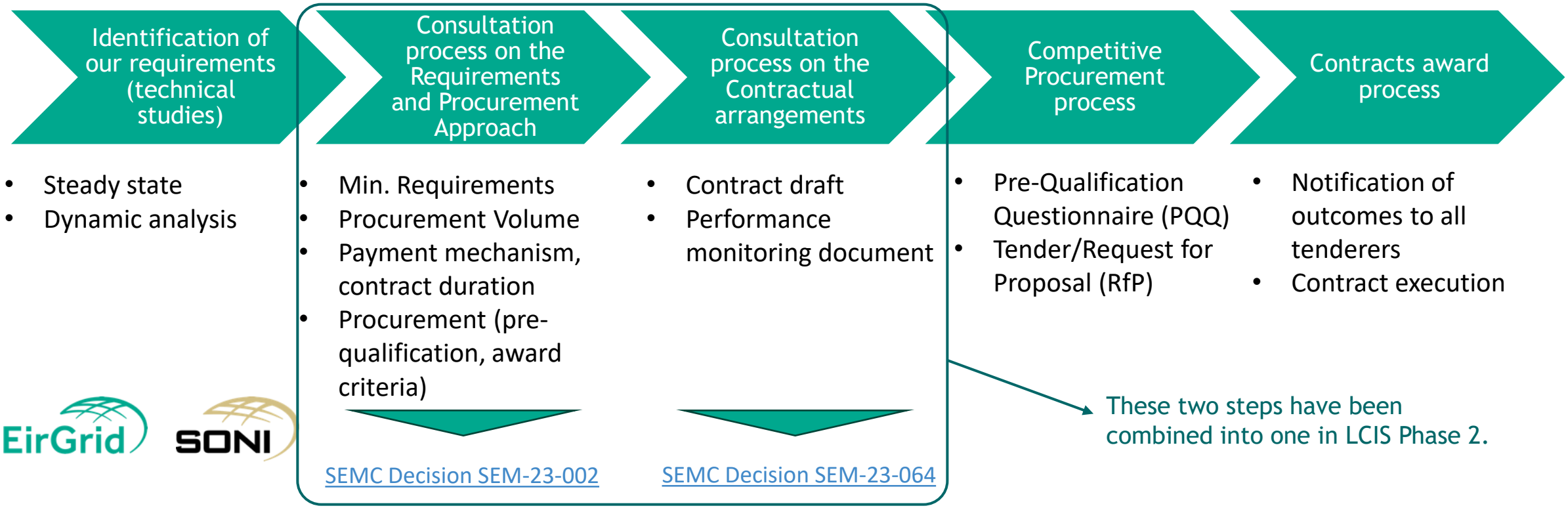
SEM Committee request and LCIS Phase 1 project steps

Regulatory Authorities decision

- In 2021, in the SEM-21-021 Decision, the RAs decided to implement a **Fixed Contract Arrangement framework to incentivise entry of new technologies** by providing a fixed contract term and a degree of revenue certainty.
- They have also requested that EirGrid and SONI carry out an assessment and **bring forward proposals for a fixed term procurement in relation to Low Carbon Inertia Services (LCIS).**

LCIS Phase 1 - Project steps:

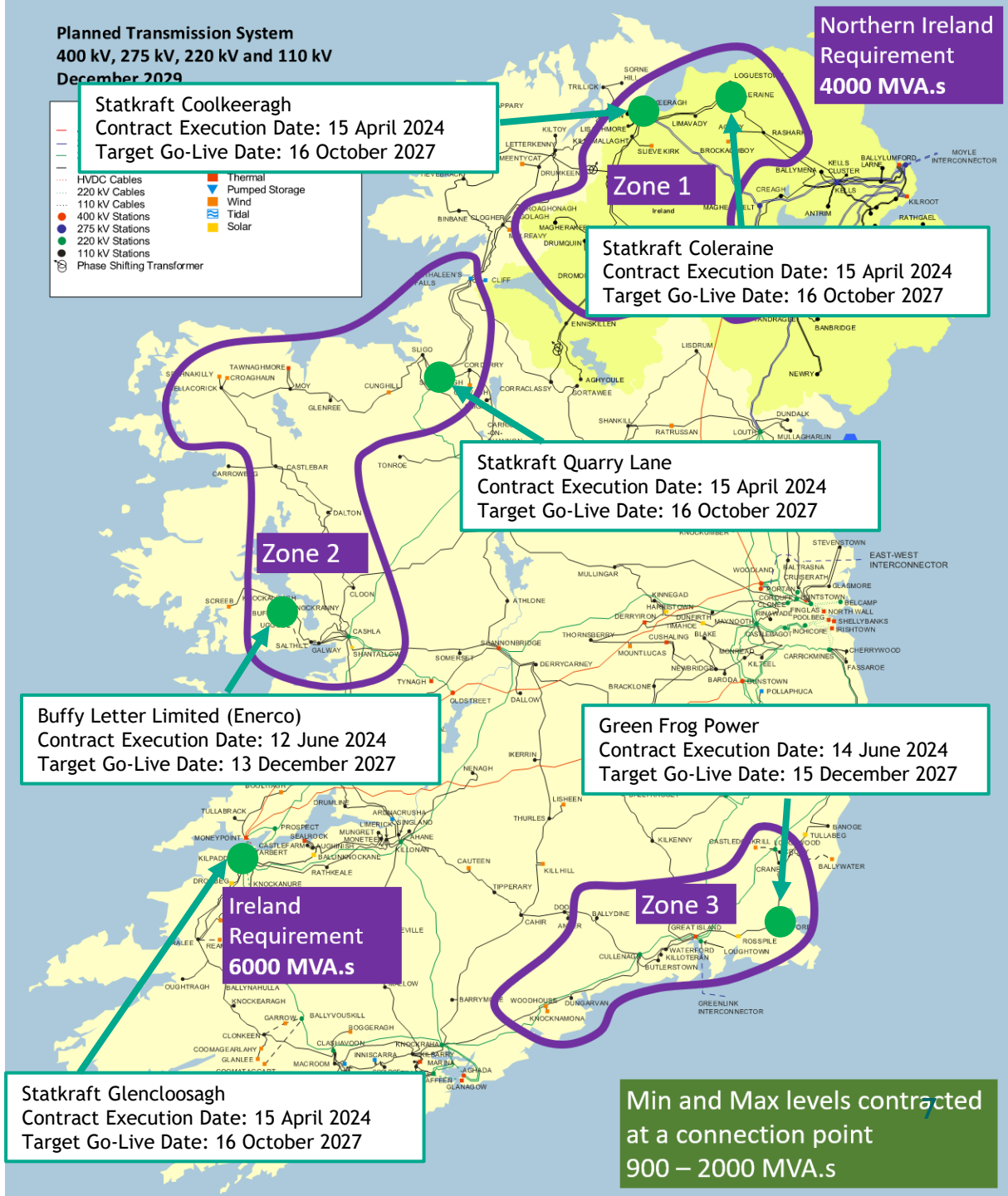


LCIS Phase 1 Outcome

- SONI Contract Award Notice was published on 23 April 2024.
- EirGrid Contract Award Notice was published on 11 July 2024.

Outcome	EirGrid Procurement	SONI Procurement
Number of contracts executed	4	2
Volume procured (MVA.s)	6,963	4,000
All-Island Volume procured (MVA.s)	10,963	

- The **volume procured** represents approximatively **45% of our current inertia floor requirement** of 23,000 MVA.s.
- All successful tenderers have a **Target Go-Live Date in Q4 2027**.



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LCIS Phase 2: Technical studies approach

LCIS Phase 1 target: Operate with a minimum of 5 conventional plants on the system at any given time

LCIS Phase 2 target: Operate with no conventional plants on the system (0 MUON and 100% SNSP)

Stage 1: Preparation of steady state and dynamic cases

Stage 2: Identification of issues requiring additional inertia (primary concern), fault level contribution (system strength) and reactive power support

Stage 3: Sizing and Placement of LCIS to solve these issues

LCIS Phase 2 - Volume to procure, uncertainties and potential future needs

Following the technical studies, we propose to procure the following volume of inertia:

Requirements	EirGrid Procurement	SONI Procurement
Volume to procure per jurisdiction (MVA.s)	10,000 (Max 12,000)	4,000 (Max 6,000)
Volume to procure for the All-Island (MVA.s)	14,000 (Max 18,000)	

Further volumes of inertia may need to be procured after LCIS Phase 2 due to a number of **uncertainties**, such as:

- **Data Centres Fault Ride Through (FRT) issues**: Voltage dips can trigger large demand drops in data centres, potentially causing system disturbances that may require additional inertia and reserves.
- **Study Year & Network Developments**: LCIS studies were based on a 2028 model; evolving grid conditions, including offshore projects and increased data centre loads by 2030+, may necessitate further inertia procurement.
- **Delayed delivery of contracted LCIS capability**
- **Planned outages of LCIS unit**

Additional procurement phases which may be required will be subject to procurement outcomes, further analysis and regulatory considerations.

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LCIS Phase 2 – Locational aspects and restrictions

- **No incentivised zones or zonal requirements** other than the jurisdictional requirements of 10,000 MVA.s (Max 12,000) in Ireland and 4,000 MVA.s (Max 6,000) in Northern Ireland.

- To avoid LCIS Phase 2 device connections being sought at congested or unsuitable locations, **placement of LCIS Phase 2 devices will not be permitted at the following stations, or in the following scenarios**:

	EirGrid Procurement	SONI Procurement
Substations where participation is not permitted	• Substations unsuitable for connecting an LCIS device within the LCIS Phase 2 timeline in Ireland	• Three tail-fed stations in Northern Ireland • Stations in Northern Ireland which are within two nodes of existing committed LCIS devices

The list of substations will be provided in the tender documents. Pre-Tender meetings will aim to provide guidance to potential tenderers.

The list of substations is provided in the consultation paper in Table 8

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LCIS Phase 2 – Service to procure / Grid-Forming

Service to procure

As for LCIS Phase 1, EirGrid and SONI propose to procure a **Low Carbon Inertia Service (LCIS) which includes the provision of**:

- **Synchronous Inertia;**
- **Reactive Power support;**
- **Short-Circuit contribution**.

Grid-Forming considerations

Grid-Forming technology will not meet the LCIS Phase 2 procurement eligibility requirements, however, arrangement to enable a grid-forming technology pilot will be progressed and consulted upon separately by the TSOs.

Appendix 1 of the consultation paper outlined the Grid-Forming developments.

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LCIS Phase 2: Other proposals

Requirement	Description
Min. and Max. capability contracted per unit	Min. of 900 MVA.s and Max. of 4000 MVA.s (note that there is a max. limit of 2000 MVA.s at 110 kV) (LCIS Phase 1 requirement was 900 MVA.s – 2000 MVA.s)
Connection requirements	A LCIS provider can only be connected to a transmission station controlled by the TSO at 110kV or above.
Transformer rating limits per voltage level	The transformer rating limits for the different voltage levels are set as follow: • 100 MVA max at 110 kV; • 250 MVA max at 220 kV; • 260 MVA max at 275 kV; • 400 MVA max at 400 kV.
Maximum inertia level at a transmission station	2000 MVA.s at 110kV 4000 MVA.s at 220kV and above These limits include the inertia contributions from any LCIS devices connected to that station via 'tail-fed' transmission stations and any LCIS devices at that station already contracted in LCIS Phase 1.
Minimum technical requirement	Unlike LCIS Phase 1, requirements on minimum reactive power and short circuit contribution will be removed from the procurement requirements although these capabilities will continue to be incentivised through application of scalars. LCIS units will still need to meet minimum Grid Code standards.

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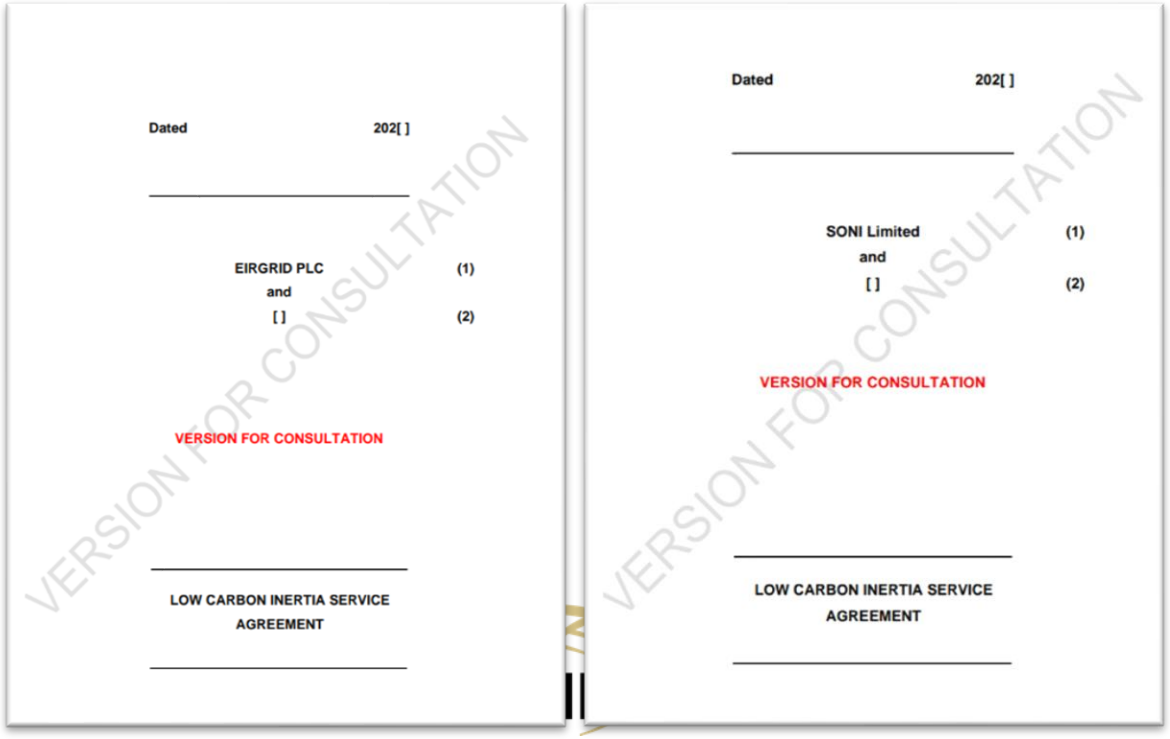
LCIS Phase 2: Contractual arrangements structure

The LCIS contractual arrangements consist of an LCIS Agreement (the “Agreement”) and an LCIS Protocol (the “Protocol”) that LCIS providers will be party to.

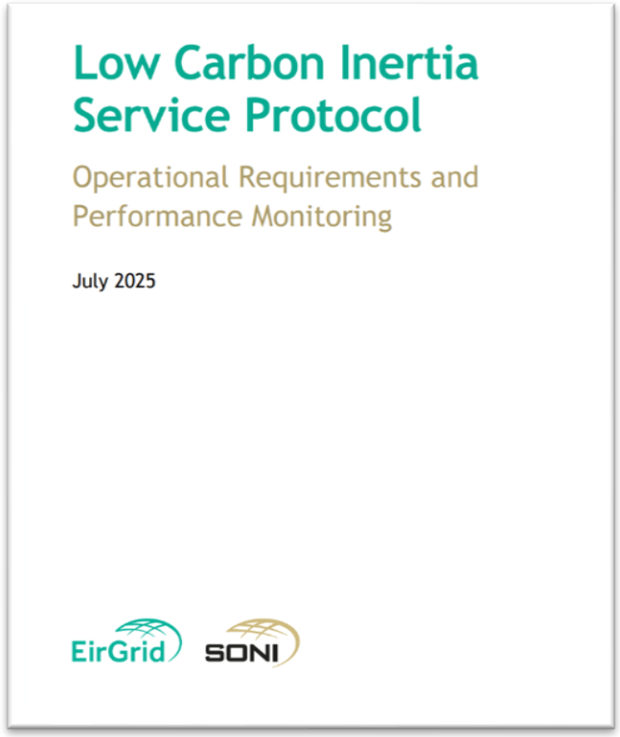
The Agreement contains (one template for EirGrid and one for SONI):

- Contractual Provisions
- Performance Security Requirements
- Billing and Payment Schedules
- Performance and Product Scalar Value Specifications



The Protocol contains:

- Protocol Governance
- Operational Requirements
- Details of Scalar Calculation Methodologies
- Performance Monitoring Timelines

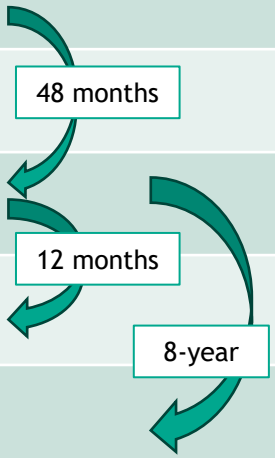


A single Protocol will apply to all LCIS providers (Phase 1 and Phase 2) and for both jurisdictions

LCIS Phase 2: Commencement and duration of the Agreement

- Target Go-Live Date is proposed 48 months after contract execution
- Longstop Date is proposed 12 months after Contract Execution Date
- Contracts end 8-year after the Target Go-Live Date
- Earliest Go-Live Date proposed: 1 October 2026
- Developers who can deliver LCIS before the Target Go-Live Date can have longer contracts (up to 12 years)

LCIS Agreement - Key dates	Anticipated dates based on current procurement plan
Contract Execution Date	Q3 2026
Earliest Go-Live Date	Q4 2026 (1 October 2026)
Target Go-Live Date	Q3 2030
Longstop Date	Q3 2031
Contract End Date*	Q3 2038



LCIS Phase 2: Other contractual arrangements proposals

New for LCIS Phase 2

	EirGrid Procurement	SONI Procurement
Payment	Based on a 97% availability requirement • Trading period payment = Available Volume x Payment Rate x Scaling Factor x Trading Period duration • Scaling Factor= Performance Scalar x Product Scalar (Locational scalar removed) • Payment rate = Offer Price (Pay as bid)	
Product scalar	• Inertia constant scalar removed • Short-circuit contribution and Reactive Power incentivised based on the capability of a reference unit.	
Performance scalar / charge	• Synchronisation Dispatch Performance Scalar (incentivise a unit to synchronise in 15 minutes) • Availability Performance Scalar (+97% required, under 60% no payment) • Consumption Performance Scalar (penalises if the actual energy consumption exceeds contracted energy consumption) → tolerance increased from 5% to 20% to account for metering inaccuracies. • Trip charge (to incentivise a provider to remain synchronised in steady state and during system frequency/voltage events).	
Performance Security	2500/MVA.s (was €500 in Phase 1) • €2.25m for 900 MVA.s • €5m for 2000 MVA.s • €10m for 4000 MVA.s	£2100/MVA.s (was £442 in Phase 1) • £1.89m for 900 MVA.s • £4.2m for 2000 MVA.s • £8.4m for 4000 MVA.s

New calculation methodology only apply to LCIS Phase 2 units

Apply to LCIS Phase 1 and Phase 2 units

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LCIS Phase 2: New approach to incentivise reactive power and short-circuit contribution

Three scalar will be calculated based on the capability of the reference unit at the Connection Point:

- Reactive Power Lagging scalar
- Reactive Power Leading scalar
- Short-circuit level scalar

If the Providing Unit has greater capability than the reference unit, the scalar will be greater than 1. Conversely, if it has less capability, the scalar will be less than 1.

The reference unit provide the following capability

Capability of Reference Unit at the Connection Point	Voltage level	Reactive Power Leading	Reactive Power Lagging	Short circuit level (MVA)
	110kV	40	80	300
	220kV or above	100	200	750

Each scalar = 0.125 * (Capability provided/Capability of the reference unit)+0.875

The reactive power capabilities will need to be provided at the Connection Point across the full voltage ranges

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LCIS Phase 2 - Procurement plan

Description	Start Date	Finish Date
Studies to identify the technical requirements considering inertia, reactive power and short circuit level (Completed)	Q2 2024	Feb-25
Consultation on requirements, contractual and procurement arrangements (Ongoing)	11 July 25	5 September 25
Recommendations paper	Sep-25	Oct-25
SEMC decision	Nov-25	Nov-25
Procurement Processes	Jan-26	Q3 2026
Award of contracts	Q3 2026	Q3 2026

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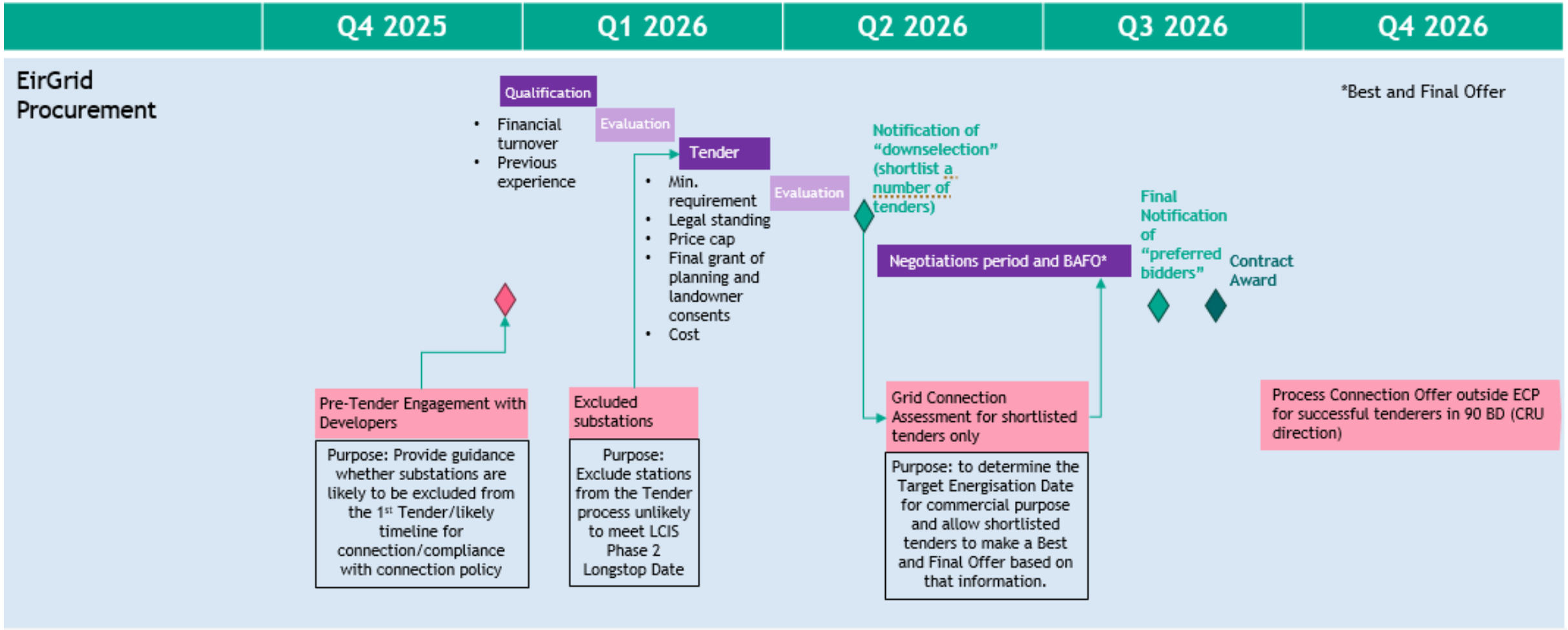
LCIS Phase 2 - EirGrid Procurement process and timeline

EirGrid will implement a Qualification System which will offer flexibility to address future uncertainties and evolving system needs. Any procurement rounds beyond LCIS Phase 2 would remain subject to Regulatory approval.



LCIS Phase 2 – EirGrid Procurement process and timeline

1. **Qualification System publication**
    - EirGrid will establish a Qualification System.

2. **Qualification Phase**
    - To participate in the LCIS Phase 2 Tender, applications must be submitted no later than 30 days after the Qualification System is published.
    - To qualify candidates will need to meet a set of pass/fail criteria, including a minimum financial turnover and demonstration of previous experience.

3. **Pre-Tender Engagement with developers**
    - EirGrid will offer pre-Tender meetings to potential tenderers to provide guidance on the likelihood of connection, as outlined in Section 5.7.2.

4. **Tender**
    - Participation will not be permitted in certain substations where connection within the LCIS Phase 2 timeline is unlikely, as outlined in Section 5.7.3.
    - The full list of substations where connection of LCIS units will be excluded from the competition will be provided in the relevant Tender documentation. Note that the list will be updated from competition to competition.
    - Tenderers will be subject to pass/fail criteria and ranked based on cost.

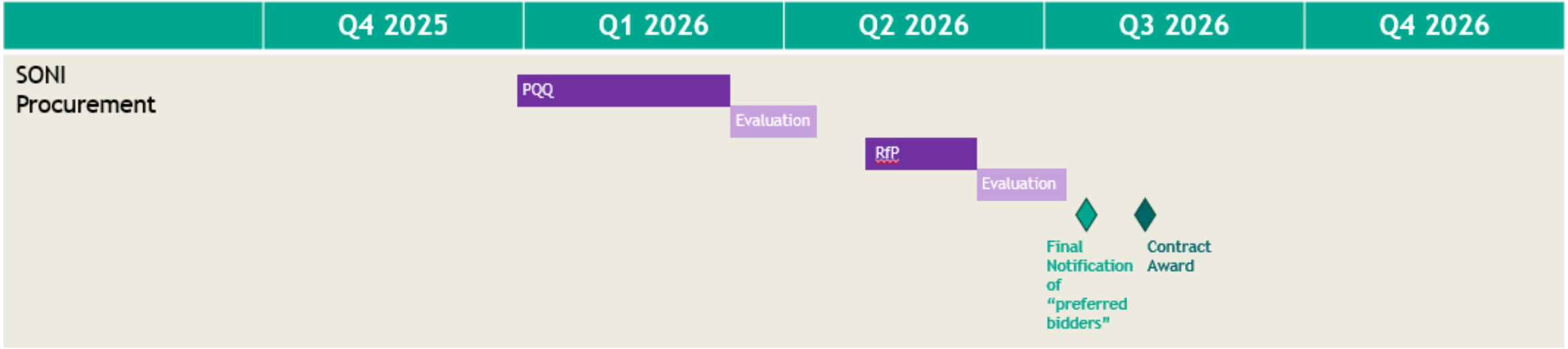
5. **Shortlisted tenders, Grid Connection Assessment and Best And Final Offer**
    - Following the evaluation of the Tender, EirGrid will shortlist a certain number of tenders who will receive a notification of ‘downselection’
    - Shortlisted tenders will then be provided with a more detailed Grid Connection Assessment.
    - The purpose of the Grid Connection Assessment will be to determine an indicative connection programme that will be used to determine the Target Energisation Date.
    - Shortlisted tenderers will be invited to submit a Best and Final Offer, in order to reflect the outcome of the Grid Connection Assessment.

6. **Notification of Preferred Bidders and Contract Award Process**
    - EirGrid will update the ranking with the BAFO and issue the notification of ‘preferred bidders’ status.
    - Preferred bidders will have 20 business days to sign their contract and achieve all conditions precedent to contract execution.

7. **Grid Connection Arrangements**
    - Successful tenderers who have signed a contract will be entitled to receive a connection offer outside ECP, as detailed in Section 5.7.5.

LCIS Phase 2 – SONI Procurement process and timeline

SONI will use a standard two-stage negotiated procedure, as used in LCIS Phase 1.



1. Standard Procurement Procedure

- SONI will use a standard procurement procedure in two stages

2. Pre-qualification Questionnaire

- To qualify candidates will need to meet a set of pass/fail criteria, including a minimum financial turnover and demonstration of previous experience.

3. Tender / Request for Proposal (RfP)

- Participation will not be permitted in certain substations as outlined in Section 3.3 of the consultation;
- Tenderers will be subject to pass/fail criteria and ranked based on cost
- An accepted connection offer and a detailed programme developed with a Final Energisation Date no later than 48 months after the tender closing date is required. The expiry of this connection offer must be beyond this 48 month period.

4. Notification of Preferred Bidders and Contract Award Process

- SONI will evaluate the tenders and issue the notification of preferred bidder status.
- Preferred bidders will have 20 business days to sign their contract and achieve all conditions precedent to contract execution.

LCIS Phase 2: Qualification criteria for EirGrid and SONI Procurement

Key Qualification criteria	Qualification threshold
Financial turnover [1]	The Candidate must have a **minimum financial turnover of €8.63m or £7.31m in one of the last 3 financial years**. This threshold has been calculated based on the potential annual LCIS payment to a 900 MVA.s unit (min inertia capability contracted) for the provision of the service, considering an offer price of 0.73€/MVA.s, multiplied by 1.5.
Previous experience	The Candidate must show that it has had a **significant role in delivering 2 major projects** for which the purpose is to generate electricity or provide system services through a connection to an Electricity Transmission System **in the last 7 years.**

Same approach as LCIS Phase 1

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LCIS Phase 2: Tender criteria for EirGrid and SONI Procurement

Award Criteria	Description	Weighting
1. Technical requirements	Tenderers will be required to meet the minimum requirements, as outlined in Section 3	Pass/Fail
2. Planning, Property and Access Rights	**EirGrid Procurement:** Tenderers will need to have final grant of planning permission and all necessary property and access rights, as detailed in Section 5.4.4.1 **SONI Procurement:** Tenderers will need to have grant of full planning permission and all necessary property and access rights, as detailed in Section 5.4.4.2	Pass/Fail
3. Grid Connection (for SONI Procurement Only)	**SONI Procurement:** Tenderer must have an accepted connection offer and a detailed programme developed with a Final Energisation Date no later than 48 months after the tender closing date, as detailed in Section 5.4.5. The expiry date of the validity of this connection offer must fall beyond this 48-month period.	Pass/Fail
4. Scalar Adjusted Offer Price	Tenderers shall provide an Offer Price in euro per Mega-Volt-Ampere second per hour (€/MVA.s/hr) not exceeding the Price Cap when adjusted by the applicable Product Scalar, as detailed in Section 5.4.6	Pass/Fail
5. Legal	Tenderers shall accept the contractual conditions.	Pass/Fail
6. Cost	Tenderers shall provide an Offer Price in euro per Mega Volt-Ampere second per hour (€/MVA.s/hr) and provide the estimated energy consumption for 2 operating points. Based on this information a Cost for evaluation will be calculated as further detailed in Section 5.4.7	100%

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LCIS Phase 2: Scalar adjusted Offer Price & Cost Award Criteria

Scalar Adjusted Offer Price

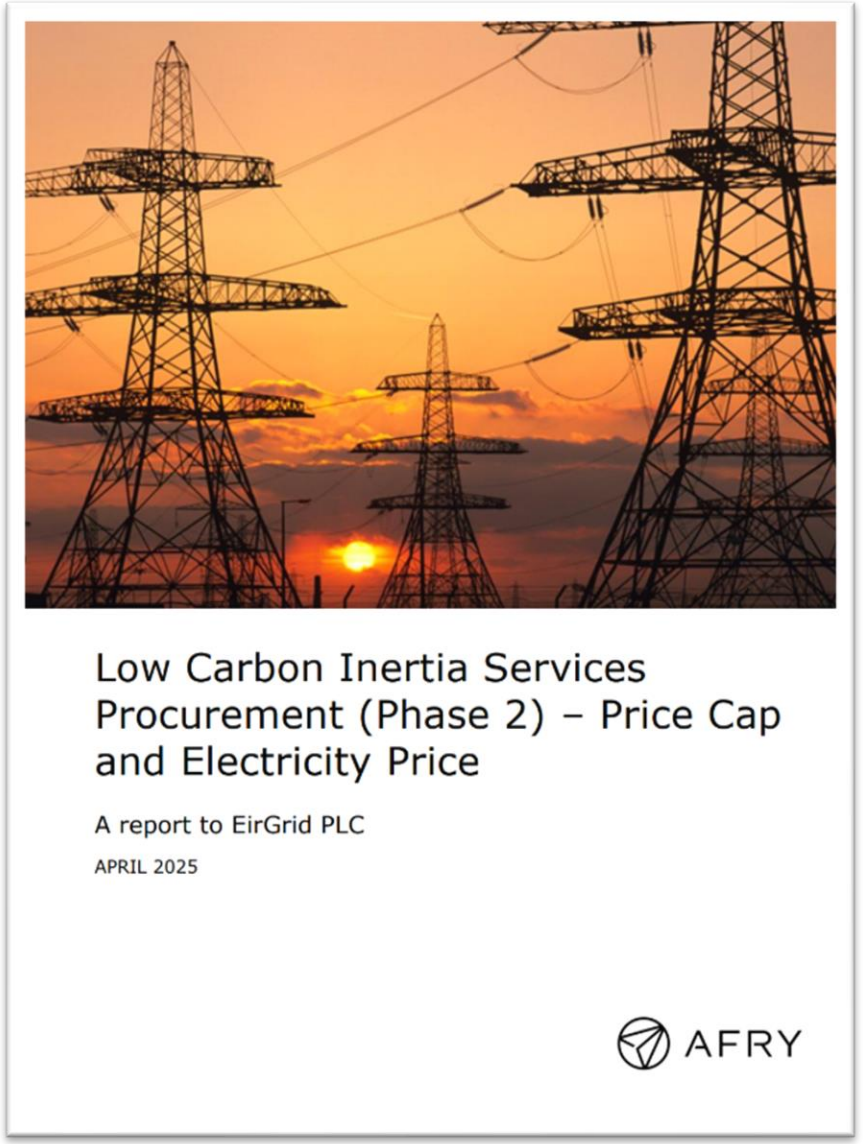
	EirGrid Procurement	SONI Procurement
Price cap	€1.81/MVA.s/h	£1.54/MVA.s/h

*Scalar Adjusted Offer Price = Offer Price * Product Scalar*

Scalar Adjusted Offer Price ≤ €1.81/MVA.s/hr or £1.54/MVA.s/hr

Offer Price and Cost for evaluation

- Single Offer Price per unit of inertia (MVA·s/h). Multiple bids will not be accepted.
- Pay-as-bid approach
- The cost to be used for the evaluation will be based on the Offer Price plus the estimated cost of imported energy, expressed in €/MVA.s or £/MVA.s per hour.
- The imbalance price to be used for the purpose of factoring the cost of imported energy into the tender evaluation is €119.9/MWh in Ireland and £101.6/MWh in Northern Ireland.



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Consultation Responses

Responses due by 5 September 2025 at 17:00. Please submit your response via the relevant portal:
EirGrid consultation portal
SONI consultation portal

Pre-engagement regarding grid connection feasibility

SONI encourages prospective tenderers in Northern Ireland to engage early to discuss with the connections team (connections@soni.ltd.uk) the feasibility of meeting this criterion and to better understand potential grid connection options and planning/consents requirements.

EirGrid invites prospective tenderers in Ireland who can provide evidence of a planning application for a device capable of delivering LCIS to contact the connections team at info@eirgrid.com by the 31st of October 2025. Upon contact, EirGrid will provide the necessary forms to be completed in order to schedule meetings.

Q&A Session