



W E S E

W A V E E N E R G Y I N S O U T H E R N E U R O P E

Is it possible to incorporate Adaptive Management based on risk analysis in the approval procedures of marine renewable energy projects?

¹*Menchaca, I., ¹Bald, J., ²Cruz, E., ²Apolonia, M.

¹*Corresponding author: imenchaca@azti.es

¹AZTI

²WavEC Offshore Renewables



This project has been funded
by the European Union



IDOM



CTN



HIDROMOD
INGENIERIA DE OCEANOS

INTRODUCTION



*This project has been funded
by the European Union*



W E S E

WAVE ENERGY
IN SOUTHERN EUROPE

<http://www.wese-project.eu/>

INTRODUCTION

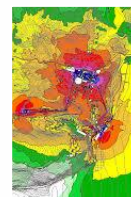


This project has been funded by the European Commission under the European Maritime and Fisheries Fund (EMFF). Call for Proposals EASME/EMFF/2017/1.2.1.1 – “Environmental monitoring of wave and tidal devices”- **from 2018 to 2021**

Objective: contribute to **increase** the current **knowledge** on **environmental impacts** of **Wave Energy (WE projects)** to **better inform decision-makers and managers** on environmental real risks and **reduce environmental consenting** uncertainty of ocean WE projects across Europe and a do better **maritime spatial planning (MSP)** approach to this nascent industry:



Collection, processing, analysis and sharing of environmental data around wave energy harnessing devices currently operating at sea (Marmoc, WaveRoller, Mutriku)



Improve existing modelling tools and contribute to the overall understanding of potential cumulative impacts of larger scale



Development country-specific licensing guidance on WE licensing processes, including recommendations on good practices



Development and implementation of maritime spatial planning (MSP) Decision Support Tools (DSTs)



Development of data sharing platforms (MARENDATA)



This project has been funded by the European Union

CONSORTIUM

Technological Partners



INTRODUCCIÓN

Industrial partners



This project has been funded
by the European Union

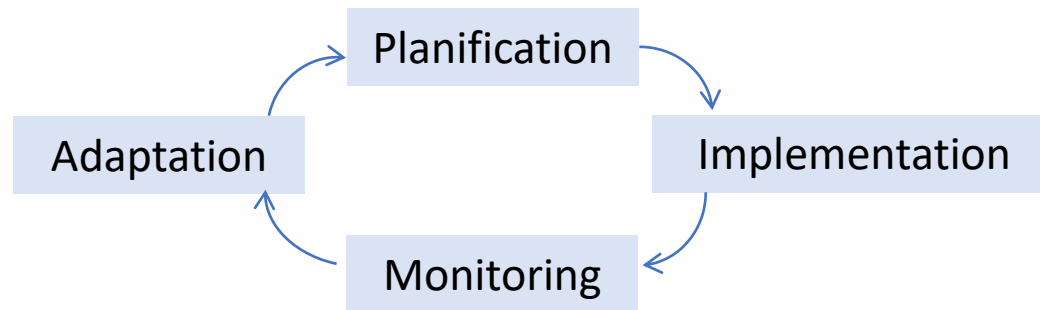
CONTEXT



*This project has been funded
by the European Union*

Adaptive Management based on risk assessment

systematic and iterative management process intended to reduce scientific uncertainty and associated consequences in terms of likelihood and magnitude of potential impact, and improve management through rigorous monitoring and periodic review of management decisions in response to growing knowledge gained from monitoring data

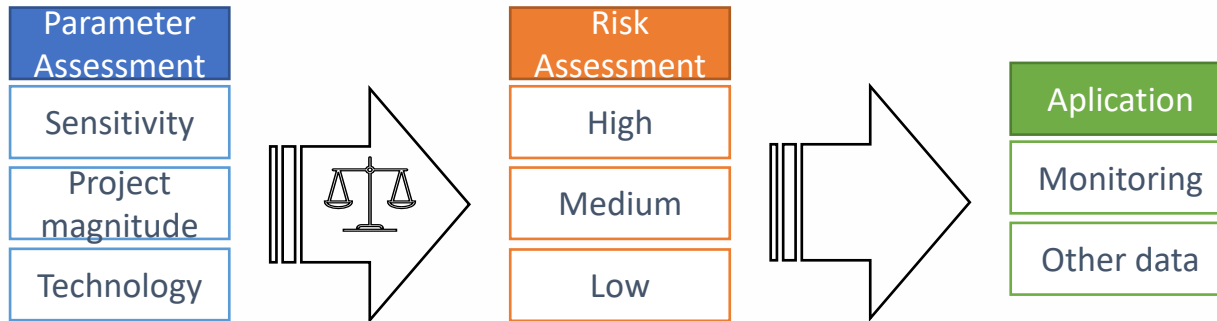
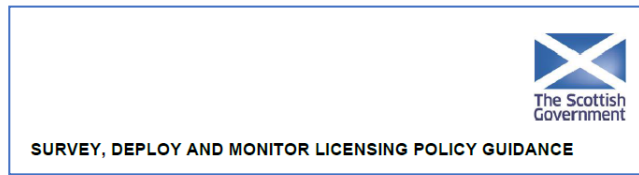


It can be applied at different scales: (i) Project and (ii) Planning

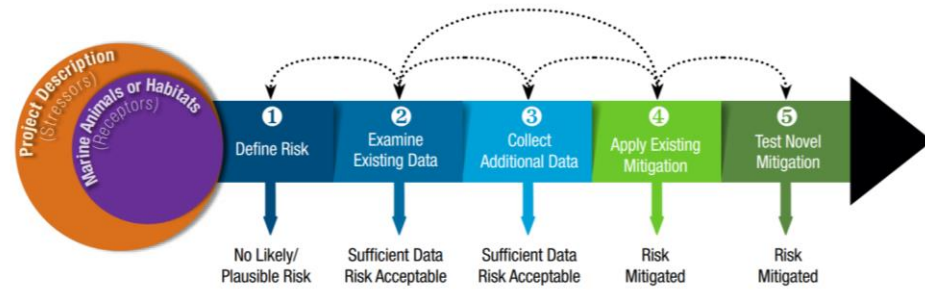
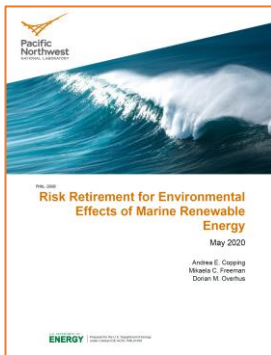


(i) Survey, Deploy and Monitor:

CONTEXT



(ii) Risk Retirement:



This project has been funded by the European Union

PROCEDURE FOR THE APPROVAL OF MARINE RENEWABLE ENERGY PROJECTS IN SPAIN

CONTEXT

Licensing for private occupation of marine space

Licensing power generation activity

Environmental Impact Assessment



MITECO – DG de la Costa y el Mar

- **Ley 2/2013**, de 29 de mayo, de protección y aprovechamiento sostenible de las costas.
- **RD 363/2017**, marco para la “Ordenación del Espacio Marítimo”

MITECO – DG Política Energética y Minas

- **Real Decreto 1028/2007** establece el procedimiento administrativo para la tramitación de las solicitudes de instalaciones de generación de energía eléctrica en aguas territoriales.

MITECO – DG Calidad y Eval. Ambiental

- **Ley 21/2013**, de 9 de diciembre, de Evaluación de Impacto Ambiental (EIA)

MITECO – DG de la Costa y el Mar

- **Ley 41/2010, de Protección del Medio Marino**
- **Real Decreto 79/2019**, de 22 de febrero, por el que se regula el informe de compatibilidad y se establecen los criterios de compatibilidad con las estrategias marina.



This project has been funded by the European Union

PROCEDURE FOR THE APPROVAL OF MARINE RENEWABLE ENERGY PROJECTS IN PORTUGAL

CONTEXT

Parameter	Relevant applicable laws	Licensing Authority	Name of document
Private use marine space	DL 38/2015 (amended by DL 139/2015) – transposes Directive 2014/89/EU and develops Act 17/2014 which sets forth the LBOGEM	DGNRSMS	TPSU
Water Resources Use	DL 226-A/2007 (amended by Act 44/2012) DL 108/2010 (amended by DL 136/2013)	EPA	TUWR
Energy Production	DL 172/2006 (6th amendment through DL 215-B/2012 and 11th amendment through DL 76/2019) Ordinance 243/2013 (amended by Ordinance 133/2015)	DGEG – power capacity up to 10 MW Secretary of State of Energy – power capacity higher than 10 MW	License on power production and grid connection
Accessory facilities onshore	DL 555/99 (amended by DL 136/2014) - RJUE	Local planning authority	Planning Permission
EIA	DL 151-B/2013 (amended by DL 152-B/2017) – transposes Directive 2014/52/EU	EPA – location in sensitive area DGEG – project not located in sensitive area) CCDR – EA	EIA/EA

Licensing for private occupation of marine space

Licensing power generation activity

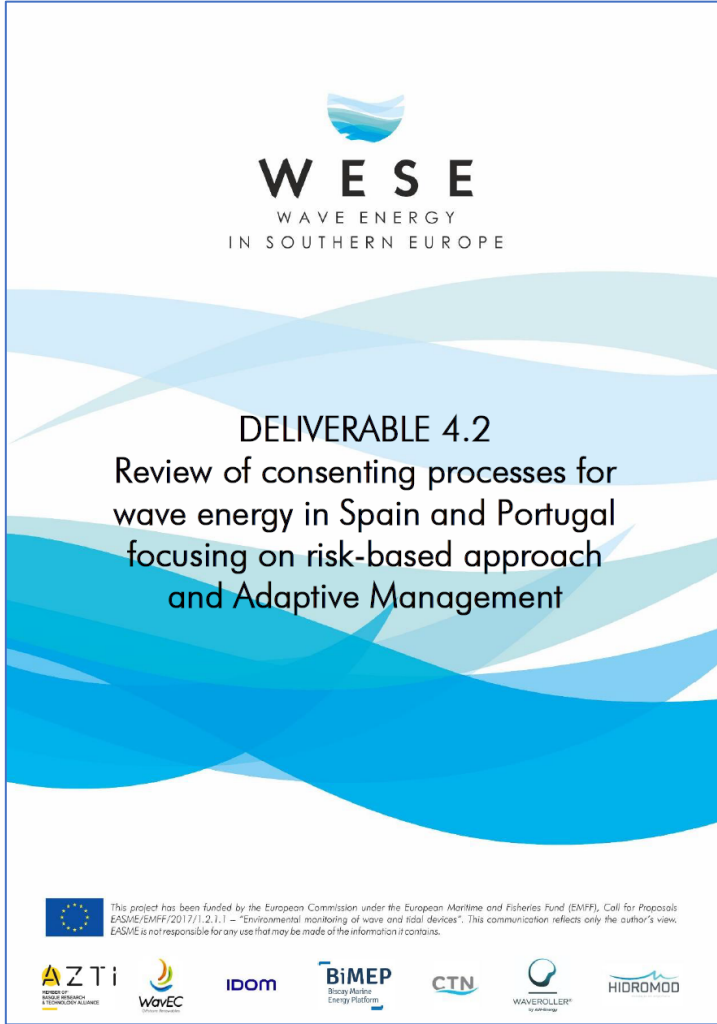
Environmental Impact Assessment



This project has been funded by the European Union

FOR MORE DETAILS...

CONTEXT



The image shows the cover of a report titled 'DELIVERABLE 4.2 Review of consenting processes for wave energy in Spain and Portugal focusing on risk-based approach and Adaptive Management'. The cover features the W E S E logo at the top, which consists of a stylized wave icon above the letters 'W E S E' and the text 'WAVE ENERGY IN SOUTHERN EUROPE'. The background of the cover is a light blue and white abstract wave pattern. At the bottom, there is a row of logos for the project partners: ZTi, WavEC, IDOM, BiMEP, CTN, Waveroller, and HIDROMOD. A small text block at the bottom left of the cover provides funding information from the European Commission.

W E S E
WAVE ENERGY
IN SOUTHERN EUROPE

DELIVERABLE 4.2
Review of consenting processes for
wave energy in Spain and Portugal
focusing on risk-based approach
and Adaptive Management

This project has been funded by the European Commission under the European Maritime and Fisheries Fund (EMFF), Call for Proposals EASME/EMFF/2017/1.2.1.1 – "Environmental monitoring of wave and tidal devices". This communication reflects only the author's view. EASME is not responsible for any use that may be made of the information it contains.

ZTi
Zona Tecnológica de Inda
Tecnología y Energía

WavEC
WAVE ENERGY CONSULTING

IDOM

BiMEP
Bioclima
Energy Platform

CTN

WAVEROLLER
by WAVE

HIDROMOD

https://wese-project.weebly.com/uploads/1/2/3/5/123556957/deliverable_4.2_review_consenting_processes.pdf



This project has been funded
by the European Union

WORKSHOPS



*This project has been funded
by the European Union*

Portuguese and Spanish working groups: 23rd and 24th of June in 2020, respectively

OBJECTIVES:

- Identification of **barriers in the environmental approval procedures** for marine energy with the Spanish and Portuguese regulatory authorities and with other agents involved in the authorization process in both countries.
- Discussion about the **legal feasibility of implementing adaptive risk-based management approach** as a mechanism to overcome this non-technological barrier associated with the uncertainty of possible environmental impacts in marine energy projects.



PARTICIPANTS

WORKSHOPS

Portugal: 11 representatives from the 6 Portuguese entities related to the environmental licensing procedure of marine renewable energy projects

Spain: 27 participants (7 environmental conservation and protection managers; 13 marine researchers; 1 energy manager; 4 energy commercial users; 1 engineering commercial users; 1 environmental legislation expert), main actors in the authorization process for renewable marine energy in Spain, corresponding to the competent Administration and representatives of the Spanish marine renewable energy industry



This project has been funded
by the European Union

Discussion I: Criteria and information available for environmental assessment

- *What do you think is the main barrier in the environmental approval procedures for marine renewable energy projects?*
- *Do you perceive the uncertainty about environmental impacts as a barrier in these procedures?*
- *How do you manage this uncertainty when justifying the decision taken?*
- *Which are, in general, the main information and/or existing gaps of knowledge for this type of project?*

Discussion II: Environmental risk analysis and legal procedures

- *Do you consider that the implementation of adaptive risk-based management approach is feasible in the authorization procedure for the development of marine renewable energy projects in your country? Where in the authorization procedure do you think it could be implemented?*
- *How could it be implemented (legal document, good practice guide, etc.)?*



METHODOLOGY-SET OF QUESTIONS

WORKSHOP

WESE Workshop (Spain)–Discusión II (pregunta 3)
 3. ¿Cómo podría ser implementado (documento legal, guía de buenas prácticas, etc?)

Como primer paso, una guía de buenas prácticas una vez analizada la situación y esos riesgos, para implementar en el procedimiento. +5	Modificar la Ley de Evaluación Ambiental e introducir la posibilidad de celebrar la fase de scoping en el proceso de EIA simplificada. +2	Preferiblemente a nivel legal aprovechando por ejemplo las oportunidades de los planes de ordenación del espacio marítimo, +1	Elaboración u aprobación de POEM + recomendación (obligación?) de Documento de alcance +2
---	--	--	--

<https://ideaboardz.com> platform



What do you think is the main barrier in the environmental approval procedures for marine renewable energy projects in Spain?	Votes
Lack of knowledge of the impacts	10
<u>Bureaucracy</u>	7
Uncertainty with new technologies / Lack of knowledge of technology and its real impacts	4
Energy regulations are out of date compared to current projects	3
Excessive times	2
<u>Number of entities involved</u>	2
Lack of planning at the national level that organizes and distributes uses	2
Excessive cost of previous studies	1
Lack of Meta-Oceanic research	1
Lack of information (including information on the ecosystem values in the area where the project is planned)	1
Overlapping of competences among administrations, in relation to the global process, including the environmental process	1
<u>Conflicts with local interests</u>	1
Disproportion between the real impact of a small pilot project and the prior and operational monitoring results	1
Wind and waves projects are in different stages of development. The procedures are the same or very similar	1
<u>Usually</u> the administration does not comply with the deadlines established	0
TOTAL	37

Do you perceive the uncertainty about environmental impacts as a barrier in the environmental approval procedures	Votes
Yes	20
No	0

How do you manage this uncertainty when justifying the decision taken?	Votes
Principle of precaution, if there is doubt, preservation	7
Considering the previous scientific documentation if there is one. If not, monitoring during exploitation.	4
Monitoring more ecosystem components than necessary "just in case"	3
<u>Conservative criteria</u> (extra charge)	3
Looking for dialogue with the environmental authority + IPD (initial project document)	2
Previous environmental information should be requested, preliminary studies that improve knowledge and possible risks	1
TOTAL	20



This project has been funded by the European Union

RESULTS



*This project has been funded
by the European Union*

RESULTS

The participants of the working group **identified the following barriers** in order of importance:

- The **excessive cost** of the studies necessary **to reduce this uncertainty**.
- In Spain, the **excessive bureaucracy**: high number of agents involved, excessive times, etc.
- The absence of implementation of legal instruments such as the **National Maritime Spatial Plan** (placed in Portugal but developing in Spain).
- **Lack of previous studies of this type of projects** that provide information on the natural and physical values of the selected sites, as well as the potential synergistic and cumulative effects with other marine facilities or other marine uses.



RESULTS

Possibility of **implementing the adaptive risk-based management approach in the authorization procedure for the development of marine energies**, regarding in which part of the procedure and how to implement it:

- Most Portuguese regulatory bodies **already implement some form of risk analysis** when issuing opinions given the current lack of information on potential environmental impacts.
- Given the **early stage of the sector**, licensing permits are issued with a large margin of uncertainty and decision are **gradually adjusted based on experience** resulting from other projects previously licensed.
- In Spain, some of the responses and comments agreed that this tool should be **implemented in the early stages** of the environmental processing, at the **strategic and planning scale**.
- Participants agreed workshop was a learning experience for all. There was an agreement about being implemented as a **good practice guide**.





CONCLUSION

Deliverable in progress, final conclusions in 2021:

Adaptive Management (by collecting data that would reduce the uncertainty associated with environmental impacts and therefore, the Risk Assessment would be more accurate), **could be included:**

- Early stages: in the **strategic or planning scale**
- Operational level: in the **environmental monitoring program**

Future? Adaptive Management could be implemented:

1. As a **good practice guide**.
2. The degree of **its application would be evaluated**
3. Implementation in **the legislative procedure** could be evaluated.





W E S E

W A V E E N E R G Y I N S O U T H E R N E U R O P E

THANKS FOR YOUR ATTENTION

^{1*}**Menchaca, I.**, ¹Bald, J., ²Cruz, E., ²Apolonia, M.

^{1*}Corresponding author: imenchaca@azti.es

¹AZTI

²WavEC Offshore Renewables



*This project has been funded
by the European Union*

