Marine Policy 58 (2015) 88–97

Contents lists available at ScienceDirect

Marine Policy

journal homepage: www.elsevier.com/locate/marpol

Attitudes and perceptions of fishermen on the island of Ireland towards the development of marine renewable energy projects

Kieran Reilly *, Anne Marie O'Hagan, Gordon Dalton

MaREI, ERI, University College Cork (UCC), Ireland

ARTICLE INFO

Article history:
Received 25 September 2014
Received in revised form
6 February 2015
Accepted 14 April 2015

Keywords:
Marine renewable energy
Fishermen
Attitudes
Perceptions
Co-existence

ABSTRACT

The expansion of the marine renewable energy (MRE) sector will increase pressure on sea space and existing maritime users which could potentially lead to conflict. Commercial fishing has been identified by many as the industry most likely to be affected by the development of MRE. In order to reduce the risk of spatial conflict and to enable decision-making based on the co-existence of the two sectors, it is important to gain a better understanding of the attitudes of fishermen towards the development of MRE projects in their locality. A survey was designed to provide quantitative information on fishermen's attitudes to marine renewable energy and the perceived impacts and opportunities. Three MRE developments which have been proposed around the island of Ireland (comprising Republic of Ireland and Northern Ireland) were chosen as case study sites in which to carry out the survey. The sites represent offshore wind, wave and tidal energy respectively and are in differing stages of development. In total, 104 complete surveys were conducted with fishermen located at ports in the vicinity of the case study sites. 40% of those surveyed agreed that it is important to develop marine renewable energy in their locality. A further 15% were neutral on this matter. It is encouraging for developers and policy makers that the majority of respondents (70%) were of the opinion that fisheries and MRE projects can co-exist.

1. Introduction

Marine renewable energy (MRE), defined as offshore wind, wave and tidal energy has the potential to be a key contributor towards achieving EU renewable energy targets for a number of countries. While there are a number of engineering and technical challenges for the MRE sector to overcome, of equal importance to the successful development of the sector are issues such as stakeholder acceptance. Due to issues surrounding the consenting process and public acceptance of onshore renewable developments, in particular onshore wind farms, developers and policy makers are increasingly looking to the marine environment for renewable sources of energy [1,2]. It has been suggested that offshore sites are less likely to suffer from public opposition and the Not In My Back Yard (NIMBY) effect [3–6]. Similarly, it has been argued that in comparison to land based wind farms, particularly in the UK and Europe, offshore areas are less likely to be in conflict with other activities [7]. However there is considerable potential for spatial conflict with existing marine resource users. The expansion of marine renewables will increase pressure on existing marine sectors representing a challenge for Maritime Spatial Planning (MSP) [8]. Commercial fishing has been identified by many as the industry most likely to be affected by the development of MRE [9–11]. The exact socio-economic impacts of MRE projects on fishermen are unknown, however there will likely be benefits and costs to fishing communities [12,13]. The successful development of the MRE sector will depend to a significant extent on the acceptance of projects by communities in general and relevant stakeholder groups such as fishermen.

The considerable interest and activity in MRE on the island of Ireland (comprising the Republic of Ireland and Northern Ireland) is largely premised on the scale of its resource [14–16]. Increasing the share of MRE is high on the policy agendas of the governments of the Republic of Ireland and Northern Ireland respectively. Both governments have set ambitious targets and have developed plans to achieve this – the Offshore Renewable Energy Development Plan (OREDP) [14] for the Republic of Ireland and the Offshore Renewable Energy Strategic Action Plan (ORESAP) 2012–2020 [15] for Northern Ireland. Commercial fishing remains a valuable coastal industry for the island of Ireland. Fishing communities are distributed around the coast of the Republic of Ireland, centred particularly on the six major fishing harbours of Killybegs, Co. Donegal, Ros a Mhil, Co. Galway, Dingle, Co. Kerry, Castletownbere, Co. Cork, Dunmore East, Co. Waterford and Howth, Co. Dublin [17].

* Corresponding author. Tel.: +353 214250013.
E-mail addresses: K.Reilly@umail.ucc.ie (K. Reilly), A.OHagan@ucc.ie (A.M. O'Hagan), G.Dalton@ucc.ie (G. Dalton).

http://dx.doi.org/10.1016/j.marpol.2015.04.001
0308-597X/

Although pelagic and demersal species, which are caught using mobile fishing gear (trawls, dredge nets, etc.) dominate at these ports there are also a significant number of smaller vessels that operate from these ports and in particular smaller ports that fish for crab and lobster using static gear (pots, creels, etc.) [17]. As mobile gear vessels generally require larger areas to fish in, it is likely that MRE projects will impact these vessels more so than static gear fleets and thus have an influence on attitudes. In 2010, the Republic of Ireland fishing fleet comprised 2119 vessels with a total capacity of 70,800 tonnes [18]. Ireland had fish landings valued at €202.1 million in 2010 and the sector contributed an estimated €116.1 million in Gross Value Added to the Irish economy in 2010 [19]. Exports from fish landings were valued at €161.7 million and employment in sea fisheries was at 2825 FTE in 2010 [19]. In 2011 there were 578 full time fishermen in Northern Ireland and 688 in total (full and part time) with the trawling fleet accounting for the vast majority of jobs [20]. In 2013 there were 367 vessels registered in the Northern Ireland fleet, 224 of which are officially recorded as active [21]. More than half of those active vessels (57%) are less than 15 m in length. The majority of the Northern Irish fleet is based at three main ports in Co. Down: Kilkeel is the largest, followed by Portavogie and Ardglass. In addition there are over 20 minor ports at which small numbers of pot boats are based.

Although there have been a small number of studies on the attitudes and perceptions of the public towards MRE [22,23] those which focus on particular stakeholder groups that may be impacted are rare. Studies of Scottish fishermen have found that the perceived opportunities include alternative employment, exclusion zones, the artificial reef effect and improved infrastructure [9,24]. Despite the potential benefits, there is also the possibility that MRE development may negatively impact commercial fisheries. Scottish fishermen identified the main direct impacts of the MRE sector on the fishing industry as loss of access to fishing grounds, safety issues and loss of gear [9,24]. The loss of earnings and livelihood that would result from these impacts is a major concern for fishermen [25]. While the benefits could enhance support for MRE projects among fishermen, the negative impacts have the potential to lead to conflict between both sectors which could in turn hinder offshore development. This was witnessed in the Cape Wind project in Nantucket Sound, Massachusetts, USA. A local fishermen's organisation objected to the proposed Cape Wind project on the grounds that it would restrict access to fishing grounds, make navigation more risky and prohibitively increase their costs [26]. The organisation threatened the developer with legal action to have the wind farm moved. The federal lawsuit was dropped in 2012 after Cape Wind and the local fishermen's association agreed to work together on ways to co-exist as part of a settlement agreement [27] . This resulted in Cape Wind ensuring fishermen that Horseshoe Shoal, the area where the project is being proposed, would remain open to fishing activities.

A quantitative study of Scottish fishermen [9] investigated their attitudes towards MRE extraction and any influential factors in terms of fishing experience and practice, association membership, location, and knowledge of offshore renewable energy installations. The study found the majority of fishermen surveyed expressed positive (48%) or neutral (33%) attitudes towards MRE developments and the most import factor influencing fishermen's opinions was whether they knew of a nearby offshore development, followed by location, (whether they operate from the mainland or the islands). The study suggested the higher percentages of positive and neutral responses may be linked to the fact that the majority of fishermen were unaware of any MRE development in their locality and have not yet been exposed to it. This is supported by a review study by Wolsink [28] which hypothesised that attitudes towards onshore renewable developments follow a U-shaped curve. In the curve, attitudes range from positive (when people are not aware of a renewable energy project in their locality), to much more critical (when a project is announced), to positive again (some reasonable time after construction).

To build acceptance of MRE technologies among fishermen will require a thorough understanding of their current perceptions of MRE and the attitudes that exist towards this new form of energy generation. As the wave, tidal and offshore wind sectors are not yet fully established on the island of Ireland, with limited numbers of device deployments and commercial scale developments, there is no evident baseline study in existence on attitudes and perceptions of fishermen. This paper aims to address this research gap by investigating the perceived impacts of the development of MRE on Irish fishermen. The objectives of this current study were (i) to gather information on the attitudes of Irish fishermen towards MRE developments in their locality; (ii) to identify the perceived impacts and opportunities associated with MRE for the fishing industry along with any potential mitigation measures. A survey was carried out among a representative sample of fishermen from the island of Ireland operating in areas where MRE developments have been proposed. The results are compared with the studies conducted among Scottish fishermen [9,24]. Although the case study projects are still at early stages of development this study investigates Wolsink's theory that initially attitudes are positive, then as projects progress stakeholders become more opposed to them. This information will provide developers and policy makers with a better understanding of how attitudes may change as project progress which could help with devising mitigation strategies based on this.

2. Materials and Methods

2.1. Case study sites

Three proposed MRE developments on the island of Ireland were chosen as case study sites in which to carry out the survey (Table 1). These sites were chosen as they represent offshore wind, wave and tidal energy projects respectively and are in various stages of development. In addition, local fishing organisations and fishermen have been consulted on the developments by the project teams at each site and the process is still on-going. It was therefore assumed that the fishermen taking part in the survey would, at the very least, be aware that these projects were in development.

Table 1
Case study sites.

	Technology	Stage of dev.	Type of dev.	Target fish species	Gear used	Vessels registered
AMETS	Wave	Foreshore licence application	Wave energy test site	Lobster, crab, mackerel	Static, mobile	73
Torr Head/Fair Head tidal	Tidal	Scoping and EIA	Commercial tidal farms	Lobster, crab, scallops	Static	28
FFW	Offshore wind	Scoping and EIA	Commercial offshore wind farm	Nephrops, scallops, lobster, crab	Mobile, static	212