



Low Carbon Inertia Services Phase 1 Procurement

Information Note

SEM-24-074

29 October 2024

Glossary of Terms and Abbreviations

Abbreviation or Term	Definition or Meaning
TSO	Transmission System Operator
LCIS	Low carbon inertia services
RfP	Request for Proposal
RA	Regulatory authority
SEM	Single Electricity Market
MVA	Megavolt-amperes

1. Background

Carbon-intensive, synchronous generation inherently provides stability services and transitioning to increased levels of renewable and non-synchronous generation creates system stability challenges. Low Carbon Inertia Services (LCIS) such as synchronous condenser technology, can absorb or produce reactive power on the electricity grid to provide inertia. LCIS reduce the carbon emissions required to maintain a stable system and security of supply, allowing for more non-synchronous generation to be connected to the system, and reducing the minimum number of conventional units needed on the system.

In SEM-21-021, the SEM Committee requested that the transmission system operators (TSOs), consisting of EirGrid and SONI, carry out an evaluation and bring forward proposals for a fixed term procurement, in relation to LCIS. The aim of the procurement was to reach renewable targets and enable a greater amount of renewable generation onto the system, through procuring services, traditionally provided by thermal units, such as inertia, from low carbon sources. Following the SEM Committee's Decision, the TSOs conducted a consultation on the procurement of LCIS and based on responses to this consultation, submitted a recommendation paper to the RAs on LCIS procurement. The SEM Committee published a Decision paper (SEM-23-002) on the procurement of LCIS, based on the consultation, consultation responses and the TSOs' recommendation .

SEM-23-002 decided LCIS would be procured through a phased approach, with a targeted volume of 10,000 MVA.s, in Phase 1, to meet LCIS requirements for 2026. The decision outlined a targeted volume of 4,000 MVA.s, in Northern Ireland and 6,000 MVA.s, in Ireland, in Phase 1. Three zones were defined and incentivised via locational scalars, although procurement and tendering outside these zones was also possible.

The TSOs then conducted a second consultation focused on the contractual arrangements for LCIS and submitted a Recommendation Paper to the SEM Committee. This led to approval of the TSOs' recommendations, the LCIS Agreement principles, and the LCIS Protocol document in SEM Committee Decision

SEM-23-064. This Decision defined the tendering process, contract duration and payment information, and technical requirements for LCIS.

The TSOs then began the request for proposal (RfP) stage of the LCIS procurement process, on 6 December 2023 and this closed on 26 January 2024. Notifications were then issued to preferred bidders and contracts were signed, in both Northern Ireland and Ireland. This information note is an overview of the outcome of Phase 1 of this procurement and details the high-level next steps for Phase 2 of procurement.

2. Phase 1 Procurement

The LCIS procurement successfully contracted 10,963 MVA.s in total, with 6,963 MVA.s in Ireland and 4,000 in Northern Ireland. This equates to approximately 45% of the system's current inertia floor requirement and represents a substantial achievement in lowering carbon emissions from the electricity system, in both Ireland and Northern Ireland. Six contracts were executed, with four in Ireland and two in Northern Ireland. Importantly, five out of six of the contracted assets are located within the three incentivised zones, thus fulfilling the procurements locational requirements. The contracted assets and incentivised zones can be seen in Figure 1 below.

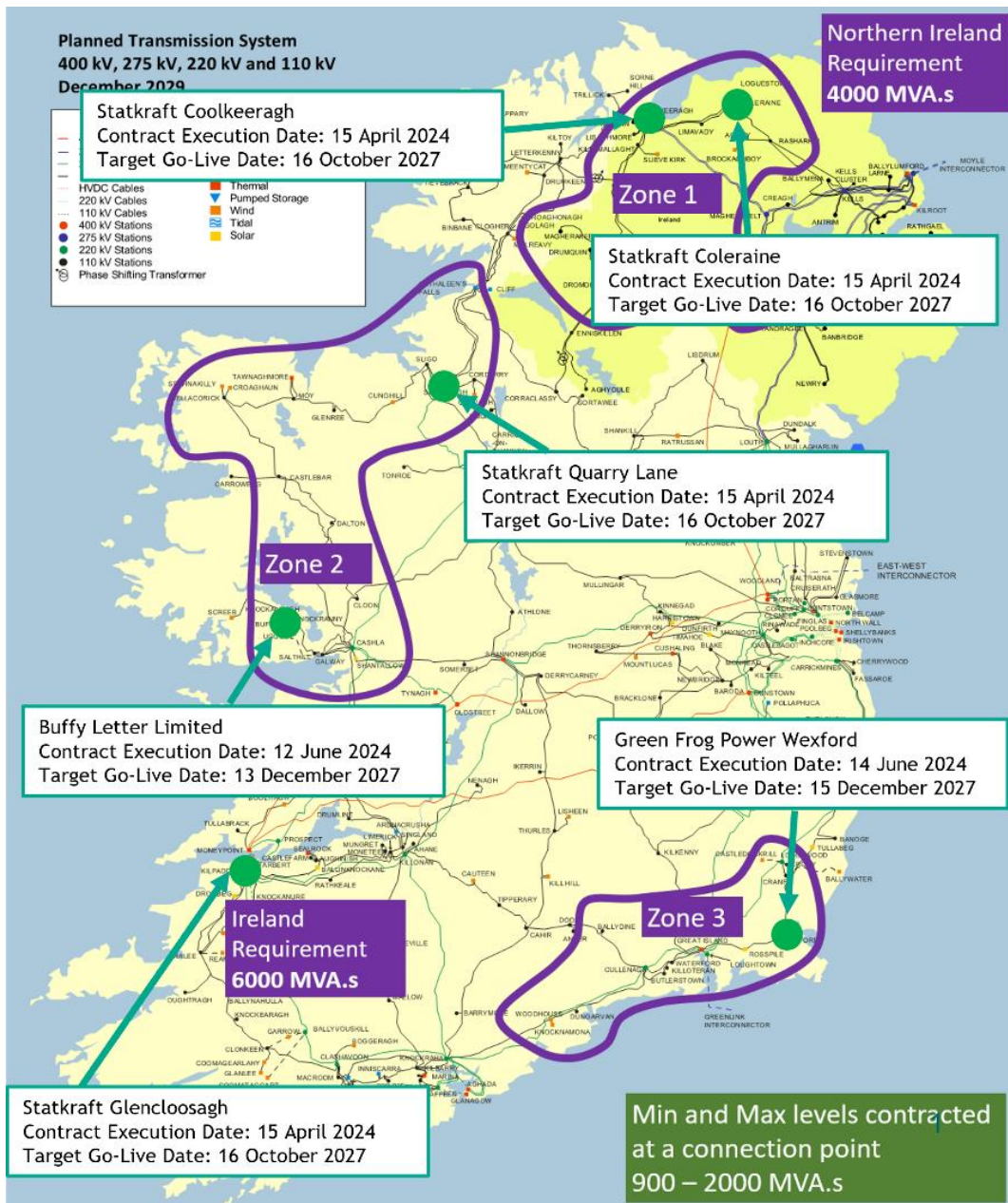


Figure 1. Map of procured assets in LCIS Phase 1 Procurement.

The contractual target go-live date for all 6 contracts is set in 2027, with a six-year duration, set to end in 2033. All successful bids were procured under the set price caps of €2.02/MVA.s, per hour, in Ireland and £1.79/MVA.s, per hour, in Northern Ireland. The total combined contract value, covering both jurisdictions, was approximately 29.5% of the total contract value, if the total volume procured had been awarded at the price cap (assuming 6-year contracts and 100% availability).

The timeline for Phase 1 of the procurement began in September 2021, with the TSOs conducting studies to identify the technical and locational requirements for LCIS. The consultation process for Phase 1 began in June 2022, with the final SEM Committee decision published in August 2023. The procurement process began in July 2023 and the initial notification of outcomes was issued to all tenderers in March 2024, with the contract award process completed in April 2024 in Northern Ireland and in July 2024 in Ireland. The timeline of the procurement in total, from initial studies to the completion of the contract award process, took just under three years.

The SEM Committee welcomed the TSOs' engagement with both stakeholders and the Regulatory Authorities (RAs) during this process. The TSOs engaged with stakeholders with a LCIS Webinar, in December 2021 and through two public consultations on Phase 1, which included webinars and bilateral meetings as requested. The TSOs also engaged with the RAs in the recommendations and decision drafting process, ensuring RA considerations were thoroughly explored and by working collaboratively with RAs to reach project timelines.

Overall, the Phase 1 LCIS Procurement was successful in its approach and its completion. The target of procuring 10,000 MVA.s of LCIS in both Ireland and Northern Ireland was reached and exceeded and this will allow for increased renewable generation, while lowering the reliance on carbon-intensive technology to provide inertia to stabilise the system and ensure security of supply. The SEM Committee welcomes the TSOs following a similar working process for Phase 2 of the procurement, with the aim to procure further LCIS and allow for increased renewable generation on the electricity system.

3. Phase 2 Procurement: Next Steps

The TSOs are currently undergoing studies for Phase 2 of the LCIS procurement to define the system's inertia requirements for 2030. Similar to the Phase 1 procurement, the RAs will work closely with the TSOs in defining benefits to consumers and efficiently procuring necessary services for decarbonisation. The TSOs will conduct a public consultation for Phase 2, which will result in a SEM Committee Decision on this procurement.

The SEM Committee recognises the success of Phase 1, of the LCIS procurement and welcomes the TSOs' commitment to fulfilling system inertia needs through low carbon sources. This procurement exceeded its targets and will help to facilitate the TSOs' and the RAs' ability to deliver both governments' ambitious targets to transition to an 80% share of electricity generation capacity coming from renewable sources, by 2030. This will allow the electricity system in both Ireland and Northern Ireland to further decarbonise and work to achieve emission targets in both jurisdictions.