



DELIVERABLE 7.1

Societal response to wave energy

WP 7

Deliverable 7.1 Societal response to wave energy

Lead partner for deliverable:
AZTI

AUTHORS

Maria C. Uyarra (AZTI)
Iratxe Menchaca (AZTI)
Sarai Pouso (AZTI)
Juan Bald (AZTI)
Laura Zubiate (BIMEP)
Dorleta Marina (BIMEP)
Enored le Bourhis (ECN)
Thomas Soulard (ECN)
Sandrine Jamet (ECN)
Niall Dunphy (UCC)
Janete Gonçalves (WAVEC)
Erica Cruz (WAVEC)

SUBMISSION DATE

31st | March | 2021

DISSEMINATION LEVEL

PU	Public	
CL	Classified – EU classified (EU-CONF, EU-RESTR, EU-SEC) under Commission Decision No 2015/444	
CO	Confidential, only for members of the consortium (including Commission Services)	X

DOCUMENT HISTORY

Issue Date	Version	Changes Made / Reason for this Issue
26 th March 2021	V1	Final deliverable open for partners contributions
31 st March 2021	V2	Final version with integrated comments



This Project is co-funded by the European Maritime and Fisheries Fund (EMFF) programme of the European Union, Call for Proposals EMFF-2019-1.2.1.1 - Environmental monitoring of ocean energy devices.

CITATION

Uyarra, M.C., Menchaca, I., Pouso, S., Bald, J., Zubiate, L., Marina, D., le Bourhis, E., Soulard, T., Jamet, S., Dunphy, N., Gonçalves, J, & Cruz, E. 2021. Deliverable 7.1 Societal response to marine renewable energy. Corporate deliverable of the SafeWAVE Project co-funded by the European Maritime and Fisheries Fund (EMFF) program of the European Union, Call for Proposals EMFF-2019-1.2.1.1 - Environmental monitoring of ocean energy devices. 80 pp.

This communication reflects only the authors' view. EMFF is not responsible for any use that may be made of the information it contains.



This Project is co-funded by the European Maritime and Fisheries Fund (EMFF) programme of the European Union, Call for Proposals EMFF-2019-1.2.1.1 - Environmental monitoring of ocean energy devices.

CONTENTS

1.	SafeWAVE project synopsis	5
2.	List of acronyms	8
3.	Executive summary	9
4.	Task 7.1. Understanding opposition to marine renewable energies	10
4.1	Objectives	10
4.2	Expected outcomes of task 7.1	11
5.	Methodology	12
5.1	Part 1. Opposition to wave energy: scientific and technical evidences	12
5.2	Part 2. Who says what? -in which channel? -and with which effect?"	13
6.	Key outputs.....	16
6.1	Part 1. Opposition to wave energy	16
6.1.1	Outputs from official documents	16
6.1.2	Outputs from scientific and technical publications	17
6.1.3	Strengths, Weaknesses, Opportunities and Threats as in relation to wave energy 18	
6.2	Wave energy communication flows	27
6.2.1	Communication actors (from whom to whom).....	27
6.2.2	Communications by channels	29
6.2.3	Content communicated.....	31
6.3	Solutions to opposition presented to wave energy	32
7.	Conclusions.....	34
8.	BIBLIOGRAPHY.....	36
9.	ANNEX I.....	38
10.	ANNEX II	39
11.	ANNEX III	41
12.	ANNEX IV	45
13.	ANNEX V.....	75

1. SafeWAVE project synopsis

The Atlantic seaboard offers a vast marine renewable energy (MRE) resource which is still far from being exploited. These resources include offshore wind, wave and tidal. This industrial activity holds considerable potential for enhancing the diversity of energy sources, reducing greenhouse gas emissions and stimulating and diversifying the economies of coastal communities. As stated by the European Commissioner of Energy, Kadri Simson, during the Energy Day in the framework of the climate conference (COP25) held in Madrid (2-13 December 2019), “the European experience shows that the benefits of clean energy go beyond reduced greenhouse gas emissions and a healthier environment. Clean energy transition boosts the economy and creates jobs. The European Green Deal is also a growth strategy”. In the same framework of COP25 and during the Oceans Day, the European Commissioner for environment, oceans and fisheries, Virginijus Sinkevičius explained that “fighting climate change and protecting marine life biodiversity is a centrepiece of the EU’s ocean policy. Due to climate change, our oceans are facing serious challenges, which require an urgent and comprehensive response. But oceans are also a part of the solution”. Therefore, ocean energy is one of the pillars of the EU’s Blue Growth strategy. Ocean energy could provide clean, predictable, indigenous and reliable energy and contribute to the EU’s objective of reaching a share of renewables of at least 32% of the EU’s gross final consumption by 2030. As it was underlined by Virginijus Sinkevičius, “Marine renewable energy has an incredible potential. The offshore wind sector is growing strongly enough to compete with traditional energy sources. The emerging technologies such as wave and tidal energy will take the same pathway”.

The nascent status of the Marine Renewable Energy (MRE) sector and Wave Energy (WE) in particular, yields many unknowns about its potential environmental pressures and impacts, some of them still far from being completely understood. Wave Energy Converters’ (WECs) operation in the marine environment is still perceived by regulators and stakeholders as a risky activity, particularly for some groups of species and habitats.

The complexity of MRE licensing processes is also indicated as one of the main barriers to the sector development. The lack of clarity of procedures (arising from the lack of specific laws for this type of projects), the varied number of authorities to be consulted

and the early stage of Marine Spatial Planning (MSP) implementation are examples of the issues identified to delay projects' permitting.

Finally, there is also a need to provide more information on the sector not only to regulators, developers and other stakeholders but also to the general public. Information should be provided focusing on the ocean energy sector technical aspects, effects on the marine environment, role on local and regional socio-economic aspects and effects in a global scale as a sector producing clean energy and thus having a role in contributing to decarbonise human activities. Only with an informed society would be possible to carry out fruitful public debates on MRE implementation at the local level.

These non-technological barriers that could hinder the future development of WE in EU, are being addressed by the WESE project funded by EMFF in 2018. The present project builds on the results of the WESE project and aims to move forward through the following specific objectives:

1. Development of an **Environmental Research Demonstration Strategy** based on the collection, processing, modelling, analysis and sharing of environmental data collected in WE sites from different European countries where WECs are currently operating (Mutriku power plant and BIMEP in Spain, Aguçadoura in Portugal and SEMREV in France); the SafeWAVE project aims to enhance the understanding of the negative, positive and negligible effects of WE projects. The SafeWAVE project will continue previous work, carried out under the WESE project, to increase the knowledge on priority research areas, enlarging the analysis to other types of sites, technologies and countries. This will increase information robustness to better inform decision-makers and managers on real environmental risks, broad the engagement with relevant stakeholders, related sectors and the public at large and reduce environmental uncertainties in consenting of WE deployments across Europe;
2. Development of a **Consenting and Planning Strategy** through providing guidance to ocean energy developers and to public authorities tasked with consenting and licensing of WE projects in France and Ireland; this strategy will build on country-specific licensing guidance and on the application of the MSP decision support tool developed for Spain and Portugal in the framework of the WESE project; the results

will complete guidance to ocean energy developers and public authorities for most of the EU countries in the Atlantic Arch.

3. Development of a **Public Education and Engagement Strategy** to work collaboratively with coastal communities in France, Ireland, Portugal and Spain, to co-develop and demonstrate a framework for education and public engagement (EPE) of MRE enhancing ocean literacy and improving the quality of public debates.

2. List of acronyms

EPE – Education and Public Engagement

EU – Europe Union

MRE – Marine Renewable Energies

SWOT – Strengths – Weaknesses – Opportunities - Threats

WE – Wave Energy

WEC – Wave Energy Converter

WP – Work Package

3. Executive summary

Despite the clear benefits of marine renewable energies (MRE), opposition has often been posed to MRE development projects. This opposition has hindered and even slowed down the process to Europe's energy transition towards clean energies. Wave energy is, with a bit more than two decades of modern history, at an early stage of development. So far, there is only one wave energy production farm (i.e., Mutriku (Spain)) operating in Europe. Other developments are still in the pilot/prototype phase. This deliverable aims to understand current/potential opposition that wave energy developments may receive in future, especially when expanding this source of energy. To this aim and through "Task 7.1. Societal response to wave energy", different sources of information (both scientific and social media) have been explored placing special emphasis to content communicated, communicators and target audiences. Outputs of this research indicate that to date, opposition to wave energy is rather limited. It primarily derives from affection on i) existing uses, as they may conflict with wave energy developments, ii) local communities (especially, fishermen), for which the benefits are unclear, and iii) the environment, being the affection on specific ecosystem components not fully known. Despite much of the wave energy information available on the media is produced and communicated by scientists and engineers (which should be considered a reliable source of information and therefore, should not raise concerns), most of the content communicated focus on the drivers, the technological developments and human benefits (supply of energy demand and reduction of CO₂ emissions). Little information is available on the potential negative impacts of wave energy projects on the environment, which may raise alarms. Furthermore, the target audiences of the different media sources vary between channels; YouTube, Facebook and Google have a wider audience than Twitter, which may seek a more « professional » audience. A holistic communication approach to wave energies, where it is clear to the audience the drivers and human benefits, but also the social, environmental and economic impacts, as well as the alternatives, may help society to be ocean energy literate and provide this society with tools to better balance the different energy alternatives and reduce potential opposition. Successful solutions and new ones arising from this project are compiled in this deliverable to guide wave energy developments in the future.

4.Task 7.1. Understanding opposition to marine renewable energies

Past experiences have shown that public opposition can hinder the development of MRE projects, slowing down Europe’s energy transition. As indicated in the proposal *“SafeWAVE is very aware of the importance of good relationships with local communities and the need to develop good two-way communication with stakeholders to facilitate the successful scaling of ocean energy device deployments. SafeWAVE will work collaboratively with coastal communities in France, Ireland, Portugal and Spain, to co-develop and demonstrate a framework for education and public engagement (EPE), specifically aimed at ocean literacy”*. With this objective, this project included the following work package (WP) 7 on “Education and public engagement”, within which the following six tasks were established:

- 7.1. Understanding opposition to renewable energies
- 7.2. Critical review of education and public engagement
- 7.3. Identification & characterisation of societal stakeholders
- 7.4. Constructing the Education and Public Engagement (EPE) Framework
- 7.5. Tailoring specific ocean literacy programmes
- 7.6. Trialling and evaluation of the ocean literacy programmes.

This deliverable focuses on Task 7.1. Understanding opposition to renewable energies and more specifically, to wave energy, which is the focus of the SafeWAVE project.

4.1 Objectives

The main objective of Task 7.1. is to **understand the (current / potential) opposition to wave energy**, for which it was established that we would:

- (i) Perform a literature review which will help us to:
 - a. Identify the obstacles and reasons that lead opposition to wave energy;
 - b. Identify the main actors that normally present opposition;

- c. Provide solutions to overcome such problems.
- (ii) Carry out a media analysis to identify, in relation to wave energy, who says what which channel and with which effect.

To achieve this aim, the task has been structured into two parts, which required the use of well differentiated sources of information. First, a systematic literature review has been carried out to identify reported evidence of opposition in scientific and technical publications on wave energy. The three sources of information used within this part are: i) consenting process documents, ii) Web of Science scientific publications, and iii) technical documents available in Tethys platform. Secondly, a systematic review of information communicated on other media types that may be more frequently used by citizens (i.e., Google, YouTube, Facebook, Twitter), has been carried out as means to better understand who communicates with citizens as in relation to wave energy, which messages are communicated and the audiences that are reached with these channels of communication. This will serve to identify gaps and biases in the process of wave energy communication. A detailed description of the methods is provided in Section 5 Methodology of this document.

4.2 Expected outcomes of task 7.1

The outputs obtain through this research have been included in this deliverable, but they will also feed into other tasks of WP7. Furthermore, it will provide useful information to WP8 on Communication and dissemination and to developers that participate in this project, as they will allow to guide where more efforts are needed in terms of communication.

Finally, outputs of this tasks are being analysed more in detailed and being prepared in the form of a scientific article for its publication. For this reason, it is requested an embargo of the deliverable until the article is accepted for its publication.

5. Methodology

This deliverable is structured into two parts. The first part aims at identifying opposition to wave energy. The second part aims at identifying possible opportunities and specific actions to overcome problems, especially through communication. To add clarity to this section, the methods will be also structured following these two main parts.

5.1 Part 1. Opposition to wave energy: scientific and technical evidences

In the context of Part 1, a systematic literature review has been conducted to identify: (i) the obstacles and reasons that lead to opposition to wave energies; (ii) the main actors that normally present opposition, and when possible; (iii) the solutions given to overcome such problems.

To guide this part of the task the following two documents have been created. A guideline document (Annex I of this deliverable) and an excel file to collate the information of interest in a consistent manner. For each reference analysed, the following information was recorded:

- **General information:** Document number, Authors, Title, Year of publication, Full reference and Language (table in Annex III of this deliverable).
- **Key words**
- **Opposition:** Opposition presented, Main topic of opposition (environmental, social, economic, other, good practice), Main subtopic of opposition (with drop-down menus that were defined by a group of experts), Actors presenting opposition (with a drop-down menu to select options from), and Process at which opposition is presented (scoping, planning, consultation, consenting, pilot, on-going process, scaling-up process, research study, other).
- **Solutions:** this section allowed to indicate whether the reviewed reference indicated a solution to the opposition or not, and if so, the following information was noted: Brief description of the solution, Actors involved in the solution.

- **Consultation process:** finally, this section allowed to indicate whether during the consultation process there was Stakeholder involvement and the Time available for the consultation.

The sources of information used to obtain references for analysis were Web of Science (for which a set of terms were used in the searchers – See Annex I), Tethys platform, and Consenting process documents (provided by participant partners of SafeWAVE). To limit the search, in addition to the terms used, it was decided to use only references published after 2000. Opposite, to expand the search, we use the “snowball” search, by which, if within an explored reference relevant reference were identified, such reference would also be considered for analysis.

Each reference analysed would have a unique identifier number, but several “rows” within the excel file would be completed, since each row would only allow to include e.g., one opposition, or one solution, while one reference had the potential to highlight one or more of those.

Over this literature review, a SWOT (Strengths – Weaknesses – Opportunities – Threats) analysis has been performed as means to (i) resume the main information/topics of public opposition in relation to wave energy found in the reviewed literature and (ii) identify possible opportunities and specific actions to overcome such problems. The SWOT analysis technique is commonly used to identify ways for improvement within a specific field; in this case, it has been applied to the field of wave energy. Prior to performing the SWOT analysis, the issues to be analysed were identified by the authors by exploring the outputs of the compiled information. The key outputs of the reference analysis were categorised into either a Strength, a Weakness, an Opportunity, or a Threat. This, in turn, was used to identify potential Strengths, Weaknesses, Opportunities or Threats that could derive from the main key outputs.

5.2 Part 2. Who says what? -in which channel? -and with which effect?"

In addition to the scientific review, a media analysis has been carried out to identify "Who says what? - in which channel? - and with which effect?", with regards to wave energy. Protocols developed in the context of the H2020 ResponSEAbLe project on ocean literacy were adapted and used to carry out such research (Fawzy et al. 2017).

This analysis enabled us to identify key actors, as well as fit-for-purpose tools that can potentially increase the effectiveness of knowledge transfer of wave energy, and consequently, increasing the level of society's ocean (wave energy) literacy.

Searches were performed in four different languages (e.g., English, Spanish, French, and Portuguese), involving partners from Ireland, Spain, France and Portugal, and covering the languages used in the Arc Atlantic. Yet, retrievals were not limited to the region, as it was considered that e.g., a person searching for wave energy information in Spanish may not limit the sources of information consulted to those generated in Spain.

For this part of the research, a guideline document was also produced (See Annex II) so the research was carried out in a consistent manner between the different researchers. Furthermore, "private navigation" was used as means to limit bias on the searches conducted.

Similarly, to the first part of this task, an excel file was developed to compile the information in a structured manner according to the guidelines. The excel file included the guidelines for completion, supporting sheets with background information, and the specific sheets for compiling the information. In total four excel files were prepared, one for each of the four languages used, and each excel file included four compilation sheets, one for each of the four sources of information explored (i.e., Google, YouTube, Facebook, Twitter) (table in Annex IV of this deliverable).

The four sheets where the information was collated, included the same content and was structured into the following main sections:

- **General information:** Identification Code, Source, Title, English Title, URL, Reference, Language and Year
- **Who does communicate?:** a drop-down menu of actors is provided (adapted from Fawzy et al. 2017).
- **Content analysed:** since communicators often communicate content produced by other authors, this section aimed at characterising the specific content that is communicated. In this section, the Secondary URL, Title, Year and Language was included.

- **What type of material is communicated?:** a drop down menu of media types is provided for selection.
- **What is communicated?:** within this field, the researchers analysed the content and indicated with an “x” mark whether the content referred to the “Driver”, “Activity”, “Pressure”, “State”, “Impact on the environment”, “Impact on welfare” or “Response” as in relation to wave energy. This process refers as the “DAPSIWRM” framework (Elliott et al. 2017), which is an evolved version of the DPSIR framework. The idea behind using this framework was to identify where wave energy communication puts the focus on.
- **To whom is communication directed?:** the same drop-down menu of actors as in “who does communicate?” was provided; actors can act as communicators or as target audience.
- **Key words:** this field allowed including key words describing the content.
- **Communication impact:** for YouTube, Facebook and Twitter, the number of downloads, likes, dislikes, and retweets, was also recorded as means to see how effective different sources of communication are.
- **Additional comments**

For each source of information (i.e., Google, YouTube, Facebook and Twitter), and for each language, the first 30 retrievals obtained, were included in the excel files, whenever the retrievals comply with the guidelines. Therefore, for each of the four-language search 120 retrievals were included for analysis, and 473 retrievals being analysed in total (in Portuguese and French the searches did not reach the total of 30 retrievals in all media types).

The analysis has been carried out using R, and it especially focused on who communicates to whom and on the type of content that is communicated. Further analysis is undergoing and will be published on a scientific journal.

6. Key outputs

6.1 Part 1. Opposition to wave energy

6.1.1 Outputs from official documents

From the legal point of view, **official documents published during the consulting process** were analysed for the particular case of SEM-REV test site project (France) (Annex V), Biscay Marine Energy Platform (BIMEP) (Spain) and Mutriku wave power plant (Spain). However, it is important to mention the difficulties to get access to official documents with responses to consulting process.

From **SEM-REV test site project**, during the test site planning and development phase around 2008-2009, the information campaign and consultation meetings were carried out (not mandatory but strongly recommended), by financial and maritime affairs, with fishermen as the targeted specific public. In the context of these consultation meetings, a Local Nautical Committee was scheduled by the Departmental Direction of Territories and Sea (DDTS) of Loire-Atlantique. It consists of providing to the public the information about the project (environmental study assessment, regulatory services opinions). These documents were available during one month in local towns concerned by the project (generally in town halls). The Prefect, who takes the final decision, does not necessarily comply with the inquiry commissioner's opinion.

The public in general asked for the objective of the environmental impact assessment, for the implementation of indicators to monitor the effects of project and for the implementation of mitigation measures, if necessary. The main subject of concern was the conflict of use-related risks, especially with professional fishermen. People were also worried about maritime security and risk to navigation around the test site. The landscape and touristic topics were also major worries of people (probably due to either misconception of technologies or on-land developments) and to the fact that the coast is highly touristic. Public was worried about governance and financial aspect of the project (public funding), with questions about the continuity of the test site and the possibility of spatial extensions. In general, it is noted that public sparsely know MRE technologies and tend to confuse different technologies (tidal and wave in particular).

During the consenting process, public inquiry took place by means of newspaper and internet advertisements. During the public inquiry (33 days) only 8 remarks were

recorded. The only reserved remark (but not against) came from the neighbour of the onshore electrical station, in relation to the noise during installation and operational stages.

For **BIMEP** and during the consultation phase, the effect on fishing activity in the three phases of the project (i.e., installation, operational and dismantling) were identified. In this sense, a compensatory measure to the affected professional fishing sector was applied as a solution for the closing of the fishing activities in the area occupied by the project. In addition, an individual was also affected by drilling activities within his/her land properties.

Mutriku wave power plant also raised public alarm during the construction phase due to the loud noise that was generated during a storm. Quick intervention to get the noise under check and a subsequent information campaign served to allay the fears of the local population (Torre-Enciso et al., 2010).

6.1.2 Outputs from scientific and technical publications

From a total of 894 references identified in **Tethys platform** in relation to “Wave energy” keywords only 12 documents were classified of interest in relation to opposition to wave energy (Table 1). In **Web of Science**, the number of references identified was 256, of which also only 12 were relevant. The reference list of documents analysed is provided in Annex III of this document.

Opposition related to economic, social and environmental aspects were reflected in 77%, 35% and 61% of the references, respectively. The other 14% of the main opposition topics were related to safety for navigation. The main subtopics to which opposition related to economic issues were the affection on the existing uses (65%), followed by employment issues (8%), and spatial (user) conflicts (4%). For the existing uses, the main actors presenting opposition were the fisheries sector.

On the social side, 23% of the references referred the opposition to the affection to local communities, 11,5% to visual impacts of wave energy devices, and 4% to wave energy projects leading to changes in their traditions and socializing patterns. Finally, environmental opposition mainly related to the noise (11%) and affection to different ecosystem components, such as birds (4%), fish (8%) or habitats (8%). In this case, the opposition was mainly raised by national and local communities, NGOs, and surfers.

Table 1. Number of documents analysed from Tethys platform and from Web of Science.

Pairs of key words	Tethys		Web of Science	
	N° of docs.	Interesting	N° of docs.	Interesting
Wave energy AND consultation	59	3	6	2
Wave energy AND stakeholder participation	13	2	3	0
Wave energy AND perception	23	4	30	4
Wave energy AND attitude	8	2	38	1
Wave energy AND behaviour/behavior	76	0	30 ¹	0
Wave energy AND opposition	7	0	19	0
Wave energy AND conflict	38	2	47	0
Wave energy AND recommendation	93	6	82	1
Wave energy AND good practices	8	2	1	0
Wave energy AND guidance	59	1	79	0
Wave energy AND stakeholder engagement	28	3	0	0

In the case of Tethys outputs, it was possible to identify the moment at which opposition was presented. Almost half of the opposition was presented during the consultation process, in the context of the consenting phase of the project. However, 40% of the opposition was registered during public consultation (through workshops, questionnaires, etc.), and only one case was registered during the scoping phase of the project. In the case of Web of Science references, the opposition was mainly found through the research projects carried out over ongoing pilots.

6.1.3 Strengths, Weaknesses, Opportunities and Threats as in relation to wave energy

Results obtained through the application of a SWOT analysis to all the information analysed are detailed in Table 2. The analysis of references has allowed structuring the “state-of-the-art” of wave energy, from the perspective of opposition, in such a way that it is possible to identify measures that should be re-enforced and some that should be newly developed/implemented as means to prevent opposition. In addition, several threats are identified, which should be dealt with and for which some complementary

¹ The results of [“wave energy” AND (“behaviour” OR “behavior”)] in WoS resulted in 21 62 results, but documents had little relation with the target topic. The search was modified to [“wave energy” AND (“behaviour” OR “behavior”) AND (“social” OR “society”)]

opportunities have been derived, as maintaining the threat would encourage opposition to wave energy projects, especially if considering that this activity is likely to expand in the future.

In general, the outputs have been grouped into: Information, Economic opposition, Socio-economic opposition, Social opposition, Environmental opposition, General opposition, and Solutions.



Table 2. Outputs of the SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses performed over the literature review. Black refers to the direct outputs obtained from the literature review analysis. Blue text are the Strengths, Weaknesses, Opportunities, Threats inferred by experts from the direct outputs.

	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
INFORMATION	There is a good reference from Scotland on how to make the process and information more transparent, making all information easily accessible to anyone.	Despite information being public, the information is not easily available.	Increase transparency in communication may be a requirement to reach acceptancy instead of generating opposition. Consultation on the scoping or planning phases (in addition to the development phase) may help to reduce opposition or to raise participation from the start.	Stakeholders complain from having little information available on wave energy developments, while developers think the opposite. Such mismatch does not facilitate the process.
		Due to wave energy is so far rather new, there is little information on opposition. The development of a wave energy project is a complex process that implies the participation of different actors. Such complexity hindrance the transparency and even the process to present opposition (to whom does opposition need presenting?)	There is the potential to learn from other MREs. There is the potential to simplify the process and have clear "actors" and "roles" associated to the different steps to increase transparency, facilitate processes and communication.	Possibility for "developers" and "investors" not to be interested in investing in clean energies if they observe that the process is complex, long, costly,...



	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
INFORMATION	Not many economic sectors (mainly fishers, but also recreation-tourism and maritime transport) present opposition	So far studies are limited to pilot projects. Things will change as wave energy projects expand. E.g. one pilot for wave energy, little affection. Many devices --> increased affection. There are no sufficient scientific evidence on how wave energy projects may affect these or other sectors.	If few actors are presenting opposition, there is potential for finding/implementing measures that support such actors. Funding may help to solve certain issues (e.g. higher transport cost for fishers).	When expanding potential new actors may oppose. Depending on money to solve opposition, increases the cost to developers (problem). There are issues that cannot be solved with money (e.g., no wave for surfers).
ECONOMIC OPPOSITION			Potential to generate employment - supporting the diversification of local communities, and possibly to deviate also towards indirect employment (e.g. catering, hotels, etc.). Since this research is based on pilots, there is potential for "educating for changing careers". Potential for awareness raising (clean energies) and increasing "proudness" towards this type of projects. Opportunity for local authorities to request wave energy developers for compromise with the local communities.	Negative effects and not benefits reported to local communities comes up as second source for opposition. It is foreseen that even if wave energy may generate jobs, these may be for others (and not for local communities).



	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
SOCIO-ECONOMIC OPPOSITION	Bluegrowth will support wave energy, Ocean Energy (OE), which is one of the five sectors that have a high potential for sustainable jobs and growth in EU. Therefore, OE should contribute (providing tools) to minimize conflicts.		<p>The Marine Spatial Planning Directive requires EU member states the implementation of MSP, which should minimize conflicts among users.</p> <p>Since not many MSP have been implemented, it is perfect timing for making good integration of wave energy developments (by site selection).</p>	<p>Affection on exiting uses (especially fishing uses) is the main source for opposition.</p> <p>As wave energy production may expand, there may be conflicts with other users (e.g., maritime transport).</p>
SOCIAL OPPOSITION			<p>Limited social opposition leave the door open to develop and grow "clean energy" pride.</p>	<p>Several but limited other social impacts have been identified (e.g., increased risks, ownership issues, loss of traditions, etc...).</p> <p>Possibility such opposition will increase with expansion of wave energy plans.</p> <p>Increased costs to counteract these negative impacts when expanding should be expected (e.g., dealing with ownership may require high funds).</p>
	<p>According to scientific evidence, in general, the visual impact of wave energy converters is low.</p> <p>There are existing devices with</p>		<p>Potential for improving design for a better wave energy integration into the "seascape".</p>	<p>Visual impact is so far one of the most relevant socio-environmental impact.</p>



	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
	minimal or inexistent visual impact.			
SOCIAL OPPOSITION	There are existing tools that using them in the scoping phase would enable to identify ideal sites that would minimize social impacts (e.g., VAPEM).	Much of the opposition is found through research studies more than in administrative process (e.g., planning, consenting, ...). Info not easily accesible (i.e. environmental impact assessments).	Integrate good practices into new projects to reduce opposition, such as implication of the local communities from the start (planning). Transparency may reduce opposition.	Little participation of the community in the initial steps of wave energy projects (e.g., scoping and planning) may generate an "unnecessary" negative perspective towards this type of projects. Mismatch in the aims of stakeholder consultation. Communities may want to be aware from the very start (scoping), while CA/developers carry out the impact assessment and present the project in the consultation process.
ENVIRONMENTAL OPPOSITION	Research in this field implies the development of new tools for monitoring that allow us to learn on the affection on different ecosystem components (hydrophones, image analysis etc.). The environmental impact assessment is compulsory, as well as the surveillance plans; therefore, it is ensured that affection is not ignored but integrated in the process.	Some of the opposition is based on "theoretical" ideas, and the issue is that there are not scientific evidence yet to solve this "questions". The diversity of technological developments does not allow for "extrapolating" the learning from one to another.	Opportunity for the scientific community to progress in environmental assessment. Potential for the development of environmental database (i.e., MARENDATA). Potential from learning from other energies (e.g., other MRE) and case studies.	Impacts on "general environment" is the most frequently reported source of opposition. The scaling up process may pose a problem in the future (adding cumulative and synergetic impacts). High cost to understand the "potential environmental impacts" (monitoring).



STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
	<p>Much of the impacts using modelling and "lab-based" learning (<i>in situ</i> learning is very costly). Real Wave energy plants may generate unknown impacts.</p>	<p>Potential for improving the technology design and minimize such impacts.</p>	<p>The impacts on "hydrodynamics" are a source for concern.</p>
ENVIRONMENTAL	<p>Much of the research is based on pilots so the impacts of commercial plants are unclear, and this lack of evidence does not generate trust.</p>	<p>Potential for improving scientific knowledge on cumulative impacts and transfer outputs to society to generate trust.</p>	<p>Other impacts e.g., on biodiversity, noise, debris are also identified in the literature as source for opposition.</p>
AL OPPOSITION		<p>There is much scientific learning from other fields which may be applicable to wave energy as means for learning.</p>	<p>Fish (commercial), cetaceans and birds are the groups for which impacts are specifically reported (being the source of opposition)</p> <p>These ecosystem components are especially relevant due to their commercial interest and charisma, respectively, and therefore, any negative impact on their stocks and communities are likely to generate important opposition.</p>



	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
GENERAL OPPOSITION		<p>There is the overall "concern" about "what will happen when wave energy development is scaled up?, what will be the impacts?".</p> <p>The fact that much of the impacts are based on models or small pilots, makes difficult to extrapolate and have a clear image of the real magnitude of impacts from farms or commercial projects which are not operational yet.</p> <p>This is a learning process, and therefore, there is so much that can be done other than science and models.</p>	<p>There is time now to understand what it is happening on other MRE projects, and what it is already happening to envisage future opposition and enforce or develop new measures to prevent or mitigate opposition.</p>	<p>Potential for getting more opposition in the future or being reluctant to future developments and/or expansion.</p>
SOLUTIONS	<p>To date, some solutions have proven effective in solving opposition (e.g., incentives, better science, good communication).</p>	<p>In general, the opposition reported have few different solutions (e.g. often focused on economic incentives).</p>	<p>Insufficient solutions provide the potential for innovation.</p>	<p>If opposition do not have solutions they will persist and generate permanent conflicts or a "negative aura" that may surround the wave energy.</p> <p>Relying on economic incentives can place a risk as those may not be sustainable on time.</p>



	STRENGTH	WEAKNESS	OPPORTUNITY	THREAT
SOLUTIONS	<p>Messages communicated in social media focus on the potential of wave energy to cover energy demands. It provides a positive message.</p> <p>This positive message may generate a good perception of this source of energy encouraging further developments.</p>	<p>There is little focus on the environmental impacts that wave energy may pose.</p>	<p>Science has the potential to advance in this field.</p>	<p>A very positive message (with limited information on the impacts) may raise questions.</p>
	<p>Much of the information communicated is directed to the public.</p>	<p>Much of the information communicated is directed to the public.</p>	<p>Potential for different communicating actors (e.g., scientists, communicators, engineers) to provide information on different aspects so there are no gaps on the information system (e.g., drivers, activity, pressures introduced, positive and negative environmental and welfare impacts, etc.).</p>	<p>The content communicated maybe is "relatively basic", and people may demand more detailed information.</p>
	<p>So far there is no (or very limited) "opposition" communicated in social media.</p> <p>The EU is requesting EU funded projects to make higher investments in communicating outputs through different communication channels.</p>	<p>Much of EU funded renewable energy projects do not show up within first retrievals when doing the media search.</p>	<p>There is need to increase communication efforts within EU projects, so research findings reach the society through social media.</p>	<p>The society needs to have up-to-date and detailed enough information to create own opinions, otherwise, biased perceptions are most likely to appear.</p>

6.2 Wave energy communication flows

6.2.1 Communication actors (from whom to whom)

Analysis of 473 references from Google, YouTube, Facebook and Twitter (Annex IV), revealed that most of the communications produced around wave energy come from the professional framework (74.5%) (Figure 1). The highest number of communications made by the professional framework were produced by communication services, news production services, renewable energies sector and educators. On the other hand, most of the content communicated addressed individual actors (62.9%), mainly citizens and learners.

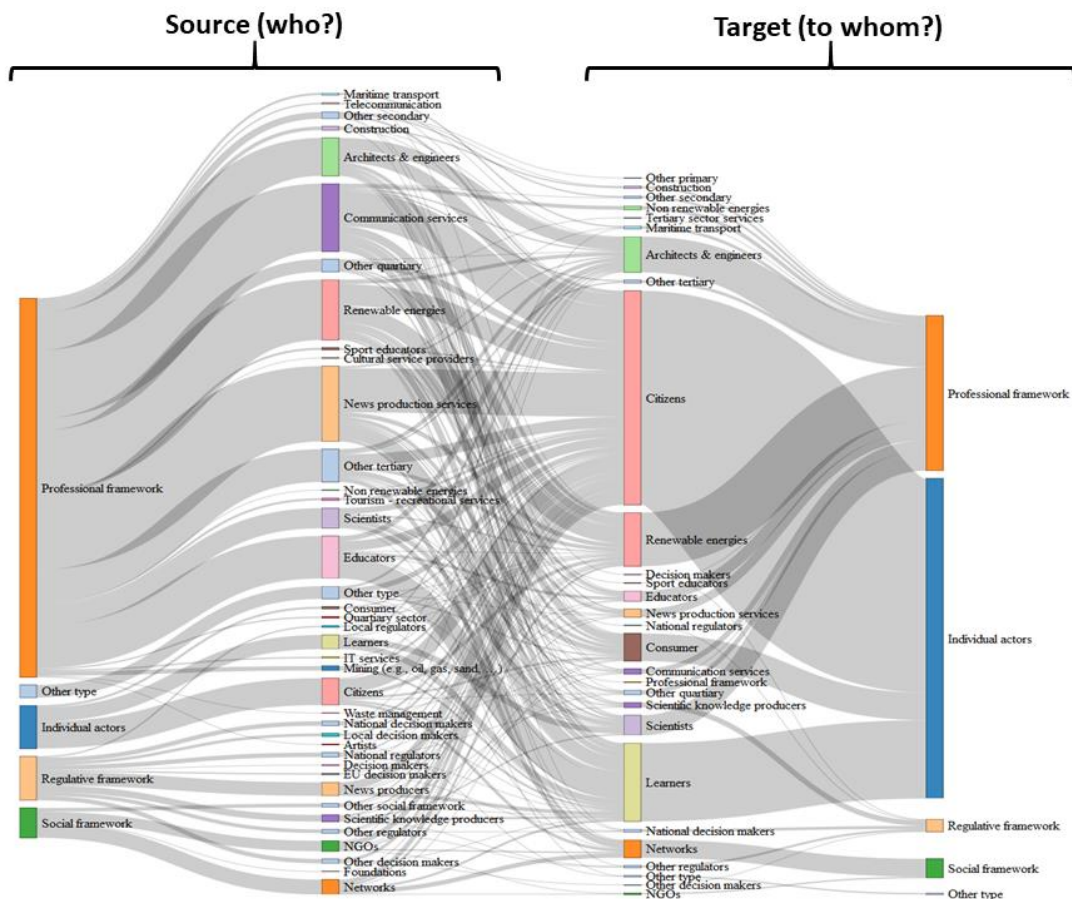


Figure 1. Sankey diagram of communication flows in wave energy: Communicators (who?) and audience (to whom?). The size of the nodes represents the number of communications found.

Since, opposition is often presented by local communities, which correspond to “citizens” as target audience, these are explored in detail in Figure 2. According to this analysis, citizens receive information from diverse sources, more precisely, from 34 different actors, being the communication services and news production services their main source of information (36.9% of the messages they receive); and in contrast with 10.1% of contents received directly from the renewable sector.

Furthermore, when focusing on the fishing sector, which is one of the main actors identified in the literature as presenting opposition to wave energies, it is possible to see that this sector, as target audience, is not specifically tackled through communication.

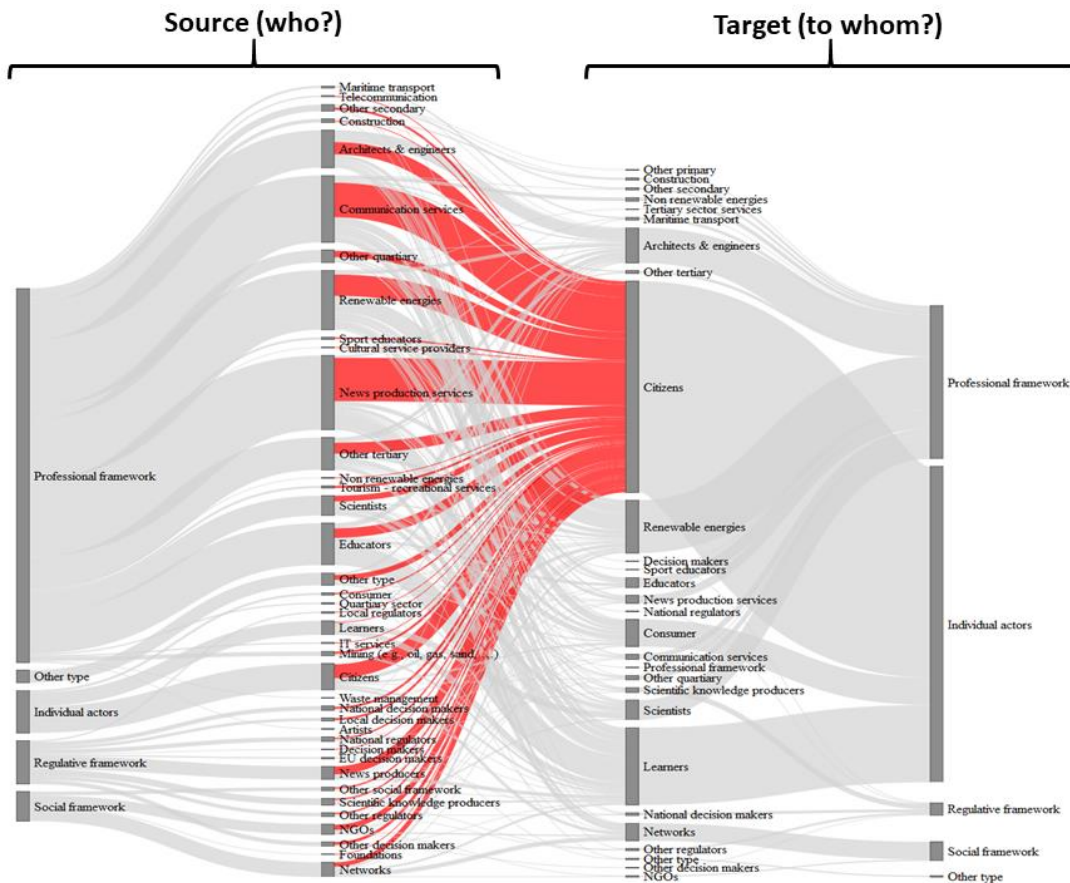


Figure 2. Sankey diagram of Wave energy communication flow, focusing on links that have citizens as the target audience (red links). The size of the nodes represents the number of communications found.

6.2.2 Communications by channels

Differences may exist in the actors involved in the communication (both as communicators and as target audiences), depending on the channel used to communicate the message. Therefore, the four communication channels were analysed separately (Figure 3).

The main communicators, independent of the communication channel, belong to the Professional framework, while the contribution of other actors (individual actors, the regulative framework, social framework and of other type of actors) to the generation of communication messages in wave energy is low. Most of the communications originated from the regulative framework were captured through Google, while the messages communicated by these actors using social media channels (Facebook, YouTube and Twitter) was less common.

Individual actors (mainly citizens and learners) are the most common target audience of the information shared through all the channels, especially in Facebook (63%) and YouTube (77.7%). In those two channels, other target audiences exist (i.e., Professional Framework, Regulative framework, and Social framework) but are less common, with relative contributions below 24%. In Google and Twitter, however, the individual actors target audience is more compensated with the professional framework as target audience: 56.1% of messages captured in Google were for individual actors and 38.0% for professional framework; while in Twitter, 55.3% of the messages are for individual actors and 38.5% for actors belonging to the professional framework.

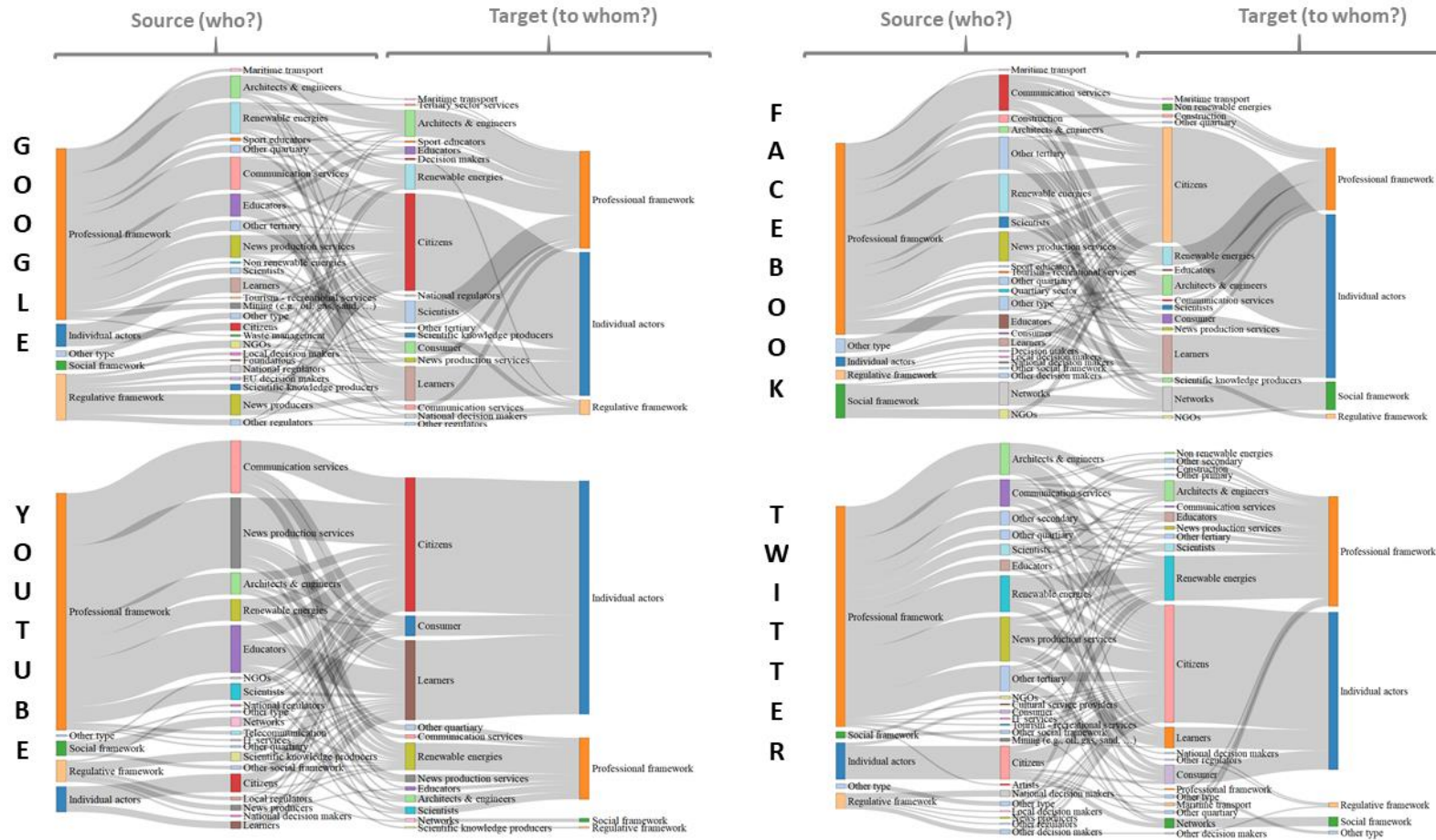


Figure 3. Sankey diagrams on communication flows organized according to the different sources of information used: Google, Facebook, YouTube and Twitter.

6.2.3 Content communicated

The media analysis shows that the content communicated on wave energy primarily focuses on the activity itself; that is, in the wave energy production/development. Also, emphasis is placed on the drivers (e.g., need to combat climate change, consumers’ demands) and the contribution of wave energy to welfare (e.g., clean energy supply, employment, a less polluted planet, etc.). Therefore, the overall “wave energy message” in these specific four media sources is very positive. Indeed, not many media retrievals put focus on the pressures that may be introduced into the environment with the development of wave energy nor on the negative environmental/social impacts that may generate the installation or functioning of these developments (Figure 4). That is, the fact that there are no much evidence showing negative (neither positive) effects on the environment, is explained by the fact that the wave energy is at an immature stage, and it is a “learn-as-you-go process”; furthermore, the pre-testing of environmental impacts would imply high cost. In summary and recognizing that there are limited evidence suggesting negative impacts of wave energy, it would be beneficial to integrate in the wave energy message a certain level of uncertainty associated with the impacts/benefits.

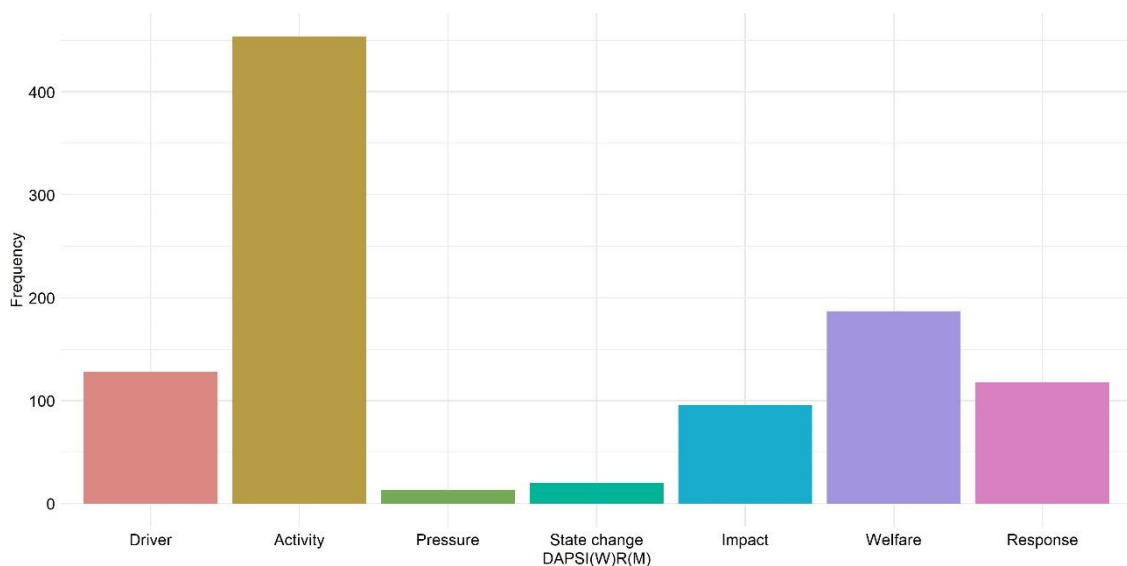


Figure 4. Content type communicated through the 473 references (from Google, YouTube, Facebook and Twitter) analysed in this work. The content is organized around the wave energy DAPSI(W)RM framework (Driver – Activity – Pressure – State change – Impact (on the environment) – Welfare (impact on Welfare) - Response).

6.3 Solutions to opposition presented to wave energy

The integration of the information derived from the analysis official documents presented during the consenting process, scientific and technical publications in the field of wave energies, the SWOT and media analyses performed, has allowed providing a set of solutions that include those that have already been implemented or suggested by others (e.g., through official documents, scientific and technical documents) and those that could potentially help to prevent opposition to wave energy developments and that are original outputs of this work (obtained through the SWOT and media analysis). The solutions are presented in the table below (Table 3), summarising and grouping solutions that cover similar aspects.



Table 3. Solutions identified through this research. The “x” mark indicates the source from which the solution has been obtained. Those obtained from official documents, Web of Science (WoS) or Tethys are considered primary sources of solutions (as they have already been explicitly mentioned in the literature). Those identified through the SWOT and media analyses are considered secondary sources.

		Primary sources			Secondary sources	
		Official documents	WoS	Tethys	SWOT	Media
Transparency	Ensure transparency through any wave energy development	x	x	x	x	
	Create documents/data repositories easily accessible to people				x	
	Simplify processes for wave energy development (clear actors involved)				x	
Engagement	Develop local strategies that ensure benefits to communities		x			
	Work to foster collaboration with local communities and local leaders		x			
	Establish additional steps at which stakeholders can present opinions/concerns				x	
	Use local knowledge to select best locations to deploy wave energy projects		x			
Science	Increase scientific knowledge in relation to environmental impact		x	x	x	
	Favour additional monitoring and surveys			x		
	Use and implement integrative (environmental, social and economic) models		x			
	Improve technological designs to reduce visual impacts (as well as other impacts)				x	
	Use and implement existing tools to identify locations where conflicts will be minimal				x	
	Use MSP and redesign projects according to different users’ needs		x	x	x	
Measures	Establish a set of compensatory measures	x	x	x	x	
	Develop a monetary fund to use under different circumstances			x	x	
	Develop and share EIA and surveillance plans, which should also include funds/actions to overcome risks	x			x	
	Develop and share risk plans and emergency measures	x		x		
Communication	Grow and educate (ocean literacy promotion) for clean energy pride				x	
	Introduce uncertainty as in relation to impacts (and benefits) in the communication					x
	Use direct communication to communicate with local communities (e.g., brochures, meetings)	x	x			
	Better indicate limits of the wave energy development areas		x	x		

7. Conclusions

This study reveals that the opposition that wave energy projects raise is rather limited. Very few documents provide evidence of opposition to wave energy projects. Yet, and since the wave energy activity is expected to expand in the near future, such opposition, even if limited, needs to be considered in advance, so projects can be adapted and measures can be developed and implemented as means to prevent or mitigate any negative impact that could generate opposition.

With the aim of synthesising the outputs of this research, the key outputs are highlighted below, and should guide the future development of wave energy projects:

- Wave energy official documents are not easily accessible, suggesting the need for developing public **repositories** that facilitate access to information, transparency and potentially, stakeholder participation.
- Despite many scientific and technical publications refer to wave energy, only **few reported** sources of **opposition**. This may be partially due to the “immature” stage at which wave energy developments are.
- The main source of opposition relates to economic issues (e.g., **conflicts with existing uses, threat to current jobs...**), social issues (e.g., **affection to local communities** and traditions) and environmental issues (e.g., **noise**, affection to **ecosystem components like fish, birds and habitats**) and.
- While technical documents highlight that **opposition was presented through the consultation process**, research studies indicate that additional opposition is often identified through specific research projects which may be carried out once the projects are ongoing and running.
- The integration of additional **stakeholder participation along the entire process** of the development of wave energy projects (i.e., from scoping to surveillance of scaled-up projects) may empower local communities and reduce their opposition.
- Through the consultation process, opposition is often raised, and in most cases, **measures** are implemented to mitigate impacts.

- Solutions often focus on **economic incentives**, but there is **need to go beyond** economic incentives, as money does not solve all sources of opposition nor they are sustainable over time.
- **Communication** can play an active **role** to reduce potential opposition, but technical outputs need to become **first-hand available** to key audiences that present opposition (e.g., fishers, citizens, etc.) on **real time** and through **communication channels that they are used to use** (i.e., social media *versus* scientific publications).
- **Uncertainties**, especially as in relation to **impacts on the environment** need communicating, as much of the communication focuses only on what is better known (i.e., drivers of the activity, wave energy developments and positive impacts on welfare).

It is clear that wave energy development will expand soon and with that, more severe opposition may emerge. Anticipating such opposition and implementing measures that can support communities, reduce impacts on users, better assess/model potential environmental impacts, could potentially reduce opposition in the future.

8. BIBLIOGRAPHY

- Bald, J., and Apolonia, M., 2020. Deliverable 4.2 Review of consenting processes for wave energy in Spain and Portugal focusing on risk-based approach and Adaptive Management. Deliverable of the WESE Project funded by the European Commission. Agreement number EASME/EMFF/2017/1.2.1.1/02/SI2.787640. 52 pp.
- EIA, 2019. Energy Information Administration World Energy Outlook 2019 <https://www.eia.gov/todayinenergy/detail.php?id=41433>
- [Elliott, M., Burdon, D., Atkins, J. P., Borja, A., Cormier, R., De Jonge, V. N., & Turner, R. K. \(2017\). "And DPSIR begat DAPSI \(W\) R \(M\)!"-a unifying framework for marine environmental management. Marine pollution bulletin, 118\(1-2\), 27-40.](#)
- Fawzy T., Quico C., Verweij M., Uyarra M.C., Rees S. & H. Fammler. 2017. The knowledge system of the Human-Ocean Relationship in Europe. WP3 Deliverable 3.2 ResponSEABLE EU funded project
- IEA-OES, 2021. Annual Report: An Overview of Ocean Energy Activities in 2020.
- Devine-Wright, P., 2011. 'From backyards to places: public engagement and the emplacement of renewable energy technologies'. in Devine-Wright, P. (ed.) Renewable energy and the public. London, Washington DC: Earthscan, pp 57-7
- Heras-Saizarbitoria, I., Zamanillo, I. and Laskurain, I., 2013. Social acceptance of ocean wave energy: A case study of an OWC shoreline plant. Renewable and Sustainable Energy Reviews, 27, pp.515-524.
- Ho, L.-W., T.-T. Lie, P. T. M. Leong and Clear, T., 2018. Developing offshore wind farm siting criteria by using an international Delphi method. Energy Policy, 113: 53-67.
- Howell, R., 2019. In sight and in mind: social implications of marine renewable energy (Doctoral Dissertation), Sociology, University of Edinburgh.

- Torre-Enciso, Y., Marqués, J. and López de Aguilera, L.I., 2010. Mutriku. Lessons learnt. ICOE 2010. https://www.icoe-conference.com/publication/mutriku_lessons_learnt/
- Villate, J.L., Ruiz-Minguela, P., Berque, J., Pirttimaa, L., Cagney, D., Cochrane, C. and Jeffrey, H., 2020. Strategic Research and Innovation Agenda for Ocean Energy. ETIPOCEAN.

9. ANNEX I

Task 7.1. Data gathering: search methodology

Part 1

Task 7.1 aims at understanding opposition to marine renewable energies. A literature research will be conducted to identify: (i) the obstacles and reasons that lead to opposition to wave energies; (ii) the main actors that normally present opposition, and when possible; (iii) the solutions given to overcome such problems. Over this literature review, a SWOT will be performed as means to identify possible opportunities and specific actions to overcome such problems.

To carry out this first part of the task, a structured and harmonized literature review will be carried out using three sources of information:

1. Feedback presented by stakeholders to wave energy projects during the public consultation process. To this end, the four promoters involved in this project will be responsible for finding these documents and providing them to AZTI. If necessary, support will be requested to these partners to complete the excel file if language barriers exist.
2. Tethys: <https://tethys.pnnl.gov/knowledge-base-marine-energy?search=consultation&f%5B0%5D=receptor%3A284>

In this case, the task lead (AZTI) will make the selection of relevant documents included in this repository to be analyzed.

3. Web of Science: the following keywords will be used to carry out the searches:
 - a. Wave energy AND consultation
 - b. Wave energy AND stakeholder participation
 - c. Wave energy AND perception
 - d. Wave energy AND attitude
 - e. Wave energy AND behaviour
 - f. Wave energy AND behavior
 - g. Wave energy AND opposition
 - h. Wave energy AND conflict
 - i. Wave energy AND recommendation
 - j. Wave energy AND good practices
 - k. Wave energy AND guidance

Retrievals obtained after the searches will be assessed by the expert and determine if they deserve inclusion in the analysis or not. Searches will be limited to the last 20 years (2000 till present date). To guide the reading of the documents and the potential SWOT analysis to be developed, an excel file has been developed, so those analyzing the documents perform the analysis in a harmonize manner. Guidance for completing the excel file is included in the excel document itself.

10. ANNEX II

Task 7.1. Data gathering: search methodology

Part 2.

A second part of this task implies carrying out a media analysis to identify "Who? says What? to Whom? and in Which channel?" with regards to wave energy.

To this end, protocols developed in the context of the **H2020 ResponSEAbLe project** on ocean literacy are proposed and adapted so they can be applied to SafeWAVE. Following these protocols, we will be able to identify key actors involved in the communication, key audiences, as well as the key messages communicated. By analysing these aspects, we will be able to identify where major gaps and needs are, as well as which flows of communications could be improved to improve acceptancy of wave energy.

Steps to identify and collect information

Before proceeding with searches, please log out or clear your search history, so it does not affect your retrievals.

For a comprehensive internet search on communicated information on wave energy, we propose the following steps.

1. Use the "wave energy" term, and their equivalent translated into French (énergie des vagues), Spanish (energía del oleaje) and Portuguese (energia das ondas), to carry out the searches. One partner will be responsible for each of the language searches.
2. Enter the search term into google advanced search: https://www.google.com/advanced_search The search term will be entered in the first field ('**all these words**'). All other fields depicted above will be left out.
3. For our purpose, the results should be filtered by language. In order to do so, select the language you are responsible for.
4. To delimit the search, we propose to analyse **30 valid retrievals** for each Search type. Please, note that for Facebook and Twitter searches only posts will be analysed. Thus, "author profiles" obtained after searches will be ignored. Just as means of visualizing, the following Twitter retrieval "Wave Energy Research Centre (@wave_energy_RC)" would not be eligible for analysing. This retrieval

refers to the profile of Wave Energy Research Center Twitter account. Profiles can be identified by “(@.....)”, and should be ignored.

5. The process should be repeated for data on YouTube, Facebook and Twitter by entering the respective domain (youtube.com, facebook.com, twitter.com) in the field “site or domain”. Compile data from the first 30 findings obtained on each of these social media platforms.

For each retrieval obtained in Google, YouTube, Facebook and Twitter, the different partners will analyse the content using guidelines included both in this document, presented during the TEAMS session, and in the excel file to be completed itself, for future integrative analysis.

6. Excel files should be returned to AZTI by the **5th of March** to leave sufficient time for an integrative analysis and development of the Deliverable associated to this work.



11. ANNEX III

This annex presents the list of technical and scientific references identified in this project as relevant for the task, which have been analysed carefully and used for the SWOT (Strengths – Weaknesses – Opportunities – Threats) analysis. TT: Tethys; WOS: Web of Science; SEC: Web of Science secondary.

ID/Origin	* Title	*Year	*Reference
TT1	Response to consultation on the environmental impact assessment decision of the project 20080538MAR Singular infrastructure for research in marine energy called Biscay Marine Energy Platform (BIMEP) (Vizcaya)	2009	Bald., J. 2009. Contestación a consulta sobre decisión de evaluación de impacto ambiental del proyecto 20080538MAR Infraestructura singular de investigación en energías marinas denominado Biscay Marine Energy Platform (BIMEP)(Vizcaya)
TT2	Wave energy in Europe: Views on experiences and progress to date	2016	O'Hagan, A.; Huertas, C.; O'Callaghan, J.; Greaves, D. (2016). Wave energy in Europe: Views on experiences and progress to date. International Journal of Marine Energy, 14, 180-197. DOI: 10.1016/j.ijome.2015.09.001
TT3	SOWFIA Enabling Wave Power: Streamlining Processes for Progress	2013	Greaves, D.; Collazo, C.; Magagna, D.; Conley, D.; Bailey, I.; Simas, T.; Holmes, B.; O'Hagan, A.; O'Callaghan, J.; Torre-Enciso, Y.; Dorleta, M.; Olivares, C.; Le-Crom, I.; Saulnier, J.; Sundberg, J.; Embling, C.; Witt, M.; Godley, B.; Leitão, J. (2013). SOWFIA Enabling Wave Power: Streamlining Processes for Progress. Report by Ente Vasco de la Energía (EVE).
TT4	Development and Consenting of Carnegie Wave Energy's Perth Wave Energy Project, Experiences from Down Under	2014	Ward, E. (2014). Development and Consenting of Carnegie Wave Energy's Perth Wave Energy Project, Experiences from Down Under [Presentation]. Presented at Environmental Impact of Marine Renewables 2014, Stornoway, Scotland, UK.
TT5	MERiFIC 6.1.2: Civil Society Involvement and Social Acceptability of Marine Energy Projects	2013	Delvaux, P.; Rabuteau, Y.; Stanley, K. (2013). MERiFIC 6.1.2: Civil Society Involvement and Social Acceptability of Marine Energy Projects (Report No. MERiFIC 6.1.2). Report for Marine Energy in Far Peripheral Island Communities (MERiFIC).
TT6	West Coast Perceptions of Wave Energy: A Survey of California, Oregon, Washington, and British Columbia Residents	2020	Boudet, H.; Brandt, D.; Stelmach, G.; Hazboun, S. (2020). West Coast Perceptions of Wave Energy: A Survey of California, Oregon, Washington, and British Columbia Residents. Report by Oregon State University. Report for Pacific Marine Energy Center (PMEC).
TT7	Attitudes towards Marine Energy: Understanding the Values	2015	de Groot, J. (2015). Attitudes towards Marine Energy: Understanding the Values (Doctoral Dissertation), Science and Environment, Plymouth University.

Deliverable 7.1 Societal response to wave energy



ID/Origin	* Title	*Year	*Reference
TT8	Social and Ecological Impacts of Marine Energy Development	2015	Bonar, P.; Bryden, I.; Borthwick, A. (2015). Social and Ecological Impacts of Marine Energy Development. <i>Renewable and Sustainable Energy Reviews</i> , 47, 486-495. DOI: 10.1016/j.rser.2015.03.068
TT9	Toward Best Practices for Public Acceptability in Wave Energy: Whom, When and How to Address	2010	Chozas, J.; Stefanovich, M.; Sørensen, H. (2010). Toward Best Practices for Public Acceptability in Wave Energy: Whom, When and How to Address, paper presented at International Conference on Ocean Energy, Bilbao, Spain.
TT10	Attitudes and Perceptions of Fishermen on the Island of Ireland Towards the Development of Marine Renewable Energy Projects	2015	Reilly, K.; O'Hagan, A.; Dalton, G. (2015). Attitudes and Perceptions of Fishermen on the Island of Ireland Towards the Development of Marine Renewable Energy Projects. <i>Marine Policy</i> , 58, 88-97. DOI: 10.1016/j.marpol.2015.04.001
TT11	SOWFIA Deliverable D.4.4 Interim Report: Critical Environmental Impacts for Relevant Socio-economic Activities and Mitigation Measures Including Main Conclusions and Feedback Analysis from Workshop B and Analysis of the Stakeholder Survey	2013	Simas, T.; Magagna, D.; Bailey, I.; Conley, D.; Greaves, D.; O'Callaghan, J.; Marina, D.; Saulnier, J.; Sundberg, J.; Embling, C. (2013). SOWFIA Deliverable D.4.4 Interim Report: Critical Environmental Impacts for Relevant Socio-economic Activities and Mitigation Measures Including Main Conclusions and Feedback Analysis from Workshop B and Analysis of the Stakeholder Survey. Report by WavEC - Offshore Renewables.
TT12	PROFORMA FOR RECORDING MARINE SCOTLAND'S CONSIDERATION OF A PROPOSAL AFFECTING A POTENTIAL/DESIGNATED SAC OR SPA	2014	Aquamarine Power Appropriate Assessment
WOS1.1	Establishing an agenda for social studies research in marine renewable energy	2014	Kerr, S., Watts, L., Colton, J., Conway, F., Hull, A., Johnson, K., et al. (2014). Establishing an agenda for social studies research in marine renewable energy. <i>Energy Policy</i> 67, 694–702. doi:10.1016/j.enpol.2013.11.063.
WOS1.2	Enabling science and technology for marine renewable energy	2008	Mueller, M., and Wallace, R. (2008). Enabling science and technology for marine renewable energy. <i>Energy Policy</i> , 7.
WOS3.1	Anticipated coastal impacts: what water-users think of marine renewables and why	2014	Stokes, C., Beaumont, E., Russell, P., and Greaves, D. (2014). Anticipated coastal impacts: What water-users think of marine renewables and why. <i>Ocean & Coastal Management</i> 99, 63–71. doi:10.1016/j.ocecoaman.2014.04.003.
WOS3.2	Out of Sight but Not out of Mind? Public Perceptions of Wave Energy	2011	Ian Bailey, Jodie West & Ian Whitehead (2011) Out of Sight but Not out of Mind? Public Perceptions of Wave Energy, <i>Journal of Environmental Policy & Planning</i> , 13:2, 139-157, DOI: 10.1080/1523908X.2011.573632

Deliverable 7.1 Societal response to wave energy



ID/Origin	* Title	*Year	*Reference
WOS3.3	Ocean space, ocean place: The human dimensions of wave energy in Oregon	2010	Conway, F., Stevenson, J., Hunter, D., Stefanovich, M., Campbell, H., Covell, Z., et al. (2010). Ocean space, ocean place: The human dimensions of wave energy in Oregon. <i>Oceanography</i> 23, 82–91.
WOS3.4	You don't do chemistry experiment in your best china': Symbolic interpretations of place and technology in a wave energy case	2009	McLachlan, C. (2009). 'You dont do a chemistry experiment in your best china Symbolic interpretations of place and technology in a wave energy case. <i>Energy Policy</i> , 9.
WOS4.1	Social acceptance of ocean wave energy: a case study of an OWC shoreline plant	2013	Heras-Saizarbitoria, I., Zamanillo, I., and Laskurain, I. (2013). Social acceptance of ocean wave energy: A case study of an OWC shoreline plant. <i>Renewable and Sustainable Energy Reviews</i> 27, 515–524. doi:10.1016/j.rser.2013.07.032.
WOS8.1	The Governance of Multi-Use Platforms at Sea for Energy Production and Aquaculture: Challenges for Policy Makers in European Seas	2016	Stuiver, M., Soma, K., Koundouri, P., van den Burg, S., Gerritsen, A., Harkamp, T., et al. (2016). The Governance of Multi-Use Platforms at Sea for Energy Production and Aquaculture: Challenges for Policy Makers in European Seas. <i>Sustainability</i> 8, 333. doi:10.3390/su8040333.
SEC1	Attitudes of Scottish fishers towards marine renewable energy	2012	Alexander, K. A. Attitudes of Scottish fishers towards marine renewable energy. <i>Marine Policy</i> , 6.
SEC2	Marine renewable energy and Scottish west coast fishers: Exploring impacts, opportunities and potential mitigation.	2013	Alexander, K. A., Potts, T., and Wilding, T. A. (2013). Marine renewable energy and Scottish west coast fishers: Exploring impacts, opportunities and potential mitigation. <i>Ocean & Coastal Management</i> 75, 1–10. doi:10.1016/j.ocecoaman.2013.01.005.
SEC3	Stakeholder perceptions of the wave hub in Cornwall, UK	2009	West, J., Bailey, I. & Whitehead, I. (2009) Stakeholder perceptions of the wave hub in Cornwall, UK. Paper presented at the 8th European Wave and Tidal Energy Conference, September 7-10, Uppsala, Sweden.
SEC4	Mapping the political landscape of wave energy development in Oregon	2009	Stevenson, J. (2009) Mapping the political landscape of wave energy development in Oregon; in Conway, F. Socio-economic perspectives of wave energy development (https://ir.library.oregonstate.edu/concern/parent/j96025048/technical_reports/6h440z07x)
SEC5	Addressing perceived community impacts of wave energy in coastal Oregon Communities	2009	Hunter, D. (2009) Addressing perceived community impacts of wave energy in coastal Oregon Communities; in Conway, F. Socio-economic perspectives of wave energy development (https://ir.library.oregonstate.edu/concern/parent/j96025048/technical_reports/6h440z07x)

Deliverable 7.1 Societal response to wave energy



ID/Origin	* Title	*Year	*Reference
SEC6	SOWFIA project, Deliverable 2.6: Work Package 2 Final Report	2013	O'Callaghan et al. (2013). Deliverable 2.6: Work Package 2 Final Report, https://www.plymouth.ac.uk/uploads/production/document/path/8/8935/WP2_-_Final_Report.pdf

12. ANNEX IV

This annex presents the list of Google, YouTube, Facebook and Twitter references that have been collected following guidelines, and posteriorly used for the media analysis (Who says What in Which channel and with Which effect). in this project as relevant for the task, which have been analysed carefully and used for the SWOT (Strengths – Weaknesses – Opportunities – Threats) analysis.

From Spanish language, from 2008 to 2021; Source: G: Google; Y: YouTube; FB: Facebook; T: Twitter

	Title	English Title	Resource URL
G	Evaluación del potencial de la energía de las olas	Assessment of the potential of wave energy. PER 2011-2020 Technical Study	https://www.idae.es/uploads/documentos/documentos_11227_e13_olas_b31fcafb.pdf
G	Da comienzo el proyecto europeo de energías oceánicas VALID, en el que participan IDOM, Tecnalia y BiMEP	The European ocean energy project VALID begins, in which IDOM, Tecnalia and BiMEP participate	http://www.clusterenergia.com/noticias-asociados-2/da-comienzo-proyecto-europeo-energias-oceanicas-valid-en-que-participan-idom-tecnalia-y-bimep
G	Energía de las Olas: ¿Qué es y Cómo funciona?	Wave Energy: What is it and how does it work?	https://energiatoday.com/olas/
G	Cómo aprovechar la energía de las olas.	How to harness the energy of the waves.	http://innovacion.portsdebalears.com/proyecto/como-aprovechar-la-energia-de-las-olas/
G	Energía undimotriz	Wave energy	https://www.iagua.es/blogs/sibylle-soers/energia-undimotriz
G	¿Se puede obtener energía limpia de las olas?	Can you get clean energy from waves?	https://www.ecoembes.com/es/planeta-recicla/blog/se-puede-obtener-energia-limpia-de-las-olas
G	Energía de las Olas	Wave Energy	https://www.udc.es/iuem/documentos/doc_xornadas/anaeco/APROVEITAMENTODAENERXIADASOLAS.pdf
G	La planta de energía de las olas de Mutriku bate un nuevo récord de producción	Mutriku wave power plant breaks new production record	https://www.energias-renovables.com/energias_del_mar/la-planta-de-energia-de-las-olas-20200224
G	La energía renovable procedente de las olas	Renewable energy from waves	http://www.ehu.es/ikastorratza/8_alea/energia/energia.pdf
G	Energía del oleaje	Wave Energy	file:///C:/Users/imentxaka/Downloads/Energ%C3%ADa%20del%20oleaje.pdf
G	La mayor planta de energía de las olas	The largest wave power plant	https://www.ambientum.com/ambientum/energia/la-mayor-planta-de-energia-de-las-olas.asp
G	Energía del mar. Olas y mareas	Energy from the sea. Waves and tides	https://wastemagazine.es/energiaolas.htm

	Title	English Title	Resource URL
G	Energía undimotriz: El aprovechamiento de la fuerza de las olas	Wave energy: Harnessing the force of waves	https://www.coregal.es/noticias/energ%C3%ADa-undimotriz-el-aprovechamiento-de-la-fuerza-de-las-olas,91401309
G	¿Cuánta energía hay en las olas del mar?	How much energy is there in the waves of the sea?	https://www.larazon.es/lifestyle/la-razon-del-verano/cuanta-energia-hay-en-las-olas-del-mar-CL19566105/
G	Cómo aprovechar la energía de las olas	How to harness the energy of the waves	https://www.dw.com/es/c%C3%B3mo-aprovechar-la-energ%C3%ADa-de-las-olas/av-49387110
G	Energía undimotriz o de las olas	Wave energy	http://bibing.us.es/proyectos/abreproy/70175/fichero/1_Capitulol.pdf
G	La energía de las olas	The energy of the waves	https://blogs.imf-formacion.com/blog/energias-renovables/articulos/la-energia-de-las-olas/
G	Energía undimotriz: el reto tecnológico de la energía de las olas	Wave energy: the technological challenge of wave energy	https://www.mapfreglobalrisks.com/gerencia-riesgos-seguros/articulos/energia-undimotriz-el-reto-tecnologico-de-la-energia-de-las-olas/
G	Euskadi y Escocia se alían para la obtención de energía de las olas	Euskadi and Scotland join forces to obtain energy from the waves	https://diarioelcanal.com/euskadi-y-escocia-se-alian-para-la-obtencion-de-energia-de-las-olas/
G	La nueva central de captación de energía de las olas en Portugal y otros sistemas de obtención de energía en el mar	The new wave energy collection plant in Portugal and other systems for obtaining energy at sea	http://www.sitiosolar.com/la-nueva-central-de-captacion-de-energia-de-las-olas-en-portugal-y-otros-sistemas-de-obtencion-de-energia-en-el-mar/
G	APROVECHAMIENTO DE LA ENERGÍA DE LAS OLAS ENERGÍA UNDIMOTRIZ	TAKING ADVANTAGE OF THE ENERGY OF THE WAVES UNDOMOTIVE ENERGY	https://riull.ull.es/xmlui/bitstream/handle/915/2522/APROVECHAMIENTO%20DE%20LA%20ENERGIA%20DELAS%20OLAS%20-%20ENERGIA%20UNDIMOTRIZ.pdf?sequence=1&isAllowed=y
G	El futuro de la energía está en las olas	The future of energy is in the waves	https://www.muyinteresante.es/innovacion/articulo/energia-undimotriz-energia-de-las-olas-espanola-de-sea-electric-waves
G	SUECIA PRODUCE COMERCIALMENTE ENERGÍA DE LAS OLAS	SWEDEN PRODUCES ENERGY FROM WAVES COMMERCIALLY	https://www.surferrule.com/suecia-produce-comercialmente-energia-de-las-olas/
G	La energía de las olas Recursos, tecnologías y rendimiento	The energy of the waves Resources, technologies and performance	https://iste-international.es/product/la-energia-de-las-olas/
G	Parece un bote, pero su misión es capturar la energía de las olas	It looks like a boat, but its mission is to capture the energy of the waves	https://www.elespanol.com/invertia/disruptores-innovadores/innovadores/20200922/parece-bote-mision-capturar-energia-olas/522449451_0.html

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
G	Wavestar: nuevo sistema que permite generar energía de las olas de forma ininterrumpida	Wavestar: new system that allows generating energy from waves without interruption	https://ecoinventos.com/wavestar/
G	Energía Undimotriz	Wave Energy	https://encolombia.com/medio-ambiente/interes-a/energia-undimotriz/
G	València busca energía en las olas de La Marina	València look for energy in the waves of La Marina	https://valenciaplaza.com/valencia-busca-energia-en-las-olas-de-la-marina
G	¿CÓMO SE FORMAN LAS OLAS?¿QUÉ ES EL SWELL?	HOW ARE WAVES FORMED? WHAT IS SWELL?	https://www.watsaysurfschool.com/como-se-forman-las-olas-que-es-el-swell/
G	FINLANDIA SE ZAMBULLE EN LA ENERGÍA DE LAS OLAS	FINLAND DIVES INTO THE ENERGY OF THE WAVES	https://finland.fi/es/neegocios-amp-innovacion/finlandia-zambulle-la-energia-de-las-olas/
Y	¿Cómo funciona la energía de las olas del mar?	How does it work the wave energy?	https://www.youtube.com/watch?v=Y0USR4YZa_Q
Y	Energía con las olas del mar	Energy from sea waves	https://www.youtube.com/watch?v=v2xA_sRedKI
Y	La energía renovable de las olas	The renewable energy from waves	https://www.youtube.com/watch?v=7RKQ1w1NvQE
Y	Energía Maremotriz y Energía de las Olas. Las Energías del Mar. Como funciona una Central Maremotriz	Tydal energy and wave energy. Energies from the sea. How it works a marine energy plant	https://www.youtube.com/watch?v=_mq4CiMN3n0
Y	Proyecto I+D+i HiWAVE, centrado en la energía de las olas	Reasearch , Development and Innovation Project HiWAVE, focused on wave energy	https://www.youtube.com/watch?v=pC9oXPwTqI4
Y	Instalan máquinas que obtienen energía eléctrica de las olas del mar	Instalation of equipment to obtain electric energy from sea waves	https://www.youtube.com/watch?v=_wL3FYJ8XYk
Y	Euronews hiTech - La fuerza del mar	Euronews hiTech - the power of the sea	https://www.youtube.com/watch?v=klhPdsf3mCw
Y	Sistema conversor de la energía de las olas	Wave energy converter system	https://www.youtube.com/watch?v=S2EtwMijMW6A
Y	Aprovechando la Energía de las Olas: Manuel Grases at TEDxUSB	Making use of wave energy: Manuel Grases at TEDxUSB	https://www.youtube.com/watch?v=GG_VtDLwJeU
Y	Planta de energía de las olas	Wave energy plant	https://www.youtube.com/watch?v=xnCiAWgZgic
Y	La energía de las olas	The wave energy	https://www.youtube.com/watch?v=ZuAIYeS7PmM
Y	Un invento que aprovecha la energía de las olas- Inventando Chile	An "invention" to obtain the power of waves - inventing Chile	https://www.youtube.com/watch?v=fvHmFhuIV3k
Y	¿Qué es la energía undimotriz?	What is the wave energy?	https://www.youtube.com/watch?v=aB1IxAWsOEI

	Title	English Title	Resource URL
Y	Generación de energía eléctrica con las olas del mar	Wave energy production with sea waves	https://www.youtube.com/watch?v=nAEO7pRrHm8
Y	Euskadi dispone ya de la primera planta europea que suministra energía a través de las olas	Euskadi already has the first European production plant that provides energy based on waves	https://www.youtube.com/watch?v=RjWm9CAU8rl
Y	Tecnología israelí: sacar energía de las olas del mar	Israel technology: obtaining energy from sea waves	https://www.youtube.com/watch?v=l_46nU38Mgc
Y	Aprovechando la energía del mar para generar electricidad	Making use of the sea power to generate electricity	https://www.youtube.com/watch?v=AMp-bA8egPl
Y	La fuerza de las olas del mar da energía	The power of the waves generates energy	https://www.youtube.com/watch?v=n4W2-Cz8lvk
Y	Brasil logra generar electricidad de las olas del mar	Brazil managed to generate electricity from waves	https://www.youtube.com/watch?v=oS3ldN5NjvE
Y	Energía maremotriz y undimotriz - las energías del mar y las olas	Tidal energy and wave energy - sea and wave energy	https://www.youtube.com/watch?v=Na8goMnFzKc
Y	Energía undimotriz en Pura Vida	Wave energy in Pura Vida	https://www.youtube.com/watch?v=00-UnMyyxCU
Y	La mujer que vino desde Chernóbil para crear electricidad de las olas	The woman that came all the way from Chernobyl to generate electricity from waves	https://www.youtube.com/watch?v=NbkIjy8eNc
Y	Planta de energía de oleaje en Mutriku	Wave energy plant in Mutriku	https://www.youtube.com/watch?v=7m1QrqPtQ8Q
Y	Enel Green Power adquiere el primer convertidor de la energía de las olas para Chile	Enel Green Power obtains the first wave energy converter for Chile	https://www.youtube.com/watch?v=ICMbwHBqLO4
Y	Energía - La fuerza del mar	Energy - the power of the sea	https://www.youtube.com/watch?v=gdluSm6EjFA
Y	Energía de las olas	Wave energy	https://www.youtube.com/watch?v=5e8zmeZO7lQ
Y	Energía undimotriz de la UTM Buenos Aires	Wave energy from UTM Buenos Aires	https://www.youtube.com/watch?v=offTployaBU
Y	Energía del mar	Marine energies	https://www.youtube.com/watch?v=24iUw3KmL5c
Y	El calentamiento del océano está haciendo que la energía de las olas sea cada vez mayor	The warming of the ocean is making that the energy of waves is increasing	https://www.youtube.com/watch?v=0A#LNcVkol
Y	Supera energía de las olas a la solar y eólica	Wave energy overtakes solar and wind energies	https://www.youtube.com/watch?v=LrrPzXPEQKs

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
F B	La Energía de las olas del mar, para producir electricidad limpia, algo en lo que podríamos invertir en nuestro país y generar empleo	Wave energy to produce clean energy, something we could invest on in our country and generate jobs	https://www.facebook.com/355164454519345/posts/3362671747101919/
F B	Energía undimotriz	Wave energy	https://www.facebook.com/295935153900420/posts/334157706744831/
F B	La Energía de las olas del mar	Marine wave energy	https://www.facebook.com/EmbajadadeSueciaenCuba/posts/3023292111035110/
F B	La mayor planta de energía de las olas va a producir su primer megavatio	The biggest wave energy plant is going to produce its first megaWatt	https://m.facebook.com/Ambi.Lat/photos/a.885477691479349/4083528508340902/?type=3&source=48
F B	Otra forma de crear energía: con las olas. Energía undimotriz.	Other way to create energy: wave energy	https://www.facebook.com/ElHuffPost/videos/1119890628076393/?refsrc=http%3A%2F%2Fwww.google.es%2F
F B	La energía de las olas	Wave energy	https://www.facebook.com/permalink.php?id=439441279884085&story_fbid=1000970853731122
F B	Energía a través de las olas del mar	Energy from marine waves	https://www.facebook.com/fmt.utr.frba/posts/2347948868778400/
F B	Energía de las olas	Wave energy	https://www.facebook.com/IsraelSinFiltro/videos/energ%C3%ADa-de-las-olas/215588433551413/
F B	Energía de las olas	Wave energy	https://www.facebook.com/436556976774413/posts/1133322473764523/
F B	Energía de las olas del mar	Wave energy	https://www.facebook.com/intriper/videos/energ%C3%ADa-de-las-olas-del-mar/293527918427256/
F B	Instalan máquinas que obtienen energía eléctrica de las olas del mar	Installation of new devices to obtain electricity from marine waves	https://www.facebook.com/RTfuturo/videos/instalan-m%C3%A1quinas-que-obtienen-energ%C3%ADa-el%C3%A9ctrica-de-las-olas-del-mar/362627981638705/
F B	La energía undimotriz o energía de las ola	Wave energy	https://www.facebook.com/100154395224111/posts/130068185566065/
F B	Energía de las olas	Wave energy	https://www.facebook.com/MaperconPeru/videos/%F0%9D%97%98%F0%9D%97%A1%F0%9D%97%98%F0%9D%97%A5%F0%9D%97%9A%F0%9D%97%9C%F0%9D%97%94-%F0%9D%97%97%F0%9D%97%98-%F0%9D%97%9F%F0%9D%97%94%F0%9D%97%A6-%F0%9D%97%A2%F0%9D%97%9F%F0%9D%97%94%F0%9D%97%A6/581494259066067/

	Title	English Title	Resource URL
F B	Suecia es el primer país en producir comercialmente energía de las olas		https://www.facebook.com/socgeoes/posts/1702102296613277/
F B	Te imaginas toda esa energía de las olas del mar para convertirla en energía Eléctrica	Could you imagine transforming all that wave energy in electricity?	https://www.facebook.com/jmotaproyectos/videos/te-imaginas-toda-esa-energ%C3%ADa-de-las-olas-del-mar-para-convertirla-en-energ%C3%ADa-el%C3%A9ctrica/2823091327912231/
F B	Generar energía a partir de las olas	Generating energy from waves	https://www.facebook.com/ACIISI/posts/3220119528026803/
F B	Las olas energía renovable inagotable	Waves: endless renewable energy	https://www.facebook.com/UPIhn/videos/las-olas-energ%C3%ADa-renovable-inagotable/503489880167029/
F B	España podría cubrir el 20% de su consumo eléctrico con la energía de las olas	Spain can cover 20% of it electricity demand with wave energy	https://www.facebook.com/RevistaEnergiasRenovables/posts/1050530015027976/
F B	Generación de electricidad mediante la energía de las olas	Electricity generation using wave energy	https://www.facebook.com/Facultad-de-Ciencia-y-Tecnolog%C3%ADa-Universidad-del-Azuay-749269381897300/videos/generaci%C3%B3n-de-electricidad-mediante-la-energ%C3%ADa-de-las-olas/830123757815955/
F B	El coste de la energía de las mareas podría bajar a 90 €/MWh y el de las olas a 110 euros	The cost of tidal energy could lower to 90 €/MWh and wave energy to 110 euro	https://www.facebook.com/permalink.php?id=1410522142540290&story_fbid=2773094346283056
F B	Energía a través de las olas del mar	Energy from marine waves	https://www.facebook.com/ceit.utn/posts/2293204260775195/
F B	Valencia desarrollará energía de las olas para el alumbrado público de La Marina	Valencia will develop wave energy for the lighting of "La Marina"	https://www.facebook.com/1410522142540290/posts/2688766731382485/
F B	Las olas: energía renovable inagotable	Waves: endless renewable energy	https://www.facebook.com/EIHuffPost/videos/las-olas-energ%C3%ADa-renovable-inagotable/2012369755495138/
F B	La empresa de energía de olas, Eco Wave Power, abrió una subsidiaria total en Oporto, Portugal	Wave energy company "Eco Wave Power" has opened a branch in Oporto, Portugal	https://www.facebook.com/GlobalEnergyMx/posts/3448791141851701/
F B	En Brasil hay una planta undimotriz que genera energía con las olas del mar	In Brasil there is a wave energy plant that generates energy from marine waves	https://www.facebook.com/EnriqueOchoaR/videos/en-brasil-hay-una-planta-undimotriz-que-genera-energ%C3%ADa-con-las-olas-del-mar-cada/468775347418179/
F B	Como fuente potencial de energía renovable, la energía de las olas o energía undimotriz, es prometedora	Wave energy is a promising potential source of renewable energy	https://www.facebook.com/okdiario/posts/1727245237471121/

	Title	English Title	Resource URL
F B	La producción mundial de energía de las olas y de las mareas se multiplica por diez en la última década	World production of wave and tidal energy has multiplied by 10 in the last decade	https://www.facebook.com/1410522142540290/posts/2587216694870823/
F B	La energía undimotriz	Wave energy	https://www.facebook.com/IsraelinGuatemala/posts/2464862910218181/
F B	La energía undimotriz es la que se basa en el movimiento de las olas para generar electricidad	Undimotriz energy is based on the wave movement to produce electricity	https://www.facebook.com/MenteVerdeQM/posts/575074125998425/
F B	MARMOKA-5 , EL PRIMER CAPTADOR DE ENERGÍA DE OLAS DISEÑADO EN EUSKADI COMENZARÁ SUS PRUEBAS DE FUNCIONAMIENTO EN SEPTIEMBRE	MARMOKA-5, the first wave energy capturer designed in Euskadi, will start its running tests in September	https://www.facebook.com/aiecs.castellon/photos/marmoka-5-el-primer-captador-de-energ%C3%ADa-de-olas-dise%C3%B1ado-en-euskadi-comenzar%C3%A1-su/1334352983260406/
T	La energía undimotriz es la energía de las olas	The "energía undimotriz" is the wave energy	https://twitter.com/adiedominicana/status/1021822981192986624
T	La energía de las olas podría satisfacer hasta 10% de la demanda de electricidad en 2050	Wave energy could cover up to 10% of energy demand in 2050	https://twitter.com/unep_espanol/status/880543799042342912
T	Pondrán en funcionamiento el primer convertidor a escala completa de energía de las olas para Chile	The first comberter of wave power in Chile will start operating	https://twitter.com/reportesos/status/1176119234830700544
T	La energía de las olas: produce mas energía eléctrica por metro cuadrado que la solar y eólica	Wave energy rproduces more energy per square meter than the solar and eolic	https://twitter.com/alternativaver1/status/888143269733052417
T	Energía undimotriz: la que permite obtener electricidad a partir de energía mecánica generada por las olas	Wave energy allows to rproduce lectricity from the mechanical energy of waves	https://twitter.com/atiga_/status/1192046498437091328
T	Bombora y Mitsui se lanzan a proyectos de energía de las olas combinados con eólica marina en Japón	Bombora and Mitsui start wave energy projects combined with marine eolic in Japan	https://twitter.com/Per_Energia/status/1347483233378775042
T	La energía de las olas es suficiente para abastecer a todo el planeta	Wave energy is enough to cover the demand of the planet	https://twitter.com/amigosing/status/728137859979337728
T	Potencial de energía mareomotriz en Chile	Wave energy potential in Chile	https://twitter.com/petarostojic/status/1162006001685598214
T	Con la fuerza del mar se puede generar electricidad	With marine power we can generate electricity	https://twitter.com/naturgy/status/1064800627350536192

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
T	Generar energía a partir de las olas	Generate energy with waves	https://twitter.com/agenciaiisi/status/1289112029224218624
T	Energía con las olas del mar	Energy with marine waves	https://twitter.com/danielsenderos/status/1202675538160168961
T	Central undimotriz de Mutriku	Wave energy station of Mutriku	https://twitter.com/j_groizard/status/1112643501244731399
T	Waveoller, el sistema que converte las olas del mar en energía eléctrica	Waveoller, the system to convert marine waves in electricity	https://twitter.com/bricoelige/status/609653953177882624
T	Bruselas elige los bancos marinos de ensayo de Euskadi (BIMEP) y Escocia (EMEC) para probar tres dispositivos de captación de energía de las olas	Brussels chooses the pilot proyecys of Eusaki and Scotland to test three devices to capture wave energy	https://twitter.com/erenovables/status/1343554004962435072
T	La energía de las olas	Wave energy	https://twitter.com/Euroden_Ing/status/1214489375028981760
T	Suecia es el primer país en producir comercialmente energía de las olas	Sweden is the first country commercializing wave energy	https://twitter.com/aggregatte/status/1345034560191533058
T	Euskadi y Escocia, con el apoyo de la Comisión Europea, impulsaremos conjuntamente la energía renovable marina		https://twitter.com/arantxa_tapia/status/1334819507223867397?lang=bg
T	Beñat Sanz, Director de APPAMarina, nos cuenta la situación actual de la energía de las #olas en España y su desarrollo	Beñat Sanz, Director of APPAMarina, talks about the current situation and development of wave energy in Spain	https://twitter.com/appa_renovables/status/1278616232808321024?
T	Las renovables son energías no contaminantes que aprovechan de forma respetuosa los fenómenos naturales que nos rodean como el sol o el viento, ¿sabes que también podemos obtener energía de las olas?	renewable energies are non-contaminant energies that use in a respectful way natural phenomena like sun and wind; did you know that we can also obtain energy from waves?	https://twitter.com/olga_CPeral/status/1303021516960002049
T	Suecia es el primer país en producir comercialmente energía de las olas	Sweden is the first country producing commercially wave energy	https://twitter.com/caminosmadrid/status/1333730075368443905
T	Energía undimotriz: olas producen electricidad	Wave energy	https://twitter.com/kwpulso/status/1101074002850865153
T	Bilbao se estrenará como capital europea de las energías del #mar en 2023. Conferencia europea	Bilbao will be the marine energy city in 2023 (European Conference)	https://twitter.com/APPA_Renovables/status/1171655862093602816

	Title	English Title	Resource URL
T	En Mutriku recorriendo la primera planta comercial en Europa que usa la energía de las olas para generar energía eléctrica	In Mutriku, visiting the first commercial plant in Europe using wave energy to generate electricity	https://twitter.com/EM_MERIC_Chile/status/896159295368302592
T	Recibimos la visita de una misión coreana de #KHNP en la planta de Mutriku de EVE interesados en el potencial del sector renovable eólico y en energía de las olas de Euskadi	We received the visit from Korea #KHNP in EVE's plant in Mutriku, they are interested in the potential of eolic and wave energy in Euskadi	https://twitter.com/Cluster_Energia/status/1186559608313335808
T	Una empresa española (arrecifsystems) pone en marcha un sistema único en el mundo para producir electricidad con la energía de las olas	Spanish company (arrecifsystems) starts a unique system to rproduce electricity from wave energy	https://twitter.com/skverdes/status/1169152193427050496
T	Newsletter de Per_energia	Newsletter from Per_Energia	https://twitter.com/recidanet/status/1243863211092389888
T	Valencia prueba un proyecto experimental para alimentar el alumbrado de su frente marítimo con la energía de las olas	Valencia tests an experimental project to feed its lighthing with wave energy	https://twitter.com/_SmartLighting/status/1284412778984472577
T	Canarias ya aprovecha la enegia de las olas	Canary islands are already using wave energy	https://twitter.com/degimasa/status/482574609066098688
T	Arrecife prueba su primer sistema de generación con energía de las olas	Arrecife tests its firts generation system with wave energy	https://twitter.com/cluster_energia/status/1168530366614908929
T	La oscilación de las olas por el viento puede producir energía libre de emisiones de CO2	Wave movement due to wind can produce energy free of CO2 emissions	https://twitter.com/codensaenergia/status/747572764928778240

From English language, from 2007 to 2021 ; Source: G: Google; Y: YouTube; FB: Facebook; T: Twitter

	Title	Resource URL
G	SEAI Ocean Energy Technologies	https://www.seai.ie/technologies/ocean-energy/ocean-energy-technologies/
G	Ireland needs to take a gamble now on wave energy	https://www.irishtimes.com/business/energy-and-resources/ireland-needs-to-take-a-gamble-now-on-wave-energy-1.4080749
G	OpenEI Wave Energy	https://openei.org/wiki/Wave_Energy
G	Wikipedia Wave Power	https://en.wikipedia.org/wiki/Wave_power

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
G	ESB Ocean Energy	https://esb.ie/tns/education-hub/future-energy/ocean-energy
G	Ocean Energy Europe Wave Energy	https://www.oceanenergy-europe.eu/ocean-energy/wave-energy/
G	DOE Waves to Water ADAPT Stage Winners	http://www.seapower.ie/wave-energy/
G	State of the Art and Perspectives of Wave Energy in the Mediterranean Sea: Backstage of ISWEC	https://www.frontiersin.org/articles/10.3389/fenrg.2019.00114/full
G	Wave Energy Test Facilities	https://www.marine.ie/Home/site-area/infrastructure-facilities/ocean-energy/wave-energy-test-facilities
G	Simply Blue Group: Wave Energy Business Model	Simply Blue Group: Wave Energy Business Model
G	AW-Energy: Why Wave Energy is Here to Stay	https://aw-energy.com/blogs/why-wave-energy-is-here-to-stay/
G	Wind and wave are our oil and gas: How Ireland could harness the power of the ocean	https://fora.ie/wave-energy-ireland-2-4932329-Dec2019/
G	Why Wave Power Has Lagged Far Behind as Energy Source	https://e360.yale.edu/features/why_wave_power_has_lagged_far_behind_as_energy_source
G	Marei: Wave Energy	https://www.marei.ie/offshore-renewable-energy/wave-energy/
G	The nearshore wind and wave energy potential of Ireland: A high resolution assessment of availability and accessibility	https://www.sciencedirect.com/science/article/abs/pii/S0960148115304304
G	Costal Wiki: Wave energy converters	http://www.coastalwiki.org/wiki/Wave_energy_converters
G	BOEM: Renewable Energy on the Outer Continental Shelf	https://www.boem.gov/renewable-energy/renewable-energy-program-overview
G	The Irish Wave Energy Developers Association represent 11 early stage Irish devise developers	http://iweda.ie
G	Science Direct: Wave Power	https://www.sciencedirect.com/topics/engineering/wave-power
G	IRENA: Wave Energy: Technology Brief	https://www.irena.org/publications/2014/Jun/Wave-energy
G	TCD: Wave energy	https://www.tcd.ie/civileng/research/energy/wave/
G	Open University: Wave energy technologies	https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=73764&section=4
G	RTE: Irish wave energy device to help power Hawaii	https://www.rte.ie/news/business/2019/1210/1098159-ocean-energy-hawaii/
G	European Commission: Wave Energy Planning and Marketing (WAVEPLAM)	https://ec.europa.eu/energy/intelligent/projects/en/projects/waveplam
G	The RYA: Wave Energy	https://www.rya.org.uk/knowledge-advice/offshore-renewables/Pages/wave-energy.aspx

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
G	DW: Ocean Energy about to ride a wave	https://www.dw.com/en/ocean-energy-about-to-ride-a-wave/a-56316422
G	Grian: Paving the way to a greener Ireland	https://www.grian.ie/#
G	Tethys: Eco wave power wave energy power station Gibraltar	https://tethys.pnnl.gov/project-sites/eco-wave-power-wave-energy-power-station-gibraltar
G	World Finance: The tide is turning on wave energy	https://www.worldfinance.com/markets/the-tide-is-turning-on-wave-energy
G	EMEC: Wave Devices	http://www.emec.org.uk/marine-energy/wave-devices/
Y	How It Works: Wave Energy	https://www.youtube.com/watch?v=8miWW2QyN_4
Y	Why Can't We Get Power From Waves	https://www.youtube.com/watch?v=PMRiKmgxrh0
Y	Wave Energy - Capturing Ireland's Energy off the West Coast	https://www.youtube.com/watch?v=_LOARJfhLtU
Y	Ocean Energy - Wave Power Station	https://www.youtube.com/watch?v=gcStpg3i5V8
Y	Powerful wave energy system tested in Scottish waters	https://www.youtube.com/watch?v=0I7G9M_RxRU
Y	Harvesting the Wave Energy: The Function of Wells Turbine	https://www.youtube.com/watch?v=kXfSrCWA7qA
Y	Wave Energy : Harnessing the Ocean's Power - Science Nation	https://www.youtube.com/watch?v=1LJpBnxzG30
Y	Ocean Wave Energy	https://www.youtube.com/watch?v=ovw-pHqyP7E
Y	Wave Power: How It Works	https://www.youtube.com/watch?v=F0mzrbfzUpM
Y	Eco Wave Power Makes Energy from the Ocean	https://www.youtube.com/watch?v=2MjGfMAxmYo
Y	Energy for the Future - SINN Power Wave Energy	https://www.youtube.com/watch?v=vxVhLC4dCbg
Y	Testing the SBM Offshore S3 Wave Energy Converter - watch the video!	https://www.youtube.com/watch?v=OKT0RHFaBUk
Y	Wave Swell Energy will harness wave energy to produce electricity	https://www.youtube.com/watch?v=yLWGLiZvNpE
Y	Wave Energy Testing	https://www.youtube.com/watch?v=9X2VFntdOf4
Y	Scientists work to harness power from Hawaii's waves	https://www.youtube.com/watch?v=XK6rLGldPaE
Y	TU Delft - Wave Energy	https://www.youtube.com/watch?v=WT0Y7tzdHCE
Y	Berkeley Team Producing Energy from Ocean Waves	https://www.youtube.com/watch?v=gZFM0ghuwZs
Y	ISWEC Wave Energy	https://www.youtube.com/watch?v=8_bvNJC5dZU

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
Y	Why Design Now?: bioWAVE Ocean-wave Energy System	https://www.youtube.com/watch?v=snxm1EaDf4g
Y	Wave Power Could Be Energy's Next Big Leap	https://www.youtube.com/watch?v=jahAum3zLsY
Y	Using OceanWaves to Power Remote Ocean Science	https://www.youtube.com/watch?v=P0UFRCtMGXA
Y	Wave Energy Industry Growing	https://www.youtube.com/watch?v=qlCMqYR2nd8
Y	Harnessing wave energy to light up coastal communities - Science Nation	https://www.youtube.com/watch?v=f8OW1KXW-Rc
Y	Energy & Electricity in Science: How Does Wave Energy Work?	https://www.youtube.com/watch?v=70K0uQmb-bs
Y	WEPTOS Wave Energy Converter	https://www.youtube.com/watch?v=3GYDVhUQzRc
Y	Wave Power	https://www.youtube.com/watch?v=bEfrtAOMuvk
Y	Adrift at Sea, Generating Electricity	https://www.youtube.com/watch?v=M4nMUxmCpY
Y	Wave Energy for the Future	https://www.youtube.com/watch?v=fnSZCOtuDgs
Y	TBB.2018 Pitching sessions: Corpower Ocean	https://www.youtube.com/watch?v=w9AFQFDiXsQ
Y	Test Model of a Hybrid Combined Floating Wind & Wave Energy Platform	https://www.youtube.com/watch?v=haR7TKwv3YI
F B	Energy Globe Award post	https://www.facebook.com/energyglobe/videos/eco-wave-power-developed-a-new-combined-solar-and-wave-energy-solution-for-gener/1193708184295584/
F B	Eco Wave Power	https://www.facebook.com/ecowavepowerltd/posts/inna-bravermann-on-the-wave-energy-power-at-tedxmfsebastian_gabsch_fotografie/1600269453326724/
F B	Harnessing wave energy to power households	https://www.facebook.com/mashable/videos/harnessing-wave-energy-to-power-households/1128528384271490/
F B	Wave Energy System	https://www.facebook.com/UNILADTech/videos/wave-energy-system/2784731755073783/
F B	WaveBoost project improves performance and reliability of wave energy	https://m.facebook.com/CorPower/videos/waveboost-project-improves-performance-and-reliability-of-wave-energy/538984113670894/
F B	Breakthrough results in wave energy, Orkney 2018	https://www.facebook.com/CorPower/videos/breakthrough-results-in-wave-energy-orkney-2018/333905220522251/
F B	Installation of wave energy converters	https://www.facebook.com/SINNPowr/videos/installation-of-wave-energy-converters-/2121318544775682/
F B	Electricity from wave energy	https://www.facebook.com/UNILADTech/videos/electricity-from-wave-energy/708202816686393/

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
F B	The Wave Energy Poker	https://www.facebook.com/ecowavepowerltd/posts/the-wave-energy-poker-inna-braverman-the-co-founder-of-eco-wave-power-making-a-t/1623347951018874/
F B	Wave Energy System	https://www.facebook.com/interestingengineering/videos/wave-energy-system/324868714780977/
F B	The Future of Renewable Energy	https://www.facebook.com/CorPower/photos/a.598871833655003/1690771921131650/?type=3&theater
F B	IST Wave Energy Group post	https://www.facebook.com/IST.waves/posts/
F B	MegaRoller Wave Energy	https://www.facebook.com/sintefenergyresearch/videos/megaroller-wave-energy/662697831282890/
F B	Electricity from wave energy	https://www.facebook.com/UNILADTech/videos/electricity-from-wave-energy/892608811269341/
F B	Waveroller post	https://www.facebook.com/345362128879496/photos/a.352443201504722/3778450408903967/?type=3&theater
F B	2020 Maynooth Energy Wave Workshop	https://www.facebook.com/inore.org/posts/2020-maynooth-wave-energy-workshop-the-centre-for-ocean-energy-research-coer-at-/2662608753859977/
F B	Wave Energy	https://www.facebook.com/godsavethewind/videos/wave-energy/663275137067852/
F B	Eco Wave Power post	https://m.facebook.com/ecowavepowerltd/posts/1783817914971876?locale2=he_IL
F B	Wave Roller post	https://www.facebook.com/permalink.php?id=345362128879496&story_fbid=3686231438125865
F B	Eco Wave Power Makes Clean Energy from Ocean Waves	https://www.facebook.com/StartUpEnergyTransition/videos/eco-wave-power-makes-clean-energy-from-ocean-waves/771954026871016/
F B	WaveBoost project improves performance and reliability of wave energy	https://www.facebook.com/CorPower/videos/538984113670894/
F B	Eco Wave Power post	https://www.facebook.com/ecowavepowerltd/posts/2493212537365740
F B	Wave Energy	https://www.facebook.com/powerfactbook/videos/wave-energy/774452366647356/
F B	All Energy post	https://www.facebook.com/allenergyevent/posts/ronnie-bonnar-wave-energy-is-undoubtedly-going-to-become-a-key-contributor-to-th/2887010931385700/

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
F B	Wave Energy	https://sv-se.facebook.com/eeregov/videos/wave-energy/10158650399595062/
F B	Installation of the Penguin wave energy converter	
F B	Renewable Wave Energy & In-Motion Wireless Charging	https://m.facebook.com/NSK.Ltd/videos/renewable-wave-energy-in-motion-wireless-charging/1508080092697613/
F B	Coral reefs reduce wave energy and protect shorelines against deadly storms, and floods!	https://www.facebook.com/oceana/videos/coral-reefs-reduce-wave-energy-and-protect-shorelines-against-deadly-storms-and-/351627249273023/
F B	EAL Awards post	https://m.facebook.com/EALAwards/videos/624292051761324/
F B	5 Ideal Locations for Wave Energy	https://www.facebook.com/OscillaPower/videos/5-ideal-locations-for-wave-energy/799237780898409/
T	Wave energy is estimated to be worth EUR 53 billion annually! Installed capacity in ocean energy may exceed 500GW by 2050	https://twitter.com/wroller/status/1310842495136403457
T	Lego models of wave energy converters. WEC 3 is an oscillating wave surge converter, WEC 4 is an attenuator.	https://twitter.com/waveenergyscot/status/1260600919877718018
T	New €1.5M SafeWAVE project which addresses the environmental concerns of wave energy technologies.	https://twitter.com/MaRElcentre/status/1364591976637734913
T	Modern research in wave energy was begun in the 70s: Salter's bobbing 'duck' converted 80% of wave motion to electricity, ahead of its time.	https://twitter.com/uoeqb/status/1283396245319557120
T	Ireland has the potential to develop 12.5GW+ wave energy capacity, but needs government support.	https://twitter.com/OceanEnergyEU/status/1197507268121628672
T	Launch of Costal and Offshore Engineering Laboratory pursuing research and industry innovation	https://twitter.com/wave_energy_rc/status/1334761160046825476
T	Call for applications for short-term scientific mission (STSM) to build networks and collaboration	https://twitter.com/wecanet/status/1291383815462682627
T	Sea Wave Energy tested Wave Line Magnet device	https://twitter.com/marine_alliance/status/1329747303473836032
T	PORTOS project presents SEATURNS a wave energy converter	https://twitter.com/portosproject/status/1326124050385612802
T	Wave energy converter project	https://twitter.com/KylieHarg/status/1300206306607808512
T	Live wave energy feed at Irish Atlantic Marine Energy Test Site	https://twitter.com/OceanEnergyIE/status/995635087227092992
T	Ocean engineers found ocean's tallest waves are getting taller	https://twitter.com/wroller/status/1246005904643850240

Deliverable 7.1 Societal response to wave energy



	Title	Resource URL
T	Survey – US respondents prefer renewable energy sources	https://twitter.com/CalWaveBerkeley/status/1319394273855373312
T	Marine Wave Energy research fund open	https://twitter.com/EPsrc/status/1273193751364734976
T	Wave energy alters biodiversity	https://twitter.com/oikos_journal/status/1306956546325336065
T	Wave energy will complete the renewable energy mix	https://twitter.com/CamCleantech/status/1227539469290655744/photo/1
T	Eco Wave Poser station in Gibraltar	https://twitter.com/innabraverman/status/1133297326041313281
T	Blue X wave energy in Orkney	https://twitter.com/TEToday/status/1317061101423628290
T	Dielastic polymer wave energy generator tested in Italy	https://twitter.com/pscheijgrond/status/1070342341213503489
T	First wave energy research project in federal waters of the US West Coast.	https://twitter.com/Interior/status/1361804837562769412
T	Wave energy converter: The Penguin	https://twitter.com/WelloWaveEnergy/status/822404366716047362
T	Future wave energy systems being pioneered in Ireland	https://twitter.com/ryaninstitute/status/1014798157593669632
T	Irish funded wave energy device tested in Hawaii	https://twitter.com/SEAI_ie/status/1210961862868779008
T	Collaboration to develop Wave Energy Converter	https://twitter.com/astutewales/status/1252871199312371712
T	Physicist's wave energy converter	https://twitter.com/quicktake/status/1046206890550722560
T	Wave energy converter arrives at energy test site in Hawaii	https://twitter.com/eeregov/status/1204818311185350657
T	Wave Energy Shape-Shifter Gets Concrete Footing	https://twitter.com/NREL_MechTherm/status/1356705242717552651
T	WaveRoller technology using ocean swell	https://twitter.com/IMarEST/status/1134052013904470017
T	Novel wave energy converter for large scale energy production	https://twitter.com/rsocpublishing/status/1098311834036330497
T	China's first 500kW wave energy convertor	https://twitter.com/chinascience/status/1278614392209158145

From French language, from 1981 to 2021; Source: G: Google; Y: YouTube; FB: Facebook; T: Twitter

	Title	English Title	Resource URL
G	Energie des vagues	Wave energy	https://fr.wikipedia.org/wiki/%C3%89nergie_des_vagues
G	Énergie houlomotrice (ou énergie des vagues)	Wave energy	https://www.connaissancedesenergies.org/fiche-pedagogique/energie-houlomotrice-ou-energie-des-vagues

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
G	L'énergie houlomotrice : récupérer l'énergie des vagues	Wave energy: recovering wave energy	https://www.mtaterre.fr/dossiers/comment-ca-marche-les-energies-marines/lenergie-houlomotrice-recuperer-lenergie-des-vagues
G	L'énergie houlomotrice : l'utilisation du mouvement perpétuel	Wave energy: the use of perpetual motion	https://www.planete-energies.com/fr/medias/decryptages/l-energie-houlomotrice-l-utilisation-du-mouvement-perpetuel
G	L'énergie houlomotrice surfe sur la vague	Wave energy surfs on the wave	https://www.ifpenergiesnouvelles.fr/enjeux-et-prospective/decryptages/energies-renouvelables/lenergie-houlomotrice-surfe-vague
G	Transformer les vagues en énergie : utopie ou réalité ?	Turning waves into energy: utopia or reality?	https://www.lemondedelenergie.com/transformer-vagues-energie-utopie-ou-realite/2020/03/12/
G	Energie des vagues	Wave energy	https://junior.universalis.fr/encyclopedie/energie-des-vagues/
G	Comprendre l'énergie houlomotrice	Understanding wave energy	https://total.direct-energie.com/particuliers/parlons-energie/dossiers-energie/energie-renouvelable/comprendre-l-energie-houlomotrice
G	Transformer les vagues en énergie : utopie ou réalité ?	Turning waves into energy: utopia or reality?	https://journals.openedition.org/artefact/3352
G	Tout savoir sur l'énergie houlomotrice	All you need to know about wave energy	https://www.quelleenergie.fr/economies-energie/eco-travaux/energie-houlomotrice
G	La filière houlomotrice française est-elle sur le point de prendre son envol ?	Is the French wave industry about to take off?	https://www.revolution-energetique.com/la-filiere-houlomotrice-francaise-est-elle-sur-le-point-de-prendre-son-envol/
G	L'énergie des vagues	Wave energy	https://www.futura-sciences.com/planete/dossiers/developpement-durable-energie-renouvelable-tour-horizon-836/page/7/
G	L'énergie des vagues	Wave energy	https://www.istegroup.com/fr/produit/lenergie-des-vagues/
G	HACE produit de l'énergie verte grâce aux vagues	HACE produces green energy from the waves	https://leshorizons.net/hace-produit-energie-propre-vagues/
G	Énergie houlomotrice : des vagues d'électricité	Wave Energy: Waves of Electricity	https://www.geo.fr/environnement/energie-houlomotrice-des-vagues-d-electricite-169758
G	L'énergie houlomotrice testée au Croisic	Wave energy tested at Le Croisic	https://www.hellowatt.fr/blog/energie-houlomotrice/
G	Production d'énergie à partir de la houle	Energy production from the swell	https://www.google.fr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwim1KH8zIXvAhWK4IUKHT8xCSU4ChAWMAh6BAGUEAM&url=https%3A%2F%2Farchimer.ifremer.fr%2Fdoc%2F00001%2F11266%2F7812.pdf&usq=AOvVaw0Alt1ygG6bjJLOvcsIruvK
G	L'énergie des vagues ou houlomotrice : un potentiel important dans les DOM TOM	Wave or wave energy: an important potential in the French overseas departments and territories	https://www.actu-environnement.com/ae/dossiers/energies-marines/energie-vagues-houlomotrice.php4

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
G	L'énergie de la houle	Wave energy	https://argonautes.club/energie-marine/l-energie-de-la-houle.html
G	Eco Wave Power, récupérer l'énergie des vagues grâce à de vieilles digues	Eco Wave Power, recovering wave energy thanks to old dikes	https://www.liberation.fr/planete/2020/01/13/eco-wave-power-recuperer-l-energie-des-vagues-grace-a-de-vieilles-digues_1772238/
G	L'énergie houlomotrice fait des vagues	Wave Energy Makes Waves	https://finland.fi/fr/affaires-amp-innovation/lenergie-houlomotrice-fait-des-vagues/
G	Seaturns : eau douce et électricité produites grâce aux vagues	Seaturns: fresh water and electricity produced by the waves	https://www.lesechos.fr/thema/energie-stockage/seaturns-eau-douce-et-electricite-produites-grace-aux-vagues-1141879
G	Houlomoteur	Wave energy	http://emr-brest.e-monsite.com/pages/houlomoteur.html
G	Energie houlomotrice	Wave energy	https://entreprises-collectivites.engie.fr/glossaire/energie-houlomotrice/
G	L'énergie des vagues	Wave energy	http://base.d-p-h.info/fr/fiches/dph/fiche-dph-7401.html
G	Produire de l'hydrogène avec l'énergie des vagues en Bretagne	Producing hydrogen with wave energy in Brittany	https://www.usinenouvelle.com/editorial/produire-de-l-hydrogene-avec-l-energie-des-vagues-en-bretagne.N1060394
G	Énergie des vagues océaniques	Ocean Wave Energy	https://www.thecanadianencyclopedia.ca/fr/article/energie-des-vagues-oceaniques
G	L'énergie de la houle ? Une vague idée qui prend l'eau...	Wave energy? A vague idea that is taking on water...	https://www.contrepoints.org/2018/10/13/327527-lenergie-de-la-houle-une-vague-idee-qui-prend-leau
G	Energie des vagues : Avantages et inconvénients	Wave energy : Advantages and Disadvantages	http://tpevague.e-monsite.com/pages/partie-3/4-avantages-et-inconvenients.html
G	Le Pelamis : Des articulations pour capter l'énergie des vagues	The Pelamis: Joints to capture the energy of the waves	https://www.ecosources.info/dossiers/Pelamis_energie_vague
Y	Mocean Energy - Etude de l'énergie des vagues	Mocean Energy - Wave energy study	https://www.youtube.com/watch?v=oaOhKZDVvgw
Y	L'énergie des vagues en Bretagne	Wave energy in Britany	https://www.youtube.com/watch?v=jbFJXGicStU
Y	Energie des vagues : expertise australienne pour Maurice	Wave energy: australian expertise for Mauritius	https://www.youtube.com/watch?v=7EmzE1YVAxQ
Y	L'énergie des vagues - Thalassa (reportage complet)	Wave energy - Thalasse (full report)	https://www.youtube.com/watch?v=rnjw1XgOHxg
Y	Récupérer l'énergie des vagues pour une alimentation électrique au large #ElectricDays#GEPS	To retrieve wave energy to offshore electrical supply #ElectricDays #GEPS	https://www.youtube.com/watch?v=6rqwd6XuaXE
Y	La force des vagues, nouvelle source d'électricité	Wave strength, new source of electricity	https://www.youtube.com/watch?v=FsfHOEzOOFI
Y	Le vaisseau marin qui exploite l'énergie des vagues - FUTUREMAG - ARTE	Marine vessel exploiting wave energy - FUTUREMAG -ARTE	https://www.youtube.com/watch?v=C5OOQRqGxjA

Deliverable 7.1 Societal response to wave energy



Title	English Title	Resource URL
Y Optimiser la capture de l'énergie des vagues	Optimize capture of wave energy	https://www.youtube.com/watch?v=e_PtXGsA_xl
Y Une alternative à l'éolien en mer : produire l'électricité avec l'énergie de la houle et des vagues	An alternative to offshore wind farm: produce electricity from wave energy	https://www.youtube.com/watch?v=I7v81xFFULw
Y Utiliser les vagues pour produire de l'électricité	Use waves to produce electricity	https://www.youtube.com/watch?v=-ukdzgBleCg
Y les vagues, nouvelle source d'électricité - FUTUREMAG - ARTE	The waves, new source of electricity - FUTUREMAG - ARTE	https://www.youtube.com/watch?v=wFoUY2UKcPY
Y Comment fait le SEAREV pour produire de l'électricité avec les vagues? - C'est pas sorcier	How does SEAREV operate to produce electricity from waves ? "C'est pas sorcier"	https://www.youtube.com/watch?v=ogLUUgSgVY4
Y Récupération de l'énergie des vagues "bord à quai" à l'aide d'un flotteur	"quayside" Wave energy recovery thanks to pounding floats	https://www.youtube.com/watch?v=nP1MicmHxX8
Y Monaco: comment utiliser les vagues pour faire de l'électricité	Monaco: How to use waves to make electricity	https://www.youtube.com/watch?v=xEdeBBuYdME
Y Créer des vagues - TPE	Create waves - Personal Work	https://www.youtube.com/watch?v=1FE-v9enSBk
Y NOVAQteurs - Seaturns : la ferme houlomotrice #NOVAQ2020	NOVAQteurs - Seaturns : wave energy convector farm #NOVAQ2020	https://www.youtube.com/watch?v=w6CF4nLA5a4
Y [Expérimentation d'un générateur d'électricité basé sur les courants marins]	Experiment of a generator of electricity based on marine currents	https://www.youtube.com/watch?v=a-mh8AboWWs
Y Les vagues des océans pour produire de l'électricité en Afrique du sud	Ocean waves to produce electricity in south africa	https://www.youtube.com/watch?v=ykuCwwxhK7g
Y Energie des vagues: un prototype lancé par le Mauritius Oceanography Institute	Wave energy: A prototype launched by the Mauritius Oceanography Institute	https://www.youtube.com/watch?v=_nrFBxunquo
Y L'exploitation des vagues de mer pour production d'énergie électrique (marine dam)	The exploitation of sea waves to production of electrical energy	https://www.youtube.com/watch?v=vyVM2fSgcZy
Y Hace produit de l'énergie propre à bas coût en continu grâce aux vagues	Hace produces clean and low cost energy, in continuous thanks to waves	https://www.youtube.com/watch?v=iLxVO0qKvYg
Y Energie renouvelable : la houle	Renewable energy : ocean wave	https://www.youtube.com/watch?v=OZaqT9ZfBCQ
Y C'est pas sorcier - Energies de la mer: des océans au courant	"C'est pas sorcier" - Sea energy : ocean advised	https://www.youtube.com/watch?v=BbrFQfnnWqE
Y Les vagues	The waves	https://www.youtube.com/watch?v=KazyQ5R7HFQ
Y Les mots du climat, EMR	The words of climate	https://www.youtube.com/watch?v=EypmTmKG-K8

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
Y	Invention: Un houlomoteur de génie inventifs - transtech	Invention: genius wave energy convector	https://www.youtube.com/watch?v=NEnnukNji0c
Y	Projet National EMACOP - Système houlomoteur à batteur inverses	National Project: wave convector device with reverse drummers	https://www.youtube.com/watch?v=n3mnSBHdt2Q
Y	Force houlomotrice	Wave convector strength	https://www.youtube.com/watch?v=u3zcUzesi6c
Y	Nature = Futur! Au cœur de la vague	Nature = Future ! In the heart of the wave	https://www.youtube.com/watch?v=qv42e68HyY4
Y	Les courants marins, énergie de demain	Marine currents, energy of tomorrow	https://www.youtube.com/watch?v=5h_giFV77E0
F B	L'énergie des vagues	The wave energy	https://www.facebook.com/ThalassaOff/videos/l%C3%A9nergie-des-vagues/3002029036501910/
F B	Trophées de l'avenir Europe1 2020	Trophy of Future Europe1 2020	https://www.facebook.com/Europe1/videos/r%C3%A9cup%C3%A9rer-l%C3%A9nergie-des-vagues-pour-en-faire-de-l%C3%A9lectricit%C3%A9-et-de-leau-douce-ces/460574514829586/
F B	L'énergie houlomotrice	wave energy	https://www.facebook.com/ThalassaOff/videos/thalassa-l%C3%A9nergie-houlomotrice/273728716525787/
F B	en bref	In a nutshell, the wave energy ...	https://www.facebook.com/DauphineDurable/posts/3547068845359554
F B	Génie intéressante avec cet appareil utilisant l'énergie des vagues pour produire de l'électricité en Amérique latine	Interesting engineering with this device using wave energy to produce electricity in Latin America	https://www.facebook.com/topfmmauritiu/videos/2058466984197651/
F B	Happy capital	"Happy capital"	https://www.facebook.com/HappyCapitalOfficiel/photos/a.338564559620362/915218985288247/?type=3&eid=ARDd8sYkbHN4_UBHD1el3jaD0-l0P_j_85RC_bgb7fK1OC711jj7PG7hojz2_9NwBNWMC5GHAigqKtTO
F B	Energie des vagues: expertise australienne pour Maurice	Wave energy: australian expertise for Mauritius	https://www.facebook.com/lexpress.mu/posts/10153796707904540/
F B	Eco Wave Power récupérer l'énergie des vagues	Eco Wave Power to retrieve wave energy	https://www.facebook.com/permalink.php?id=1502482243099732&story_fbid=3150581304956476
F B	Captation d'énergie houlomotrice	Capture of wave energy	https://www.facebook.com/7MilliardsSurTerreLesEnjeux/videos/690060921509252/
F B	Energies marines, la nouvelle vague	Marine energies, the new wave	https://www.facebook.com/manufacturedessavoirs/photos/energies-marines-la-nouvelle-vague-depuis-des-ann%C3%A9es-des-inventeurs-cherchent-%C3%A0-613896375390886/

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
F B	Les vagues, créatrices d'énergie dans notre archipel - Guadeloupe la 1ère	Waves, energy creators in our archipelago - Guadeloupe the first	https://www.facebook.com/univ.antilles/posts/10155486316776367/
F B	Différents exemples de systèmes de production énergétique exploitant le mouvement des vagues et les courants marins	Different examples of energetic production systems exploiting the movements of wave and marine currents	https://www.facebook.com/TrustMyScience/videos/%C3%A9nergie-renouvelable-marine/903455606478120/
F B	La Centrale houlomotrice de Mutriku	Wave convector plant of Mutriku	https://www.facebook.com/paysbasqueinfos/posts/350485835034078/
F B	Wavestar, un système permettant de transformer l'énergie cinétique des vagues en électricité	Wavestar, a device enabling to convert kinetic energy of waves into electricity	https://www.facebook.com/1innovbyExploreMedia/videos/wavestar-un-syst%C3%A8me-permettant-de-transformer-l%C3%A9nergie-cin%C3%A9tique-des-vagues-en-%C3%A9/806182016200217/
F B	Réfléchissez au mouvement des vagues	Think about wave movements	https://www.facebook.com/326902527696321/posts/825059207880648/
F B	HACE l'énergie des vagues l'énergie du futur	HACE wave energy, energy of the future	https://www.facebook.com/inventifs/videos/les-inventifs-3-hace/502450736929337/
F B	Nantes à la pointe de la technologie pour exploiter l'énergie des vagues	Nantes at the cutting edge of technology for exploiting wave energy	https://www.facebook.com/france3pdl/videos/nantes-%C3%A0-la-pointe-de-la-technologie-pour-exploiter-l%C3%A9nergie-des-vagues/218787182366771/
F B	Ecologie: produire de l'énergie à partir des vagues	Ecology : to produce energy from waves	https://www.facebook.com/msmparty/posts/2995126240501885/
F B	Cette centrale électrique flottante puise l'énergie des vagues, du soleil et du vent à la fois	This floating electric plant draws energy from waves, sun and wind at the same time	https://www.facebook.com/electricite.madagascar/posts/3640505959312525/
F B	Les énergies renouvelables	The renewable energies	https://www.facebook.com/permalink.php?id=103922561101312&story_fbid=264945428332357
F B	Vidéo. Eolien en baie de Saint-Brieuc. Les pêcheurs proposent d'utiliser l'énergie de la houle	Video. Offshore wind farm in Saint-Brieuc's bay. Fishermen suggest to use wave energy instead.	https://www.facebook.com/groups/1840251969414438/
F B	Portugal: les vagues vont produire de l'électricité	Portugal: the waves will produce electricity	https://www.facebook.com/permalink.php?id=322635898426764&story_fbid=621023591921325
F B	Danemark : le mouvement des vagues est transformé en énergie électrique @OrgPhysics	Denmark: movements of wave is converted to produce electrical energy @OrgPhysics	https://www.facebook.com/limportant.fr/videos/573405626488237/

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
F B	Eco Wave Power (Israël)	Eco Wave Power (Israel)	https://www.facebook.com/israelscienceinfo/photos/eco-wave-power-isra%C3%ABl-installe-un-syst%C3%A8me-hybride-%C3%A9nergie-des-vagues-et-%C3%A9nergie-/1789503684517360/
F B	L'énergie des vagues, la force houlomotrice	Wave energy, wave strength	https://www.facebook.com/pg/Pivot-%C3%A9lectricit%C3%A9-g%C3%A9n%C3%A9rale-174473876064563/posts/
F B	Tous pour l'énergie renouvelable - posts	All for renewable energies - post	https://www.facebook.com/pg/energie-renouv/posts/
F B	Poly industrie service	Poly industry Services	https://www.facebook.com/Pis.sn/videos/387860399142953/?__so__=channel_tab&rv=all_videos_card
F B	Exploiter le mouvement des vagues pour produire de l'énergie	To exploit wave moving to produce the energy	https://www.facebook.com/watch/?v=2007706276134121
T	Le saviez vous?	Did you know it?	https://twitter.com/enoptea/status/1236954950145658882
T	La récupération de l'énergie des vagues pourrait couvrir, à terme, 5 à 20 % de la consommation électrique mondiale.	Wave energy could cover 5 to 20% of the world energy consumption in the long term	https://twitter.com/IFPENinnovation/status/1156213417809797120
T	Energie des vagues, 1ère centrale houlomotrice raccordée	Wave energy, first wave power plant connected	https://twitter.com/pascalfarcy/status/571217340664320001
T	Nouveauté dans la collection #Energie	New in the Energy collection	https://twitter.com/iste_editions/status/981199499321278464
T	Et c'est @seaturns qui récupère l'énergie des vagues pour en faire de l'électricité qui repart avec le trophée de l'environnement	And @seaturns who harvests wave energy to make electricity, grabs the environment trophy	https://twitter.com/Europe1/status/1221877059741528065
T	Hier, le #gvtmonaco et l'#SBMOffshore ont présenté une étape clé dans le projet #WaveEnergyConverter S3@,	Yesterday, the #gvtmonaco and]SMBOffshore presented a key milestone in the project #waveenergyconverter S3	https://twitter.com/GvtMonaco/status/1191645315566309376
T	Des digues et des vagues pour générer de l'électricité	Dykes to harvest wave energies	https://twitter.com/ThalassaOff/status/1278035322140573696
T	Comment produire de l'électricité avec la houle des vagues ?	How to produce electricity from the swell of waves?	https://twitter.com/ThalassaOff/status/1091385593748226048
T	Hydro Air Concept Energy. L'énergie des vagues, l'énergie du futur!	Hydro Air Concept Energy. Wave Energy, energy of the future!	https://twitter.com/AliBenazizi/status/903180122219479040
T	Renouvelable : les îles Canaries se tournent vers l'énergie des vagues	Renewables, Canary islands go for wave energy	https://twitter.com/LesSmartGrids/status/994840046111948800



	Title	English Title	Resource URL
T	#Ecowavepower transforme l'energie houlomotrice des vagues	#Ecowavepower transforms the wave energy of waves	https://twitter.com/PierreTran/status/1128959417800695808
T	Alain Clément présente Searev	Alain Clément presents Searev	https://twitter.com/Europe1/status/679019532397228033
T	Clap de fin pour Pelamis, la société qui utilisait l'énergie des vagues - Les-SmartGrids.fr	End clapperboard for Pelamis, the wave energy company	https://twitter.com/chrofaillite/status/542636127086456832
T	En pleine mer : des plateformes alimentent des îles isolées grâce à l'énergie des vagues et du soleil	At sea, platforms power isolated islands with wave and wind energies	https://twitter.com/Limportant_fr/status/1049634340093739011
T	Énergie #houlomotrice : #MalinRenewables obtient un contrat d'un million d'euros.	Wave Energy, #MalinRenewables obtains a 1Me contract	https://twitter.com/LesSmartGrids/status/1235933402022330368
T	Energie des vagues	Wave Energy	https://twitter.com/celinelanusse/status/829048784785121284
T	Découvrez comment l'entreprise @seaturns , a réussi a capter l' #énergie des vagues pour produire de l' #électricité ou de l' #eau douce !	Discover how the company @seaturns managed to harvest wave energy to produce electricity and clean water	https://twitter.com/curieuxlive/status/1352662604943155205
T	Inna Braverman a développé des flotteurs capables de transformer l'énergie des vagues en électricité propre	Inna Braverman developed floater capable of transforming wave energy in electricity	https://twitter.com/energy_observer/status/1143098174485225472
T	Le Journal des Entreprises parle de SEATURNS et de sa levée de fonds en cours !	Le journal des entreprises talks about seaturns and its fund raiser	https://twitter.com/seaturns/status/1281198034521600000
T	SeabasedWave société suédoise d' #énergie #houlomotrice, s'associe à Infocom Connect des Émirats arabes unis pour fournir de l'énergie houlomotrice à des projets commerciaux dans les îles Canaries.	SeaBasedWave a swedish company associates with Infocom Connects in United Arab Emirates to provide commercial wave energy to the Canary islands	https://twitter.com/Bertin_bee/status/995944083674853376
T	DIKWE. Le projet de 1ère digue portuaire capable de produire de l'énergie avec la force des vagues sur la bonne voie	DIKWE. The project for the 1st harbour dyke capable of producing energie with the wave force in process	https://twitter.com/BEconomique/status/1361709434024648704
T	Energie #houlomotrice : #Hace finalise une levée de fonds de 700.000 €.	Wave Energy, HACE completes its fund raiser of 700000e.	https://twitter.com/Finergreen/status/828909957290610688
T	Utiliser la puissances des vagues.	luse the power of waves	https://twitter.com/trouvercredits/status/1090538618597208067
T	Produire de l'hydrogène avec l'énergie des vagues en Bretagne	Produce hydorgène with wave energy in Brittany	https://twitter.com/EnergieDeDemain/status/1363761946827378689
T	Energie #houlomotrice - Le concept du WaveRoller	Wave energy, the waveroller concept	https://twitter.com/DMathou/status/641615362723840000

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
T	Produire de l'énergie avec la houle	Produce energy with sea swell	https://twitter.com/BrieucBzh/status/1083088140619993088
T	Cette nouvelle #energie #houlomotrice passe également par le #Finistère. Avec 1300 km de côtes, nous avons de l'avenir	This new wave energy also happens in Finister	https://twitter.com/BnbTyvarRoz/status/775601629181673472
T	Aidez nous à faire de l'eau potable avec l'énergie des vagues!!	Help us to make clean drinkable water with wave energy	https://twitter.com/ProjetOdyssee/status/542021426526846976
T	La vague, une source d'énergie difficile à capter	Waves, an energy source hard to catch	https://twitter.com/PlaneteEnergies/status/872746303826141184

From Portuguese language, from 2002 to 2021; Source: G: Google; Y: YouTube; FB: Facebook; T: Twitter

	Title	English Title	Resource URL
G	Como a energia das ondas e marés gera eletricidade?	How does wave and tidal energy generate electricity?	https://www.portal-energia.com/energia-ondas-mares/
G	Wave energy	Energia das ondas	https://www.infopedia.pt/\$energia-das-ondas
G	Wave energy. Introduction to technological, economic and environmental aspects	Energia das ondas. Introdução aos aspectos tecnológicos, económicos e ambientais	https://www.apambiente.pt/_zdata/Divulgacao/Publicacoes/Guias%20e%20Manuais/ondas_lowres.pdf
G	WaveBoost: Melhorar a fiabilidade da tecnologia de energia das ondas	WaveBoost: Improve the reliability of wave energy technology	https://www.edp.com/pt-pt/inovacao/waveboost-melhorar-a-fiabilidade-da-tecnologia-de-energia-das-ondas
G	Em Portugal, energia dos oceanos com potencial por alcançar	In Portugal, energy from the oceans with potential to reach	https://www.quercus.pt/comunicados/2016-col-150/novembro/4993-em-portugal-energia-dos-oceanos-com-potencial-por-alcancar
G	Energia das Marés e das Ondas	Tidal and Wave Energy	https://www.esposendeambiente.pt/index.php/ene-renov/viii-energia-das-mares-e-das-ondas.html
G	Energia das ondas	Wave energy	https://pt.wikipedia.org/wiki/Energia_das_ondas
G	O que aconteceu à Energia das Ondas?	What happened to Wave Energy?	https://noctula.pt/energia-das-ondas/
G	Implantação em Portugal	Deployment in Portugal	https://www.dgeg.gov.pt/pt/areas-setoriais/energia/energias-renovaveis-e-sustentabilidade/energia-dos-oceanos/implantacao-em-portugal/
G	Energia das Ondas. Desenvolvimento de uma tecnologia de geração	Wave energy. Development of a generation technology	https://ubibliorum.ubi.pt/bitstream/10400.6/1910/1/impress%C3%A3o_final.pdf

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
G	Energia das Ondas. Desenvolvimento de uma tecnologia de geração	Wave energy. Development of a generation technology	https://ubibliorum.ubi.pt/bitstream/10400.6/3809/1/Disserta%C3%A7%C3%A3o%20%20final%20Rui%20Mendes.pdf
G	Energia das Ondas. Estado de desenvolvimento e perspectivas	Wave energy. State of development and prospects	https://www.ordemengenheiros.pt/fotos/dossier_artigo/9bfa0c390161d0908f8d10377ecdf301.pdf
G	Energia das ondas: Estes suecos ainda não são campeões, mas já têm um título em Portugal	Wave energy: These Swedes are not champions yet, but they already have a title in Portugal	https://expresso.pt/economia/2020-11-12-Energia-das-ondas-Estes-suecos-ainda-nao-sao-campeoes-mas-ja-tem-um-titulo-em-Portugal
G	Estudo de métodos para a conversão da energia das ondas oceânicas	Study of methods for converting ocean wave energy	https://repositorio.ul.pt/handle/10451/34634
G	A energia das ondas do mar	Sea wave energy	https://revistapesquisa.fapesp.br/a-energia-das-ondas-do-mar/
G	Peniche já tem unidade para produção comercial de energia das ondas	Peniche already has a device for commercial wave energy production	https://www.sabado.pt/portugal/detalhe/peniche-ja-tem-unidade-para-producao-comercial-de-energia-das-ondas
G	A energia das ondas e o seu aproveitamento	Wave Energy and its utilisation	https://repositorio.ipl.pt/handle/10400.21/1193
G	Avaliação da adequabilidade dos conversores da energia das ondas ao caso de Portugal	Suitability assessment of wave energy converters in Portugal	https://run.unl.pt/handle/10362/108823
G	WAVEGEN Gerador submersível para aproveitamento de energia das ondas	WAVEGEN Submersible generator for harnessing wave energy	https://aream.pt/project/wavegen/
G	Você sabe como funciona a energia das ondas?	Do you know how wave energy works?	https://autossustentavel.com/2020/04/ondomotriz-energia-ondas.html
G	Norte 2020 destina 7,3 milhões a projecto de energia das ondas em Viana do Castelo	Norte 2020 allocates 7.3 million to wave energy project in Viana do Castelo	https://www.publico.pt/2021/02/02/economia/noticia/norte-2020-destina-73-milhoes-projecto-energia-ondas-viana-castelo-1948979
G	Energia das ondas com tecnologia portuguesa	Wave energy with Portuguese technology	https://www.tsf.pt/sociedade/ciencia-e-tecnologia/energia-das-ondas-com-tecnologia-portuguesa-5398567.html
G	Sistema conversor de energia das ondas do mar	Sea wave energy converter system	https://ria.ua.pt/bitstream/10773/8904/1/249048.pdf
G	A ENERGIA DAS ONDAS SE ESPALHA	WAVES ENERGY SPREADS	https://finland.fi/pt/negocios-amp-inovacao/a-energia-das-ondas-espalha/
G	Português INEGI trabalha na conversão da energia das ondas em portos	Portuguese INEGI works on converting wave energy in harbours	https://www.wattson.pt/2020/05/06/portugues-inegi-trabalha-na-conversao-da-energia-das-ondas-em-portos/

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
G	Energia Oceânica	Ocean Energy	https://inpi.justica.gov.pt/Portals/6/PDF%20INPI/Eco-tecnologias/Energia%20Ocea%CC%82nica.pdf?ver=2017-08-28-110417-620
G	Desenvolvimento de um Mecanismo de Produção de Energia Elétrica Através das Ondas do Mar	Development of a Monitoring Mechanism Electric Power Production Through Waves from the sea	https://eg.uc.pt/bitstream/10316/38617/1/Desenvolvimento%20de%20um%20mecanismo%20de%20producao%20de%20energia%20eletrica%20atraves%20das%20ondas%20do%20mar.pdf
G	FUNDAMENTOS SOBRE ENERGIA DAS ONDAS	FUNDAMENTALS ON WAVES ENERGY	repositorium.sdum.uminho.pt
G	Energia das ondas	wave energy	https://energiasalternativas.webnode.com.pt/energia-das-ondas/
G	Sistema de aproveitamento da energia das ondas oceânicas	System for harnessing ocean wave energy	https://sapientia.ualg.pt/handle/10400.1/3691
Y	Por que é tão difícil utilizar a energia das ondas e marés?	Why is it so difficult to use wave and tidal energy?	https://www.youtube.com/watch?v=8cXOGz9-Vr4
Y	Energia das Ondas	Wave Energy	https://www.youtube.com/watch?v=fonU5XY1w4g
Y	Tecnologia portuguesa usa ondas do mar para gerar energia elétrica	Portuguese technology uses sea waves to generate electricity	https://www.youtube.com/watch?v=cBnOGf_xKrw
Y	A energia que vem do mar - Usina de Ondas do Porto de Pecém - CE	The energy that comes from the sea - Pecém Port Wave Plant - CE	https://www.youtube.com/watch?v=KWeeVygrfHo
Y	Energia Maremotriz ou Energia das Marés Definição e Vantagens Fontes de Energia	Tidal Energy or Tidal Energy Definition and Advantages of the energy sources	https://www.youtube.com/watch?v=ieDBqdSE1ps
Y	Projeto GEO - Gerador de energia das ondas (Ondomotriz) - Workshop Online	GEO Project - Wave energy generator (Ondomotriz) - Online Workshop	https://www.youtube.com/watch?v=sXAgEZI3XRk
Y	Central de Energia das Ondas do Pico foi destruída	Pico wave Power Plant was destroyed	https://www.youtube.com/watch?v=Kn4sDpGDB48
Y	Energia das ondas do mar	Sea wave energy	https://www.youtube.com/watch?v=K8YKYLnqIPQ
Y	Geração de energia pelas ondas do mar	Generation of energy by the waves of the sea	https://www.youtube.com/watch?v=nASp8ZyPxSw
Y	Usina de ondas	Wave Energy device	https://www.youtube.com/watch?v=EEmM6Qxnd_w
Y	Geração de Energia Elétrica pelas Ondas do Mar	Electric Power Generation by Sea Waves	https://www.youtube.com/watch?v=o70SrMJpklo

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
Y	Projeto cria energia renovável e limpa a partir do movimento das ondas	Project creates clean, renewable energy from wave movement	https://www.youtube.com/watch?v=0I9GRp2cQ0s
Y	Na Trilha da Energia - Usina das ondas	On the Energy Trail - Power Plant	https://www.youtube.com/watch?v=ww-3a7KtJG4
Y	Energia das ondas do mar no litoral do RJ	Wave energy on the coast of RJ	https://www.youtube.com/watch?v=MYs9YYw0qA8
Y	Portugal volta a liderar na energia das ondas	Portugal leads the way in wave energy again	https://www.youtube.com/watch?v=tc65FAHaV4o
Y	Aproveitamento da energia das marés na Ria Formosa	Harnessing tidal energy in the Ria Formosa	https://www.youtube.com/watch?v=BqMzMet4TxI
Y	Projeto pioneiro busca extrair energia renovável a partir de ondas do mar	Pioneer project seeks to extract renewable energy from sea waves	https://www.youtube.com/watch?v=x_pCQGIIHhHs
Y	Protótipo - Energia das Ondas	Prototype - Wave Energy	https://www.youtube.com/watch?v=oTgtvs8xB2I
Y	Energia maremotriz, geotérmica e ondomotriz	Tidal, geothermal and wave energy	https://www.youtube.com/watch?v=GCDvjCAWP3g
Y	Energia das Ondas	Wave Energy	https://www.youtube.com/watch?v=zo9uIUfWu4g
Y	A mulher que veio de Chernobyl para criar eletricidade com as ondas	Uma mulher que veio de Chernobyl para criar eletricidade com as ondas	https://www.youtube.com/watch?v=_vdiosNRh7Q
Y	Geografia - Energia Renovável: Oceânica	Geografia - Energia Renovável: Oceânica	https://www.youtube.com/watch?v=y6VDECSBAOI
Y	Na crista da onda Futurando	On the crest of the wave Future	https://www.youtube.com/watch?v=9Bjstvpt1SD8
Y	Energia gerada com Ondas do Mar	Energy generated with Sea Waves	https://www.youtube.com/watch?v=9aCD8-2BBaA
Y	Energia do Mar	Sea Energy	https://www.youtube.com/watch?v=Klowmaj6EEM
Y	Conversores por galgamento de energia das ondas	Wave energy overtop converters	https://www.youtube.com/watch?v=9LOAV8PKR6U
Y	Como funciona a Usina de Ondas do Pecém	How the Pecém Wave Energy Plant Works	https://www.youtube.com/watch?v=_2iYWJ14QMU
Y	Energia renovável das ondas do mar	Renewable energy from sea waves	https://www.youtube.com/watch?v=Ek7iKvf0lgQ
Y	Energia das Ondas	Wave Energy	https://www.youtube.com/watch?v=e6x_VqjBi80
Y	Oceanos. Uma fonte interminável de energia limpa	Oceans. An endless source of clean energy	https://www.youtube.com/watch?v=ukPKJClwHhc
F B	Energia das ondas - Portugal pioneiro	Wave energy - pioneering Portugal	https://www.facebook.com/confienergy/videos/energia-das-ondas-portugal-pioneiro/408246026481455/
F B	País começa a explorar energia limpa das ondas	Country starts exploring clean wave energy	https://m.facebook.com/ecosolucoes/photos/a.177669149002483/232401080195956/?type=3&source=48

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
F B	Você já ouviu falar da energia das ondas (ou ondomotriz)?	Have you heard of wave energy?	https://www.facebook.com/linceBRA/posts/1022128537964139/
F B	SinesTecnopolo - Testes do protótipo de energia de ondas	SinesTecnopolo - Tests of the wave energy prototype	https://www.facebook.com/watch/?v=522396918563828
F B	As fontes de energia renováveis são recursos naturais considerados inesgotáveis	Renewable energy sources are natural resources considered inexhaustible	https://www.facebook.com/watch/?v=371617144102550
F B	ENERGIA RENOVÁVEL OCEANOS	RENEWABLE ENERGY OCEANS	https://www.facebook.com/watch/?v=753539375369587
F B	Já tinham visto gerar energia com as ondas do mar?	Have you ever seen power generated by the waves of the sea?	https://www.facebook.com/watch/?v=504254807200676
F B	O poder das ondas do mar na geração de energia elétrica	The power of ocean waves in generating electricity	https://www.facebook.com/watch/?v=250898616006067
F B	O Sea-wave Slot-cone Generator	The Sea-wave Slot-cone Generator	https://www.facebook.com/energiasimples/posts/1221468947887567/
F B	A captação de energia das ondas pode se tornar fonte de geração sustentável	The capture of wave energy can become a source of sustainable generation	https://www.facebook.com/watch/?v=2621104891352372
F B	ENERGIA DAS ONDAS PODE ABASTECER VÁRIAS ILHAS	WAVES ENERGY CAN SUPPLY VARIOUS ISLANDS	https://www.facebook.com/EmbaixadadeCaboVerdeemPortugal/photos/energia-das-ondas-pode-abastecer-v%C3%A1rias-ilhasuma-investiga%C3%A7%C3%A3o-cient%C3%ADfica-conclui/2043368279031605/
F B	Energia das ondas de Peniche	Peniche wave energy	https://www.facebook.com/canalsaudemais/posts/467249923895543
F B	O sistema de energia das ondas Vindola-Lita	The Vindola-Lita wave energy system	https://www.facebook.com/vindolaenergia/posts/728786863890037/
F B	Energia das ondas	Wave energy	https://www.facebook.com/watch/?v=466276793929049
F B	A empresa tecnológica sueca CorPower Ocean está a investir	Swedish technology company CorPower Ocean is investing	https://www.facebook.com/norte2020/posts/1480528398788952
F B	Liderado pela empresa sueca CorPower Ocean, o WaveBoost	Led by the Swedish company CorPower Ocean, the WaveBoost	https://www.facebook.com/luzboa.energia/photos/a.1430060187267399/2613332932273446/?type=3
F B	Inna Braverman foi uma das crianças afetadas	Inna Braverman was one of the affected children	https://www.facebook.com/jornalexpresso/posts/10157047700312949/

Deliverable 7.1 Societal response to wave energy



	Title	English Title	Resource URL
F B	Saiba o que é e uma das soluções	Know what it is and one of the solutions	https://www.facebook.com/watch/?v=1225301991138337
F B	7,3 milhões para projeto de energia das ondas em Viana do Castelo	7.3 million for wave energy project in Viana do Castelo	https://www.facebook.com/permalink.php?id=117275655001895&story_fbid=3889261444469945
F B	APDL Participa no Encontro Energias Renováveis e Robótica em Viana do Castelo	APDL Participates in the Renewable Energy and Robotics Meeting in Viana do Castelo	https://www.facebook.com/portodeleixoes/posts/3480776755319497/
F B	As ondas são resultado do efeito do vento sobre a superfície do mar.	The waves are the result of the effect of the wind on the surface of the sea.	https://www.facebook.com/conexaotreinamento/
F B	LABORATÓRIO de Laboratório de Hidráulica, Recursos Hídricos e Ambiente	Laboratory of Hydraulics, Water Resources and Environment Laboratory	https://www.facebook.com/watch/?v=340129899897857
F B	Produção de energia a partir de ondas não é utopia	Energy production from waves is not utopia	https://m.facebook.com/pg/ruimoreira2017/posts/?ref=page_internal&mt_nav=0
F B	Produção de energia a partir de ondas não é utopia	Energy production from waves is not utopia	https://www.facebook.com/Porto.NoticiasdoPorto/posts/3792425617531714
F B	O Ministro do Mar, Ricardo Serrão Santos,	The Minister of the Sea, Ricardo Serrão Santos	https://www.facebook.com/compositesolutionspt/community/
F B	Em causa está um investimento de 16 milhões de euros da tecnológica CorPower Ocean	At stake is an investment of 16 million euros from the technological CorPower Ocean	https://www.facebook.com/altominhotv/posts/3068551463264677/
F B	HORIZONTE 2020 ATRIBUI 10 MILHÕES a projeto de energia das ondas em Peniche	HORIZON 2020 ALLOCATES 10 MILLION the wave energy project in Peniche	https://www.facebook.com/jornaloericeira/posts/1096252653762820/
F B	Brasil tem a primeira Usina da América Latina que capta energia das ondas do Mar	Brazil has the first Plant in Latin America that captures energy from the waves of the Sea	https://www.facebook.com/GalleonPreFabricados/posts/2238266369624474/
F B	uma equipa desenvolveu três nanogeradores capazes de gerar energia a partir do movimento das ondas	a team developed three nanogenerators capable of generating energy from the movement of waves	https://www.facebook.com/ciencias.uporto/
F B	Piloto de energia ondomotriz foi testado no Porto do Pecém	Wave energy pilot was tested in the Port of Pecém	https://m.facebook.com/cbpce/posts/3194709563929448
T	Energia das Ondas: aspectos teóricos e simulação numérica	Wave Energy: theoretical aspects and numerical simulation	https://twitter.com/ufrgsnoticias/status/1287892191327793156
T	Você sabe como funciona a energia das ondas?	Do you know how wave energy works?	https://twitter.com/biosustentavel/status/1251312848057360384

Deliverable 7.1 Societal response to wave energy





Title	English Title	Resource URL
T França define objectivos para a energia das ondas	France sets targets for wave energy	https://twitter.com/economia_mar/status/727196021520891905
T Força Oceânica	Ocean energy	https://twitter.com/bocadogolfinho/status/879320858568921089
T Energia sustentável: onde encontrar e como utilizar	Sustainable energy: where to find it and how to use it	https://twitter.com/MitsidiProjetos/status/1013104912018956288
T Portugal recebe novo projeto para explorar energia das ondas A Eco Wave Power	Portugal receives new project to exploit wave energy Eco Wave Power	https://twitter.com/LigaAoFilipe/status/1356232174454919170
T Planta de Energia das Ondas no Brasil:	Wave Power Plant in Brazil	https://twitter.com/Lersis/status/485116952822554624
T Porto de Viana do Castelo acolhe fábrica de energia das ondas	Port of Viana do Castelo hosts wave energy factory	https://twitter.com/o_instalador?lang=bg
T UMA BOA NOTÍCIA SOBRE O AMBIENTE	GOOD NEWS ABOUT THE ENVIRONMENT	https://twitter.com/MiguelCoutinh0/status/1193146393323548673
T A geração de energia elétrica por ondas do mar pode ser o futuro das energias renováveis	The generation of electricity by sea waves may be the future of renewable energies	https://twitter.com/dw_brasil/status/1271116507599249415
T Projeto de Geração de Energia Ondomotriz	Wave Power Generation Project	https://twitter.com/lactec/status/1331945614641344516
T A empresa tecnológica CorPower Ocean está a investir	Technology company CorPower Ocean is investing	https://twitter.com/Norte_2020/status/1356917321613328385
T Sistema flutuante gera energia solar, eólica e das ondas	Floating system generates solar, wind and wave energy	https://twitter.com/funverde/status/1313852965132873740
T A construção de um Centro de Investigação e Desenvolvimento em Viana do Castelo	The construction of a Research and Development Center in Viana do Castelo	https://twitter.com/IA_ACS/status/1357618725696987149
T Mais um projeto offshore de carácter inovador em Portugal.	Another innovative offshore project in Portugal.	https://twitter.com/_LuisRocha_/status/1280765507805884423
T Start-up israelense usa ondas do mar para gerar energia	Israeli start-up uses ocean waves to generate power	https://twitter.com/IsraelSemFiltro/status/1344335512073613314
T Colabore na campanha para de crowdfunding para o projeto de um conversor de energia das ondas.	Collaborate in the crowdfunding campaign for the design of a wave energy converter.	https://twitter.com/LabbryP/status/1272658655750520833
T Somos uma região que não foi tão abençoada, porém conseguimos nos virar com tecnologia.	We are a region that was not so blessed, but we managed to change that with technology.	https://twitter.com/santos_raff/status/1327275451946033154

Deliverable 7.1 Societal response to wave energy






	Title	English Title	Resource URL
T	Peniche. Plataforma de produção de energia das ondas já está no fundo do mar	Peniche. Wave energy production platform is already in the sea	https://twitter.com/smilingtoys
T	Na última década pesquisadores na UFRJ colocaram Brasil como líder na área de energia das ondas do mar nas Américas.	In the last decade, researchers at UFRJ have placed Brazil as a leader in the field of wave energy in the Americas.	https://twitter.com/WETSolns/status/1124529696585256965
T	Onda na costa norte de S. Miguel despertou o interesse de todo o Mundo para os Açores.	A wave on the north coast of São Miguel aroused the interest of the whole world for the Azores.	https://twitter.com/revistadmarinha
T	País começa a explorar energia limpa das ondas	Country starts exploring clean wave energy	https://twitter.com/EdsonGarciaBlan/status/224186358435037184
T	#4S desenvolve site para um método de energia alternativa através das ondas do mar	# 4S develops website for an alternative energy method through sea waves	https://twitter.com/4_solutions/status/20316908834
T	Sistema gera energia a partir das ondas ao mesmo tempo em que produz água potável	System generates energy from the waves while producing drinking water	https://twitter.com/ii_ana_ii
T	Conheça as características, vantagens e desvantagens da energia das mares e ondas	Know the characteristics, advantages and disadvantages of wave and tidal	https://twitter.com/limpaenergia/status/686996198427877376
T	Praia, em sua definição física, é um ambiente onde há um depósito de sedimentos	Beach, in its physical definition, is an environment where there is a deposit of sediment	https://twitter.com/SouPraia/status/1287448650092875778

13. ANNEX V

 	<p align="center">Understanding opposition to MRE Task D7.1 SEM-REV</p>
<p>Référence du document / Document number:</p>	<p align="center">202100312_D7.1_Part1_SEM-REV.doc</p>
<p>Rédaction / Written by:</p>	<p align="center">Enored Le Bourhis</p>
<p>Vérification / Checked by:</p>	<p align="center">Thomas Soulard / Marine Reynaud</p>
<p>Approbation / Approved by:</p>	<p align="center">Y. Perignon</p>

**Understanding opposition to marine
renewable energies
Task D7.1
SEM-REV History Record**

<p>Liste de diffusion / External diffusion:</p>	<p align="center">SAFEWAVE Project members</p>	
<p>Préparé par / Prepared by:</p>	<p align="center"> École Centrale de Nantes LHEEA/SEMREV 1 rue de la Noë – BP92101 44321 Nantes Cedex 3 </p>	 

Ce document et ses annexes sont destinés à l'usage exclusif de leur destinataire. Ils sont protégés par un accord de confidentialité entre le destinataire et l'École Centrale de Nantes.

Tous droits réservés.

This document and/or any attachments are intended for the sole use of their addressee. The latter documents are protected by a non-disclosure agreement between the addressee and École Centrale de Nantes.

All rights reserved.



TABLE OF CONTENT

1. Background.....	3
2. Consultation Meetings.....	3
3. public inquiry.....	5

Suivi de version					
Version	Crée par	Date	Validé par	Date	Modifications
1	Enored Le Bourhis	12/03/2021	Thomas Soulard	12/03/2021	

1. BACKGROUND

The SEM-REV test site project, off the coast of Le Croisic in France, began in 2009. The SEM-REV test site, managed by Centrale Nantes, received its first authorisations in 2011 for WEC tests, with the definition of the restricted test area including the export cable to shore. In 2013, the authorisations were extended to floating offshore wind turbines tests.

Since the SEM-REV early days, it should be noted that French regulation around marine renewables energies, and more specifically impact assessment, has evolved, particularly with regards to larger public engagement.

During the test site development phase, information and consultation meetings took place. These meetings were not mandatory but strongly recommended, in particular by financial and maritime affairs. The information campaign and consultation meetings targeted specific public, such as fishermen for example; or general public (information meeting). Simultaneously, feasibility studies were carried out (two sites were identified: technical, regulatory, financial, etc. comparisons and consultation, in particular with fishermen organisation).

Once the consultation phase was achieved and the test area selected (and cable route identified), regulatory studies were carried out (especially environmental impact assessment) with continuous discussions with regulators about technical aspect which may have resulted in some changes.

After the regulatory process, a public inquiry was carried out. It consists in providing the general public with information about the project (environmental study assessment, regulatory services opinions). These documents were publically available during one month in local towns concerned by the project (generally in town halls). An inquiry commissioner was appointed and he was responsible for answering to public questioning (if needed, he could ask support to the project leader) and to note down public opinion. Then, he wrote a synthesis report with comments and provided his opinion as well. The Prefect, who takes the final decision, does not necessarily comply with the inquiry commissioner's opinion.

2. CONSULTATION MEETINGS

Several internal documents are available about consultation and consent process for SEM-REV test site. These documents consist of medium presentation, minutes of meetings and a consultation synthesis report. A synthesised compilation of these acceptability related documents is listed below.

- Presentation to officials, regulators, fisheries committees (30/11/2007);
- Consultation meeting with local fisheries committee "Loire-Atlantique Sud" (06/02/2008);
- Information meeting to Le Croisic¹ residents (20/03/2008);
- Information meeting to fisheries committees (Auray/Vannes) (17/04/2008);
- Consultation meeting with local fisheries committee "La Turballe" (18/04/2008);
- Meeting with Atlantic Maritime Prefecture (03/06/2008);
- Meeting with Regional Direction of Maritime Affairs - RDMA - (09/07/2008);

¹ The different towns mentioned are indicated on the figure 1.



- Consultation meeting organised by RDMA with regional and local fisheries committee (Pays de la Loire, Le Croisic, La Turballe, Auray/Vannes) (22/09/2008).
- Consultation meeting organised by RDMA with regional and local fisheries committee (Pays de la Loire, Le Croisic, La Turballe, Auray/Vannes) (10/10/2008).
- Information meeting to Le Croisic residents (29/10/2008);
- Consultation meeting organised by RDMA with local fisheries committee of Le Croisic (07/11/2008).
- Meeting organised by RDMA with professional and users of sea representatives (23/04/2009);
- Information meeting to Le Croisic residents (23/04/2009).



FIGURE 1 – LOCATION OF SEM-REV AND TOWNS AROUND

People concerned by these meetings are: sea users (professional fishermen and boaters), regulators, local officials and residents.

All these meetings allowed converging towards the accurate implementation of the test site. RDMA coordination during last meetings was a strong support for SEM-REV project and allowed to obtain the final consent of public about the site location.

A Local Nautical Committee was scheduled the 15th October 2010 by the Departmental Direction of Territories and Sea (DDTS) of Loire-Atlantique. During these information and consultation meetings, several subjects emerged. The main subject concerned conflict of use related risks, in particular with professional fishermen (the worry was evoked by “non fishermen” people first). This highlighted the importance of upstream consultation with stakeholders and public engagement. People also asked for continuous communication from project coordinators with regular (information) meetings and transparency of provided information. Public is receptive to independence of environmental impact assessment and of a good estimate of impacts. Public asked for: objective impact assessment, implementation of indicators to monitor the effects of project and implementation of mitigation measures if necessary.

Public was also worried about maritime security and risk to navigation around the test site. It is noted that public sparsely know MRE technologies and tend to confuse different technologies (tidal and wave in particular).



The landscape and touristic topics were also major worries of public (probably due to misconception of technologies) and to the fact that the cost is highly touristic (we assume high property value).

Public was worried about governance and financial aspect of project (public funding). Questions asked about test site continuity and likely spatial extensions.

As well, public questioned about export cable (route, laying technique, landfall).

Public involved in meeting were rather positive of the project because of the R&D parts (at this time, very few, even none industrial MRE project was developed in France). Public is receptive to climate change and renewable energies interest.

We can note that interrogations or worries apply to all MRE projects and not only for wave energy converters.

3. PUBLIC INQUIRY

During this consultation stage, an environmental impact assessment was carried out. This assessment is a critical part of the authorisation folder. Once this folder is duly completed, it is provided to the competent service for instruction. One stage of instruction consists in asking public opinion via a public inquiry. The legal framework of the public inquiry is very specific. In order to carry out this inquiry, an inquiry commissioner is designated by the administrative tribunal. His role is to ensure compliance of the inquiry, to inform public and to record remarks.

The public is informed, by means of newspaper and internet advertisements, of the opening of the inquiry.

The public inquiry took place in March 2011 (33 days).

During the public inquiry only 8 remarks were recorded; for the majority (6 on 8) in favour of the project. The only reserved remarks (but not against) came from the neighbour of the onshore electrical station. He was slightly afraid about the noise during installation and operational stages. He was not really against the project of the test site but he asked several questions.

The public mobilisation around the SEM-REV project for testing wave energy converters was scarce. This could be explained by several reasons:

- The period of the year (March). The public inquiry took place in Le Croisic, a coastal city where the majority of population is present during summer ;
- The moment when the project began (2007 for the first consultation meeting). At that time, there was no commercial offshore wind farm projects in France. The public was possibly less « worried » about this kind of project and less educated to the public inquiry process. Considering the history of public inquiry related to commercial offshore wind farms in the area, the results of a public inquiry could be different nowadays.
- The scale of the project and its aim : only 1 km² at sea, for R&D purposes ;
- The previous consultation stage during which many questions had already been asked ;
- Despite the effort put in the process, the publicity and information of this kind of inquiry could still be too weak and not able to reach the audience (not everyone is aware of that inquiry).

