All at sea: Welsh case study on marine renewable energy

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Executive Summary

INTRODUCTION

1) There is no single piece of legislation covering our marine environment. The law governing the protection and management of the marine environment is found in a large number of statutes, regulations and orders. In addition there is no marine spatial planning system akin to the system under the Town and Country Planning Act 1990 on land. This case study, illustrates the difficulties this legal and regulatory complexity creates and demonstrate how this fails marine stakeholders and not only marine conservation interests.

WALES: MARINE RENEWABLES

2) The construction and operation in Wales of any offshore renewable energy generation system (wind, tidal turbine or other technology) can have implications for nature conservation, fisheries and climate change policy, transport and shipping and energy policy. This involves many different Government departments and regulators at both the Welsh and UK level.

3) Somewhat bizarrely, the consents and permissions required for the first three offshore windfarms in Wales have not been sought under the same legislation. There are two recognised routes to the various consents and permissions required. Whichever route is selected by the developer, as the law surrounding construction in the marine environment was not developed with windfarms, or indeed any offshore renewable energy generation installations, in mind, these projects are caught by a variety of different legislation.

4) The application for the windfarm at Scarweather Sands off Port Talbot is being made under the Transport and Works Act 1992. An Inquiry is required the costs of which are expected to reach over £1 million alone. In contrast both applications for the windfarms at North Hoyle and Rhyl Flats were made under a different set of statutes based on the Electricity Act 1989 and the Coast Protection Act 1949.

5) Despite clarifying Guidance and the setting up of units within different Government departments to assist developers, there remains some confusion as to the licensing and consents process for offshore wind farms, tidal turbines or other such technologies within 12 nm. The law has developed piecemeal and not with renewable technologies in mind. Different government departments charged under different pieces of legislation have different responsibilities - the result is a lack of overall perspective and 'joined up thinking'. This threatens to stifle development and delay the achievement of targets for renewable energy generation.

6) The offshore renewables sector requires a more strategic approach from Government to enable environmentally sensitive development to occur with minimal bureaucracy. To achieve this will need new comprehensive legislation rather than merely the ad hoc plugging of perceived gaps in existing statutes and regulations. A single Marine Act could sweep away the current complex and ad hoc system of consents and permissions, which threatens to stifle the development of the renewable sector, and replace it with a streamlined system both clear to developers and other marine stakeholders.

MAKING THE CASE OF A MARINE ACT FOR THE UK

7) As reported by the Government's own Marine Nature Conservation Review (MNCR) "the management and consenting regimes for activities potentially damaging to the marine environment are largely sectoral and environmental considerations are predominantly incidental to the main purpose and powers of the bodies which operate them". The MNCR also reported "gaps in the regulation which if recognised have generally been filled in an ad hoc manner without reference to any overall framework".

8) For over a decade the marine environmental NGOs have argued for a simplification of the overlapping jurisdictions in the coastal zone and have put the case for a more integrated approach to marine policy.

9) In 2002, the Government re-iterated its commitment to an ecosystem-based management approach to managing the marine environment. Across a number of different sectors, it has either undertaken a review of, has committed itself to reviewing in the near future, or will alter the current regulatory frameworks. However there is a real danger that anything short of a Marine Act risks the same ad hoc filling of perceived gaps in regulation that the MNCR found.

In view of the case study, without a comprehensive review of the legislative basis for management of the UK's marine environment as a whole, from the highly dynamic land-sea interface right out to 200 nautical miles, leading to a comprehensive Marine Act, it is far from clear how Government can hope to deliver its stated aim of an integrated marine policy.

WELSH CASE STUDY: OFFSHORE RENEWABLE ENERGY

There is wide acceptance of the need to reduce our national reliance on fossil fuels for well-rehearsed geopolitical and environmental reasons. As part of that effort, as identified in the Government's recent Energy White Paper, greater emphasis is being given to the development of renewable energy generation capacity in the UK. This includes the development of offshore windfarms and other types of marine renewables such as tidal stream and wave energy. Wales has a natural environment that is ideally suited to renewable energy generation and aims to be in the forefront of the development of windfarms and other technologies[1].

As part of the first round of offshore windfarms in the UK, three windfarms have been proposed for Wales. These are at varying stages of development. They are at North Hoyle[2] and Rhyl Flats[3] off the north coast of Wales and Scarweather Sands, Swansea Bay on the south coast[4].

Legislation, consents and permissions - which route to take?

To begin the process of licensing new offshore windfarms, the Crown Estate, as 'owner' of the seabed out to 12 nautical miles, firstly pre-qualifies various developers (in terms of their financial backing and experience offshore) to apply for licences to develop on the sea bed. It then gives formal agreements for leases in relation to any developer wanting to undertake any activity on the seabed, such leases to be granted subject to the developer gaining all the necessary permissions and consents. The first round of opening up areas of the seabed for offshore wind farms was held by the Crown Estate in April 2001, during which 22-year leases were on offer. For this first round, developers put forward to the Crown Estate[5] the areas that they sought to develop and where subject to the Crown Estate's decision that, for the first round, farms would be limited to 30 turbines and a maximum size of 10 km^2.

It is important to note that the Crown Estate acts not as a regulator but as a landlord charged with seeking the maximum return from its estate - developers with a Crown Estate agreement for lease will still need a variety of consents and permissions. Somewhat bizarrely, the consents and permissions required for these three farms in Wales have not been sought under the same legislation. There are two recognised routes to gaining the various consents and permission required.

Whichever route selected by the developer, as the law surrounding construction in the marine environment was not developed with windfarms in mind, these projects are caught by a variety of different legislation. Table 3 gives an outline only of the complexity a developer can expect to encounter with the law in this field.

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[1] WWF (2002) Turning the Tide- Power from the Sea and Protection for Nature. A report by Iwan Ball of Cardiff University for the Joint Marine Programme of the Wildlife Trusts and WWF http://www.wwf.org.uk/filelibrary/pdf/turningthetide_full.pdf

[2] See www.natpowindpower.co.uk/northhoyle/northhoyle.htm

[3] DTI (2002) Government gives consent to offshore wind farm at Rhyl Flats Press Release P/2002/823

[4] United Utilities (undated) Scarweather Sands Offshore Wind Farm Swansea Bay

[5] www.crownestate.co.uk/estates/marine/windfarms.shtml 17/07/03

Consent / licensing requirements relevant to offshore windfarms in England and Wales [6]

Crown Estate requirements - the Crown Estate requires developers to pre-qualify in terms of their experience offshore and financial backing and will then enter into legal Agreements for Leases containing such development conditions as the Crown Estate sees fit to include. An example is the 3 year window developers have subsequent to the Agreement to get all other consents and permissions required and start development.

s36 Electricity Act 1989 - all offshore electricity generators of more than 1 MW have to secure Secretary of State for Trade and Industry's consent under s36, which may be granted subject to wide-ranging conditions. Note however that in Scotland, consent is only required over 50 MW as Regulations have yet to lower this figure as in England and Wales to 1 MW

s37 Electricity Act 1989 - the Secretary of State for Trade and Industry's consent is required for associated land-based overhead power lines for offshore windfarms

s5 Food and Environment Protection Act 1985 - the Secretary of State for the Environment, Food and Rural Affairs' or, in Wales, the Welsh Assembly Government (WAG)'s consent, is required for the installation of turbines, masts, foundations, rock armouring of cables, scour protection and any associated sea-based constructions (such as junction boxes, cable landings etc).

s34 Coast Protection Act 1949 - consent is required from the Secretary of State for Transport for any construction or deposit of objects or materials below mean high waters springs (MHWS) in order to allow consideration of any threats to navigation

s101 Water Resources Act 1991 - Environment Agency consents may be required if for example cabling is to be laid in under or over a 'main river'

s90 Town and Country Planning Act 1990 - the Secretary of State for Trade and Industry needs to give deemed consent for any associated onshore electrical substations etc under s37 EA 1989 OR as part of an application under an Order made under the Transport and Works Act 1992 (see below). Alternatively a separate application can be made directly to the local planning authority for relevant planning permissions for any onshore structures. Both routes are likely to generate planning conditions.

Transport and Works Act 1992 - an Order under this Act is an alternative route to applying for consents under the Electricity Act 1989 - such an Order made by the Secretary of State for Trade and Industry or WAG in Wales and is particularly useful where rights of navigation may be threatened and the developer wishes to see these over-ridden. The Order over-rides the need for EA 1989 consents or CPA 1949 consents, but it does not obviate the need for FEPA consents. Nor does the TWA apply in Scotland where a private bill under sections 28 and 29 of the Scotland Act 1998 would be required.

EIA Directive - this Directive requires that offshore wind farms, as Schedule 2 projects, will need a full EIA if considered likely to give rise to significant environmental effects. The DTI believes this, in effect, means all offshore wind farms require EIAs

Habitats and Birds Directives - where designated for nature conservation purposes, both Special Protection Areas (Bird Directive) and candidate Special Areas for Conservation (Habitats Directive) require there to be appropriate assessment of the risk of any development by the relevant nature conservation body (English Nature or the Countryside Council for Wales) to ensure there are no adverse effects or that there is no reasonable alternative to the development proposed.

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[6] Derived from DTI (2003) Guidance Notes: Offshore Windfarm Consents Process. Offshore Renewables Consent Unit January 2003

s28G and 28I Wildlife and Countryside Act 1981 - if a development involves Sites of Special Scientific Interest designated above Mean Low Water Mark this may require all other public bodies to consult with English Nature or the Countryside Council for Wales prior to granting any other consent which may impact on the SSSI.

Strategic Environmental Assessment Directive (2201/42/EU) - this Directive requires the DTI to consider the likely significant environmental effects of plans and programmes of developments - such as offshore wind farm licensing rounds - before they are implemented. The DTI has carried out a SEA for the areas offshore to be earmarked for windfarms in the 2nd Round.

This legislative complexity has not made public consultation easy for the developers of windfarms although they have collectively tried to take an initiative in publishing the Best Practice Guidelines; Consultation for Offshore Wind Energy Developments[7].

How this has affected windfarms in Wales:

Scarweather Sands

The application for Scarweather Sands was put to the Welsh Assembly Government (WAG) in January 2003 under the Transport and Works Act 1992 (TWA). An Inquiry is to be held in late autumn 2003 under the Transport and Works (Inquiries Procedure) Rules 1992 to enable a Planning Inspector to report to WAG on the proposed windfarm. The developer acknowledges that a primary reason for choosing the TWA route, rather than seeking consent under Electricity Act 1989 (EA), was in connection with the common law right of navigation and fishing.

The developer wanted to be sure that it had the legal powers to disrupt existing rights of navigation and fishing, rather than just getting consent under the EA which could leave it legally vulnerable in certain circumstances[8]. Indeed the draft Order [9] specifically establishes, in clause 26, an exclusion zone for navigation, trawling and anchoring and any breach of this clause would be a criminal offence.

In addition to any Order under the TWA, consent will need to be sought under FEPA for any works on the sea bed. DEFRA acts as 'agent' for WAG in considering the FEPA application.

At a pre-Inquiry meeting on 29th July 2003 held at Aberavon, the Planning Inspector made it clear that he expects a four-week Inquiry which will hear expert evidence on a number of issues relating to the project and legally represented objectors and supporters will be given the opportunity to cross-examine witnesses. The developers, United Utilities Green Energy plc, will also take the Inspector and cross section of supporters and objectors to a comparable Danish wind farm off Copenhagen. It is important to note the costs of Inquiry have to be met in full under the TWA rules by the developers. The costs of Inquiry alone are expected to be in the region of £1 million[10]. The final decision on whether to grant the Order under the TWA will be made by a Minister, in this case not the Environment Minister as his constituency is affected, and three Welsh Assembly Members.

To date the only on-site development has been the positioning of a meteorological tower on the Sands to gather windspeed and other data.

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[7] BEWA (2002) Best Practice Guidelines Consultation for Offshore Wind Energy Developments

[8] Pers comm. Marcus Trinick Bond Pearce Solicitors 4 August 2003

[9] Draft Scarweather Sand Offshore Wind Farm Order, published by Winckworth Sherwood 21 January 2003

[10] Pers comm. United Utilities Green Energy 29th July 2003.

Rhyl Flats and North Hoyle

North Hoyle is to be located 7.5 km off the North Wales coast off Prestatyn and Rhyl in water depths of 6 to 10 meters, generating up to 90MW of electricity. The turbines will be a maximum height to the tip of the rotors of 130 metres above sea level [11] Rhyl Flats will be 8 km off the North Wales coast and will generate up to 100MW of electricity using up to 30 turbines each up to 150 metres high[12].

In contrast to the application made for Scarweather Sands, the applications for the windfarms at North Hoyle and Rhyl Flats were made under a different set of statutes, requiring s36 consent under the EA, consent to erect and maintain the turbines and cables under the CPA and planning permission from the local authority for the land-based support structures under the TCPA.

As with Scarweather Sands, consent under s5 of FEPA for the turbines' support structures to be driven into the sea-bed and any scour protection around the base of each turbine was also required[13]. The FEPA licences were granted to North Hoyle in August 2002 and to Rhyl Flats in November 2002. It is interesting to note that the letters giving the licences state that "there are generic environmental issues associated with the construction and operation of offshore wind farms in the UK water for which there is at present a lack of knowledge"[14] [15].

The Second Round of Licensing

The Scarweather Sands, North Hoyle and Rhyl Flats windfarms are part of the first round of offshore wind farm licensing. In July 2003, the Government announced proposals for the second round of offshore wind farms, forecast to provide up to 6GW (gigawatts) of new energy generation by 2010, representing significant progress to renewables targets[16]. The three strategic areas identified by the Crown Estate and the DTI as appropriate for development are the Thames Estuary, the Greater Wash and the North-West. As will be required under European Directive from July 2004, these have already been subject to Strategic Environmental Assessment, to assess the impact of proposed development, before the sites could be offered for leasing. The Secretary of State has asked the Crown Estate to invite windfarm developers to tender for sites in all the areas.

The DTI has recognised that there needs to be "an effective and expeditious scrutiny process …to determine the environmental and other impacts of these projects as they are brought forward"[17] and has brought forward Guidance to attempt to explain the consents process to developers and others. There is also different Guidance published by DEFRA and the then Department for Transport Local Government and the Regions (now DfT) and as to the Environmental Impact Assessment requirements of both FEPA and CPA[18]. The DTI has set up an Offshore Renewables Consents Unit (ORCU) to serve as a focal point for applications. However there remains confusion as to the licensing and consents process for offshore wind farms. Indeed the DTI explicitly states that its Guidance "DOES NOT [DTI's emphasis] lay down a mandatory application process to be followed by a developer in order to obtain all the required consents for a proposed offshore windfarm development…..decisions on whether to follow this approach are a matter for developers"

There is however no obligation to apply for consents via ORCU. Although ORCU is specifically responsible for handling applications to the DTI under the EA, ORCU does not override the statutory roles of DEFRA and DfT with respect to consents under FEPA and the CPA. Consents required by

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[11] Innogy and National Wind Power (2002) North Hoyle Environmental Statement Non Technical Summary

[12] DTI Press Release (2002) Government gives consent to offshore wind farm at Rhyl Flats 26th December 2002.

[13] Innogy and National Wind Power (2002) North Hoyle Environmental Statement Non Technical Summary.

[14] MCEU(2002) Letter to NWP Offshore Ltd granting FEPA licence for North Hoyle 21 August 2002

[15] MCEU(2002) Letter to Celtic Offshore Wind Limited granting FEPA licence for Rhyl Flats 28 November 2002

[16] DTI Press Release P/2003/403 (14 July 2003) 'Hewitt announces biggest ever expansion in renewable energy'

[17] DTI (2003) Guidance Notes: Offshore Windfarm Consents Process. Offshore Renewables Consent Unit January 2003

[18] DEFRA, CEFAS, DTLR (2001) Offshore Wind Farms; Guidance note for EIA in respect of FEPA and CPA requirements. November 2001.

offshore developers under FEPA from DEFRA and CPA from DfT are now dealt with by another unit, an inter-departmental body called the Marine Consents Environmental Unit (MCEU). It is important to note there that some, but not all of MCEU's functions have been devolved to WAG, although in practice WAG may for the foreseeable future refer back decisions to MCEU.

That developers may be confused by and face large costs due to the current legal set-up is hardly surprising. It should be quite apparent that the need for consolidation of the consent system for windfarm development within territorial waters is urgent. This should also take into account new and emergent offshore renewable technologies such as sub-sea turbine arrays and other tidal flow generation systems[19].

Other renewable energy systems

It is of course not just windfarms that are threatened by this regulatory confusion. There are new and innovative technologies, such as sub-surface tidal current turbine systems, being developed that may be stifled by the lack of an efficient and streamlined regulatory framework within which to develop.

A tidal renewable energy system made by Tidal Hydraulic Generators is being piloted off Pembrokeshire[20]. Other sub-surface tidal systems are at the prototype stage. The potential for the widespread development of such systems in Wales has been highlighted by WWF in its recent report "Turning the Tide – power from the sea and protection for nature"[21].

However, the law has developed piecemeal and not with novel renewable energy technologies in mind. Different government departments charged under different pieces of legislation have different responsibilities - the result is a lack of overall perspective and 'joined up thinking' and a failure of some Government bodies with relatively narrow sectoral interests to 'see the bigger picture'. This threatens to stifle development of novel technologies, frustrate the efforts of developers and, in turn, deter financiers. This may ultimately delay the achievement of targets for renewable energy generation with all the concurrent negative effects that may entail [22].

Lessons from the licensing of windfarms and other renewable technologies

The experience with windfarms in Wales and from other renewable energy systems strongly suggests that a thorough overhaul of the current legislative and regulatory framework is needed. This must cover the whole range of offshore renewable energy generation. Developers currently have to satisfy an array of legislative and regulatory requirements many of which were not enacted with offshore renewable energy generation in mind. Nor does the current system lend itself well to the proper implementation of the Strategic Environmental Assessment Directive. The implications of that Directive for renewable energy generation and other offshore developments in relation to other marine users and on marine conservation suggest that a more far-reaching approach than an offshore renewable energy sector review should be considered.

How could a Marine Act help ?

A Marine Act could sweep away the complex and ad hoc system of consents and permissions that currently faces developers and replace it with a streamlined consent system that is clear to developers and other marine stakeholders alike. Importantly it could remove the threat posed by the current regulatory set-up, of stifling the development of a vibrant offshore renewables sector in Wales and the UK as a whole.

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[19] WWF (2002) *supra.*

[20] Tidal Hydraulic Generators Limited (undated) information factsheet

[21] WWF (2002) *supra.*

[22] Pers Comm Martin Wright, Director, Marine Current Turbines Limited 25th September 2003.