AQUAWIND

Innovative multi-use prototype combining offshore renewable energy and aquaculture in the Atlantic Basin

D1.7 PROGRESS REPORT VER. 2

WP1 SETTING LEGAL AND SOCIAL CONDITIONS

Grant Agreement nº. 101077600

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[1] PU= Public, SEN=Sensitive

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Executive summary

The aim of AquaWind is to perform a demonstration test of a multi-use (MU) integrated and co-located solution. This would consist of joining an existing marine renewable energy production Wind to Power (W2Power) prototype with an innovative finfish aquaculture solution. AquaWind joins efforts of a multidisciplinary stakeholders' consortia including research & development (R&D) centres, companies, a regional authority, and a maritime cluster from three EU members states (FR, ES, PT) in the Atlantic basin. In addition to that, **AquaWind will involve a wide network of stakeholder throughout all the project phases to propitiate social acceptance**.

As detailed in the Stakeholder Engagement Plan, corresponding to deliverable D1.3, the AquaWind project aims to involve stakeholders of the quadruple helix, mainly through consultation actions, to have, at the end of the project, available data on the appreciation of this type of combined and co-located technologies.

In order to collect information from this participation, progress reports will be periodically carried out to update the status and progress of the activities with stakeholders.

The present report details, after a brief introduction, the actions carried out in AquaWind in its second 6 months of implementation, according to the stakeholder engagement plan and building on the activities previously described in D1.6 Progress Report Version 1.

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Introduction

Overview of stakeholder engagement process

The process of stakeholder engagement is voluntary, open, and active dialog, that identifies current position of all parties included, outlines objectives and outcomes, and identifies how to achieve them. One of AquaWind's objectives is the **implementation of an inclusive process**, by engaging stakeholders at regional, national, and European level, prioritizing public administrations, academia, business sector comprising the supply chain at local level, as well as social agents such as business associations, fishermen and civil society.

Stakeholders are being involved mainly through consultative processes, public surveys, and in some cases through sector-specific surveys (as is the case for the artisanal fisheries sector, among others). These surveys will be made available to stakeholders through an online form that will be made available to stakeholders in two rounds of consultation ((one before the installation of the device at sea and one once the device is installed on the PLOCAN test bed). It has been decided to do this because, according to consultations carried out mainly on offshore wind devices, the visual and environmental impact is usually the one that raises the most doubts, even though these devices have very rigorous environmental impact assessments.

AquaWind has a special feature: although it involves three different countries (ES, FR and PT), the actions will be carried out mainly in Spain and specifically in the Canary Islands, so the mapping of actors has had a strong regional character. However, since the main objective of AquaWind is to carry out a demonstration test of an integrated and co-localised MU solution between two devices, one for wind energy generation and one for fish farming, public and private actors related to these two sectors at national and EU level are considered in the stakeholder involvement plan.

During the second semester of AquaWind implementation, **four main stakeholder engagement actions have been carried out**. In this case, two of them have been events organised directly by the AquaWind project, and the other two have been through the promotion of participation in actions organised by other actors. The actions are as listed below:

- Aquafuture Spain 2023, which took place from March 28 to 30, 2023 at the Feria Internacional de Galicia Abanca, fairground near Santiago de Compostela, with Mørenot Aquaculture as main sponsor.
- AquaWind and FLORA Joint Meeting, in hybrid format (face-to-face in Las Palmas de Gran Canaria and online) held on 1 June 2023.
- Meeting with a company interested in combined solutions between renewable energy production and aquaculture, in online format, on 14 June 2023.
- La Feria Internacional del Mar (FIMAR), which took place in Las Palmas de Gran Canaria from June 16 to 18, 2023, promoted by the Cabildo de Gran Canaria, the City Council of

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Las Palmas de Gran Canaria, the Port Authority of Las Palmas and organised by Infecar Feria de Gran Canaria and Ciudad de Mar.

Target groups

Previous deliverables and desk research conducted within WP1 and WP7 have defined the main target groups of stakeholder engagement activities including the survey. The defined groups have been the target of WP1 and WP7 actions implemented so far. These are described below.

Table 1. Target groups description

Target group	Description
Research community (researchers, PhD students)	Science stakeholders include a diverse network of actors managing, coordinating, or conducting scientific research related to marine activities. This group includes the research community, science managers as well students and PhD scientists. The science category includes actors at local, national, intergovernmental, and European levels as well as representatives of other EU projects.
Industry Representatives, Investors	This category includes representatives of the fishery sector, aquaculture, renewable energy but also maritime transport. In particular companies willing to commercialise the products and services developed in the demo work packages will require robust exploitation plans, risk and benefit assessments, which will be produced under WP5. They will also benefit from the networking opportunities and communication activities offered under WP7.
Societal Actors (citizens, public, civil society organisations)	This category includes both citizens and organisations which operate in the marine field and are affected by marine related activities and citizens who have no specific knowledge of MUP and are not affected by marine activities in their everyday life. The general public will receive awareness-raising materials to trigger their interest, improve their literacy on renewable energy and aquaculture needs and their relevance for climate change mitigation and food production.
Fisheries communities	The fisheries communities are part of the societal actors but are also a key target group on its own. Due to the nature of the project, combining not only offshore wind energy that might interfere with fisheries space and the fishes itself but with the aquaculture part that might pose a threat to the artisanal ways of fishing in the islands. For this reason, most of the activities for WP1, task 1.3 and task 1.4 consider this target group in specific. Efforts are made to understand their conception and opinion on AquaWind and on organising events and webinars to inform about the project, their job prospects and circumstances that will not damage this sector but increase their activity in any case.
Policy and decision-makers	This group will require short and concise recommendations and visual documentation facilitating the understanding of how MUP can impact a broader policy sector and how policy can support or hamper the installations of MUPs. Policymakers at regional, national and EU level will be targeted. At EU level several Directorates-General will be reached (RTD, CLIMA, ENER, ENV, MARE), the JRC, European Climate, Infrastructure and Environment Executive Agency; the European Parliament (intergroups, committees, MEPs), international Ocean governance initiatives, OECD Ocean Economy working group.

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1. Aquafuture Spain 2023, Santiago de Compostela

Figure 1. Banner used for Aquafuture 2023, which took place in the "Recinto FIG-SIlleda", Spain, from March 28 to 30, 2023.

The **International Aquaculture Industry Exhibition**, **Aquafuture Spain**, stands as the premier technological, educational, informative, and commercial gathering in the aquaculture sector within southern Europe. With over **150 exhibitors** from 24 countries and a **participation of 2500 professional attendees**, the event reached remarkable success during its second edition.

The second edition of the event was held from 28 to 30 March 2023 at the Feira Internacional de Galicia Abanca exhibition centre.

Among the objectives of this new edition, the organisers proposed that the exhibition area should include practically all the most important companies in the sector, as well as a greater institutional presence and the participation of representative associations from different regions and other countries. In addition, networking spaces were created to facilitate the scheduled commercial activities.

The AquaWind project was part of the programme, with a presentation of the initiative that took place on Tuesday 28 March in the Sala Abanca at 12.00 noon, given by Dr. Javier Roo, the project's leader. He explained that the AquaWind project represents the only European initiative that combines marine renewable energy production and fish farming, featuring the first floating wind platform in Spain. This platform is capable of simultaneously generating wind energy and high-quality fish, while reducing the marine space occupancy.

The full programme of the congress, running parallel to the fair, is included below.

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SALA ABANCA

Martes 28 de marzo

11:00 h I SKRETTING ESPAÑA
Ponentes: Juan Antonio González y Fernando Sanz
SKRETTING 360+ "Acuicultura de precisión al servicio del productor"

12:00 h I AQUAWIND PROYECT
Ponente: Javier Roo
"Prototipo innovador de usos múltiples que combina energía renovable en alta mar y acuicultura en la cuenca atlántica"

13:00 h I IAT BIOASIS Gran Canarias
Ponente: Juan Ramón Rodríguez
"Incubadora de Alta Tecnología especializada en biotecnología azul y acuicultura"

15:00 h I BIOMAR
Ponente: Juan Zamora-Sillero y Elena Planas Callao
"Equipo Biofarm, ejemplo de servicio a la granja"

16:00 h I ALS GLOBAL
Ponente: Moisés Pérez
"Patologías virales transmitidas por consumo de moluscos bivalvaos"

Figure 2. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 1).

Miércoles 29 de marzo

10:00 h I BIOMAR
Ponente: Rocío Álvaro González
"La sostenibilidad, un valor añadido"

11:00 h I MøRENOT
Ponente: Jordi Comas
"Digitalización en Acuicultura off-shore"

12:00 h I HANNA INSTRUMENTS
Ponente: Ainhoa Suinaga
"Tecnologías de medición de oxígeno disuelto en acuicultura, claves para el mantenimiento de sensores"

13:00 h I OX-CTA
Ponente: Jorge Pérez
"Calidad del agua como factor clave en la bioseguridad en acuicultura"

15:00 h I ANFACO-CECOPESCA
PonenteS: Federica Farabegoli, Jorge Lago (ANFACO), María Lavilla (AZTI), Jose Cabello (CTAQUA)
"Red FISHEALTH: innovación y desarrollo de soluciones para el control de enfermedades infecciosas en acuicultura"

17:00 h I CTN Centro Tecnológico Naval y del Mar
Ponente: Ana Juan Licián
"DigiSafeCage como herramienta digital para la gestión de riesgos de las infraestructuras en acuicultura offshore"

Figure 3. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 2).

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Jueves 30 de marzo

11:00 h I MOLEAER
Ponente: Bob Luyendijk / Antonio Vidal
"Ventajas de las nanoburbujas en acuicultura"

12:00 h I GRUPO EURORED CRISBY/GUNNEBO
Ponente: Rob Van Put
"Introducción a la Acuicultura: la naturaleza especial de los equipos de amarre y fondeo requieren productos y soporte técnico superior"

13:00 h I GRUPO EURORED - OXYGUARD
Ponente: Poul Rosendorf
"¡El control es clave! Monitoreo y control de la calidad del agua. Gestión Acuícola"

Figure 4. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 3).

SALA MAR

Miércoles 29 de marzo

12:00 h I GRUPO EURORED
Ponente: Ariadna Santamaría y Miguel Ozores
"Sistemas de captación de mejilla"

13:00 h I IIM-CSIC
Ponentes: Dra. Beatriz Novoa (Inmunología y Genómica) ; Dra.Isabel Fuentes (Oceanografía) ; Dra. Mª Jesús Glez Pérez (Química de Productos Marinos); Dr. José Pintado Valverde (Ecología y Recursos Marinas) y Dr. Javier Cremades (UDC); Carolina Acosta Díaz (Internacionalización y Transferencia)
Presentaciones:"Presentacion IIM-CSIC"+ "Inmunología y Genómica: Servicios y capacidades tecnológicas para la acuicultura de futuro" + " Oceanografia: Interacción Acuicultura de Bivalvos y el entorno"+ "Química Productos Marinos: Desarrollo de Piensos para todas las etapas de crecimiento y engorde. Calidad del producto final de Acuicultura" + "Ecologia y Recursos Marinos:Acuicultura Multitrófica integrada"

15:00 h I BIOMAR
Ponente: Antonio Villanueva González
"El uso de probióticos en piensos para larvas de peces marinos, una historia de éxito"

17:00 h I VEOLIA WATER TECHNOLOGIES IBÉRICA
Ponente: Sergio Pereda
"Soluciones tecnológicas para el tratamiento de efluentes de acuicultura "

Figure 5. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 4).

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SALA DE CONFERENCIAS CARMEN SARASQUETE

Se compone de 7 jornadas que se plantearán a modo de mesa redonda. Cada sesión tendrá una duración máxima de 1 hora y media. Comenzarán con una introducción, la exposición de los ponentes y por último la participación del público asistente
Las jornadas contarán con traducción español/inglés,

MARTES 28 DE MARZO A LAS 10:30 H.
"Instrumentos de financiación para la acuicultura sostenible"
El objetivo de esta mesa es informar sobre el estado del arte, casos de éxito y tendencias en la integración de procesos de circularidad en el sector acuícola abordando de forma específica modelos que integran toda la cadena de valor de la acuicultura.
Javier Fraga de Abanca Mar, Javier Remiro de la Fundación Biodiverdidad, Javier Ojeda de APROMAR, Carlos Franco de CDTI y Rafael Merino, Director de Markó Partners.

MARTES 28 DE MARZO A LAS 15:00 H.
"Economía circular aplicada a la acuicutura"
Debido a la disponibilidad limitada de recursos alimenticios marinos, la acuicultura es una opción que ha sufrido un crecimiento exponencial en la última década. Este crecimiento se aborda desde distintas perspectivas dependiendo del país de producción. Así, esta mesa pretende la puesta en común del estado general de la acuicultura y las posibles vías de colaboración internacional.
Vicente Galbán, Marta Conde de la Universidad de Vigo, María Pérez de Nueva Pescanova y Marthe Amundsen de MØRENOT

Figure 6. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 5).

MARTES 28 DE MARZO A LAS 16:45 H.
"Oportunidades de mercado internacional de acuicultura"
Debido a la disponibilidad limitada de recursos alimenticios marinos, la acuicultura es una opción que ha sufrido un crecimiento exponencial en la última década. Este crecimiento se aborda desde distintas perspectivas dependiendo del país de producción. Así, esta mesa pretende la puesta en común del estado general de la acuicultura y las posibles vías de colaboración internacional.
Yolanda Molares de Acuiplus, Adolfo Alvial del Club de Innovación Acuícola, Pablo Mascato de JJChicolino, ANDA, Eloy Meseguer de DIBAQ e ICSEM

MIÉRCOLES 29 DE MARZO A LAS 10:00 H.
"Medidas de adaptación al cambio climático en acuicultura"
Esta mesa aborda las proyecciones y medidas de adaptación del sector acuícola como parte de una estrategia a largo plazo frente al cambio climático. Esta adaptación debe basarse en la investigación y debe de integrarse en políticas y medidas socioeconómicas y ambientales.
Carlota Barañano de ICSEM, Sebastian Villasante de USC, Juan Fernández de APROMAR, David Basset de EATIP e Isabel Fuentes del IIM-CSIC

MIÉRCOLES 29 DE MARZO A LAS 12:00 H.
"Bienestar animal y sostenibilidad"
Nuevas técnicas y tendencias en cuanto al desarrollo de vacunas, mejora de fármacos.... Se aborda la necesidad de nuevos que además de aportar valor nutricional ofrezcan beneficios adicionales en cuanto a la protección de enfermedades, refuerzo del sistema inmunológico, etc.
Pascual Rey de AQUATRECK, Jesús Míguez de la Universidad de Vigo, María del Mar Agraso - CTAQUA , Rosa Merino de HIPRA y Andrés González - STOLT SEA FARM

MIÉRCOLES 29 DE MARZO A LAS 15:00 H.
"Soluciones tecnológicas en transporte y almacenamiento en el ámbito de la acuicultura"
Existen muchos factores que favorecen el mantenimiento de las propiedades nutritivas del producto durante el transporte y almacenamiento, haciendo necesaria la introducción de tecnología que mejore la calidad del producto y prolongue su vida útil.
Jose Iglesias, director de TRAZUM, Constantino Mallada de TRANSTRUCHA, Pablo Manuel Xandri de NTT DATA y Jaime Baucells de MEGAFORTRIS

MIÉRCOLES 29 DE MARZO A LAS 16:45 H.
"Uso responsable del Plástico en el sector acuícola"
Con la puesta en marcha de los impuestos al plástico no reutilizable regulados por la Ley 7/2022, de 8 de abril, esta mesa pretende explicar cómo afecta al sector acuícola y propone ejemplos de valorización de los residuos procedentes del mar y su utilización en el sector de la acuicultura.
Alejo Calatayud - Consultor Independiente, Raúl Araque Palacios del Instituto Tecnológico del Plástico (Aimplas), Leire Arantzamendi de AZTI , Javier Pérez - LAMOR y Jaime Arenas de SCALE AQ

Figure 7. Programme of Aquafuture 2023, where AquaWind can be found as a collaborator (Part 6).

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On 28 March 2023, Aquafuture 2023 took place, held in an expansive 16,000 m2 exhibition and commercial area, consisting of two main components.

On one hand, there were conferences organized in a total of 7 sessions, designed in a roundtable format. Each session had a maximum duration of 1 hour and 30 minutes. These roundtable discussions took place on the 28th and 29th of March, featuring the following topics:

- Financing instruments for sustainable aquaculture
- Circular economy applied to aquaculture
- International market opportunities in aquaculture
- Climate change adaptation measures in aquaculture
- Animal welfare and sustainability
- Technological solutions in aquaculture transportation and storage
- Responsible use of plastic in the aquaculture sector

Moreover, a B2B and Networking space was provided to foster potential business exchanges. Additionally, a Showcooking event was held, where a diverse range of aquaculture products could be promoted and tasted.

During the fair it was possible to interact with entities such as FARM FAES, L'AVANNOTTERIA, NAUTILUS OCEANICA, FRANCE NAISSAIN, BIOMAR, INDUSTRIAL PLANKTON, SKRETTING, ALGASPRING, MARINE RESEARCH INSTITUTE – CSIC, CTN, GREENFEEDCYCLES, PHYTOBLOOM, CATALYSIS, LA PATRONA ALGAE and XARXA MARÍTIMA DE CATALUNYA, as well as holding meetings with potential suppliers for the implementation of this prototype.

1.1 Brief overview of the results of the survey

The survey model developed for this event can be found in Annex 1 of this document. The survey was elaborated through a previous bibliographic study on other surveys carried out in Spain and other European countries in relation to the social perception of wind energy and adapted in some cases to offshore wind, as well as improved with questions related to the consumption of aquaculture products and the acceptance of aquaculture.

Although the solution presented is a combined and multi-purpose solution between an energy generation equipment using the offshore wind resource, plus a fish farming cage, the energy generation prototype is what generates more uncertainty a priori to the general public, due to its novelty and lack of knowledge. Fish aquaculture is an established activity in Europe, but offshore wind energy represents an important novelty in southern Europe in the use of maritime space, hence the uniqueness of this type of multi-purpose prototype.

The survey conducted at this event included 29 questions, some of which were specific to the aquaculture sector. In order to facilitate the analysis, the questionnaire included a selection of options, with a final section for comments, in case the person completing the survey wished to include any appreciation or remark. Similarly, the survey does not include any personal data, to

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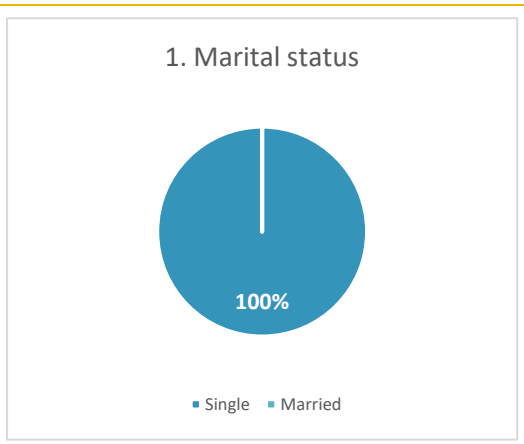
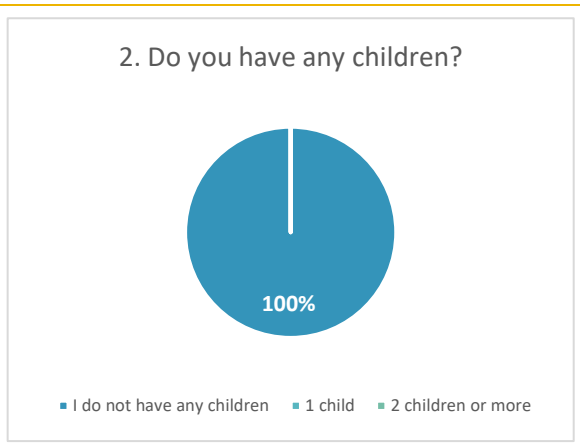
facilitate an honest response. In the last questions of the questionnaire, the participant is invited to know more about the AquaWind project through access to its communication channels and by offering the opportunity to participate in other events or activities of the project, indicating this willingness through contact by email or telephone with the WP7 leader, held by the Consulta Europa company.

In this event, 6 responses were obtained and the main of the graphs with the data collected are included below. From the Canary Islands Maritime Cluster, as responsible for the implementation of the Stakeholder Engagement Plan, together with the rest of the partners, it has been agreed not to carry out a specific analysis by surveys, but it will be done at the end of the process and it will be included in the last progress report of this plan, since with partial information we could fall into partial analysis that could be counterproductive.

However, we can draw some general findings, such as the fact that, among those surveyed, all of them believe that installing offshore wind energy in their region would lead to an increase in their economic growth. On the other hand, they believe that this installation would result in both visual and environmental impacts (56% visual impact, 22% environmental impact).

Regarding the specific aquaculture sector, two-thirds of the interviewees are capable of distinguishing between wild fish and farmed fish. A preference between these two cannot be highlighted, but what can be emphasized is the preference for locally sourced fish (63%).





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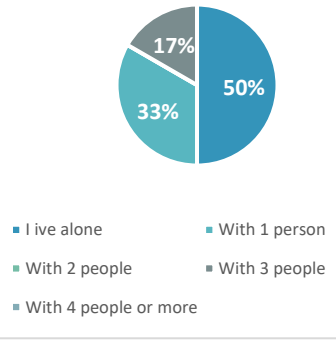
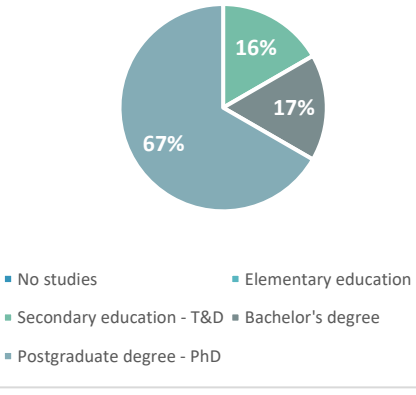
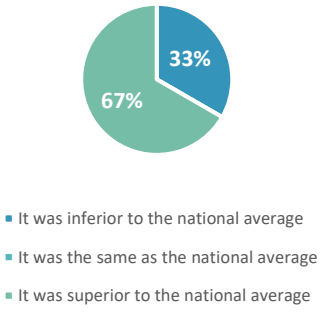
3. How many people do you live with?



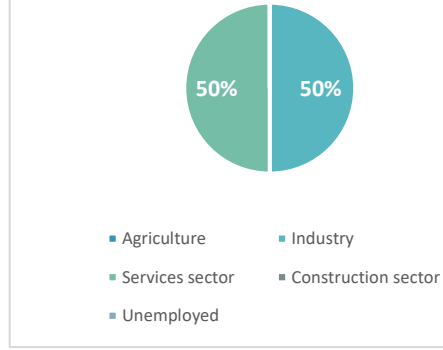
4. Educational Level



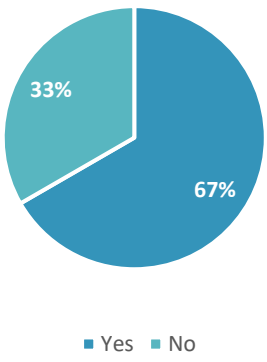
5. Salary (acording to the Economically Active Population Survey in Spain, the average montlhy gross salary was 2.086,8€ in 2021)



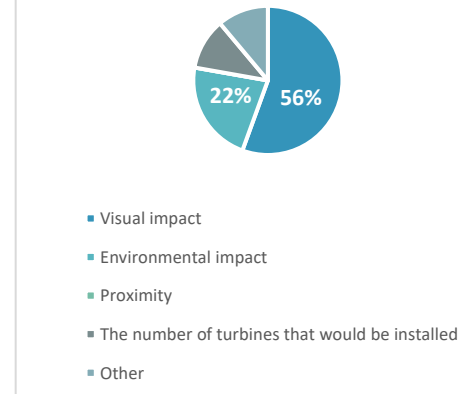
6. Sector of occupation according to the economic sector



7. If we consider a coastal area to be less than 50km away from the sea, do you live in a coastal area?



8. In your opinion, what would be the main drawback of installing an offshore wind farm?



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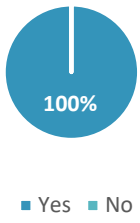
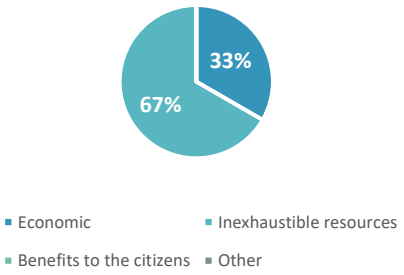
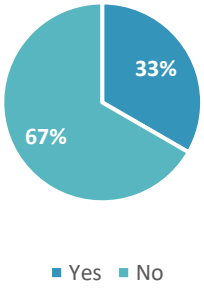
9. Do you think that installing this type of renewable energy in your region would increase its economic growth?



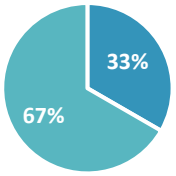
10. If positive, mark what you consider to be the main advantage



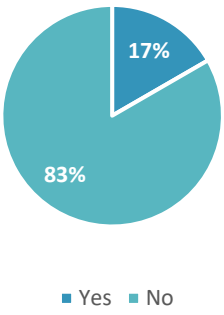
11. Do you know Spain's integrated National Energy and Climate Plan for 2021-2030?



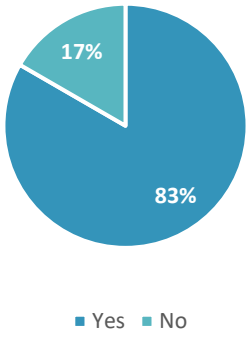
12. Do you know the Maritime Spatial Plans (MSP) that were recently approved and that show the areas where offshore wind farms could be installed?



13. In relation to the previous question, do you know the management plans for aquaculture activity in your region and the areas designated as ZIA (Zona de Interés Acuícola) and ZCIM (Zonas de interés para los cultivos marinos)?



14. Do you know the new strategic guidelines for a more sustainable and competitive aquaculture in the EU for 2021-2030?



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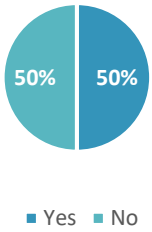
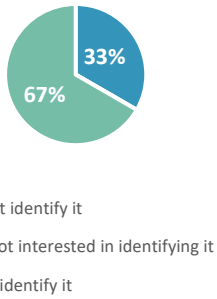
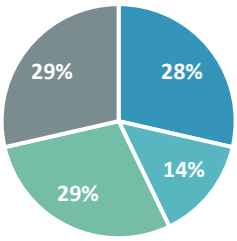
15. Regarding the previous question, do you know what were the contributions that Sapin made for these new strategic guidelines?



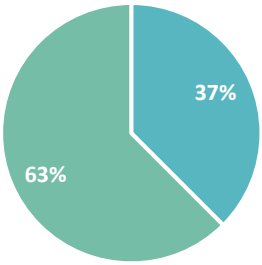
16. When you buy fish, are you able to identify if it is wild fish or farm-raised fish?



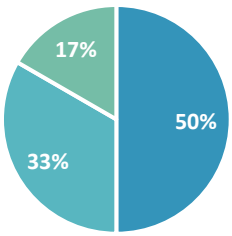
17. Do you prefer wild or farm-raised fish?



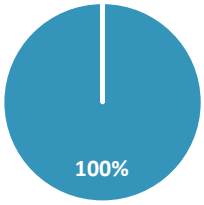
18. Do you have any preference on the fish's origin?



19. Do you know your regional aquaculture supply chain?



20. In the coming years, aquaculture in your region should…



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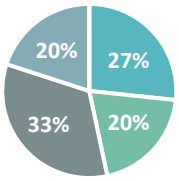
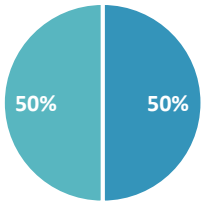
21. When comparing aquacultural products to traditional fisheries' products, which of these aspects would you highlight from aquaculture as opposed to fisheries?



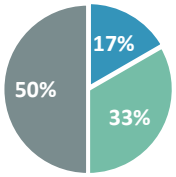
- Freshness and Taste
- Guaranteed availability
- Traceability and food security
- Sustainability of the production
- Source of employment for the region
- Other

22. In regards of the aquacultural sector, do you think that implementing offshore wind energy would be a risk to its activity?



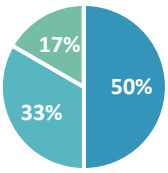
- Yes
- No

25. Do you want to be contacted for…?



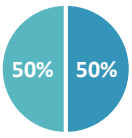
- Receive information
- Participate in activites
- Both: receive information and participate
- I do not wish to be contacted

26. In case you want to be contacted, which means would you prefer?



- Website / social networks
- Newsletter to your email
- By phone
- Whatsapp / SMS
- Other

28. Would you like to participate in activities/events organized within the framework of the project such as courses, training, conferences,…



- Yes
- No

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Figure 8. Survey results graphs from the sample conducted in the Aquafuture 2023, which took place from March 28 to 30, 2023 at the Feria Internacional de Galicia Abanca fairgounds, near Santiago de Compostela.

Furthermore, 100% of respondents agree that aquaculture should be further developed in their region, stressing the sustainability of the product and its guarantee. This conclusion is not surprising, knowing that most of the people who participated in AquaFuture 2023 are directly or indirectly professionally related to aquaculture, so they have a particular interest in the development of this sector.

It should be noted that there were some questions where respondents were able to answer several options at the same time, these answers do not contradict between them, but they do reveal the complexity of decision making when selecting one answer or another. The questions that were answered with multi-choice answers were:

- 8 – In your opinion, what would be the main drawback of installing an offshore wind farm?
- 17 – Do you prefer wild or farm-raised fish?
- 18 – Do you have any preference on the fish's origin?
- 21 – When comparing aquacultural products to traditional fisheries' products, which of these aspects would you highlight from aquaculture as opposed to fisheries?

It should also be clarified that questions 23 and 24 are observations, so they are not included in the graph, and question 27 is for the newsletter sign-up.

In order to make the survey available to those attending the fair, during Dr. Javier Roo's presentation, the attendees were invited to complete the survey by means of a QR code that was displayed on the screen. Small QR codes were also distributed around the stands to make it easier to access it. Despite this, and the fact that the fair had more than 150 exhibitors from 24 countries and 2500 professional visitors, only 6 questionnaires were completed.

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1.2 Photographic dossier

Below there is a photographic dossier of the event Aquafuture 2023:

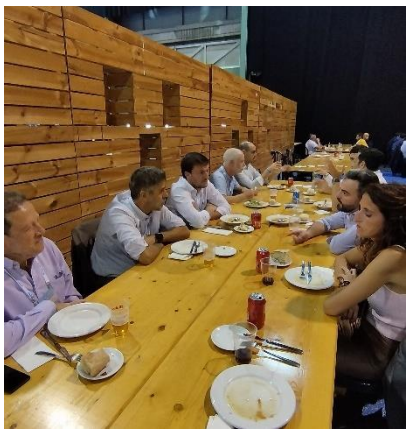

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Figure 9: Photographic dossier of the Aquafuture 2023, which took place from March 28 to 30, 2023 at the Feria Internacional de Galicia Abanca fairgounds, near Santiago de Compostela.

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2. AquaWind and FLORA Joint Meeting

Figure 10. AquaWind and FLORA Joint Meeting

On June 1st, 2023 at the Puerto de Las Palmas Foundation, the European project AquaWind, coordinated from the Canary Islands, held a joint event with the FLORA project to explore synergies between these pioneering initiatives in the Atlantic region. Both projects receive co-financing from the European Climate, Infrastructure, and Environment Executive Agency (CINEA).

FLORA is a research and innovation project that aims to optimise and validate a multisensory ocean station prototype capable of generating energy to power its oceanographic data services. This project has been developed by Wedge Global, a Spanish provider of technology and services for the marine energy market. Like AquaWind's W2Power prototype, the FLORA system will be tested in the waters of Gran Canaria under real sea conditions for several months.

Both projects are aligned with the goals of the Atlantic Maritime Strategy to develop marine renewable energies and promote sustainable expansion of the blue economy in the Atlantic area.

With the support of the AquaWind consortium, the Maritime Cluster of the Canary Islands opened the doors to this event, which took place at the new facilities of the Marine Maritime Innovation Center, located in the Fundación Puertos de Las Palmas building in Las Palmas de Gran Canaria. This center, an initiative of the Economic Promotion Society of Gran Canaria (SPEGC) in collaboration with the Port Authority of Las Palmas and the Puerto de Las Palmas Foundation, provided the ideal setting for the first encounter between AquaWind and FLORA.

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During the event, participants had the opportunity to gain a deeper understanding of the activities of each project and discuss potential synergies and knowledge exchange. This meeting marked the beginning of a promising collaboration between AquaWind and FLORA, laying the groundwork for future collaborations in the field of marine energy and sustainable blue economy.

The agenda followed during the meeting is shown below in figure 11 after a short introduction of all participants, the lead partners of both initiatives made a presentation of the projects and afterwards, a discussion took place.

Figure 11. Programme followed in the meeting between AquaWind and FLORA

A round of questions on technical aspects of the two projects was conducted at the discussion stage. Participants discussed potential collaborations in terms of data sharing, expected to be retrieved during the pilot testing of the two prototypes. The two consortia acknowledged that their pilot testing would take place on PLOCAN's waters, more or less in the same period (early 2024 – spring 2024) and both systems will be tested for ca. 4 months. It was agreed to arrange a technical meeting in the piloting phase in order to discuss the potential sharing of data.

Beyond technical aspects, a discussion on synergies on dissemination, communication & exploitation was promoted. Laminak Energy made a presentation to reflect about key messages, audiences and actions that can be common to both projects. The relevance of the messages and

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audiences was confirmed by all participants. Regarding specific dissemination actions, it was agreed to collaborate for the release of the updated version of the FLORA Policy Brief, the joint organisation of a webinar taking place in May 2024, and to look for potential events in early 2024 to be able to attend together and share costs. In addition, AquaWind consortium commented that they will be promoting the FLORA project in their next newsletter release and through social media. Potential collaborations can be also explored in terms of launching a social media campaign with a calendar of posts in common.

2.1 Photographic dossier

Below there is a photographic dossier of the event in the Marine Maritime Innovation Center, located in the Fundación Puertos de Las Palmas building in Las Palmas de Gran Canaria:

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Figure 12: Photographic dossier of the AquaWind and FLORA joint meeting in the Marine Maritime Innovation Center, located in the Fundación Puertos de Las Palmas building in Las Palmas de Gran Canaria.

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3. Bilateral meeting with a company interested in combined solutions between renewable energy production and aquaculture.

On the 14 June 2023, the AquaWind project leader GOBCAN-ACIISI and CMC participated in a meeting following the interest shown by a large Spanish company[2] belonging to the energy value and supply chain, in learning more about the project and the multi-use solution proposed in the project. The meeting took place online.

For the meeting, the AquaWind's Coordinator, Dr. Javier Roo, carried out a presentation about the project and the novelty of this multi-use solution, being the only European initiative that combines offshore renewable energy production and fish farming, in the first floating wind platform in Spain, capable of jointly producing wind energy and high-quality fish.

A discussion was also held with the company, which sees in this project the opportunity to work with aquaculture companies, not only for fish farming combined with renewable energy production, but also for the combined farming of other organisms such as invertebrates and even algae, as initiatives with this type of organisms are already under development in northern Europe. The discussion stage also addressed the data collection part, as there is no data available to provide a basis for comparison between fish farming separately and in combination with offshore wind energy production. At the end of the meeting, the participants agreed on their willingness to explore ways of collaboration in AquaWind in the future.

3.1 Photographic dossier

Figure 13: Meeting with the company to discuss potential of multi-use projects and AquaWind prototype.

Note: In the figure above, the image of the participant has been removed upon the request of the participant.

[2] Upon their request, the name of the company is not disclosed in the public deliverable due to confidentiality reasons. It can be facilitated to the EC, if requested.

4. Feria Internacional del Mar (FIMAR), Las Palmas de Gran Canaria

Figure 14. Banner used to promote FIMAR 2023, which took place in Las Palmas de Gran Canaria, from June 16 to 18, 2023.

FIMAR is an event promoted by the Gran Canaria Island Council, the City Council of Las Palmas de Gran Canaria, and the Las Palmas Port Authority, and organised by the City Council's city of sea government unit and Infecar, the Gran Canaria Trade Fair.

It is a fair where institutions and companies from the maritime, marine, and nautical sectors showcase their services, products, and expertise. Additionally, various informative sessions were held, and a model of smart beaches was presented.

In this 2023 edition, the guest city was Mindelo (Cabo Verde), represented by the Chamber of Commerce of Barlovento, the Maritime and Port Institute (IMP), and the Cabo Verde Tourism Institute.

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The 12th edition of the International Sea Fair (FIMAR) took place from June 16th to June 18th, 2023. During the event, the Canary Islands Maritime Cluster (CMC) and the Canary Islands Federation of Port Companies (FEDEPORT) had a booth as exhibitors to showcase blue professions available in the maritime sector, under the framework of the Smartblue_F project's activities. At the booth, besides explaining the wide variety of blue job opportunities available, a platform was displayed to submit resumes for those interested in working within the port sector. Approximately 18,000 attendees attended the FIMAR event this year, which occupied an area of 12,000 square meters in the surroundings of Muelle Santa Catalina. The fair became an opportunity to promote the Aquawind project, as the CMC's booth utilised the visitor flow to showcase the different activities carried out by the project and the ongoing survey to gauge society's perception on such initiatives combining wind energy production and fish aquaculture.

The programme of the info days was as follows:

Figure 15. Programme of FIMAR 2023 (Part 1)

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Figure 16. Programme of FIMAR 2023 (Part 2)

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Figure 17. Programme of FIMAR 2023 (Part 3)

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Figure 18. Programme of FIMAR 2023 (Part 4)

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Figure 19. Programme of FIMAR 2023 (Part 5)

4.1 Brief overview of the results of the survey

At the FIMAR 2023 event, participants were invited to conduct a survey regarding offshore wind energy, aquaculture, and their synergy to gather valuable data. This survey was administered as a trial (test) for the Pre-Demonstration survey. By doing so, we aimed to fine-tune the questions and enhance the survey's quality.

However, the results were inconclusive due to the remarkably low number of responses received, with a total of only 4 completed surveys. Despite actively encouraging event participants to partake in the survey, few were willing to participate. From this, we can infer that

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the communication channel or medium through which the survey was disseminated may not have sufficiently captured their attention or piqued their interest.

Nonetheless, this process has helped us to identify possible improvements to the survey, such as not allowing multiple responses to be selected in order to avoid inconsistencies.

4.2 Photographic dossier

Below there is a photographic dossier of FIMAR in Las Palmas de Gran Canaria:

Figure 20. Photographic dossier of FIMAR 2023, which took place in Las Palmas de Gran Canaria from June 16 to 18, 2023.

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5. Stakeholders' consultation via surveys

One of AquaWind's objectives is the implementation of an inclusive process that engages stakeholders at regional, national, and European level, prioritising public administrations, academia, business sector comprising the supply chain at local level, as well as social agents such as business associations, fishermen and civil society.

To fulfil these aims, the AquaWind project under WP1 entails the development and promotion of surveys to collect feedback from different groups of stakeholders about their perceptions, opinions, and knowledge about offshore energy, aquaculture, and more in general MU projects like AquaWind.

5.1 Surveys' development overview

Initial survey templates have been elaborated during the first year of the project (see D1.3 and D1.6) and distributed in dedicated events organised or attended by the AquaWind consortium. The survey has been developed thanks to a previous bibliographic study on other surveys carried out in Spain and other European countries in relation to the social perception of wind energy and adapted in some cases to offshore wind, as well as improved with questions related to the consumption of aquaculture products and the acceptance of aquaculture.

Importantly, as described in Chapter 1 of the present deliverable, the survey has been distributed in the AquaFuture event. This has been a valuable activity that allowed to retrieve feedback about the survey template in order to fine-tune the WP1 stakeholder engagement strategy for the upcoming surveys.

The next step for the project is to develop and promote a two-phase survey: a pre-demonstration and a post-demonstration survey (before and after the AquaWind prototype testing) to collect opinions and feedbacks from stakeholders. This will help to build a comprehensive and inclusive framework for an integrated planning and delivery of multiuse solutions in the Atlantic basin.

Lessons learnt

A number of lessons learnt from the initial experience with stakeholders and survey consultations can be already outlined. These will be useful for the future activities, in particular the launch of the pre- and post-demonstration surveys.

First it can be highlighted that, although the formulation phase of the project indicated that the stakeholder consultation would be carried out almost online, the project has so far learnt that depending on the event and the target group to address, it is necessary to adapt the surveys and the consultation methods, both in the format in which it is carried out (online or on paper), as well as in the type and number of questions.

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To date, the number of tackled questions is around 40 questions per survey, all of which are choice questions, so the time to complete the survey is not very long, less than 10 minutes. However, the battery of questions the project has internally developed is much larger with over 70 questions. Depending on the target groups, the consortium will evaluate whether to use these extra questions in future consultations.

It should also be noted that survey participation in large events is not the most appropriate approach, as despite efforts to promote participation, representative samples are not achieved, so in the next implementation period this issue will be reflected in a specific communication plan for the pre-demonstration phase.

This process has helped the project partners to define the questionnaire for the pre-demonstration phase, which is currently under review by the consortium members and will be launched in September 2023. More information on the pre-demonstration survey is included below.

5.2 Pre-demonstration survey

The main steps for the stakeholder engagement activities under WP1 during the next few months will be focused on continuing with stakeholders' consultations through the launch and promotion of a **pre-demonstration survey** complemented by additional stakeholder engagement activities/events. According to the Grant Agreement, the pre-demonstration survey aims is to collect feedback about the perceptions of the general public about the benefits of offshore energy in combination with aquaculture, the development of MU projects, and overall, the upcoming AquaWind prototype testing.

To effectively promote the pre-demonstration survey, WP1 requires a close collaboration with WP7 Dissemination and Communication. WP7 Leader Consulta Europa Projects & Innovation (CE) has designed a dissemination strategy for the survey's promotion leveraging the different project channels and the project partners' efforts, which is described in the following sections.

Promotion of pre-demonstration survey

Designs

Multiple designs for the survey's promotion have been developed by CE. The designs include images for social media posts and banners for the project's/partners' websites. A selection of the developed designs is provided below.

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Figure 21. Web banner example

Figure 22. Image examples for general social media posts

Figure 23. Image examples for targeted stakeholders

Dissemination and communication tools and plan

A range of tools and platforms will be used for the pre-demonstration survey's dissemination. Each of them is described subsequently, along with an established plan for action. WP7

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dissemination for the survey's promotion will span from September 2023, when the survey will be launched, until the early next year (January 2024).

Table 2. Target groups description

Tool	Strategy	Timeline
Website	A webpage dedicated to the pre-demonstration survey is under development and will be publicly published on the AquaWind website in September. This webpage will work as the main 'digital window' to promote the survey. It will include the link and the QR code to be redirected to the survey form for completion.	September 2023 – January 2024
Social media	A social media campaign for the survey will be launched in September. Periodic posts on the project's social media are planned each month until the end of the year. Posts will encourage both general public and specific stakeholder groups to answer to the survey.	September 2023 – January 2024
Newsletter	The second newsletter of AquaWind will be released in September and will include a dedicated section on the survey.	September 2023
Emailing	Direct emailing from CMC, supported by CE and the project partners, will be ensured as a way to complement the promotion efforts of the survey. The stakeholder database in *D1.3 Stakeholder Engagement Plan* has outlined a list of key organisations and associations relevant for AquaWind awareness raising activities. Contacts with such organisations will be ensured, as well as with partners' own networks as a multiplier effect.	October – December 2023
Events	Project partners, and in particular CMC which leads stakeholder engagement activities, are planning their attendance to a number of local/national events where the survey will be distributed. Also, the project will consider the organisation of dedicated interviews, focus groups, technical workshops, etc.	September – December 2023

Project partners will be provided with a guideline document developed by CE with indications on how to promote the pre-demonstration survey from their side and through their channels. The document will include recommendations on the best use of dissemination & communication tools and developed designs for the survey's dissemination. The project partners will be also encouraged to re-share the social media posts and the newsletter published by the project.

These activities will take place during September 2023 and January/February 2024.

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Conclusions

The process of stakeholder engagement is **voluntary, open, and active dialog**, that identifies current position of all parties included, outlines objectives and outcomes, and identifies how to achieve them. Once a stakeholder engagement activity is completed, it is essential to document, review and assess the engagement process, as well as the input and the feedback received from the stakeholders, which is done in this progress report.

This second progress report includes the 4 main actions linked to the implementation of the stakeholder's engagement plan, which have managed to bring AquaWind closer to sectoral agents of aquaculture at national level in Spain, to the general public, as was the case with FIMAR 2023, through the synergies provided by working on cross-cutting aspects with sister projects, or through bilateral meetings with companies. Moreover, the deliverable lays down the next steps for the WP1 stakeholder engagement which will mainly focus on the launch and promotion of the pre-demonstration survey.

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Annexes

SURVEY TEMPLATE (Aquafuture 2023, which took place from March 28 to 30, 2023 at the Feria Internacional de Galicia Abanca fairgounds, near Santiago de Compostela)

AquaWind is a pioneering project in the Atlantic region that aims to design and implement a practical and disruptive demonstration of integrated solutions for offshore renewable energy development. The main objective is to conduct a test demonstration by combining a W2Power prototype for marine renewable energy production with an innovative fish farming solution. This includes a customized fish cage with novel net materials, advanced digitalization, and species diversification. The purpose of conducting this questionnaire is to gather statistical data for inclusion in the project reports; therefore, no personal information will be requested.

Marital status:

☐Single
☐Married
☐None of the above

Do you have any children?

☐ I do not have any children
☐1 child
☐2 children or more

How many people do you live with?

☐I live alone
☐With 1 person
☐With 2 people
☐With 3 people
☐With 4 people or more

Educational level:

☐No studies
☐Elementary education
☐Secondary education – T&D
☐Bachelor's degree
☐Postgraduate degree - PhD

Salary (according to the Economically Active Population Survey in Spain, the average monthly gross salary was 2.086,8€ in 2021)

☐ It was inferior to the national average
☐ It was the same as the national average
☐ It was superior to the national average

Sector of occupation according to the economic sector

☐Agriculture
☐Industry
☐Services sector
☐Construction sector
☐Unemployed

If we consider a coastal area to be less than 50km away from the see, do you live in a coastal area?

☐YES
☐NO

In your opinion, what would be the main drawback of installing an offshore wind farm?

☐ Visual impact
☐ Environmental impact
☐ Proximity
☐ The number of turbines that would be installed.
☐ Other

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Do you think that installing this type of renewable energy in your region would increase its economic growth?

☐YES
☐NO

If positive, mark what you consider to be the main advantage.

☐Economic
☐Inexhaustible resources
☐Benefits to the citizens
☐Other

Do you know Spain's integrated National Energy and Climate Plan for 2021-2030?

☐YES
☐NO

Do you know the Maritime Spatial Plans (MSP) that were recently approved and that show the areas where offshore wind farms could be installed?

☐YES
☐NO

In relation to the previous question, do you know the management plans for aquaculture activity in your region and the areas designated as ZIA (Zonas de interés Acuícola) and ZCIM (Zonas de interés para los cultivos marinos)?

☐YES

☐NO

Do you know the new strategic guidelines for a more sustainable and competitive aquaculture in the EU for 2021-2030?

☐YES
☐NO

Regarding the previous question, do you know what were the contributions that Sapin made for these new strategic guidelines?

☐YES
☐NO

When you buy fish, are you able to identify if it is wild fish or farm-raised fish?

☐ I can't identify it
☐ I'm not interested in identifying it
☐ I can identify it

Do you prefer wild or farm-raised fish?

☐ I prefer wild fish
☐ It is unimportant to me
☐ I prefer farm-raised fish
☐ It depends on the price

Do you have any preference on the fish's origin?

☐ It is unimportant to me
☐ I prefer fish from the EU
☐ I prefer local fish

Do you know your regional aquaculture supply chain?

☐YES
☐I do not know
☐NO

In the coming years, aquaculture in your region should…

☐ Increase
☐ Stay the same
☐ Decrease
☐ Does not know/ does not answer

When comparing aquacultural products to traditional fisheries' products, which of these aspects would you highlight from aquaculture as opposed to fisheries?

In regards of the aquacultural sector, do you think that implementing offshore wind energy would be a risk to its activity?

☐YES

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☐NO

☐Freshness and Taste
☐Guaranteed availability
☐Traceability and food security
☐Sustainability of the production
☐Source of employment for the region
☐Other

If positive, please specify in which way.

Your answer: _____

Observations (include any comments or appreciation):

Your answer: _____

Do you want to be contacted for…?

☐ Receive information
☐ Participate in activities
☐ Both: receive information and participate
☐ I do not wish to be contacted

In case you want to be contacted, which means would you prefer?

☐ Website / social networks
☐ Newsletter to your email
☐ By phone
☐ Whatsapp / SMS
☐ Other

If you have checked any of the above boxes, specify your preferred contact information (email, contact telephone number, social networks...)

Your answer: _____

Would you like to participate in activities/events organized within the framework of the project such as courses, training, conferences, participatory meetings, interviews, surveys, etc?

☐YES

☐NO

If you are interested in participating, check the activities to which you would be willing to participate:

☐ Webinar
☐ Informative face-to-face meeting
☐ Round table
☐ Training
☐ Surveys
☐ Interviews
☐ Other

This version can also be accessed online at the link:
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AQUAWIND

Innovative multi-use prototype combining offshore renewable energy and aquaculture in the Atlantic Basin

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