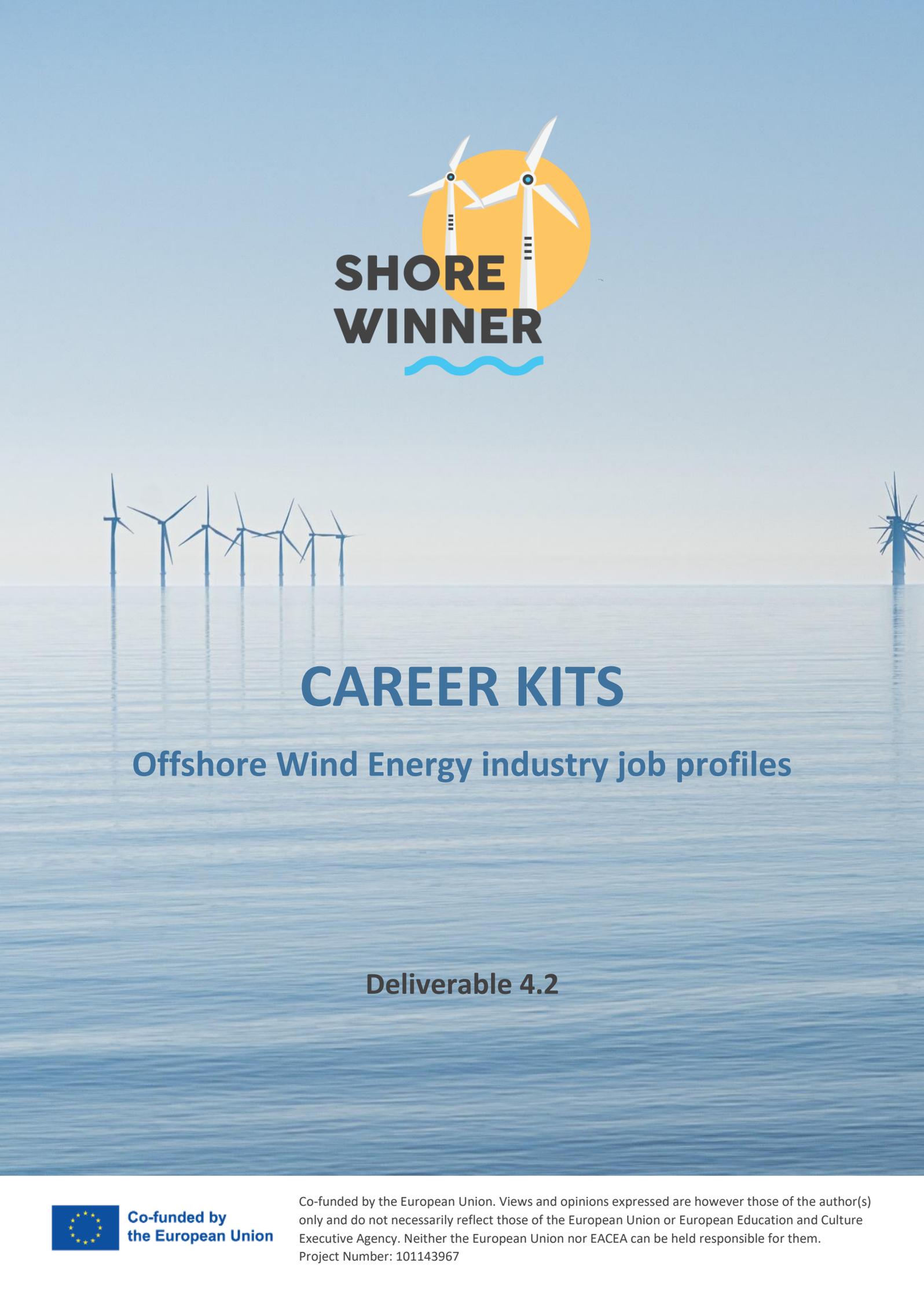




# SHORE WINNER



## CAREER KITS

### Offshore Wind Energy industry job profiles

#### Deliverable 4.2



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## D4.2 Career Kits

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## List of Acronyms and Abbreviations

N.B.: The Career Kits documents involve a large number of country-specific acronyms and abbreviations. The list below includes only the most relevant and recurrent ones, in addition to EU and internationally recognised acronyms.

<b>Abbreviation</b>	<b>Definition</b>
ORE	Offshore Renewable Energy
OWE	Offshore Wind Energy
VET	Vocational Education and Training
ESCO	European Skills, Competences, Qualifications and Occupations
EQF	European Qualifications Framework
EU	European Union
GWO	Global Wind Organisation
ISO	International Organization for Standardization
O&M	Operation and Maintenance
OWF	Offshore Wind Farm(s)
HSE	Health, Safety and Environment
HR	Human Resources
ISCO	International Standard Classification of Occupations
HE	Higher Education
ESG	Environmental, Social and Governance
CoVE	Centre of Vocational Excellence
CVET	Continuing Vocational Education and Training
STCW	Standards of Training, Certification and Watchkeeping for Seafarers
EIA	Environmental Impact Assessment
GIS	Geographic Information Systems
SCADA	Supervisory Control and Data Acquisition
ROV	Remotely Operated Vehicle
BST	Basic Safety Training
BTT	Basic Technical Training
LCA	Life Cycle Assessment
AI	Artificial Intelligence

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## Executive Summary

This document presents *Deliverable 4.2 – Career Kits*, developed within WP4 “Cooperation for Excellence”, Task 4.2 “Bridging students and employers”, under the SHOREWINNER project.

The Career Kits have been conceived as structured sets of materials aimed at supporting career guidance, training alignment and skills development in the Offshore Renewable Energy (ORE) and Offshore Wind Energy (OWE) sectors. They contribute to strengthening the connection between vocational education and training (VET), higher education institutions and labour market needs, by providing clear, accessible and standardised descriptions of selected professional roles within the industry.

A total of 15 Career Kits has been developed by project partners across five countries (Portugal, Spain, Italy, Greece and Cyprus). The selection of job profiles was based on a combination of trend and needs analysis, employment data, stakeholder consultation and national priorities, ensuring that the profiles reflect both sectoral relevance and territorial specificities.

Each Career Kit is structured into four main components:

- A **Detailed job description**, providing information on responsibilities, competences, education and training pathways, industry trends and relevant professional resources;
- A **Self-assessment skills & aptitudes questionnaire**, designed to support reflection and career orientation;
- A **Career path map**, illustrating professional progression and competence development aligned, where possible, with recognised standards;
- **Video-interviews**, offering first-hand insights from professionals working in the selected roles.

To ensure coherence and comparability across countries, common methodological guidelines and structured templates were adopted. Alignment with the ESCO classification and reference to European qualification frameworks enhance transparency and facilitate cross-border understanding of occupational profiles.

**Chapter 1** introduces the concept, objectives and target groups of the Career Kits, describing their structure and intended use within the project framework. **Chapter 2** outlines the methodology followed for the development process, including the shared framework, stakeholder involvement and quality assurance mechanisms. **Chapter 3** provides an overview of the selected job titles and their distribution by ESCO group and functional area within the offshore wind value chain. **Chapter 4** presents the complete set of Career Kits, organised by country and job title, including all developed materials. Finally, **Chapter 5** outlines the next steps related to dissemination, use and sustainability of the outputs.

Overall, this deliverable represents a concrete tool to support orientation, training planning and stakeholder engagement, contributing to the SHOREWINNER objective of fostering excellence and responsiveness in skills development for the offshore renewable energy sector.

Two **appendixes** complete this document, reporting templates of tools used to identify and describe the selected job titles.



## 1. Introduction

### 1.1. The Career Kits: definition, objectives and role within the project

#### Definition and rationale of the Career Kits

A Career Kit is a structured set of materials, tools, and resources designed to guide, inform, and support individuals in understanding, choosing, or entering a specific profession. It can be used in contexts of career guidance, training, job placement, or upskilling, and can be tailored to different targets (students, graduates, professionals in transition, unemployed individuals, etc.).

The Career Kit helps to:

- Present the profession and its context;
- Highlight the required skills and relevant training paths;
- Provide practical tools for job search and professional development;
- Support individuals in assessing whether the profession aligns with their interests and goals.

The project envisages that “Partners will develop at least 15 Career Kits describing the most required jobs in the sector at different levels, e.g. management positions, middle management, technical, administrative or services, etc. The Career Kits will include information on each job, as well as the training and qualification paths that can lead to that respective career. There will be special care to ensure that they are inclusive and diverse, e.g. include videos of women performing the jobs”.

The here presented output (D4.2) is composed by “Sets of material, physical and digital, including information on each job, as well as the training and qualification paths that can lead to the corresponding career. Special care will be paid to inclusiveness and equal opportunities in the development of the kits. 15 Career Kits will be compiled and made available on the project website and platform, always in the national language and subtitled in EN”. As stated in the Grant Agreement, having each Career Kit in English and in the developer’s national language would improve usability and favour usage.

#### Objectives of the Career Kits within the project framework

The Career kits have the objective of supporting the guidance, training and dissemination activities envisaged by the project.

In the frame of the project, the Career Kits have been designed to contribute to addressing diverse needs:

- Diffuse knowledge and orientation about the industry and the related job market;
- Deliver practical tools for job search and professional development, encouraging self-reflection and identification of skill gaps;
- Connect learning to practice through case studies, testimonials and useful resources for further development.

## 1.2. Target groups and relevance

### Target groups addressed by the Career Kits

The main target groups of the Career Kits are:

- High school students
- Recent graduates / young professionals
- Unemployed or career changers
- Professionals or technical experts
- Companies / HR / training organizations

The content and style of the Career Kit have been designed to be adaptable to different target groups, each with distinct needs and goals:

Target	Main purpose
High school students	Discovering the profession and orienting career choices
Recent graduates / young professionals	Entering the job market
Unemployed or career changers	Reorientation and skills valorisation
Professionals or technical experts	Updating and upskilling
Companies / HR / training organizations	Supporting career guidance and job matching

The expected relevance and added value of the Career Kits for different stakeholders can be summarized as follows:

- For **students**: enhance their discovery and curiosity. Supporting them to discovering the profession and orienting career choices;
- For **graduates**: practical employability. Focus on useful tools and resources, job opportunities (job matching platforms), networking (professional associations, targeted training,...) to support them in entering the job market;
- For **professionals and technicians, operative workers**: reorientation and skills valorisation. In-depth materials (competence maps, certifications, tech trends), training and certification pathways and programs;
- For **HR and companies**: supporting career guidance and job matching. Offer job profiles, competence frameworks, employability indicators for evaluation and training references.

The usage of **inclusive and accessible formats**, that can be made available both in digital and physical/print versions, ensure usability across contexts, and in particular way during career days and other events, as well as in the online community on the project platform.

### 1.3. Structure and contents of the Career Kits

Each Career Kit is structured into four outputs:

1. A **Detailed job description** that is the **informative part of the kit**;
2. A **Self-assessment skills & aptitudes questionnaire** that represents the **self-assessment and orientation section**;
3. A **Career path map** which represents the **operational and career support section**;
4. A **Video-interview** which is an **experiential and multimedia output**.

Here below a description of each output.

#### 1. Detailed job description

The Detailed job description is structured to include all the relevant information required to describe a job profile. It foresees a professional overview, a detailed description of the key competences and related knowledge and skills, as well as a dedicated field for education and training paths necessary both to access the profession and to progress along the career path.

It also includes an industry trends and outlook section and a collection of professional resources, such as:

- Standards and certifications relevant to the role;
- Professional associations and networks;
- Specialized reports and publications.

In addition, the document has a section for the description of case studies and references to testimonials (e.g. short first-person quotes from professionals currently working in the field, describing their experiences, motivations, or advice).

Finally, the Detailed job description includes a dedicated area focusing on the Offshore Wind Energy and Renewable Energy supply chain at both EU and national levels, outlining the context in which these professionals operate and the expected job market demand trends.

#### 2. Self-assessment skills & aptitudes questionnaire

The Self-assessment skills and aptitudes questionnaire is designed to help participants reflect on their personal knowledge, skills, aptitudes, and work preferences in relation to the selected job profile. It is a non-evaluative tool that supports career orientation, self-reflection, and learning planning.

The questionnaire provides a common framework for identifying one's strengths, areas for development, and overall alignment with the professional requirements described in the Job Profile (Annex 1). It foresees dedicated parts for:

- Educational background and certifications relevant to the career path;
- Technical knowledge and skills drawn from the reference job description, rated by level of proficiency;
- Soft skills considered essential for the profession, also rated by level of proficiency;
- Work conditions and personal fit, helping participants assess their willingness and preferences regarding typical aspects of the role.

The questionnaire could be accessed both online, via the project platform, and in a printed version, which can be made available during Career Days and guidance activities.

### 3. Career path map

The **Career path map** is a structured visual and descriptive tool designed to support students and employers, mapping out professional progression in a career path. It shows specific roles and sectors, linking competencies, qualifications, and experiences to career stages. The output supports career planning by aligning development paths with recognized standards (such as EQF, ESCO, UNI), integrating technical and soft skills, and providing guidance on training, certifications, and learning goals for each career level, from entry to executive and possible cross-sector opportunities.

### 4. Video-interview

Each career kit includes one or more short, engaging **video-interviews** presenting testimonials and first-hand experience of professionals working in roles related to the titles addressed by the career kits. The videos aim to highlight professionals' responsibilities, skills, experiences, and advice for newcomers.

## 1.4. Use of Career Kits within the project framework

### Contribution of the Career Kits to project activities and outputs

The Career Kits are a project output specifically developed to support career guidance, awareness-raising, and training activities within the offshore renewable energy sector.

Their main function is to serve as structured tools for orientation and Career Days organised within the project framework. By presenting detailed job profiles, required competences, and video testimonials from professionals, the Career Kits help students and young people better understand career opportunities and professional pathways in offshore renewable energy.

The Career Kits can also be used in dissemination events and stakeholder engagement initiatives, including activities addressed to a broader audience. In this context, they contribute to promoting the offshore renewable energy value chain and increasing awareness of the diversity and relevance of professional roles within the sector.

Furthermore, they may serve as supporting material for the development and delivery of training programmes, particularly those at EQF levels 4–5 and 6–7. By describing occupational profiles and related competences, the Career Kits help ensure coherence between career guidance activities and the training pathways developed within the project.

Overall, the Career Kits strengthen the connection between career guidance, training provision, and sector promotion, contributing in a practical way to the project's objectives.

## 2. Methodology

### 2.1. Development process

#### Definition of common framework and templates

The development of the Career Kits was based on a shared methodological framework agreed among partners. Common guidelines and templates were defined in order to ensure consistency in structure, content, terminology, and level of detail across countries, while still allowing adaptation to national contexts and sectoral specificities.

#### Allocation of responsibilities and stakeholder involvement

Each partner responsible for a specific job profile developed the corresponding Career Kit at national level. The process included collaboration with relevant stakeholders (e.g. companies, sector experts, training providers, professional associations), who contributed through consultations, validation of content, and participation in video testimonials where applicable.

#### Development of Career Kits content

Based on the agreed structure, partners developed the different components of each Career Kit, ensuring coherence between the descriptive, guidance-oriented, self-assessment sections and experiential / multimedia section.

#### 1. Detailed job description

This section provides structured and up-to-date information on:

- Professional overview and main responsibilities
- Key competences and skills (technical and soft skills)
- Education and training requirements
- Industry trends and outlook
- Professional resources (standards and certifications, professional associations, communities, specialised reports and publications)
- Case studies and testimonials
- Context of the OWE/ORE supply chain at national level (adaptable when used in other countries)

#### 2. Self-assessment skills & aptitudes questionnaire

The self-assessment questionnaire was developed on the basis of the competences, skills, qualifications, and professional requirements described in the job profile.

It is designed to help users reflect on their level of alignment with the selected professional role, supporting informed career orientation.

#### 3. Career path map

The Career path map was developed using the information included in the Job description, particularly with reference to skills, training pathways, and professional requirements. It:

- Defines career progression levels (e.g. Entry → Mid → Senior → Executive → Cross-sector opportunities);
- Describes roles, competences, certifications, and learning goals associated with each level;
- References to established standards, where possible;
- Is adapted to specific national or sectoral contexts.

#### 4. Video-interview

Each Career Kit includes at least one short video-interview featuring a professional working in the selected role.

The videos aim to provide authentic insights into the profession, presenting key responsibilities, required skills, educational pathways, and practical advice for newcomers. Common guidelines ensured consistency in structure, duration, inclusiveness, and language (national language with English subtitles).

#### Elaboration and consolidation

Draft versions of the Career Kits were internally reviewed and refined to ensure clarity, coherence, and alignment with the agreed standards. Cross-checking among partners supported consistency across countries and profiles.

#### Quality Control

The Career Kits were peer-reviewed by the Quality Assurance Committee to ensure compliance with project standards, consistency across outputs, and overall quality of content.

#### Outputs finalisation and dissemination preparation

IFOA, in its role as task coordinator, collaborated with CARDET and Deep Blue to define the final layout and graphic framework, ensuring alignment with the project platform, website requirements, and communication tools. Particular attention was paid to accessibility and usability in both digital and dissemination contexts.

#### Process management

Monthly online meetings accompanied the development process, enabling monitoring of progress, clarification of methodological aspects, and timely adjustments where necessary.

## 2.2. Common framework and tools

### Guidelines provided to partners for Career Kit development

To ensure coherence, quality, and comparability across all national contributions, a comprehensive set of guidelines was developed and shared with partners at the beginning of the implementation phase.

The guidelines clarified:

- The objectives and scope of the Career Kits within Task 4.2.2;
- The minimum number of kits to be developed and the expected structure;
- The main components of each Career Kit (Informative section, Self-Assessment and Orientation section, Operational and Career Support section, and Experiential/Multimedia section);

- The principles of inclusiveness and diversity to be respected in content development, including attention to gender balance and representation;
- Alignment with recognised European standards and frameworks (e.g., ESCO, EQF, relevant national standards);
- Target groups and possible contexts of use (career guidance, Career Days, training activities, dissemination events).

The guidelines also provided practical instructions concerning language (national language and English subtitles for videos, national language and English for all the other outputs), length, level of detail, and coherence between sections.

Beyond the formal documentation, the development process was supported by continuous interaction among partners. Questions, clarifications, and methodological discussions were addressed through regular exchanges, bilateral contacts, and coordination meetings, ensuring a shared understanding of expectations and consistent implementation across countries.

### **Templates used for structuring and presenting contents**

In addition to the methodological guidelines described above (see Appendix 1), a set of common templates was developed and shared with partners in order to operationalise the agreed framework and ensure consistency across all Career Kits (see Appendix 2).

The templates cover the four core components of each Career Kit:

- Detailed job description
- Self-assessment skills & aptitudes questionnaire
- Career path map
- Video-interview concept note

Together with the guidelines, these tools defined the minimum required structure, alignment with recognised standards (e.g. ESCO, EQF and relevant national references), and coherence among the different sections of the Career Kit.

While ensuring harmonisation and comparability across countries, the templates allowed sufficient flexibility to adapt content to national contexts and sectoral specificities.

The full versions of the guidelines and templates are provided in the Appendixes to this report.



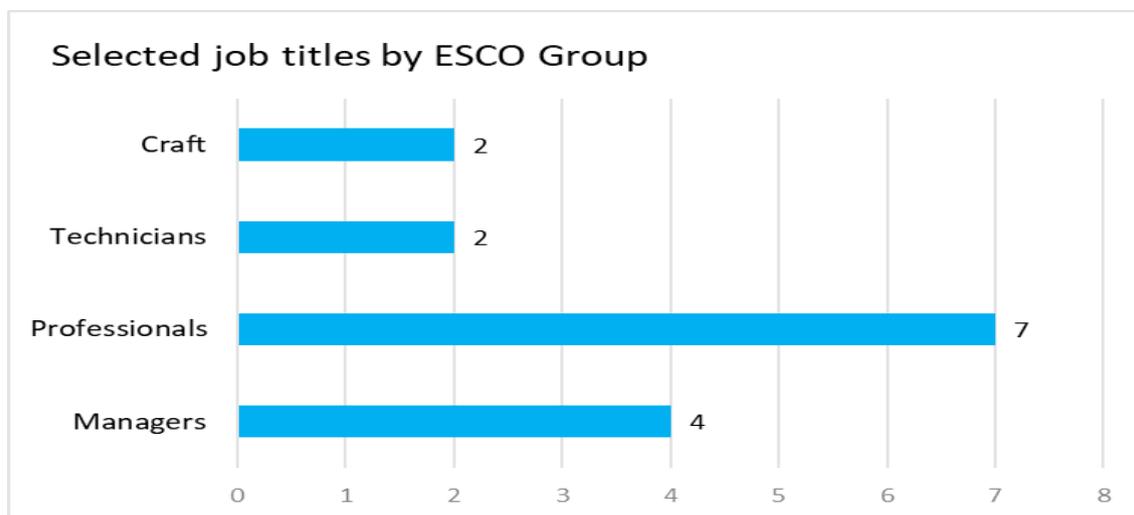
### 3. Job Titles and Occupational Profiles: cross-cutting overview

#### 3.1. Overview of selected professional profiles

According to the priorities identified at national level, each CoVE and the partners in charge for the development of the career kits selected the preferred job titles, with two preferences available for each partner. A first analyses was conducted to avoid the development of more than one Career Kit for each job title. A final list of 15 job titles was defined and shared among the partners.

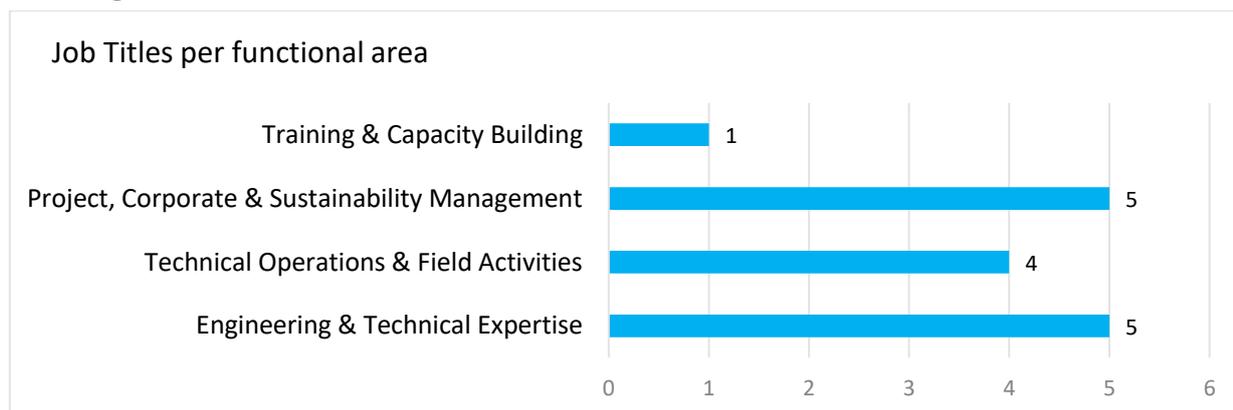
n.	Country	Partner	Job Title	ESCO code	Type
1	PT	P. PORTO	<b>Electrotechnical Engineer</b>	2151	Professionals
2	PT	EPATV	<b>Welding Coordinator</b>	7212.4	Craft
3	PT	ADFMA	<b>Marine VET educator</b>	2320.1.17	Professionals
4	ES	AQUATERA	<b>Renewable Energy Consultant</b>	2433.3	Professionals
5	ES	CETMAR	<b>Offshore Renewable Energy Plant Operator</b>	3131.1	Technicians
6	ES	UDC	<b>Naval Architect</b>	2144.1.14	Professionals
7	ES	CCEFPU	<b>Major Corrective Team Leader</b>	-	Technicians
8	IT	UNIVPM	<b>Offshore Wind Farm Planning and Design Engineer</b>	2149.7.6	Professionals
9	IT	IFOA	<b>Health, Safety and Environment (HSE) Manager</b>	1213.7	Managers
10	IT	FORMARE	<b>Sustainability and Energy manager</b>	1349.12	Managers
11	GR	HCMR	<b>Wind Yield Performance Analyst</b>	2149.9.6	Professionals
12	GR	SAEK Egaleo	<b>Offshore Wind Technician</b>	7412.12	Craft
13	GR	UAEGEAN	<b>Offshore Wind Project Manager</b>	1219.6	Managers
14	CY	UCY	<b>Senior Renewable Energy and Energy Storage Expert</b>	2149.9.7	Professionals
15	CY	INTERCOLLEGE	<b>Crewing Personnel Officer</b>	1324.3	Managers

The selected job titles are related to different sectors, domains and different occupational levels. Here below an overview of the job titles by ESCO Group and functional area in the relevant value chain.



The 15 job profiles developed within the Career Kits can be also grouped according to their primary functional role within the offshore wind value chain. Four main functional areas have been identified:

- **Engineering and Technical Expertise** - specialised technical and design-oriented roles contributing to system development, analysis, and optimisation;
- **Technical operations and field activities** - operational and technical supervisory roles directly involved in installation, maintenance, and plant operations;
- **Project, corporate and sustainability management** - managerial and coordination roles responsible for governance, safety, sustainability, and organisational oversight;
- **Training and capacity building** - roles dedicated to skills development, education, and professional training within the sector.



While the above classification is based on functional domains, the identified job profiles can also be related to different phases of the offshore wind project lifecycle, including planning and design, installation and construction, and operations and maintenance (O&M).

Some roles are typically associated with a specific phase. For example, design and analysis profiles such as the Naval Architect, Offshore Wind Farm Planning and Design Engineer, and Wind Yield Performance Analyst are strongly linked to the planning and development stage.

Conversely, operational roles such as the Offshore Renewable Energy Plant Operator, Offshore Wind Technician, and Major Corrective Team Leader are primarily connected to the O&M phase.

However, several profiles span multiple phases of the project lifecycle. Engineering roles, such as the Electrotechnical Engineer, may contribute to design, commissioning, and operational optimisation. Similarly, project management and HSE-related positions are involved throughout the entire lifecycle, from early development to decommissioning.

### **Rationale for the selection of profiles**

The selection of the professional profiles for which the Career Kits were developed was carried out by each responsible partner, in close collaboration with the other CoVE partners. The process followed a shared rationale and was based on a combination of analytical evidence and stakeholder consultation.

In particular, the following elements were considered:

- Initial Trend and Needs Analysis, including the results of the research activities carried out within other Work Packages (and in particular way WP2), which provided evidence on emerging trends, skills gaps, and labour market demands in the ORE and OWE sectors;
- Employment analysis and labour market data, aimed at identifying high-demand roles, growth areas, and occupations considered strategic for the medium- and long-term development of offshore renewable energy;
- National and regional priorities, reflecting specific territorial characteristics, industrial specialisations, and workforce needs in each partner country;
- Direct input from industry stakeholders, including companies, sector associations, and professionals operating within the offshore renewable energy value chain, helped identify critical roles and competence shortages;
- Training and skills development needs, with particular attention to the necessity to develop, adapt, or promote specific education and training pathways in response to current and anticipated labour market requirements, including areas where specialised profiles are still underdeveloped or insufficiently covered by existing provision.

This multi-level approach ensured that the selected profiles are both evidence-based and context-sensitive, while also aligned with the project objective of strengthening the connection between training systems and labour market needs in the offshore renewable energy sector.



## 4. Career Kits by country and job title

This chapter includes for each Career Kit all the developed materials. Namely:

- Detailed job description
- Self-assessment skills & aptitudes questionnaire
- Career path map
- Video-interview

Regarding this last one, a short description and a link to the video-interviews' are provided. All the Career Kits are presented by country.

**Technical note:** all external links referenced in the Career Kits were last accessed and verified on 20 February 2026. The consortium cannot guarantee the continued availability or content accuracy of third-party websites after this date. However, the online version of the Career Kits will be periodically reviewed and updated, where necessary, throughout the project duration.

### 4.1. Portugal

#### JOB TITLE: Electrotechnical Engineer

PARTNER: P. PORTO

- [Detailed job description](#)

#### Profession Overview

An Electrotechnical Engineer is responsible for designing, developing, integrating, and maintaining electrical systems and equipment that ensure the safe, reliable, and efficient generation, transmission, and conversion of electrical energy. This role aligns with ESCO 2151 and encompasses power systems analysis, electrical machines, power electronics, control systems, protection, and compliance with technical standards.

In the offshore renewable energy sector, Electrotechnical Engineers play a crucial role throughout the entire project lifecycle from concept and detailed design to installation, commissioning, operation, and maintenance of offshore wind, wave, and hybrid energy systems. Their contributions include integrating renewable generation into both offshore and onshore grids, designing substations, cabling, and energy storage solutions, and digitally monitoring and optimising assets in challenging marine environments.

This profession offers a strong, future-oriented career pathway, combining engineering expertise with sustainability, innovation, and the energy transition objectives set out in Europe's offshore renewable energy strategy<sup>1</sup>.

<sup>1</sup> [https://energy.ec.europa.eu/topics/renewable-energy/offshore-renewable-energy\\_en](https://energy.ec.europa.eu/topics/renewable-energy/offshore-renewable-energy_en)

## Key Competencies & Skills

**Technical Skills:** The role requires a strong, specialised technical foundation to perform the core tasks of an Electrical Engineer as defined by ESCO 2151, including designing power systems, supervising operations, establishing safety standards, and specifying electrical installations. This is integrated with critical digital and systems engineering skills:

- **Power Systems & Design:** Expertise in Circuit Design, advanced Power Systems engineering (including HVDC transmission and power distribution), and the implementation of practical Control Systems. A key requirement is the ability to define precise technical requirements, approve engineering designs, and model new solutions.
- **Modelling & Programming:** Proficiency in specialised CAD/CAE software (for design approval and modelling) and programming languages (e.g., Python, MATLAB, C++) necessary for system simulation, data processing, and advanced control systems programming.
- **System Knowledge:** In-depth technical knowledge of integrated circuits, electromechanical systems, and battery management systems (BMS). Ability to perform detailed energy simulations, smart grid feasibility studies, and integrated design assessments.
- **Digital & Emerging Trends (ORE Focus):** Expertise in Cybersecurity for electrical systems, high-capacity big data analysis, and the application of AI/Machine Learning models for predictive maintenance, operational optimisation, and improved overall system efficiency.
- **Operational Compliance:** Fundamental ability to apply comprehensive health and safety standards, interpret complex electrical and wiring diagrams, assemble and maintain electromechanical systems, and effectively troubleshoot faults in remote, high-voltage environments.

**Soft Skills:** Transversal competencies are vital for managing complex, multidisciplinary ORE projects across the supply chain:

- **Communication:** Highly developed effective communication skills (both written and verbal) for technical reporting, conveying complex findings, and professional liaison with diverse multidisciplinary engineering teams, including marine and civil contractors.
- **Collaboration & Adaptability:** Strong teamwork and collaboration skills are explicitly required for managing complex, geographically dispersed offshore installation and commissioning projects. Exceptional adaptability is required to address rapid technological evolution and the demanding, dynamic conditions of the marine environment.
- **Cognitive Abilities:** Advanced problem-solving and critical thinking for quick diagnosis, root cause analysis of system faults, and high-stakes decision-making under operational pressure.
- **Management & Oversight:** Demonstrated ability to perform project management, coordinate engineering teams, manage budgets, ensure equipment availability, and write comprehensive technical reports to ensure strict regulatory compliance and project success.

## Education and Training

A high standard of formal education is essential for this specialised role. Candidates must possess at least a Bachelor's (EQF Level 6) or a Master's (EQF Level 7) degree in Electrical Engineering, Electro-Technical Engineering, Electronical and Computer Engineering, or a closely related field. It is crucial that the academic background provides a solid foundation in circuit theory, power electronics, power systems analysis, and complex control systems. Depending on the country of practice, professional certification or registration with the national regulatory authority or professional engineering body may be required. Candidates should verify the specific licensing requirements for practicing engineering in their target country.

To pursue a career in ORE, specialised training has become increasingly important. This training may include postgraduate courses or professional certifications in areas such as offshore wind and marine energy systems, high-voltage engineering, and digital monitoring and control systems.

Additionally, practical training in safety and offshore operations is often required. Maritime Safety Training (IMO STCW)<sup>2</sup> is mandatory for any professional performing offshore field work, and -Global Wind Organisation (GWO)<sup>3</sup> certifies courses covering essential topics such as offshore safety, working at heights, and electrical safety are highly recommended and widely demanded by the industry.

Given the rapid advancements in technology and changes in regulations, continuous professional development is crucial. Engineers are encouraged to engage in lifelong learning by participating in specialised short courses and industry-led training programs, and by collaborating on projects within the offshore renewable energy sector, such as the SHOREWINNER project.

## Industry Trends and Outlook

Europe is positioning itself as a global leader in Offshore Renewable Energy, driven by strong political commitment through initiatives like the European Green Deal and national strategies to enhance energy independence.

Offshore wind energy, particularly floating offshore wind technology, stands out as the leading solution for deep-water foundations. This sector builds on pioneering projects across Europe (such as WindFloat in Portugal) and is rapidly maturing as technology advances and costs decrease. The floating wind market, in particular, is expected to see exponential growth in the coming decade, opening up new areas for development that were previously inaccessible with fixed-bottom foundations.

Key players in this sector form a diverse and dynamic industrial ecosystem. This includes major utilities and energy companies, specialized offshore wind developers, technology innovators for floating platforms and electrical systems, and a growing network of engineering consultancies, shipyards, and electrical service providers. Research centres across Europe play a vital role in testing and innovation, ensuring that the industry remains at the forefront of technological advancement.

The field of Electrotechnical Engineering offers a wide range of professional opportunities driven by the ORE emerging industry trends. The ORE sector requires specialised skills across various areas of electrical engineering, including power systems, electronics, digitalisation, monitoring, control, condition-based maintenance, and cybersecurity for energy systems. As projects move from pilot phases to commercial scale, there is an increasing need for electrotechnical engineers to assist with the

<sup>2</sup> <https://www.imo.org/>

<sup>3</sup> <https://www.globalwindsafety.org/>

design, installation, commissioning, and long-term operation of offshore electrical infrastructure. This demand makes the profession crucial for achieving Portugal's offshore renewable energy objectives and provides a solid, future-proof career path.

### Useful Resources

#### Standards & Certifications:

- IEC/EN electrical safety and performance standards<sup>4</sup>
- ISO 9001, ISO 14001, ISO 45001 (Quality, Environment, Safety systems).
- GWO (Global Wind Organisation) modules for offshore work (mandatory safety training).
- BOSIET/FOET<sup>5</sup> (for deep offshore environments where required).
- PAER (Allocation Plan for Offshore Renewable Energy).

#### Professional Associations & Institutions:

- Ordem dos Engenheiros (OE) – Electrotechnics Section (Portugal): National professional association<sup>6</sup>.
- ERSE (Energy Services Authority) and APA (Environmental Agency).
- Industry Bodies: WindEurope, Portuguese Renewable Energy associations and clusters.
- Research Centers: WavEC Offshore Renewables (national marine R&D).

#### Training & Programs:

- Electrotechnical Engineering degrees at major national institutions (FEUP, ISEP, Técnico Lisboa).
- EQF 7 Masters in Power Systems, Telecommunications, Renewable Energy.
- Certified training for offshore safety (GWO).
- DGES: General course information<sup>7</sup>

#### Targeted Job Portals:

- LinkedIn, Indeed, EURES (European job mobility portal).
- Energy Jobline, Altea Energy, and ORE sector company career pages.

### Case Studies or Testimonials

- **Case Study - Jasmin Jestel, Engineer specializing in offshore wind power plants**

My career began with a working student position during my master's studies. Since then, I have moved through various positions in offshore wind engineering - from designing electrical equipment for substations to coordinating subsea cables. Currently, I work on the Morgan and Mona projects in the Irish Sea, two sister wind farms with a combined capacity of 3 GW.

My main task is coordinating early engineering work with suppliers. It is a complex puzzle of managing technical interfaces, ensuring that the electrical systems align perfectly with the project's infrastructure.

<sup>4</sup><https://www.boutique.afnor.org/en-gb/standard/iec-ts-635272025/safe-management-and-operation-of-electrical-installations/xs305079/449075>

<sup>5</sup> <https://www.opito.com/standards/bosiet>

<sup>6</sup> <https://www.ordemdosengenheiros.pt/pt/especialidades/eletrotecnica/>

<sup>7</sup> <https://www.dges.gov.pt/guias/indarea.asp?area=52>

Technical professions have traditionally been male-dominated, but my experience is that women often bring strong communication and organizational skills that enrich the team. What motivates me most is knowing that these projects will power 3.4 million households. To young engineers, I say: Go for it! The energy industry is crisis-resistant, and your work has a direct impact on Europe's CO<sub>2</sub> balance and climate change.

- **Case Study - Teresa Nogueira, Electrical Engineer**

I am an electrical engineer with experience in the design of electrical machines, including power transformers and electrical protective devices. Electrical engineers play a vital role in the energy system, particularly in renewable energy generation, both onshore and offshore.

What I find most rewarding is delivering electricity to communities and generating clean energy. Power systems are one of the most remarkable industries ever created by humankind. Whether optimizing the grid or making renewable energy accessible, our work shapes the physical world and improves lives.

To succeed in this industry, you need a solid theoretical foundation combined with practical skills. My advice is straightforward: start with a strong knowledge base and never stop learning. The career you build is limited only by your vision and determination.

### Context of the OWE/ORE Supply Chain in your country

The Portuguese energy sector is undergoing a significant transformation, supported by robust governmental initiatives promoting offshore wind deployment. This transformation involves essential grid enhancements and global digitalization efforts. As commercial offshore wind development accelerates- driven by the national strategy and the PAER (Plan for the Allocation of Offshore Renewable Energy) - major floating wind projects and strategic upgrades to coastal and port infrastructure are fuelling a sustained, growing demand for high-level electrotechnical expertise. Electrotechnical Engineers are central to this national strategy. They play a pivotal role in the supply chain, which involves multiple critical actors: utility companies, wind turbine manufacturers, engineering consultancies, specialized maritime contractors, port authorities, and vital research institutions like WavEC. The engineer's function is crucial across the entire project lifecycle, ranging from initial design and specification, through supervision of construction and installation (particularly for complex subsea cabling and substations), up to long-term operation and maintenance (O&M). They are responsible for connecting turbines, substations, and control systems, ensuring operational reliability, high efficiency, and compliance with stringent national and EU standards.

Career opportunities in Electrotechnical Engineering are diverse and span manufacturing, maintenance, research and development, grid operation, automation, and specialised offshore services. As the industry evolves, interdisciplinary skills are becoming increasingly valuable. Key areas of expertise include data analytics, artificial intelligence and machine learning, smart grid technologies, cybersecurity for electrical systems, and sustainable design practices. These trends reflect the rapid digitalization of energy systems and the pressing need to integrate large amounts of renewable energy into the Portuguese national grid. As a result, Portugal presents a dynamic and promising environment for Electrotechnical Engineers. There are numerous professional pathways available, enabling individuals to contribute significantly to the transition towards a more sustainable, technologically advanced energy system.

## - Self-assessment skills & aptitudes questionnaire

### Brief description of the job profile and its relevance in the sector

Electrotechnical engineers are responsible for conducting research and providing advice on the design, planning, construction, and operation of electronic, electrical and telecommunications systems, components, motors and equipment. They organise and establish control systems to monitor the performance and safety of electrical and electronic assemblies and systems.

Their typical tasks include conducting research, advising on, and overseeing the maintenance and repair of electrical, electronic and telecommunications products and systems. They also provide guidance on the design of power stations and systems that generate, transmit and distribute electrical power. Additionally, they establish control standards to monitor the performance and safety of electrical, electronic and telecommunication systems and equipment. This may encompass high-voltage AC and DC systems, power quality management, and compliance with grid codes.

Together, these functions are essential for safe operation, performance optimisation, and long-term sustainability of offshore renewable energy systems. As a result, electrotechnology engineers play a crucial role in the offshore renewable energy industry.

### Studies and certifications

Studies and certification	EQF Level	S/N
Upper-secondary education	EQF 3	YES / NO / ongoing
Upper-secondary education obtained via dual certification or upper-secondary education geared towards further studies in higher education with vocational internship – minimum 6 months	EQF 4	YES / NO / ongoing
Post-secondary education or advanced vocational training	EQF 5	YES / NO / ongoing
Bachelor's Degree	EQF 6	YES / NO / ongoing
Master's degree	EQF 7	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
Power Systems & Grid Integration	Expertise in <b>HVAC/HVDC</b> transmission systems, load flow analysis, and "Grid Code" compliance. Understanding the integration of large-scale energy into the onshore national grid.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Subsea Infrastructure</b>	Knowledge of <b>Submarine Cables or underground</b> , including thermal rating, mechanical armoring, and the installation challenges of array and export cables. Understanding reactive power compensation for long distances.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Offshore Assets &amp; Substation Design</b>	Mastery of <b>Gas Insulated Switchgear (GIS)</b> , offshore transformers, and compact substation layouts. Understanding the cooling requirements and space optimization on marine platforms.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Power Conversion &amp; Control</b>	Technical expertise in <b>Type 4 Wind Turbines</b> (Full-scale converters), harmonic mitigation, and PMSG/DFIG generator control. Ability to manage the Wind Farm Controller logic for Voltage and Frequency support.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Protection &amp; Automation</b>	Design of protection schemes for <b>66kV/132kV networks</b> , relay coordination, and proficiency in <b>IEC 61850</b> communication protocols. Use of SCADA and fiber optics for remote monitoring.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Marine Operations &amp; Environment</b>	Knowledge of <b>Corrosion Protection (ICCP)</b> , lightning protection for blades, and the impact of the saline environment on insulation. Understanding of <b>Health, Safety, and Environment</b> and marine logistics for maintenance.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Risk Management and Safety</b>	A mindset focused on "Safety First". The ability to anticipate dangers in a hostile environment and follow strict HSE (Health, Safety, and Environment) protocols, which are essential for survival and physical integrity.	☆☆☆☆
<b>Multidisciplinary Communication</b>	Ability to communicate complex electrical concepts to teams from other areas (structures, naval logistics, divers). Essential for coordination between the project on land and execution at sea.	☆☆☆☆

Soft skill	Description	Rating (1 to 4 stars)
<b>Resilience and Adaptability</b>	Ability to maintain performance in adverse conditions (isolation on platforms, short weather windows and unforeseen changes at sea). Adapt to demanding work schedules (e.g. 2 weeks offshore / 2 weeks onshore).	☆☆☆☆
<b>Problem Solving Under Pressure</b>	Ability to diagnose critical faults in real time. In Offshore operations, every hour of downtime leads to significant financial losses and increased logistical costs (support vessels), requiring prompt and assertive decisions.	☆☆☆☆
<b>Teamwork in Confined Spaces</b>	Ability to collaborate and live in confined spaces (ships or platforms) for long periods. Requires high levels of emotional intelligence, empathy and conflict management.	☆☆☆☆
<b>Leadership and Decision Making</b>	Ability to assume technical responsibility amid uncertainty. Knowing when to pause operations for safety or technical reasons, even under time pressure.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Rotation Schedule (Shift)</b>	Work is organised into shifts, typically <b>2 weeks offshore / 2 weeks onshore</b> (or 3/3). This means you'll be completely away from family and social life during the offshore deployment period. Do you feel prepared to spend 50% of your year away from home?	☆☆☆☆
<b>Confinement &amp; Restricted Spaces</b>	Life takes place on Service Operation Vessels (SOV) or housing platforms. Workspaces (inside the nacelle or at the tower base) are cramped, requiring comfort with <b>confined spaces</b> . Would you be able to work effectively on narrow tower bases or tight offshore substation rooms?	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Exposure to Extreme Elements</b>	<p>Outdoor work is subject to high winds, low temperatures, high humidity, and salinity. Rough seas can cause <b>seasickness</b> during both work and rest periods.</p> <p>Do you feel ready to perform technical tasks while experiencing seasickness or heavy vessel motion?</p>	<p>☆☆☆☆</p>
<b>Working at Height</b>	<p>Frequent need to climb turbines (nacelles can be 100-150+ meters high). This requires excellent physical condition and no fear of heights, along with the use of specialized fall-protection gear.</p> <p>Do you feel capable and mentally comfortable climbing 100m+ ladders or working in turbine nacelles?</p>	<p>☆☆☆☆</p>
<b>24/7 "On-Call" Availability</b>	<p>During the offshore assignment, the engineer may be called at any hour (day or night) to troubleshoot critical failures, as downtime represents massive financial losses.</p> <p>Do you feel prepared for workdays and nights to troubleshoot critical failures when needed?</p>	<p>☆☆☆☆</p>
<b>Mandatory Use of PPE</b>	<p>Regular use of heavy Personal Protective Equipment (PPE) is required: survival suits (during transfers), harnesses, helmets, safety boots, and sometimes emergency breathing sets for GIS leaks.</p> <p>Would you be willing to undergo rigorous GWO training (Sea Survival, Fire Awareness, Advanced Rescue)?</p>	<p>☆☆☆☆</p>

- [Career path map](#)

**Job title general short description**

This Career path map describes the professional progression of the **Electrotechnical Engineers** (ESCO code 2151) with a specific focus on the Offshore Wind Energy (OWE) industry. It outlines development stages, associated skills, certifications, and learning goals across career levels. This role aligns with ESCO 2151 and encompasses power systems analysis, electrical machines, power electronics, control systems, protection, and strict compliance with technical standards. In the ORE sector, Electrotechnical Engineers play a crucial role throughout the entire project lifecycle—from concept design to the installation, commissioning, operation, and maintenance of offshore wind, wave, and hybrid energy systems. Key contributions include integrating renewable generation into offshore and onshore grids, designing substations, cabling, and energy storage solutions. They also handle digital monitoring and optimizing assets in challenging marine environments.

A career in Electrotechnical Engineering for Offshore Wind Energy (OWE) typically starts with roles like Graduate Electrical Engineer or Assistant SCADA Technician. It progresses through gaining expertise in power systems, high-voltage (HV) distribution, and digital trends. This path leads to specialized positions such as Offshore Substation Engineer, Array Cable Specialist, or Offshore Electrical Operations Manager, and eventually to Director-level roles like Engineering Director or Head of Electrical Engineering & Grid Integration. Key steps include obtaining formal degrees (EQF 6/7 in Electrical Engineering), achieving mandatory GWO Basic Safety Training, and developing sector-specific competencies in HVDC transmission, marine electrical environments, and smart grid integration. This ensures high-stakes decision-making, technical excellence, and strict regulatory compliance within the renewable energy sector.

**Alternative and Specialized Paths:**

Professionals may specialize in niche areas like HVDC transmission, Cybersecurity, or AI/ML models for predictive maintenance. Opportunities also exist in Cross-Sector roles such as Senior Technical Sales Manager or Smart Grid Specialist, where engineers lead technical tenders, define vessel strategies, and advise on regulatory transitions. These paths require a strong foundation in electrical systems combined with commercial awareness and stakeholder engagement to apply expertise in consultancy, risk management, and digital energy solutions.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- Graduate Electrical Engineer</li> <li>- Assistant SCADA Technician</li> <li>- Assistant Power Systems Engineer</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Basic equipment testing and troubleshooting</li> <li>- Foundational knowledge of electrical safety standards (IEC/EN)</li> <li>- Assist in maintenance of HV submarine cable systems (HVAC/HVDC)</li> <li>- Support design, thermal rating, and route planning for subsea cables</li> <li>- Use AutoCAD, MATLAB, or ETAP for modeling</li> <li>- Support offshore site inspections and SCADA commissioning</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Communication</li> <li>- Teamwork and collaboration</li> <li>- Attention to detail</li> <li>- Adaptability to project requirements</li> </ul>	<ul style="list-style-type: none"> <li>- EQF 6 Bachelor's Degree in Electrical/Electrotechnical Engineering [Mandatory]</li> <li>- Maritime Safety Training (IMO STCW) [Mandatory for offshore field work]</li> <li>- GWO Basic Safety Training (BST) [highly recommended]</li> <li>- Knowledge of HV fundamentals</li> <li>- Registration in Ordem dos Engenheiros [Recommended in Portugal]</li> </ul>	<ul style="list-style-type: none"> <li>- Apply university knowledge to real engineering tasks</li> <li>- Learn to work within project teams</li> <li>- Gain field experience and exposure to installations</li> <li>- Support routine electrical design tasks</li> <li>- Learn offshore safety procedures and risk management</li> <li>- Develop data collection accuracy</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- Offshore Substation Engineer</li> <li>- Array Cable Specialist</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Expertise in advanced Power Systems engineering (including HVDC transmission)</li> <li>- Application of IEC/EN standards in design and inspection</li> </ul>	<ul style="list-style-type: none"> <li>- Master's Degree in Electrical Engineering (EQF 7) [preferred]</li> <li>- 3-5 years experience in commissioning or power engineering</li> </ul>	<ul style="list-style-type: none"> <li>- Increase autonomy in design and system optimization</li> <li>- Improve team coordination and audit skills</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Grid Connection Engineer</li> <li>- Electrical Commissioning Engineer</li> </ul>	<ul style="list-style-type: none"> <li>- Hands-on commissioning of transformers, HV/LV/DC systems, and protection systems</li> <li>- Optimize HMI and control systems</li> <li>- Conduct internal investigations and troubleshooting</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Operational leadership</li> <li>- Problem solving</li> <li>- Adaptability to challenging marine environments</li> <li>- Critical thinking</li> </ul>	<ul style="list-style-type: none"> <li>- Electrical Safety Authorization: Skilled Person / Works Manager according to EN 50110 [Mandatory for Electrical Operations]</li> <li>- Specialized training in offshore wind and marine energy systems [Recommended]</li> </ul>	<ul style="list-style-type: none"> <li>- Strengthening knowledge of national and EU safety regulations</li> <li>- Lead operational commissioning processes</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Electrical Package Lead (Floating Wind)</li> <li>- Senior Export Cable Engineer</li> <li>- Offshore Electrical Operations Manager</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Supervision of installations, commissioning and testing for complex offshore infrastructure</li> <li>- Expertise in AI/Machine Learning models for predictive maintenance and Cybersecurity for electrical systems</li> <li>- Strategic risk analysis for supply, jointing, and testing;</li> <li>- Review and accept design of cable routes and OSS routing plans</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Multidisciplinary team and contractor management</li> </ul>	<ul style="list-style-type: none"> <li>- Degree in Electrical Engineering (EQF 6 or 7) [Mandatory]</li> <li>- Min. 5-10 years experience in HV export cables and accessories</li> <li>- Project management certification: IPMA Level C [Highly Recommended]</li> <li>- Senior Authorized Person (SAP): High Voltage authorization under EN 50110 [Mandatory for Ops Managers]</li> </ul>	<ul style="list-style-type: none"> <li>- Expand expertise in advanced technologies and energy systems</li> <li>- Drive strategic decision-making for grid integration on a global scale</li> <li>- Develop and direct R&amp;D for new offshore wind technologies</li> <li>- Lead electrical audits and management system improvements</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Negotiation and decision-making</li> <li>- Strategic communication</li> <li>- Management of budgets and ensuring equipment availability</li> </ul>		<ul style="list-style-type: none"> <li>- Develop strategic frameworks for incident investigations</li> <li>- Oversee multi-contractor offshore operations</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Head of Electrical Engineering &amp; Grid Integration</li> <li>- Engineering Director</li> <li>- Chief Technology Officer (CTO)</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Design global corporate strategies for large-scale energy systems</li> <li>- Lead primary electrical system designs for future offshore assets</li> <li>- Lead budget and investment decisions for technical improvements</li> <li>- Represent company before energy regulatory bodies</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Executive leadership</li> <li>- Vision-setting for renewable technology</li> <li>- High-level negotiation</li> <li>- Strategic Stakeholder Management</li> </ul>	<ul style="list-style-type: none"> <li>- Min. 15 years experience in ORE (Offshore Renewable Energy) with 5+ years in senior roles</li> <li>- Executive Leadership Training or MBA (Master of Business Administration) [Highly Recommended]</li> </ul>	<ul style="list-style-type: none"> <li>- Drive strategic decision-making for grid integration on a global scale</li> <li>- Develop advanced models for long-term geopolitical, regulatory, and financial risk assessment for expanding markets</li> <li>- Develop and direct R&amp;D for new offshore wind technologies</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- Senior Technical Sales Manager</li> <li>- Renewable Energy Consultant</li> <li>- Smart Grid Specialist</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Lead technical scope for Electrical Package and Grid Connection tenders;</li> <li>- Assess vessel requirements for cable installation methodologies</li> <li>- Advise organizations on regulatory transitions;</li> </ul>	<ul style="list-style-type: none"> <li>- Degree in Engineering or relevant technical discipline (EQF 6–7)</li> <li>- Proficiency in AutoCAD and Tender Management tools</li> <li>- Overview of offshore logistics and marine installation constraints</li> </ul>	<ul style="list-style-type: none"> <li>- Expand expertise in innovative energy technologies (AI/ML in ORE)</li> <li>- Build a diverse professional network and manage client engagement</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Cybersecurity for Energy Systems Consultant</li> </ul>	<ul style="list-style-type: none"> <li>- Apply expertise to digital energy, smart grids and Cybersecurity</li> <li>- Knowledge of energy efficiency frameworks (ISO 50001 / EN 16247)</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Strong technical foundation in electrical systems</li> <li>- Client/Stakeholder engagement</li> <li>- Analytical writing for technical bids</li> <li>- Commercial awareness</li> <li>- Adaptability across industries and sectors</li> </ul>		<ul style="list-style-type: none"> <li>- Expand professional scope to technical sales and consultancy</li> <li>- Apply electrical background to risk assessment and technical due diligence</li> <li>- Drive continuous improvement in tender deliverables</li> </ul>

- **Video-interview**

Interviewees:

1. Daniel Ribeiro, Electrotechnical Engineer - Assets Manager
2. Teresa Nogueira, Electrotechnical Engineer
3. Lurdes Pereira, Electrotechnical Engineer

Video – interviews available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## JOB TITLE: Welding Coordinator

PARTNER: EPATV

### - Detailed job description

#### Profession Overview

A Welding Coordinator (ESCO code 7212.4<sup>8</sup> / CPP 7212.1) is responsible for supervising and managing welding activities in an industrial project or production environment. Its role is to ensure that all welding work complies with the standards, procedures and technical specifications applicable to the sector (including the offshore) and ensures, at the same time, high standards of quality, safety and efficiency. This professional coordinates the work between welders, engineers and inspectors, supervises the preparation of welding procedures, selects suitable materials and methods and monitors quality control processes. In addition, it guarantees compliance with occupational health and safety standards and ensures the correct management of the technical documentation necessary for audits, certifications and traceability. He often works as a link between the technical team and the management and actively contributes to the resolution of problems related to welding and to the continuous improvement of production processes.

#### Key Competencies & Skills

##### Technical Competencies

- Plan, coordinate and supervise welding operations, ensuring compliance with technical, quality, occupational health and safety, and environmental standards.
- Select appropriate welding processes, materials and consumables according to technical requirements.
- Plan activities, estimate resources, and control costs and productivity.
- Ensure proper preparation of metallic parts and joints, supervise welding execution and correct technical deviations.
- Monitor testing, quality control activities and non-destructive testing (NDT).
- Interpret technical drawings, welding symbols and international standards (ISO, ASME), and prepare, analyse and validate Welding Procedure Specifications (WPS).
- Capacity to perform and supervise main/conventional welding processes such as SMAW/MMA (shielded metal arc), GMAW (MIG/MAG), FCAW (Flux Cord Arc)
- Demonstrate knowledge of other welding processes such as TIG (Tungsten Inert Gas), PAW (Plasma Arc), SAW (Submerged Arc), LBW (Laser Beam), EBW (Electron Beam) and other robotic and semi-robotic welding processes.
- Possess knowledge of welding metallurgy, materials science, heat treatments and distortion control.

<sup>8</sup> <https://esco.ec.europa.eu/en/classification/occupation?uri=http://data.europa.eu/esco/occupation/cdef4961-fcc2-4e00-bfe8-4480b33aa6f3>

- Supervise equipment maintenance, automation systems, and collaborate within technical teams to develop solutions for welded structures.
- Supervise the assembly of offshore wind system structures and components.
- Demonstrate knowledge of offshore wind systems, aerodynamics, marine corrosion and installation procedures (foundations, turbine, tower, electrical systems, control and monitoring).
- Apply technical drawing, installation design, technical specifications and manage material resources, safety measures in lifting equipment and working at height.
- Develop and implement testing, maintenance, quality, reliability and safety plans, including the use of PPE (Personal Protection Equipment), certifications, work area signalling and environmental protection measures.

#### Soft Skills

- Autonomy, rigour, responsibility and strong organisational skills.
- Attention to detail and ability to solve problems independently.
- Leadership, conflict management and effective allocation of resources.
- Assertive communication, active listening and teamwork.
- Stress management and safe performance in high-risk environments.
- Strong safety culture for self and others, respect for standards and professional commitment.

### Education and Training

- Entry-level training for welding coordinators may begin through upper secondary education pathways (EQF levels 3–4), including general education, vocational, technological or adult education and training (reskilling and upskilling or lifelong adult education) programmes in areas such as metalworking, metallurgy, welding, machining/CNC, electricity and energy. After completing secondary education, progression to EQF level 5 is common for those who want more professionalized training through Professional Higher Technical Courses mainly in Welding, Advanced Welding, Welding and Metal Structures and Advanced Metalworking Processes. These programmes provide advanced technical and operational competences in welding processes, technical drawing reading and interpretation, CAD, quality control, occupational safety and project management, and include credits that allow progression to higher education.
- **EQF 4 (Upper Secondary Vocational Education)**

[Directory on Education and Vocational Training in Portugal \(EQF 4 in the metal work and metallurgy area\)](#)

[Welding and Boil Maker - Escola Del Treball De Barcelona \(Spain\)](#)

[Welding and Locksmith Technician - Serbian VET school "Tehnička škola Ivan Sarić"](#)

[CNC Machinery \(Numerical Controlled Machinery\) Serbian VET school "Tehnička škola Ivan Sarić"](#)

[Metal Constructions Manufacturer - VET school in Slovenia "School Center Ptuj"](#)

[Welding Techniques - Italian VET school "CFPCEMON"](#)

[Industrial Technician - SKIVE College \(Denmark\)](#)

[Industrial Operator - Skive College \(Denmark\)](#)

[Electrical Technician Specialized in Eolic Energy - Skive College \(Denmark\)](#) – in partnership with relevant sector companies such as Ørsted, Global Wind Service, Semco Maritime, Swire Renewable Energy e KK Wind Solutions and students have the possibility to get GWO certifications (BST/BTT).

- **EQF 5 (Post Secondary Vocational Education)**

[Higher Professional Technical Course in Welding \(IPCA\) - Portugal](#)

[Higher Professional Technical Course Advanced Welding \(IPCA\) - Portugal](#) - Course in partnership with the company [BySteel](#)

[Specialized/Higher Professional Technical Course in Welding and Metal Constructions, University of Aveiro - Portugal](#)

[Metal Constructions - Escola Del Treball De Barcelona \(Spain\)](#)

[Renewable Energies - Escola Del Treball De Barcelona \(Spain\)](#)

[Specialized Technician in Advance Maintenance - Faculté des métiers \(France\)](#)

- At EQF levels 6–7, typical profiles include graduates and master’s degree holders in Mechanical Engineering, Materials Engineering, Metallurgy, Industrial Production, Naval Engineering or related fields, with strong links to industrial contexts. Professional development is frequently complemented by non-degree training and internationally recognised certifications, notably EWF/IIW qualifications (IWP, IWS, IWT, IWE), aligned with ISO 14731 and ISO 3834, as well as welder and welding inspector certifications under standards such as EN ISO 9606, EN 1090 and ASME/API, issued by accredited bodies, such as ISQ (Portugal).

- **EQF 6 (Bachelor’s degrees)**

[University of Minho - Mechanical Engineering \(Portugal\)](#)

[University of Porto - Mechanical Engineering \(Portugal\)](#)

[University of Minho - Materials Engineering \(Portugal\)](#)

[Politechnic of Porto - Industrial Engineering \(Portugal\)](#)

[Metropolitan University - Mechanical Engineering and Manufacturing \(Greece\)](#)

[University of Dundee - Mechanical Engineering with Renewables \(Hons\) - \(UK\)](#)

[University of Bologna - Offshore Engineering for Energy Transition \(Italy\)](#)

[Directory in Industrial Engineering around Europe](#)

[Directory for Bachelor's Degrees in Mechanical Engineering around Europe](#)

- **EQF level 7 (Master’s degrees)**

[University of Aveiro - Welding Engineering \(Portugal\)](#)

[International Welding Engineering, University West \(Sweden\)](#)

[Welding Engineering, Cranfield University \(United Kingdom\)](#)

[Welding Engineering, KU Leuven \(Belgium\)](#)

## Industry Trends and Outlook

The industrial sector associated with wind energy, particularly offshore wind, is experiencing a growing demand for highly qualified professionals in the fields of welding, quality control, industrial processes, maintenance, etc. Companies such as [Haizea Wind Group](#) (manufacturer of offshore and onshore wind turbines), based in Zierbena (Spain), illustrate this trend through their demand for profiles with solid experience in welding processes such as SAW, GMAW and FCAW, strong command of WPS, weld maps and international quality standards, as well as several years of experience in the metalworking sector. Similarly, companies with presence in European countries such as [CSWIND](#) (Korean company), [OceanWinds](#) (Spanish company), Gazelle Wind Power (Irish company), Principle Power (American company), [Iberdrola Offshore](#) (Spanish company) and [Ørsted](#) (Danish company) reinforce the need for specialised technical professionals capable of responding to the increasing complexity of offshore projects. Skills in industrial cutting processes, fabrication and assembly of large-scale structures, as well as experience with specific industrial production equipment, are also highly valued, reflecting the technical sophistication and high quality requirements associated with offshore wind energy value chains.

## Useful Resources

### Certifications for Welders and Welding Coordinators

- **Welders**

Welders are typically qualified through practical tests that demonstrate their ability to produce quality welds in accordance with recognised standards.

Relevant certifications and standards include: [EN 1090](#) (product certification and factory production control), [ISO 3834](#) (quality requirements for welding), [ISO 14731](#) (welding coordination), [ISO 9606-1](#): qualification of fusion welders by material type steel (9601-1 is for steel, 9601-2 is for aluminium, etc.), [ASME BPVC](#) (pressure vessels), [EN 12953](#) (boilers and pressure vessels) – some companies require this certification. These are regulations applicable to personnel (operators, supervisors, engineers), equipment, welding processes and quality control systems.

### European and International Standards Certification Bodies

These qualifications are required in many industrial sectors and are generally issued by certification bodies accredited under [ISO/IEC 17024](#) regulated by national entities, such as [IPAC](#) (Portugal), [DAkks](#) (Germany), [Entidad Nacional de Acreditación](#) (Spain). [European Accreditation](#), the official network of National Accreditation Bodies (NABs) in Europe has a [Directory](#) of 48 National Accreditation Bodies, each officially designated by its national government.

Popular accreditation companies are, for example, [ISO](#) (Portugal and 12 countries with local branches), [Bureau Veritas](#) (France, Portugal and many other countries), [SGS](#) (global presence), and many more.

### Validity Periods

Certifications are typically valid for approximately two years and may be renewed without re-examination, subject to six-monthly confirmation of continuous activity by the welding coordinator or employer.

### Other International Certification Systems

AWS Certified Welder – globally recognised certification, particularly in structural construction and engineering contexts (American Welding Society). [American Welding Society](#)

ASME IX / [API 1104](#) standards – applied to welding of pressure equipment and industrial piping (oil and gas industry), widely used in the United States and international projects, can be requested by some companies.

- **Welding Coordinators**

#### EFW / IIW Personnel Certification

The European Federation for Welding, Joining and Cutting (EFW), in cooperation with the International Institute of Welding (IIW), offers a European/international certification system for welding coordinators aligned with ISO 14731:2019, ISO 3834 (welding quality requirements), ISO 9001 (quality management systems) and ISO 9606 (welder qualification).

Awarded qualifications may include:

[International / European Welding Engineer \(IWE / EWE\)](#)

International / European Welding Technologist (IWT / EWT)

[International / European Welding Specialist \(IWS / EWS\)](#)

International / European Welding Practitioner (IWP / EWP)

More information on these qualifications:

[International Institute of Welding \(IIW\) - Qualification of Personnel](#)

[European Welding Federation \(EFW\) - Personnel Certification Scheme for European Welding Coordinators](#)

[Responsible Welding Coordinator Course - Cognicert](#)

These qualifications are widely recognised and valued by industrial employers.

- **Levels and Requirements**

Each level has defined requirements regarding knowledge, professional experience and examination (theoretical modules and practical assessment).

Certification is periodically reviewed (e.g. every three years) to ensure ongoing competence.

- **Other International Schemes**

CSWIP Quality Control Co-ordinator – UK-based certification scheme recognised by global industries.

CSWIP 3.2 and/or AWS QC1 and/or PCN Welding Inspector Level 3 and/or IIW CWI-C (QCC) – are internationally recognised qualifications frequently required in oil & gas, offshore and large-scale industrial projects. [cswip.com](http://cswip.com)

**Job description in OFFSHORE WELDING INSPETOR** in the oil/gas sector (although it is not in the ORE context, the same description of competences is useful for the wind ORE)

<https://www.rigzone.com/insights/job-descriptions-2/role-of-a-welding-inspector-in-offshore-pipeline-inspections-275>

### Offshore International Specific Requirements

[GWO Certifications for Safety and Occupational Health in the ORE sector](#) – BTT (Basic Technical Training) and BST (Basic Safety Training) are the foundation standards, you can find more here: [GWO Training Standards](#)

### Case Studies or Testimonials

**[In your opinion, what are the key technical competences required for a welder or welding coordinator, particularly in the context of offshore renewable energy (ORE)?]**

"I always like that they (the students) learn MIG and SMAW. They are the most used processes in the industry, knowing how to use them; they can work anywhere and have the foundations to learn any other welding process. And, in this specific scenario (ORE), it will also be the processes they will use in the field. In the factory floor connected to the making of these components, they can use Submerged Arc Welding (SAW), but in the offshore context it's not feasible." - Dário Freitas, teacher and course director of Metalworking Production Technician, variant of CNC Machining and Programming at EPATV

**[What are the main differences between Onshore and Offshore Welding?]**

"I have worked with both onshore and offshore and am currently working with offshore welding. One of the biggest differences is the size and thickness of components, that is, in offshore the thicknesses can reach 150 millimeters and the diameter up to 12 meters, which increases the risk in terms of repairs and rework, if it is not done correctly the first time. Also, in terms of requirements, offshore is much more demanding, with much tighter tolerances and with much greater challenges both in welding and assembly. There must be more control and much more monitoring than on land, to have better results." - Tiago Chaves, Welding Inspector and Head of the Training Center at CSWindPT Offshore

**[What advice would you give to young people who are interested in welding training and are at the beginning of their careers in this field?]**

"Above all, the important thing in welding is to enjoy, that is, if you like the process and you like to learn, it is a daily learning, every day we learn and every day we evolve, so there will always be challenges but, as time passes, people will evolve and improve in this area." Tiago Chaves, Welding Inspector and Head of the Training Center at CSWindPT Offshore

**[What is your experience in welding as a woman in a typically more masculine area? What advice do you want to give to other women wishing to pursue this career?]**

"I have been a welder for about ten years and it was my father, who was also a welder, who sparked my interest in this area. Despite this, I didn't start in welding right away. I ended up taking a welding technician course (EQF 4) and that's where it all started. I really like what I do and I can't imagine myself in any other profession. If there's one thing I regret, it's that I didn't start earlier. I am very proud to be a woman in this area, which is usually seen as more masculine and "heavy". In the company where I work, I am, at the moment, the only female welder, but this has never been a problem. I don't feel any

differences in treatment, neither from colleagues nor from direct superiors, and I'm fully aware that we all do exactly the same job and have the same responsibilities. To other women who want to enter this field, my advice is simple: if you really like this, don't be afraid to invest in this career, and don't let the fear of discrimination stop you from moving forward." - Isabel Ferreira, welder with 10 years of experience in the heavy metal structures industry currently working at Duartesfer

**[What are your thoughts on automation/robotization of welding processes across the industries?]**

"I think it can be beneficial for companies, especially in terms of productivity and the reduction of defects since manual welding differs from piece to piece and from welder to welder, hence being a work of learning and daily improvement. It is true that some jobs may disappear, but I believe that welders will continue to be necessary, because there are always tasks that a robot cannot do, especially when the parts are not standardized. Perhaps, in the future, the welder's job will be more about programming machines than welding directly, and we will stop being just welders and become almost programmers. In my case, what I really like is to hold the torch and do my job, and I feel that with the entry of robots, this reality can be quite different." - Isabel Ferreira, welder with 10 years of experience in the heavy metal structures industry currently working at Duartesfer

**Context of the OWE/ORE Supply Chain in your country**

Portugal's offshore sector is at a formative but strategically significant stage, with offshore wind emerging as a national priority aligned with EU decarbonisation goals and energy security strategies. Portugal benefits from strong natural conditions for offshore wind, particularly deep-water Atlantic locations, which favour floating offshore wind technologies. Flagship projects such as WindFloat Atlantic, supported by industrial players including EDP and international partners, have positioned Portugal as an early mover in floating offshore wind demonstration and deployment.

The Portuguese government has announced targets for large-scale offshore wind capacity by 2030, which is expected to drive substantial investment across port infrastructure, fabrication yards, offshore installation and operations & maintenance (O&M). This expansion has direct implications for the metalworking and welding-intensive segments of the value chain, including foundations, floating platforms, towers, secondary steel structures and offshore substations.

Within this context, demand for Welding Coordinators for offshore projects is growing steadily, although the labour market remains relatively specialised and competitive. Welding coordinator roles in offshore environments require advanced technical competence, typically aligned with ISO 14731, ISO 3834 and EN 1090 requirements, and experience in heavy steel fabrication, large-scale welded structures and strict quality control regimes. Professionals are expected to coordinate welding activities across multidisciplinary teams, interface with inspection bodies, manage WPS/WPQR documentation, and oversee NDT activities under offshore and marine conditions.

In Portugal, welding coordinator jobs are increasingly linked to international projects and supply chains, with many roles requiring mobility, English proficiency and familiarity with global standards (EWF/IIW, ASME, AWS). While the domestic offshore market is still scaling up, Portugal's integration into European offshore wind supply networks creates medium- to long-term employment opportunities, particularly for professionals combining welding expertise with offshore construction, quality assurance and safety management experience.

## - Self-assessment skills & aptitudes questionnaire

### Brief description of the job profile and its relevance in the sector

A Welding Coordinator (ESCO code 7212.4 / CPP 7212.1) is responsible for supervising and managing welding activities in an industrial project or production environment. Its role is to ensure that all welding work complies with the standards, procedures and technical specifications applicable to the sector and ensures, at the same time, high standards of quality, safety and efficiency. This professional coordinates the work between welders, engineers and inspectors, supervises the preparation of welding procedures, selects suitable materials and methods and monitors quality control processes. In addition, it guarantees compliance with occupational health and safety standards and ensures the correct management of the technical documentation necessary for audits, certifications and traceability. He often works as a link between the technical team and the management and actively contributes to the resolution of problems related to welding and to the continuous improvement of production processes.

### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>Upper-secondary vocational education:</b> Courses in areas of Industry Processes, Electricity and Energy, Metallurgy and Metalworking, Electronics and Automation, Industrial Maintenance, CNC Machinery and Programming, Renewable Energy, Mechatronics, Welding and Brazing	EQF 4	YES / NO / ongoing
<b>Post-secondary education or advanced vocational training:</b> Specialized/Higher Professional Technical Courses in Welding and Metal Constructions, Advanced Welding Processes, Renewable Energy, Advanced Industrial Maintenance; Advanced Automation and Industrial Production	EQF 5	YES/ NO / ongoing
<b>Bachelor's Degrees:</b> Mechanical Engineering; Industrial Engineering; Offshore Engineering for Energy Transition; Materials Engineering	EQF 6	YES/ NO / ongoing
<b>Master's Degrees:</b> Specializations in Welding Engineering; Maritime Sector/Industry, Renewable Energy – Eolic Energy	EQF 7	YES/ NO / ongoing

Studies and certification	EQF Level	Y/N
<b>Industry certifications/requirements for welding related jobs:</b> AWS (International Standards), EN/ISO (European Standards), ASME BPVC IX (International Standards), WPS (Welding Procedure Specifications that follow National, European or International regulations based on ASME, ISO, AWS or national standards), GWO (offshore and wind sector safety and occupational health specifications); other company specific trainings	Different standards for welding professionals EN/ISO (Europe) like ISO 9606, ASME, AWS (American/International) or other WPS specific to national, European or International approved regulations (depending on companies)	YES/NO/ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Welding Planning &amp; Supervision</b>	I am capable of planning, coordinating and supervising welding operations, ensuring compliance with technical standards, quality, safety, occupational health and environmental protection.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Welding Processes &amp; Materials</b>	I am able to select appropriate welding methods, materials and consumables according to technical requirements.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Basic Welding Processes</b>	I have practical knowledge of conventional electric arc welding processes such as shielded metal arc (SMAW/MMA), MIG/MAG and flux-cored arc welding (FCAW).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Advanced Welding Processes</b>	I have practical knowledge of other advanced welding processes such as TIG, Plasma Arc Welding (PAW), Submerged Arc (SAW), Laser Beam (LBW), Electron Beam (EBW), or other robotic welding.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Technical Documentation &amp; Standards</b>	I can interpret technical drawings, welding symbols, and international standards (ISO, ASME), as well as prepare, analyse, and validate Welding Procedure Specifications (WPSs).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Quality Control &amp; Testing</b>	I am able to monitor tests, quality control and non-destructive testing (NDT), as well as correction of technical deviations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Metallurgy &amp; Materials Science</b>	I have knowledge of welding metallurgy, materials science, heat treatments and deformation control.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Professional Autonomy &amp; Organisation</b>	I am able to manage tasks effectively and meet deadlines in a technical context.	☆☆☆☆
<b>Problem Solving &amp; Attention to Detail</b>	I have attention to detail and the ability to solve technical and operational problems autonomously.	☆☆☆☆
<b>Leadership &amp; Resource Management</b>	I am able to demonstrate leadership, handle conflict, and efficiently allocate human and material resources.	☆☆☆☆
<b>Communication &amp; Teamwork</b>	I am capable of communicating assertively, listening actively, and collaborating effectively in multidisciplinary teams.	☆☆☆☆
<b>Stress Management &amp; Risk Awareness</b>	I am able to manage stress and act safely in high-demand and operational risk contexts.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 5 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>High-Risk Work Environment</b>	I feel comfortable working in environments with elevated safety risks, if procedures and safety measures are clearly defined and enforced.	☆☆☆☆
<b>Offshore &amp; Industrial Settings</b>	I am willing to work in offshore and industrial environments, including exposure to harsh weather conditions and confined or elevated work areas.	☆☆☆☆
<b>Strict Safety &amp; Regulatory Frameworks</b>	I am comfortable working under strict safety, quality and regulatory requirements, and following detailed procedures and standards.	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Team-Based &amp; Multidisciplinary Work</b>	I feel at ease working as part of multidisciplinary teams, coordinating different technical and operational roles.	☆☆☆☆
<b>High Responsibility &amp; Decision-Making</b>	I am comfortable taking responsibility for technical decisions and supervising tasks that may impact safety, quality and productivity.	☆☆☆☆
<b>Time Pressure &amp; Operational Stress</b>	I can perform effectively under time pressure and in situations that require focus, resilience and stress management.	☆☆☆☆
<b>Working hours</b>	I am willing to work on shifts or outside standard office hours if required by the role	☆☆☆☆
<b>Mobility / travel</b>	I am available to travel or relocate for work	☆☆☆☆

- Career path map

Job title general short description
<p>A <b>Welding Coordinator</b> (ESCO code 7212.4 / CPP 7212.1) is responsible for supervising and managing welding activities in an industrial project or production environment. Its role is to ensure that all welding work complies with the standards, procedures and technical specifications applicable to the sector and ensures, at the same time, high standards of quality, safety and efficiency. This professional coordinates the work between welders, engineers and inspectors, supervises the preparation of welding procedures, selects suitable materials and methods and monitors quality control processes. In addition, it guarantees compliance with occupational health and safety standards and ensures the correct management of the technical documentation necessary for audits, certifications and traceability. He often works as a link between the technical team and the management and actively contributes to the resolution of problems related to welding and to the continuous improvement of production processes.</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	Welding Technician (Apprentice/Junior)	<p><b>Technical:</b> basic reading of technical drawing; welding symbology; execution of MIG/MAG and SMAW/MMA and FCAW welds; knowledge of TIG, SAW, PAW techniques; preparation of joints; use of equipment and PPE; notions of quality and safety.</p> <p><b>Soft:</b> rigor, attention to detail, discipline, teamwork, continuous learning.</p>	Professional training in welding; technical/vocational course level 4/5; welder qualification (ISO 9606); OSH/GWO (Occupational Safety and Health) training.	Consolidate practical welding skills; acquire technical autonomy; understand quality requirements; evolve into a specialized welder or specialized technician.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Mid-Level</b>	Specialized Welding Technician/Advanced Welding	<p><b>Technical:</b> Know how to perform the main welding processes: - SMAW (Shielded Metal Arc Welding)/MMA (Manual Metal Arc) and GMAW (Gas Metal Arc) – MIG (Metal Inert Gas), MAG (Metal Active Gas) and FCAW (Flux-Cored Arc Welding) and know other welding processes such as TIG (Tungsten Inert Gas), PAW (Plasma Arc Welding), Submerged Arc (SAW), and robotic or semi-robotic welding (electron beam and laser); advanced interpretation of drawings; parameter control; support for the application of WPS; notions of metallurgy and welding defects; monitoring of basic inspections; know all the equipment and materials used in the execution of the work, as well as solid fundamentals of welding metallurgy, materials science, heat treatments and deformation control.</p> <p><b>Soft:</b> responsibility, organization, technical communication, problem solving.</p>	Specialized technical training; multiple welder qualifications; training in WPS and quality; Initiation to NDT (VT).	Support planning and supervision; develop quality control skills; prepare transition to supervisory or inspection roles.
<b>Senior Level</b>	Welding Coordinator/Welding Inspector	<p><b>Technical:</b> welding planning and coordination; WPS/PQR preparation and validation; selection of processes and consumables; supervision of joint preparation; monitoring of NDT (VT, PT, MT, UT, RT); traceability; compliance with ISO, EN, ASME, EWF/IIW standards.</p> <p><b>Soft:</b> technical leadership, decision-making, assertive communication, team management and stress.</p>	Welding coordination course (IWS/IWT or equivalent); training in NDT; training in standards and quality; consolidated professional experience.	Assume technical responsibility; manage teams and processes; participate in audits; evolve into management, auditing or technical authority.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Executive Level</b>	Auditor/Quality Manager in Welding processes	<p><b>Technical:</b> definition of welding policies and standards; technical audits; quality management; risk analysis; qualification of processes and people; interface with customers and certifying entities.</p> <p><b>Soft:</b> strategic leadership, systemic vision, negotiation, decision-making, organizational management.</p>	Higher education (engineering or equivalent); IWE certification or auditor; training in quality management systems (ISO 9001); Vast experience.	Define technical strategy; ensure continuous improvement; lead welding governance; act as a transversal technical authority.
<b>Cross-Sector Opportunities</b>	<p><b>Entry level</b></p> <ul style="list-style-type: none"> <li>• Thermal Cutting Operator (oxy-fuel, plasma, laser)</li> <li>• Electrical Engineering Technician</li> <li>• CNC machinery and programming technician</li> <li>• Renewable energy technician</li> <li>• Industrial Assembly technician</li> </ul> <p>Intermediate technical functions (transition)</p> <ul style="list-style-type: none"> <li>• Senior Offshore Technician – Maintenance or management of multiprocess teams</li> <li>• Metalworking Production Supervisor</li> </ul>	<p><b>Technical:</b> transferable skills in welding processes, quality, standards, metallurgy, planning and inspection.</p> <p><b>Soft:</b> adaptability, communication, teamwork, continuous learning.</p>	Technical or higher education depending on the function; welder, NDT or engineering qualifications; complementary certifications.	Facilitate sectoral mobility; accelerate progression for welding coordination; strengthen technical and regulatory profile.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<p>Quality, inspection and control functions</p> <ul style="list-style-type: none"> <li>• Welding Inspector</li> <li>• Non-Destructive Testing (NDT) Technician/Supervisor</li> <li>• Industrial Quality Control Technician/Supervisor</li> <li>• Regulatory Compliance Technician/Supervisor</li> </ul> <p>Adjacent Technical Functions</p> <ul style="list-style-type: none"> <li>• Industrial Maintenance Technician (welding equipment)</li> <li>• Metallurgy / Materials Technician</li> <li>• Technical Designer / CAD (welded constructions)</li> <li>• Planning and Methods Technician (P&amp;M)</li> </ul>			

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<p><b>Engineering and technical management functions (senior level)</b></p> <ul style="list-style-type: none"> <li>• Mechanical Engineer – specializations in welding processes</li> <li>• Industrial Engineer</li> <li>• Production Engineer</li> <li>• Materials Engineer</li> <li>• Electrical Engineer – renewable energy specializations</li> </ul>			

- **Video-interview**

Interviewee: Tiago Chaves, Welding inspector

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

Sign language interpretation is available for this video-interview.

## JOB TITLE: Marine VET Educator

Partner: ADFMA - EMAZORES

### - Detailed job description

#### Profession Overview

The Maritime VET Educator (ESCO Code 2320.1.17 – Maritime Instructor) is responsible for delivering vocational education and training (VET) to maritime students and professionals, ensuring the development of technical, operational, and safety-related competences aligned with international maritime standards (e.g., STCW and IMO Model Courses). This role includes teaching theoretical and practical modules, conducting simulator-based training, evaluating learners' performance, and supporting competence assessment and certification processes. The educator contributes to curriculum development, training quality assurance, and continuous improvement of learning methodologies. The Maritime VET Educator also plays a key role in bridging industry needs with educational pathways, supporting employability, lifelong learning, and the modernization of maritime education. Additionally, maritime instructors may provide training for operations in offshore wind farms and other offshore renewable energy projects, preparing students for specialized maritime environments.

#### Key Competencies & Skills

##### Technical Skills (Maritime Competencies)

- Operate marine communication systems – Ability to effectively use shipboard communication tools to ensure safe and efficient navigation.
- Analyse weather forecasts – Interpret meteorological data to plan safe navigation and adapt routes.
- Distinguish various types of ships – Knowledge of different vessel types and their operational characteristics.
- Recognise abnormalities on board – Identify potential technical or safety issues to prevent accidents.
- Stay up-to-date with maritime transportation technology – Keep current with innovations in navigation, vessel systems, and safety technologies.
- Teach boating principles – Understanding and ability to convey fundamental navigation and vessel operation concepts.

##### Soft Skills (Teaching and Student Interaction)

- Adapt teaching to students' capabilities – Modify lesson content and methods according to learners' knowledge and experience.
- Apply intercultural teaching strategies – Create an inclusive learning environment respecting diverse cultural backgrounds.
- Prepare lesson content – Organize lessons in a structured and engaging manner.
- Assess students & assist in learning – Monitor student progress, provide guidance, and ensure comprehension.
- Give constructive feedback – Offer clear, actionable feedback to support skill development.

- Guarantee students' safety – Teach and enforce safety protocols during practical exercises.
- Monitor developments in the field of expertise – Incorporate new regulations and best practices into teaching.

## Education and Training

### Required at Entrance Level

- Formal maritime education: Typically a diploma, certificate or degree in maritime studies, navigation, maritime transportation or a related field, from an accredited institution (e.g., nautical science, marine operations).
- Professional seafaring qualifications: Valid seafarer certificate(s) and licenses relevant for piloting/operating vessels (e.g., STCW certificates).
- Instructional training: Specific training for instructors such as IMO Model Course 6.09 (Training of Trainers) or equivalent course in teaching & assessment techniques.
- Maritime experience: Practical seafaring experience (e.g., experience as a skipper, officer or other vessel operator).

### Further Development

- Advanced instructor certification: Continued professional development in instructional techniques, simulation-based training, curriculum design, adult learning pedagogy etc.
- Specialised maritime training: Courses on latest maritime technologies, safety regulations (e.g., STCW updates), and sector-specific topics (e.g., offshore wind support operations).
- Continuous professional education: Participation in refresher courses and updates on IMO regulations, safety systems, teaching strategies, and maritime communication standards.

### Required standards and certification:

- GWO (Global Wind Organisation) [Global Wind Organisation - Training standards for a safer and more productive workforce] – safety and work in offshore wind farms.
- ISO 9001 [ISO - ISO 9000 family – Quality management], ISO 14001 [ISO - ISO 14000 family – Environmental management], ISO 45001 [ISO 45001:2018 - Occupational health and safety management systems] – quality, environmental management, and occupational health and safety.
- IEC 61400 – technical standards for wind turbines.
- Maritime safety certifications (STCW, HUET) [International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978]
- These ensure safety, quality, and technical competence.

### Industry Trends and Outlook

The offshore renewable energy sector, particularly offshore wind, is rapidly growing worldwide and in Europe. This growth is driven by the need of decarbonization, use clean energy and ensure greater energy security.

Key trends include the increasing number of offshore wind farms, the development of larger and more efficient turbines, and the use of floating platforms, which allow installation in deeper waters, such as in Portugal. There is also growing integration with other technologies, such as green hydrogen and smart grids.

For the labor market, the offshore sector creates numerous opportunities for specialized technicians. Skills in electricity, maintenance, automation, and safety are highly valued. Despite challenges such as high costs and complex processes, the future of offshore energy is positive, making it a strategic sector with significant growth potential in the coming years.

### Useful Resources

#### Upper Secondary Education (EQF Level 4)

Técnico de Construção Naval / Embarcações de Recreio | EMA - Escola do Mar dos Açores

#### Bachelor's Degree (EQF Level 6):

ENGENHARIA ELETROTÉCNICA MARÍTIMA | ENIDH – Escola Náutica Infante D. Henrique

ENGENHARIA INFORMÁTICA E DE COMPUTADORES | ENIDH – Escola Náutica Infante D. Henrique

GESTÃO DE TRANSPORTES E LOGÍSTICA | ENIDH – Escola Náutica Infante D. Henrique

GESTÃO PORTUÁRIA | ENIDH – Escola Náutica Infante D. Henrique

PILOTAGEM | ENIDH – Escola Náutica Infante D. Henrique

Engenharia Mecatrónica - Instituto Politécnico de Viana do Castelo

Engenharia Mecânica - Instituto Politécnico de Viana do Castelo

Engenharia Civil e do Ambiente - Instituto Politécnico de Viana do Castelo

#### Technological Specialization Course:

MECÂNICA NAVAL | ENIDH – Escola Náutica Infante D. Henrique

MECATRÓNICA NAVAL | ENIDH – Escola Náutica Infante D. Henrique

NAVEGAÇÃO DE RECREIO E OP. MARÍTIMO-TURÍSTICA | ENIDH – Escola Náutica Infante D. Henrique

NAVEGAÇÃO, OP. MARÍTIMO-PORTUÁRIAS E PESCA | ENIDH – Escola Náutica Infante D. Henrique

SUSTENTABILIDADE ENERGÉTICA E CLIMATIZAÇÃO | ENIDH – Escola Náutica Infante D. Henrique

ROBÓTICA E INTELIGÊNCIA ARTIFICIAL | ENIDH – Escola Náutica Infante D. Henrique

#### Master's Degree (EQF Level 7)

ENGENHARIA DE MÁQUINAS MARÍTIMAS | ENIDH – Escola Náutica Infante D. Henrique

## PILOTAGEM | ENIDH – Escola Náutica Infante D. Henrique

### **Further specialization and certification courses:**

[Marine Surveying & Inspection Courses | Maritime Training Academy](#)

[Engineering & Technical Courses | Maritime Training Academy](#)

[Shipping Management - International Maritime Training](#)

[Safety Risk Management - International Maritime Training](#)

[Formação Trabalhar num Navio – Cruzeiros e lates — Apormar](#)

[STCW IMO - International Maritime Training](#)

[Segurança Básica | EMA - Escola do Mar dos Açores](#)

[Segurança Na Manobra E Operação De Gruas Portuárias | EMA - Escola do Mar dos Açores](#)

[Lista de Cursos | EMA - Escola do Mar dos Açores](#)

### **Case Studies or Testimonials**

We spoke with several maritime instructors, and all agree: practical training, hands-on navigation experience, and staying updated with the latest safety standards and technologies are essential to prepare the next generation of maritime professionals. Among these instructors stands out José Sousa, whose experience combines teaching, management, and maritime operations.

José Sousa has a degree in Mathematics Education, a postgraduate degree in Information Technologies, is an SSI Instructor Trainer, a Local Master, and Skipper. He is also the CEO of *Brizaçores Dive and Sail*, the first liveaboard in the Azores, and a shipowner.

Here is a memorable phrase shared during one of our conversations: "The sea is not just what surrounds us; it is our greatest opportunity. Helping the youth of the Azores transform their passion for the waves into a global, dynamic, and essential career is what drives me as a trainer, helping to build talent to navigate the sea that surrounds us."

We also had the opportunity to conduct interviews with three distinguished guests with recognised merit and an excellent professional track record: Álvaro Sardinha, Carlos do Ó, and Diogo Moreira, who shared experiences, perspectives, and valuable insights relevant to the sector.

These testimonials will be available on the SHOREWINNER platform and on social media.

Below is a brief introduction of the interviewees, along with some of their most memorable quotes. You can also watch the videos using the links below.

#### **Testimonial #1 – Carlos do Ó [SHOREWINNER - CoVE Portugal | Carlos do Ó, Electrical Engineer]**

Graduated in Electrotechnics in 1995 from the Portuguese Navy. He currently applies these skills in the construction of offshore wind farms, which are increasingly needed. "There is plenty of room to improve. There is a lot of space to grow in this industry."

He states that “the essential foundation required here is the technical component, which makes all the difference because it helps us understand things better.”

**Testimonial #2 – Álvaro Sardinha [SHOREWINNER - CoVE Portugal | Álvaro Sardinha, Marine VET educator]**

Holds a degree in Naval and Ocean Engineering. He is currently the Founder and Director of the Blue Economy and Competence Center. He affirms that his turning point came from his Master’s degree in Law and Economics of the Sea.

“The part of my work that excites me the most is knowing that it has a positive impact on people, the community, and the planet.”

He concludes by emphasizing that we should increasingly invest in international careers: “Learn, gain experience abroad, and then bring that knowledge back to Portugal to transform our country.”

**Testimonial #3 – Diogo Moreira [SHOREWINNER - CoVE Portugal | Diogo Moreira, Marine VET educator]**

Project and Technology Manager at the Project Management Unit of IPVC and Invited Higher Education Professor.

He coordinated the design of national strategies, such as the “Student Support Services Roadmap 2020-2030,” and led numerous national and international projects in the areas of innovation, information technologies, and renewable energies.

He advises, finally, that “people interested in working in this field should focus on their education and qualifications, and on building their knowledge”.

**Context of the OWE/ORE Supply Chain in your country**

In 2026, Portugal stands out as one of Europe’s most dynamic offshore renewable energy markets, driven by the Offshore Renewable Energy Allocation Plan (PAER) and the strategic goal of reaching 10 GW of installed capacity by 2030, as defined in the PNEC 2030. For Renewable Energy Specialist Technicians, this context represents a major career opportunity. The national focus is on floating offshore wind, a technology suited to Portugal’s deep coastal waters, with economic and logistical activity concentrated in hubs such as Viana do Castelo, Figueira da Foz, Leixões, and Sines.

The sector is increasingly technical and digitalized. Today’s technician is no longer just a mechanic but an operator of complex systems, using predictive maintenance, fiber optic sensors, and digital twins. Drones are widely used for blade inspections, while remotely operated vehicles (ROVs) are standard for mooring checks, requiring strong digital skills and real-time data interpretation. Additionally, growing hybrid solutions—where wind energy is used offshore to produce Green Hydrogen—expand required competencies to include electrolysis and gas systems.

In the job market, the shortage of qualified professionals ensures high employability and above-average salaries, often supplemented by offshore allowances. Career opportunities exist across manufacturers (Vestas, Siemens Gamesa), project developers (Ocean Winds), and specialized service providers (such as Endiprev). GWO (Global Wind Organisation) certifications are essential, ensuring safety in offshore environments. Beyond technical expertise, employers value soft skills such as resilience for rotational

work schedules and proficiency in technical English for multinational teams. Overall, the offshore renewable energy sector in Portugal is in a strong growth phase, offering a stable, future-oriented career with significant technological innovation.

- **Self-assessment skills & aptitudes questionnaire**

**Brief description of the job profile and its relevance in the sector**

A Marine VET Educator (Maritime Instructor – ESCO Code 2320.1.17) is responsible for delivering vocational education and training (VET) to maritime students and professionals, ensuring the development of technical, operational, and safety-related competences aligned with international maritime standards (e.g., STCW and IMO Model Courses). This role includes teaching theoretical and practical modules, conducting simulator-based training, evaluating learners’ performance, and supporting competence assessment and certification processes. The educator contributes to curriculum development, training quality assurance, and continuous improvement of learning methodologies. The Maritime VET Educator also plays a key role in bridging industry needs with educational pathways, supporting employability, lifelong learning, and the modernization of maritime education.

**Studies and certifications**

Studies and certification	EQF Level	Y/N
Upper Secondary Education	EQF Level 4	YES / NO / ongoing
Technological Specialization Course	EQF Level 5	YES / NO / ongoing
Bachelor’s Degree	EQF Level 6	YES / NO / ongoing
Master’s Degree	EQF Level 7	YES / NO / ongoing
Doctorate / PhD	EQF Level 8	YES / NO / ongoing
GWO Certification (Global Wind Organisation)	Essential: Sea Survival and Working at Heights	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–5)
<b>Navigation and seamanship</b>	Understanding of maritime navigation, chart reading, and general seamanship principles.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Operating maritime equipment (radar, GPS, etc.)</b>	Ability to correctly use onboard equipment to ensure safe and efficient navigation.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Safety and emergency procedures</b>	Knowledge of safety protocols, emergency drills, and first aid procedures.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Vessel handling and maneuvering</b>	Skills in controlling and maneuvering vessels in different conditions.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Weather and environmental awareness</b>	Ability to interpret weather conditions and environmental factors affecting navigation.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Communication and clarity</b>	Ability to explain instructions clearly and give constructive feedback.	☆☆☆☆
<b>Leadership and decision-making</b>	Ability to guide and motivate others while making informed decisions under pressure.	☆☆☆☆
<b>Teamwork and collaboration</b>	Working effectively with colleagues, students, and crew, managing conflicts constructively.	☆☆☆☆
<b>Emotional intelligence / Stress management</b>	Staying calm under pressure, showing empathy, and managing emotions in challenging situations.	☆☆☆☆
<b>Adaptability and problem-solving</b>	Adjusting to unexpected situations and finding practical solutions quickly.	☆☆☆☆

Soft skill	Description	Rating (1 to 4 stars)
<b>Motivation and inspiring others</b>	Encouraging students and crew, maintaining engagement, and promoting safe practices.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Working hours</b>	I am comfortable working on rotating shifts, including weekends and holidays.	☆☆☆☆
<b>Work environment</b>	I am willing to work in maritime environments under adverse weather conditions.	☆☆☆☆
<b>Mobility / travel</b>	I am willing to travel or be deployed to remote locations for extended periods.	☆☆☆☆
<b>Working under pressure</b>	I am comfortable working in multidisciplinary teams and under pressure.	☆☆☆☆
<b>Leadership and maintenance</b>	I feel capable of handling complex technical responsibilities and maintaining critical equipment.	☆☆☆☆

- Career path map

Job title general short description
<p>The Maritime VET Educator (Maritime Instructor) is responsible for delivering vocational education and training (VET) to maritime students and professionals, ensuring the development of technical, operational, and safety-related competences aligned with international maritime standards (e.g., STCW and IMO Model Courses). This role includes teaching theoretical and practical modules, conducting simulator-based training, evaluating learners' performance, and supporting competence assessment and certification processes. The educator contributes to curriculum development, training quality assurance, and continuous improvement of learning methodologies. The Maritime VET Educator also plays a key role in bridging industry needs with educational pathways, supporting employability, lifelong learning, and the modernization of maritime education.</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
Entry Level	<p>Junior Vocational Trainer responsible for practical training modules</p> <p>Training Assistant supporting workshops and laboratory-based learning activities</p> <p>Providing support to senior teaching staff in practical sessions and simulator-based instruction</p>	<p>Technical Competences:</p> <ul style="list-style-type: none"> <li>- Basic knowledge of offshore renewable energy systems</li> <li>- Reading of electrical and mechanical schematics</li> <li>- Fundamentals of preventive maintenance</li> </ul> <p>Pedagogical Competences:</p> <ul style="list-style-type: none"> <li>- Clear communication of technical concepts</li> <li>- Practical support in workshop/laboratory environments</li> </ul> <p>Transversal / Soft Competences:</p>	<p>Education:</p> <ul style="list-style-type: none"> <li>- EQF Level 4–5 (Specialist Technician) or EQF Level 6 (Bachelor's Degree)</li> <li>- Fields: Renewable Energy, Electrical Engineering, Mechanical Engineering, Energy</li> </ul> <p>Technical Training:</p> <ul style="list-style-type: none"> <li>- Fundamentals of offshore renewable energy</li> <li>- Introduction to offshore wind / maritime systems</li> </ul>	<p>Consolidate technical foundations in offshore renewable energy</p> <p>Develop offshore safety culture (HSE)</p> <p>Acquire initial pedagogical competences in VET</p> <p>Gain confidence in communication and practical support to learners</p> <p>Familiarize with real technical training environments</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Teamwork</li> <li>- Strict adherence to safety regulations</li> <li>- Continuous learning ability</li> </ul>	Certifications: <ul style="list-style-type: none"> <li>- GWO Basic Safety Training (BST)</li> <li>- Basic HSE Training</li> <li>- First Aid</li> </ul> Pedagogical Training: <ul style="list-style-type: none"> <li>- Introduction to vocational education and training (VET basics)</li> </ul>	
<b>Mid-Level</b>	Instructor responsible for course modules  Planning and assessment of practical learning activities  Integration of industry standards into the curriculum  Supervision of internships in offshore companies	<b>Technical Competences:</b> <ul style="list-style-type: none"> <li>- Operation and maintenance of offshore wind systems</li> <li>- Electrical and mechanical fault diagnosis</li> <li>- Use of digital tools and SCADA systems</li> </ul> <b>Pedagogical Competences:</b> <ul style="list-style-type: none"> <li>- Planning of VET modules</li> <li>- Assessment based on learning outcomes</li> <li>- Supervision of internships and work-based learning (WBL)</li> </ul> <b>Transversal / Soft Competences:</b>	Education: <ul style="list-style-type: none"> <li>- Bachelor's Degree (EQF 6) or Master's Degree (EQF 7)</li> </ul> Technical Training: <ul style="list-style-type: none"> <li>- Offshore wind systems</li> <li>- Electrical and control systems</li> <li>- Offshore operation and maintenance (O&amp;M)</li> </ul> Certifications: <ul style="list-style-type: none"> <li>- VET pedagogical certification (e.g., CCP or equivalent)</li> <li>- GWO Advanced / refresher</li> </ul>	Deepen applied technical competences (offshore O&M)  Become autonomous in planning and delivering VET modules  Develop competence in learning outcome-based assessment  Strengthen industry liaison and supervision of internships  Integrate digital tools and simulators into teaching

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Classroom and technical group management</li> <li>- Communication with companies and partners</li> <li>- Problem-solving</li> </ul>	<ul style="list-style-type: none"> <li>- Working at heights and confined spaces</li> </ul> Pedagogical Training: <ul style="list-style-type: none"> <li>- Competence-based assessment</li> <li>- VET curriculum design</li> </ul>	
<b>Senior Level</b>	Senior Instructor / Specialist Trainer  Development of new modules and qualifications  Trainer of Trainers (ToT)  Strategic liaison with industry and energy clusters	Technical Competences: <ul style="list-style-type: none"> <li>- Advanced mastery of specific offshore technologies</li> <li>- Operational data analysis and systems optimization</li> <li>- Integration of technological innovation into teaching</li> </ul> Pedagogical Competences: <ul style="list-style-type: none"> <li>- Advanced curriculum development</li> <li>- Trainer of Trainers (ToT)</li> <li>- Use of advanced simulators and Virtual Reality (VR)</li> </ul> Transversal / Soft Competences: <ul style="list-style-type: none"> <li>- Critical and strategic thinking</li> <li>- Mentoring and technical leadership</li> <li>- Advanced technical communication (English)</li> </ul>	Education: <ul style="list-style-type: none"> <li>- Master’s Degree (EQF 7) or advanced technical specialization</li> </ul> Technical Training: <ul style="list-style-type: none"> <li>- Specialization (e.g., advanced offshore wind, SCADA, offshore hydrogen)</li> <li>- Digitalization and intelligent systems</li> </ul> Certifications: <ul style="list-style-type: none"> <li>- GWO Advanced Rescue / Technical</li> <li>- Internal HSE or relevant ISO auditor</li> <li>- Trainer of Trainers (ToT) certification</li> </ul> Pedagogical Training: <ul style="list-style-type: none"> <li>- Advanced VET methodologies</li> </ul>	Achieve advanced technical mastery in a specific offshore domain  Lead curriculum development and updates  Become an internal technical and pedagogical reference  Develop mentoring and Trainer of Trainers (ToT) competences  Integrate technological and methodological innovation into teaching

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
			<ul style="list-style-type: none"> <li>- Teaching with simulators and virtual reality (VR)</li> </ul>	
<b>Executive Level</b>	<p>Academic Coordination:</p> <ul style="list-style-type: none"> <li>- VET Course Coordinator</li> <li>- Academic Director / Pedagogical Director</li> <li>- Quality and Accreditation Manager</li> </ul> <p>Industry–Education Liaison:</p> <ul style="list-style-type: none"> <li>- Industry Training Manager</li> <li>- Coordinator of Dual Programs / Work-Based Learning (WBL) Programs</li> <li>- Technical-Pedagogical Consultant</li> </ul>	<p>Technical Competences:</p> <ul style="list-style-type: none"> <li>- Strategic planning of VET programs</li> <li>- Project and resource management</li> </ul> <p>Pedagogical Competences:</p> <ul style="list-style-type: none"> <li>- Quality assurance and accreditation</li> <li>- Pedagogical and digital innovation</li> </ul> <p>Transversal / Soft Competences:</p> <ul style="list-style-type: none"> <li>- Leadership and decision-making</li> <li>- Stakeholder negotiation</li> <li>- Systemic vision of the energy transition</li> </ul>	<p>Education:</p> <ul style="list-style-type: none"> <li>- Master’s Degree (EQF 7) or Doctorate (EQF 8) (optional)</li> </ul> <p>Technical Training:</p> <ul style="list-style-type: none"> <li>- Energy management and energy transition</li> <li>- Public policy and sustainability</li> </ul> <p>Certifications:</p> <ul style="list-style-type: none"> <li>- Project management (PMP, PRINCE2, or equivalent)</li> <li>- Quality and accreditation (EQAVET)</li> </ul> <p>Pedagogical Training:</p> <ul style="list-style-type: none"> <li>- Educational leadership</li> <li>- Management of VET institutions</li> </ul>	<p>Develop strategic vision for offshore VET programs</p> <p>Ensure quality, relevance, and alignment with European policies</p> <p>Lead pedagogical and technical teams</p> <p>Promote innovation, digitalization, and sustainability</p> <p>Expand partnerships with industry, clusters, and European networks</p>
<b>Cross-Sector Opportunities</b>	Offshore Technical Training Consultant	<p>Technical and Pedagogical Consulting</p> <p>Assessment and Validation of Competences</p>	<p>Education:</p> <ul style="list-style-type: none"> <li>- Variable depending on specialization</li> </ul> <p>Possible Certifications:</p>	Transfer technical-pedagogical knowledge to strategic contexts

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<p>Author of technical content and VET manuals</p> <p>Assessor of professional competencies</p> <p>Specialist in training policies for the energy transition</p>	<p>Institutional and Policy Communication</p>	<ul style="list-style-type: none"> <li>- Assessor of professional competences</li> <li>- Consulting and continuous training</li> <li>- Specialization in education and energy policy</li> </ul>	<p>Influence policies, standards, and training frameworks</p> <p>Act as specialist, consultant, or competence assessor</p> <p>Contribute to the development of the VET ecosystem and the energy transition</p>

- **Video-interview**

Interviewees:

1. Álvaro Sardinha, VET educator
2. Carlos do Ó, Electrical Engineer
3. Diogo Moreira, VET educator

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## 4.2. Spain

### JOB TITLE: Renewable Energy Consultant

PARTNER: AQUATERA

#### - Detailed job description

##### Profession Overview

A Renewable Energy Consultant is a multidisciplinary professional who provides technical, economic, and strategic expertise across the full lifecycle of clean energy projects. Beyond core engineering and financial analysis, this profile adopts a holistic perspective, enabling effective navigation of regulatory frameworks, environmental and social considerations, and stakeholder dynamics. While typically possessing deeper expertise in a specific domain, the consultant is capable of integrating regulatory, sustainability, and socio-environmental factors into project development, ensuring alignment with policy requirements, community expectations, and environmental standards.

The Renewable Energy Consultant focuses on a broad range of renewable energy sources and sustainable power generation technologies, including wind, solar photovoltaic (PV), tidal, wave, geothermal, salinity gradient, ocean thermal energy and emerging hybrid systems.

Their core function involves advising clients (which may include governments, utility companies, financial institutions, NGOs and private developers) on the most viable and efficient renewable energy solutions tailored to specific geographical, regulatory, socio-environmental and market contexts.

In essence, the Renewable Energy Consultant bridges the gap between technology, communities and finance, enabling the successful development, funding, and deployment of clean energy infrastructure while ensuring projects meet relevant quality, performance, social and environmental acceptance and legal requirements.

##### Key Competencies & Skills

The scope of work for a Renewable Energy Consultant is inherently broad, encompassing diverse technological, commercial, and geographical challenges. Consequently, the following represents a diverse toolkit of skills frequently utilized in this multifaceted field. While a single consultant may not possess every competency simultaneously, the role typically draws from strong technical foundation combined with a deep understanding of the energy and financial landscapes.

##### Technical Skills

**Resource and Performance Modelling:** Proficiency in utilizing specialized software to assess resource availability (solar irradiation, wind speed, etc) and predict the Annual Energy Production of renewable assets, useful for all viability assessments.

**Economic Feasibility Analysis and Financial Modelling:** Expertise in building and manipulating detailed financial models (spreadsheets) to calculate essential metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), and the Levelized Cost of Energy (LCOE). This skill is crucial for investment decision-making.

**Regulatory and Grid Expertise:** In-depth understanding of national and international regulatory frameworks governing renewable energy, permitting systems, and grid interconnection requirements (grid codes). This ensures that projects operate legally and safely within the electric system.

**Materials Analysis and Life Cycle Assessment (LCA):** experience on valuating the materials and components used in renewable energy technologies, including their structural, electrical, and thermal properties. Skilled in conducting Life Cycle Assessments (LCA) to quantify environmental impacts across the full project lifecycle, from material extraction and manufacturing to operation and decommissioning.

**Due Diligence and Risk Assessment:** Ability to conduct comprehensive technical and commercial due diligence on projects. This includes identifying, quantifying, and developing strategies for mitigating technical risks (e.g., equipment failure) and market risks (e.g., power price volatility).

**Environmental and Social Considerations:** Working knowledge of environmental and social aspects relevant to renewable energy projects, including environmental permitting, land-use impacts, and community-related issues, enabling their effective integration into project assessments and risk management.

### Soft Skills

These abilities are vital for managing clients, navigating complex project dynamics, and leading teams.

**Cross-Disciplinary Communication:** Ability to translate complex technical and financial concepts into clear, accessible language for a diverse audience, including executives, engineers, legal counsel, and non-technical clients. This is the key of effective consultancy.

**Strategic Thinking and Problem Solving:** Aptitude for tackling complex, unexpected challenges that arise during project development and execution. This requires proposing innovative, data-driven solutions under tight deadlines and pressure.

**Client Management and Negotiation:** Excellent interpersonal skills necessary for building and maintaining trust-based relationships with clients. This involves adeptly negotiating contractual terms, managing stakeholder expectations, and presenting project findings persuasively.

**Adaptability and Market Vision:** Flexibility to operate and advise in rapidly changing technological and regulatory environments. This necessitates a strategic vision to understand global market trends and apply them effectively to local project constraints and opportunities.

## Education and Training

The role of a Renewable Energy Consultant typically requires a strong academic foundation in a technical or scientific discipline, which serves as the entry point into the profession.

### Initial Education (Entry Level)

Candidates usually possess a university degree in fields such as Engineering (Electrical, Mechanical, Industrial, Energy, Civil or Chemical), Environmental or Social Sciences or Economics. This background provides the necessary understanding of energy fundamentals, mathematics, and technical systems. Some higher-level Vocational Training can also provide a solid technical foundation for specialized entry roles.

### Advanced and Continuous Development

Due to the sector's complexity and rapid evolution, a postgraduate qualification (Master's degree) is highly valued and often essential for a consultant position. These programs provide the specialized knowledge in finance, policy, environmental and social aspects, technology, and modelling tools required for the consulting work.

Numerous Spanish universities offer specialized programs, often focusing on the full project cycle, market integration, and specific technologies. Examples include the “*Máster Universitario en Energías Renovables*” often covering topics like the ones mentioned in the sections above ([ULL](#), [UC3M](#), [EHU](#), [UCLM](#), [UPNA](#)... and many others).

Continuous development involves specific training and certification on niche topics like [Green Hydrogen](#), [Energy Storage Systems \(BESS\)](#), or project finance. Ongoing professional development is essential to maintain proficiency in evolving technologies (e.g., [floating offshore wind](#)), regulatory changes (EU Green Deal), and new financial mechanisms.

## Industry Trends and Outlook

The outlook for the Renewable Energy Consultant role in Europe and Spain is strong, driven by global mandates for decarbonization and the acceleration of the energy transition. Governments and corporations are increasing their commitment to Net-Zero targets, creating sustained, high demand for expert advisory services across all phases of clean energy deployment. There is a high-level political consensus on national decarbonization goals.

Key growth areas demanding consultant expertise include grid integration, energy storage (BESS), green hydrogen, and digital optimization using AI and IoT. The role is becoming increasingly relevant in financial risk assessment and navigating complex regulatory hurdles (e.g., permitting and network access). Market growth is robust, with the global renewable energy consulting service market projected for strong growth in the next decade.

The situation in Spain is particularly dynamic, with the country consolidating its position as a European leader in renewables, especially solar PV and wind. This growth generates significant demand for consultants specializing in project development, financial modelling, social liaison and managing grid congestion challenges, supported by national and EU investment plans.

## Useful Resources

### Standards & Certifications

- IEC 61400 series
- ISO 9001
- ISO 14001
- ISO 19901 series
- DNV standards and recommended practices
- GWO standards

### Professional Associations

- [WindEurope](#): Association promoting the use of wind power in Europe. Based in Brussels it has over 600 members, which are active in over 50 countries.
- [Ocean Energy Europe](#): Largest global network of ocean energy (wave, tidal, OTEC, etc) professionals and the primary industry body representing the sector in Europe
- [SolarPowerEurope](#)
- [APPA](#): Asociación de Empresas de Energías Renovables (Spanish renewable energy association)
- [AEE](#): Asociación Empresarial Eólica (Spanish Wind Energy Association)

### Job Portals

- LinkedIn
- Renewable energy consultancy companies career pages
- [www.nextgenenergyjobs.com](http://www.nextgenenergyjobs.com)
- [www.renewableenergyjobsuk.com](http://www.renewableenergyjobsuk.com)
- [www.rejobs.org](http://www.rejobs.org)

### Training Providers

- Universities
- VET centres
- The Renewable Energy Institute (REI): Offers the Renewable Energy Consultant Expert Certificate, providing accredited, internationally recognized training in management and finance

## Case Studies or Testimonials

### • Testimonial 1 – Renewable Energy Consultant

*“I’ve always been deeply motivated by environmental sustainability and the tangible impact that renewable energy can have on our communities and the planet. Early in my career, I realised that advising organisations on clean energy wasn’t just about technical systems, but about helping people and businesses transition from traditional fossil fuels to solutions like solar, wind and hydro that reduce cost and carbon emissions. I’ve worked on comprehensive energy audits, developed tailored renewable deployment strategies, and supported clients through implementation and financing decisions. What I find most fulfilling is seeing a project move from*

*concept to reality and knowing that it delivers measurable reductions in energy use and emissions.”*

- **Testimonial 2 – Renewable Energy Consultant**

*“If you look at the transition that’s happening globally, we are moving toward a renewable resource-based economy. I think that’s inevitable. Not only because of environmental necessity, but because the economics of wind and solar generation, and the technological maturation behind them, are fundamentally reshaping how energy is produced and consumed. Being part of that transition and helping companies and communities deploy clean energy solutions that are cost-effective and sustainable, is what motivates me every day. There’s a very real sense of purpose in contributing to solutions that reduce emissions, enhance energy security and create lasting value for future generations.”*

### Context of the OWE/ORE Supply Chain in your country

The trajectory of the ORE sector in Spain is outlined in the [Roadmap for the Development of Offshore Wind and Marine Energy](#). The Roadmap sets an ambitious target of installing 1 GW to 3 GW of floating offshore wind capacity by 2030. This commitment aligns with the EU's wider goal of installing 60 GW by the same year.

The sector's growth is dependent on the finalization of the regulatory framework which will govern the first auctions, likely commencing now in 2026, but that has been delayed several times.

Spain already boasts a robust, export-oriented supply chain in the wind sector, particularly in naval construction, port infrastructure, and component manufacturing. The development of domestic FOW projects will leverage and enhance this industrial base, creating new economic opportunities in coastal regions.

The complexity and capital intensity of OWE/ORE projects create a high demand for specialized consultants. They play very relevant roles in the early stages: conducting resource assessments and leading the complex regulatory process, particularly the environmental and social impact assessments necessary for regulatory compliance.

With global supply chain constraints and rising costs, consultants specializing in local content assessment and optimization are needed to help developers structure projects that maximize Spanish industrial participation and manage logistics via strategically located ports.

OWE, especially floating technology, currently carries higher initial investment costs. Consultants are essential for creating robust financial models (LCOE, IRR) to secure financing, assess technology risk, and structure complex PPAs (Power Purchase Agreements).

Spain aims to be a European hub for R&D and testing of new floating concepts and other ocean energy technologies (wave, floating solar). This requires technical consultants with expertise in advanced fluid dynamics, materials science, and prototyping, for example.

The PNIEC ([National Integrated Energy and Climate Plan](#)) estimates that the deployment of the initial 3 GW alone could generate up to 7,500 additional jobs in Spain, many of which will be high-skilled roles within the supply chain and consultancy.

- Self-assessment skills & aptitudes questionnaire

**Brief description of the job profile and its relevance in the sector**

A Renewable Energy Consultant is a multidisciplinary professional who provides technical, economic, and strategic expertise across the full lifecycle of clean energy projects. Beyond core engineering and financial analysis, this profile adopts a holistic perspective, enabling effective navigation of regulatory frameworks, environmental and social considerations, and stakeholder dynamics. While typically possessing deeper expertise in a specific domain, the consultant is capable of integrating regulatory, sustainability, and socio-environmental factors into project development, ensuring alignment with policy requirements, community expectations, and environmental standards.

Their core function involves advising clients (which may include governments, utility companies, financial institutions, NGOs and private developers) on the most viable and efficient renewable energy solutions tailored to specific geographical, regulatory, socio-environmental and market contexts.

In essence, the Renewable Energy Consultant bridges the gap between technology, communities and finance, enabling the successful development, funding, and deployment of clean energy infrastructure while ensuring projects meet relevant quality, performance, social and environmental acceptance and legal requirements.

**Studies and certifications**

Studies and certification	EQF Level	Y/N
<b>University degree in fields such as Engineering (Electrical, Mechanical, Industrial, Civil, Energy, or Chemical), Environmental Sciences, Social Sciences or Economics</b>	EQF level 6 The role of a Renewable Energy Consultant typically requires a strong academic foundation in a technical or scientific discipline, which serves as the entry point into the profession	YES / NO / ongoing
<b>Higher-level Vocational Training such as Renewable Energy Systems or Electrical Power Systems</b>	EQF level 5 Some higher-level Vocational Training can also provide a solid technical foundation for specialized entry roles	YES / NO / ongoing
<b>[Required certification]</b>	N/A Mandatory certifications depend on project type. Some context-specific certifications might be required but are sometimes provided by the companies (GWO, offshore safety, project management, etc)	YES / NO / ongoing

## Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others.

The scope of work for a Renewable Energy Consultant is inherently broad, encompassing diverse technological, commercial, and geographical challenges. Consequently, the following represents only a selection of the most critical skills usually required for success in this multifaceted field. The role usually demands a strong technical foundation combined with a deep understanding of the energy and financial landscapes.

Competence Area	Description	Rating (1–4)
<b>Technical and Systems Modelling</b>	Proficiency in using specialized software and modelling tools to simulate renewable energy systems and resource availability, including hydrodynamics, electrical networks, energy storage, and hybrid system performance. This includes analyzing system behavior, predicting operational performance, and supporting technical feasibility, optimization, and scenario assessments across diverse renewable energy technologies.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Economic Feasibility Analysis and Financial Modelling</b>	Expertise in building and manipulating detailed financial models (spreadsheets) to calculate essential metrics such as Net Present Value (NPV), Internal Rate of Return (IRR), and the Levelized Cost of Energy (LCOE). This skill is crucial for investment decision-making.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Materials and Component Analysis</b>	Proficiency in assessing and selecting materials and components used in renewable energy technologies, including structural, electrical, and thermal properties. This includes evaluating durability, efficiency, cost-effectiveness, and suitability for specific environmental conditions, supporting design optimization, reliability assessments, and long-term project performance. Life Cycle Assessment (LCA) would be part of this component.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Social and environmental impact assessment</b>	Proficiency in identifying, assessing, and integrating social and environmental considerations throughout the lifecycle of renewable energy projects. This includes conducting impact analyses, understanding regulatory and permitting requirements, evaluating community acceptance, and supporting	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
	mitigation strategies to ensure projects align with sustainability standards and stakeholder expectations.	
<b>Regulatory and Grid Expertise</b>	In-depth understanding of national and international regulatory frameworks governing renewable energy, permitting systems, and grid interconnection requirements (grid codes). This ensures that projects operate legally and safely within the electric system.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
<b>Due Diligence and Risk Assessment</b>	Ability to conduct comprehensive technical and commercial due diligence on projects. This includes identifying, quantifying, and developing strategies for mitigating technical risks (e.g., equipment failure) and market risks (e.g., power price volatility).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
<b>Project Management</b>	Consultancy work in the sector is inherently project-based, multi-stakeholder, and schedule-critical. Even when the role is primarily technical or analytical, consultants are expected to structure work, manage interfaces, control risks, and deliver defensible outputs on time and within scope	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5

## Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Cross-Disciplinary Communication</b>	Ability to translate complex technical and financial concepts into clear, accessible language for a diverse audience, including executives, engineers, legal counsel, and non-technical clients. This is the key of effective consultancy	☆☆☆☆
<b>Strategic Thinking and Problem Solving</b>	Aptitude for tackling complex, unexpected challenges that arise during project development and execution. This requires proposing innovative, data-driven solutions under tight deadlines and pressure	☆☆☆☆
<b>Client Management and Negotiation</b>	Excellent interpersonal skills necessary for building and maintaining trust-based relationships with clients. This involves adeptly negotiating contractual terms, managing stakeholder expectations, and presenting project findings persuasively	☆☆☆☆

Soft skill	Description	Rating (1 to 4 stars)
<b>Stakeholder communications and engagement</b>	Proficiency in effectively communicating and interacting with communities involved in renewable energy projects. This includes preparing clear technical and non-technical reports, facilitating consultations, responding to stakeholder concerns, and supporting collaborative decision-making to ensure alignment, trust, and project acceptance.	☆☆☆☆
<b>Adaptability and Market Vision</b>	Flexibility to operate and advise in rapidly changing technological and regulatory environments. This necessitates a strategic vision to understand global market trends and apply them effectively to local project constraints and opportunities	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Work environment</b>	I am comfortable working across mixed environments, including office-based analytical work, on-site inspections, and occasional industrial, outdoor, or offshore settings, following all relevant safety protocols.	☆☆☆☆
<b>Project-based delivery</b>	I am comfortable working in project-driven contexts with changing priorities, multiple concurrent assignments, and defined deliverables under time and budget constraints	☆☆☆☆
<b>Interdisciplinary collaboration</b>	I work effectively within multidisciplinary teams, interacting with engineers, environmental specialists, financial analysts, clients, and public authorities to deliver integrated advisory outcomes	☆☆☆☆
<b>Mobility / travel</b>	I am available to travel domestically or internationally for site visits, client meetings, and project coordination, including short-notice travel when required	☆☆☆☆
<b>Working hours</b>	I am flexible to work beyond standard office hours to meet project deadlines, support critical milestones, or accommodate client and stakeholder availability	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Remote work</b>	I am flexible to work remotely with occasional travel to client sites or project locations. Strong communication and collaboration with distributed teams and stakeholders are expected.	☆☆☆☆

- **Career path map**

**Job title general short description**

A **Renewable Energy Consultant** is a multidisciplinary professional who provides technical, economic, and strategic expertise across the full lifecycle of clean energy projects. Beyond core engineering and financial analysis, this profile adopts a holistic perspective, enabling effective navigation of regulatory frameworks, environmental and social considerations, and stakeholder dynamics. While not necessarily a specialist in every domain, the consultant is capable of integrating regulatory, sustainability, and socio-environmental factors into project development, ensuring alignment with policy requirements, community expectations, and environmental standards.

Their core function involves advising clients (which may include governments, utility companies, financial institutions, NGOs and private developers) on the most viable and efficient renewable energy solutions tailored to specific geographical, regulatory, socio-environmental and market contexts. In essence, the Renewable Energy Consultant bridges the gap between technology, communities and finance, enabling the successful development, funding, and deployment of clean energy infrastructure while ensuring projects meet relevant quality, performance, social and environmental acceptance and legal requirements.

The career path of a Renewable Energy Consultant evolves from technical support functions to strategic advisory and leadership roles. At entry level, professionals work as junior consultants or analysts, supporting feasibility studies, resource assessments, and basic financial modelling while building a solid understanding of renewable technologies, project lifecycles, and regulatory frameworks.

At mid-level, consultants take responsibility for defined project tasks, apply advanced technical and economic analyses, and interact directly with clients. They operate with greater autonomy, manage multiple assignments, and translate complex results into clear, actionable advice.

Senior consultants lead technical and commercial due diligence, manage risks, mentor junior staff, and act as key client interfaces. They integrate technical, financial, and regulatory perspectives to deliver bankable recommendations and support business development.

At executive level, consultants assume strategic leadership roles, defining advisory direction, managing teams and portfolios, and shaping high-level investment and policy decisions. The competencies developed also enable transitions into energy policy, sustainability, or environmental, social, and governance (ESG) advisory roles.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- Renewable Energy Analyst</li> <li>- Junior Renewable Energy Consultant</li> <li>- Energy Project Assistant</li> <li>- Sustainability / Energy Analyst</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Basic resource assessment and performance analysis (wind, solar, energy yield)</li> <li>- Introductory financial modelling (CAPEX/OPEX, LCOE, IRR basics)</li> <li>- Understanding of renewable technologies and project lifecycle phases</li> <li>- Basic understanding of renewable energy materials and LCA principles, supporting data collection and preliminary environmental analysis.</li> <li>- Basic awareness of social and environmental aspects of renewable energy projects, including land-use impacts, environmental permitting, and community-related issues.</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Analytical thinking and attention to detail</li> <li>- Clear written communication and reporting skills</li> <li>- Teamwork and willingness to learn in multidisciplinary environments</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor's degree in Engineering (Energy, Electrical, Mechanical, Industrial), Environmental or Social Sciences, or Economics</li> <li>- Introductory courses in renewable energy systems</li> <li>- Basic training in Excel-based financial analysis and data handling</li> </ul>	<ul style="list-style-type: none"> <li>- Contribute to feasibility studies and technical reports under supervision</li> <li>- Develop autonomy in basic modelling tasks and client-ready documentation</li> <li>- Study national regulatory frameworks and permitting systems to assist in basic compliance tasks</li> <li>- Basic understanding of key stakeholders in renewable energy projects (developers, regulators, communities, investors, technical partners)</li> <li>- Ability to support stakeholder communication activities, including preparing presentations, reports, and data inputs</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- Renewable Energy Consultant</li> <li>- Project Development Consultant</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Advanced resource and performance modelling (AEP, loss assumptions)</li> <li>- Financial feasibility analysis and bankability metrics (NPV, IRR, LCOE, sensitivity analysis)</li> <li>- Regulatory, permitting, and grid connection knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Master's degree in Renewable Energy, Energy Systems, or Energy Economics (preferred)</li> <li>- Training in specialised software tools (e.g. wind/solar modelling, GIS, Orcaflex etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Lead defined work packages within consulting assignments</li> <li>- Interface directly with clients and stakeholders on technical matters</li> <li>- Ability to independently communicate technical and</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Energy Systems Consultant</li> <li>- Technical Due Diligence Analyst</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to evaluate materials and conduct a Life Cycle Assessment (LCA) to inform design optimization, performance, and sustainability compliance</li> <li>- Working knowledge of environmental and social impact considerations, including environmental permitting, land-use constraints, and community engagement aspects, and the ability to integrate these into project assessments and risk analysis</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Client-facing communication and presentation skills</li> <li>- Structured problem-solving under project constraints</li> <li>- Time and task management across multiple assignments</li> </ul>	<ul style="list-style-type: none"> <li>- Introductory exposure to standards (IEC, ISO, DNV guidelines)</li> </ul>	<p>financial information to non-technical stakeholders</p> <ul style="list-style-type: none"> <li>- Active participation in stakeholder engagement processes, including interactions with regulators, clients, and local partners</li> <li>- Ability to coordinate with multidisciplinary teams and external consultants to support effective project communication</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Senior Renewable Energy Consultant</li> <li>- Lead Energy Consultant</li> <li>- Technical Advisor (Renewables)</li> <li>- Project Finance &amp; Risk Consultant</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Full technical and commercial due diligence leadership</li> <li>- Advanced risk assessment and mitigation strategies</li> <li>- Integration of technology, finance, regulation, and market analysis</li> <li>- Leads materials selection and LCA studies, integrating environmental impacts into project planning</li> <li>- Ability to assess, manage, and mitigate environmental and social risks, coordinate with</li> </ul>	<ul style="list-style-type: none"> <li>- Master's degree (required); PhD or MBA (recommended)</li> <li>- Advanced training in project finance, risk management, or niche technologies (e.g. BESS, hydrogen, offshore wind)</li> <li>- Advanced training in specialised software tools (e.g. wind/solar modelling, GIS, Orcaflex etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Act as technical lead for complex, multi disciplinary projects</li> <li>- Support business development through proposals, bids, and strategic advice</li> <li>- Leadership of stakeholder engagement activities for complex renewable energy projects, including clients, regulators, financiers, and community representatives</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<p>specialists, and ensure alignment with sustainability standards and stakeholder expectations</p> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Strategic thinking and decision-making capability</li> <li>- Client relationship management and negotiation</li> <li>- Mentoring and supervision of junior consultants</li> </ul>	<ul style="list-style-type: none"> <li>- Professional certifications or recognised industry training (e.g. DNV courses)</li> </ul>	<ul style="list-style-type: none"> <li>- Ability to translate complex technical, financial, and regulatory issues into clear, decision-oriented messages</li> <li>- Management of sensitive stakeholder situations, including social or environmental concerns, conflict mitigation, and expectation alignment</li> <li>- Oversight and mentoring of junior staff</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Principal Consultant</li> <li>- Head of Renewable Energy Advisory</li> <li>- Director of Energy Consulting</li> <li>- Partner / Managing Consultant</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Portfolio-level strategic and high level market analysis</li> <li>- Oversight of complex financial, regulatory, and technical decisions</li> <li>- High-level understanding of emerging technologies and policy trends</li> <li>- Provides strategic oversight on materials and Life Cycle Assessment across projects, setting sustainability standards</li> <li>- Strategic integration of ESG considerations into corporate decision-making, risk management, and stakeholder engagement at portfolio and organizational level</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Leadership and organisational management</li> <li>- Strong commercial awareness and business development skills</li> </ul>	<ul style="list-style-type: none"> <li>- Advanced postgraduate education (Master's, MBA, or equivalent experience)</li> <li>- Executive training in leadership, strategy, or corporate finance</li> <li>- Continuous professional development aligned with EU and global energy policy</li> </ul>	<ul style="list-style-type: none"> <li>- Define strategic direction for consultancy services and market positioning</li> <li>- Expand international presence, partnerships, and high-value client portfolios</li> <li>- Represent the company in national/European working groups, regulatory committees or investment platforms</li> <li>- Strategic leadership of stakeholder relationships at portfolio, corporate, or policy level, including senior executives, investors, public authorities, and institutional partners</li> <li>- Master the strategies required for driving business performance,</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- High-level stakeholder engagement and influence</li> </ul>		<ul style="list-style-type: none"> <li>- revenue growth, and strategic client acquisition.</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- Energy Policy Advisor</li> <li>- Sustainability Strategy Consultant</li> <li>- Climate &amp; Energy Analyst</li> <li>- Infrastructure or ESG (Environmental, Social, and Governance) Consultant</li> </ul>	<p>Technical skills:</p> <ul style="list-style-type: none"> <li>- Energy policy, climate regulation, and market mechanisms</li> <li>- Cross-sector financial and impact analysis (ESG, sustainability metrics)</li> <li>- Systems-level thinking across energy, industry, and infrastructure</li> </ul> <p>Soft skills:</p> <ul style="list-style-type: none"> <li>- Adaptability to new sectors and institutional contexts</li> <li>- High-level synthesis and advisory communication</li> <li>- Stakeholder coordination across public and private sectors</li> </ul>	<ul style="list-style-type: none"> <li>- Degree or postgraduate education in energy, economics, public policy, or sustainability</li> <li>- Training in ESG frameworks, climate finance, or policy analysis</li> <li>- Sector-specific short courses depending on transition pathway</li> </ul>	<ul style="list-style-type: none"> <li>- Apply renewable energy expertise to broader decarbonisation challenges</li> <li>- Build transferable advisory skills enabling movement across sectors and institutions</li> </ul>



- **Video-interview**

Interviewee: Natalia Arure, Renewable Energy Consultant

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:  
<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## JOB TITLE: Offshore Renewable Energy Plant Operator

PARTNER: CETMAR

### - Detailed job description

#### Profession Overview

These technicians operate and maintain equipment that produces electrical energy from marine renewable sources such as offshore wind power, wave power, or tidal currents. They monitor measuring equipment to ensure the safety of operations, and that the production needs are met. They also react to system problems, and repair faults (Source: ESCO 3131.1).

The occupational profile labelled as “Offshore renewable energy plant operator” in ESCO aggregates positions that are rarely referred to by this exact title in the labour market. This reflects the fact that most occupations corresponding to this profile appear under different denominations, such as Offshore operations & maintenance technician, Offshore turbine operation technician, Offshore maintenance technician, Offshore wind energy technician, Offshore maintenance operator, Offshore service technician, Offshore wind farm operator, Offshore power plant operator, Maintenance worker, and many others (Sources: ESCO, Cedefop, Infojobs, Recruit, Planete Energies, Siemens Gamesa, Working the Winds NJ, Sheringham).



*Offshore-Service-Technician*  
*Offshore-Maintenance-Technician*  
*Marine-Wind-Energy-Operator*  
*Offshore-Power-Plant-Operator*  
*Offshore-Turbine-Operation-Technician*  
*Offshore-Renewable-Energy-Plant-Operator*  
*Offshore-Wind-Turbine-Generator-Technician*  
*Offshore-Operations-&-Maintenance-Technician*  
*Marine-Renewable-Energy-Plant-Operator*  
*Offshore-Turbine-Operation-Technician*  
*Offshore-Wind-Energy-Operator*  
*Offshore-Maintenance-Operator*  
*Offshore-Wind-Farm-Operator*  
*Ocean-Energy-Plant-Operator*

In Spain, this occupational profile is included in the professional family “Energy and water” / 3131, Technicians in Energy Production Facilities under the code 31311090 - Wind Turbine Operators (According to the CNO - National Occupations Code).

Key Competencies & Skills				
	Technical Operations	Safety and Compliance	Digital and Monitoring	Environmental responsibility
Key	Inspect wind turbines Install electrical and electronic equipment Maintain electrical equipment Ensure equipment maintenance Manage maintenance operations Test wind turbine blades	Follow safety procedures when working at heights Respond to electrical power contingencies Work in inclement conditions Work in outdoor conditions	Monitor electric generators Operate control panels Maintain records of maintenance interventions	Prevent marine pollution
Optional	Maintain wind turbines Maintain power plants Replace large components Resolve equipment malfunctions Set up generators Coordinate electricity generation	Ensure compliance with electricity distribution schedule Ensure safety in electrical power operations	Analyze test data Operate electronic measuring instruments Oversee power equipment operation	
Additional (not yet in ESCO)			Interpret SCADA data and system diagnostics Use digital maintenance management systems	

(Source: ESCO and Shorewinner Job vacancies analysis)

**Skills and competencies:**

The role of these specialists calls for strong technical aptitude, advanced problem-solving abilities, physical resilience (Source: [www.nrl.co.uk](http://www.nrl.co.uk)) and well-developed skills in discipline, communication and teamwork. All these skills and capacities are essential for critically addressing operational challenges, working in adverse weather conditions, surviving at sea in the event of ship abandonment, and performing effectively as part of a work-team.

### Education and Training

There are several academic pathways into this profession. While entry-level positions are often accessible with a relevant vocational qualification or apprenticeship at EQF level 4, roles involving greater technical complexity and autonomy may require qualifications at EQF level 5. These requirements vary according to experience, responsibility, and the specific operational scope of the position.

They must be able to run, maintain and troubleshoot industrial machinery in power plants, ensuring the equipment performance to its optimum capacity and complying with safety standards. Therefore, the core knowledge areas identified in ESCO are: electric generators, electrical discharge, electrical power safety regulations, electricity, electronics, marine energy, marine engineering, marine technology, maritime meteorology, mechanics, offshore constructions and facilities, offshore renewable energy technologies, wind energy. In addition, a high level of English is expected (B2)

Optional Knowledge areas include electrical engineering, electricity consumption, energy conservation, power engineering, quality standards, tidal stream generators, wave energy converters.

### Industry Trends and Outlook

This occupation is among the top 10 most in-demand roles, with workforce needs growing annually. This demand is driven by the urgent requirement to scale ORE energy deployment by up to six-fold in order to meet the EU carbon-neutrality targets. As offshore installations expand in scale and complexity, there is a raising need for technicians capable of managing energy performance, maintenance activities, and sustainability requirements within offshore infrastructures.

The ongoing green and digital transition is driving industry trends, strengthening the importance of digitalization and smart monitoring (surveillance sensors, smart grid technologies, drones for inspections, AI for predictive maintenance). Additionally, there is a stronger focus on energy efficiency & lifecycle optimization (wind farm circularity), sustainability and ESG reporting support, floating wind technologies, and regulatory and policy awareness. These challenges require the modernization of VET pathways, the integration of offshore-specific and practical learning components, and closer collaboration between industry and training providers. Raising awareness of ORE job opportunities and clearly defining career pathways within the sector would also help attract and retain qualified professionals. (Sources: [FLORES project](#), [Shorewinner Deliverable2.1](#), D2.2 [Excellent VET synthesis Roadmaps](#) and [Deliverable 4.1, RenewableUK Industrial Growth Plan 2024](#)).

### Useful Resources

Most practical, safety-related and technical skills are delivered through Global Wind Organization (GWO)–certified training centres, which dominate the provision of operational training for technicians.

- Basic Safety Training (BST): Fist Aid, Manual Handling, Fire Prevention, Working at Heights.
- Basic Technical Training (BTT): Mechanics, Electricity, Hydraulics.
- Service Lift Training (SLT): Service lift use, inspection and maintenance.

There are advanced GOW courses as well, aimed at more experienced professionals such as:

- Advanced Rescue Training (ART): Evacuation of injured staff.
- Enhanced First Aid (EFAA): Assessment, stabilization, medication and communication with emergency services.
- Train the Trainer: to deliver GOW trainings.

Companies are usually acting as the main providers of specialized technical training for offshore wind, and dedicated courses offered by educational institutions remain relatively limited. In recent years, however, they have increasingly responded to the growing demand for qualified offshore wind technicians. While offshore wind is often included as a specialized module within broader energy programmes, fully dedicated technical and hands-on offshore training programmes are still relatively few. Examples of institutions include University of Oldenburg (Germany), ORE Catapult (UK), National Offshore Wind Institute, Technical University of Denmark (Denmark), Delft University of Technology (Netherlands), Norwegian University of Science and Technology (NTNU), and Bremerhaven University of Applied Sciences, among others.

### **Professional associations and sources of information**

- WindEurope: Workforce, skills, and offshore wind reports, annual event
- International Energy Agency (IEA): Offshore wind and renewable energy outlooks
- European Commission: EU Offshore Renewable Energy Strategy, Skills Agenda and Pact for Skills publications
- ORE Catapult: Resource Hub and Media Centre
- RenewableUK
- EU-funded projects and Blueprints as for example: MATES, FLORES, T-Shore, SHOREWINNER
- National offshore wind or renewable energy associations and clusters

### **Targeted Job Portals and Recruitment Channels**

- LinkedIn (specialized searches for offshore wind and O&M roles)
- Energy Jobline
- Select Offshore
- Rejobs
- Career portals of Original Equipment Manufacturers, developers, and operators: (e.g. Siemens Gamesa, Ørsted, Vestas, GE Vernova, Equinor...)

### **Training and Upskilling Opportunities**

- GWO-accredited training centres (GWO-certified provider e.g., FMTC Safety, DNV-GL, TTR International, Windguard, ...)
- Short-cycle higher education or advanced VET programmes (in renewable energy, electrical systems, or offshore technologies)
- Specialised technical courses in Offshore maintenance and troubleshooting, monitoring: <https://nowi.org/index.html>,
- Erasmus+ mobility and training projects

### Case Studies or Testimonials

In this career kit, we present the testimony of a young worker in the offshore wind industry, an Offshore Wind Turbine Generator Technician, who shares his experience and explains what maintenance and troubleshooting work on offshore wind turbines involves (available in Annex 4-Video interview). In addition, several other useful resources are provided below, including testimonials, career stories, and training journeys from technicians, operators, and O&M personnel in the offshore wind sector.

- Living and working at sea: what's it like to work on a Service Operations Vessel? - Ørsted: <https://youtu.be/ReDIYJzSYQQ>
- Bridie case study - Bridie Salmon: 'Planet activist' to Ørsted apprentice: Apprentice offshore wind turbine technician who transitioned into Ørsted's offshore workforce. [Apprentice case study – Ørsted UK Bridie Salmon](#)
- How Offshore Wind Farm Crew Survives Weeks Away From Land – Crew Culture: <https://youtu.be/7cpgY1f-Czs?si=kRm4xGGBgWcG5TS1>
- A day in the life of Jack- Stowen Group <https://www.youtube.com/watch?v=75DF4AnAPtE>
- A Day in the Life” Podcast Episode — Offshore Wind service Technician: detailed interview with an offshore wind service technician including insights on training, safety, work tasks, and balancing life at sea vs onshore. [A Day in the Life of an Offshore Wind Service Technician \(podcast\)](#)
- Wind Turbine Technician Testimonies (Science Museum UK) Short quotes and stories from wind turbine technicians describing their work tasks, motivations, and the satisfaction they get from keeping turbines running [https://www.sciencemuseum.org.uk/objects-and-stories/technicians-stories-behind-scenes?utm\\_source=chatgpt.com#wind-turbine](https://www.sciencemuseum.org.uk/objects-and-stories/technicians-stories-behind-scenes?utm_source=chatgpt.com#wind-turbine)
- ORE Catapult website has many video relate to offshore wind as well.

### Context of the OWE/ORE Supply Chain in your country

Spain is emerging as a strategic player in the offshore wind sector, particularly in floating wind, thanks to its strong industrial base, advanced engineering capabilities, and extensive maritime infrastructure. Despite not yet having commercial offshore wind farms, Spain already contributes significantly to the European and global supply chain, a situation that shapes its priorities for the coming decade.

The national Offshore Wind and Marine Energy Roadmap sets a target of 1–3 GW of floating wind by 2030, aligned with the deep-water conditions of the Spanish coastline. It also aims to establish Spain as a European hub for floating wind innovation, manufacturing, and testing, backed by substantial public funding. The approval of marine spatial plans (POEMs) and upcoming auctions are expected to trigger the first commercial projects.

Spain's industrial strengths cover the full value chain: manufacturing of turbine components, substations, cables, and control systems. Spanish shipyards, particularly in the Basque Country, Galicia, Asturias, and Cádiz, are already manufacturing floating foundations, jackets, and specialized vessels for projects across Europe. Ports such as Bilbao, Ferrol, A Coruña, and Las Palmas offer deep-water quays, heavy-lift capacity, and logistics platforms suitable for large-scale offshore wind assembly and O&M operations. Spain's engineering firms and research centres (e.g., Tecnalia, CENER, PLOCAN) are internationally recognized for their contributions to floating wind design, digitalization, and testing.

Since 2021, the super Cluster Atlantic Wind (SAW) aggregates three of the main industrial clusters linked to offshore wind power in northern Spain - Sea of Innovation Cantabria Cluster (SICC), Galician Offshore Energy Group (GOE-ASIME) and the Asturias Energy Technology Consortium (AINER) - with the aim of creating a shared strategy to position the north of Spain as an international benchmark for offshore wind energy.

Spanish workforce benefits from strong skills in onshore wind, maritime industries, and electromechanics, but offshore wind requires additional competencies in marine operations, advanced safety, high-voltage systems, and floating platform maintenance. The VET system is beginning to integrate offshore-specific modules with GWO-certified centres and industry partners.

Thousands of new jobs are expected across the value chain, with offshore wind turbine technicians among the most in-demand profiles.

Competition from emerging European and global hubs, particularly in floating wind, requires Spain to accelerate deployment to maintain its competitive edge. The next five years, marked by the first auctions, the development of commercial floating wind farms, and the scaling-up of workforce training will determine whether Spain consolidates its role as a European floating wind hub or loss ground to faster-moving markets. (Language reviewed with IA copilot)

- **Self-assessment skills & aptitudes questionnaire**

**Brief description of the job profile and its relevance in the sector**

**Offshore renewable energy plant operators (ESCO 3031.1) aggregates positions that are rarely referred to by this exact title in the labour market, such as** offshore wind turbine technician, offshore operations & maintenance technician, among others. They are responsible for maintaining, inspecting, and troubleshooting offshore wind turbines to ensure safe, reliable, and efficient performance. The job is developed in demanding marine environments, such as vessels and offshore wind turbines, and must follow strict safety procedures and industry standards. The role requires strong technical competence in electromechanical systems, problem-solving skills, and the ability to work at height and in confined spaces. Prior experience operating industrial machinery or working in related sectors such as onshore wind is highly valued, as companies seek technicians who understand complex equipment, maintain excellent safety records, and demonstrate commitment to effective plant operation. As offshore wind capacity expands across Europe, this occupation is essential to the long-term performance, availability, and sustainability of offshore wind farms.

**Studies and certifications**

Studies and certification	EQF Level	Y/N
<b>MANDATORY</b>		
Upper secondary vocational qualification in Electromechanics, Electricity, Mechatronics, or similar	EQF 4	YES / NO / ongoing
Higher VET / Technician Diploma in Electromechanical Maintenance,	EQF 5	YES / NO / ongoing

Studies and certification	EQF Level	Y/N
Industrial Automation, Renewable Energy		
Global Wind Organisation (GWO) Basic Safety Training (BST): Working at Height, Manual Handling, Fire Awareness, First Aid, Sea Survival	GWO BST Standard	YES / NO / ongoing
GWO Basic Technical Training (BTT): Mechanical, Electrical, Hydraulic	GWO BTT Standard	YES / NO / ongoing
Offshore Medical Certificate (e.g., OGUK or equivalent)	Industry medical standard	YES / NO / ongoing
Personal Survival Techniques (maritime safety) – if not included in GWO Sea Survival	STCW or equivalent	YES / NO / ongoing
<b>RELEVANT BUT NOT MANDATORY</b>		
Bachelor's degree in Mechanical, Electrical, Marine or Renewable Energy Engineering	EQF 6	YES / NO / ongoing
Rope Access Technician	IRATA Level 1–3	YES / NO / ongoing
Blade Repair Technician Training	GWO Blade Repair Standard	
High Voltage (HV) Switching & Authorisation	Industry HV training standard	YES / NO / ongoing
SCADA / Digital Monitoring Systems Training	Vendor or industry standard	YES / NO / ongoing
Maritime safety courses (advanced)	STCW advanced modules	YES / NO / ongoing
Internships or supervised practical apprenticeships	Work-Based Learning Certificate	YES / NO / ongoing
Experience in onshore wind maintenance	Industry experience standard	YES / NO / ongoing

## Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–)
<b>Ensure equipment maintenance</b>	Ensure that the equipment required for operations is regularly checked for faults, that routine maintenance tasks are performed, and that repairs are scheduled and performed in the case of damage or flaws.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Maintain electrical equipment</b>	Test electrical equipment for malfunctions. Take safety measures, company guidelines, and legislation concerning electrical equipment into account. Clean, repair and replace parts and connections as required.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Follow safety procedures when working at heights</b>	Take necessary precautions and follow a set of measures that assess, prevent and tackle risks when working at a high distance from the ground. Prevent endangering people working under these structures and avoid falls from ladders, mobile scaffolding, fixed working bridges, single person lifts etc. since they may cause fatalities or major injuries.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Respond to electrical power contingencies (troubleshooting)</b>	Set in motion the strategies created for responding to emergency situations, as well as respond to unforeseen problems, in the generation, transmission, and distribution of electrical power, such as power outages, in order to rapidly solve the problem and return to normal operations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Inspect wind turbines</b>	Perform routine inspections on wind turbines by climbing the turbines and carefully inspecting all parts to identify any problems, and to assess whether repairs have to be arranged.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Prevent marine pollution</b>	Conduct inspections and take measures in order to prevent or mitigate marine pollution. Adhere to international codes and resolutions.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Work in outdoor and inclement conditions</b>	Can cope with the different climate conditions such as heat, rain, cold or in strong wind	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Teamwork and collaboration</b>	Interact with others, Work in teams,	☆☆☆☆
<b>Communication skills (including English)</b>	Promote ideas, Report, Negotiate, Resolve conflict	☆☆☆☆
<b>Problem-solving and critical thinking</b>	Identify and solve problems, evaluate information	☆☆☆☆
<b>Adaptability to changing conditions</b>	Change approach to situations based on unexpected and sudden changes in people's needs and mood or in trends; shift strategies, improvise and naturally adapt to those circumstances and accommodate modifications in the workplace.	☆☆☆☆
<b>Stress management and challenging demands</b>	Maintain a positive attitude towards new and challenging demands such as weather inclemency and sift changes. Work under pressure such as dealing with last moment changes in time schedules.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Work environment</b>	I am comfortable working in offshore and marine environments in English	☆☆☆☆
<b>Work space</b>	I am willing to work at heights and in confined spaces	☆☆☆☆
<b>Rotation schedules</b>	I am comfortable with shift work and rotation schedules	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Mobility / Travel</b>	I am willing to spend extended periods away from home	☆☆☆☆
<b>Physical conditions</b>	I can work safely in physically demanding conditions	☆☆☆☆
<b>Safety Compliance</b>	I am comfortable following strict safety and operational procedures	☆☆☆☆

- Career path map

**Job title general short description**

**Offshore wind turbine technician**, corresponding to the ESCO 3131.1 Offshore renewable energy plant operator occupational profile (which aggregates many different job titles in the job market)

They are specialised professionals responsible for the operation, inspection, and maintenance of offshore wind turbine generators. Their work focuses on the electrical and mechanical systems that enable energy production. They monitor performance and diagnostic equipment to ensure safe operation and production targets, respond to system issues, and carry out fault repairs.

Offshore renewable energy plant operators have a more specialised and system-focused role compared to Offshore wind technicians (ESCO 3119.11). Their responsibilities are primarily centred on the operation, monitoring, and optimisation of wind farm assets, particularly generator systems and overall plant performance, and may also operate from a control room or central base. They are typically involved in supervising operational processes, coordinating maintenance activities, and ensuring the safe and efficient functioning of the installation. Unlike offshore wind technicians, plant operators are not mainly engaged in hands-on installation, pre-assembly, or general maintenance tasks such as blade handling, tower assembly, or logistics support. Their role is less field-based and more focused on oversight, system control, and operational decision-making, rather than providing on-site support across the broader wind farm infrastructure.

Plant operators with higher VET qualifications and experience may progress over time into senior technician roles, especially within Operation and Maintenance (O&M) teams



Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>• Trainee Offshore Wind Technician</li> <li>• Junior O&amp;M Technician</li> <li>• Apprentice Wind Turbine Technician</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>• Perform basic visual inspections of wind turbines and components</li> <li>• Apply safety procedures when working at heights and offshore</li> <li>• Assist in basic electrical, mechanical and hydraulic maintenance tasks</li> <li>• Maintain maintenance records and basic digital reporting</li> <li>• Operate control panels under supervision</li> <li>• Recognise basic Supervisory Control and Data Acquisition (SCADA) alarms, turbine status indicators and safety interlocks</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>• Ability to work offshore and in adverse weather conditions</li> <li>• Teamwork and effective communication</li> <li>• Strong safety awareness and procedural discipline</li> <li>• Physical resilience and adaptability</li> <li>• Willingness to learn and follow instructions</li> <li>• Basic technical English</li> </ul>	<ul style="list-style-type: none"> <li>• VET qualification or apprenticeship in electricity, electromechanics, renewable energy or maritime technologies (EQF 4)</li> <li>• Global Wind Organisation (GWO) Basic Safety Training (BST) and Sea Survival if not included in BST</li> <li>• Offshore medical fitness certificate</li> </ul>	<ul style="list-style-type: none"> <li>• Understand turbine components and offshore operations</li> <li>• Develop strong safety culture</li> <li>• Build basic technical, digital and diagnostic skills</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>• Offshore Wind Turbine Technician</li> <li>• Offshore Maintenance Technician</li> <li>• Offshore Service Technician</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>• Perform scheduled and corrective maintenance</li> <li>• Troubleshoot electrical, mechanical and hydraulic faults</li> <li>• Monitor generators, turbine systems and SCADA indicators</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced VET or short-cycle higher education (EQF 4-5)</li> <li>• GWO Basic Technical Training (BTT): Electrical, Mechanical, Hydraulic</li> <li>• Service Lift Training (SLT)</li> <li>• GWO Sea Survival refresher</li> </ul>	<ul style="list-style-type: none"> <li>• Increase autonomy in maintenance and troubleshooting</li> <li>• Apply electrical power safety regulations</li> <li>• Use digital tools for diagnostics, SCADA monitoring and reporting</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>• Use electronic measuring instruments and digital diagnostic tools</li> <li>• Participate in installation/commissioning activities when required</li> <li>• Prevent marine pollution and apply environmental procedures</li> </ul> <p><b>Soft skills:</b></p> <ul style="list-style-type: none"> <li>• Structured digital reporting and documentation</li> <li>• Problem-solving and operational decision-making</li> <li>• Communication in multicultural and multidisciplinary teams</li> <li>• Autonomy, responsibility and reliability</li> </ul>		<ul style="list-style-type: none"> <li>• Strengthen environmental and operational awareness</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>• Senior Offshore Wind Technician</li> <li>• Lead O&amp;M Technician</li> <li>• Shift Supervisor / Team Lead</li> </ul>	<p><b>Technical skills:</b></p> <ul style="list-style-type: none"> <li>• Diagnose complex system failures and perform root cause analysis</li> <li>• Manage maintenance operations and coordinate work permits</li> <li>• Plan and supervise major component replacement campaigns</li> <li>• Analyse SCADA data, test results and turbine performance indicators</li> <li>• Coordinate electricity generation activities at turbine or sub-farm level</li> </ul> <p><b>Soft skills:</b></p> <ul style="list-style-type: none"> <li>• Leadership and team coordination</li> <li>• Risk assessment and decision-making under pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced technical qualification or Bachelor-level education (EQF 5-6)</li> <li>• GWO Advanced Rescue Training</li> <li>• Enhanced First Aid (EFA/EFAA)</li> <li>• Original Equipment Manufacturer (OEM)-specific advanced training</li> </ul>	<ul style="list-style-type: none"> <li>• Master complex turbine and offshore systems</li> <li>• Develop leadership, supervisory and planning skills</li> <li>• Contribute to performance optimization and Root Cause Analysis - RCA processes</li> <li>• Strengthen data-driven decision-making</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>• Coaching and mentoring</li> <li>• Advanced communication and reporting</li> </ul>		
<b>Executive / Manager Level</b>	<ul style="list-style-type: none"> <li>• Offshore Operations Manager</li> <li>• O&amp;M Manager</li> <li>• Asset Integrity / Technical Superintendent</li> </ul>	<p><b>Technical skills:</b></p> <ul style="list-style-type: none"> <li>• Define O&amp;M and asset management strategies</li> <li>• Ensure compliance with safety, quality, environmental and grid standards</li> <li>• Optimise asset performance, availability and lifecycle costs</li> <li>• Coordinate contractors, vessels, logistics and marine operations</li> <li>• Implement digitalisation, predictive maintenance and data-driven O&amp;M systems</li> <li>• Manage contracts and service-level agreements</li> <li>• Floating platforms and mooring systems</li> <li>• Advanced marine and offshore technologies</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>• Strategic thinking and decision-making</li> <li>• Stakeholder management</li> <li>• Budgeting and planning</li> <li>• Systems thinking and leadership</li> </ul>	<ul style="list-style-type: none"> <li>• Bachelor or Master degree in engineering, energy systems or offshore technologies (EQF 6-7)</li> <li>• Project / asset management training</li> <li>• Advanced Health, Safety and Environment (HSE) and regulatory training</li> </ul>	<ul style="list-style-type: none"> <li>• Transition from technical to strategic management</li> <li>• Integrate sustainability, ESG, digitalisation and grid compliance</li> <li>• Lead complex offshore operations and multidisciplinary teams</li> </ul>
<b>Cross-Sector Opportunities / Lateral Pathways</b>	<ul style="list-style-type: none"> <li>• Floating Offshore Wind Specialist</li> <li>• Marine Energy (Wave/Tidal)</li> </ul>	<p><b>Technical skills:</b></p> <ul style="list-style-type: none"> <li>• Floating platforms and mooring systems</li> <li>• Advanced marine and offshore technologies</li> <li>• Training delivery and assessment methodologies</li> </ul>	<ul style="list-style-type: none"> <li>• GWO Train the Trainer</li> <li>• Specialised offshore or floating wind courses</li> <li>• Continuous professional development</li> </ul>	<ul style="list-style-type: none"> <li>• Enable career mobility across ORE sectors</li> <li>• Develop specialist, data or training profiles</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	Technician • GWO Trainer / Instructor • HSE Offshore Specialist • Technical Advisor (OEMs, clusters) • Offshore High Voltage/Low Voltage Specialist • SCADA / Data Analyst for ORE	<ul style="list-style-type: none"> <li>• Regulatory, certification and policy knowledge (Det Norske Veritas - DNV, International Electrotechnical Commission - IEC, International Maritime Organization - IMO)</li> <li>• Advanced SCADA, digital monitoring and data analytics</li> <li>• Digital and sustainability competences</li> </ul> <b>Soft skills:</b> <ul style="list-style-type: none"> <li>• Knowledge transfer and mentoring</li> <li>• Adaptability across sectors</li> <li>• Communication and facilitation skills</li> <li>• Lifelong learning mindset</li> </ul>	<ul style="list-style-type: none"> <li>• Erasmus+ mobility and sectoral projects</li> </ul>	<ul style="list-style-type: none"> <li>• Support long-term employability and sectoral innovation</li> </ul>

- **Video-interview**

Interviewee:

Jorge Alfredo Álvarez Inhesta, Offshore Wind Turbine Generator Technician

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## JOB TITLE: Naval Architect

PARTNER: UDC

### - Detailed job description

#### Profession Overview

A Naval Architect is an engineer who designs the construction and maintenance of ships and offshore structures. Their work involves applying principles of hydrodynamics, structural mechanics, and marine engineering. In Offshore Renewable Energy (ORE), naval architects play a key role in designing floating wind turbines, analysing mooring systems and conducting hydrodynamic simulations to support sustainable marine infrastructure.

The occupation described in the ESCO code 2144.1.14 is defined as a professional role responsible for the design, building, maintenance and repair of all types of ships, from pleasure crafts to naval vessels, including submarines. They analyse floating structures and take various features into account for the design, including the shape, the structure, the stability, the resistance, the access and the propulsion of hulls.

In Spain, the National Classification of Occupations (CNO-11) does not include a specific code for Naval Architecture. Instead, naval architects are grouped under the generic category “2439 – Engineers not elsewhere classified”. This category corresponds to ISCO-08 code 2149.

#### Key Competencies & Skills

The defining skills and competencies in the correspondent ESCO 2144.1.14 are mainly related with ship building: analyze ship operations, assess financial viability, assess structural integrity of the ship for maritime usage, ensure vessel compliance with regulations, execute analytical mathematical calculations and execute feasibility study. Nevertheless, the naval architect role includes many possibilities, they could work in several fields including, for example, consultancy and management. Regarding ORE, the main required **technical skills** identified are:

- **Hydrodynamics and stability.** Including stability calculations and hydrodynamic analysis and simulations in the operation of different types of offshore structures. Coupled analysis for offshore wind.
- **Structural analysis and construction strategy.** Evaluation of structural integrity of maritime structures, including the use of Finite Elements Method (FEM) and the weight estimation, considering weight limits, load distribution and stability constraints.
- **Digital engineering and simulation tools.** 3D modelling, including specification and design of offshore and marine structures and modelling of active ballast systems and the design of anchoring and mooring systems. Use of simulations tools for hydrodynamic, stability, and structural performance.
- **Marine operations and installation.** Technical support during marine operations. Including also the coupled analysis, analysing the interactions between environment, structure and mooring/installation systems, including loads, motions and vibrations.
- **Regulatory, compliance, and safety.** Ensure offshore structures compliance with marine and offshore regulations, including interface management with other technical disciplines internally and with Classification societies and clients. Tender and bidding support, collaborating with the

different bidding processes and assisting in the preparation of calls for tenders. Environmental compliance.

Other hard technical skills required for more specific roles could be Maritime Spatial Planning (MSP), Risk identification and management, or the use of specific software or technical tools such as: OrcaFlex, Rhino, Ansys, FEM tools such as RulsCalc, FORAN, Cadmatic or simulation software for coupled analysis. It could be important to have knowledge in Geographic Information Systems (GIS) and Supervisory Control and Data Acquisition (SCADA).

With regard to **soft skills**:

- **Proactive**, initiative, independent. Autonomy
- **Dynamic work environment skills. Problem-solving**
- **Demonstrate commitment to sustainable engineering practices and green technology**
- **Teamwork** and coordination with quality teams
- **Time management**
- **Communication and technical writing**
- For senior or executive-level roles: leadership, negotiation, project management, stakeholder communication, mentoring skills and business development.

### Education and Training

The naval architect profession in Spain is a regulated profession. There are different programmes in Spain for a **Bachelor's degree** (EQF6), which prepare the students for the MSc (EQF7), which gives access to the profession:

- [Grado en Ingeniería Naval y Oceánica – Universidade da Coruña](#)
- [Grado en Ingeniería Marítima y Arquitectura Naval – Universidad de Cadiz](#)
- [Grado en Ingeniería Marítima y Arquitectura Naval – Universidad de Cantabria](#)
- [Grado en Ingeniería en Tecnología Naval – Universidad de Las Palmas de Gran Canaria](#)
- [Grado en Arquitectura Naval e Ingeniería de Sistemas Marinos – Universidad Politécnica de Cartagena](#)
- [Grado en Arquitectura Naval- Universidad Politécnica de Madrid](#)
- [Grado en Ingeniería Marítima – Universidad Politécnica de Madrid](#)
- [Grado en Ingeniería de Sistemas y Tecnología Naval – Universitat Politècnica de Catalunya](#)

The Master's degree called *Máster en Ingeniería Naval y Oceánica* is a qualifying **MSc for access to the Marine Architect profession**, and it is offered at: [Universidade da Coruña](#), [Universidad de Cádiz](#), [Universidad Politécnica de Cartagena](#), [Universitat Politècnica de Catalunya](#) and [Universidad Politécnica de Madrid](#).

### Industry Trends and Outlook

The offshore renewable energy (ORE) industry and specifically, the offshore wind industry, is growing rapidly across Europe and it is expected to grow in Spain over the next decade, driven by decarbonization targets and EU energy policies. This creates high demand for skilled naval architects. Naval architect occupational profile is the 31st in higher demand in the List of occupation profiles published in the "[Report on ORE skills needs](#)" done in September 2024 by FLORES project.

Key trends identified in SHOREWINNER Project D2.1. in Spain include:

- Floating offshore wind farms
- Maritime logistics and infrastructure
- Environmental monitoring and community engagement
- Digitalization and data analytics
- Soft skills for leadership and collaboration
- Collaboration and stakeholder engagement

## Useful Resources

### Required standards and certifications

- [Global Wind Organisation\(GWO\)](#) certification, such as Basic Safety Training ([BST](#)) and Basic Technical Training ([BTT](#))
- [Order CIN/354/2009, of 9 February](#), establishing the requirements for the accreditation of official university degrees that qualify graduates for the profession of Naval and Ocean Engineer
- Classification Society Rules for the design of floating platforms, mooring systems, structural analysis, etc.: [DNV](#) , [ABS](#), [Bureau Veritas](#) and [Lloyd's Register](#)

### Professional associations

- [Colegio Oficial de Ingenieros Navales y Oceánicos \(COIN\)](#)
- [Spanish Wind Energy Association \(AEE\)](#)
- [Clúster de energías renovables de Galicia \(CLUERGAL\)](#)
- [Basquenergy Cluster](#)
- [The Royal Institution of Naval Architects \(RINA\)](#)
- [International Maritime Organization \(IMO\)](#)

### Specialized reports and publications

- [Sdoukopoulos, Eleftherios, \(2024\). Report on ORE skills needs. Results of the FLORES project](#)
- [Report of the contribution of naval engineering to the floating offshore wind industry, Sener](#)
- [Roadmap offshore wind and marine energy in Spain, Spanish Government](#)

### Targeted job portals

- [Job portal in SHOREWINNER Circle Platform](#)
- Other general such as [LinkedIn](#) and [InfoJobs](#)

### Training opportunities

- [Professional chamber training portal](#)
- [UDC MOOCs platform](#)

### Communities

- [MATES project](#)
- [FLORES project](#)
- [T-SHORE project](#)

## Case Studies or Testimonials

- **Testimonial – [Interview Naval Architect- Jake Anderson, ABL Group Engineering Director](#)**

*“A ship can be defined as a marine device that carries a payload with specific hydrostatic and hydrodynamic performance. However, there are other devices that fulfil this definition including floating wind turbine systems”. Such systems require a much greater contribution from naval architects, making them critical team members. However, the industry is facing unprecedented challenges to grow staffing levels to meet demand, and to nurture future generations of engineers.*

- **Case of study – [Report of the contribution of naval engineering to the floating offshore wind industry, Sener](#)**

*The design of floating platforms that support offshore wind turbines is one of the key challenges in floating offshore wind. At this juncture, naval engineers emerge as essential stakeholders, applying their structural design expertise to conceive stable and secure floating structures. [...] The naval engineer is the most qualified professional to examine how stable the platform is and how it behaves in the water while it’s working. They can also improve the design to make sure the platform and the wind turbine work efficiently and meet the needed requirements for producing energy effectively.*

- **Testimonial – [Interview Naval Architect- Christopher Ridgewell, CEO at AW-Energy](#)**

*“I studied Naval Architecture and Shipbuilding [...]. Wave energy has always been the holy grail of naval architects. I’ve been working in the marine industry for almost 30 years since my first job as a summer trainee with a shipowner in 1990. I left the UK in 1992 and have spent the bulk of my career working with a variety of marine technologies in Europe and Asia. It’s been quite diverse and mostly with the implementation of new technologies, for example LNG and passenger ship construction in Europe and Japan, new LNG fuelled ships, new ship design tools, first FLNG, and now, since 2014, the commercial implementation of WaveRoller technology [a product design to utilise ocean wave energy]. As I explored WaveRoller technology, I was hooked.*

## Context of the OWE/ORE Supply Chain in your country

Spain has an established background in renewable energy, and it is currently strengthening its commitment to offshore wind power and other renewable energy sources. Thanks to its long coastline and extensive experience in onshore wind development, the country is well-positioned to expand offshore wind technologies. Current efforts include investment in research and innovation, the development of supporting infrastructure and the attraction of international partners. Nevertheless, some challenges remain, particularly regarding environmental protection, grid connection and further technological progress, which must be addressed to enable the sustainable growth of this sector.

Furthermore, industrial activity within the ORE sector is mainly centred on construction, particularly related to fixed offshore wind projects. As the number of installations across Europe continues to rise, demand for roles related to construction, assembly, and port logistics continues to increase as well. Spain has a strong shipbuilding tradition and its network of industrial ports, which have progressively

adapted to offshore wind manufacturing. Spanish companies are currently active in manufacturing jackets, monopiles and support vessels. However, as floating offshore wind expands, new industrial needs emerge (mooring systems, large-scale floating platforms, etc.), creating skills gaps that current VET and HE programmes are still not fully addressing.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

The **Naval Architect** is an engineer who designs the construction of ships and floating structures, including Offshore Renewable Energy (ORE) structures. Their work involves applying principles of hydrodynamics, structural mechanics, and marine engineering. In offshore renewable energy, naval architects play a key role in designing floating wind turbines, analysing ballast, mooring and anchoring systems and conducting hydrodynamic simulations. However, the profession is broad and multidisciplinary, and career paths may be very different: while some professionals develop very technical profiles, others are focused on consultancy, maritime logistics or project management. Furthermore, the ORE industry is expanding, constantly changing the work context and the required responsibilities of the workforce. ORE professionals, including naval architects, need to upskill, adapting their competencies to address the new needs of the sector.

For a junior naval architect, the diversity of pathways means different job opportunities to explore diverse roles. It is important to identify personal preferences and limitations to identify the area or role that best aligns with the strengths and interests.

#### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>Bachelor's Degree in Naval Architecture or equivalent</b>	EQF level 6	YES / NO / ongoing
<b>Master's Degree in Naval Architecture or equivalent</b>	EQF level 7 This Master's Degree is not mandatory for entry-level roles, but it may be required for certain regulated responsibilities.	YES / NO / ongoing
<b>GWO Basic Safety Training (BST)</b>	(Private certification) Required when the role involves going to offshore assets and can be provided internally by the companies.	YES / NO / ongoing
<b>Basic Technical Training (BTT)</b>	(Private certification) Required when the role involves going to offshore assets and can be provided internally by the companies.	YES / NO / ongoing

## Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–5)
<b>Hydrodynamics and stability</b>	Knowledge of stability and hydrodynamic principles and software for the structural analysis. Including couple analysis for offshore wind.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Digital engineering and simulation tools</b>	Knowledge of 3D modelling software to develop models for the analysis and design of offshore/marine structures and related systems (mooring and anchoring, ballast systems).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Regulatory, compliance, and safety</b>	Knowledge to coordinate technical interfaces with internal disciplines and external stakeholders, support tender and bid preparation, and provide technical support during project operations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Structural analysis and construction strategy</b>	Knowledge to estimate and verify weights, considering weight limits, load distribution and stability constraints.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Marine operations and installation</b>	Knowledge of the interactions between environment, structure and mooring/installation systems, including loads, motions, vibrations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

## Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Proactive</b>	Ability to take initiative when making decisions and actively propose solutions to problems.	☆☆☆☆
<b>Dynamic work environment skills</b>	Ability to adapt to changing teams, and demanding environment, including fixed deadlines.	☆☆☆☆
<b>Demonstrate commitment to sustainable engineering practices and green technology</b>	Motivation and commitment to contribute to sustainable solutions for the energy transition.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Multicultural environment</b>	I feel comfortable working in a multicultural context, even interacting in a non-native language as English.	☆☆☆☆
<b>Frequently upskilling</b>	I am open to learn and to continuous training, adapting my knowledge to the new industry requirements.	☆☆☆☆
<b>Multiple tasking</b>	I am able to work on multiple tasks in parallel.	☆☆☆☆
<b>Risky environment</b>	I feel comfortable working under established safety procedures, including situations that could include confined spaces, heights or ship and platform motions.	☆☆☆☆
<b>Autonomous work</b>	I feel comfortable working independently, being proactive and taking initiative to be responsible to complete task efficiently.	☆☆☆☆

- Career path map

**Job title general short description:**

The Career Path Map describes the professional progression of the **Naval Architect (ESCO code 2144.1.14.)** with a specific focus on the Offshore Renewable Energy (ORE) industry and specifically in the Offshore Wind Energy (OWE) industry. It outlines development stages, associated skills, certifications, and learning goals across career levels.

The Naval Architect is responsible for the design, building, maintenance and repair of all types of ships, from pleasure crafts to naval vessels, including submarines. They analyse floating structures and take various features into account for the design, including the shape, the structure, the stability, the resistance, the access and the propulsion of hulls. In offshore renewable energy, naval architects play a key role in designing floating wind turbines, analysing mooring systems and conducting hydrodynamic simulations to support sustainable marine infrastructure.

A career in naval architecture for offshore wind energy typically starts with a Junior Naval Architect role, gradually progressing to positions that involve more technical responsibility, such as Project Engineer. When more experience in the sector is acquired, a senior naval architect could become a Lead Engineer, widening the role to a more technical leadership role. Finally, in executive level, it could acquire the position of Technical Director, transitioning into a high responsibility role in which is required big expertise in strategic project management, decision-making and leadership.

Alternative professional pathways could include specialisation in areas such as: structural analysis, maritime spatial planning, regulatory compliance, consultancy roles or cross-sector transitions into education, inspection or other roles in maritime or energy industries.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
Entry Level	- Junior Naval Architect	<b>Technical Skills:</b> <ul style="list-style-type: none"> <li>- Basic knowledge in ORE concepts</li> <li>- Basic knowledge of regulatory frameworks (IMO, classification societies, other international requirements)</li> <li>- Basic knowledge in Maritime Spatial Planning (MSP)</li> <li>- Basic knowledge of engineering software: AutoCAD, SolidWorks or similar.</li> <li>- Basic feasibility and viability assessment analysis</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor's Degree in Naval Architecture or equivalent (EQF level 6).</li> <li>- Depending on the role: GWO Basic Safety Training (BST) and Basic Technical Training (BTT)</li> </ul>	<ul style="list-style-type: none"> <li>- Understand the ORE principles and the different types of foundations and floating structures</li> <li>- Develop the ability to participate in technical meetings</li> <li>- Collaborate in structural design and structural solutions in marine environments to build design-contribution skills</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- English B2</li> </ul> <b>Soft Skills</b> <ul style="list-style-type: none"> <li>- Time management</li> <li>- Proactive, initiative</li> <li>- Communication</li> <li>- Teamwork</li> <li>- Demonstrate commitment to sustainable engineering practices and green technology</li> </ul>		<ul style="list-style-type: none"> <li>- Support the calculations and technical specifications to gain autonomy in basic engineering</li> <li>- Write and review technical documentation to develop technical-writing competencies</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- Project Engineer</li> </ul>	<b>Technical Skills:</b> <ul style="list-style-type: none"> <li>- Deep knowledge of regulatory frameworks (IMO, classification societies, other international requirements)</li> <li>- Deep knowledge of engineering software: OrcaFlex, Rhyno, and Ansys.</li> <li>- Knowledge of simulation software for couple analysis</li> <li>- Review of technical documentation</li> <li>- Support tender and bidding processes</li> <li>- English C1</li> </ul> <b>Soft Skills</b> <ul style="list-style-type: none"> <li>- Autonomy</li> <li>- Manage and coordinate multiple tasks in parallel</li> <li>- Problem solving</li> <li>- Technical writing</li> </ul>	<ul style="list-style-type: none"> <li>- Master's Degree in Naval Architecture or equivalent (EQF level 7)</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed design of offshore foundations and floating structures</li> <li>- Structural analysis of marine artefacts</li> <li>- Stability calculations</li> <li>- Plan the marine operations, including towing analysis and mooring design to strengthen operational engineering planning skills</li> <li>- Coupled analysis for floating wind</li> <li>- Be capable of develop and review the fabrication and construction drawings</li> <li>- Be able to write technical reports</li> <li>- Develop the ability to contribute to the identification of risk and improvement proposals</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Senior Naval Architect</li> </ul>	<b>Technical Skills:</b>	<ul style="list-style-type: none"> <li>- Master's Degree in Naval Architecture or equivalent (EQF level 7)</li> </ul>	<ul style="list-style-type: none"> <li>- Join high-level ORE technical projects</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Lead Engineer</li> </ul>	<ul style="list-style-type: none"> <li>- Strong knowledge in the interpretation and application of marine installation standards and specifications in relevant offshore operations</li> <li>- Coordination with Classification Societies (DNV, ABS, Bureau Veritas, Lloyd's Register or other).</li> <li>- Strong knowledge of specialised software: FEM (Ansys Mechanical) and other finite element software; tools such as SC, RulsCalc and Steel; 3D Model software such as FORAN, Cadmatic or similar.</li> <li>- Recommended: knowledge of Geographic Information Systems (GIS)</li> <li>- English C2. Ability to work effectively in international project environments.</li> <li>- Other languages basic understanding (valuable)</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Strong leadership</li> <li>- Ability to lead and supervise multidisciplinary teams</li> <li>- Strong analytical and problem-solving</li> <li>- Project management</li> <li>- Negotiation</li> <li>- Crisis management</li> <li>- Strategic communication</li> </ul>	<ul style="list-style-type: none"> <li>- Valuable: Master's Degree in Business Administration</li> <li>- Specific training in ORE methodologies and tools</li> <li>- Advanced training in risk management</li> </ul>	<ul style="list-style-type: none"> <li>- Management of documentation and planning according to projects to develop advanced project-coordination skills</li> <li>- Be capable to lead engineering teams</li> <li>- Work closely with construction and quality teams</li> <li>- Develop ability to supervise hydrodynamic and structural model activities</li> <li>- Ensure coherence and quality of projects</li> <li>- Build capacity for following and complying with environmental protection and prevention measures</li> <li>- Develop the ability to lead technical meetings</li> <li>- Be able to manage risks</li> <li>- Mentor junior staff</li> <li>- Contact with customers</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Technical Director</li> <li>- Project Director</li> <li>- Head of Naval Architecture</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>- Deep understanding of ORE assets, including not only structure and stability knowledge, but also strong knowledge in working conditions, grid connection, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Master's Degree in Naval Architecture or equivalent (EQF level 7)</li> <li>- Master's Degree in Business Administration or equivalent (EQF level 7)</li> </ul>	<ul style="list-style-type: none"> <li>- Define the type of solution depending on the offshore asset conditions.</li> <li>- Execute offshore operations and projects</li> <li>- Manage teams, budgets and client relationships</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Engineering Manager</li> </ul>	<ul style="list-style-type: none"> <li>- Recommended: knowledge of integrated systems and SCADA (Supervisory Control and Data Acquisition)</li> <li>- English C2, deep knowledge of technical English in the ORE field</li> <li>- Other languages professional understanding valuable</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Advanced project management skills</li> <li>- High-level technical leadership</li> <li>- Analytical skills</li> <li>- Effective communication and intercultural management</li> </ul>	<ul style="list-style-type: none"> <li>- Valuable: PhD in the field of Naval Architecture, and/or ORE</li> <li>- Offshore advanced programs</li> <li>- Upskilling training through the Life-Long Learning approach</li> </ul>	<ul style="list-style-type: none"> <li>- Promote business development</li> <li>- Develop roadmaps and support investment decisions</li> <li>- Define engineering strategies for ORE assets</li> <li>- Review and ensure quality assurance and regulatory compliance</li> <li>- Guide innovation in ORE (floating wind, digitalisation, and advanced design methodologies)</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- HE teacher</li> <li>- GWO Instructor</li> <li>- Business Mentor</li> <li>- ORE senior consultant</li> <li>- Regulatory advisor</li> <li>- Inspector</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>- Deep understanding of the ORE sector</li> <li>- Ability to transfer naval architecture expertise in ORE to related sectors such as consultancy, regulation and training</li> <li>- English C2, deep knowledge of technical English in the ORE field</li> <li>- Other languages professional understanding is valuable</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Open to learn</li> <li>- Adaptability to new contexts</li> </ul>	<ul style="list-style-type: none"> <li>- Master's Degree in the educational field (EQF level 7)</li> <li>- Master's Degree in another discipline (EQF level 7)</li> <li>- ISO 26000 (Social Responsibility) training</li> <li>- GWO Instructor training</li> </ul>	<ul style="list-style-type: none"> <li>- Develop advisory and leadership competencies</li> <li>- Develop training and mentoring competencies</li> <li>- Develop inspector competencies</li> </ul>

- **Video-interview**

Interviewee: Beatriz Spuch, Naval and Oceanic Engineer

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## JOB TITLE: Major Corrective Team Leader

PARTNER: CCEFPU

### - Detailed job description

#### Profession Overview

Major correctives are non-routine maintenance interventions that involve the replacement or repair of large components of the wind turbine, such as the gearbox, generator, main bearings, blades, transformers or structural parts such as slewing ring or some structural element.

The **Major correctives team leader** is the professional responsible for coordinating, executing and controlling the technical interventions corresponding to the replacement of the large components of the wind turbine. These are complex interventions that require prolonged stops and unique processes that require the use of specialized equipment and means in turbines located at sea such as special hoisting equipment (offshore cranes), jack-up vessels or operating and maintenance vessels (SOV).

The major corrective team leader must ensure that interventions are carried out safely, efficiently and in accordance with international standards.

#### Key Competencies & Skills

##### Technical Skills

- Knowledge of mechanical systems (gearbox, bearings, shafts), electrical (generator, transformer, converters) and hydraulic
- The foundations of the technology in which they work: SG, Vestas, GE, Nordex...
- Experience in lifting manoeuvres
- Ability to interpret technical documentation (drawings, diagrams and technical manuals)
- Knowledge of first aid, work at height, sea survival, handling of loads according to GWO standard
- Preparation of technical reports and incident analysis
- Management of digital reporting systems

##### Soft Skills

###### Leadership Skills:

- Management of Multinational Teams
- Motivation ability
- Technician performance evaluation
- Adaptability in changing environments
- Clear and effective communication
- Contingency management

###### Teamwork Skills:

- Coordination with boats, helicopters and ports
- Integrate into multidisciplinary teams: Engineering, maritime logistics and operations control.

###### Other Skills:

- Preparation of technical reports and incident analysis
- Management of digital reporting systems
- Proactive safety culture

## Education and Training

The training requirements or training itineraries for the position of large corrective team leader are multiple. A non-exhaustive list of training options would include the following professional degrees and certificates:

- Senior renewable energy technician
- Senior technician in industrial mechatronics
- Senior technician in power plants
- Senior technicians in electrotechnical and automated systems
- Electromechanical maintenance technician
- Technician in electrical and automatic installations
- Certificate in assembly and maintenance of wind farms
- Certificate in operation and service of wind farms
- Certificate in mechanical maintenance of machines
- Certificate in start-up, maintenance and logistics of wind projects
- Certificate in wind energy installations
- Certificate in grid connection and wind energy integration

## Industry Trends and Outlook

Offshore wind is well positioned for significant short- and medium-term growth in Europe, driven by the urgency of decarbonization, clean energy demand and renewable policies. There is capacity for the definition of projects, port, industrial and financial capacity for the development of projects.

However, there are difficulties and challenges, especially in “emerging” markets like Spain, such as the lack of clearer regulation in terms of technologies, remuneration and the launch of auctions that favour long-term investment, the needs to expand port infrastructure and transmission lines and the foreseeable tensions in the supply chain (materials, cranes, and vessels).

If the offshore wind industry manages to overcome regulatory, logistical and financial barriers, it could be a fundamental pillar of the global energy transition in the next decade in our country.

## Useful Resources

### Standards & Certifications

- GWO Training Standards:
  - BST: Basic Safety training
  - SS: Sea survival
  - ART: Advanced rescue training
  - RS: Rigger Slinger
  - CHB: Crane and Hoist basic
- OPITO Training Standards:
  - HUET: Helicopter underwater Escape Training

### Professional associations

AEE: Spanish Wind Association

It is the main association in Spain. It is very active and has more than 300 associates from all players in the sector. There are other regional associations in the sector such as EGA or AEPA that

collaborate with AEE. AEMER: Association of experts in the maintenance (O&M) of wind installations. Finally, there are other types of more general renewable energy associations such as:

APPA (Association of renewable energy companies, CLUERGAL (Galicia Renewable Energy Cluster), etc., which can be centers of consultation, training or entry into the labor market in relation to the position described.

Targeted job portals

There are no specific job portals, but the main companies in the sector have their employment channels such as: <https://careers.vestas.com/>, <https://jobs.siemens-energy.com/>, etc...

Additionally, there are specialized companies such as WTS Energy and companies even use platforms such as LinkedIn and InfoJobs to offer job opportunities and search for profiles.

### Specialized reports and publications

Sectoral reports of interest are available on the websites of the main national and international associations:

<https://aeeolica.org/comunicacion/publicaciones/>

<https://windeurope.org/data/reports/>

<https://www.gwec.net/reports>

### LEARNING AND EXPERIENCE PLATFORMS

There are various learning platforms related to the initial training of a large corrective team leader, among which we highlight those with free access:

- SATMA: training tool in wind turbine maintenance techniques, developed by CIFP Universidade Laboral in collaboration with Engasoft and the Sotavento experimental wind farm.

Other training based on virtual reality simulators are:

- VRFP: Wind turbine
- Simulwind.

Finally, the FLORES project (European project for capacity building in the ORE sector), on its platform, collects testimonies from people with different occupations linked to the ORE sector such as divers, structural engineers, software, electrical energy, etc...

### Case Studies or Testimonials

#### Testimonial 1

*My beginnings in the wind sector began in 2016, when I finished the higher cycle of renewable energies at CIFP Universidade Laboral Culleredo.*

*I started in the company Wind1000 services, at first in office work in time control to spend some time later in field work, carrying out all kinds of tasks such as cleaning, tightening and finishing. Later, I moved on to the assembly of wind turbines.*

*After 7 years, I became an offshore installation supervisor, in which I am in charge of not only supervising that the work is carried out according to the specifications of our machines, I also help the technicians*

*to solve any problem that arises, prepare documentation and organize the work to optimize time as est as possible.*

*Regarding the requirements to achieve this position, in addition to the technical training acquired, I would highlight the need to be serious, have the ability to work as a team and be willing to learn, doing things in an orderly and well manner, without taking shortcuts. It is a sector where safety and quality are the most important things in that order.*

**Miguel Conejo Pena**

**Offshore wind turbine installation supervisor**

**Vestas Wind Systems AS**

Links to external sources or related outputs developed within the project

<https://oreskills.eu/es/>

<https://www.projectmates.eu/index.html>

#### **Context of the OWE/ORE Supply Chain in your country**

Spain has an extensive coastline (more than 7,600 km), which gives it significant potential for the development of offshore wind, especially floating. (IEA: WIND TCP SPAIN 2023).

In its “Roadmap for Offshore Wind and Sea Energy” the PNIEC has set the objective of reaching 1-3 GW of floating offshore wind by 2030 (which is equivalent to the implementation of between 50 and 300 offshore wind turbines), in addition to developing other marine energies.

#### **Regulatory framework**

In 2024, the Ministry for the Ecological Transition (MITECO) began a public consultation for a new regulatory framework that defines how to grant maritime concessions, reserve network capacity and regulate connections.

This new regime will include qualitative criteria in the auctions (not just price), such as environmental impact or local job creation.

#### **Zoning and maritime planning**

The POEM (Maritime Space Management Plans) has been approved. It defines the coastal areas where offshore wind could be deployed, avoiding conflicts with fishing, maritime traffic or other activities.

The definition of these zones is a key step to grant concessions in an orderly and sustainable manner.

#### **Technical and economic challenges**

Offshore wind, especially floating, has higher costs today, which gives uncertainty to the viability of the projects.

A great effort is required in port infrastructure to support the manufacturing, assembly and maintenance of offshore wind turbines; The IDAE estimates investments between €500 and €1,000 million in ports by 2030.

Regulatory complexity, permits and grid connection are other major obstacles for many projects.

### **Industrial sector and value chain**

Spain has a consolidated wind industry in the manufacture of off-shore wind support structures and also in the manufacture of wind turbines, although in this case it is in decline - there are nacelle and blade production plants in Navarra and Castellón as well as in Vizcaya, Ciudad Real - and naval engineering and ports, which gives it a competitive advantage to integrate into the offshore wind value chain.

In addition, the national roadmap is committed to R&D: there are public programs to promote floating technology and other marine energies.

### **Institutional and speed challenges**

Various associations such as the AEE (Spanish Wind Business Association) and sector forums have expressed concern about regulatory delays: they believe that a clear ministerial order is missing to launch auctions and licenses with defined deadlines. That slowness can slow the arrival of investments, especially when other offshore powers advance faster.

### **Socioeconomic opportunities**

The development of offshore wind can generate employment in the naval industry, engineering, port logistics and R&D. Spain could develop as a technological provider of floating solutions, taking advantage of its maritime experience.

### **Current situation and next milestone**

The regulatory process for establishing maritime concessions, reserving network capacity and regulating network connections is being designed.

The next milestone would be the development of said regulations to proceed with the first offshore wind auction in Spain, key to materializing the projects in the portfolio. This milestone can mark the real beginning of a broad deployment, provided that the regulatory framework and network connections are coordinated. There are projects totaling more than 20 GW in development phases, according to sector sources (AEE).

## **- Self-assessment skills & aptitudes questionnaire**

### **Brief description of the job profile and its relevance in the sector**

The **Major Corrective Team Leader** in offshore wind farms coordinates and supervises complex large-scale corrective maintenance operations on wind turbines located in marine environments. The role involves ensuring the proper planning, execution and verification of critical repair activities (gearbox, generator, blades, main components), while guaranteeing team safety, technical work quality, and compliance with manufacturer and operator procedures.

This position requires strong operational leadership, decision-making capabilities in demanding environments, coordination with multidisciplinary teams (logistics, vessels, engineering), and an excellent ability to manage risks in highly challenging physical and environmental conditions.

## Studies and certifications

Studies and certification	EQF Level	Y/N
Vocational or technical education in renewable energies, mechatronics, industrial maintenance or equivalent	EQF 4–5	YES / NO / ongoing
Specialisation in wind turbine maintenance	—	YES / NO / ongoing
GWO BST Certification (Working at Heights, Manual Handling, Fire Awareness, First Aid, Sea Survival)	GWO Standard	YES / NO / ongoing
GWO BTT (Mechanical, Electrical, Hydraulic)	GWO Standard	YES / NO / ongoing
Advanced offshore rescue certification (GWO ART)	GWO Standard	YES / NO / ongoing
Training in leadership, team management or operational supervision	-	YES / NO / ongoing

## Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
Supervision of Major Correctives	Coordination of main component repairs, resource planning and technical quality control	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Wind turbine technical knowledge	Main components, mechanical, electrical and hydraulic systems	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Offshore safety and risk management	Alignment with GWO standards, risk assessments, work permits and emergency procedures	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Offshore logistics coordination	Planning of vessels, lifting operations, cranes, specialised tools and spare parts.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
Technical inspection and work verification	Knowledge of tolerances, OEM procedures and acceptance criteria	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Operational leadership</b>	Ability to lead teams in demanding situations and ensure compliance with tasks and procedures	☆☆☆☆
<b>Decision-making under pressure</b>	Ability to prioritise, assess risks and act effectively in dynamic environments	☆☆☆☆
<b>Effective technical communication</b>	Clear transmission of instructions, coordination with multiple stakeholders and technical documentation	☆☆☆☆
<b>Interdisciplinary teamwork</b>	Collaboration with technicians, supervisors, logistics, engineering and HSE teams	☆☆☆☆
<b>Complex problem-solving</b>	Identification of root causes and implementation of viable technical solutions	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Offshore extended shifts</b>	Availability to work offshore on extended shifts	☆☆☆☆
<b>Work in marine and high-risk environments</b>	Ability to work in marine environments, at height and in confined spaces	☆☆☆☆
<b>Mobility and relocation</b>	Availability for frequent travel or temporary relocation	☆☆☆☆
<b>Adaptation to adverse weather</b>	Ability to adapt to adverse weather conditions	☆☆☆☆
<b>Office-based role preference</b>	Preference for a predominantly administrative or office-based role rather than operational, field-based tasks	☆☆☆☆

- Career path map

**Job title general short description**

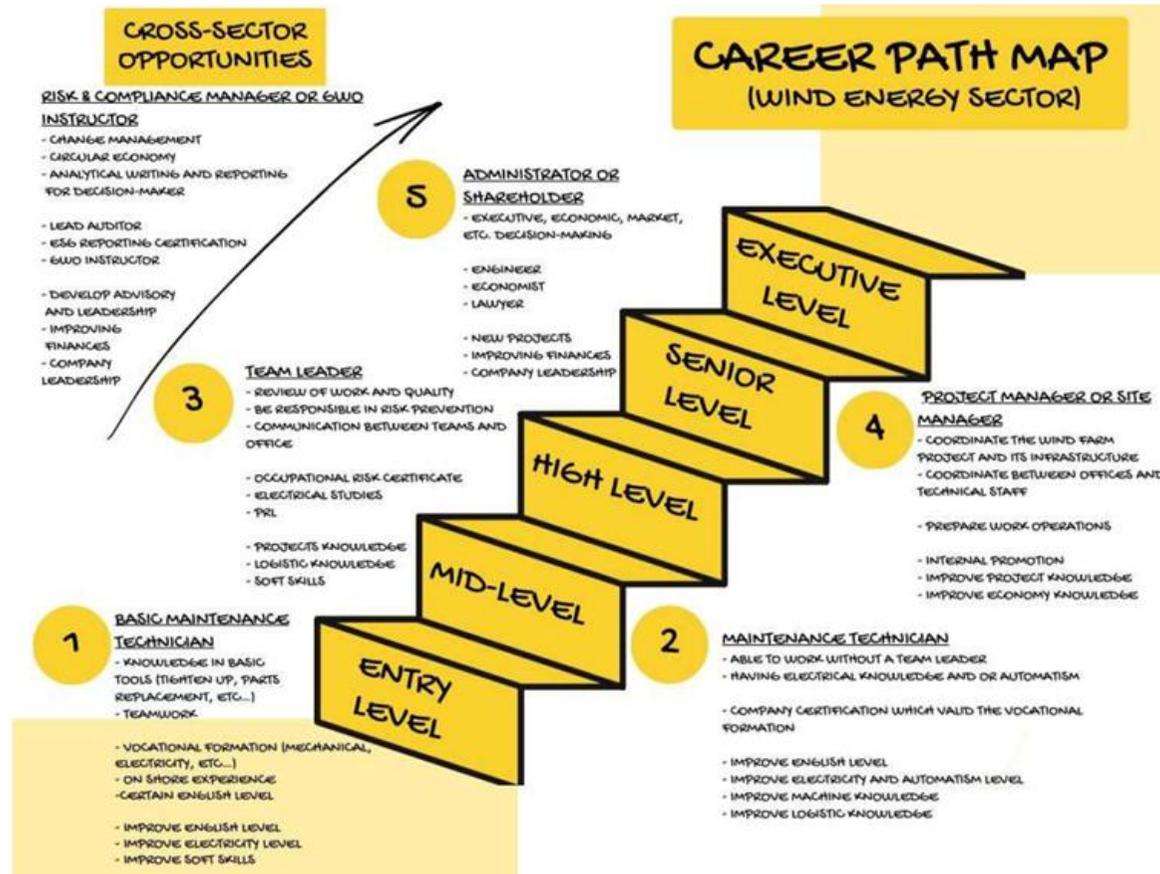
The **Major Corrective Team Leader** in offshore wind farms coordinates and supervises complex large-scale corrective maintenance operations on wind turbines located in marine environments. The role involves ensuring the proper planning, execution and verification of critical repair activities (gearbox, generator, blades, and other main components), while guaranteeing team safety, technical work quality, and compliance with manufacturer and operator procedures.

The present Career path map illustrates the professional progression of the Major Corrective Team Leader – Offshore

- Based on recognized professional standards (e.g., ESCO, UNI, EQF)
- Structured into progressive levels of responsibility and competence
- Integrating both technical and transversal (soft) skills
- Including certifications, training references, and sector-specific examples

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
Entry Level	- Basic maintenance technician	- Knowledge of basic tools (Cleanings, lubrication, tightening, piece changes, etc...) - Teamwork	- Vocational training (Mechanical, Electricity, installation maintenance, etc...) - Onshore experience - A certain English Level	- Improve English level - Improve electrical knowledge - Improve soft skills
Mid-Level	- Maintenance technician	- Able to work without a team leader - Having electrical knowledge and/or automatism	- Company certification which validates the vocational training	- Improve English level - Improve electrical knowledge and automatism level - Improve machine knowledge - Improve logistics knowledge - Improve Soft skills

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>High level</b>	<ul style="list-style-type: none"> <li>- Team leader</li> </ul>	<ul style="list-style-type: none"> <li>- Work checking</li> <li>- Responsibility for risk prevention</li> <li>- Communication between teams and office</li> </ul>	<ul style="list-style-type: none"> <li>- PRL</li> <li>- Work Risk Certificate</li> <li>- Internal promotion</li> <li>- Electricity knowledge</li> </ul>	<ul style="list-style-type: none"> <li>- Project knowledge</li> <li>- Logistics knowledge</li> <li>- Soft skills</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Project manager</li> <li>- Site manager</li> </ul>	<ul style="list-style-type: none"> <li>- Project coordination</li> <li>- Wind generator knowledge</li> <li>- Coordination between office and wind farm</li> <li>- Preparing work operations</li> <li>- Problem solving</li> <li>- Resolution of technical issues</li> </ul>	<ul style="list-style-type: none"> <li>- Internal promotion</li> </ul>	<ul style="list-style-type: none"> <li>- Improve project knowledge</li> <li>- Improve economic knowledge</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Administrator</li> <li>- Shareholder</li> </ul>	<ul style="list-style-type: none"> <li>- Executive decisions</li> <li>- Economics knowledge, Markets, etc...</li> </ul>	<ul style="list-style-type: none"> <li>- Engineer</li> <li>- Economist</li> <li>- Lawyer</li> </ul>	<ul style="list-style-type: none"> <li>- New projects</li> <li>- Improve economic performance</li> <li>- Company leadership</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- Risk Manager</li> <li>- GWO Instructor</li> <li>- Sustainability Manager</li> <li>- Compliance Manager</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Circular economy</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Client / Stakeholders engagement</li> <li>- Analytical writing and reporting for decision-makers</li> <li>- Change management</li> </ul>	<ul style="list-style-type: none"> <li>- Advanced Data Analytics for HSE</li> <li>- GWO Instructor</li> <li>- Lead Auditor</li> <li>- ESG Reporting Certification</li> </ul>	<ul style="list-style-type: none"> <li>- Expand professional scope to ESG and corporate sustainability</li> <li>- Develop advisory and leadership competencies</li> <li>- Apply HSE background to ESG, training, risk, quality roles</li> </ul>



- **Video-interview**

Interviewees:

1. Xabier Marcote, Offshore Wind Turbine Technician
2. Jose Rodriguez, Team Leader Offshore Maintenance Technician

Video – interviews available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

### 4.3. Italy

#### JOB TITLE: Offshore Wind Farm Planning and Design Engineer

Partner: UNIVPM

##### - Detailed job description

#### Profession Overview

The Offshore Wind Farm Planning and Design Engineer is the key technical professional responsible for the definition, analysis, preliminary design, and technical optimization of an offshore wind farm, from the earliest feasibility stages to support of the execution phase.

This role operates within the development and engineering phase of the project, working at:

- environmental and marine studies
- metocean and wind data analysis
- electrical and foundation concept design
- wind farm layout optimization
- grid connection studies
- maritime, regulatory and permitting constraints
- techno-economic assessments (LCOE, CAPEX optimization)

It is a highly interdisciplinary role, combining expertise in environmental, electrical, naval and energy engineering.

Typical career progression may lead to roles such as:

- Lead Offshore Wind Engineer
- Engineering Manager
- Project Development Manager
- Technical Director Offshore Wind

This profession is ideal for individuals interested in technical modelling, complex data analysis, large-scale system design, and energy sustainability.

#### Key Competencies & Skills

**Technical skills**, specialized in one (or more) of the following fields:

- **Site assessment and marine data analysis:** wind data analysis (met mast, LiDAR, mesoscale models), bathymetric and geophysical analysis, advanced use of GIS and marine spatial planning tools, assessment of maritime constraints such as shipping routes, military areas, fishing zones, Natura 2000 sites.
- **Wind farm layout and energy yield:** turbine layout design (wake effect, spacing, AEP optimization), use of software for energy system design, energy yield calculations and system loss assessment, LCOE analysis and techno-economic optimization.
- **Foundation and substructure concept design:** selection of foundation types (monopile, jacket, floating), interface with geotechnical and structural studies, basic concepts of offshore and naval engineering.

- **Electrical and grid connection design:** preliminary wind farm electrical network design (array cables), grid connection and electrical loss studies, interface with Transmission System Operators (TSOs) and grid compliance analysis.
- **Permitting and regulatory framework:** knowledge of national and EU maritime and environmental regulations, marine Spatial Planning and offshore permitting processes.
- **Digital and modelling tools:** advanced GIS applications, numerical metocean modelling, data analysis with Python/Matlab, CAD and technical design software.

**Soft skills:** systemic and multidisciplinary thinking, strong analytical and modelling mindset, complex technical problem solving, teamwork with marine biologists, geologists, electrical, naval and permitting experts, technical communication with authorities and stakeholders, ability to translate complex data into design decisions.

### Education and Training

Typical academic pathways include a Master's Degree (EQF 7) in:

- Energy Engineering
- Environmental Engineering
- Electrical Engineering
- Naval Engineering

Key training areas:

- GIS and Marine Spatial Planning
- Wind resource assessment
- Electrical plant design
- Offshore geotechnics and foundations
- Data analysis and numerical modelling
- Environmental regulations and permitting

The Master's Degree in Mechanical Engineering, named "Ingegneria delle Infrastrutture Energetiche e della Logistica in ambito Portuale" is example of Italian existing program.

Link of the course: <https://port.univpm.it/port/>

### Industry Trends and Outlook

Europe is heavily investing in offshore wind, with strong growth expected in floating wind, an area where Italy has very high potential (Adriatic, Tyrrhenian, Sicily, Sardinia).

Key trends include:

- Increasing use of digital twins and numerical simulations
- High demand for GIS and marine data analysis skills
- LCOE optimization as a primary design driver
- Strong integration between technical design and environmental permitting

Job prospects are excellent, especially for junior professionals with wind data analysis skills.

## Useful Resources

### Standards & References

- IEC standards for wind resource assessment
- EU Marine Spatial Planning guidelines
- National EIA/SEA and maritime concession regulations

### Professional Associations

- WindEurope
- AERO – Italian Offshore Renewable Energy Association
- ANEV – Italian Wind Energy Association
- IEA Wind TCP

### Job Portals

- Energy Jobline
- OffshoreWind.biz careers
- LinkedIn (offshore wind developers and engineering consultants)

### Key tools (minimum one is required)

- WindPRO / WAsP / OpenWind
- QGIS / ArcGIS
- AutoCAD
- Python / Matlab for data analysis

## Context of the OWE/ORE Supply Chain in your country

Italy is at an early yet strategic stage of offshore wind development.

This professional role is central because it:

- operates in the very early phases of Italian offshore projects under development
- supports permitting, environmental studies, and key technical decisions
- interacts with MASE, Port Authorities, Regions, and Environmental Agencies
- is required by developers, engineering consultants, environmental consultants, and marine survey companies

As the Italian offshore supply chain expands, demand for these professionals is expected to grow rapidly over the next 5–10 years.

## - Self-assessment skills & aptitudes questionnaire

### Brief description of the job profile and its relevance in the sector

The **Offshore Wind Farm Planning and Design Engineer** is a highly specialized professional responsible for the technical planning, analysis, and preliminary design of offshore wind farms from early feasibility to pre-construction phases. The role integrates wind resource assessment, marine and environmental studies, wind farm layout optimization, electrical and grid connection design, foundation concept definition, and techno-economic evaluation (LCOE, CAPEX).

Operating in multidisciplinary teams, the engineer interfaces with environmental experts, marine surveyors, electrical and naval engineers, authorities, and developers to ensure that offshore wind projects are technically feasible, compliant with regulatory frameworks, environmentally sustainable, and economically optimized.

This role is central to the offshore wind value chain and supports strategic decision-making in project development.

### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>B.Sc. in Energy, Electrical, Environmental, Naval or related Engineering;</b>	EQF 6 – Bachelor level: provides fundamental scientific, technical and engineering knowledge for energy systems and infrastructure.	YES / NO / ongoing
<b>Master Degree in in Energy, Electrical, Environmental, Naval or related Engineering;</b>	EQF 7 – Master level: advanced specialised knowledge in energy management, sustainability strategies and policy implementation.	YES / NO / ongoing
<b>PhD in Energy, Electrical, Environmental, Naval or related Engineering;</b>	EQF 8 – Doctoral level: highest academic level, focused on research, innovation and advanced policy and technical expertise.	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Project management</b>	Ability to support offshore wind projects from feasibility to pre-execution, coordinating studies, timelines, deliverables and interfaces across technical and regulatory streams.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Risk Management</b>	Systematic identification, assessment and mitigation of technical, environmental and permitting risks that can affect project feasibility, cost or schedule.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Techno-economic evaluation</b>	Capability to compare alternative designs using cost, performance and risk indicators supporting strategic investment decisions.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Problem solving</b>	Ability to address complex, ill-defined challenges by systematically analysing constraints, generating alternative solutions, and selecting the most effective option considering technical, environmental, regulatory, and economic impacts available.	☆☆☆☆
<b>Structured communication</b>	Ability to present complex analyses clearly, logically, and concisely to different audiences (engineers, managers, authorities).	☆☆☆☆
<b>Collaborative mindset</b>	Openness to feedback and ability to work effectively in multidisciplinary and multicultural teams, typical of offshore wind projects.	☆☆☆☆
<b>Adaptability and learning orientation</b>	Willingness to continuously update skills and approaches in a fast-evolving sector shaped by new regulations, technologies, and market conditions.	☆☆☆☆
<b>Goal Oriented</b>	Ability to define clear objectives aligned with project and organisational priorities, translate them into concrete actions and milestones, and consistently drive activities toward measurable outcomes, while balancing time, cost, quality, and regulatory constraints.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Office-based analytical work</b>	I spend most of my time in an office setting, working with data analysis, modelling, design reviews, and producing technical documentation.	☆☆☆☆
<b>Project-driven workload</b>	My workload isn't constant, it fluctuates with the project cycle, with the busiest moments around feasibility studies, permitting submissions, and key design milestones.	☆☆☆☆
<b>Limited but targeted site and offshore visits</b>	I occasionally travel for marine surveys, stakeholder meetings, or site inspections, but I'm not permanently offshore—most of my work remains land-based.	☆☆☆☆
<b>International and regulatory context</b>	I work in international project teams and I need to navigate both national and EU regulatory frameworks, adapting to different standards, expectations, and procedures across countries.	☆☆☆☆

- Career path map

**Job title general short description**

The **Offshore Wind Farm Planning and Design Engineer** is a highly specialized professional responsible for the technical planning, analysis, and preliminary design of offshore wind farms from early feasibility to pre-construction phases. According to the ESCO classification, the closest features are represented by the profile “Wind Energy Engineer”, ESCO code 2149.7.6.

The role integrates wind resource assessment, marine and environmental studies, wind farm layout optimization, electrical and grid connection design, foundation concept definition, and techno-economic evaluation (LCOE, CAPEX).

Operating in multidisciplinary teams, the engineer interfaces with environmental experts, marine surveyors, electrical and naval engineers, authorities, and developers to ensure that offshore wind projects are technically feasible, compliant with regulatory frameworks, environmentally sustainable, and economically optimized.

This role is central to the offshore wind value chain and supports strategic decision-making in project development.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- Junior Offshore Wind Engineer</li> <li>- Offshore Renewable Energy Analyst</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Basic wind data analysis</li> <li>- Introductory GIS and marine spatial planning</li> <li>- Support to layout design and energy yield calculations</li> <li>- Basic knowledge of offshore wind components and permitting processes</li> <li>- Use of standard software tools (QGIS, WindPRO, Matlab/Python at entry level)</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>- Analytical mindset</li> <li>- Learning orientation</li> <li>- Teamwork in multidisciplinary environments</li> <li>- Technical reporting</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor’s Degree (EQF 6) in Energy, Electrical, Environmental, Naval or related Engineering</li> <li>- Introductory courses in wind energy, GIS, and data analysis</li> </ul>	<ul style="list-style-type: none"> <li>- Build solid foundations in offshore wind engineering</li> <li>- Gain experience in wind data analysis and GIS</li> <li>- Understand the offshore project lifecycle and regulatory context</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		- Attention to detail		
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- Offshore Wind Farm Design Engineer</li> <li>- Wind Farm Layout Engineer</li> <li>- Offshore Electrical Design Engineer</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Independent wind resource and energy yield assessment</li> <li>- Wind farm layout optimization (wake losses, spacing)</li> <li>- Preliminary electrical system design (array cables, losses)</li> <li>- Support to foundation concept selection</li> <li>- Integration of environmental and maritime constraints</li> <li>- Techno-economic analysis (LCOE)</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>- Problem solving</li> <li>- Interdisciplinary communication</li> <li>- Time management</li> <li>- Ability to translate data into design decisions</li> </ul>	<ul style="list-style-type: none"> <li>- Master's Degree (EQF 7)</li> <li>- Advanced training in offshore wind design, GIS, numerical modelling</li> <li>- On-the-job experience in offshore wind projects</li> </ul>	<ul style="list-style-type: none"> <li>- Increase autonomy in design tasks</li> <li>- Strengthen cross-disciplinary understanding</li> <li>- Contribute to permitting and stakeholder interactions</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Senior Offshore Wind Engineer</li> <li>- Lead Wind Farm Design Engineer</li> <li>- Offshore Wind Technical Specialist</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Leadership in wind farm planning and design</li> <li>- Advanced layout and energy optimization</li> <li>- Coordination of electrical, foundation, and environmental studies</li> <li>- Interface with Transmission System Operators (TSO) and authorities</li> <li>- Advanced modelling and digital tools</li> <li>- Risk and uncertainty assessment</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>- Leadership</li> <li>- Mentoring</li> <li>- Decision-making under uncertainty</li> <li>- Stakeholder negotiation</li> </ul>	<ul style="list-style-type: none"> <li>- Advanced professional experience (5–10 years)</li> <li>- Continuous professional development</li> <li>- Specialization in offshore wind, floating wind, or grid integration</li> </ul>	<ul style="list-style-type: none"> <li>- Lead complex design packages</li> <li>- Support strategic technical decisions</li> <li>- Mentor junior engineers</li> <li>- Prepare for managerial or strategic roles</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		- Technical authority		
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Engineering Manager Offshore Wind</li> <li>- Project Development Manager</li> <li>- Technical Director Offshore Wind Farm</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Strategic oversight of offshore wind projects</li> <li>- Coordination of multi-project programs</li> <li>- High-level techno-economic optimization</li> <li>- Integration of design, permitting, and execution strategies</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>- Strategic thinking</li> <li>- Leadership of large teams</li> <li>- Stakeholder management</li> <li>- Decision-making at project level</li> </ul>	<ul style="list-style-type: none"> <li>- Senior professional experience</li> <li>- Leadership and project management training</li> <li>- Possible MBA or executive education</li> </ul>	<ul style="list-style-type: none"> <li>- Guide long-term development strategies</li> <li>- Optimize organizational performance</li> <li>- Influence policy and industry standards</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- Energy Systems Planner</li> <li>- Marine Renewable Energy Consultant</li> <li>- Infrastructure Planning Expert</li> <li>- Environmental and Energy Policy Advisor</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>- Transfer of offshore wind planning skills to other energy infrastructures</li> <li>- Policy and regulatory analysis</li> <li>- Sustainability assessment</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>- Adaptability</li> <li>- Cross-sector communication</li> <li>- Strategic advisory skills</li> </ul>	<ul style="list-style-type: none"> <li>- Complementary training in energy policy, sustainability, or infrastructure planning</li> </ul>	<ul style="list-style-type: none"> <li>- Apply offshore wind expertise across sectors</li> <li>- Support energy transition strategies at regional, national, or EU level</li> </ul>

**JOB TITLE: Health, Safety And Environment (HSE) Manager**

**PARTNER: IFOA**

- **Detailed job description**

**Profession Overview**

The HSE (Health, Safety, and Environment) Manager is a professional role responsible for the integrated management of health, safety, and environmental aspects within an organisation. This role ensures that the company operates safely, complies with environmental and occupational safety regulations, and fosters a corporate culture focused on sustainability. According to the international standard UNI 11720:2025, the HSE Manager stands out as a high-level managerial and strategic figure within an organisation. Their primary role is to support company leadership in defining and achieving HSE objectives, contributing to the overall efficiency of the business.

In the Offshore Wind industry, the HSE Manager oversees risk assessment, emergency preparedness, environmental impact mitigation, and the implementation of safety procedures for complex marine operations. They guide corporate leadership and operational teams, support a strong safety culture, and ensure alignment with national and EU regulations and standards such as UNI 11720:2025, GWO guidelines, ISO 45001/14001.

Different career levels and roles are connected to this occupation, according to the background, field of expertise and experience acquired by the professional. Typically, entry-level positions include HSE Officers, Coordinators, and Advisors. With significant experience, managerial roles are available. After HSE Managers, the most senior positions in the sector are Head of HSE and HSE Director, both requiring over a decade of experience and significant leadership responsibilities.

This profession suits individuals interested in risk management, sustainability, problem solving, and working at the interface of engineering, environmental protection and human safety.

**Key Competencies & Skills**

**Technical skills**

**Governance and Management:** manage integrated HSE systems, define and implement company policies in the HSE field, perform risk analysis, coordinate specialist teams, manage investments in prevention and improvement actions; carry out audits; use of HSE digital tools including software and platforms, manage quantitative data

**Compliance:** in-depth knowledge of national and EU H&S and environmental legislation and regulations, monitor updates, draft company procedures, manage relations with authorities, apply specific regulations (e.i. maritime and offshore safety regulations)

**Occupational Health and Safety:** report and record risk assessment, design of preventive measures, correct use of PPE, manage emergency plans and conduct instrumental investigations, conduct training and awareness programs; hazard analysis and incident investigation onshore/offshore, supervise lifting operations, confined spaces, use of IoT sensors, drones and VR/AR tools

**Environment and Sustainability:** analyse of environmental impacts, manage of waste, emissions and discharges, knowledge of Minimum Environmental Criteria for public procurement, implement

sustainable solutions to reduce pollution, monitor environmental performance, integrate circular-economy principles

**Marine and Offshore Safety:** supervise marine and offshore operations, manage offshore emergencies, coordinate with marine units

### Soft skills

**Leadership:** motivate staff, coordinate multidisciplinary teams, make autonomous decisions, drive cultural change, manage contractors and external partners

**Communication:** active listening, clear communication, negotiation, conflict management, formal communication with authorities; client interaction, public speaking and training facilitation

**Problem solving and critical thinking:** analyse data and situations to identify root causes, develop practical solutions, evaluate risks and opportunities

**Autonomy and proactivity:** take initiative, resilience, results orientation, adaptability to offshore operational contexts and calm management of emergencies

### Education and Training

There is no single academic background required for entering the HSE field. Typical pathways include B.Sc. degree (EQF 6) in environmental sciences, engineering, chemistry, biology, safety management or technical diplomas.

In Italy, the professional occupation of the HSE Manager is framed by UNI 11720:2025, which defines education and training requirements and establishes two certification profiles:

- HSE Specialist
- HSE Manager

Key training elements include:

- Minimum 120 hours of specialised HSE training
- In-depth understanding of D.Lgs. 81/08
- Knowledge of environmental protection laws
- Risk assessment and emergency management
- Training on ISO 9001/14001/45001 systems as well as auditing for ISO standards are often expected

In the offshore wind industry globally, certifications such as those by the Global Wind Organisation (GWO) are very commonly required. These include modules like Basic Safety Training (BST) covering first aid, manual handling, fire awareness, working at heights, and sea survival.

Also, even more offshore-specific training such as the BOSIET (Basic Offshore Safety Induction and Emergency Training) or its variants (FOET) may be required for personnel working offshore.

In Italy, several training providers offer specialised courses for HSE Managers and HSE Specialists aligned with the UNI 11720:2025 standard.

Several recognised training providers offer structured 120-hour HSE Manager courses aligned with UNI 11720 competency requirements. These courses are designed to support candidates in meeting the training prerequisites for access to certification examinations, which are administered by certification bodies accredited by [ACCREDIA](http://www.accredia.it), the Italian National Accreditation Body.

Examples of Italian training providers offering 120-hour HSE Manager programmes include:

- [AIAS Academy](#)
- [A-Sapiens Business School](#)
- [Istituto Informa](#)
- [Bureau Veritas Italia – HSE Training](#)

Some universities and executive education provide postgraduate programmes or advanced modules related to HSE management. Among others:

- University of Bologna (Alma Mater Studiorum) - Postgraduate Master (1st level) “[Safety and Prevention in the Working Environment](#)”
- Università Mercatorum - Postgraduate Master (1st level) – “[Occupational Safety Technician - HSE Manager](#)”
- University of Modena and Reggio Emilia (UNIMORE) – Postgraduate Master (1st level) “[Health, Safety and Environment Expert in Public and Private Workplaces – HSE Management](#)”
- Ca’ Foscari University of Venice (Challenge School) - Postgraduate Master (1st level) “[Science and Techniques of Prevention and Safety \(HSE\)](#)”
- Unitelma Sapienza University of Rome - Postgraduate Advanced Training Programme “[Occupational Health and Safety - SICURO](#)”

### Industry Trends and Outlook

Wind power is a central pillar of the European energy transition. In 2024, Europe installed 16.4 GW of new wind capacity, reaching a total installed capacity of around 285 GW, including approximately 37 GW offshore. According to WindEurope, a further ~187 GW of new wind capacity is expected to be installed between 2025 and 2030, with offshore wind contributing significantly to long-term growth.

Offshore wind projects involve activities carried out in marine environments and across complex project lifecycles—from development and construction to operations, maintenance and decommissioning—where robust health, safety and environmental (HSE) management is essential to ensure regulatory compliance and safe project execution. In this context, the HSE Manager plays a key role in supporting safe and sustainable deployment of large-scale renewable energy infrastructure. Key trends related to this professional profile include:

- Integration of HSE and ESG in corporate sustainability strategies
- Increasing use of digital technologies (Big Data, AI, drones, predictive analytics)
- Relevance of specialised certifications, especially GWO modules
- Need for professionals with cross-sector experience (maritime, oil & gas, construction)

Some sources for further reading:

- [Wind energy in Europe: 2024 statistics and outlook 2025–2030](#) – WindEurope
- [Europe’s Wind Energy Workforce Report](#) – WindEurope. Overview of job profiles and workforce needs across the wind energy lifecycle
- [The EU Blue Economy Report 2025](#) – European Commission. Marine Renewable Energy
- [Floating Offshore Wind Community](#) – The European House – Ambrosetti. Strategic analyses on offshore wind development, industrial value chains and enabling conditions in Italy

## Useful Resources

### Standards & Certifications

- UNI 11720:2025 – HSE Manager & HSE Specialist certification (Italy)
- ISO 45001, ISO 14001, ISO 9001 auditing
- GWO Training Standards (BST, ART, EFA)
- BOSIET OPITO - Basic Offshore Safety Induction & Emergency Training
- NEBOSH General Certificate / Diploma (UK-based Health and Safety certifications)
- ESG frameworks (GRI, ESRS, SASB)

### Professional Associations

- [WindEurope](#) (Association promoting the use of wind power in Europe. Based in Brussels it has over 600 members, which are active in over 50 countries)
- [G+ Offshore Wind Health and Safety Organisation](#) (Global organisation focused on health and safety in the offshore wind industry)
- [AERO – Associazione delle Energie Rinnovabili Offshore](#) (Italian offshore renewable energy association)
- [ANEV – Associazione Nazionale Energia del Vento](#) (Italian renewable energy association)

### Job Portals

- [Energy Jobline](#)
- [Rigzone](#)
- [Altea Energy](#)
- [LinkedIn](#)
- Company career and open positions pages in offshore wind

### Training Providers

- [Certified GWO training centres](#)

## Case Studies and Testimonials

We interviewed **Emanuele Stallone**, currently **Head of HSE Corporate QHSE Department** in **Bonatti S.p.A.**, an international company offering services to the energy industry, including EPC and standalone construction of plants and pipelines, operation & maintenance and production enhancement.

The video interview is available on the SHOREWINNER project platform, website, and YouTube channel.

### External sources:

An interview with **Virgilio Scolaro**, **QHSE Manager at Oceans & Cables**, published by Oceans & Cables, provides a first-hand professional testimonial on the role of Quality, Health, Safety and Environment management in the submarine cables and offshore sector. Through concrete examples from his daily work, the interview explores the responsibilities of a QHSE Manager in complex offshore and onshore operations, the implementation of robust QHSE systems, and the management of operational and environmental risks associated with submarine cable projects. The interview also highlights the

importance of safety culture, continuous training, and human factors in preventing incidents and ensuring high standards across project phases. The full interview is available [here](#)<sup>9</sup>.

For professionals already working in the sector, the **G+ Offshore Wind Health and Safety Organisation** has published a number of good practice guidelines to date. The guidance is intended to be used by all to improve global health and safety standards in the offshore wind industry. All documents are available for digital download on the [organisation website](#).

### Context of the OWE/ORE Supply Chain in your country

Italy is at an early but advancing stage of offshore wind (OWE) development, with a substantial pipeline of projects—mainly floating offshore wind—proposed across different sea basins, including the Adriatic, Tyrrhenian and Sicilian seas. Several projects are currently at different stages of the national permitting process, ranging from early scoping to advanced phases of Environmental Impact Assessment (EIA/VIA), with some projects having already obtained an environmental compatibility decision.

The Italian offshore wind and broader offshore renewable energy (ORE) supply chain involves a wide range of actors, including project developers, turbine and component manufacturers, marine and installation contractors, ports and logistics operators, providers of offshore and onshore electrical infrastructure and grid connection services, environmental consultants, and specialised service providers. This multi-actor structure requires coordination across technical, environmental, maritime, electrical, and logistical domains.

Public authorities play a key role throughout the project lifecycle. At the national level, they define regulatory and planning frameworks and manage environmental assessment procedures, coordinating sectoral authorities such as maritime and navigation bodies. Regional and local authorities are involved in territorial planning, environmental oversight, and consultation processes linked to offshore renewable projects.

In parallel, industry associations, trade bodies, and environmental organisations contribute to the sector's development through technical dialogue, stakeholder engagement, and public debate. Local communities and civil society actors are increasingly involved from early project stages through information, consultation and awareness-raising initiatives, reflecting the relevance of social and environmental considerations alongside technical and regulatory aspects.

Below are official Italian sources where the status of offshore wind and renewable energy projects can be consulted:

- **Ministry of Environment and Energy Security (MASE) – Official Italian Government portal for Environmental Impact Assessment (EIA/VIA) procedures.** The platform provides access to [projects](#) submitted for scoping and full environmental impact assessment, including offshore wind and other renewable energy projects. Users can consult detailed project documentation and [search or filter](#) procedures by technology, location and procedural status.
- [Gestore dei Servizi Energetici \(GSE\)](#) - Italian public body responsible for promoting and supporting renewable energy and energy efficiency. It provides official data, monitoring,

<sup>9</sup> Full interview on the company blog.

statistics and reports on renewable energy development in Italy and supports the implementation of national energy and climate targets.

Reports and publications of **SHOREWINNER project** are available on the [official website](#), including the [Needs and Trends Analysis in the Southern European Offshore Wind Energy Sector](#) (2024).

- **Self-assessment skills & aptitudes questionnaire**

**Brief description of the job profile and its relevance in the sector**

The HSE (Health, Safety, and Environment) Manager is a professional role responsible for the integrated management of health, safety, and environmental aspects within an organization. This role ensures that the company operates safely, complies with environmental and occupational safety regulations, and fosters a corporate culture focused on sustainability. According to the international standard UNI 11720:2025, the HSE Manager stands out as a high-level managerial and strategic figure within an organization. Their primary role is to support company leadership in defining and achieving HSE objectives, contributing to the overall efficiency of the business.

In the Offshore Wind industry, the HSE Manager oversees risk assessment, emergency preparedness, environmental impact mitigation, and the implementation of safety procedures for complex marine operations. They guide corporate leadership and operational teams, support a strong safety culture, and ensure alignment with national and EU regulations and standards such as UNI 11720:2025, GWO guidelines, ISO 45001/14001.

Different career levels and roles are connected to this occupation, according to the background, field of expertise and experience acquired by the professional. Typically, entry-level positions include HSE Officers, Coordinators, and Advisors. With significant experience, managerial roles are available. After HSE Managers, the most senior positions in the sector are Head of HSE and HSE Director, both requiring over a decade of experience and significant leadership responsibilities.

This profession suits individuals interested in risk management, sustainability, problem solving, and working at the interface of engineering, environmental protection and human safety.

**Studies and certifications**

Studies and certification	EQF Level	Y/N
<b>B.Sc. degree in environmental sciences (not compulsory)</b>	EQF 6	YES / NO / ongoing
<b>B.Sc. degree in engineering (not compulsory)</b>	EQF 6	YES / NO / ongoing
<b>B.Sc. degree in Biology or Chemistry (not compulsory)</b>	EQF 6	YES / NO / ongoing
<b>HSE Management</b>	EQF 6	YES / NO / ongoing

Studies and certification	EQF Level	Y/N
<b>Certifications as:</b> - HSE Specialist - HSE Manager	Standard of reference: UNI 11720:2025	YES / NO / ongoing
<b>Specific offshore specific training and certifications</b> (e.g. Global Wind Organisation (GWO), BOSIET, FOET,...)	Standard of reference: different standards (e.g. GWO - BST, ART, EFA - BOSIET OPITO)	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Governance and Management</b>	Management of integrated HSE systems	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Governance and Management</b>	Definition of company policies, analysis of strategic risks related to in the HSE field	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Compliance and Regulatory Area</b>	In-depth knowledge of national and European legislation on health, safety and environment	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Compliance and Regulatory Area</b>	Ability to draft and update company procedures in compliance with current regulations	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Occupational Health and Safety Area</b>	Perform risk assessment analysis and design of preventive and protective measures	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Occupational Health and Safety Area</b>	Knowledge and correct use of personal protective equipment (PPE)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Occupational Health and Safety Area</b>	Management of emergency plans and conducting instrumental investigations	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Occupational Health and Safety Area</b>	Ability to coordinate and conduct training and awareness programs for staff	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Environment and Sustainability Area</b>	Monitoring of the company's environmental performance Management of specific environmental issues such as discharges, waste, and emissions	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
Environment and Sustainability Area	Knowledge of Minimum Environmental Criteria (CAM) for public procurement	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Leadership and Managerial Skills</b>	Manage and coordinate multidisciplinary teams Motivate and influence staff at all levels, from top management to operators Make autonomous decisions and take responsibility for strategic choices Provide clear vision and inspire a positive cultural change in health, safety and environment	☆☆☆☆
<b>Effective Communication</b>	Actively listen to the needs and concerns of workers, managers and stakeholders Convey complex information clearly to different audiences Negotiate and persuade to gain consensus on HSE policies and projects Manage conflict and facilitate dialogue between company functions Communicate formally with external bodies such as regulators or suppliers	☆☆☆☆
<b>Problem Solving and Critical Thinking</b>	Analyze data and situations to identify root causes Develop creative and practical solutions even without predefined procedures Evaluate risks and opportunities from a strategic perspective	☆☆☆☆
<b>Autonomy and Proactivity</b>	Take initiative to anticipate risks and propose improvements Show resilience in the face of obstacles and resistance to change Be results-oriented and committed to achieving strategic goals set by senior management	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Working hours</b>	I am willing to work on shifts or outside standard office hours if required by the role	☆☆☆☆
<b>Mobility / travel</b>	I am available to travel or relocate for work	☆☆☆☆
<b>Work environment</b>	I feel comfortable working in outdoor or offshore contexts	☆☆☆☆
<b>Contract stability</b>	I am comfortable working on project-based or fixed-term contracts	☆☆☆☆
<b>Work mode</b>	I prefer dynamic and practical activities over desk-based work	☆☆☆☆

- Career path map

**Job title general short description:**

This Career path map describes the professional progression of the HSE Manager (ESCO code 1213.7) with a specific focus on the Offshore Wind Energy (OWE) industry. It outlines development stages, associated skills, certifications, and learning goals across career levels.

The **Health Safety and Environment (HSE) Manager** is responsible for the integrated management of health, safety, and environmental aspects within an organization. This role ensures that the company operates safely, complies with environmental and occupational safety regulations, and fosters a corporate culture focused on sustainability.

A career in HSE management for offshore wind energy typically starts with a technical or safety-focused role, progresses through gaining experience and certifications, and leads to positions like HSE Supervisor, HSE Manager, and eventually Director-level roles. Key steps include obtaining relevant HSE certifications, developing sector-specific competencies, and completing dedicated offshore training such as GWO-compliant courses, acquiring a strong understanding of offshore wind operations, and developing skills in risk assessment, leadership, and regulatory compliance.

Alternative and specialized paths

Specialization: professionals may specialize in areas like offshore safety, renewable energy, environmental management, or emergency response

Consultancy: experienced HSE managers can become consultants, offering their expertise to a range of clients

Adjacent areas: there are opportunities to move into related fields like risk and compliance, environmental sustainability or corporate wellbeing

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- HSE Technician</li> <li>- Safety Assistant</li> <li>- Junior HSE Advisor</li> <li>- HSE Officer</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Apply basic health, safety, and environmental rules in offshore operations</li> <li>- Offshore safety basics</li> <li>- Conduct risk assessments and prepare basic reports</li> <li>- Site inspections support</li> <li>- Support emergency drills and PPE management</li> </ul>	<ul style="list-style-type: none"> <li>- Secondary school diploma</li> <li>- Basic HSE training (HSE Manager 120 hours in Italy)</li> <li>- GWO Basic Safety Training Programs</li> <li>- Training on the ISO standards applied within the company (e.g. ISO 45001)</li> <li>- Basic environmental compliance training</li> </ul>	<ul style="list-style-type: none"> <li>- Support routine HSE tasks</li> <li>- Learn offshore safety procedures and risk management</li> <li>- Develop data collection and reporting accuracy using digital tools and data-analysis software</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Understand core environmental compliance principles</li> <li>- Knowledge of D. Lgs. 81/08 (in Italy) and other relevant national and EU legislation</li> </ul> Soft skills: <ul style="list-style-type: none"> <li>- Communication</li> <li>- Teamwork</li> <li>- Attention to detail</li> </ul>		
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- HSE Specialist (UNI 11720)</li> <li>- Marine HSE Officer</li> <li>- HSE Supervisor</li> <li>- Environmental Specialist</li> <li>- HSE Advisor</li> <li>- Internal HSE Auditor</li> </ul>	Technical Skills: <ul style="list-style-type: none"> <li>- Advanced risk assessment</li> <li>- Manage integrated HSE management systems (Quality, Environment, Safety)</li> <li>- Conduct training sessions and audits</li> <li>- Internal investigations</li> <li>- Monitor regulatory compliance and update documentation</li> <li>- Providing improvement strategies</li> <li>- Permit-to-Work management</li> <li>- ISO 45001 and 14001 application (or other standards and certifications adopted by the company)</li> <li>- Environmental monitoring</li> <li>- Marine operations safety</li> </ul> Soft Skills: <ul style="list-style-type: none"> <li>- Leadership (operational)</li> <li>- Problem solving</li> </ul>	<ul style="list-style-type: none"> <li>- UNI 11720:2025 HSE Specialist certification</li> <li>- NEBOSH International General Certificate</li> <li>- GWO Advanced Safety Training programs</li> <li>- Internal Auditor ISO 14001/45001</li> </ul>	<ul style="list-style-type: none"> <li>- Improve team coordination and audit skills</li> <li>- Strong knowledge of national and EU safety regulations</li> <li>- Lead operational HSE processes</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- HSE Manager</li> <li>- Offshore HSE Coordinator</li> </ul>	Technical Skills: <ul style="list-style-type: none"> <li>- Define and implement HSE policies aligned with UNI 11720:2025</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor's/Master's degree generally required</li> </ul>	<ul style="list-style-type: none"> <li>- Lead HSE audits and management system improvements</li> <li>- Develop strategic HSE frameworks</li> <li>- Lead incident investigations</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Offshore Compliance Officer</li> <li>- Senior HSE Specialist</li> <li>- Site HSE Manager</li> <li>- Project HSE Manager (Offshore construction/O&amp;M)</li> <li>- Construction HSE Lead</li> <li>- Environmental Manager</li> </ul>	<ul style="list-style-type: none"> <li>- Conduct strategic risk analysis (operational, environmental, reputational)</li> <li>- Contractor governance</li> <li>- Integrate HSE KPIs in performance management systems</li> <li>- Develop contingency plans for emergencies</li> <li>- Regulatory compliance leadership</li> <li>- ESG–HSE alignment</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Leadership</li> <li>- Multidisciplinary teams and contractors management</li> <li>- Negotiation</li> <li>- Crisis management</li> <li>- Strategic communication</li> </ul>	<ul style="list-style-type: none"> <li>- Significant experience (5–12+ years) in construction, power plants, or renewable energy</li> <li>- ISO 45001 Lead Auditor Certification</li> <li>- ESG Risk Management Training</li> <li>- Maritime Safety and Offshore Operations</li> <li>- UNI 11720:2025 HSE Manager certification</li> <li>- NEBOSH Diploma</li> <li>- ISO Lead Auditor certifications</li> </ul>	<ul style="list-style-type: none"> <li>- Integrate ESG and sustainability indicators in operations</li> <li>- Oversee multi-contractor operations</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- HSE Director</li> <li>- QHSE Head</li> <li>- ESG Manager</li> <li>- HSE &amp; ESG Director</li> <li>- Chief Safety &amp; Environment Officer</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Design corporate HSE and sustainability strategies</li> <li>- Lead budget and investment decisions for HSE improvement</li> <li>- Represent the company before regulatory bodies</li> <li>- International compliance</li> <li>- ESG governance</li> <li>- Ensure full integration of ESG and risk management policies</li> <li>- Stakeholder &amp; investor engagement</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Executive leadership</li> </ul>	<ul style="list-style-type: none"> <li>- Executive MBA in ESG or Risk Management</li> <li>- Offshore advanced programs</li> <li>- Advanced international HSE certification (optional but valued)</li> </ul>	<ul style="list-style-type: none"> <li>- Drive strategic decision-making in sustainability and HSE governance</li> <li>- Represent company to regulators and investors</li> <li>- Promote zero-incident and continuous improvement culture</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Vision-setting</li> <li>- Regulatory communication</li> <li>- High-level negotiation</li> </ul>		
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- HSE Consultant (Renewables / Offshore)</li> <li>- Sustainability Consultant</li> <li>- Risk &amp; Compliance Manager</li> <li>- Sustainability Manager</li> <li>- Compliance Manager</li> <li>- Risk Manager</li> <li>- GWO Instructor</li> <li>- QHSE Consultant</li> <li>- Maritime/Port Safety Officer</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>- Apply HSE expertise to broaden sustainability and governance roles</li> <li>- Contribute to ESG reporting and corporate social responsibility</li> <li>- Advise organizations on regulatory transitions and environmental performance</li> <li>- Circular economy</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>- Client / Stakeholders engagement</li> <li>- Analytical writing and reporting for decision-makers</li> <li>- Training design &amp; delivery (especially for GWO instructors)</li> <li>- Change management</li> <li>- Behaviour-based safety coaching</li> </ul>	<ul style="list-style-type: none"> <li>- ISO 26000 (Social Responsibility) Training</li> <li>- ESG Reporting Certification</li> <li>- Advanced Data Analytics for HSE</li> <li>- GWO Instructor</li> <li>- ESG certification for Sustainability Manager / Practitioner (E.g. in Italy: UNI/PdR 109.1:2021)</li> <li>- ISO 9001 Lead Auditor</li> </ul>	<ul style="list-style-type: none"> <li>- Expand professional scope to ESG and corporate sustainability</li> <li>- Develop advisory and leadership competencies</li> <li>- Apply HSE background to ESG, training, risk, and quality roles</li> </ul>

- **Video-interview**

Interviewee: Emanuele Stallone, Head of Corporate HSE

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## JOB TITLE: Sustainability and Energy Manager

Partner: FORMARE

### - Detailed job description

#### Profession Overview

Sustainability and Energy Managers (ESCO Code 1349.12) in the offshore wind energy sector coordinate and optimise energy use within organisations involved in the development, operation, and maintenance of offshore wind assets. Their role focuses on implementing policies and practices that enhance sustainability while minimising costs and environmental impacts.

They monitor energy demand and consumption across offshore wind operations, assess environmental performance, and develop strategies to improve energy efficiency and resource use. In addition, they evaluate and support the integration of the most suitable energy solutions and technologies to meet organisational needs while ensuring compliance with sustainability and environmental standards.

#### Key Competencies & Skills

A Sustainability and Energy Manager operating in the offshore sector must combine advanced technical expertise with strong strategic and interpersonal skills to ensure energy efficiency, environmental protection, and regulatory compliance in complex maritime and offshore environments.

Key technical competencies include the ability to analyse energy consumption profiles, conduct energy audits, and develop energy and sustainability policies aligned with international standards and objectives. Solid knowledge of renewable and alternative energy systems, offshore infrastructure, smart grid applications, and resource-efficient technologies is essential, alongside familiarity with health, safety and environmental regulations specific to offshore operations. The role also requires capabilities in feasibility studies, lifecycle assessment, and the evaluation of innovative solutions for decarbonisation and emission reduction.

Equally important are soft skills such as strategic planning, problem-solving, and decision-making in high-risk and multidisciplinary contexts. Effective communication and stakeholder engagement are crucial to liaise with managers, engineers, suppliers, and regulatory bodies, promoting environmental awareness and sustainable practices across the organisation. Budget management, project coordination, and the ability to translate technical data into actionable business cases support informed investment decisions. Adaptability, leadership, and a continuous learning mindset enable the Sustainability and Energy Manager to respond to evolving energy markets and technological developments while fostering a culture of sustainability within offshore operations.

#### Education and Training

Entry into the Sustainability and Energy Management field is multidisciplinary, with no single mandatory degree. Typical pathways include a B.Sc. degree (EQF 6) in Engineering (Energy, Mechanical, or Civil), Environmental Science, Physics, or Economics. In Italy, the professional figure is increasingly framed by the UNI 11339:2023 standard, which defines the requirements for the EGE (Esperto in Gestione dell'Energia), a certified expert profile categorized into "Civil" and "Industrial" sectors.

Key entrance and development training elements include:

- **Specialized Education:** Advanced degrees are highly valued for managerial roles (e.g., [MASEM - Master in Sustainability and Energy Management](#) (now [MSM - Master in Sustainability Management](#)) from Bocconi University).
- **Technical Certifications:** The Certified Energy Manager (CEM) and the Italian [EGE certification](#) according to UNI 11339 are fundamental for conducting energy audits and managing white certificates.
- **System Standards:** Mastery of [ISO 50001](#) (Energy Management Systems) and [ISO 14064](#) (Carbon Footprint) is essential for corporate compliance.
- **ESG Reporting:** Proficiency in [GRI Standards](#) and the [Corporate Sustainability Reporting Directive](#) (CSRD) is critical for high-level sustainability strategy and non-financial disclosure.

### Industry Trends and Outlook

The sustainability and energy management sector is undergoing a massive transformation, driven by the EU Green Deal which mandates drastic carbon reductions and energy efficiency across all industries. In the context of the offshore wind industry, the Sustainability and Energy Manager role is evolving from traditional energy efficiency to managing complex, large-scale decarbonization projects in marine environments. As Italy moves toward its first large-scale floating wind farms in the Mediterranean, professionals must navigate the intersection of maritime logistics, grid connection, and environmental biodiversity.

Key industry trends include:

- **Decarbonization of Operations:** Focus on reducing the carbon footprint of the offshore supply chain.
- **Advanced Digitalization:** Use of Big Data and AI for predictive maintenance of turbines and real-time monitoring of energy yield through Digital Twins.
- **Circular Design:** Strategic planning for the end-of-life recycling of turbine blades and offshore structures to meet EU circular economy goals.
- **Biodiversity & ESG:** Managing "blue economy" impacts, ensuring that offshore infrastructure supports marine ecosystems through Nature-Inclusive Design.
- **Floating Wind Innovation:** The shift toward floating technology in deep Italian waters requires expertise in dynamic cable management and specialized port infrastructure energy needs.

With the Italian offshore wind sector growing, the demand for managers who can integrate GWO safety standards with high-level sustainability reporting will increase, offering a path to leadership in the Mediterranean energy transition.

### Useful Resources

#### Standards & Certifications

- [UNI 11339:2023](#) – Energy Management Expert (EGE) certification (Italy), categorized for Civil and Industrial sectors.
- [ISO 50001](#), [ISO 14001](#), [ISO 14064](#) – Expertise in auditing Energy Management, Environmental Systems, and Carbon Footprint.
- [Certified Energy Manager \(CEM\)](#) – Globally recognized credential from the Association of Energy Engineers (AEE).

- [GWO Training Standards](#) – Basic Safety Training (BST) required for offshore site access.
- [ESG Reporting Frameworks](#) – Proficiency in GRI Standards, ESRS (CSRD), and SASB.

#### Professional Associations

- **WindEurope:** The leading voice for the wind industry in Europe, representing over 600 members across the value chain.
- **ANEV:** Associazione Nazionale Energia del Vento – The primary Italian association promoting wind energy and regulatory advocacy.
- **FIRE:** Federazione Italiana per l'uso Razionale dell'Energia – Italian federation focusing on energy efficiency and supporting the EGE network.
- **AERO:** Associazione delle Energie Rinnovabili Offshore – Italian association dedicated specifically to offshore renewable development in the Mediterranean.

#### Job Portals

- LinkedIn
- GreenJobs

#### Training Providers

- **Universities.**
- **Certified GWO Training Centres** – Accredited providers such as Training66 or APT Servizi in Italy for offshore safety modules.
- **AEE Training Partners** – Accredited bodies offering CEM and ISO 50001 Lead Auditor courses.

#### Case Studies or Testimonials

We interviewed Andrea D’Ambra, Energy Manager at Grimaldi Group, who shared his professional perspective on the evolving role of energy management within the maritime sector. Reflecting on his experience, he emphasized how the Group’s Energy Department has expanded significantly over time, demonstrating the growing relevance of energy-related strategies and expertise in supporting operational efficiency and sustainability goals. His testimonial offers a concrete example of how this function is becoming increasingly central and provides useful insights and motivation for professionals interested in pursuing a similar career path.

The video interview is available on the SHOREWINNER project platform, website and YouTube channel.

#### Context of the OWE/ORE Supply Chain in your country

Italy is at an early stage of offshore wind and offshore renewable energy development, with several projects planned in the Adriatic, Tyrrhenian and Sicilian seas. In this context, the role of the Sustainability and Energy Manager is becoming increasingly important to support environmentally responsible and energy-efficient project development.

Offshore renewable energy projects involve many stakeholders, including developers, technology providers, maritime operators, ports, and public authorities. The Sustainability and Energy Manager helps integrate sustainability principles into project planning and operations, contributing to

environmental protection, regulatory compliance, and the monitoring of impacts on marine ecosystems.

National institutions and sector organizations define the regulatory and professional framework for these activities and promote training and skills development. As the offshore renewable energy sector grows in Italy, demand for Sustainability and Energy Managers is expected to increase, creating new professional opportunities in the transition to clean energy.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

Sustainability and Energy Managers (ESCO Code 1349.12) in the offshore wind energy sector coordinate and optimise energy use within organisations involved in the development, operation, and maintenance of offshore wind assets. Their role focuses on implementing policies and practices that enhance sustainability while minimising costs and environmental impacts.

They monitor energy demand and consumption across offshore wind operations, assess environmental performance, and develop strategies to improve energy efficiency and resource use. In addition, they evaluate and support the integration of the most suitable energy solutions and technologies to meet organisational needs while ensuring compliance with sustainability and environmental standards.

#### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>B.Sc. in Engineering (Energy, Mechanical, Civil, Environmental)</b>	EQF 6 – Bachelor level: provides fundamental scientific technical and engineering knowledge for energy systems and infrastructure.	YES / NO / ongoing
<b>B.Sc. in Environmental Science</b>	EQF 6 – Bachelor level: provides knowledge on environmental systems, sustainability and environmental impact assessment.	YES / NO / ongoing
<b>B.Sc. in Business Administration/ Economics</b>	EQF 6 – Bachelor level: provides knowledge in management, economics and organisational processes relevant to energy and sustainability projects.	YES / NO / ongoing
<b>Master's degree in Sustainability and Energy Management (or related field)</b>	EQF 7 – Master level: advanced specialised knowledge in energy management, sustainability strategies and policy implementation.	YES / NO / ongoing
<b>PhD in Energy, Environmental Engineering, Sustainability (or related fields)</b>	EQF 8 – Doctoral level: highest academic level, focused on research, innovation and advanced policy and technical expertise.	YES / NO / ongoing

Studies and certification	EQF Level	Y/N
<b>Certification EGE (Esperto in Gestione dell'Energia – UNI 11339)</b>	Professional certification: recognised Italian standard for energy managers (Civil / Industrial sectors).	YES / NO / ongoing
<b>Certified Energy Management (CEM) – AEE</b>	International professional certification standard for energy management competencies.	YES / NO / ongoing
<b>ISO 50001 Lead Auditor (Energy Management Systems)</b>	Professional certification: competence in auditing and implementing energy management systems.	YES / NO / ongoing
<b>ISO 14001 / ISO 14064 Certification (Environmental &amp; Carbon Management)</b>	Professional certification: competence in environmental management systems and carbon footprint accounting.	YES / NO / ongoing
<b>GWO Basic Safety Training (BST)</b>	Professional training standard: mandatory for offshore wind site access and safety compliance.	YES / NO / ongoing
<b>Project Management Certification (PMP / PRINCE2 / Agile)</b>	Professional certification: competence in managing complex sustainability and energy projects.	YES / NO / ongoing
<b>Life Cycle Assessment (LCA) Certification</b>	Professional training: competence in environmental impact assessment and circular economy analysis.	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Offshore Wind Engineering Basics</b>	Knowledge of offshore wind turbine systems, foundations (fixed and floating), substations and cable infrastructure.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Energy Management &amp; Audits</b>	Ability to analyse energy consumption and efficiency of offshore operations (turbines, vessels, ports, O&M activities).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Sustainability Strategy for Offshore Projects</b>	Ability to design and implement sustainability and energy strategies for offshore wind farms and marine infrastructure.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Environmental Impact &amp; Marine LCA</b>	Ability to assess environmental impacts and perform Life Cycle Assessment (LCA) for offshore wind projects and marine ecosystems.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Decarbonization of Offshore Operations</b>	Knowledge of decarbonization solutions for offshore supply chains (vessels, ports, logistics, installation and maintenance).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>ISO &amp; Management Systems</b>	Ability to apply ISO 50001, ISO 14001 and ISO 14064 in offshore wind organizations and projects.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Digital Monitoring &amp; Data Analysis</b>	Ability to use digital tools (SCADA, energy monitoring systems, Digital Twins) to track energy and environmental performance.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Circular Economy in Offshore Wind</b>	Knowledge of circular economy strategies for offshore wind components (turbines, blades, foundations, end-of-life management).	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Biodiversity &amp; Nature-Inclusive Design</b>	Ability to integrate biodiversity protection and nature-inclusive solutions in offshore wind planning and operations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

## Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Problem solving</b>	Ability to analyse complex problems and identify effective and sustainable solutions.	☆☆☆☆
<b>Communication &amp; Stakeholder Engagement</b>	Ability to communicate in a clear and efficient way to different actors and stakeholders (e.g., managers, suppliers, regulators, port authorities) operating in the ORE sector.	☆☆☆☆
<b>Leadership &amp; Team Coordination</b>	Ability to coordinate multidisciplinary teams working in offshore and high-risk environments and promote a culture of sustainability and safety.	☆☆☆☆

Soft skill	Description	Rating (1 to 4 stars)
<b>Decision-Making in High-Risk Environments</b>	Ability to take informed decisions in complex and critical offshore operational contexts, balancing technical, environmental and economic factors.	☆☆☆☆
<b>Adaptability &amp; Continuous Learning</b>	Ability to adapt to evolving technologies, regulations and market trends in offshore wind and sustainability management.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Multidisciplinary and Multi-stakeholder Environment</b>	I feel comfortable working in multidisciplinary teams and interacting with multiple stakeholders in offshore wind projects.	☆☆☆☆
<b>Safety and Environmental Regulations</b>	I am willing to work under strict safety and environmental regulations typical of offshore wind operations	☆☆☆☆
<b>Dynamic and Innovative Work Context</b>	I am motivated to work in a rapidly evolving sector driven by technological innovation and sustainability goals	☆☆☆☆
<b>Critical Thinking</b>	Ability to evaluate technical data, sustainability claims and environmental impacts objectively and independently.	☆☆☆☆
<b>Mobility / Travel</b>	I am available to travel or relocate for work	☆☆☆☆

- Career path map

**Job title general short description**

**Sustainability and Energy Managers** (ESCO Code 1349.12) in the offshore wind energy sector coordinate and optimise energy use within organisations involved in the development, operation, and maintenance of offshore wind assets. Their role focuses on implementing policies and practices that enhance sustainability while minimising costs and environmental impacts. They monitor energy demand and consumption across offshore wind operations, assess environmental performance, and develop strategies to improve energy efficiency and resource use. In addition, they evaluate and support the integration of the most suitable energy solutions and technologies to meet organisational needs while ensuring compliance with sustainability and environmental standards.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- Junior Sustainability Analyst</li> <li>- Energy Efficiency Assistant</li> <li>- Environmental Officer Trainee</li> </ul>	<p><b>Technical:</b> basic energy data analysis, support to energy audits, monitoring consumption, knowledge of renewable energy systems, and basic environmental regulations.</p> <p><b>Soft:</b> analytical thinking, teamwork, communication skills, adaptability, willingness to learn.</p>	<ul style="list-style-type: none"> <li>- B.Sc. (EQF 6) in Engineering, Environmental Science, Physics, Economics.</li> <li>- Introductory training on ISO 50001 and ISO 14001.</li> <li>- GWO Basic Safety Training (for offshore context).</li> </ul>	<ul style="list-style-type: none"> <li>- Support senior staff in audits and monitoring activities.</li> <li>- Learn offshore regulations and sustainability standards.</li> <li>- Develop basic project management and reporting skills.</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>- Sustainability and Energy Manager</li> <li>- Energy Manager (EGE – Civil/Industrial)</li> <li>- ESG Officer (Energy sector)</li> </ul>	<p><b>Technical:</b> energy audits, lifecycle assessment, feasibility studies, smart grids, renewable and offshore infrastructure, ISO 50001 and ISO 14064 implementation, ESG and CSRD reporting.</p> <p><b>Soft:</b> problem-solving, stakeholder engagement, project coordination, budget management, decision-making.</p>	<ul style="list-style-type: none"> <li>- Master’s degree (e.g. Sustainability and Energy Management).</li> <li>- EGE (UNI 11339) or CEM certification.</li> <li>- Training on GRI Standards, CSRD, ISO Lead Auditor.</li> </ul>	<ul style="list-style-type: none"> <li>- Lead energy efficiency and decarbonization projects.</li> <li>- Coordinate multidisciplinary teams.</li> <li>- Translate technical data into business cases.</li> <li>- Prepare for strategic and leadership roles.</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Senior Sustainability and Energy Manager</li> </ul>	<p><b>Technical:</b> advanced decarbonization strategies, circular economy solutions, digital twins and</p>	<ul style="list-style-type: none"> <li>- Advanced certifications (ISO 50001 Lead Auditor, ISO 14064, ESG frameworks).</li> </ul>	<ul style="list-style-type: none"> <li>- Manage large-scale offshore sustainability programmes.</li> </ul>



Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Head of Energy Management</li> <li>- Sustainability Program Manager</li> </ul>	<p>energy monitoring systems, offshore biodiversity and Nature-Inclusive Design.</p> <p><b>Soft:</b> leadership, strategic planning, negotiation, high-level communication, risk management.</p>	<ul style="list-style-type: none"> <li>- Executive Master in sustainability strategy or energy policy.</li> </ul>	<ul style="list-style-type: none"> <li>- Influence corporate sustainability strategy.</li> <li>- Mentor junior professionals.</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Director of Sustainability</li> <li>- Chief Sustainability Officer (CSO)</li> <li>- Energy Transition Director</li> </ul>	<p><b>Technical:</b> corporate ESG strategy, regulatory compliance at EU level, investment planning, integration of sustainability into business models.</p> <p><b>Soft:</b> vision, governance, leadership, stakeholder diplomacy, change management.</p>	<ul style="list-style-type: none"> <li>- Executive MBA or advanced management programmes.</li> <li>- High-level ESG and governance training (CSRD, ESRS, SASB).</li> </ul>	<ul style="list-style-type: none"> <li>- Drive organisational sustainability transformation.</li> <li>- Shape long-term decarbonization and energy transition strategies.</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>- ESG Consultant, Environmental Manager</li> <li>- Energy Policy Advisor</li> <li>- Energy Manager</li> <li>- Circular Economy Specialist</li> <li>- Researcher</li> </ul>	<p><b>Technical:</b> transferable skills in energy management, carbon footprinting, ESG reporting, environmental compliance.</p> <p><b>Soft:</b> adaptability, communication, interdisciplinary collaboration.</p>	<ul style="list-style-type: none"> <li>- Sector-specific upskilling (urban energy systems, industry, policy).</li> <li>- ESG and sustainability certifications.</li> <li>- PhD in Energy, Environmental Engineering, Sustainability, or related fields.</li> </ul>	<ul style="list-style-type: none"> <li>- Apply offshore expertise to other sectors (ports, logistics, industry, public administration, research).</li> <li>- Expand into consulting or policy advisory roles.</li> </ul>

- **Video-interview**

Interviewee: Andrea D'Ambra, Sustainability & Energy Manager

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTYS>

## 4.4. Greece

### JOB TITLE: Wind Yield Performance Analyst

PARTNER: HCMR

#### - Detailed job description

##### Profession Overview

A Wind Yield Performance Analyst is responsible for conducting the preliminary analysis of wind potential at prospective wind farm sites. Using specialized software tools (such as WASP, windPRO, OpenWind, HOMER etc.), along with meteorological databases, advanced statistical approaches, and machine learning techniques (including neural networks), the analyst evaluates the expected energy yield of a location. This role is critical in the feasibility assessment of wind energy projects, as it informs decisions on site selection, turbine layout, and financial viability. After the construction of the project, the analyst continues to forecast wind energy production, monitor power production, and assess possible grid outages or performance anomalies.

##### Key Competencies & Skills

###### Technical:

- A Wind Yield Performance Analyst requires a strong foundation in analytical thinking, mathematics, statistics, and Artificial Intelligence tools, as these form the backbone of accurate wind resource assessment and energy yield forecasting.
- A solid command of statistical methods is essential for evaluating large datasets, identifying and modeling patterns, and quantifying uncertainties in performance analysis.
- Proficiency in industry-standard modelling and simulation tools such as windPro, WASP, OpenWind, and Computational Fluid Dynamics (CFD)-based software is critical, enabling the analyst to adapt to evolving technologies and deliver precise yield estimations for offshore wind projects.
- Technical expertise should also encompass meteorological data interpretation, Geographic Information System (GIS) applications, and data visualization techniques, ensuring that complex results can be translated into actionable insights for project developers, engineers, and investors.
- Competence in programming and data analysis languages such as Python, R, or MATLAB is increasingly valuable, supporting automation, advanced modelling, and scenario testing.

###### Soft Skills:

- Strong problem-solving abilities and a detail-oriented mindset are vital for identifying anomalies and ensuring the reliability of forecasts.
- Effective communication and presentation skills allow the analyst to convey complex technical findings to non-specialist stakeholders, bridging the gap between engineering detail and strategic decision-making.
- Collaboration and teamwork are equally important, as the role often involves working alongside engineers, project managers, environmental scientists, and financiers.

- Adaptability, continuous learning, and a proactive approach to emerging technologies ensure long-term effectiveness in a rapidly evolving renewable energy sector.

## Education and Training

The role of Wind Yield Performance Analyst falls into the ESCO classification 2149.9.5, designated for Offshore Renewable Energy Engineers. Some EU countries such as Denmark, Germany and the United Kingdom provide Bachelor's degrees that focuses on renewable energy, wind engineering or environmental science with strong data and modeling components. Other countries such as Greece do not provide specific academic programs for this ESCO profile. As a result, professionals entering this field typically hold a Bachelor's (EQF Level 6) or Master's (EQF Level 7) degree in disciplines such as mechanical, electrical, and ocean engineering, physics, or renewable energy.

Based on job openings for entry-level positions, other than a Bachelor's /Master's degree, it is essential that candidates possess certified knowledge of specialized software tools used in wind resource assessment and energy yield modelling (such as WAsP, windPro, and OpenWind).

While a Bachelor's degree may be sufficient for junior roles, many employers prefer candidates with a Master's degree (EQF Level 7) in energy systems, renewable energy, or offshore engineering. For career advancement and specialization within the sector, a Master's qualification is increasingly considered vital, particularly as the industry evolves toward more complex and data-driven methodologies.

Relevant educational programs for this role include the following:

### Undergraduate studies:

#### UK

- [Renewable Energy Engineering BEng | Undergraduate Degrees | University of Exeter](#)
- [Renewable Energy Engineering | University of Portsmouth](#)
- [Renewable Energy Engineering Degree | BEng \(Hons\)](#)

#### Denmark

- [Bachelor of Science \(BSc\) in Design of Sustainable Energy Systems](#)
- [Sustainable Energy Engineering \(Bachelor of Engineering\) - Aalborg](#)
- [Energy Systems - BSc in Engineering - Read all about the programme online!](#)

#### Germany

- [HAW-Hamburg: Renewable Energy Systems and Energy Management \(B.Sc.\) – Information for prospective students](#)
- [Renewable Energy Systems - Nordhausen University of Applied Sciences](#)
- [FH Münster](#)

### Postgraduate studies:

#### UK

- [MSc Wind Energy Systems Masters Degree | University of Strathclyde](#)
- <https://www.plymouth.ac.uk/courses/postgraduate/msc-offshore-renewable-energy-engineering>

#### Denmark

- [Offshore Wind Energy - Specialization](#)
- [Wind Power Systems - Aalborg University](#)

### Germany

- [Wind Energy Engineering | Hochschule Flensburg](#)
- <https://www.daad.de/en/studying-in-germany/universities/all-degree-programmes/detail/bremerhaven-university-of-applied-sciences-wind-energy-engineering-w26672/?hec-id=w26672>

### Greece

- [MSc in Renewable Energy Sources & Energy Management in Buildings – Inter- Departmental Master Program](#)
- <https://epm.ntua.gr/gr/courses>
- <http://www.naval.ntua.gr/en/education/postgraduate-education-2>

## Industry Trends and Outlook

As offshore renewables gain momentum and the wind industry evolves at a rapid pace, driven by advanced analytics and sophisticated data models, Wind Yield Power Analysts are becoming essential. Their expertise is key, to enhancing efficiency, reliability and the overall success of the sector. In Europe, during the first half of 2025 alone, 6.8 GW of new wind power capacity was installed, with 89% of it coming from onshore wind farms. According to the targets set by the European Green Deal, the annual installation capacity of both onshore and offshore wind power is expected to exceed 25 GW by 2030. Based on a joint Offshore Wind Industry Council and Renewable UK skills report and job forecast, more than 55,000 individuals currently work across the UK's onshore and offshore wind sectors. Of these, nearly 40,000 support the offshore wind sector, marking an 18% increase from 2023. The offshore wind workforce is projected to reach 75,000 by 2030, while the onshore sector is expected to employ around 18,000. With the EU's strong focus on wind energy, demand for specialized and critical roles, especially Wind Yield Performance Analysts, is rising, as they play a key role in boosting output and reliability.

- [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en)
- <https://www.renewableuk.com/news-and-resources/publications/wind-industry-skills-intelligence-report-2025/>

## Useful Resources

### Certifications:

There are many specialized tools used in the wind energy industry, and Wind Yield Performance Analysts are often expected to hold certifications that demonstrate proficiency in these platforms. These certifications are typically provided by the developers of the tools and help validate expertise in energy modeling, performance analysis, and optimization.

- [WAsP - WAsP Certification](#)
- [EMD - think energy differently , windPRO: Standard course \(English USA\) 5 sessions](#)
- **OpenWind (by UL Solutions) doesn't provide formal certification program, but extensive training resources are available: [Openwind Support | UL Solutions](#)**
- [HOMER - Hybrid Renewable and Distributed Generation System Design Software](#)

### **Professional Associations:**

There are no dedicated associations exclusively for Wind Yield Performance Analysts, but several major organizations and technical working groups support professionals in this field.

### **Specialized reports and Publications:**

Below are links outlining the role of Wind Yield Performance Analysts and current industry trends across the EU, UK, and USA:

- [Wind Energy Analyst Job Description](#)
- [Wind Turbine Performance Analyst: Assessing Grid Impact](#)
- [Wind Analyst | Job Role & Responsibilities | My Energy Future](#)
- [Why Energy Yield Assessments Are Crucial to Wind Farm Success in 2025 - Blake Clough Consulting](#)
- [Job Outlook for Wind Resource Analysts | Future Trends - JobzMall](#)

### **Job Portals:**

The role of Wind Yield Performance Analyst is featured on both energy-specialized platforms and mainstream job boards, such as:

- Indeed
- LinkedIn
- TotalJobsUk
- Energy JobSearch
- Ignitis Group Careers: (A Baltic-based utility hiring platform for junior and senior specialists)
- Ørsted

### **Case Studies or Testimonials**

- “Due to the nature of the field, a candidate should aim to gain exposure to as many different projects as possible. The work is inherently team based, which makes communication skills essential. The volume of data is large, and achieving the goal requires a strong and well-coordinated team”, which makes communication skills essential.

- “...It is a sector that I truly love, and I feel very lucky to be working in it.”

Dimitris Kourasis, Energy Assessment Supervisor Wind Energy Analytics Department MORE

### **Context of the OWE/ORE Supply Chain in your country**

Greece is positioned to play a pivotal role in Southern Europe's wind energy transition, driven by its updated National Energy and Climate Plan (NECP). The plan outlines ambitious targets for decarbonization and renewable energy integration. Specifically, by 2030, 82% of the country's electricity is expected to be generated from renewable sources. To achieve this, Greece plans to install 8.9 GW of onshore wind and 1.9 GW of offshore wind capacity, reaching a cumulative total of 10.8 GW. According to the Hellenic Wind Energy Association (ELETAEN), in the first half of 2025, Greece added 152.2 MW of wind capacity, representing a 2.8% increase compared to the end of 2024, bringing the

total installed wind capacity to approximately 5.5 GW. Currently, no offshore wind farms are operational, but development is underway. A pilot project is planned to deliver 400 MW, and the Crete 1 zone, part of the 1.9 GW offshore target, is entering its first auction phase. In summary, Greece aims to nearly double its wind capacity over the next five years. This upward trend is driving demand for specialized roles such as Wind Yield Performance Analysts, who are essential to the successful planning and smooth and efficient operation of wind energy projects. As wind farms grow in scale and complexity, especially offshore, accurate estimation and forecasting of energy yield become critical for investment decisions, grid integration, and long-term operational efficiency.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

A **Wind Yield Performance Analyst** is responsible for conducting the preliminary analysis of wind potential at prospective wind farm sites. Using specialized software tools (such as WASP, windPRO, OpenWind, HOMER etc.), along with meteorological databases, advanced statistical approaches, and machine learning techniques (including neural networks), the analyst evaluates the expected energy yield of a location. This role is critical in the feasibility assessment of wind energy projects, as it informs decisions on site selection, turbine layout, and financial viability. After the construction of the project, the analyst continues to forecast wind energy production, monitor power production, and assess possible grid outages or performance anomalies.

#### Studies and certifications

Studies and certification	EQF Level	Y/N
Bachelor of Science (e.g., engineering, mathematics, physics)	EQF 6	YES / NO / ongoing
Master of Science (e.g., engineering, mathematics, physics)	EQF 7	YES / NO / ongoing
Certificate in Industry-Standard Modelling and Simulation Tools (e.g., WindPro, WASP, OpenWind or equivalent)		YES / NO / ongoing

#### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
Analytical, quantitative, and data literacy	Mathematics, statistics and physics	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Command of statistical analysis</b>	Evaluating large datasets, identifying and modeling patterns, and quantifying uncertainties in performance analysis	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Programming</b>	Data analysis in languages like Python, R or MATLAB. Developing, training and using Artificial Networks.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Proficient use of industry-standard modelling and simulation tools</b>	Industry-standard modelling and simulation tools such as WindPro, WAsP, OpenWind and CFD based software	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Meteorological data interpretation</b>	GIS applications, and data visualization techniques	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Problem-solving abilities</b>	Ability to identify challenges, analyse possible solutions, and implement effective strategies to overcome them	☆☆☆☆
<b>Detail-oriented mindset</b>	Identifying anomalies on datasets and ensuring the reliability of forecasts	☆☆☆☆
<b>Communication and presentation skills</b>	Convey complex technical findings to non-specialist stakeholders, bridging the gap between engineering detail and strategic decision-making	☆☆☆☆
<b>Collaboration and teamwork</b>	Working alongside engineers, project managers, environmental scientists, and financiers	☆☆☆☆
<b>Adaptability</b>	Continuous learning, and a proactive approach to emerging technologies	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Office-based</b>	Most of the work involves analyzing wind resource data, turbine performance metrics, and energy yield models using specialized software	☆☆☆☆
<b>Collaborative</b>	Often work within multidisciplinary teams that include engineers, project managers, and financial analysts	☆☆☆☆
<b>Standard business hours</b>	Typically, office hours, with occasional flexibility depending on project deadlines	☆☆☆☆
<b>Occasional site visits</b>	Travel to wind farms may be needed to validate data, oversee measurement campaigns, or attend stakeholder meetings	☆☆☆☆
<b>Conference participation</b>	Attendance at renewable energy conferences or workshops is common for professional development and networking	☆☆☆☆

- Career path map

**Job title general short description**

A **Wind Yield Performance Analyst** is responsible for conducting the preliminary analysis of wind potential at prospective wind farm sites. Using specialized software tools (such as WASP, WindPRO, OpenWind, HOMER etc.), along with meteorological databases, advanced statistical approaches, and machine learning techniques (including neural networks), the analyst evaluates the expected energy yield of a location. This role is critical in the feasibility assessment of wind energy projects, as it informs decisions on site selection, turbine layout, and financial viability. After the construction of the project, the analyst continues to forecast wind energy production, monitor power production, and assess possible grid outages or performance anomalies.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Wind Yield Analyst (Entry Level)</b>	<ul style="list-style-type: none"> <li>- Primary Wind, Wave, and Depth Data Analysis: Conducting initial assessments of raw environmental measurements, including data cleaning, validation, and statistical characterization (e.g., wind speed distributions, wind roses, wave height profiles, and bathymetric depth patterns).</li> <li>- Primary Statistical Analysis: Applying core statistical methods to evaluate datasets, identify trends, and support hypothesis testing,</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>- Data Analysis: Experienced in extracting and using complex datasets</li> <li>- Statistics: Skilled in applying statistical methods for hypothesis testing, forecasting, and performance evaluation.</li> <li>- Programming: Proficient in writing efficient code for automation, data processing, and model development (e.g., Python, R, or other languages you use).</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>- Communication: Adept at translating technical findings into clear, audience-appropriate language for both specialists and non-specialists.</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor's Degree in a quantitative field (Programming, Physics, Mathematics), providing a solid foundation in data analysis, statistics, and computational methods.</li> </ul>	<p>The use of dedicated market software for wind power estimation becomes essential. A Master's degree or even a PhD in Renewables, Data Analysis, or related fields is considered an advantage. However, based on interviews, companies prioritize the willingness to learn, creativity in problem-solving, and the ability to handle information when advancing an employee to mid-level positions.</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	forecasting, and performance evaluation.	<ul style="list-style-type: none"> <li>- Proactive: Consistently initiates workflow improvements and anticipates challenges to keep projects on track.</li> <li>- Creativity: Brings innovative approaches to problem-solving and adapts methods to diverse contexts.</li> <li>- Adaptability: Thrives in dynamic environments, quickly adjusting to new tools, processes, and stakeholder needs.</li> </ul>		
<b>Wind Yield Power Analyst</b>	<ul style="list-style-type: none"> <li>- Use of primary analysis data in dedicated software applications to extract the statistical characteristics of the area examined.</li> <li>- Filter the data provided by the models and assess the reliability of them.</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- Certified Knowledge of dedicated market software for power production and site viability.</li> <li>- Data Analysis: Experienced in extracting insights from complex datasets to support decision-making and optimize processes.</li> <li>- Statistics: Skilled in applying statistical methods for hypothesis testing, forecasting, and performance evaluation.</li> <li>- Programming: Proficient in writing efficient code for automation, data processing, and model development (Python, R, and related languages).</li> </ul> <p>Soft Skills:</p> <ul style="list-style-type: none"> <li>- Communication: Good at turning complex technical details into simple, clear messages that anyone can understand. Often the first person to share information with other departments, making sure everyone is on the same page.</li> </ul>	<ul style="list-style-type: none"> <li>- Academic Background: Bachelor’s Degree in a quantitative field (Programming, Physics, Mathematics), providing a solid foundation in data analysis, statistics, and computational methods. Master’s degree or PhD in similar fields.</li> <li>- Certified Software Knowledge: Proficient in the use of dedicated market applications for wind power estimation and resource assessment.</li> </ul>	<p>To advance to senior level, a mid-level employee must demonstrate excellent communication skills, including team collaboration and management. These abilities are highly valued and are often strengthened by earning an MBA (Master of Business Administration).</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Proactive: Consistently initiates workflow improvements and anticipates challenges to keep projects on track.</li> <li>- Creativity: Brings innovative approaches to problem-solving and adapts methods to diverse contexts.</li> <li>- Adaptability: Thrives in dynamic environments, quickly adjusting to new tools, processes, and stakeholder needs.</li> </ul>		
<b>Lead Wind Yield Analyst</b>	<ul style="list-style-type: none"> <li>- Team coordination and site viability assessment: Leading collaboration efforts to evaluate project feasibility and ensure operational efficiency.</li> <li>- Outsourcing and integration of analysis: Managing external specialized studies and combining them with in-house research to produce more accurate models and estimations.</li> <li>- Cross-department collaboration: Coordinating with different company sectors (such as marketing) to assess and enhance site profitability.</li> </ul>	<p>Technical Skills:</p> <ul style="list-style-type: none"> <li>- MBA or Equivalent Experience: Formal training in business administration or proven experience in a similar role, providing a solid foundation in management, finance, and organizational strategy.</li> <li>- Certified Knowledge of dedicated market software for power production and site viability.</li> <li>- Data Analysis: Experienced in extracting insights from complex datasets to support decision-making and optimize processes.</li> <li>- Statistics: Skilled in applying statistical methods for hypothesis testing, forecasting, and performance evaluation.</li> <li>- Programming: Proficient in writing efficient code for automation, data processing, and model development (Python, R, and related languages).</li> </ul> <p>Soft Skills:</p>	<ul style="list-style-type: none"> <li>- Academic Background: Bachelor's Degree in a quantitative field (Programming, Physics, Mathematics), providing a solid foundation in data analysis, statistics, and computational methods. Master's degree or PhD in similar fields.</li> <li>- Business Administration Training: Formal education in business administration, preferably a Master of Business Administration (MBA), to strengthen management and leadership capabilities.</li> <li>- Certified Software Knowledge: Proficient in the use of dedicated market applications for wind power estimation and resource assessment.</li> <li>-</li> </ul>	

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Enhanced Communication Skills: Not only simplifying complex technical information, but also leading cross-departmental discussions, aligning diverse teams, and supporting decision-making at a strategic level.</li> <li>- Leadership &amp; Team Management: Coordinating teams, guiding projects, and ensuring collaboration across company sectors to evaluate profitability and drive growth.</li> <li>- Business-Oriented Mindset: Applying creativity and adaptability not just to technical problem-solving, but also to market positioning, resource allocation, and long-term planning.</li> </ul>		

- **Video-interview**

Interviewee:

Dimitris Kourasis, Supervisor of Energy Assessment

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

**JOB TITLE: Offshore Wind Technician**

**PARTNER: SAEK Egaleo**

- **Detailed job description**

**Profession Overview**

The role of an Offshore Wind Technician is pivotal to Europe’s transition toward clean, renewable energy. As the sector expands from established markets in the North Sea to emerging regions in the Mediterranean, technicians are essential for ensuring the continuous and efficient operation of offshore assets. Working in a demanding maritime environment, they are responsible for the installation, operation, and maintenance of mechanical, electrical, and hydraulic systems that enable turbines to function reliably under harsh weather conditions.

Key responsibilities include inspecting critical components, troubleshooting faults, and performing repairs at considerable heights or in confined spaces. The role requires a strong grasp of turbine technology, the ability to interpret technical diagrams, and the use of digital diagnostic tools for predictive maintenance. Due to the remote nature of the work, technicians travel by specialized vessels or helicopters and often operate on rotational schedules, living on Service Operation Vessels (SOVs) or offshore platforms.

Safety is the absolute foundation of the profession. Technicians must strictly adhere to international safety standards, such as those established by the Global Wind Organization (GWO), including mandatory training in Sea Survival, Working at Heights, and First Aid. While specific qualifications vary across Europe (typically EQF Level 4–5), employers generally look for a background in mechanical or electrical engineering, often supported by relevant vocational diplomas or apprenticeships. This high-skill profession offers a dynamic career path, contributing directly to sustainable energy development and grid resilience across Europe.

**Key Competencies & Skills**

**Technical Skills**

- Strong electromechanical knowledge, including documented understanding of mechanical, electrical, and hydraulic systems used in offshore wind turbines, with the ability to read and interpret technical drawings and schematics accurately.
- Advanced troubleshooting and diagnostic capability for identifying faults in generators, pitch systems, yaw drives, converters, and blade components using both manual tools and digital systems such as SCADA and condition-monitoring software.
- Mandatory Global Wind Organization (GWO) safety certifications—Working at Heights, Sea Survival, First Aid, Fire Awareness, Manual Handling—ensuring compliance with European offshore safety standards.
- Ability to use a wide range of tools, including multimeters, torque tools, hydraulic bolt tensioners, vibration-analysis devices, and computer-based diagnostic platforms.
- Physical fitness and endurance required for climbing tall turbine structures, handling heavy equipment, working in confined spaces, and performing tasks during long offshore rotations and changing weather conditions.

- Additional qualifications such as high-voltage training, blade repair, composite-material handling, and OEM-specific turbine training are highly valued and often required for specialized maintenance tasks.

#### Soft Skills

- Strong safety mindset with high situational awareness, consistent application of safety procedures, and the ability to identify hazards quickly in high-risk offshore environments.
- Effective teamwork and communication skills essential for coordinating tasks with vessel crews, technicians, site managers, and onshore control centres under time-critical conditions.
- Problem-solving ability and critical thinking to address unexpected technical issues, environmental changes, and operational challenges far from immediate support.
- Adaptability and resilience, enabling technicians to work efficiently despite motion at sea, unpredictable weather, and the psychological demands of offshore work.
- High attention to detail ensuring quality execution of maintenance procedures, inspections, and documentation, supporting reliable turbine operation.
- Independence, strong time-management skills, and a disciplined work ethic critical for minimizing downtime and maintaining high operational standards across offshore wind assets in Europe.

#### Education and Training

Entry-level training for Offshore Wind Technicians in Europe typically begins through Vocational Education and Training (VET) or specialized technical-vocational programs. These pathways are increasingly supported by emerging initiatives tailored to offshore wind energy. Furthermore, the role is accessible to qualified professionals, such as electricians with a degree, who seek to transition into the sector by pursuing further specialization in offshore wind technology.

Leading the way in professional training is T-shore, a European network spanning countries from Denmark to Ireland. Their goal? To unify training standards so that an offshore wind technician trained in one country has skills recognized everywhere.

Take Skive College in Denmark, for instance. They have turned this concept into reality with their 'wind-electrician' program. It combines electrical fundamentals with specialized wind energy training, offering students direct access to internships and globally recognized safety certifications.

For those looking to fast-track their offshore career, organizations like the European Wind Academy provide the specific GWO safety and technical training required to work on turbines—covering everything from sea survival to hydraulics.

What about Southern Europe? While the offshore market is younger there, opportunities are growing. The SHOREWINNER project is actively establishing training hubs in countries like Portugal, Greece, and Cyprus, preparing a new workforce for the emerging offshore renewable energy sector in the Mediterranean.

The bottom line: There is now a clear roadmap for aspiring technicians. By combining vocational education (like the T-shore programs) with industry-standard certifications, students across Europe can build a future-proof career in wind energy

Sites for more information:

- [Energy Innovation Global](#)

- [SUNY Maritime College](#)
- [Bristol Community College](#)
- [Energy Institute](#)
- [Offshore Wind Learning](#)
- [Stony Brook University](#)
- [Offshore Wind Industry Platform](#)
- [Oceantic Network](#)
- [Chevron Training](#)
- [Ocean Winds \(Wind Experts Program\)](#)
- [Marine Training.eu](#)

### Industry Trends and Outlook

The offshore wind industry is experiencing unprecedented growth, driven by global net-zero targets and technological advancements in turbine efficiency. According to the *Global Wind Workforce Outlook 2024–2028* (GWEC/GWO), the sector will require over 574,000 technicians by 2028. This surge creates a critical demand for skilled personnel, with nearly 43% of these roles expected to be filled by new entrants or professionals reskilling from other sectors.

As the global fleet of wind turbines expands and ages, the industry focus is shifting from short-term construction to long-term Operations and Maintenance (O&M) roles, offering stable career prospects spanning decades. This evolution requires a modern workforce capable of handling larger turbines and utilizing digital competencies for data-driven maintenance and remote diagnostics.

To address the emerging skills gap, the industry is prioritizing standardized safety training (such as GWO standards) and international vocational cooperation. This ensures that technicians are not only technically proficient but also possess the safety qualifications and mobility required to work across different countries and projects in this rapidly booming sector.

### Useful Resources

Below is a comprehensive list of resources including standards, associations, publications, and career portals to support the professional development of an Offshore Wind Technician.

#### 1. Required Standards & Certifications

The foundation for safety and technical competence in the industry.

- Global Wind Organisation (GWO): The leading international body that sets the standards for safety and technical training (BST, BTT, ART).
  - Use: Find training standards and certified training providers.
  - Website: [www.globalwindsafety.org](http://www.globalwindsafety.org)
- International Electrotechnical Commission (IEC) - TC 88: The technical committee preparing international standards for wind turbines (IEC 61400 series).
  - Use: Technical specifications for design and operation requirements.
  - Website: [www.iec.ch/tc88](http://www.iec.ch/tc88)

- DNV (Det Norske Veritas): A major classification society and advisor for the maritime and energy industries. They issue technical standards (DNV-ST) for offshore structures.
  - Website: [www.dnv.com/energy/wind](http://www.dnv.com/energy/wind)
- ISO 45001 (Occupational Health and Safety): The international standard for occupational health and safety management systems.
  - Website: [www.iso.org/iso-45001](http://www.iso.org/iso-45001)
- ISO 12944: The main international standard for corrosion protection of steel structures by protective paint systems.

## 2. Professional Associations

Organizations for networking, legislation updates, and market trends.

- Hellenic Wind Energy Association (HWEA / ELETAEN): The national body for wind energy in Greece<sup>5</sup>.
  - Use: Greek legislation, statistics, workshops, and news regarding offshore parks in Greece.
  - Website: [eletaen.gr/en](http://eletaen.gr/en)
- WindEurope: The voice of the wind industry in Europe.
  - Use: European policies, statistics, and major events (e.g., WindEnergy Hamburg/Copenhagen).
  - Website: [windeurope.org](http://windeurope.org)
- Global Wind Energy Council (GWEC): The international trade association for the wind power industry.
  - Use: Global Offshore Wind Reports and market trends (e.g., Asia, Americas).
  - Website: [gwec.net](http://gwec.net)
- World Forum Offshore Wind (WFO): The only organization 100% dedicated to fostering offshore wind energy globally.
  - Website: [wfo-global.org](http://wfo-global.org)

## 3. Specialized Reports & Publications

Sources for continuous learning and technical news.

- OffshoreWIND.biz: The most popular news site dedicated exclusively to the offshore wind industry.
  - Website: [www.offshorewind.biz](http://www.offshorewind.biz)
- Windpower Monthly: Leading magazine for the sector with technical analysis and business news.
  - Website: [www.windpowermonthly.com](http://www.windpowermonthly.com)
- 4C Offshore: Provides real-time market intelligence and data for all offshore wind farms (locations, vessels, construction status).
  - Website: [www.4coffshore.com](http://www.4coffshore.com)
- NREL Publications (National Renewable Energy Laboratory - USA): Offers free, high-quality technical reports and research on wind technology.

- Website: [www.nrel.gov/wind](http://www.nrel.gov/wind)
- CRES (Centre for Renewable Energy Sources and Saving): The Greek national entity for the promotion of RES, offering technical reports and studies<sup>6</sup>.
  - Website: [www.cres.gr](http://www.cres.gr)

#### 4. Targeted Job Portals

Where graduates can find employment opportunities.

- GreenJobs: A specialized portal for green energy jobs.
  - Website: [www.greenjobs.co.uk](http://www.greenjobs.co.uk)
- Taylor Hopkinson: One of the leading recruitment agencies globally, exclusive to Renewables & Offshore Wind.
  - Website: [www.taylorhopkinson.com](http://www.taylorhopkinson.com)
- Spencer Ogden: A global energy recruitment agency.
  - Website: [www.spencer-ogden.com](http://www.spencer-ogden.com)
- LinkedIn Groups: (e.g., "Renewable Energy Jobs").

#### 5. Training Opportunities

Centers for initial training and re-certification.

- GWO Training Provider Map: An interactive map to find certified training centers worldwide.
  - Link: [GWO Map](#)
- Maersk Training: A major global provider of offshore training (including VR simulators).
  - Website: [www.maersktraining.com](http://www.maersktraining.com)
- RelyOn Nutec: A global leader in safety training for offshore & wind industries.
  - Website: [relyonnutec.com](http://relyonnutec.com)
- GEP (Greece): A certified GWO training provider in Greece for Basic Safety Training.
  - Website: [www.gepgroup.gr](http://www.gepgroup.gr)

#### 6. Communities

Forums for discussion and knowledge exchange.

- LinkedIn Groups:
  - *Offshore Wind Energy* (The largest professional group).
  - *Global Wind Organisation (GWO)* (For training updates).
  - *Wind Turbine Technicians* (For field technical discussions).

### Case Studies or Testimonials

#### Case Study 1: Precision Under Pressure – The Port Operation

Focus: Logistics, Safety Protocols, Teamwork.

Imagine the sheer scale of the energy supply chain. It's not just about the turbines standing in the sea; it's about the massive logistical feats that happen before construction even begins. A prime example is the North Sea Atlantic Spooled Loadout project.

The mission sounded straightforward: load umbilical cables onto a vessel. But in reality, the team at the Offshore Technology Park had to precisely spool 23,970 meters of cable onto the North Sea Atlantic vessel. This wasn't just heavy lifting; it was a high-stakes ballet of engineering.

The Human Challenge:

As the Projects Manager at Shepherd Offshore noted, the goal wasn't just getting the job done, but "achieving zero incidents on the quayside". This required "disciplined operational controls" and flawless communication between the crane operators, the ground crew, and the vessel's crew.

Key Takeaway:

For a new technician, this story teaches a vital lesson: Offshore work demands absolute precision. Whether you are on a ship or at the port, your safety relies on the person next to you following the protocol exactly.

### **Case Study 2: Racing the Waves – The “Embodied Competence”**

Focus: Sensory Skills, Weather Constraints, Adaptation.

The daily operations of an Offshore Wind Technician are fundamentally dictated by maritime and meteorological conditions. Central to this role is the management of the 'Weather Window'—the critical timeframe during which environmental parameters allow for safe transit, turbine access, and technical maintenance

The Scenario:

A team is dispatched to a 6MW turbine to fix a critical pitch system fault. They have a strict deadline, not because of a timesheet, but because the waves are rising. If the wave height exceeds the safety limit (usually around 1.5m – 1.8m), the Crew Transfer Vessel (CTV) cannot safely push onto the turbine ladder to pick them up.

The Human Element:

This is where “embodied competence” comes in. Experienced technicians don't just read screens; they utilize all their senses. Ethnographic studies show that pros diagnose issues by the smell of hydraulic oil or the vibration of the floor—cues that digital sensors often miss. In this case, the team successfully replaced the pitch motor and recalibrated sensors while constantly keeping one eye on the sea state.

Key Takeaway:

The job is 50% technical skill and 50% situational awareness. You fix the machine, but you respect the environment first.

### **Case Study 3: The Critical Decision – Heroism vs. Professionalism**

Focus: Problem Solving, Crisis Escalation, "Stop Authority".

What happens when a routine check turns into a potential crisis? This scenario illustrates the decision-making process when things go wrong.

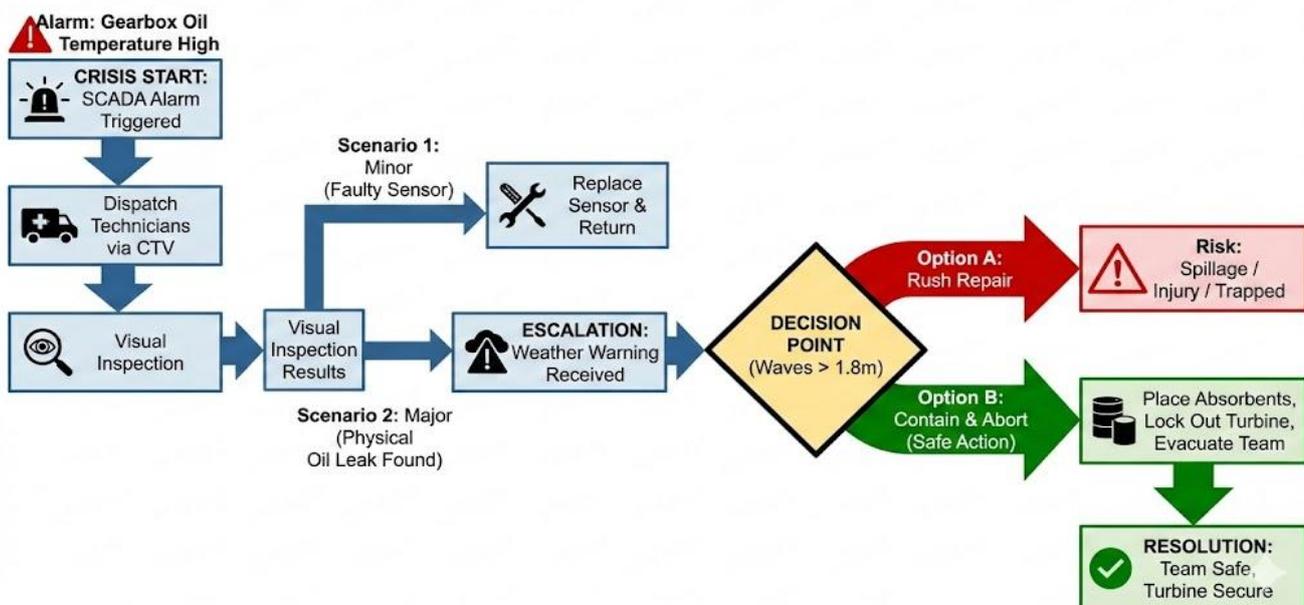
The Scenario: The Gearbox Overheat

A SCADA alarm triggers: "Gearbox Oil Temperature High." Two technicians board the turbine expecting a simple sensor error. However, upon opening the nacelle, they find a physical oil leak on the high-speed shaft. Simultaneously, the radio crackles: the weather is deteriorating faster than forecast.

The Decision Flow:

- The Problem: The leak is messy. Fixing it fully requires time they don't have before the waves get too high.
- The Temptation (Option A): Rush the repair to "save the day" and keep the turbine running. Risk: Potential injury, oil spillage, or getting stranded on the turbine for days due to bad weather.
- The Professional Choice (Option B): Contain the leak with absorbent pads, lock out the turbine to prevent damage, and evacuate immediately.

### Offshore Wind Turbine Fault Escalation & Resolution Scenario



Key Takeaway:

As the explanation highlights, a rookie might choose Option A to impress the boss. A professional chooses Option B. Competence isn't fixing everything at all costs; it's knowing when to stop to ensure the team goes home safe.

### Voices from the Field: Industry Testimonials

To understand what employers truly value, we look beyond the job description to real feedback from major players like Petrofac, Transocean, and technician reviews.

What Employers Are Saying:

- It's about Agility: A Project Director at Petrofac didn't just praise technical skills; he valued a team that was "proficient, agile and effective," noting that their ability to adapt created a "safe and efficient service".
- Efficiency Under Pressure: An Asset Manager at Transocean highlighted that respect is earned by delivering results, calling one group "the best team of electrical workers I have seen in a long time" for handling a massive workload quickly.
- Safety IS Quality: A Fleet Manager from Anglo Eastern emphasized that you cannot have quality without safety. Following norms "very professionally" is what extends the life of the vessel.

#### The Technician's Perspective (The "Lifestyle"):

Working in companies like Oceaneering isn't a 9-to-5 job; it's a lifestyle choice.

- The Reality: "You learn to 'listen' to the turbine... It's a physical job—climbing, lifting—but it's the mental library of sounds and feelings that makes you a Senior Technician." — Lead Technician, North Sea.
- The Safety Culture: "The biggest lesson isn't in the manual; it's knowing when to stop... We packed up and left. The turbine was down for three more days, but we all went home safe. That is the job." — Authorized Technician, UK Sector.
- The Trade-off: Yes, there are 12-hour shifts and missed birthdays. But as one technician puts it, "when you are up on the transition piece watching the sunrise over an empty ocean, there is no office view that can beat it".

#### Context of the OWE/ORE Supply Chain in your country

- **National Context: A New Maritime Energy Era**

Greece stands at the threshold of a major energy transformation, leveraging its vast maritime potential to become a leader in offshore renewable energy (ORE) in the Mediterranean. Under the National Offshore Wind Farms Development Program, managed by HEREMA (Hellenic Hydrocarbons and Energy Resources Management Company), the country has set ambitious targets: 1.9 GW of installed capacity by 2030 and up to 12.4 GW by 2040–2045. The draft plan identifies 25 areas for development across the Aegean, Ionian, and Mediterranean seas, with a strong focus on floating wind technology due to the deep waters of the Greek archipelagos. Pilot projects are already underway, most notably in the region of Alexandroupolis, signaling the start of the implementation phase.

- **Supply Chain Trends: Strengths & Synergies**

The Greek supply chain possesses unique competitive advantages. The country is already a global leader in submarine cable manufacturing and has a robust shipbuilding and maritime support sector, capable of pivoting to support offshore operations. Domestic industries in cement and steel also provide a strong foundation for floating platform construction. However, challenges remain. Studies by the Hellenic Wind Energy Association (ELETAEN) highlight gaps in port infrastructure (e.g., lack of space for turbine assembly) and specialized installation vessels. To bridge these gaps, strategic alliances are forming: international energy giants (e.g., RWE, Equinor, Copenhagen

Offshore Partners) have entered Joint Ventures with Greek entities (e.g., Hellenic ENERGY, TERNA Energy, Mytilineos), ensuring technology transfer and rapid market maturation.

- **Opportunities for the Offshore Wind Technician**

- For the Offshore Wind Technician, this landscape presents a career opportunity with long-term stability. As the sector moves from permitting to construction, there will be an immediate surge in demand for installation, commissioning, and Operation & Maintenance (O&M) professionals.
- Emerging Hubs: New jobs will be concentrated around key port hubs (e.g., Alexandroupolis, Crete, Attica) serving the wind farms.
- Reskilling Potential: There is a strong pathway for technicians from onshore wind, maritime, and shipbuilding sectors to upgrade their skills for the offshore environment.
- Future-Proofing: With the complexity of floating wind structures, technicians with expertise in hydraulics, high-voltage systems, and remote diagnostics will be the backbone of Greece's blue economy.

- **Self-assessment skills & aptitudes questionnaire**

**Brief description of the job profile and its relevance in the sector**

A Key Role in the Green Energy Transition: the **Offshore Wind Technician**

1. Introduction and Relevance to the Sector

The role of the Offshore Wind Technician is central to the global transition toward clean, renewable, and resilient energy systems. As offshore wind capacity expands rapidly across the North Sea, the Atlantic, and now significantly into the Mediterranean and Greek waters, the demand for highly skilled professionals is at an all-time high.

This position is the backbone of the renewable energy industry. Technicians ensure the continuous generation of clean power by maintaining massive turbines—multimillion-euro assets—throughout their 20-30 year lifespans. It is a role that combines advanced technical expertise with physical endurance and an uncompromising commitment to safety.

2. Detailed Job Description

Unlike their onshore counterparts, Offshore Wind Technicians work on large-scale installations situated kilometres from the coast.

- **Commute:** Daily routine involves traveling via Crew Transfer Vessels (CTVs) or helicopters, transferring to the turbine structure with agility and focus.
- **Workspace:** Work is primarily conducted inside the nacelle (top housing) or the hub.
- **Scope:** Responsibilities span the full lifecycle, from installation and commissioning to daily operations and decommissioning.
- **Dynamic Nature:** Tasks vary from routine scheduled service one day to urgent troubleshooting of complex electrical faults the next. Because turbines operate 24/7, technicians are the guardians of efficiency, minimizing downtime.

3. Core Responsibilities

Daily duties generally fall into five key categories:

- **Inspection & Preventive Maintenance:** Performing scheduled tasks to prevent breakdowns, such as checking structural integrity, lubricating mechanical parts (gearboxes, yaw systems), replacing filters, and verifying torque settings on bolts.
- **Troubleshooting & Complex Repair:** Diagnosing root causes of malfunctions in complex electromechanical systems (generators, pitch systems, frequency converters) using schematics and diagnostic software to isolate and repair faults.
- **Component Replacement & Upgrades:** Handling the physical replacement of worn parts, ranging from small electrical relays to assisting heavy-lift vessels with major components like gearboxes or blades.
- **Data Collection & Reporting:** collecting operational data for analysis and creating detailed digital work reports to keep asset management systems up to date.
- **Safety & Compliance (HSE):** Adhering to strict Health, Safety, and Environment procedures. This includes performing risk assessments, using PPE, and following "Lock Out Tag Out" (LOTO) procedures to ensure turbines are de-energized during maintenance.

#### 4. Key Skills and Competencies

Success requires a blend of "hard" technical skills and "soft" personal attributes.

##### Technical Skills:

- **Electromechanical Knowledge:** Deep understanding of AC/DC circuits, hydraulic power systems, and mechanical drivetrains.
- **Schematic Literacy:** Ability to read complex engineering drawings.
- **Digital Proficiency:** Competence with PLC systems, SCADA interfaces, and diagnostic software.
- **Tool Usage:** Proficiency with power tools, precision measuring instruments, and hydraulic torque equipment.

##### Physical & Mental Attributes:

- **Physical Fitness:** Capable of climbing vertical ladders (100+ meters), lifting heavy equipment, and working in confined spaces.
- **Height & Marine Comfort:** Comfortable working at extreme heights and traveling by sea (resilience to seasickness is essential).
- **Problem-Solving:** Critical thinking in isolated environments without immediate supervision.

##### Soft Skills:

- **Teamwork:** Reliance on the "buddy system" for safety.
- **Communication:** Strong command of English (the international industry language) for clear communication with onshore control.
- **Adaptability:** Adjusting to changing weather, shifts, and working away from home.

#### 5. Work Environment and Lifestyle

- **Location:** Exclusively at sea (turbines or offshore substations).
- **Conditions:** Harsh environments involving high winds and salt spray, but offering unique views.
- **Rotational Schedule:** Typically, a rotation like 14 days on / 14 days off. Shifts are usually 12 hours long during the "on" period.

- Accommodation: Living on Service Operation Vessels (SOVs) or "floatels" equipped with cabins, gyms, and canteens, fostering strong team bonds.

#### 6. Education and Background Requirements

- Education: Vocational diploma, associate degree, or trade certification (NVQ, etc.) in electrical engineering, mechanical engineering, or renewable energy technology.
- Experience: Background in industrial maintenance, maritime sectors, electrics, or general construction is highly valuable.
- Certifications: The industry standard is the GWO (Global Wind Organisation) Basic Safety Training, covering Working at Heights, First Aid, Fire Awareness, Manual Handling, and Sea Survival.

#### 7. Career Outlook and Importance

The outlook for Offshore Wind Technicians is exceptionally positive as governments strive for net-zero carbon targets.

- Growth: Double-digit growth is projected for wind technician roles over the next decade.
- Regional Expansion: In regions like Greece and the Mediterranean, entering the field now offers a "first mover" advantage.
- Career Path: Clear progression from Entry-level to Lead Technician, Site Supervisor, or specialized roles like High Voltage Senior Authorized Person (SAP).

Summary: The Offshore Wind Technician role offers high responsibility, high reward, long-term stability, and the satisfaction of contributing directly to a sustainable future.

### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>Technical education Qualification (<i>in Mechanical, Electrical</i>)</b>  <b>Vocational education of <i>Renewable Energy Engineering, Automation, Nautical Automation, Electrical</i></b>	<b>EQF Level 5 (after successful graduation* and exams theoretical and practical in EOPPEP*)</b>	YES / NO / ongoing
GWO Basic Safety Training (BST)	<b>GWO Basic Safety Training (BST)</b>	YES / NO / ongoing
GWO Basic Technical Training (BTT)	<b>GWO Basic Technical Training (BTT)</b>	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Electromechanical Systems</b>	I understand the mechanical, electrical, and hydraulic systems used in turbines (e.g., yaw/pitch systems, converters). I can accurately read and interpret technical drawings and schematics.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Troubleshooting &amp; Diagnostics</b>	I can identify faults in critical components (generators, blades) using manual tools and digital systems. I am familiar with using SCADA and condition-monitoring software to analyse performance.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Tools &amp; Equipment Usage</b>	I am proficient in using a wide range of industry tools, including multimeters, torque tools, hydraulic bolt tensioners, and vibration-analysis devices.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Safety &amp; Compliance (HSE)</b>	I have a strong understanding of international safety standards (GWO). I know how to apply strict safety protocols, including risk assessments and LOTO (Lock Out Tag Out) procedures in high-voltage environments.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Documentation &amp; Digital Reporting</b>	I can document maintenance activities, inspection logs, and safety checks accurately. I am comfortable using digital tools to support data-driven asset management and regulatory compliance.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Safety Mindset</b>	I possess high situational awareness and consistently apply safety procedures. I can quickly identify hazards in high-risk environments and do not compromise on safety.	☆☆☆☆

Soft skill	Description	Rating (1 to 4 stars)
<b>Teamwork &amp; Communication</b>	I communicate effectively with team members, vessel crews, and onshore control centers. I can coordinate tasks clearly, even under time-critical conditions.	☆☆☆☆
<b>Problem Solving</b>	I can think critically to address unexpected technical issues or environmental changes far from immediate support. I remain solution-oriented under pressure.	☆☆☆☆
<b>Adaptability &amp; Resilience</b>	I can work efficiently despite motion at sea (seasickness), unpredictable weather, and the psychological demands of working in remote offshore locations.	☆☆☆☆
<b>Attention to Detail</b>	I am disciplined and precise in my work, ensuring quality execution of maintenance procedures to minimize downtime and ensure reliable turbine operation.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Physical Demands &amp; Heights</b>	I am physically fit and willing to climb tall turbine structures, handle heavy equipment, and work in confined spaces (e.g., nacelle, hub).	☆☆☆☆
<b>Rotational Schedule</b>	I am willing to work on rotational schedules (e.g., 2 weeks offshore followed by 2 weeks onshore), which involves being away from home for extended periods.	☆☆☆☆
<b>Maritime Environment</b>	I feel comfortable traveling by specialized vessels (CTV/SOV) or helicopters and living on offshore platforms, even during rough seas or changing weather.	☆☆☆☆
<b>Continuous Learning</b>	I am motivated to constantly update my skills regarding new turbine models, digital diagnostic tools, and advanced materials as the technology evolves.	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Mobility</b>	I am available to travel or relocate if necessary to support offshore wind farm operations in different regions (e.g., North Sea, Mediterranean).	☆☆☆☆
<b>Contract stability</b>	I am comfortable working on project-based or fixed-term contracts	☆☆☆☆
<b>Work mode</b>	I prefer dynamic and practical activities over desk-based work	☆☆☆☆

- Career path map

**Job title general short description**

Technician (Core ESCO/ISCO code 7412.12) – Offshore Wind Energy (OWE)

Description This Career path map illustrates the professional progression of the **Offshore Wind Technician**. The core occupation aligns with ESCO 7412.12 (Wind Turbine Technician). The role falls under the broader scope of Renewable Energy Technicians (ESCO 7543.1) and integrates technical competencies from Electrical Engineering (ESCO 3113.1) regarding the maintenance of turbine systems. Advancement aligns with roles such as Offshore Renewable Energy Engineer (ESCO 2149.9).

Definition and Job Description: The Offshore Wind Technician (or "Windsmith") is responsible for the installation, inspection, maintenance, and repair of wind turbines. The role demands technical expertise in mechanical, electrical, and hydraulic systems combined with the physical capability to work in challenging offshore environments. While some technicians assist in construction, the primary workload focuses on maintaining and troubleshooting existing units within the nacelles where generating equipment is housed.

Core Tasks

- **Data & Maintenance:** Collecting turbine data for analysis and performing routine testing on electrical, mechanical, and hydraulic systems.
- **Infrastructure:** Servicing transmission systems (cabling), substations, and control systems.
- **Reactive Repair:** Turbines are monitored 24/7; technicians must travel to worksites to troubleshoot remote alerts and replace malfunctioning components.
- **Work Environment:** The average workday involves climbing multiple towers (approx. 80+ meters) to diagnose malfunctions. Maintenance often requires working in confined spaces inside hubs or on top of the nacelle, sometimes coordinating with cranes.
- **Safety & Admin:** Due to working conditions, strict safety protocols and fall protection are critical. Technicians also manage site administration, including ordering spare parts and documenting operations.

Required Skills & Competencies

- **Mechanical & Technical Proficiency:** Familiarity with all turbine systems to diagnose failure causes and execute repairs.
- **Physical Stamina:** Ability to climb ladder systems to nacelle height (80m+) without tiring and lift tools exceeding 20 kg (45 lbs).
- **Troubleshooting:** Capability to diagnose malfunctions when a turbine stops generating electricity.

- Environmental Adaptation: Comfort working at heights and in confined spaces.
- Documentation: Ability to write clear reports on testing, inspections, and repairs.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>• Trainee Wind Technician</li> <li>• Junior Maintenance Technician</li> <li>• Assistant Windsmith</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>• <b>(ESCO 7543.1 Context):</b> Basic renewable energy system maintenance.</li> <li>• Perform routine maintenance (visual inspections, lubrication, fastener torque checks).</li> <li>• Use of handheld power tools and electrical measuring instruments.</li> <li>• Ability to work in confined spaces and at heights (nacelle/tower).</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>• Teamwork and clear communication.</li> <li>• Strict adherence to safety protocols (Safety awareness).</li> <li>• Physical stamina for climbing and lifting.</li> </ul>	<ul style="list-style-type: none"> <li>• High school diploma or equivalent.</li> <li>• <b>GWO Basic Safety Training (BST)</b> (Sea Survival, Work at Heights, First Aid, Fire Awareness, Manual Handling).</li> <li>• Basic technical education (2-year technical program preferred).</li> </ul>	<ul style="list-style-type: none"> <li>• Gain familiarity with wind turbine components (structural, mechanical, electrical).</li> <li>• Develop capability for safe climbing and offshore operations.</li> <li>• Understand basic data collection and reporting procedures.</li> </ul>
<b>Mid-Level</b>	<ul style="list-style-type: none"> <li>• Wind Turbine Technician (<b>ESCO 7412.12</b>)</li> <li>• Authorized Technician (AT)</li> <li>• O&amp;M Technician</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>• <b>(ESCO 7412.12 Context):</b> Diagnose and repair mechanical, hydraulic, and electrical malfunctions.</li> <li>• <b>(ESCO 3113.1 Context):</b> Perform electrical switching and troubleshooting of control cabinets/generators.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>GWO Basic Technical Training (BTT)</b> (Hydraulics, Mechanical, Electrical).</li> <li>• <b>GWO Advanced Rescue Training (ART).</b></li> </ul>	<ul style="list-style-type: none"> <li>• Master control systems (SCADA) diagnostics.</li> <li>• Ability to coach and support junior technicians.</li> <li>• Manage complex repairs without direct supervision.</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>Electrical Technician (ESCO 3113.1)</li> </ul>	<ul style="list-style-type: none"> <li>Execute LOTO (Lock Out Tag Out) procedures.</li> <li>Replace worn components (sensors, pumps, brake pads).</li> <li>Document inspections and repairs in technical reports.</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>Problem-solving (Troubleshooting).</li> <li>Autonomy in performing tasks.</li> <li>Attention to detail in diagnostics.</li> </ul>	<ul style="list-style-type: none"> <li>LOTO Authorization (Authorized Person).</li> <li>Manufacturer (OEM) specific training.</li> <li>12+ months on-the-job training.</li> </ul>	<ul style="list-style-type: none"> <li>Deepen knowledge of specific turbine manufacturers.</li> </ul>
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>Lead Technician</li> <li>Senior Windsmith</li> <li>Competent Technician (CT)</li> <li>Troubleshooting Expert</li> <li>Team Leader</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li>Advanced failure analysis on critical components (gearbox, generator, blades).</li> <li>Manage and lead teams of technicians on-site.</li> <li>Coordinate with central monitoring offices and manage spare parts inventory.</li> <li>Supervise heavy-lift operations (cranes) and complex replacements.</li> <li>QA/QC of field operations.</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>Leadership and crisis management.</li> <li>Mentoring and training staff.</li> <li>Decision-making under pressure.</li> </ul>	<ul style="list-style-type: none"> <li>Advanced Troubleshooting / HV (High Voltage) switching authorization.</li> <li><b>GWO Slinger Signaler</b> (for lifting operations).</li> <li>Team Leadership training.</li> <li>Level 3/4 Technical Certifications.</li> </ul>	<ul style="list-style-type: none"> <li>Transition to Site Supervisor roles.</li> <li>Participate in maintenance scheduling and planning.</li> <li>Develop skills in fleet management and asset optimization.</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>Site Manager</li> <li>Operations Manager</li> <li>Asset Manager</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li><b>(ESCO 2149.9 Context):</b> Strategic planning of O&amp;M and engineering optimization.</li> </ul>	<ul style="list-style-type: none"> <li>Bachelor's/Master's degree in Engineering or Business.</li> <li>Project Management Certification (e.g., PMP).</li> </ul>	<ul style="list-style-type: none"> <li>Drive strategic decisions for project sustainability and profitability.</li> <li>Promote a zero-incident and continuous improvement culture.</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>Offshore Renewable Energy Engineer (<b>ESCO 2149.9</b>)</li> </ul>	<ul style="list-style-type: none"> <li>Budget management and investment decisions for fleet improvement.</li> <li>Ensure compliance with regulatory bodies and HSE standards.</li> <li>Manage contracts and sub-contractors.</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>Executive leadership and vision-setting.</li> <li>Negotiation and stakeholder engagement.</li> <li>Strategic communication.</li> </ul>	<ul style="list-style-type: none"> <li>Advanced Asset Management training.</li> <li>Executive MBA (optional).</li> </ul>	<ul style="list-style-type: none"> <li>Represent the company to investors and regulators.</li> </ul>
<b>Cross-Sector Opportunities</b>	<ul style="list-style-type: none"> <li>GWO Instructor</li> <li>Quality Inspector</li> <li>Environmental Engineer (<b>ESCO 2141.1</b>)</li> <li>Technical Sales Engineer</li> </ul>	<p><b>Technical Skills:</b></p> <ul style="list-style-type: none"> <li><b>(ESCO 2141.1 Context):</b> Apply environmental expertise to sustainability and compliance roles.</li> <li>Deliver technical training and assess competence.</li> <li>Apply quality and safety standards to other sectors.</li> </ul> <ul style="list-style-type: none"> <li>Conduct technical audits and advise on regulatory transitions.</li> </ul> <p><b>Soft Skills:</b></p> <ul style="list-style-type: none"> <li>Presentation and instructional skills.</li> <li>Analytical writing for decision-makers.</li> <li>Change management.</li> </ul>	<ul style="list-style-type: none"> <li><b>GWO Instructor Certification.</b></li> <li>ISO Lead Auditor Certification (Quality/Safety).</li> <li>NEBOSH (for HSE roles).</li> <li>Train-the-Trainer courses.</li> </ul>	<ul style="list-style-type: none"> <li>Expand professional scope to consultancy or regulatory advisory.</li> <li>Transition to related fields like Hydrogen or Solar Energy.</li> <li>Specialize in adult education and training.</li> </ul>

- **Video-interview**

Interviewee:

Georgios Koutras, Offshore Wind Turbine Technician

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTys>

**JOB TITLE: Offshore Wind Project Manager**

**PARTNER: UAEGEAN**

- **Detailed job description**

**Profession Overview**

Offshore wind project managers are responsible for the planning, coordination, and successful delivery of offshore wind projects across their entire life cycle, from development and construction to operation and maintenance. They ensure that project objectives are achieved within defined timelines, budgets, quality standards, and regulatory constraints in complex offshore and transnational environments. Their role includes managing technical, economic, environmental, logistical, and regulatory risks, which are often interdependent and long term. Offshore wind project managers plan and control schedules, budgets, logistics, and resources, including vessels, ports, equipment, and digital systems, while coordinating multidisciplinary and multinational stakeholders. Large offshore wind projects rely on integrated supply chains, formal contracts, and controlled information sharing to manage interdependencies among constructors, suppliers, and service providers. In this context offshore wind project managers ensure compliance with sector-specific safety requirements and environmental standards throughout project execution, operation, and maintenance. In addition, they conduct risk and cost–benefit analyses and support decision-making processes, particularly in site selection, logistics planning, and strategic project governance. Through effective communication, stakeholder coordination, and continuous performance monitoring, offshore wind project managers contribute to the efficient, safe, and sustainable deployment of offshore wind energy projects. They also play an important role in fostering inclusive working environments by promoting collaboration across diverse professional backgrounds, cultures, and disciplines.

**Key Competencies & Skills**

**General information**

Offshore wind project managers, play a central role in the successful delivery of offshore wind projects operating in complex, high-risk, and highly regulated marine environments. They coordinate activities across the entire project life cycle and ensure that objectives related to time, cost, quality, safety, and environmental performance are achieved under conditions of uncertainty. Research on offshore renewable energy projects indicates that management-related and economic risks are often decisive for project success, highlighting the importance of structured governance and evidence-based decision making.

**Technical skills**

Offshore wind project managers require advanced technical competencies (similar to ESCO occupation profile 1219.6: Project manager) in project management methodologies (such as PM<sup>2</sup>), resource planning, budgeting, and financial control. They must be able to systematically identify, assess, and mitigate risks throughout the project life cycle. Core responsibilities include drafting and maintaining project documentation, defining technical and contractual specifications, estimating work duration, monitoring key performance indicators (KPIs), and ensuring compliance with maritime law, health and safety regulations, environmental requirements, and quality standards.

In addition, they must manage complex offshore logistics and supply chains, including the coordination of vessels, ports, equipment availability, maintenance activities, and information flows. The preparation of feasibility studies, cost–benefit analyses, and progress reports is essential to support informed decision making. Given the presence of multiple and sometimes competing objectives—such as cost efficiency, energy yield, and environmental protection—familiarity with multi-criteria decision-making approaches is increasingly important.

### **Soft skills**

Equally important are the soft skills that enable offshore wind project managers to lead multidisciplinary and multinational teams and coordinate diverse stakeholders, including developers, maritime contractors, suppliers, regulators, and local communities. Strong communication and leadership skills are essential to align interests and manage expectations. Adaptability and decision making under pressure are particularly critical in offshore contexts characterised by weather uncertainty, operational disruptions, and evolving regulatory requirements. Studies in maritime and energy-intensive sectors emphasise the role of strategic thinking, stakeholder engagement, and life-cycle awareness in achieving sustainable and resilient project delivery.

### **Education and Training**

#### **Required education and training at entrance level and for further development.**

Multiple educational routes are available across European education systems for the initial education and training of managers at entry level. However, project management is a profession that is developed primarily through work-based learning and practical experience, rather than through theoretical knowledge alone. According to Euridice (2025), regarding primary and secondary education, 20 education systems across Europe have in place at least one strategy that includes entrepreneurship Education with ‘financial and economic literacy’ being the most present in European curricula. In Greece, the education and training system offers relevant programs at several levels of the European Qualifications Framework (EQF), starting from EQF level 4, where vocational education programs in Economics and Management provide foundational managerial knowledge and basic skills. At EQF level 5, through the apprenticeship year and SAEK programs (post-secondary non tertiary programs), learners combine theoretical instruction with practical application in the fields of economics and management, acquiring competences across a broader range of managerial functions, including introductory project management learning outcomes. Opportunities for deeper engagement with project management theory, methodologies, and analytical tools are mainly provided in tertiary education at EQF level 6 (Bachelor’s degree), as well as at EQF levels 7 and 8 (Master’s and PhD programmes), where project management is addressed in a more systematic, specialized, and research-oriented manner.

#### **Entry into offshore wind project management roles**

Entry into offshore wind project management roles typically requires a solid academic background combined with targeted professional training. At entrance level, relevant qualifications include bachelor’s degrees in engineering, energy systems, maritime studies, construction management, or business and project management, complemented by foundational knowledge of project management

principles and health and safety. For further professional development, specialised training is required in areas such as offshore logistics and vessel coordination, risk and safety management, regulatory and permitting frameworks, environmental assessment, and leadership in complex, high-risk environments.

Indicative existing relevant programmes:

- **Master's & Advanced Degree Programmes**

MSc in Offshore Wind Energy — University of Strathclyde (UK)

<https://www.strath.ac.uk/courses/postgraduatetaught/offshorewindenergy/>

Master's in Wind Power Project Management — Uppsala University (Sweden)

<https://www.uu.se/en/study/programme/masters-programme-wind-power-project-management-60/>

Executive Offshore Wind MBA — Offshore Wind Energy Centre

<https://umg.edu.pl/en/about-executive-mba-offshore-wind-energy>

Master's in Offshore Wind Energy (Continuing Education) — ETSEIB / UPC Barcelona (Spain)

<https://www.talent.upc.edu/ing/estudis/formacio/curs/202000/energia-eolica-marina/>

- **Short Courses & Professional Programmes**

Wind Energy Project Management — HAN University of Applied Sciences (Netherlands)

<https://www.hanuniversity.com/en/programs/exchange-program/wind-energy-project-management/program/>

Project Management for Offshore Projects — Skillnet Offshore Wind Academy (Ireland)

<https://skillnetoffshorewindacademy.ie/courses/project-management-for-offshore-projects/>

Project Management for Offshore Wind — Stony Brook University (USA, online)

<https://www.stonybrook.edu/commcms/offshorewind/project-management/>

- **Bachelor Programmes**

Bachelor in Renewable Offshore Energies — Kiel University of Applied Sciences (Germany)

<https://www.haw-kiel.de/en/degree-courses/courses/renewable-offshore-energies/>

- **Catalogue of European wind energy programmes**

Wind Energy Study Programmes — European Academy of Wind Energy (EAWE) (catalogue of European wind energy programmes)

<https://eawe.eu/education/wind-energy-study-programmes/>

## Industry Trends and Outlook

As UNESCO (2025) emphasizes, the offshore wind energy development has become a rapidly expanding global trend, as governments increasingly integrate this technology into their strategies for achieving climate neutrality. In parallel, European research institutions and industrial actors are accelerating the development of innovative marine energy technologies, including floating offshore wind systems, which are expected to play a decisive role in expanding deployment to deeper waters and new maritime regions (European Commission, 2020). Recent EU policy and market analyses (EU Blue Economy Report, 2025) indicate that offshore wind energy is evolving into a strategically important sector within the blue economy, generating growing economic value and demonstrating strong expansion. This growth is accompanied by a steady increase in employment, with comparatively attractive wage levels. Within this dynamic and expanding context, demand for specialized professional profiles as offshore wind energy project managers is expected to rise in parallel with sectoral development across the European Union and globally. The development of the offshore wind sector also creates opportunities to promote more inclusive participation in emerging blue economy professions. Offshore wind careers include interdisciplinary education pathways, flexible training models, and initiatives aimed at increasing the participation of women, young professionals, and underrepresented groups in technical and managerial roles such as offshore wind project management.

## Useful Resources

### Required standards and certifications

Global Wind Organisation (GWO) Safety Standards.

<https://www.globalwindsafety.org>

### Professional associations

Skillnet Offshore Wind Academy.

<https://windenergyireland.com/training-development/skillet-offshore-wind-academy>

### Specialized reports and publications

European Commission. (2021). PM<sup>2</sup> Project Management Methodology.

<https://commission.europa.eu/pm2>

Global Wind Organisation (GWO). (2023). Training and Safety Standards for the Wind Industry.

<https://www.globalwindsafety.org>

European Commission. (2023). ESCO occupation profile 1219.6: Project manager. European Skills, Competences, Qualifications and Occupations (ESCO).

<https://esco.ec.europa.eu/en/classification/occupation/1219.6>

### Targeted job portals

EnergyJobSearch.

<https://energyjobsearch.com/jobs?title=project+manager+offshore+wind>

### Training opportunities

Offshore Wind Energy Course – Maritime Training Academy.

<https://maritimetrainingacademy.com/courses/offshore-wind-energy/>

### DNV Project Certification Workshop

<https://www.dnv.com/training/type-and-project-certification-workshop-wind-energy-online--9234/>

### Case Studies or Testimonials

“The role of an offshore project manager is broadly similar to that of onshore projects, but on a much larger scale: more capital-intensive and technically complex projects, higher levels of risk, non-negotiable health and safety requirements, and a critical need for precise planning of time, cost, and logistics.”

“In offshore projects, the project manager is responsible for managing long-term investments, complex construction methods, and heightened risks related to weather conditions, maritime operations, and supply chains, making planning and risk management decisive factors for project success.”

“An offshore project manager builds on a common core of project management skills, but must additionally demonstrate strong leadership, advanced communication skills, and the ability to manage multicultural and multinational teams in high-risk environments, where coordination and clarity are critical.”

“Offshore projects require project managers who can operate under pressure, manage complex logistics and maritime operations, and align suppliers, vessels, and teams within narrow weather windows, as delays can rapidly escalate costs and disrupt the entire project schedule.”

“Education for offshore project managers should follow a blended pathway, combining a strong academic background in engineering or management with specialized project management training and hands-on experience, as theoretical knowledge alone is not sufficient to prepare professionals for the complexity of offshore projects.”

“While short upskilling programmes can strengthen skills such as risk and project management, truly tailored offshore project management education often requires specialized international training, where learners gain exposure to large-scale offshore projects and develop practical, experience-based competencies.”

“The offshore wind sector offers clear long-term career pathways, allowing professionals to progress from technical roles through supervisory positions to project management, provided they combine formal education, continuous training, certifications, and hands-on experience in both onshore and offshore environments.”

“Offshore project management does not necessarily require permanent offshore presence, as many coordination, planning, and communication tasks can be performed remotely, making the sector more accessible and attractive to young professionals entering the field.”

### Context of the OWE/ORE Supply Chain in your country

In August 2022, Greece adopted its first dedicated legislative framework for offshore wind energy, setting a national target of 2 GW of offshore wind capacity by 2030. This law marks a critical milestone in the country’s energy transition, as it establishes regulatory clarity and initiates the development of offshore wind—predominantly through floating technologies, reflecting Greece’s deep-water seabed conditions. According to the Hellenic Wind Energy Association (ΕΛΕΤΑΕΝ), offshore wind is expected to play a strategic role in achieving climate targets, strengthening energy security, and creating long-term domestic value through supply-chain development and skilled employment.

Renewable energy use in transport in Greece is currently driven mainly by biofuel blending, while the country remains a global leader in solar energy, particularly for domestic hot water in buildings. ΕΛΕΤΑΕΝ highlights that this diversified renewable mix provides a strong baseline, but also underscores the need to significantly scale up wind energy—both onshore and offshore—to support electrification and deep decarbonisation across sectors.

In parallel, Greece is planning major investments in electricity infrastructure, which are widely recognised as a prerequisite for large-scale renewable integration. These include expanding cross-border interconnections to enhance integration with the European electricity market and support Greece’s strategic ambition to become a net electricity exporter. Planned projects involve doubling interconnection capacity with Bulgaria, Italy, and North Macedonia, tripling capacity with Albania, and establishing a new interconnection with Egypt. At the domestic level, substantial upgrades to transmission and distribution networks are underway to accommodate higher penetration of wind, solar PV, and hydropower, while the interconnection of the most populated islands with the mainland grid by 2030 is expected to significantly reduce emissions and system costs. As consistently argued in ΕΛΕΤΑΕΝ publications, the combined advancement of offshore wind deployment and grid infrastructure positions Greece as an emerging player in the European offshore renewable energy landscape.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

The Offshore Wind Project Manager role, undertakes the planning, correlating and implementing of offshore wind projects. Specifically, this job requires the early development and permitting to construction, commissioning and handover of each project. Moreover, this role is responsible for managing multidisciplinary teams and project schedules and budgets, coordinating suppliers and contractors, securing conformity with health, safety and environmental rules, and managing risks. The Offshore Wind Project Manager profile plays a severely critical role in the offshore wind sector,

supporting renewable energy transition globally. These Managers contribute to the successful development of large-scale renewable energy substructures, guaranteeing the technical and economical and safe viability in complex offshore environments.

### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>Bachelor’s degree in Engineering (Mechanical, Electrical, Marine) or Energy-related field</b>	EQF 6	YES / NO / ongoing
<b>Master’s degree in Renewable Energy, Project Management, or related field (recommended)</b>	EQF 7	YES / NO / ongoing
<b>Project Management certification (Project Management Professional (PMP), or equivalent)</b>	International standard	YES / NO / ongoing
<b>Offshore Health &amp; Safety certification</b>	Industry standard	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Offshore Wind Project Lifecycle Management</b>	Ability to plan, coordinate, monitoring offshore wind projects across development, construction, and commissioning phases	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Technical Knowledge of Offshore Wind Systems</b>	Understanding the offshore wind technologies (turbines, foundations, electrical and subsea systems)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Budgeting and Financial Control</b>	Ability to manage and monitor project schedules, budgets, costs, and support financial decision-making	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Competence Area	Description	Rating (1–4)
<b>Risk, Health &amp; Safety, and Regulatory Conformity</b>	Ability to identify risks and ensuring health and environmental safety in offshore projects	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Coordination of Supply Chain and Logistics</b>	Ability to coordinate suppliers, vessels, ports, and logistics concerning offshore projects	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Leadership and Team Coordination</b>	Ability to lead and coordinate multicultural teams within a project	☆☆☆☆
<b>Communication</b>	Ability to communicate clearly with the project teams, stakeholders, and external partners	☆☆☆☆
<b>Problem Solving and Decision Making</b>	Ability to analyse complex situations and support effective decisions and solutions under pressure conditions	☆☆☆☆
<b>Time Management and Organization</b>	Ability to schedule, prioritize tasks, managing and monitoring multiple activities within project timelines	☆☆☆☆
<b>Adaptability and Resilience</b>	Ability to adapt to changes related to the projects and maintain efficiency in demanding conditions and environments	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Working hours</b>	I am willing to work on shifts or outside standard office hours if required by the role	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>Mobility / travel</b>	I am available to travel or relocate for work, including offshore areas	☆☆☆☆
<b>Work environment</b>	I feel comfortable working in offshore - outdoor environments	☆☆☆☆
<b>Contract stability</b>	I am comfortable working on project-based or fixed-term contracts	☆☆☆☆
<b>Work mode</b>	I prefer dynamic and practical activities over desk-based work	☆☆☆☆

- Career path map

Job title general short description
<p>The <b>Offshore Wind Project Manager</b> role, undertakes the planning, correlating and implementing of offshore wind projects. Specifically, this job requires the early development and permitting to construction, commissioning and handover of each project. Moreover, this role is responsible for managing multidisciplinary teams and project schedules and budgets, coordinating suppliers and contractors, securing conformity with health, safety and environmental rules, and managing risks. The Offshore Wind Project Manager profile plays a severely critical role in the offshore wind sector, supporting renewable energy transition globally. These Managers contribute to the successful development of large-scale renewable energy substructures, guaranteeing the technical and economical and safe viability in complex offshore environments.</p>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	Junior Project Assistant, Offshore Wind Graduate Trainee, Project Coordinator Assistant	<p>Technical: Basic understanding of offshore wind systems, project documentation, health &amp; safety insight</p> <p>Soft: Communication, Teamworking, Continuous learning</p>	Bachelor's degree in Engineering, Energy, or related field (EQF 6)	Developing foundational technical knowledge, Understanding project lifecycles, Supporting staff in organization and coordination tasks
<b>Mid-Level</b>	Offshore Wind Project Coordinator, Project Engineer, Junior Project Manager	<p>Technical: Project designing, Scheduling and Monitoring costs, Technical understanding of offshore systems</p> <p>Soft: Problem solving, Time management, Clear Communication</p>	Bachelor's degree (EQF 6); Project Management training certification	Managing determined project tasks, Building experience in risk management, Developing ability of Contractor coordination
<b>Senior Level</b>	Offshore Wind Project Manager, Project Manager Designer	<p>Technical: Complete project management, Budgeting and Risk management, Compliance in rules, Supply chain coordination</p> <p>Soft: Leadership, Decision making, Negotiation ability</p>	Master's degree in Renewable Energy or Project Management (EQF 7), PMP certification	Leading of complex projects, Managing multidisciplinary teams, Contribution to strategic planning, Developing abilities of performance optimization

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Executive Level</b>	Senior Project Manager / Senior Offshore Wind Manager	Technical: Programme management, Strategic planning and Governance Soft: Strategic leadership, Stakeholder management, Managing changes within a project	Advanced Project Manager certification, Executive leadership training	Managing multiple projects, Aligning projects with organizational strategies and energy transition strategies
<b>Cross-Sector Opportunities</b>	Renewable Energy Project Director, Energy Infrastructure Consultant, Policy or Regulatory Advisor	Technical: Transferring knowledge related to project management and energy system understanding Soft: Strategic and Analytical thinking, Advisory	Renewable Energy Sector-specific training, Policy or consulting certifications (optional)	Apply offshore wind expertise to other renewable sectors, efforts to Influence policy, strategies, Supporting innovation

- **Video-interview**

Interviewee:

N. Filopoulos, Regional HSE Manager

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTyS>

## 4.5. Cyprus

### JOB TITLE: Senior Renewable Energy and Energy Storage Expert

PARTNER: UCY

#### - Detailed job description

#### Profession Overview

A Renewable Energy and Energy Storage Expert is responsible for assessing, designing, and optimizing sustainable power systems, and advanced storage technologies. The role involves conducting feasibility analyses, evaluating technical and economic performance, and guiding large-scale renewable energy projects from concept to deployment. These professionals research and develop energy-conversion solutions, design systems that enhance efficiency and sustainability, and integrate storage technologies to ensure reliability and grid stability. They work to maximize renewable energy output, reduce costs, and minimize environmental impact while supporting long-term decarbonization strategies.

#### Key Competencies & Skills

##### Hard skills

- Technical and economic feasibility analysis of solar PV/Wind and energy storage
- Use of modelling tools (PVsyst, Helioscope, HOMER)
- Use of CAD and technical drawing software
- Project development, feasibility studies, and integration assessments
- Grid impact and integration evaluations
- Knowledge of EU renewable energy regulations, permitting, and funding (asset)
- Experience in EU coal transition regions (asset)
- Execution of energy management tasks and thermal/electrical calculations
- Promotion and technical guidance on solar, wind, and geothermal technologies
- Scientific research and site assessment for renewable deployment

##### Soft skills

- Analytical and problem-solving capability
- Effective written and spoken communication
- Project coordination and stakeholder engagement
- Ability to work independently under deadlines
- Strategic thinking and adaptability

#### Education and Training

##### Entrance-level requirements

- Bachelor's degree (or equivalent) in Renewable Energy / Electrical Engineering / Energy Systems or a related discipline (EQF 6)
- Demonstrated foundational competence in engineering, thermodynamics, energy systems modelling, and sustainability topics.

- Vocational or short-course training in solar PV and/or Wind system design, grid-connected systems, or energy storage is highly advantageous (EQF 4-5).
- For regulated activities (e.g., PV installer certification in Cyprus) completion of relevant certification/training (theoretical + practical) is required.

#### Further development/senior-level requirements

- Master's degree or higher (MSc or MEng) in Energy Technologies, Sustainable Design, Renewable Energy Systems, or related field.
- Minimum of ~10 years of relevant professional experience in renewable energy project development and energy storage systems.
- Hands-on experience in at least three mature solar PV/Wind + energy storage projects, including technical, economic and grid-integration assessments.
- Demonstrated experience in grid impact/integration studies, permitting, regulatory frameworks (especially EU context), and funding mechanisms.
- (Asset) Experience working in coal-transition regions within the EU (or similar transition contexts) adds value.
- Continuous professional development: modelling/simulation tool proficiency (PVsyst, Helioscope, HOMER, etc.), project management, stakeholder engagement, technical research, and publication credentials.

#### Industry Trends and Outlook

In Cyprus, the renewable energy and storage sector is driven by excellent solar potential, high electricity prices and limited interconnection capacity, making large-scale PV, battery storage and advanced grid management essential. National priorities focus on reducing curtailment, improving system stability and integrating digital and hybrid solutions. Although Cyprus has no ongoing offshore renewable energy projects, regional initiatives such as SHOREWINNER Project highlight the long-term relevance of offshore skills and cooperation across Southern Europe. As the island continues to expand its renewable portfolio, professionals with expertise in solar, storage, grid integration and emerging offshore-related technologies will remain in strong demand.

#### Useful Resources

Standards and certifications:

- [ISO 50001 Energy management](#)
- [ISO 9001:2015 - Quality management systems — Requirements](#)
- [ISO 14001:2015 - ISO 14001 - Environmental management systems](#)
- [IEC and EN standards for grid connected PV, inverters and storage systems, applied together with the Cyprus grid code and Cyprus Energy Regulatory Authority \(CERA\) for RES integration and grid connection](#)
- [RES EU certification schemes managed by the Ministry of Energy, Commerce and Industry](#)

Professional associations:

- [Cyprus association of renewable energy enterprises \(SEAPEK\)](#)

- [Cyprus wind energy association \(SAEK\)](#)
- [Cyprus energy agency \(CEA\)](#)
- [Cyprus employers and industrialists federation \(OEB\)](#)

#### Job portals

- <https://findjobsincyprus.com/>
- <https://ergodotisi.com/en-CY>
- <https://www.carierista.com/el>
- <https://kariera.com.cy/el/>

#### Specialized reports and publications:

- [Monitoring the Energy Efficiency Pillar for Climate Neutrality \(The Cyprus Institute - 2024\)](#)
- [Renewable Energy Roadmap for the Republic of Cyprus \(IRENA – 2015\)](#)
- [Energy Profile – Country indicators and SDGS \(IRENA – 2025\)](#)
- [Policies in Cyprus \(European Commission\)](#)

#### Renewable energy-related training/degrees:

- Bachelor's
  - University of Cyprus: 1) [Mechanical and manufacturing engineering](#), 2) [Electrical and computer engineering](#), 3) [Civil and environmental engineering](#), 3)
  - Cyprus University of Technology: 1) [Mechanical engineering and materials science and engineering](#), 2) [Chemical engineering](#), 3) [Electrical engineering, and computer science and engineering](#), 4) [Civil engineering and geomatics](#)
  - University of Nicosia: 1) [Electrical engineering](#), 2) [Mechanical engineering](#), 3) [Civil and environmental engineering](#)
  - Frederick University: 1) [Civil engineering](#), 2) [Electrical engineering](#), 3) [Mechanical engineering](#)
- Master's
  - University of Cyprus: [MEng in Energy Technologies and Sustainable Design](#)
  - Frederick University: [MSc in Energy Engineering - Frederick University](#)
  - Cyprus University of Technology: [MSc in Energy Systems](#)
  - The Cyprus Institute: [Master's in Environmental and Energy Sciences](#)
  - Open University of Cyprus: [Master's in Sustainable Environmental Engineering](#)
- Professional training in solar PV installation
  - [Cyprus | RES EU certification](#)
  - [Solar PV System Design Training Course in Cyprus \(Larnaka\)](#)

#### Case Studies or Testimonials

*“My role as a renewable energy engineer involves analysing systems, conducting feasibility studies, and working closely with industry and public stakeholders to turn ideas into real-world projects. What keeps me motivated is knowing that well-designed renewable and energy storage solutions help*

*stabilise the grid, reduce emissions, and benefit society as a whole by supporting the sustainable energy transition. The field evolves rapidly and comes with challenges, but it also offers continuous learning and professional growth. My advice to anyone entering this area is to build strong technical skills, stay curious and adaptable, and remember that teamwork is essential, as successful energy projects are always the result of collaboration.”*

*Panagiotis Herodotou, MSc.*

*Researcher at PHAETHON CoE*

[Phaethon CoE](#)

### Context of the OWE/ORE Supply Chain in your country

Cyprus has achieved significant penetration of solar PV, developing a strong workforce capable of installing, designing, and delivering PV projects at scale. However, the rapid growth of solar generation has introduced structural challenges: high midday curtailment, limited grid flexibility, and a lack of large interconnections. As a result, the country is only now entering the phase where large-scale storage, hybridization, and grid-support technologies are becoming essential. This shift creates a clear skills gap. Cyprus currently has a limited pool of professionals with combined expertise in solar PV, advanced battery technologies, grid impact assessment, and hybrid system modelling.

Opportunities for workforce development center on two complementary pathways. The first is attracting international specialists with experience in front-of-meter storage deployment, system integration, and flexibility markets. Such expertise can accelerate local capacity building and provide know-how transfer to domestic engineers. The second is targeted upskilling of existing PV professionals through specialized training in storage system design, battery technologies, SCADA and data analytics, and power-system studies. This aligns with the national shift from simply “adding more renewables” toward enabling higher utilization of existing PV through storage, improved forecasting, and modernized grid operation.

In the broader offshore renewable energy context, Cyprus currently has no planned projects, and therefore only a very small ORE-specific workforce. Nevertheless, the country participates in regional initiatives such as SHOREWINNER, which aim to build offshore-related competencies that may become relevant in the future. For now, the only substantive offshore industrial activity remains natural-gas development, where technical and permitting roles occasionally overlap with offshore skillsets.

In practical terms, near-term employment opportunities will concentrate on storage engineering, hybrid PV-storage project development, grid studies, power-system modelling, asset management, and regulatory or compliance-related roles. These competencies directly support the national priority of reducing curtailment and improving system flexibility, while also forming a transferable foundation should offshore renewable projects materialize later on.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

**A Renewable Energy and Energy Storage Expert** is responsible for assessing, designing, and optimizing sustainable power systems, and advanced storage technologies. The role involves

conducting feasibility analyses, evaluating technical and economic performance, and guiding large-scale renewable energy projects from concept to deployment. These professionals research and develop energy-conversion solutions, design systems that enhance efficiency and sustainability, and integrate storage technologies to ensure reliability and grid stability. They work to maximize renewable energy output, reduce costs, and minimize environmental impact while supporting long-term decarbonization strategies.

### Studies and certifications

Studies and certification	EQF Level	Y/N
Bachelor of Science in engineering or related fields (e.g. mathematics, physics)	EQF 6	YES / NO / ongoing
Master of Science in engineering or related fields (e.g. mathematics, physics)	EQF 7	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Renewable energy system assessment</b>	Ability to conduct technical and economic feasibility analyses for solar, wind, and energy storage projects, including evaluation of performance, costs, and sustainability impacts across the project lifecycle	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Energy system modeling</b>	Ability to use modelling tools to simulate renewable energy systems and storage configurations, supporting design optimization, performance forecasting, and decision making	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Grid integration and impact analysis</b>	Ability to assess grid connection requirements, evaluate grid stability impacts, and design integration solutions that ensure reliable operation of renewable energy and storage systems	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Project development</b>	Ability to support renewable energy projects from concept to deployment, including system layout, integration of storage technologies, and coordination of technical studies	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>Project coordination</b>	Ability to collaborate with multidisciplinary teams, coordinate tasks, and engage stakeholders across industry, academia, and regulatory bodies	☆☆☆☆
<b>Time management</b>	Ability to work under deadlines, and deliver outputs with limited supervision	☆☆☆☆
<b>Communication skills</b>	Ability to clearly communicate technical concepts, analysis results, and project recommendations in written and spoken form	☆☆☆☆
<b>Adaptability</b>	Ability to adapt to evolving project requirements, regulatory frameworks, and technological developments	☆☆☆☆
<b>Analytical thinking and problem solving</b>	Ability to analyze complex technical problems, interpret quantitative data, and develop structured solutions	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1-4 stars)
<b>Mobility and travel</b>	Willingness to travel for project meetings, and related field activities	☆☆☆☆
<b>Contract stability</b>	Comfort working under project-based, fixed-term, or grant-funded contracts that are common in renewable energy development and innovation-driven sectors	☆☆☆☆
<b>Working hours</b>	Willingness to work flexible hours or outside standard office schedules when required by project timelines	☆☆☆☆
<b>Evolving technical context</b>	Willingness to operate in a rapidly evolving technological and regulatory landscape requiring continuous learning and adaptation	☆☆☆☆

- Career path map

**Job title general short description**

A **Renewable Energy and Energy Storage Expert** is responsible for assessing, designing, and optimizing sustainable power systems, and advanced storage technologies. The role involves conducting feasibility analyses, evaluating technical and economic performance, and guiding large-scale renewable energy projects from concept to deployment. These professionals research and develop energy-conversion solutions, design systems that enhance efficiency and sustainability, and integrate storage technologies to ensure reliability and grid stability. They work to maximize renewable energy output, reduce costs, and minimize environmental impact while supporting long-term decarbonization strategies.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level (EQF 5-6)</b>	<ul style="list-style-type: none"> <li>Renewable Energy Technician</li> <li>Junior Renewable Energy Engineer</li> <li>PV/Wind Design Assistant</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>Technical feasibility analysis</li> <li>Basic PV/Wind system modelling</li> <li>Cad-based system drafting</li> <li>Data collection and site assessment</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>Effective communication</li> <li>Analytical thinking</li> <li>Task organization</li> </ul>	<ul style="list-style-type: none"> <li>Bachelor's degree in engineering or energy</li> <li>Short courses in PV/Wind design or energy storage</li> <li>Introductory grid-connected PV/Wind training</li> </ul>	<ul style="list-style-type: none"> <li>Perform structured feasibility assessments</li> <li>Support senior staff in modelling and simulation</li> <li>Contribute to grid-integration documentation</li> <li>Prepare for independent project tasks leading toward mid-level roles</li> </ul>
<b>Mid-Level (EQF 6-7)</b>	<ul style="list-style-type: none"> <li>Renewable Energy Engineer</li> <li>Energy Storage Engineer</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>Independent PV/Wind and storage modelling</li> <li>Grid impact assessment</li> <li>Hybrid system evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Bachelor's + specialization in renewable energy or storage</li> <li>Training in advanced modelling tools</li> </ul>	<ul style="list-style-type: none"> <li>Lead small-scale PV/Wind-storage assessments</li> <li>Conduct grid compliance reviews</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>PV/Wind–Storage System Designer</li> <li>Grid Integration Analyst</li> </ul>	<ul style="list-style-type: none"> <li>Technical due diligence</li> <li>Soft skills</li> <li>Problem-solving capability</li> <li>Stakeholder coordination</li> <li>Clear professional reporting</li> </ul>	<ul style="list-style-type: none"> <li>Certification for grid-connected system design</li> </ul>	<ul style="list-style-type: none"> <li>Manage selected project components</li> <li>Build competence toward senior technical leadership</li> </ul>
<b>Senior Level (EQF 7)</b>	<ul style="list-style-type: none"> <li>Senior Renewable Energy Engineer</li> <li>Senior Hybrid Systems Specialist</li> <li>Senior Grid Impact Consultant</li> <li>Energy Systems Analyst</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>Advanced techno-economic analysis</li> <li>System optimization and hybrid design</li> <li>Regulatory and permitting interpretation</li> <li>Project development oversight</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>Strategic decision-making</li> <li>Multistakeholder engagement</li> <li>Technical leadership</li> </ul>	<ul style="list-style-type: none"> <li>Master’s degree in energy or sustainability</li> <li>Extensive modelling experience</li> <li>Continuous professional development in grid and storage topics</li> </ul>	<ul style="list-style-type: none"> <li>Full-scale PV/Wind–storage feasibility studies</li> <li>Lead multidisciplinary project teams</li> <li>Develop advanced technical proposals and tenders</li> <li>Prepare for project, department, or technical leadership roles</li> </ul>
<b>Executive Level (EQF 7-8)</b>	<ul style="list-style-type: none"> <li>Head of Energy Storage Engineering</li> <li>Director of Renewable Energy Strategy</li> <li>Project Development Manager</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>System-wide renewable integration planning</li> <li>Strategic grid and storage deployment analysis</li> <li>Portfolio and risk evaluation</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>Leadership capability</li> <li>Strategic planning</li> <li>High-level communication</li> </ul>	<ul style="list-style-type: none"> <li>Master’s degree or equivalent experience</li> <li>Management or project leadership training</li> <li>High-level regulatory and permitting familiarity</li> </ul>	<ul style="list-style-type: none"> <li>Shape organizational strategy for renewable and storage deployment</li> <li>Guide national or regional grid-integration initiatives</li> <li>Represent the organization in regulatory and strategic forums</li> <li>Prepare for cross-sector or regional leadership roles</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>• Technical Operations Manager</li> </ul>			
<b>Cross-Sector Opportunities (EQF 6-8)</b>	<ul style="list-style-type: none"> <li>• Offshore Renewable Energy Engineer</li> <li>• Marine Energy Analyst</li> <li>• Energy Transition Consultant</li> </ul>	<p>Technical skills</p> <ul style="list-style-type: none"> <li>• Hybrid offshore–onshore integration</li> <li>• Storage-supported offshore system design</li> <li>• Power-system modelling for marine contexts</li> </ul> <p>Soft skills</p> <ul style="list-style-type: none"> <li>• Adaptability</li> <li>• Interdisciplinary collaboration</li> </ul>	<ul style="list-style-type: none"> <li>• Specialization in offshore energy or marine engineering</li> <li>• Training in power systems, storage, or hydrogen technologies</li> <li>• Exposure to offshore safety, permitting, and logistics</li> </ul>	<ul style="list-style-type: none"> <li>• Transfer inland PV/Wind–storage expertise to offshore hybridization</li> <li>• Develop capabilities for floating or bottom-fixed offshore systems</li> <li>• Prepare for roles in emerging offshore renewable markets</li> </ul>

- **Video-interview**

Interviewee: Panagiotis Herodotou, Renewable Energy Engineer

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTYS>

**JOB TITLE: CREWING PERSONNEL OFFICER**

**PARTNER: INTERCOLLEGE**

- **Detailed job description**

**Profession Overview**

A Crewing Personnel Officer in Cyprus coordinates end-to-end crew logistics for merchant and offshore support vessels, with increasing relevance to offshore wind. Based mostly in Limassol ship management offices, the role plans rotations and crew changes, verifies Standards of Training, Certification, and Watchkeeping (STCW), Maritime Labour Convention 2006 (MLC), and International Safety Management (ISM) compliance, arranges visas and travel, manages budgets, and maintains certification, medical, and training records. It requires daily liaison with manning agencies, flag and port authorities, vessel masters, travel providers, and offshore project teams, ensuring Crew Transfer Vessel (CTV) and Service Operation Vessel (SOV) crews meet client and health and safety expectations, including awareness of Global Wind Organization (GWO) requirements. The job relies on crewing software and data accuracy, calls for strong communication and issue resolution under time pressure, and supports 24/7 operational contingencies. Familiarity with Cyprus flag processes and European Union (EU) procedures is an advantage.

**Key Competencies & Skills**

**Technical Skills / Competences**

- Crew Management & HR: Recruitment, onboarding, rotation planning, leave management, and performance monitoring.
- Regulatory & Compliance Knowledge: Understanding of maritime/offshore regulations (e.g., STCW, local authorities), labor laws, certifications, and safety standards.
- Training & Development: Coordinating mandatory safety and technical training for offshore personnel.
- Documentation & Record-Keeping: Managing certifications, medical records, contracts, visas, and crew files.
- Logistics Coordination: Organizing offshore crew transfers, travel, accommodation, and joining/disembarking procedures.
- Digital & Analytical Skills: Proficiency in crew management software, HR systems, reporting, and data analysis for compliance and operational planning.
- Operational Awareness: Knowledge of offshore wind operations, vessel logistics, and workforce requirements.

**Soft Skills / Personal Attributes**

- Communication: Clear verbal and written communication with multinational crews, management, and external stakeholders.
- Interpersonal & Cultural Sensitivity: Building team cohesion and navigating diverse cultural backgrounds.

- Problem-Solving & Decision-Making: Handling last-minute absences, weather delays, or operational disruptions.
- Attention to Detail: Ensuring accurate documentation, certifications, and compliance.
- Adaptability & Stress Management: Managing high-pressure situations and dynamic offshore schedules.
- Integrity & Confidentiality: Maintaining trust and handling sensitive personnel information responsibly.
- Conflict Resolution: Managing disputes and crew grievances tactfully.

## Education and Training

### A. Entry-Level:

#### Advantageous

- **Education**
  - BSc in Maritime Studies (Frederick University) - <https://www.frederick.ac.cy/en/bsc-in-maritime-studies>
  - HR/Business Administration (University of Nicosia) - <https://www.unic.ac.cy/business-administration-human-resource-management-mba-1-5-years-or-3-semesters/>
  - Nautical Science (Intercollege/Cyprus Maritime Academy) - <https://www.intercollege.ac.cy/nautical-science-degree/>
  - Shipping (Cyprus University of Technology) - <https://www.cut.ac.cy/faculties/fme/shipping/?languageId=1>
- **Training**
  - Commercial apprenticeship or basic crewing exposure
  - Strong English
  - Organizational skills
  - Attention to detail
  - Computer literacy (Word, Excel, PowerPoint, Outlook, SharePoint)
  - Ability to work under pressure
  - Optional safety/offshore-awareness courses

### B. Experienced / Development:

- **Proven crewing/shipping experience**
- **Education:**
  - MSc in HR Management (University of Cyprus) - <https://www.ucy.ac.cy/mschrm/>
  - MSc HR & Organisational Behavior (University of Limassol) - <https://www.uol.ac.cy/en/program/msc-hrmob-program/>
  - MSc International Shipping Management (Open University Cyprus) - <https://www.ouc.ac.cy/index.php/en/studies/master/dnd-en>
  - MSc Shipping (Cyprus University of Technology) - <https://www.cut.ac.cy/studies/masters/master-programmes/msc-shipping/?languageId=1>
- **Training:**
  - Advanced crew management

- labor law & compliance
- leadership
- conflict resolution
- communication
- digital/software skills
- optional PMP/PRINCE2 or postgraduate maritime logistics/offshore studies

### Industry Trends and Outlook

Cyprus is a well-established maritime hub, with many shipping companies registered and operating their vessels from the island. This creates a consistent demand for skilled Crewing Personnel Officers to manage recruitment, crew rotations, compliance, and operational staffing. As Cyprus begins to develop its offshore renewable energy sector, particularly offshore wind, the demand for crewing expertise will extend to this emerging industry. Although the offshore wind sector is still in early stages, offshore operations require the same logistical, HR, and compliance skills as shipping. With Cyprus investing in workforce development and vocational training for offshore energy, Crewing Personnel Officers will play a key role in ensuring safe, efficient, and compliant operations, making this a strategically important occupation with growing relevance as the sector expands.

### Useful Resources

#### Required Standards & Certifications

- GWO Basic Safety Training (BST) — Mandatory for offshore wind personnel. ([globalwindsafety.org](http://globalwindsafety.org))
- GWO Advanced/Refresher Modules — Includes First Aid, Working at Heights, Fire Awareness, Sea Survival.
- STCW & Maritime Labour Convention (MLC) — Relevant for offshore crew management and compliance in wind operations.
- Health, Safety & Environmental (HSE) Awareness — offshore safety awareness courses offered by local providers (e.g., Odysseus Training Center and BSM-MTC in Cyprus).

#### Professional Associations

- Global Wind Organisation (GWO) — Sets safety and training standards for offshore wind - <https://www.globalwindsafety.org/>
- WindEurope — Provides industry insights, networking, and best practices for offshore wind operations. [windeurope.org](http://windeurope.org)
- InterManager — Ship and crew management association, relevant for crew transfer vessels in offshore wind. - <https://www.intermanager.org/>

#### Specialized Reports & Publications

- WindEurope: Offshore Wind Energy Statistics, Offshore Wind Environmental Interactions, Wind Energy Data for Europe, etc.
- SHOREWINNER Project Deliverables — EU-funded initiative mapping offshore wind workforce gaps and training needs in Cyprus. - [shorewinner.eu](http://shorewinner.eu)
- Global Wind Energy Council: [Global Offshore Wind Report \(2024\)](#)

### Targeted Job Portals & Recruitment

- Rigzone & WRS Offshore & Maritime Recruitment — For offshore crew management and operations roles - <https://www.rigzone.com/oil/jobs/search/?sk=wind>
- LinkedIn Offshore Wind Groups — Networking, job postings, and sector updates.
- Ergodotisi - <https://ergodotisi.com/en-CY>

### Training & Professional Development Opportunities

- GWO-Certified Training Providers
- SHOREWINNER / CCCI Courses in Cyprus — Vocational training for offshore renewable energy roles, including crew management.
- BSM-MTC & Odysseus Training Center — Provides specialized training for offshore roles (ex. Basic Safety Training)

While none of these courses are explicitly branded as “crewing-personnel management courses,” they provide essential maritime competence (safety training, STCW certification, ship operations knowledge) that is very relevant for someone in a crewing-officer role. To specialize in crewing (HR + logistics), one might need to complement these with HR courses, crew-management training

### Communities & Events

- WindEurope Offshore Workforce Conferences — Networking and knowledge sharing for offshore wind HR and crewing professionals - <https://windeurope.org/events/>
- SHOREWINNER Networking Events (Cyprus) — Focus on building offshore wind skills and workforce capacity - <https://shorewinner.eu/category/news/>
- LinkedIn Offshore Wind HR & Crew Management Groups — Professional communities for sharing trends, best practices, and career advice.

### Case Studies or Testimonials

“Crewing is a core enabler for offshore wind operations and offshore services more broadly. The Crewing Superintendent’s role is to ensure the right people are selected and deployed onboard, with full compliance across international and client requirements, including flag state rules, STCW standards, valid licenses, and up-to-date medical certificates. This compliance work is not administrative overhead, it directly protects safety, vessel readiness, and contractual performance for offshore campaigns where delays are costly.

A testimonial from industry experts highlights a growing market shift. Crewing expertise developed in commercial shipping can be applied beyond tankers and bulk carriers, extending to offshore projects where demand continues to increase. Offshore wind, in particular, depends on reliable crewing pipelines for specialized vessels and operations, and those pipelines must be managed with discipline, planning, and strong documentation control.

Finding suitably qualified personnel has become increasingly difficult, especially for roles requiring specific engine and technical specializations. When the available talent pool tightens, crewing teams

spend more time screening, verifying, and coordinating, and companies face higher risk of schedule disruption. This is where additional crewing personnel and stronger recruitment capacity become essential, so that compliance checks, candidate sourcing, and rotations can be handled without compromising quality.

For newcomers, the message is practical: patience and attention to detail are key, and success onboard requires effective collaboration across cultures and working styles. Building these skills supports safer operations and strengthens the workforce needed for offshore wind's continued growth."

Yiota Georgiou, MSc.

Crewing Superintendent at Olympia Ocean Carriers

[Olympia Ocean Carriers](#)

### Context of the OWE/ORE Supply Chain in your country

Although no offshore wind farms are yet operational, Cyprus' National Energy and Climate Plan (NECP 2021–2030) sets ambitious renewable energy targets, aiming for a 23–26% share of renewables by 2030, with offshore wind expected to play a growing role beyond that date. The legal and regulatory framework, including Law L.107(I)/2022, supports renewable energy development through project incentives, simplified permitting processes, and designated RES acceleration areas. Maritime Spatial Planning (MSP) and oversight by the Cyprus Energy Regulatory Authority (CERA) ensure that offshore sites are sustainably selected and comply with environmental and technical standards.

The Cypriot government is actively developing the ORE supply chain, including upgrading ports in Limassol and Larnaca to handle installation and maintenance of offshore turbines, and fostering partnerships with research institutions and vocational training centres to build the necessary workforce. The Smart Specialisation Strategy (S3 2023–2030) prioritises R&D, innovation, and skills development in offshore renewables, green hydrogen, and grid integration. Regional initiatives like the EuroAsia and EuroAfrica Interconnectors further position Cyprus as a potential hub for exporting renewable energy to neighbouring markets.

This emerging offshore energy sector creates significant opportunities for Crewing Personnel Officers (CPOs). CPOs will be essential in managing recruitment, training, scheduling, and coordination of maritime crews for service vessels, turbine installation teams, and offshore operations. As Cyprus develops floating wind farms and related infrastructure, CPOs will ensure that highly skilled personnel are deployed efficiently and safely, leveraging both local talent and international expertise. Their role will be central to building a professional, resilient maritime workforce, aligning with European standards and supporting the long-term growth of Cyprus' offshore renewable energy sector.

### - Self-assessment skills & aptitudes questionnaire

#### Brief description of the job profile and its relevance in the sector

A Crewing Personnel Officer in Cyprus coordinates end-to-end crew logistics for merchant and offshore support vessels, with increasing relevance to offshore wind. Based mostly in Limassol ship management offices, the role plans rotations and crew changes, verifies STCW (International Convention on Standards of Training, Certification and Watchkeeping for Seafarers), MLC 2006 (Maritime Labour

Convention), and ISM (International Safety Management Code) compliance, arranges visas and travel, manages budgets, and maintains certification, medical, and training records.

It requires daily liaison with manning agencies, flag and port authorities, vessel masters, travel providers, and offshore project teams, ensuring CTV (Crew Transfer Vessel) and SOV (Service Operation Vessel) crews meet client and health and safety expectations, including awareness of GWO (Global Wind Organisation) requirements. The job relies on crewing software and data accuracy, calls for strong communication and issue resolution under time pressure, and supports 24/7 operational contingencies. Familiarity with Cyprus flag processes and EU procedures is an advantage.

### Studies and certifications

Studies and certification	EQF Level	Y/N
<b>Bachelor's in Maritime Studies</b>	EQF 6 - Core knowledge of crewing, ship operations, flag requirements, and maritime administration	YES / NO / ongoing
<b>Bachelor's in Shipping</b>	EQF 6 - Core knowledge of crewing, ship operations, flag requirements, and maritime administration	YES / NO / ongoing
<b>Master's in Shipping</b>	EQF 7 - Strong advantage for senior crewing and compliance-heavy roles, budgeting, and multi-vessel planning	YES / NO / ongoing
<b>Master's in Maritime Management</b>	EQF 7 - Strong advantage for senior crewing and compliance-heavy roles, budgeting, and multi-vessel planning	YES / NO / ongoing
<b>Master's in International Transport</b>	EQF 7 - Strong advantage for senior crewing and compliance-heavy roles, budgeting, and multi-vessel planning	YES / NO / ongoing
<b>STCW Basic Safety Training (BST)</b>	Standard STCW Qualification - Common baseline maritime safety training, helpful where crewing staff must understand seafarer certification packages and may support mobilisations	YES / NO / ongoing
<b>GWO Basic Safety Training (GWO BST)</b>	Key offshore wind safety standard (first aid, fire awareness, manual handling, working at height). Relevant when coordinating CTV/SOV technician teams	YES / NO / ongoing

Studies and certification	EQF Level	Y/N
<b>ISM Code Internal Auditor (SMS auditor) training</b>	Industry Standards - Directly supports ISM compliance, internal checks, and audit readiness in ship management operations	YES / NO / ongoing

### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no or very limited experience; 2 = I can perform basic tasks with guidance; 3 = I can perform independently; 4 = I can mentor or support others

Competence Area	Description	Rating (1–4)
<b>Certification and competence control (STCW, flag endorsements, medicals)</b>	Manage certificate validity, revalidation, flag state endorsements, and medical fitness so crew are legally deployable when required	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Offshore wind competence matrix (GWO requirements and client matrices)</b>	Understand GWO BST modules, refreshers, and project-specific competence requirements for personnel assigned to wind projects, then track compliance and expiries.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Maritime labour compliance (MLC 2006, contracts, hours of rest)</b>	Prepare and verify SEA/contract documentation, rest hour compliance, repatriation requirements, and inspection-ready records.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Safety Management System knowledge (ISM, familiarisation, audit readiness)</b>	Link crewing activities to the SMS, including joining instructions, onboard familiarisation evidence, training records, and documentation control for audits.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
<b>Crew logistics and mobilisation (travel, visas, port agents, rotation planning for CTV/SOV)</b>	Execute end-to-end crew changes under time pressure, coordinating with masters, agents, and project teams to avoid downtime and meet client HSE expectations.	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)
<b>High attention to detail</b>	Ensures certificates, medicals, contracts, and client documentation packs are accurate, current, and audit-ready, reducing compliance risk and last-minute mobilization failures.	☆☆☆☆
<b>Clear communication (multi-stakeholder coordination)</b>	Communicates efficiently with vessel masters, manning agents, port authorities, travel providers, and offshore project teams to align expectations and confirm actions.	☆☆☆☆
<b>Problem-solving under time pressure</b>	Responds calmly to disruptions such as flight cancellations, visa delays, medical issues, or sudden crew replacements, keeping rotations on track with minimal downtime.	☆☆☆☆
<b>Cultural awareness and teamwork</b>	Works effectively with multinational crews and offices, handling different working styles and priorities while maintaining professionalism and cooperation.	☆☆☆☆
<b>Ownership and reliability (24/7 operational mindset)</b>	Takes responsibility for outcomes, follows through on urgent tasks, and supports contingency planning when operations run outside normal office hours.	☆☆☆☆

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
<b>Time-critical, deadline-driven workload</b>	Crew changes must align with port calls, weather windows, project milestones, and vessel schedules. The job often involves fixed cut-off times for visas, flights, and client submissions, where delays can cause operational downtime.	☆☆☆☆

Work condition	Description	Rating (1 to 4 stars)
<b>On-call availability and irregular hours</b>	Although office-based, crewing support frequently extends beyond standard working hours due to 24/7 vessel operations, time zones, and last-minute changes (medical issues, travel disruptions, urgent crew replacement).	☆☆☆☆
<b>High compliance and documentation intensity</b>	Daily work includes maintaining audit-ready records (certificates, medicals, contracts, training), checking validity and endorsements, and producing complete joining packs that meet flag, ISM/SMS, MLC 2006, and client requirements.	☆☆☆☆
<b>Continuous multi-stakeholder coordination</b>	The role requires constant communication with manning agencies, vessel masters, port agents, flag/port authorities, training providers, and offshore wind project teams, often managing multiple vessels and rotations simultaneously.	☆☆☆☆
<b>Frequent operational disruptions and contingency handling</b>	Plans can change quickly due to weather, port restrictions, travel cancellations, crewmember unfitness, or client rule updates. The job demands rapid re-planning, cost control, and clear escalation to keep crews mobilized and compliant.	☆☆☆☆

- Career path map

**Job title general short description**

**Crewing Personnel Officer**

This Career path map is tailored for Cyprus, where the workforce landscape is increasingly shaped by the growing importance of renewable energy, particularly onshore wind, alongside the island’s established shipping and ship management sector. While Cyprus does not yet operate offshore wind farms, the country’s expanding commitment to clean energy is creating new opportunities for crewing and workforce-management professionals to transition into the wind industry. The strong maritime crewing ecosystem—built on decades of Standards of Training, Certification, and Watchkeeping (STCW) and Maritime Labour Convention (MLC) compliance, global mobility management, and multinational coordination—provides an excellent foundation for supporting the specialized staffing needs of wind energy operations. This map outlines how a Crewing Personnel Officer can leverage shipping expertise, develop renewable-specific competencies, and progress into roles that support the planning, mobilization, and competence management of technical teams in the wind energy sector, ultimately contributing to Cyprus’ evolving green-energy workforce.

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Entry Level</b>	<ul style="list-style-type: none"> <li>- Crewing Assistant (Shipping Company)</li> <li>- HR &amp; Mobilization Support (Shipmanagement)</li> <li>- Administrative Assistant for Wind Farm O&amp;M Providers</li> <li>- Training &amp; Certifications Assistant</li> </ul>	<p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Basics of crewing administration for shipping OR onshore technicians</li> <li>- Understanding of certification requirements:</li> <li>- Shipping: STCW, MLC, flag state</li> <li>- Wind energy: GWO Basic Safety Training</li> <li>- Documentation control (contracts, medicals, IDs, visas)</li> <li>- Basics of crew travel &amp; mobilization</li> <li>- Use of common shipping crewing software (Danaos, OMEGA, CrewInspector, BASSnet)</li> </ul>	<ul style="list-style-type: none"> <li>- Secondary school diploma or diploma in Business/HR</li> <li>- Intro training in MLC &amp; STCW</li> <li>- GWO awareness training (for wind farm environments)</li> <li>- GDPR / HR compliance basics</li> </ul>	<ul style="list-style-type: none"> <li>- Understand Cypriot flag requirements</li> <li>- Learn the structure of wind farm O&amp;M teams</li> <li>- Build competence in workforce scheduling and documentation control</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<b>Soft Skills</b> <ul style="list-style-type: none"> <li>- Attention to detail</li> <li>- Communication in multicultural environments</li> <li>- Time and stress management</li> </ul>		
Mid-Level	<ul style="list-style-type: none"> <li>- Crewing Personnel Officer (Shipping)</li> <li>- Wind Farm Crew Coordinator / Workforce Planner</li> <li>- Technical Training Coordinator</li> <li>- Marine Personnel Officer</li> <li>- Certification &amp; Competence Supervisor</li> </ul>	<b>Technical Skills</b> <ul style="list-style-type: none"> <li>- Manage crew rotations:               <ul style="list-style-type: none"> <li>- Shipping: Deep-sea / short sea rotations</li> <li>- Wind farms: Technicians' shifts for maintenance, turbine access scheduling</li> </ul> </li> <li>- Apply maritime regulations (STCW, MLC, flag rules)</li> <li>- Apply onshore wind requirements:               <ul style="list-style-type: none"> <li>- GWO training matrix</li> <li>- First Aid &amp; Working at Heights</li> <li>- O&amp;M access rules</li> </ul> </li> <li>- Recruitment and onboarding of seafarers or wind technicians</li> <li>- Use of HR/crewing platforms and digital competency systems</li> <li>- Manage last-minute changes and operational challenges</li> </ul> <b>Soft Skills</b> <ul style="list-style-type: none"> <li>- Negotiation with agencies</li> <li>- Interdepartmental coordination (technical, HR, marine, O&amp;M)</li> <li>- Decision-making under pressure</li> </ul>	<ul style="list-style-type: none"> <li>- Courses in Maritime Labour Law</li> <li>- Advanced crewing software training</li> <li>- Basic wind energy operations training</li> <li>- Labour law essentials for Cyprus &amp; EU</li> <li>- Travel/mobility management training</li> </ul>	<ul style="list-style-type: none"> <li>- Independently manage crew for a vessel or a wind farm site</li> <li>- Deepen knowledge of GWO rules &amp; HSE requirements</li> <li>- Build expertise in multi-project scheduling</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Senior Level</b>	<ul style="list-style-type: none"> <li>- Senior Crewing Officer (Shipping)</li> <li>- Crewing Team Lead</li> <li>- Senior Workforce Planner – Shore Wind</li> <li>- Marine HR Specialist</li> <li>- Technical Training &amp; Competence Manager</li> <li>- Compliance &amp; Crewing Supervisor</li> </ul>	<p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Lead crewing for fleets (shipping) or multiple wind farms</li> <li>- Build long-term workforce plans and fatigue-management systems</li> <li>- Manage agency contracts, recruitment pipelines</li> <li>- Budgeting for crewing, training, and travel</li> <li>- Maintain GWO and maritime compliance simultaneously</li> <li>- Conduct internal audits (MLC, flag state, ISO)</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Leadership of small teams</li> <li>- Conflict management</li> <li>- Strategic planning</li> </ul>	<ul style="list-style-type: none"> <li>- Bachelor’s degree (HR, Maritime Studies, Business) preferred</li> <li>- ISO 9001 or 45001 Internal Auditor (helpful for H&amp;S in wind energy)</li> <li>- HR analytics or workforce planning courses</li> </ul>	<ul style="list-style-type: none"> <li>- Transition from operational crewing to supervisory responsibility</li> <li>- Improve people leadership skills</li> <li>- Oversee competence management systems across sectors</li> </ul>
<b>Executive Level</b>	<ul style="list-style-type: none"> <li>- Crewing Manager – Shipping (common in Cyprus)</li> <li>- HR Operations Manager – Wind Energy</li> <li>- Country Training &amp; Competence Lead</li> <li>- Head of Maritime HR</li> <li>- Director of Workforce Planning</li> </ul>	<p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Design national staffing strategies for shipping fleets or wind farm operators</li> <li>- Manage multimillion-euro budgets</li> <li>- Negotiate with unions, regulatory bodies, and international partners</li> <li>- Ensure compliance across multiple jurisdictions</li> <li>- Lead transition from shipping-focused crewing to mixed wind + maritime models</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Strategic leadership</li> <li>- Executive communication</li> <li>- Policy &amp; compliance governance</li> </ul>	<ul style="list-style-type: none"> <li>- Master’s Degree in Human Resources Management</li> <li>- Master’s in Business Administration (MBA)</li> <li>- Master’s in Maritime Studies / Shipping Management (very common in Cyprus)</li> <li>- Master’s in Renewable Energy Management</li> <li>- Leadership development or Executive HR programs</li> <li>- Maritime HR management training</li> <li>- International labour law updates</li> </ul>	<ul style="list-style-type: none"> <li>- Drive company-wide workforce strategy</li> <li>- Develop integrated talent pipelines for wind + maritime</li> <li>- Lead international negotiations and regulatory engagement</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
<b>Cross-Sector Opportunities</b>	<p><b>Shipping → Wind Energy</b></p> <ul style="list-style-type: none"> <li>- Seafarer recruitment → Wind technician recruitment</li> <li>- Crew rotation planning → Wind maintenance shift scheduling</li> <li>- STCW/MLC compliance → GWO &amp; turbine safety compliance</li> </ul> <p><b>Wind Energy → Shipping</b></p> <ul style="list-style-type: none"> <li>- Competence matrix control → STCW certificate management</li> <li>- O&amp;M workforce planning → Full vessel crew planning</li> <li>- Onshore logistics → International seafarer logistics</li> </ul> <p><b>Hybrid Roles</b></p>	<p><b>Shipping → Wind energy</b></p> <p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Translate maritime crew rotation skills to wind turbine O&amp;M shift planning</li> <li>- Apply GWO training matrix instead of STCW compliance</li> <li>- Manage wind farm access rules, PPE, RAMS documentation</li> <li>- Understand turbine maintenance cycles and task planning</li> <li>- Use wind-focused workforce tools (e.g., SAP, WindFarmOS, DNV systems)</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Adaptability (transitioning from vessel operations to land-based wind O&amp;M)</li> <li>- Clear communication with technical teams (engineers, technicians)</li> <li>- Stakeholder collaboration with HSE, marine coordination &amp; site managers</li> <li>- Analytical thinking for competence validation and expiry tracking</li> </ul> <p><b>Wind energy → Shipping</b></p> <p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Apply STCW and flag-state certification tracking</li> </ul>	<p><b>Shipping → Wind energy</b></p> <ul style="list-style-type: none"> <li>- GWO Basic Safety Training (minimum)</li> <li>- Introduction to Wind Energy Operations</li> <li>- Basic Electrical / Mechanical awareness (non-technical overview)</li> <li>- ISO 45001 &amp; risk management awareness</li> <li>- Cyprus labour law for land-based operations</li> </ul> <p><b>Wind energy → Shipping</b></p> <ul style="list-style-type: none"> <li>- Maritime Labour Convention (MLC) training</li> <li>- STCW certificate recognition rules</li> <li>- Introduction to shipping operations (bridge, engine department basics)</li> <li>- Cyprus maritime administration procedures</li> <li>- Flag state legislation (Cyprus + common foreign flags)</li> </ul> <p><b>Hybrid Roles (Shipping + Wind Energy)</b></p> <ul style="list-style-type: none"> <li>- ISO 9001 or 45001 Internal/Lead Auditor</li> </ul>	<p><b>Shipping → Wind energy</b></p> <ul style="list-style-type: none"> <li>- Understand turbine-specific competence requirements</li> <li>- Learn wind O&amp;M workflows (preventive/corrective maintenance)</li> <li>- Build proficiency in land-based HSE &amp; access protocols</li> <li>- Strengthen forecasting for technician workloads and training cycles</li> </ul> <p><b>Wind energy → Shipping</b></p> <ul style="list-style-type: none"> <li>- Build strong understanding of vessel operations and departments</li> <li>- Become proficient in maritime audits and compliance cycles</li> <li>- Manage multi-flag certification databases</li> <li>- Strengthen contract management and seafarer HR knowledge</li> </ul> <p><b>Hybrid Roles (Shipping + Wind Energy)</b></p> <ul style="list-style-type: none"> <li>- Lead integrated competence &amp; training frameworks for both sectors</li> <li>- Develop double-sector regulatory expertise (wind + maritime)</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
	<ul style="list-style-type: none"> <li>- Training &amp; Competence Manager (Wind + Maritime)</li> <li>- HSE/Crewing Compliance Officer</li> <li>- Marine Coordination Officer for wind projects</li> <li>- HR Business Partner for technical operations</li> </ul>	<ul style="list-style-type: none"> <li>- Understand maritime labour contracts &amp; collective agreements</li> <li>- Conduct crew planning for multi-national seafarers</li> <li>- Use maritime crewing platforms</li> <li>- Understand vessel manning requirements (deck/engine/hotel departments)</li> </ul> <p><b>Soft Skills</b></p> <ul style="list-style-type: none"> <li>- Cross-cultural sensitivity (seafarers from diverse countries)</li> <li>- Negotiation with agencies, P&amp;I clubs and maritime authorities</li> <li>- Highly structured organisation due to flag audits and port deadlines</li> <li>- Clear written communication for contracts &amp; compliance</li> </ul> <p><b>Hybrid Roles (Shipping + Wind Energy)</b></p> <p><b>Technical Skills</b></p> <ul style="list-style-type: none"> <li>- Build &amp; maintain competence matrices combining STCW + GWO</li> <li>- Oversee both vessel crew and wind technicians' training pipelines</li> <li>- Manage multi-disciplinary compliance systems (MLC, HSE, ISO 9001/45001)</li> <li>- Lead audits for both marine and wind energy operations</li> </ul>	<ul style="list-style-type: none"> <li>- Project management training (PRINCE2 or equivalent)</li> <li>- HR Management or Workforce Planning specialization</li> <li>- Marine Coordination or Port Operations training (optional)</li> <li>- GWO + maritime compliance awareness courses</li> </ul>	<ul style="list-style-type: none"> <li>- Build strategic workforce plans bridging both industries</li> <li>- Become a key point of contact for compliance, training and audits</li> </ul>

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
		<ul style="list-style-type: none"> <li>- Use digital workforce systems supporting multi-sector certification tracking</li> </ul> <p><b>Soft Skills</b></p> <p>Cross-domain leadership</p> <ul style="list-style-type: none"> <li>- High-level coordination with technical, marine, and O&amp;M departments</li> <li>- Conflict resolution across multi-disciplinary teams</li> <li>- Policy-making and procedural development</li> <li>- Analytical and reporting skills for workforce KPIs</li> </ul>		

- **Video-interview**

Interviewee: Panagiotis Herodotou, Renewable Energy Engineer

Interviewee: Yiota Georgiou, Crewing Superintendent

Video – interview available on the project YouTube channel – WP4 CAREER KITS Playlist:

<https://www.youtube.com/playlist?list=PLdLa03rK7TPDRyrHtsBcfCB8QDUI8dTYS>

## 5. Next steps

The Career Kits represent the final consolidated output of Task 4.2.2 within WP4 “Cooperation for Excellence”. This deliverable formalises the development of 15 structured Career Kits addressing key professional roles within the offshore renewable energy sector across five partner countries.

The following sections outline how the Career Kits will be operationalised within project activities, disseminated to relevant target groups, and positioned for continued use beyond the immediate implementation phase.

### Use of Career Kits within project activities

The Career Kits are conceived as practical and operational tools supporting educational, training, guidance and stakeholder-oriented activities foreseen within the project.

Within education and training contexts, they will serve as structured reference materials during training initiatives, workshops and learning activities developed under the project framework. Trainers and educators may use them to contextualise occupational profiles, competences, qualification pathways and sector trends, strengthening the link between learning outcomes and labour market requirements.

The self-assessment questionnaires and Career path maps will be particularly relevant in career guidance activities, including Career Days and orientation events. They support students, graduates and jobseekers in reflecting on their professional interests, assessing their skills and identifying potential progression pathways within the offshore renewable energy sector.

In addition, the Career Kits will be used in stakeholder meetings, sectoral events and workshops, providing a common reference framework for discussing skills needs, professional roles and competence requirements along the offshore renewable energy value chain.

Their modular structure enables flexible use depending on the context, making them suitable for comprehensive career guidance, independent job profile consultation, or the visual presentation of professional progression pathways.

### Dissemination perspectives

The publication of the Career Kits will be accompanied by a targeted dissemination and promotion campaign aligned with the overall project communication strategy.

All materials will be publicly accessible through the project website and the SHOREWINNER Project Platform, ensuring open access to learners, training providers, companies and institutional stakeholders.

Dissemination actions will include promotion through project social media channels, newsletters, sectoral networks and partner communication channels. The Career Kits will also be presented during sector-specific events, fairs and conferences related to offshore renewable energy and vocational excellence.

Particular attention will be given to ensuring visibility among companies, professional associations, VET providers and higher education institutions operating within the offshore renewable energy ecosystem. By making the Career Kits publicly available and actively promoting them, the project aims to maximise outreach and enhance awareness of sector career opportunities.

### **Potential future use and sustainability**

Although Deliverable 4.2 represents the formal completion of the Career Kits development phase, the materials are conceived as reusable resources capable of supporting education, guidance and awareness activities beyond the duration of the project.

CoVE partners may integrate the Career Kits into their regular training provision, career guidance services and stakeholder engagement initiatives. Their structure, aligned with ESCO classifications and EQF levels, facilitates integration within existing curricula and competence frameworks.

Thanks to their modular format and digital availability, the Career Kits can be easily adapted to different audiences and contexts, including workshops, orientation sessions and sector awareness initiatives.

By contributing to clearer definitions of professional roles and competence requirements within the offshore renewable energy sector, the Career Kits provide a structured and lasting resource supporting alignment between education systems and labour market needs.

# Appendixes

## Appendix 1 - Guidelines for partners

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### WP4 – Cooperation for excellence

#### Task 4.2 – Bridging students and employers

##### Subtask 4.2.2 – Career kits

## Guidelines for partners

### 1. Introduction

Partners will develop at least 15 career kits describing the most required jobs in the sector at different levels, e.g. management positions, middle management, technical, administrative or services, etc. The career kits will include information on each job, as well as the training and qualification paths that can lead to that respective career. There will be special care to ensure that they are inclusive and diverse, e.g. include videos of women performing the jobs.

### 2. Output (D4.2)

Sets of material, physical and digital, including information on each job, as well as the training and qualification paths that can lead to the corresponding career. Special care will be paid to inclusiveness and equal opportunities in the development of the kits. 15 career kits will be compiled and made available on the project website and platform, in the national language and subtitled in EN<sup>10</sup>.

### 3. What a Career Kit is and its components

#### Definition

A career kit is a structured set of materials, tools, and resources designed to guide, inform, and support individuals in understanding, choosing, or entering a specific profession. It can be used in contexts of career guidance, training, job placement, or upskilling, and can be tailored to different targets (students, graduates, professionals in transition, unemployed individuals, etc.).

The career kit helps to:

- Present the profession and its context;
- Highlight the required skills and relevant training paths;
- Provide practical tools for job search and professional development;
- Support individuals in assessing whether the profession aligns with their interests and goals.

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<sup>10</sup> As stated in the Grant Agreement, having each career kit in English and in the developer's national language would improve usability and favour usage.

## Main components of the Career Kit

A Career Kit can be structured into four main components: **A. Informative Section**, **B. Self-Assessment and Orientation Section**, **C. Operational and Career Support Section**, and **D. Experiential or Multimedia Section**. To ensure a common set of materials, tools, and resources across all Career Kits, the proposed templates are as follows:

**Detailed job description (Annex 1):** this document is structured to include all the relevant information required to describe a job profile. It foresees a professional overview, a detailed description of the key competences and related knowledge and skills, as well as a dedicated field for education and training paths necessary both to access the profession and to progress along the career path.

It also includes an industry trends and outlook section and a collection of professional resources, such as:

- Standards and certifications relevant to the role;
- Professional associations and networks;
- Specialized reports and publications.

In addition, the template provides space for the description of case studies and references to testimonials (e.g. short first-person quotes from professionals currently working in the field, describing their experiences, motivations, or advice).

Finally, the Job Profile Description template includes a dedicated area focusing on the Offshore Wind Energy and Renewable Energy supply chain at both EU and national levels, outlining the context in which these professionals operate and the expected job market demand trends.

Last but not least, the Job Profile Description can also serve as a basis for developing additional materials, such as summary sheets and competence maps, which can be adapted to the specific target audience and context (e.g., career days, events, guidance or training activities).

### B. Self-Assessment and Orientation Section

**Self-assessment skills and aptitudes questionnaire (Annex 2):** this template is designed to help participants reflect on their personal knowledge, skills, aptitudes, and work preferences in relation to the selected job profile. It is a non-evaluative tool that supports career orientation, self-reflection, and learning planning.

The questionnaire provides a common framework for identifying one's strengths, areas for development, and overall alignment with the professional requirements described in the Job Profile (Annex 1). It foresees dedicated parts for:

- Educational background and certifications relevant to the career path;
- Technical knowledge and skills drawn from the reference job description, rated on a five-level Likert scale;
- Soft skills considered essential for the profession, also rated by level of proficiency;
- Work conditions and personal fit, helping participants assess their willingness and preferences regarding typical aspects of the role.

The questionnaire could be accessed both online, via the project platform, and in a printed version, which can be made available during Career Days and guidance activities.

### C. Operational and Career Support Section

**Career Path Map (Annex 3):** this template is a structured visual and descriptive tool designed to support students and employers, mapping out professional progression in a career path. It shows specific roles and sectors, linking competencies, qualifications, and experiences to career stages. The template supports career planning by aligning development paths with recognized standards (EQF, ESCO, UNI), integrating technical

and soft skills, and providing guidance on training, certifications, and learning goals for each career level—from entry to executive and cross-sector opportunities.

The Career Path Map can also be later presented with infographics and an engaging graphical layout, making it suitable for presentations, Career Days, and other professional contexts.

#### D. Experiential or Multimedia Section

**Video-interview concept note (Annex 4):** this annex provides guidance for developing short, engaging video-interviews to showcase selected jobs in the career kits. The videos aim to highlight professionals’ roles, skills, experiences, and advice for newcomers. All detailed instructions, suggested questions, and production recommendations can be found in the annex.

For all the proposed materials and tools of the career kit the communication, graphic features and final format for dissemination will be agreed with CARDET and Deep Blue.

#### Target groups

The content and style of the career kit can be later adapted to different target groups, each with distinct needs and goals.

Target	Main purpose
High school students	Discovering the profession and orienting career choices
Recent graduates / young professionals	Entering the job market
Unemployed or career changers	Reorientation and skills valorization
Professionals or technical experts	Updating and upskilling
Companies / HR / training organizations	Supporting career guidance and job matching

The Job Profile Description and the video-interviews can be addressed to all target groups, while the self-assessment skills and aptitudes questionnaire and the Career Path Map are designed primarily as guidance and support tools for recent graduates and young professionals. The Career Path Map can also be useful for professionals, companies, and training organizations.

Making the kit modular will allow the users to access different areas of content according to their needs.

#### Formats

- Digital and interactive (PDF and web platform content) with videos, questionnaires, and downloadable sheets;
- Printed version (brochure or dossier) for Career Days;
- Blended toolkit combining digital materials, online activities, and workshops, according to the context.

#### 4. Next steps

- a. Job titles definitive list defined for the development of career kits by each involved partner;
- b. Career kit guidelines and templates shared and presented in **SC#6 on 31.10.2025**;
- c. Comments and suggestions from the partners and final approval of the guidelines and the templates **by 14.11.2025**;
- d. Detailed presentation of guidelines and templates in the **next WP4 Coordination Meeting on 21.11.2025, at 11 am CET (10 am WET, 12 EET)**;
- e. **Partners submit their kits to IFOA** (in national language + EN translation) by **31.01.2026**;
- f. IFOA harmonises all contributions and sends D4.2 to Cardet (project website) and to Deep Blue (project platform) **by 28.02.2026**.

Thank you in advance for your cooperation!

The IFOA Team

#### Annexes

Annex 1 –Detailed job description

Annex 2 – Self-assessment skills & aptitudes questionnaire

Annex 3 – Career path map

Annex 4 – Video-interview concept note

## Appendix 2 – Career Kit Templates

### Task 4.2 – Bridging students and employers

#### Subtask 4.2.2 – Career kits

### Detailed job description Template

Profession Overview
1000 characters
Key Competencies & Skills
2000 characters Technical and soft skills
Education and Training
1000 characters Required education and training at entrance level and for further development. Link to existing relevant programs.
Industry Trends and Outlook
1000 characters
Useful Resources
E.g. Required standards and certifications, Professional associations, Specialized reports and publications, Targeted job portals, Training opportunities, Communities,...
Case Studies or Testimonials
2000 characters - Description of case studies and references to testimonials (e.g. short first-person quotes from professionals currently working in the field, describing their experiences, motivations, or advice) - Links to external sources or related outputs developed within the project

**Context of the OWE/ORE Supply Chain in your country**

2000 characters

**National context, trends and opportunities related to the specific job career**

## Self-assessment skills and aptitudes questionnaire

### Purpose:

The self-assessment questionnaire aims to support students, graduates and junior professionals to reflect on their personal knowledge, skills and aptitudes in relation to a specific job profile described in the Career Kit. It is a non-evaluative tool, designed for self-reflection, guidance, and learning.

### Results are intended to:

- Increase awareness of one's professional strengths and areas for development;
- Facilitate matching between individual profiles and professional requirements;
- Support personalized learning or upskilling pathways.

### Structure and common elements:

The questionnaire is divided into **four sections**:

#### A. INTRODUCTION

- Brief description of the job profile and its relevance in the sector;
- Explanation of the objective of the self-assessment and how to interpret results (not a score, but a reflection tool);
- Short instructions for completion.

#### B. STUDIES AND CERTIFICATIONS

The educational background, qualifications, and certifications required to access this career path are listed in this section, allowing the user to check if they already meet the entry requirements or may need further training.

#### C. TECHNICAL KNOWLEDGE AND SKILLS

- Each item corresponds to a competence area from the Job Description (Annex 1);
- The selection of a maximum of five most relevant technical competences areas is suggested;
- For the same area of competence more knowledge and skills can be listed and described according to the most relevant ones (Job Description reference);
- The participant can self-assess their level of competence using a Likert scale from 1 to 5, defined as follows:
  - 1 = I have no experience
  - 2 = I am learning
  - 3 = I can perform with guidance
  - 4 = I can perform independently
  - 5 = I can mentor or train others
- Finally, for each competence there is a Comment / Evidence optional open field, where the participant can specify the study or work context in which they acquired that competence.

## D. SOFT SKILLS

In this section, a list of the main soft skills required for the job profile is provided. As for the technical skills, a maximum of five skills is suggested. The skills are described in detail, and the user can indicate their degree of proficiency in each soft skill. Finally, for each skill there is a Comment / Evidence optional open field, where the participant can specify the context in which they developed the skill.

## E. WORK ENVIRONMENT AND PERSONAL FIT

This section aims to help participants reflect on how their personal preferences and availability align with the typical working conditions of the selected profession.

The typical work conditions — such as working hours or shifts, mobility and travel requirements, and work environment — are listed and described to allow the participant to evaluate their willingness and suitability for these conditions.

## FEEDBACK

Whether submitted online or in person, participants will be invited to contact the Shorewinner staff for additional support and guidance.

## Common features

Feature	Guidelines
<b>Length</b>	The questionnaire includes five sections, with an average of five items in each of sections C, D, and E, depending on the complexity of the job profile
<b>Language</b>	Use clear, action-oriented verbs (e.g. “I can coordinate...”, “I know how to apply...”). Avoid jargon.
<b>Reference</b>	Align all competence areas with those defined in the <i>Job Description</i> annex (referred to ESCO and relevant standards and qualifications)
<b>Format</b>	Digital (the questionnaire will be made available in fillable PDF or online form). Printable versions can be useful, according to the context
<b>Target groups</b>	The questionnaire is intended for students, recent graduates, and junior professionals

# Template

## Self-Assessment Questionnaire

### A. INTRODUCTION

#### Description of the job profile

Brief description of the job profile and its relevance in the sector
1000 characters <b>Briefly describe the job profile and its relevance in the sector. Include a short summary of main responsibilities, work context, and importance for the industry.</b>

#### Introduction

This self-assessment questionnaire is designed to help you reflect on your knowledge, skills and aptitudes in relation to the selected job profile. The purpose is to identify strengths and areas you may want to develop further.

It is a non-evaluative tool aimed at supporting your professional development, career orientation, and learning goals.

#### Instructions

- Read each statement carefully and complete or rate, according to the indication for each section;
- There are no right or wrong answers – this is a self-reflection tool;
- Be honest to obtain meaningful insights.

#### Studies and certifications

Studies and certification	EQF Level	Y/N
[Required degree or specific qualification]	[EQF Level and description]	YES / NO / ongoing
[Required certification]	Standard of reference	YES / NO / ongoing

#### Technical Knowledge and Skills

For each item listed below, indicate the extent to which you feel you possess the technical knowledge and skills. Rating scale: 1 = I have no experience; 2 = I am learning; 3 = I can perform with guidance; 4 = I can perform independently; 5 = I can mentor or train others

Competence Area	Description	Rating (1–5)	Comment / Evidence
[e.g. Governance and Management]	[Insert the description of the competence / knowledge / skill]	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	[User instruction: Optional — add a comment or specify the context in which you

Competence Area	Description	Rating (1–5)	Comment / Evidence
			developed this competence]
[Competence Area]	[Insert the description of the competence / knowledge / skill]	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	[User instruction: Optional — add a comment or specify the context in which you developed this competence]
[Competence Area]	[Insert the description of the competence / knowledge / skill]	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	[User instruction: Optional — add a comment or specify the context in which you developed this competence]
[Competence Area]	[Insert the description of the competence / knowledge / skill]	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	[User instruction: Optional — add a comment or specify the context in which you developed this competence]
[Competence Area]	[Insert the description of the competence / knowledge / skill]	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5	[User instruction: Optional — add a comment or specify the context in which you developed this competence]

### Soft Skills

For each soft skill listed below, indicate the extent to which you feel you possess it. Rate your level from 1 (I do not possess it) to 4 (I fully possess it).

Soft skill	Description	Rating (1 to 4 stars)	Comment / Evidence
[e.g. Problem solving]	[Insert the description related to the skill]	☆☆☆☆	[User instruction: Optional — add a comment or specify the context in which you developed this skill]
[e.g. Problem solving]	[Insert the description related to the skill]	☆☆☆☆	[User instruction: Optional — add a comment or specify the context in which you developed this skill]
[Soft skill]	[Insert the description related to the skill]	☆☆☆☆	[User instruction: Optional — add a comment or specify the context in which you developed this skill]

Soft skill	Description	Rating (1 to 4 stars)	Comment / Evidence
[Soft skill]	[Insert the description related to the skill]	☆☆☆☆	[User instruction: Optional — add a comment or specify the context in which you developed this skill]
[Soft skill]	[Insert the description related to the skill]	☆☆☆☆	[User instruction: Optional — add a comment or specify the context in which you developed this skill]

### Work environment and personal fit

Consider the statements below and indicate to what extent you feel comfortable or willing to work under these conditions. Rate your level of agreement from 1 (Strongly disagree) to 4 (Strongly agree).

Work condition	Description	Rating (1 to 4 stars)
[Specific work condition]	[Description in form of statement]	☆☆☆☆
[Specific work condition]	[Description in form of statement]	☆☆☆☆
[Specific work condition]	[Description in form of statement]	☆☆☆☆
[Specific work condition]	[Description in form of statement]	☆☆☆☆
[Specific work condition]	[Description in form of statement]	☆☆☆☆

### Some examples for the “Work environment and personal fit” section

<b>Working hours</b>	I am willing to work on shifts or outside standard office hours if required by the role	☆☆☆☆
<b>Mobility / travel</b>	I am available to travel or relocate for work	☆☆☆☆
<b>Work environment</b>	I feel comfortable working in outdoor or offshore contexts	☆☆☆☆
<b>Contract stability</b>	I am comfortable working on project-based or fixed-term contracts	☆☆☆☆

<b>Work mode</b>	I prefer dynamic and practical activities over desk-based work	☆☆☆☆
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### Feedback

For further information and personalized guidance on training, mobility opportunities, job prospects, and networking, join the project platform and contact the SHOREWINNER partners.

## Career Path Map Template

### Definition

A Career path map is a structured visual and descriptive tool used to illustrate professional progression within a specific role or sector. It identifies the competencies, qualifications, and experiences required to move from entry to advanced career stages.

### Objectives:

- Clarify the possible development routes within a profession;
- Align training and upskilling pathways with real market, EQF levels and ESCO standards;
- Support professionals, trainers, and employers in career planning and competence evaluation.

### Characteristics:

- Based on recognized professional standards (e.g., ESCO, UNI, EQF);
- Divided into progressive levels of responsibility and competence;
- Integrates both technical and transversal (soft) skills;
- Can include certifications, training references, and sector-specific examples.

### How to Complete the Template

1. Enter the professional title and sector;
2. Refer to and use the Job description you have already developed to design this output;
3. Define career levels (Entry → Mid → Senior → Executive → Cross-sector);
4. For each level, describe roles, competencies, certifications, and learning goals;
5. Ensure that all competencies reference established standards where possible;
6. Adapt the structure to the specific context or sector.

## Career Path Map

<b>Job title general short description</b>
1000 characters

Career Level	Example Roles	Competences & Skills	Required Education / Training / Certifications	Learning & Development Goals
e.g. entry, junior, middle, senior, administrative, technician, manager, etc. – One row per level. To be personalized according to the specific career	One or more specific job roles	<ul style="list-style-type: none"> <li>- Main required <b>Technical Skills</b></li>   <li>- Main required <b>Soft Skills</b></li> </ul>		Possible goals and more complex tasks / activities that can lead also to the next career level
<b>Entry Level</b>				
<b>Mid-Level</b>				
<b>Senior Level</b>				
<b>Executive Level</b>				
<b>Cross-Sector Opportunities</b>				

## Video-interview concept note

### Objective

Creating short, authentic video-interviews to present in an engaging and immediate way the jobs selected for the career kits.

Since the **purpose** is **informative** and **inspirational**, the questions should help the professional describe:

- What they actually do
- What they studied (education and/or specific training programs) to take up their job position
- What skills or mindset are important
- What they find most rewarding or challenging
- What advice they would give to someone that wants to pursue that career

### Characteristics

Main elements	Common features
<b>Duration</b>	1 to 2 minutes
<b>N. of videos</b>	At least 1 video-interview per career kit
<b>Who should be interviewed</b>	Professionals who preferably work in OWE or in ORE/Renewable Energy. You may choose to interview either young professionals, to highlight their enthusiasm and early-career experiences, or senior professionals with broader experience
<b>Location</b>	Possibly, in the workplace environment and/or with in-action footages (lab, control room, office, offshore site, production premises, etc.)
<b>Number of questions</b>	3 to 6 questions
<b>How to introduce the questions</b>	Showing them in written form, followed by the short reply of the interviewed person
<b>Language</b>	National language (of the 5 countries involved in the project), English subtitles. Subtitles in the other four languages of our countries (to be discussed among the partners and communication)
<b>Inclusiveness and diversity</b>	Special care to ensure that the video-interviews are inclusive and diverse. E.g. include videos of women performing the jobs, make questions about their experience and inclusiveness of level and diversity of their work environment. Also international, multi-cultural environments and interviews to people from other countries could be included
<b>Dissemination, communication and specific formats (Including GDPR)</b>	To be defined in collaboration with Cardet and Deep Blue

### Suggestions:

- Keep each question short and open-ended, to encourage storytelling;
- Ask the interviewed person to answer in plain language, avoiding too much technical jargon.

### Set of possible questions

#### Introduction and Role Overview

- Could you briefly introduce yourself and outline your current role, including your name, position, and the organisation you work for?
- How would you define the role of a (job position)?
- What does a typical working day look like for you?
- How would you summarise your core responsibilities?

#### Education, training and professional path

- What academic background or training prepared you for the role of (job position)?
- How did you first enter this field professionally?
- Were there particular courses, certifications or formative experiences that proved especially valuable?

#### Motivation and Rewards

- What aspects of your work do you enjoy the most?
- What would you say is the most rewarding part of your job?
- Could you share a fun or unexpected fact about your profession?
- Can you describe a project or achievement you are particularly proud of?

#### Challenges and Evolving Context

- What are the main challenges currently facing your profession?
- How is your role evolving in response to digitalisation, sustainability demands or emerging technologies?
- How do you envision the future of your profession in terms of trends and developments?

#### Advice for Newcomers

- What advice would you give to someone interested in pursuing a career in this field?
- If you could go back to the beginning of your career, what is something you wish you had known?

#### Sources of inspiration and credits

FLORES Project [interviews](#)

PREP4BLUE Project: [Guidelines for the promotion of gender equality and inclusiveness in cocreation events](#)





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