Understanding the role of stakeholders in the wave energy consenting process: engagement and sensitivities

Simas, T.,[1] Muñoz-Arjona, E.,[2] Huertas-Olivares, C.,[2] De Groot, J,[3] Stokes, C.,[3] Bailey, I.,[3] Magagna, D.,[3] Conley, D.,[3] Greaves, D.,[3] Marina, D.,[4] Torre-Enciso, Y.,[4] Sundberg, J.,[5] O'Hagan, A.M.,[6] Holmes, B.,[6]

[1] Wave Energy Centre, Av. Manueal da Maia 36 r/c dto, 1000-201 Lisbon, Portugal
E-mail: teresa@wavec.org

[2]Abengoa Seapower, Inst. Inabensa SA,Carretera de la Esclusa s/n, Polígono Idustrial Torrecuéllar, 41011 Seville, Spain
E-mails: enrique.munoz@seapower.abengoa.com, cristina.huertas@seapower.abengoa.com

[3] Plymouth University, Drake Circus Plymouth PL4 8AA, UK
E-mails: jiska.degroot@plymouth.ac.uk, christopher.stokes@plymouth.ac.uk, I.Bailey@plymouth.ac.uk, davide.magagna@plymouth.ac.uk, daniel.conley@plymouth.ac.uk, deborah.greaves@plymouth.ac.uk,

[4]Ente Vasco de la Energía, Alameda de Urquijo, 36 1º, Edificio Plaza Bizkaia, 48011 Bilbao, Spain
E-mails: dmarina@eve.es, ytorre@eve.es

[5]Uppsala University, Swedish Centre for Renewable Electric Energy Conversion, Dept. Of Engineering Science, Div. of Electricity, Box 534, 751 21 Uppsala, Sweden
E-mail: jan.sundberg@angstrom.uu.se

[6]University College Cork, Hydraulics and Maritime Research Centre, Pouladuff Road, Cork, Ireland
E-mails: A.OHagan@ucc.ie, B.Holmes@ucc.ie

Abstract

As a relatively new industry, wave energy faces many hurdles, including questions concerning its environmental impacts and public and stakeholder group attitudes towards wave energy sites. The EU-funded SOWFIA project (www.sowfia.eu) aims to address these issues by providing recommendations for the streamlining of approval processes for wave energy developments across Europe. This paper analyses the results of two surveys conducted to assess the opinions of developers and maritime-space users on wave energy and to investigate commonalities and differences in stakeholder groups' perceptions of wave energy across different test sites in Europe.

Keywords: ocean energy, stakeholder concerns, stakeholder engagement, public perception.

1. Introduction

Europe is taking a leading role in the development of wave energy, with numerous demonstration sites already established, under construction, or due to be installed within the next five years. The sector nevertheless faces many hurdles. In many member states, the higher number of authorities involved in consenting, and poor coordination between authorities, can result in long lead-times in issuing permits that compound other legal, administrative and financial barriers to marine energy. Robust environmental and socio-economic assessment is also needed to support the transition from pilot studies and test centres to commercial sites. Finally, credible consultation procedures are crucial to building trust and acceptance of marine energy among stakeholder groups and local communities and for ensuring legitimate concerns are aired and acted upon during decision-making.

Consequently, the need has been recognised for greater streamlining of the approval processes for marine energy, informed by existing best practices for consenting and regulation across Europe (e.g. [1-2]). The work presented has been carried out as part of the EU-funded SOWFIA project (www.sowfia.eu). It aims to address the frustrations of project developers with difficult and diverse consenting requirements and the concerns of stakeholders and other users of the marine environment about the possible impacts of wave energy by communicating and sharing the concerns and perceptions of each group, which together with analysis of environmental and socio-economic data on wave energy, can be used to improve approval processes.

This paper reports the results of two surveys conducted to assess the views of developers and users

of the maritime space about wave energy. The first survey aimed to capture the experiences of developers and financing authorities about the formal regulatory processes used in the consenting of wave-energy sites and more informal mechanisms, such as awareness raising campaigns and media coverage. The second survey explored public and key stakeholder perceptions of the environmental and socio-economic impacts of wave energy and their views on existing consultation processes for wave energy developments.

2. The questionnaires

2.1 Developers and financing authorities

The first questionnaire was developed in the context of identifying non-technological barriers to wave-energy developments and accelerators of wave-energy impact assessments in order to transfer lessons learned to date between EU member states. The questionnaire was thus designed to determine what regulatory procedures site developers have needed to undergo in developing their test sites, how stakeholder groups were involved, and how their concerns were taken into consideration. The survey was circulated among EU test-centre managers and wave and tidal device developers that have reached the prototype testing phase (Table 1).

The questionnaire was complemented by a "Finance and Authorities Survey" aimed at exploring the reasons driving the funding and approval of test sites in Europe. In many cases, however, information on funding entities and levels of funding was unavailable, private or commercially sensitive and, thus, was not provided.

2.2 Other marine users and local stakeholders

The second questionnaire was designed to identify and assess the main problems created by conflicts between ocean-energy projects and the activities of key stakeholder groups operating around each test centre, such as commercial fishing, surfing, and other users of marine areas for recreation and commercial purposes. The survey sought to analyse common and contrasting hopes and concerns about wave energy expressed by stakeholder groups at different test centres. The questionnaire was divided in three main themes: 1) opinions on marine energy in general; 2) participation in consultation or outreach events on marine-energy developments; and 3) opinions on the adequacy and fairness of consultation processes. The survey was circulated among seven wave energy test centres: AMETS (Ireland), Bimep (northern Spain), EMEC (Orkneys, north Scotland), Lysekil in Sweden (Uppsala University), Ocean Plug (Portugal), SEM-REV (France), and Wave Hub (United Kingdom). The survey is still ongoing at three test centres, so the results presented only cover Bimep, Lysekil, Ocean Plug and Wave Hub. Table 1 shows the groups of stakeholders interviewed.

3. Results

3.1 Developers and financing authorities

From the replies obtained, it was possible to form an overview of site and device developers' experiences with wave-energy consenting processes across the EU, despite state-specific and location-specific issues [3]. A summary of the opinions obtained for each topic is presented below.

Questionnaire 1	
Test centres	Developers
AMETS, Bimep, EMEC, Lysekil, Ocean Plug, Runde, SEM-REV, Wave Hub	Aquamarine Power, Mutriku, Pelamis Wave Power, WaveRoller, Wave Star, West Wave Power, Marine Current Turbines, Tidal Generation Limited, UU / Seabased
Questionnaire 2	
Test centres	Stakeholder groups
AMETS, Bimep, EMEC, Lysekil, Ocean Plug, SEM-REV, Wave Hub	Local authorities Local businesses Interest/activity representative organisations (e.g. fishing, surfing) Residents

Table 1: Interviewed entities.

Consenting procedures: consenting procedures varied appreciably between different member states despite the existence of common EU legislation covering issues such as environmental impact assessment (EIA 85/337/EEC) and the habitats directive (Natura 2000; the subsidiarity principle has facilitated patterns of EU environmental governance that allow and promote flexibility in how general requirements are met. This is particularly the case with directives that require discretion in the way they are applied in different national and regional contexts [4]). Even within countries, consenting procedures may differ in response to variations in local legislation, leading to increased uncertainties as to requirements and higher costs incurred as a result of the need to modify applications for developments.

Formal and informal stakeholder engagement: Many site and device developers reported having approached stakeholders using informal settings in addition to meeting legal requirements (for example, those contained in the Environment Impact Assessment Directive). Informal approaches were generally seen as constructive and allowed for open and proactive discussions between developers and stakeholders. However, particularly among southern European sites, early, informal approaches tended to focus on key local actors (e.g. local authorities), with community consultation generally taking place at a later stage.

Stakeholder awareness: In most cases, developers claimed that local communities were aware and well-informed about proposed test sites and device

installations. The main means of communication used were coverage in the local and national media and/or direct presentation of proposals by developers during open local meetings and other outreach events.

Response from stakeholders: Developers reported that a wide range of stakeholder groups responded to consultations initiated by site and device developers. The stakeholder groups involved tended to be specific for each location, but predictably represented different sea-user groups. However, local fisheries associations and individual fishing-vessel operators were represented in stakeholder consultations for all the test-centre sites.

Concerns raised: Understandably, different concerns were raised by different stakeholder groups, and usually corresponded with their sector's interests. Major issues mentioned included the creation of non-navigation and no-take zones within existing fishing areas, concerns over maritime safety, and effects on marine mammals. Different approaches were employed by developers to address and mitigate these concerns, depending on the type of stakeholders and the issues rose. These included the creation of liaison officers, training programmes for local fishermen and implementation of specific monitoring requirements to provide further information to local communities.

Benefits of wave energy: Responses from test-centre managers and device developers placed strong emphasis on the positive impacts to local communities arising from the development of test sites in their area or through the installation of wave and tidal energy devices. Positive feedback from developers about the economic and employment benefits of wave energy formed one of the key messages that developers used in discussions with concerned stakeholders.

Opinions on consenting and lessons gained: most of the developers surveyed stated that the consenting processes they have experienced so far are adequate for their purpose but felt that there was room for improvement in these procedures (particularly reducing the variability of legal-administrative requirements). It was highlighted that moving towards a "one-stop shop" would speed up consenting and reduce administrative requirements. One of the main lessons that developers claimed to have learned was the value of approaching stakeholders from the early stages of each development in order to gain local expertise and trust, and to establish an open and proactive dialogue aimed at providing information and addressing concerns.

An additional survey aimed at understanding how financers and financing authorities have supported the development of test sites was circulated among the wave-energy test centres investigated. The answers obtained can be summarized as follows:

Financing: The financing of test centres and sites for wave energy development around Europe have often been supported by local or national government in conjunction with EU funds (e.g. ERDF). Wave energy developments are included in many strategic plans to accrue energy from sustainable sources, which has become a priority for EU member states. Extra funds were given to support research and development of the sector across a range of technology types.

Authorities: Test sites have been given approval based on the existing regulations and once concerns raised by stakeholders were deemed to be fully addressed. Government aims to meet renewable energy goals established under the Renewables Directive (2001/77/EC and 2009/28/EC) were also taken into account by regulating authorities in the consenting process.

3.2 Other marine users and local stakeholders

As mentioned above, the results for the second survey only reflect stakeholder opinions at four of the seven test centres, Bimep, Lysekil, Ocean Plug and Wave Hub. The survey is still underway for AMETS, EMEC and SEM-REV and, thus, the results presented are indicative. Results are grouped according to the three themes identified above in Section 2.2.

Opinions about marine renewable energy: in general, stakeholders expressed support for the concept of marine renewable energy. The main reasons for this were reducing fossil-fuel dependence and tackling climate change. Reducing dependence on energy imports was most keenly expressed by respondents for the southern European test centres. The main concerns identified for all test centres, meanwhile, were conflicts in shared-use sea areas, visual impacts and the potential adverse environmental effects of wave-energy projects [5].

For all sites surveyed, respondents showed strongest support for specific test centres where they believed they offered local economic and employment benefits to the local area [6]. This in part reflects the fact that most test centres are located in peripheral coastal regions, so offer the prospect of diversification from low-skill and low-wage traditional industries, such as tourism, agriculture and fishing [7]. In most cases, however, there was the important proviso, especially among local business representatives, that existing interests would not be adversely affected. The potential visual and environmental impacts of wave energy, in contrast, were recognised but were generally judged to be less serious than for offshore wind farms [8-9].

Participation in consultation activities: the analysis of questionnaire responses so far shows a general correlation with the development phase of each test centre. In general, respondents from Wave Hub and Lysekil were more likely to consider that sufficient opportunities were provided for participation in consultations, while at Ocean Plug and Bimep, informal consultations have only been carried out for 'high level' stakeholder groups (government entities, corporate representatives and local authorities). In these centres, some respondents from the local community considered themselves to be insufficiently informed to answer the questions and complained about not having received more information.

This in part reflects the early development phase of these centres and corresponding reluctance by project developers and other organisations involved to consult local communities and stakeholder groups before proposals were clarified so as to avoid confusion and opposition based on inaccurate or partial information [10]. However, it may also be symptomatic of more general and problematic features in the way consultation processes are managed by project proponents. The surveys also revealed that only a minority of local residents had attended consultation meetings, despite relatively high levels of publicity (e.g. in local newspaper and television media and via public notices). Some of this can be explained by problems organising meetings at convenient times for locals who may be working or, in the case of commercial fishing, who need to be at sea or meet other commitments (e.g. maintenance or markets) at specified times. Lack of interest and/or the low perceived immediacy of test centres prior to the granting of permits (or even construction) may be another contributory factor, particularly among communities located farther away from proposed sites [7]; so too may presumptions that consultations are more public relations exercises than meaningful dialogues [11].

Local disinterest (or inattention) to proposed wave-energy sites combined with developer reluctance to initiate dialogue before details are confirmed may, nevertheless, create a climate of mistrust that hampers dialogue on proposed developments. It is also worth noting that low participation by local communities and stakeholders in consultations generally serves the interests of developers better by reducing the number of issues and the amount of local opinion it has to consider [11]. Although there is no sure way to achieve fully representative consultations, greater "front-loading" of consultation processes by project developers and relevant authorities is clearly an essential part of building trust and ensuring that local concerns are taken into account alongside the macro-level drivers of ocean-energy projects [12].

Opinions on consultation processes: opinions on consultation processes for wave-energy projects are based only on the Lysekil and Wave Hub surveys, since few, mostly informal, consultation processes have been carried out to date at the other sites. These results are combined with the findings from a recent SOWFIA stakeholder workshop conducted as part of the European Maritime Day in Gothenburg in May 2012. The main conclusions on the adequacy of stakeholder consultations can be summarised as follows:

1) Key stakeholders were generally satisfied that they were consulted early in the consenting process and were provided with adequate levels of information and communication channels. Some representative groups nevertheless commented that the information given was excessively lengthy and technical and needed to be summarised in shorter and more accessible form to be usable by non-experts. Others argued that project developers tended to focus consultations towards representative bodies (such as sector organisations) rather than grassroots members, and that some stakeholder groups – such as conservation bodies, marine navigation, organised leisure bodies like surfing, and commercial fishing – were more likely to be invited to consultations compared with other water-based leisure activities, such as sub-aqua diving and recreational boating.
2) The general view was that consultations were well publicised and capably organised, although, as noted above, many business and community stakeholders were not actively involved. The timing of consultations was again seen as important in maximising participation and promoting fairer and more informed outcomes that utilised local knowledge (the importance of which was again stressed). A particular concern was that consultations took place at a stage in the process when all reasonable options could be considered rather than once key decisions (on whether to proceed or the location of the site) had been made. A small but significant minority argued that this was not always the case and that, even before consultations began in some instances, their only realistic option was to gain the best deal (e.g. compensation) in the context of the pre-determined decisions.
3) Overall evaluations of consultation processes by stakeholder groups tended to be strongly informed by whether final decisions reflected the views of the groups in question [13]. This draws attention to broader tensions between the wider benefits of marine renewable energy and local sector interests. In other words, most disputes do not arise from a simple failure to comprehend the benefits of marine renewable energy but stem from deeper tensions between the core (usually national or international) issues that ocean energy is designed to address and the more place-specific and often less-easily measurable concerns of local stakeholder groups, such as the intrinsic values attached to particular places, the value of marine wildlife and habitats, and the costs to communities of disruption caused by the construction and operation of ocean energy sites [14]. Another concern was that project developers may overstress the economic benefits of ocean energy developments in order to gain community support. If these did not materialise or new employment opportunities required skills that the local community did not possess, many economic benefits would not be felt by established residents. By this point, however, there would be little opportunity to reverse previous decisions. Finally, several respondents noted that the consultations that had taken place so far were for

test sites rather than full commercial facilities. Their concern was that they were being consulted about relatively small facilities and stressed that this should not be automatically taken as acceptance of commercial-scale ocean-energy sites.

4. Conclusions

This paper has presented the results from an EU-wide survey of attitudes among site/device developers, other sea users and local communities towards wave energy and towards consultation processes for the consenting of test wave-energy sites. Its aim has been to provide an overview of experiences to date with consenting processes and opinions on the strengths and weaknesses of existing stakeholder engagement processes. It is recognised that the survey has received a relatively limited response so far and, thus, the results should be seen as indicative until other elements of the survey are complete. It nevertheless provides an early snapshot of the views of the different parties involved in consenting processes for wave energy that can be utilised to produce preliminary recommendations for future stakeholder engagement and to inform future research on this topic.

A number of conclusions and recommendations can be drawn from the survey. First, in respect of the regulatory frameworks governing the permitting of wave-energy projects, considerable variation exists in the way member states (and regions within states) have applied EU requirements under the Environmental Impact Assessment Directive (85/337/EEC) and Natura 2000. Although such variation is an inherent and intentional outcome of the subsidiarity principle [4], it has led to discrepancies in consenting processes across Europe that adds uncertainty to permitting processes and increases the potential costs incurred by developers in meeting regulatory requirements.

Second, considerable variability exists in the stakeholder engagement practices used at each of the test centres surveyed, particularly in respect of the level of informal stakeholder consultation over and above formal regulatory requirements. Generally speaking, early informal consultations tended to be concentrated towards "high-level" groups (e.g. government bodies, senior corporate representatives, and some local authorities) and developers spoke of their reluctance to undertake detailed discussions with local residents before plans were clarified, to avoid misinterpretation and opposition based on inaccurate or partial information. Whilst this reluctance is understandable and, to an extent, justified – and may also simply reflect the early stage of development of some test sites – early engagement with the full range of stakeholders is recommended as a means of building trust, ensuring local knowledge is utilised at an early stage in key decisions, and to reduce stakeholders' concerns that they may be pressurised into accepting projects (or design features of projects) that they consider to be unacceptable to their local areas.

Third, despite widespread agreement that current stakeholder engagement processes were satisfactory if not perfect, discrepancies were evident in developers' and stakeholders' recollections of consultation processes. Developers appeared more satisfied than some local stakeholder respondents with the timing and format of consultations, the levels and types of information provided, and participation levels in engagement processes.

Such discrepancies are, to some extent, to be expected given the difficulties in scheduling events to suit diverse groups, in providing information that is both accurate (allowing for inevitably uncertainties) and clear to non-expert audiences, and in overcoming lack of awareness or interest among sections of the local populace. A number of good-practice recommendations can nevertheless be proposed:

- It is imperative to ensure that consultations are not seen by stakeholders to be too agenda driven and fixed on gaining consent for developments, such that community and stakeholder consultations are interpreted as a legal rigmarole rather than a genuine opportunity for dialogue. In particular, it is important that consultations do not start too late or, if they start early, are not too narrowly focused on key governing authorities to the neglect of engaging with more marginal or less organised groups. It is vital that key decisions (e.g. on the location, type and scale of developments) are not already made by the time consultations begin if trust is to be established.
- Continued attention is needed to communicating key issues (e.g. environmental impacts and financial information) in formats that are accessible to stakeholder groups and that acknowledge and explain uncertainties. Reports need to be short and focus on the most salient points without over-simplifying, and must be communicated in a way that facilitates understanding of the key issues.
- Careful consideration is needed of the interpersonal side of stakeholder consultation. Issues here include: (i) the timing and location of consultations to boost attendance and engagement, perhaps with incentives to attend; and (ii) consultation methods that are suited to specific audiences whose input is sought. Examples include: using appropriate communication media, trusted local representatives, and professional facilitators; avoiding over-formal procedures, and greater use of informal and interactive consultation methods that promote and require regulators and developers to listen to stakeholder opinions.
- Consultations need to work to ensure they are open, transparent, honest and realistic about what they are seeking to achieve in terms of outcomes for developers, local people and stakeholder groups. They also need to show positive (e.g. employment schemes, local share of profits, technology

implementation for greater good) and negative (e.g. marine environmental) impacts. The use of scenarios to capture best- and worst-case outcomes as well as most- and least-likely situations may lead to greater trust and engagement than over-optimistic promises about the economic, environmental and even energy outcomes that are likely to be achieved.

- Further attention is needed ensuring realism among consultation participants. This includes not giving false impressions that all concerns can, or will be taken into account. Acceptance of developments might even be improved by recognising that developing ocean energy creates tensions cleaner, more secure energy supplies and the protection of local environments, economies and communities. Trade-offs need to be made explicit during consultations to provide a firmer basis for discussing development options and compensation or other ameliorating actions.
- Finally, clearer provisions are needed on the cost of consultations to ensure stakeholder groups are not disadvantaged by financial resources and that regulators and project developers are not deterred from wholehearted consultation by the potential outlays involved.

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