



Sent by email: connections@ofgem.gov.uk

11th February 2025

Dear Mr. MacMillan,

R.E: Connections end-to-end review – consultation

Storegga is a Scottish developer of low carbon solutions. As an SME, with no legacy assets, we offer a unique perspective on the development of the UK's hydrogen industry, and on the interactions between hydrogen production and the national electricity grid. Our investors - GIC, Macquarie, Mitsui, ADNOC, M&G and Snam – are some of the largest in the world and have a global portfolio of projects.

You will be aware that Cromarty Hydrogen is one of the first 3 HAR1 contracts to have signed a contract with the Low Carbon Contracts Company in December - a first in providing government-backed revenue support to de-risk investments in green hydrogen production. Despite this achievement, we look forward with ambition to further project roll-outs and the creation of a self-sustaining hydrogen market contributing to the Government's clean energy and growth missions. To achieve this, it is critical to facilitate a grids connection process that is flexible, efficient, and cognisant of the UK's strategic energy objectives. Such a process should recognise important demand-side connections and their role in balancing a clean energy mix, and afford them realistic timescales for connection, that are at least aligned with the timescales stipulated by other Government support mechanisms, such as the Hydrogen Allocation Rounds.

You will see we have not attempted to answer individual questions, and rather have focussed on providing anecdotal examples of connection challenges that we face as hydrogen production developers. I hope the views and evidence included below are helpful in providing policy context. My team and I would be delighted to answer any additional questions you or colleagues may have, or indeed to support your policy thinking more generally – please let me know if this would be useful for you.

Yours sincerely,

James Acord

Policy Lead

Theme 1 - Visibility and accuracy of connections data and network capacity

Storegga's Response: As a hydrogen developer, Storegga welcomes Ofgem's focus on improving the customer outcome. As you know, hydrogen is set to play a vital role in enabling a more flexible and sustainable energy network. To support this transition, we urge reforms to the grid connection process that prioritise strategically important demand-side connections. In this context, we generally welcome the ENA's approach to reducing queue times and associated project costs, and reducing the number of speculative applications.

Our hydrogen projects are specifically designed to utilise existing surplus (curtailed) energy from wind assets, such as ScotWind projects, which is expected to generate significant curtailed capacity. Our Hydrogen Allocation Round (HAR) 1 project (Cromarty Phase 1) and 170MW+ of HAR2 are ideally located near these assets. We are engaging with SSE(N) to explore distribution level participation in capacity markets around the key Beauly and Inverness substations and with NESO on potential demand services to mitigate constraints on the grid, particularly above grid line B6. While these capacity market measures are welcome, they are of little benefit if hydrogen projects cannot secure timely connections. Such connections are essential to provide much-needed power and to enable a molecule export route for Scotland's wind generation, helping to alleviate pressure on the already constrained interconnectors. We therefore urge Ofgem to differentiate and prioritise strategically important demand-side connections in the process, recognising their role in balancing a clean energy mix.

We also recommend further adjustments to the process itself. Firstly, we would welcome a comprehensive user-friendly tool providing visibility of substation capacity across the UK, similar to the UK Power Networks Open Data. Such a resource would greatly assist developers in planning and decision-making. Secondly, we are concerned about the level of detail required for applications given the tight timelines and expenditure constraints imposed by the HAR process on Hydrogen developers. HAR rounds operate on compressed timelines, moving quickly from shortlisting through due diligence to funding award/development. Grid connection acceptance is a key requirement for a credible application. However, the more detail required for a grid application, the higher unrecoverable risk development expenditure is required by a hydrogen developer. This creates a substantial financial risk, particularly for early-stage projects. Hydrogen will play a crucial role in enhancing energy system flexibility, and we believe it is essential to create a supportive environment for hydrogen developers. To enable this, we urge Ofgem to streamline the grid connection process, making it more efficient and less burdensome.

Theme 2 - Improved standards of service across the customer journey (not including “minor connections”)

Storegga Response: Storegga currently has 4 grid applications in place all with SSE(N) at distribution level. Storegga has had some significant issues with getting the required Transmission Network Assessments started, largely due to problems with staffing levels at SSE(N) distribution.

Given the scale of project we are aiming to develop (a minimum of ~30MW of electrolyser capacity / ~45MVA), we often reach the threshold where a transmission network assessment is required. In reality, this project should ideally be connected directly to the transmission network. However, the current transmission timelines are currently incompatible with the HAR deadlines for commencing production.

Hub	Site	HAR Round	Capacity (MW)	Connection Size (kV)	SSEN Reference	Transmission Network Assessment?	HAR 2 Compliant?
Speyside	Ballindalloch	2	70	90	FSB680	Yes	Yes
	Rothies	3 (Planned)	70	96	FBU060	Yes	N/A
Cromarty	Muir of Ord	2	35	46	FCS455/1	No	Yes
	Longman	2	50	60	FCS462/1	Yes	No

We have had one particular issue surrounding DNO / TO interaction that we think is a useful case study demonstrating how lack of interaction between DNO / TO is causing delays and sub-optimal outcomes. It relates to our Speyside Drumbain Farm project which Storegga intends to put into HAR3.

Storegga approached and had a joint meeting with both SSEN Distribution and Transmission to assess the most suitable network and location for connection. Following discussions, SSE(N) suggested that connecting at distribution level to a new substation to be built approximately 3km away would be the best option. However, when the formal connection offer was received, it instead proposed a connection requiring a 15km cable run at a cost exceeding £20 million – presumably due to conflicting regulatory signals around network investment and standards of service.

A more integrated and coordinated approach between TNOs and DNOs would support timely project delivery and reduce unnecessary financial burdens on developers.

Theme 4 - Quality of connection offers and associated documentation

Storegga Response: Our main challenge throughout the application and offer acceptance process has been a series of changing connection dates. The timelines for securing a connection seem to be highly variable, which is particularly concerning given the tight production timelines required for hydrogen projects. For example, for HAR2 there is less than five years from the announcement of a Hydrogen Allocation Round to the commencement of production.

Those compliant from our current applications (see above table) are approaching the critical deadline for the production window. One of the main challenges we face is the Transmission Network Assessment, which has proven difficult to initiate, further delaying progress.

Theme 5 – Ambition of connection offers

Storegga Response: As a pure play, scale up green hydrogen producer, Storegga welcomes measures that shorten both transmission and distribution connection timelines. Given the tight timelines for hydrogen production (for HAR2, under five years from announcement of a Hydrogen Allocation Round to production), distribution networks struggle to meet the connection timelines required by the HAR process.

If the scale of hydrogen connections is to grow further, the commonly cited 7–10-year timescale is not tenable. These delays are already hindering the development of green hydrogen projects, and without significant reform, the challenges will only intensify.