

The UK Government [Net Zero Strategy](#) has set out how the UK will deliver on its commitment to reach net zero emissions by 2050. A major expansion in renewable energy is needed to help reach this target, with a particular focus on offshore wind projects. This [Fisheries Management and Innovation Group](#) bite-size meeting looked at the impacts of offshore wind farms and offshore floating wind technology on fisheries interactions. It focussed on how ecological change and the presence of infrastructure affects fishing activities and fishing behaviour, as well as looking at the resulting economic and cultural effects on fishing and coastal communities.

Spatial design in the Crown Estate. Sion Roberts, Crown Estate (TCE).

- The Crown Estate was established by an Act of Parliament in 1961. The Crown Estate is responsible for management of a diverse portfolio across England, Wales, and Northern Ireland, to create lasting and shared prosperity for the nation. They play an active role on the seabed around England, Wales, and Northern Ireland, including offshore energy, marine aggregates, cables, and pipelines. They also manage around half of the foreshore, the area between mean high and mean low water.
- Constraints Model - uses relevant data layers to characterise the sea in area in terms of favourability. This includes: fishing activity (Marine Management Organisation (MMO) Fishing Intensity Data Layer); navigation intensity; environmental data; visual sensitivity; recreational usage.
- The Data Layers are weighted, before being used in the model to define areas of higher or lower favourability. Region refinement refines the outputs from the constraints model into more coherent areas, on the basis of stakeholder dialogue and consideration of consenting constraint.
- **Offshore Wind Leasing Round 4.** Following the commercial tender, preferred projects were announced. Six areas selected as preferred projects, now subject to plan-level Habitat Regulation Assessment (HRA). Total potential capacity of just under 8GW. Following completion of the plan-level HRA any projects offered an agreement for lease will enter the planning process.
- **Crown Estate role in unlocking clean energy.** Balance needs of the environment with the needs of the users of these marine resources.

Discussion

- **Q. Just talking to the NFFO doesn't talk mean you are talking to the smaller fishers. Defra and the MMO have set up regional meetings with local fishermen, but you are not necessarily talking to everyone. Is there a strategy to improve this engagement?**
A. We have recognised that this is an issue in the last few years. Engagement with NFFO does not necessarily mean engagement across the whole community. In the early stages engagement must be high level due to confidentiality and other issue. We want to see much better engagement with fishing community to drive better outcomes.
- **Q. We know that fishing data is requested from the MMO. How confident are you that this reflects current fishing patterns, due to migration and other factors, and that this leave fishers with scope for the future?**
A. This data does have inherent weaknesses. We rely on the MMO Fishing Intensity Data Layer which goes back five years but is not very detailed. We need to look at the finer detail. We are not 100% that this tells the whole story, and we are looking at this more closely. We are also looking at modelling more to see what drives future fishing.
- **Q. How much space do you estimate will be taken up in the Celtic Sea with the floating offshore wind structures?**
A. This will depend on likely density of the structures – 4 Gigawatt (GW) is the aim – so a fairly low density over 1000 km².

- **Q. Why are spawning stock areas ever considered as potential development areas?**
A. They are part of the wider marine environment. We need to balance potential short-term impact on the spawning stocks versus potential long-term overall benefit.
- **Q. Can you explain how your leasing process fits into Marine Planning. I think a proper evaluation of the impacts of lease areas on fisheries should have been part of the wider Mar Planning process?**
A. Marine Planning is undertaken by the Marine Management Organisation, who have produced the regional marine plans. We work within the context of these marine plans, and wider government policy to outline the offshore wind ambition. It is worth noting that all of the projects that progress to agreement for lease will be required to enter the formal consenting process, which will include requirements for assessment of potential impacts on fisheries. This consenting process is also open to public consultation (as Monica is currently describing). I should say, Marine Management Organisation or other marine planning authority in the devolved administrations.
- **Comment.** In the South West skippers from different sectors have supplied data straight from their logbooks to show the main fishing areas along with AIS data. We need to find a way to capture static gear effort. Plotter data is used whenever provided, unfortunately it's quite difficult to collect. Perhaps MMO VMS AIS data compared with logbook entries to show fishing activity areas rather than steaming or transiting
- **Q. It would be helpful to have a simple process that all developers would have to follow in regard to industry engagement. Having a recognised process would give some assurance to the industry, and also allow sufficient time to respond to any developments and engage in the consultation period. We need formal guidance.**
A. We are looking at developing best practice guidance and how best to liaise with fishers. This is being led by Marine Scotland. Need better engagement throughout the whole process. Specific guidelines have to be the aim, but this does need a degree of regulation.

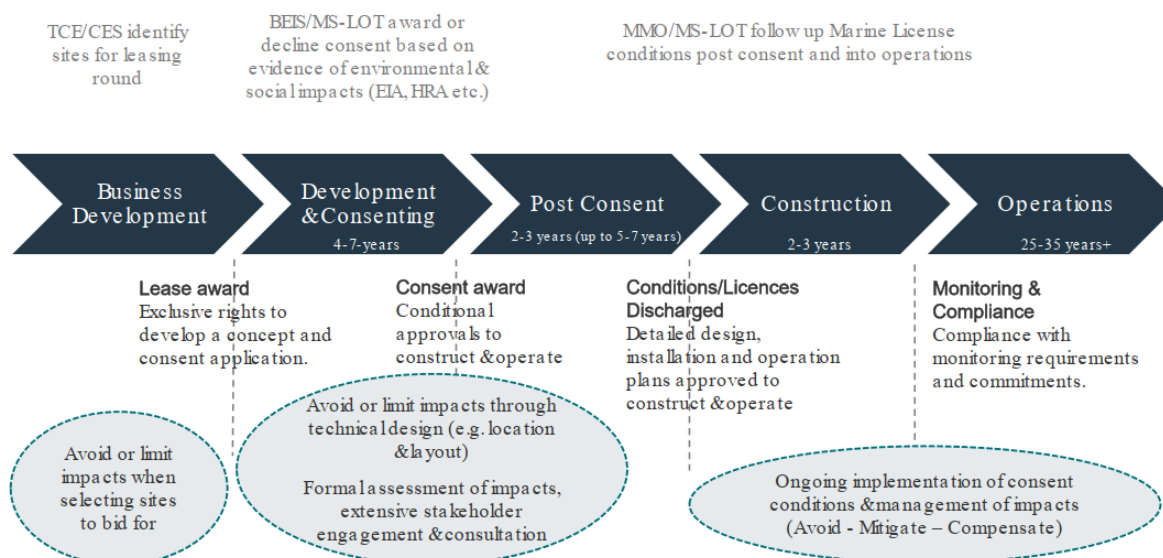
Links for further information

- [Crown Estate. Assessment for Offshore Wind: Resource and Constraints. Methodology Report.](#)

Offshore wind farm development & potential impacts on commercial fisheries – a developer perspective. Dr Monica Fundingsland, Equinor, Norwegian Offshore Developer, and a world-leader in Floating Wind technology.

- This included a brief introduction to Equinor UK offshore wind; the context for offshore wind in the UK; offshore wind farm development; offshore wind technologies; and the potential impacts on fisheries.
- Offshore wind in the UK – current position.
 - Approximately 10 -11 GW installed capacity UK-wide. There is a fast-growing area. It is estimated there is a further 4 – 5 GW under construction and over 20 GW in the planning phase.
 - TCE Round 4 (England & Wales) Feb 2021 - just under 8 GW awarded.
 - Crown Estate Scotland (CES) ScotWind (Scotland). Jan 2022. 10 -11 GW expected, 25 GW awarded, 15 GW of which is floating offshore wind.
 - CES Innovation and Targeted Oil and Gas (INTOG) leasing round anticipated for 3-4 GW to power Oil and Gas and innovation.
 - TCE Celtic Sea Floating Wind leasing round anticipated 2022/2023 for up to 4 GW.
- UK target is 40 GW installed offshore wind capacity by 2030 (including 1 GW floating)

Offshore Wind Farm Development



- **Potential Challenges.** Loss or restricted access to fishing grounds; displacement of fishing activities; adapting navigation/transit routes to fishing grounds; floating wind presents a greater challenge for pelagic and demersal trawling due to mooring lines and cables
- **Potential Opportunities.** Fish aggregation, spill over; presence of wind farm assets for first response rescue; adapting to more sustainable fishing methods; co-location of aquaculture.

Discussion

- **This is more of an observation than a question. For the catching sector the massive loss of grounds is not to be underestimated. Floating wind farms are massive areas. The displacement of parts of the fleet to other areas is also going to have an ongoing effect for years to come.**
- **Q. How do you get round the insurance for fishing in wind farms, because we have been told not to trawl in the Ramion wind farm by our insurance company?**
A. We need to investigate this more. This can come down to site-by-site conditions and could be dependent on how the cables are buried and the different cable configurations. This is a live topic which is being considered by Defra and there may be a legal review of liability. This needs to be addressed and is a wider issue.
- **Q. Is it possible for neighbouring developers to work together regarding cabling/land connections to minimise the impacts on fishing?**
A. In many instances we are required to work together, and this could be related to timing. In the UK there is competition for grid positions and there will be future need for collaboration on cable corridors. The ambition is there to do it. The Offshore Transmission Network Review will be considering opportunities for coordinated grid, the holistic network review is anticipated fairly shortly. Sometimes fishing is possible in a windfarm site, sometimes it's not. What are the different characteristics of a windfarm site or fishing types/gears which are able to continue in a windfarm site? More information can be found here: <https://www.gov.uk/government/groups/offshore-transmission-network-review>
- **Q. Is there a drive from developers to look at different mooring systems that are more fishing-friendly so that we can perhaps co-exist better?**
A. We have been asking the same question ourselves. This market is getting increasingly competitive. There needs to be much more discussion on this. The floating offshore wind industry is going to have to have closer conversations with the fishing industry.

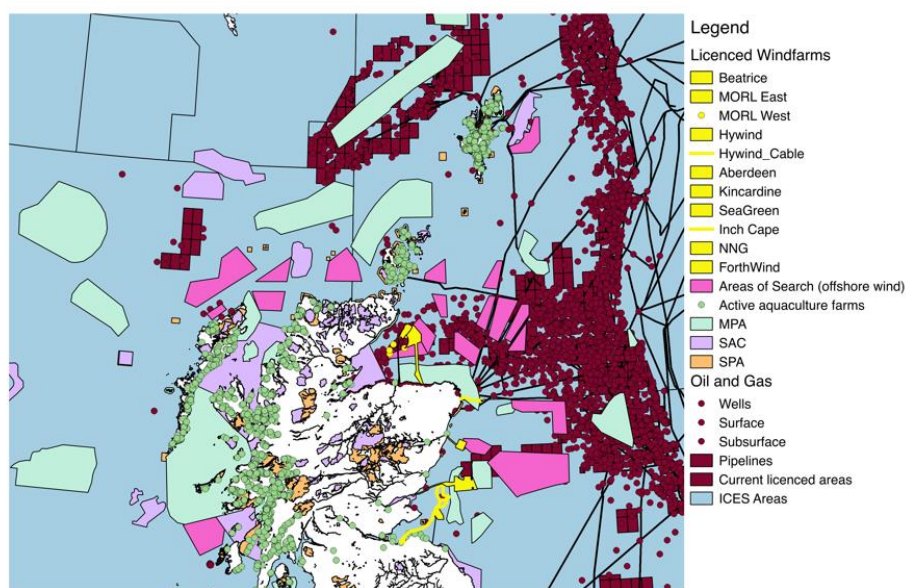
- **Q. What are the different characteristics of different wind farms where fishing is allowed?**
A. In the UK we can't restrict access into our wind farm areas. Fishing is not restricted. But in practice don't really have good overview of which fishing is taking place and how successful it is, and this needs to be looked at further.

Fishing in an ever-busier blue economy – the spatial squeeze. Raymond Hall, Renewable Energy Policy Officer, Scottish Whitefish Producers Association Limited.

- The UK's Exclusive Economic Zone is 737,077km² of the most prolific and sustainable fishing grounds anywhere in the world.
- There are many demands on this space: Oil and gas – exploration, production, decommissioning; Marine renewables; Subsea cables; Conservation sites – marine protected areas, HPMAs; Aquaculture – fish, shellfish, seaweed; Marine tourism and recreation; Other maritime traffic; Dredging and mineral extraction. The question is not can we co-exist? WE MUST co-exist.
- The spatial squeeze is already happening – and is going to get much tighter. No one sector has any more 'right' to Scotland's marine space than another. But we do need fair and equitable marine planning for co-existence. Co-existence must allow sectors to remain viable – 'fishing on a postage stamp' is not viable. Fishing produces low carbon, high protein healthy food – we are also part of the route map to net zero.

ALL MAPS
LAYERED APART
FROM INTOG
AND HPMAs

VESSEL
DISPLACEMENT
A HUGE
CONCERN FOR
THE CATCHING
SECTOR



Discussion

- **Q. What do you think is the priority to ensure that both fishing and renewables can have a mutual future?**
A. Co-existence is crucial. We need to protect the future of the fishing and renewable industries. Fishers know they have to engage with the developers, and they have to provide information. The two industries need to share information and understanding.

- **Q. How do we manage confidentiality for the fishing sector alongside having the right degree of information to inform spatial design?**

A. Every fisherman signed a Non-Disclosure Agreement with Marine Scotland. The data was then secured. The key is to ensure fishing data is anonymised. Every fishing vessel in Shetland has shared its fishing data. There is often a degree of uncertainty in EIA and EIA is de facto based on the precautionary principle.

- **Q. Are there any real alternative fishing techniques which could be used in windfarms instead of trawling (not thinking potting etc for crustacea) but things like auto jigging - or can it just not catch enough to be economic?**

A. Trials were due to take place, but Covid put a stop to those. It is unlikely that traditional fishing methods will be able to take place close to wind farms. A recent study with brown crabs also showed the impact of electromagnetic fields around the cable, whilst not killing the crabs, sent them to sleep so stopped them feeding the breeding. Most Electro Magnetic Field research has been in the lab, it's very difficult to study it in the field. We don't know enough. Cables are not just cables – there are different levels of power going through them. We do need to find out more though real-life in-situ research.