Options and opportunities for marine fisheries mitigation associated with windfarms: A brief outline of a new project

Dr. Rob Blyth-Skyrme, Ichthys Marine Ecological Consultants Ltd.

Background

Government has committed to the UK generating 15% of its energy from renewable sources by the year 2020 in order to reduce carbon emissions, combat climate change and secure the UK energy supply. A significant proportion of this renewable energy will come from windfarms sited off the UK coast. The establishment of windfarms at sea has the potential to cause disruption to commercial fishing activities, including through the loss of access to some fishing grounds for the operational life of the windfarm.

In light of the planned rapid growth of the offshore renewable energy sector, and in aiming to support and enhance commercial fisheries over the long term, this project will investigate options and opportunities to mitigate the impact of offshore windfarm developments on commercial fisheries. The resulting 'tool-box' of identified mitigation options, (such as those presented below), will be of use to developers, regulators, statutory advisors, fishermen and marine resource managers in discussions related to present and future windfarm developments, as well as for future consideration of marine spatial planning.

This project has been developed in collaboration with Officers from a number of Sea Fisheries Committees, and has been funded by COWRIE (Collaborative Offshore Wind Research Into the Environment). The project will consider issues of habitat distribution, fisheries biology and management, and will engage fishing and windfarm industry stakeholders to ensure the acceptability of the project findings.

Examples of possible mitigation options to be explored

The three examples below are **purely indicative** of the types of options or opportunities that will be thoroughly investigated with stakeholders during this project.

a) The release of large lobsters.

The release of egg-bearing lobsters is generally regarded as good fisheries practice, as it helps to protect proven breeding stock, and may enhance later recruitment to the fishery. If these female lobsters are also v-notched in the tail, they may not then be legally retained as catch until after the notch has disappeared, a process that may take up to three shell moults. During this period, these lobsters have the chance to spawn again.

As windfarms may be located in or near lobster fishing grounds, there may be opportunities for windfarm and fishing industry cooperation on work to enhance lobster populations. One option could be to pay fishermen the market price for egg-bearing lobsters to be returned. A further option would be to pay for all lobsters over a certain size to be returned. The advantage of the latter approach is that there would be incentive to release large lobsters of both sexes, so helping to ensure equal sex-ratios in the population. This approach is used in some successful lobster fisheries in other countries where a slot size (minimum and maximum legal catch sizes) is enforced. This work could be conducted as a study, with monitoring undertaken in an attempt to determine if there were any impacts on the lobster population, or simply as a fishery enhancement scheme.

b) The design and creation of artificial reef habitat.

Reefs or other undersea structures act as features of interest to many marine organisms, and typically attract and hold a range of commercially targeted fish and crustacean species. While there continues to be some scientific discussion about the role of artificial reefs in increasing fished stocks or in simply attracting animals from the wider environment, one of the potential benefits to fisheries of windfarms are the role that the turbine supports or any armouring may play in creating habitat for juveniles or adults of these target species.

As windfarms could act as artificial reefs, opportunities may exist for windfarm and fishing industry cooperation on the design of any requisite rock armouring (i.e. the shape of the armouring or on the particle size of the material used), or on the placement of any additional structures to support fishing activities. Such structures may attract finfish such as bass or cod, as well as crabs and lobsters. Again, this work could be conducted as a study, or simply as a fishery enhancement scheme.

c) Reducing the carbon footprint of fishing vessels.

The recent peak in fuel prices, together with our increasing knowledge of the limits on future fossil fuel availability and the realities of global climate change, has made it apparent that every industry must reduce their use of and dependence on fossil fuels in order to remain viable in the long term. The fishing industry is no different, although the viability of different fishing sectors (i.e. towed or static gear) is linked to the price of oil to varying amounts.

The expansion of the windfarm industry is intimately linked to global fossil fuel issues, and opportunities may therefore exist for this focus to be reflected in funding the conversion of fishing vessels to alternative fuels such as biodiesel. Depending on vessel age or sector, opportunities could also be sought to support the equipping of fishing vessels with more efficient, modern engines.

Additional funding considerations

While additional funding from external sources cannot be guaranteed, it seems likely that forward-looking, community-level projects should be strong candidates for match-funding from sources including the European Fisheries Fund and the Regional Development Agencies. The project will seek to determine the potential for additional, external funding to be obtained for identified opportunities.

Stakeholder involvement in the project

It is intended that the work is undertaken with the involvement of an expert panel, including individuals from the Sea Fisheries Committees, COWRIE, national fishermen's associations and statutory conservation advisors. As well as providing input at specific points during the project, the expert panel and other stakeholders will be invited to identify and develop mitigation options during a workshop in October.

Timescales

The draft report will also go out for consultation in February 2010, prior to the publication of the final report in March 2010.