Deadline 6 submission from James Hewitt

If the Secretary of State were minded to grant this DCO, then it would be prudent to include a Grampian condition.

Such a condition was advocated by the Examining Authority (and others) for the DCO concerning the onshore component of the Viking CCS project. It is reflected in The Viking CCS Carbon Dioxide Pipeline Order 2025 (dated 09 April 2025), whose clause 20 states:
No part of the authorised development may commence until details of the following have been submitted to and approved by the Secretary of State —
evidence that a carbon dioxide storage permit for the offshore pipeline and storage works is in place;
evidence of any pipeline works authorisation required by section 14 of the Petroleum Act 1998 for the offshore pipeline and storage works.

The Viking CCS project is one of the two with which the Applicant has a Memorandum of Understanding of some sort for purposes of disposing (but not necessarily permanently or regardless of (i) price, (ii) when and (iii) the flow rate and quality of CO2 supplied).

The first phase of the other project – Northern Lights' Longship – is already fully committed. A further phase might not proceed. Reasons include a slump in the market for carbon dioxide removal credits and offsets - undermining the commercial viability of CCS projects. This reflects flux in US government policy – which has prompted large USA-based enterprises tending to withdraw, having previously been leading purchasers of such credits and offsets.

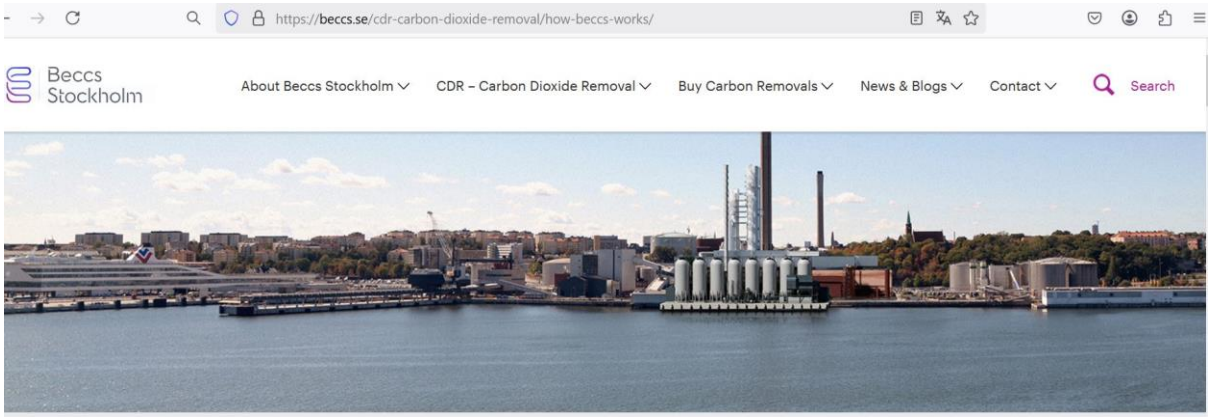
Stockholm Exergi, a leading supplier to that first phase, has recently committed to proceed with construction of an energy generating station whose fuel would be woody biomass. If it works as proposed, it would supply roughly 800,000 tonnes of CO2 each year to the Northern Lights project.

In contrast with the Applicant's projections for CO2 balance (which extend well beyond 2050), the agreement is for only 15 years. Also, the CO2 capture technology (Hot Potassium Carbonate) differs from that (based on amines) proposed by the Applicant – and may lessen not only the amount of land and energy required for solvent regeneration (especially in combination with catalysts) but also the potential harm caused by amines to equipment and health. *Reference: "CO2 Absorption Using Potassium Carbonate as Solvent" D Karali et al (2022) and Andritz Catacarb.*

The land take for CO2 storage sought by the Applicant could be considerably reduced if marine transportation systems such as proposed in the Netherlands are adopted. These involve a sort of conveyor belt operation comprising Articulated Tug Barges and offshore Tower Loading Units. Storage barges of capacity 4,000 tonnes of CO2 would be moored adjacent the CO2 capture facility and, when nearly full, they would be replaced by an empty barge and the full one would be moved to near the designated injection well, where it would be moored until its load was discharged. *Reference: Carbon Connections and MARIN, as in MARIN report 137 (dated October 2023) and in the second of the UKCCSRC's European CCS Webinar 2025 series (on 18 March 2025).*

The capacity of those barges is a little less than the 7,500 tonne capacity planned for temporary transit storage (in onshore tanks of 9,000 tonne capacity, at Øygarden) for the Longship project. *Reference: section 3.8.3.4 Storage Tanks on page 100 of Equinor's Northern Lights Project Concept report RE-PM673-00001 (2019); also page 16 of Northern Light's Annual Report 2024 (April 2025).*

The Applicant insists that it will not establish the temporary CO2 storage tanks adjacent the pier from which the CO2 will be shipped for supposedly permanent disposal. Stockholm Exergi plans to do the opposite – as the following screenshot from its website shows – implying that doing so not only rational and commercially feasible, but also a viable alternative to causing irreparable (and, given its vulnerability, probably extensive) harm to Crossness Nature Reserve.



Northern Light has found that current standards (implicitly best available commercially viable technology) for the purity of CO2 supplies are insufficiently demanding. Contaminants are likely to be heterogeneous in CO2 captured from the burning of the sort of waste which the Applicant relies on. Much of this is of biogenic origin, much of which is paper-based, deriving from forest land outside the UK.

In terms of physical quantity, official trade statistics (UK Trade Info or Eurostat) indicate that Finland, Latvia and Sweden are leading suppliers of the UK's imports of sawnwood and paper. The UK is a leading destination for those countries' exports of paper and/ or sawnwood. Sawnwood and paper together account for most of the total of each of those three countries' exports of wood-based products. Their forest land is no longer or ceasing to be a carbon sink – despite being certified as sustainably managed. As such, much of the UK's biogenic waste should not be deemed carbon neutral – the UK should not credit itself with negative emissions for the CO2 stored in UK.

Land take is central to objections to the Applicant's proposal. The area of land sought by the Applicant is said to be based on that used by other post-combustion CO2 capture projects of comparable scale (but which burn homogenous fuel). There are only two worldwide. Both appear to have been designed without land availability being a significant constraint. Presumably designed and subsequently modified to reflect or develop Best Available Technology, their CO2 capture rates during sustained routine operation have rarely exceeded the minimum required to meet the UK government's target for Net Zero by 2050. (The Carbon Budgets proposed by the Climate Change Committee reflect that date, not when the UK's fair share of the global carbon budget will have been exhausted.)

It is unclear what if any protections the Applicant will agree so that no additional land is demanded once detailed design is complete or if the design requires modification once the project is fully operational (when perhaps hundreds of million UK£ would have been otherwise fruitlessly expended, and irreparable damage may have been caused to the Crossness Nature Reserve and related land on which it depends).