

ENERGY TRANSITION PARTNERSHIP SKILLS WORKSHOP

Workshop Report

Background

Following on from the <u>Communication on Energy Transition in EU Fisheries and Aquaculture</u> of 21 February 2023 and the launch event of the <u>Energy Transition Partnership</u> (ETP) in EU fisheries and aquaculture on 16 June 2023, the ETP hosted a third stakeholder workshop on the topic of skills. This workshop, was the next in a series of thematic workshops following the <u>Finance</u> one held on November 28, 2023 and the <u>Innovation and Technology</u> workshop held on February 28, 2024. In the Skills Workshop, break-out groups further explored the topics introduced in the presentations, facilitating in-depth discussions around the theme on challenges and way forwards.

Workshop objective and deliverables

The workshop aimed to:

- 1. Map currently available skill opportunities and tools for the modernisation of the sector and energy transition, including courses, training, and other available learning materials.
- 2. Explore and identify current gaps and challenges in skill opportunities and availability in the sector and possible solutions towards the energy transition in fisheries and aquaculture sectors.
- 3. Explore how the potential way forward and opportunities to collaborate and make use of synergies with other sectors to advance skills in the energy transition in the fisheries and aquaculture sectors.

Target audience and expected inputs

The workshop was open to all stakeholders that expressed their interest in the Energy Transition Partnership. Participating stakeholders came from across fisheries, aquaculture, and related sectors, including fishers and aquaculture producers, financial sector, fishing port authorities, insurers, NGOs, Advisory Councils, researchers and academia, shipbuilders, Member States and regional authorities dealing with relevant public (EU and National) funding tools plus EMFAF correspondents. Those who have a specific interest and role to play in enhancing the upskilling and reskilling of the sector.

Workshop execution

The workshop was split in two parts: *Part 1* focused on the introduction to the challenge in skill opportunities and availability in the sector, while *Part 2* instigated breakout discussions with participants to elicit feedback that would ultimately inform the roadmap.

The presentations delivered during *Part 1* of the workshop are summarised below.

Part 1: Welcome and introduction to the day and presentations of the training programs examples

Delilah Al Khudhairy (DG MARE), Sven Langedijk (DG MARE) — Introduction to the challenge of skills

Ms Al Khudhairy began by expressing gratitude for the diverse participation, both in-person and online, highlighting the importance of representing various stakeholders relevant to the discussion on skills. She acknowledged the ongoing commitment to the series of workshops initiated since the ETP's launch.

Ms Al Khudhairy delved into the complexities of the sector, highlighting vulnerabilities such as its heavy reliance on fossil fuels and susceptibility to fluctuations in fuel prices, exacerbated by current geopolitical tensions. She stressed the imperative of transitioning towards renewable energy sources and adopting resilient practices to mitigate these risks.

In articulating the path forward, Ms Al Khudhairy underscored the necessity of a meticulously crafted roadmap, essential for navigating the ambitious goals set forth. This roadmap, she emphasized, must be coherent with existing policies and targets, requiring close collaboration and consultation among stakeholders.

To reinforce this collaborative effort, Ms Al Khudhairy announced the formation of a support group aimed at assisting the ETP's endeavours. This group, once established, will serve as a crucial pillar in driving the energy transition agenda forward.

Transitioning towards sustainable aquaculture and fishery practices necessitates a diverse set of skills, a topic Ms Al Khudhairy explored in her speech. She viewed the evolving skill demands as an opportunity to cultivate new talents and educational programmes tailored to the sector's needs, ultimately benefiting not only fisheries and aquaculture but also other related industries.

Concluding her remarks, Ms Al Khudhairy reiterated the importance of active participation and collaboration in shaping the workshop's outcomes.

In his speech, **Mr Langedijk** emphasized the importance of the ETP in developing a sustainable path for energy practices within the fisheries sector, aligning with the broader goal of achieving climate neutrality. He acknowledged the significant challenges posed by this objective, but also highlighted the numerous opportunities it presents, including innovation, job creation, and economic viability.

Identifying key hurdles such as a lack of technological knowledge and training facilities, Mr Langedijk underscored the pressing need for upskilling and reskilling efforts to keep pace with advancing technologies. He emphasised the importance of cooperation among sector stakeholders to address skills gaps and develop effective training programs.

Mr Langedijk introduced projects and initiatives, which will be presented later during the workshop, aimed at addressing these challenges. He encouraged active participation and collaboration among attendees to identify solutions and future actions, emphasizing the role of these discussions in informing the development of a roadmap for the transition in the fisheries and aquaculture sector.

Rosalie Tukker (Europêche) - Training programme to sector workers, Green to blue

Ms Tukker, representing Europêche, articulated, during her presentation, the challenges and aspirations of the fishing enterprises in the EU. She emphasized the significance of addressing the needs of both small-scale and large-scale fleets, particularly those deeply rooted in family traditions. Ms Tukker underscored the necessity of ensuring a sustainable future for the industry, acknowledging the myriad factors at play, including climate change.

Highlighting the pivotal role of fisheries and aquaculture in providing not only food but also livelihoods, Ms Tukker emphasised the importance of supporting the people involved in these sectors. She delineated the various challenges faced, such as rising energy costs, environmental changes, labour shortages, and regulatory complexities.

Ms Tukker provided insights into the demographics of the workforce, noting the aging population and the impending retirements within the industry. She shed light on the decline in employment in the fishing sector and attributed it to various factors, including physical demands and safety concerns.

Furthermore, Ms Tukker discussed the specific challenges faced in different regions, such as the Baltic and the Mediterranean, underscoring the need for modernisation and improved working conditions. She emphasised the importance of transitioning towards environmental sustainability and resilience, advocating for enhanced skills and knowledge among workers.

Ms Tukker introduced Europêche's unique training programme aimed at equipping fishers and fish farmers with the necessary skills and knowledge to address contemporary challenges. She highlighted the success of the programme in fostering collaboration and understanding among stakeholders.

In conclusion, Ms Tukker reiterated the goal of fostering resilience in the fisheries and aquaculture sectors through education and empowerment, ultimately striving for a sustainable future for fishing enterprises in the EU.

Mathilde Gueguen (Coopération Maritime) - Training program in eco-driving, Amarree

Ms Gueguen from the Coopération Maritime team, presented their organisation's efforts in energy conservation within the French fishing industry. She provided an overview of Coopération Maritime, an association comprising various stakeholders in artisanal fishing and marine culture. With approximately 90 members, Coopération Maritime focuses on unifying cooperative actions, defending cooperative interests, and supporting projects that are beneficial to artisanal fishing and marine culture, particularly concerningenergy conservation.

Ms Gueguen highlighted the significance of the French fishing fleet, consisting of around 4,000 boats and employing roughly 30,000 fishers. She emphasised the importance of energy efficiency, especially considering the age of the fleet and the dependence on marine diesel fuel, which constitutes a significant expense. To address this, Coopération Maritime has developed tools and programmes to improve fishers' skills and decision-making regarding energy consumption.

Through the Amarree program, Coopération Maritime installed analytic econometers on fishing vessels to monitor real-time fuel consumption and provide navigation suggestions. Feedback from fishers indicated potential fuel savings of 5 to 7% by adjusting the speed of the vessel. Additionally, some other actions have been developed to raise awareness and provide information on fuel-saving practices such as online training, classroom interventions, an interactive brochure, and the Fuel Economy Observatory. Looking ahead, Coopération Maritime aims to optimise existing programmes, such as Amarree, through new initiatives such as the ReMoVe programme. The ReMoVe programme aim to enhance current tools by creating specific trainings for high school students and increasing engagement among fishers. Ultimately, the goal is for these national programmes and tools to be utilised locally across the territory, facilitating widespread adoption of energy-saving practices within the French fishing industry.

George V. Triantaphyllidis (Agricultural University of Athens) — Training programme in aquaculture, <u>BlueAquaEdu</u>

Mr Triantaphyllidis introduced the BlueAquaEdu – a new project focused on aquaculture education and energy transition. BlueAquaEdu, initiated in September 2023, aims to develop the next generation of aquaculture professionals and support sustainable careers aligned with European Green Deal initiatives. The project addresses the lack of comprehensive skills ecosystem in the aquaculture sector, emphasising the farm-to-fork strategy and promoting the development of blue skills.

The objectives of BlueAquaEdu include the development of gamification applications for aquaculture technologies and species, enhancing digital learning experiences for students. To achieve these goals, common training programmes will be developed for various aspects of aquaculture, including cage farming, hatcheries, and recirculating aquaculture systems. The project also aims to attract skilled mentors with practical experience in the selected sectors.

BlueAquaEdu seeks to increase the visibility and attractiveness of blue careers in aquaculture, benefiting 500 students and individuals. With eight partners from Greece, France, Portugal, and French Guyana, the project has received nearly €1 million in funding from the Blue Careers call from EMFAF.

Mr Triantaphyllidis highlighted the environmental benefits of aquaculture compared to other forms of animal production and emphasised the importance of energy efficiency in the sector. He discussed strategies to reduce the environmental impact of aquaculture, including sustainable feed ingredients, renewable energy sources, and waste management practices.

BlueAquaEdu's focus on education and skills development includes analysing data related to energy consumption and environmental impacts within the aquaculture sector. The project integrates gamification to engage learners and address key challenges in skills development for the energy transition.

Challenges in addressing skills development in the fisheries and aquaculture sector include lack of awareness, technical complexity, financial barriers, and infrastructure limitations. BlueAquaEdu aims to equip individuals with a comprehensive understanding of renewable energy technologies, foster collaboration among industry stakeholders, and cultivate a mindset of continuous learning and adaptation.

Oliver Greve (Fischereigenossenschaft Wismarbucht eG) - Sea-Ranger perspective

Mr Greve introduced the Sea-Ranger project, focusing on coastal fishing in Mecklenburg Vorpommern (Germany), in the Baltic Sea area. He emphasised the challenges facing coastal fishers, including declining fish stocks, aging workforce, lack of young talent entering the profession, and limited knowledge about the coastal sea areas.

To address these issues, the Sea-Ranger project proposes utilising the expertise of coastal fishers as "sea rangers" for research and sea protection. A specialised education programme has been developed to train fishers in ecological issues relevant to the Baltic Sea, essentially making them "foresters of the sea". The project aims to focus on areas closer to the coastline where traditional research vessels cannot reach, providing valuable insights into marine ecosystems.

Several projects have already been initiated under the Sea-Ranger umbrella, including "HABBAL", focusing on harmful algal blooms, and involvement in the development of new fishing boats. The Sea-Ranger project also aims to contribute to the energy transition in fisheries by exploring alternative propulsion solutions.

Training for Sea Rangers encompasses environmental issues, communication, public relations, and fishery transition. The first group of fishers will start their training in October, with the Sea Rangers expected to begin their work in July. They will receive a fixed income for their role, providing an additional source of revenue beyond traditional fishing activities.

The Sea-Ranger project represents a novel approach to coastal fishing, combining traditional practices with marine research and conservation efforts.

Roos Swart (PROSEA) - Sustainable fisheries training, Catching the Potential

Ms Swart shared insights into sustainable maritime practices, particularly focusing on fisheries. She introduced PROSEA's mission, which revolves around inspiring maritime professionals to embrace their role in transitioning towards a sustainable maritime sector.

While focusing on fisheries during her presentation, Ms Swart emphasised that achieving sustainability necessitates more than just rules and innovations—it requires competent individuals who understand, adhere to, and implement regulations and innovations effectively.

With a training approach centred on the Triple P concept—people, planet, and prosperity—Catching the Potential project aims to instil a holistic understanding of sustainability among participants. Ms Swart elaborated on the challenges posed by climate change and the energy transition within the fishing community. While some fishers acknowledge these shifts, others remain sceptical or resistant. Project's training methodology seeks to bridge this gap by engaging participants, challenging their perspectives, and connecting sustainability concepts to their everyday experiences, such as economic considerations and shifts in fish populations.

Drawing from their experience with Catching the Potential, Ms Swart highlighted the complexities of skill development in fisheries across Europe. She underscored the need for localised training approaches tailored to the diverse needs and contexts of fishing communities. Moreover, Ms Swart emphasised the importance of infrastructure development to support training and certification initiatives, particularly in countries lacking such frameworks.

In her closing remarks, Ms Swart reiterated the transformative power of individuals in driving sustainable change. She emphasised the significance of equipping maritime professionals with the knowledge and skills necessary to navigate the complexities of sustainability and enact positive environmental outcomes in their daily practices.

Laura Zambrini (Demetra Formazione) — Educational programme for sustainable jobs in Blue Economy ${\color{red} {\tt BOUTCAR}}$

Ms Zambrini delved into the BOUTCAR initiative, stemming from the EMFAF call on Blue Careers, aimed at supporting the transition in the fishery and aquaculture sectors. The primary objective of the project is to provide training and professional profiles that address the challenges facing both in the Mediterranean and Atlantic basin regions.

Identified gaps include a mismatch in skills, lack of attractiveness and awareness of blue economy career opportunities, and a general lack of ocean culture. The initiative seeks to bridge these gaps by establishing specific curriculum roadmaps, focusing on technical and soft skill competencies, and engaging stakeholders to identify training needs.

Expected outcomes include retraining and upskilling the active workforce, particularly older individuals, and fostering multidisciplinary competencies to prepare professionals for the blue economy. The project also aims to influence policies at both EU and local levels and establish a network among universities, training providers, businesses, and other stakeholders.

Partners from Italy, Spain and Greece, and Europêche are collaborating on the project, with a focus on addressing gaps such as outdated curricula, lack of green and digital skills, and insufficient integration of theory and practice. Specifically, the project will concentrate on renewable energy impact in the maritime sector, particularly off the coast of the Adriatic Sea. Collaboration protocols will be established with enterprises involved in creating renewable energy infrastructure to create new training opportunities and businesses in the sector.

Overall, the project aims to create a virtuous cycle of training, investment, and fleet renewal in the blue economy, with a particular emphasis on the impact of renewable energy and energy transition.

Lucía Fraga (CETMAR) - Offshore Renewable Energies partnership in the Pact for Skills, Flores

Ms Fraga, the coordinator of the training department at CETMAR, presented the foundation's role as an interface between research, administration, industry, and society to promote innovation and sustainability within sea sectors. She highlighted the department's focus on capacity building, careers, and skills development, particularly in offshore renewable energies. Ms Fraga emphasised the sector's diverse value chain and the array of technologies involved in extracting energy from renewable resources at sea. She noted the sector's substantial growth projections, posing a challenge in terms of skill development and sectoral advancement.

Ms Fraga outlined the activities conducted under the Pact for Skills. She instigated CETMAR's involvement in offshore renewable energy skills development starting in 2018 through coordinating the MATES blueprint project. This project, funded by the Erasmus+ programme, aimed to develop a skills strategy that addresses the main drivers of change in the maritime industry, in particular shipbuilding and offshore renewable energy.

Over four years of intensive work, the MATES blueprint project laid the groundwork for subsequent initiatives under the European skills agenda, including the Pact for Skills. This initiative facilitated collaboration between skills demanders and offers, also establishing a large-scale partnership focused on offshore renewable energies.

In 2021, CETMAR spearheaded the ORE Skills Large Scale Partnership, culminating in the Flores project. This project aims to support the offshore renewable energy (ORE) sector by providing dedicated training opportunities and enhancing upskilling for existing workers. It prioritises capacity-building actions, updates occupational profiles, and develops innovative lifelong learning tools. Multilingual educational materials will promote career opportunities in the ORE sector, especially for young people and women. Regional pilot actions will serve as models for future initiatives under the Pact for Skills in the ORE sector.

Part 2: Knowledge sharing and networking

Below is a list of probing questions posed to participants during two breakout sessions. Participants were asked to share their experiences and advice on the specific topics. Responses to these questions have been collated in the section "Workshop outputs".

Breakout session I: Identification of skills related challenges & knowledge gaps within the sector and amongst the workforce:

- 1. From your experience, what are the main challenges you encounter when accessing the available training and skilling opportunities for the energy transition in your sector?
- 2. In which areas do you find is the lowest amount of relevant training and skilling courses available (e.g., use of alternative fuels, new gears, digital tools)?
- 3. How do you judge the preparedness of the workforce for digital, sustainable and innovation challenges in the sector?

Breakout session II: Identification of skilling solutions and possible future synergies

- 1. For the current state of the transition in your sector, where do you believe is the most potential for skilling and training, for accelerating the energy transition in the sector?
- 2. How can the sector use synergies from other maritime sectors on skilling and training and how can this help advance the energy transition in the EU fisheries and aquaculture sector?
- 3. What are the most important actions in the short term that could be taken to overcome the current challenges in the availability and accessibility of skilling and training opportunities? What could the medium- to long-term actions to be?

Workshop outputs

This section summarises the key points captured during the discussion.

Breakout session I: Identification of skills related challenges & knowledge gaps within the sector and amongst the workforce:

- **Uncertainty**. Understanding the short, medium, and long-term skills needed for the energy transition is challenging due to the evolving nature of the sector. The shape and direction of the transition are not yet clear, making it difficult to anticipate future skill requirements accurately.
- Lack of skills in emerging technologies. There is an insufficient understanding and skills related to various emerging technologies in the offshore renewable energy sector. With multiple options available, there is uncertainty about which technology to prioritise for skill development, posing a challenge in aligning training efforts.

- **Differences in objectives and motivations**. It is important to address differences in objectives and motivations among various stakeholders within the maritime industry, such as, for instance, crew members and ship owners. Without a shared understanding of factors like, for example, fuel consumption and its impact, motivation to take action may be lacking. While acknowledging that there are indeed tools available to optimise fuel consumption and gauge its impact both on the business and the crew itself (including the impact on the crew income), without a mutual understanding of the rationale behind certain goals, the effectiveness of technological solutions might be reduced. Therefore, it was suggested that enhancing skills and knowledge about these tools is necessary. **Education constraints**. Lifelong training faces constraints, particularly in professions like fishing, where demanding schedules make it challenging for workers to dedicate time to training. Tailoring training programmes to fit the needs and schedules of such professions is essential but often difficult.
- There is a need for clarity and certainty in training programmes, possibly through the establishment of licensing systems. This would help fishers understand that they are investing in their future.

• Identifying demands and needs

- o It is important to accurately identify the demands and needs of fishers to develop appropriate training programs that meet their requirements.
- With multiple subsectors involved, there is a complexity in addressing the specific training needs of each one. However, there is a general need for raising awareness in sustainability, motivating workers, and imparting transversal skills required for the green transition.
- Establishing a network involving fishers, fishing schools, industry, administration, and research community is crucial to identify training needs and develop a common roadmap for training initiatives
- **Lack of training materials.** There is a shortage of materials, especially concerning alternative fuels, hindering the development and demand for training courses. Accessible and comprehensive training materials are essential for effective skill development.
- **Increasing sector attractiveness**. There is a need to enhance the attractiveness of the sector to attract new talent and facilitate generational renewal. As the workforce ages, there is a decreased incentive for investing in training and upskilling, highlighting the importance of making the sector more appealing to younger generations. Moreover, making the energy transition appealing to fishers is essential. They should perceive it not just as a cost but also as an investment and an opportunity.
- Lack of awareness on investment options. There is a notable lack of awareness among fishing vessel owners regarding investment options for energy transition technologies. This includes uncertainty about which technologies to invest in, how to allocate resources, and the potential payback of different technologies.
- **Generation gap**. A significant generation gap exists between younger individuals, who are more eager to engage in energy transition initiatives, and older generations, who may be less inclined to participate. Bridging this gap and fostering collaboration between the two generations is essential but presents a notable challenge.

- Lack of preparedness, particularly among small-scale fishers, linked to factors such as the
 aging workforce and vessels. Addressing this requires investment in new vessels and raising
 awareness about the importance of training and skill development. Additionally, it is crucial to
 recognise that different sectors and geographical areas have varying needs, necessitating
 tailored approaches.
- **Varying sector readiness**. Different sectors exhibit varying degrees of readiness for digital, sustainable, and innovation challenges. While some are more prepared, others require support and adaptation. Identifying forerunners and leveraging their experiences can aid in facilitating readiness across the sector.

Breakout session II: Identification of skilling solutions and possible future synergies:

• **Flexible careers and career perspective**. There is a need for more flexible career pathways and recognised certifications in the fishing sector. Starting from schools, efforts should be made to prepare today's students for tomorrow's professional roles. Creating partnerships between 'young fishers in training and active fishers without successors can facilitate knowledge transfer and continuity in the industry. Provide a clear career perspective for fisher to foster long-term commitment and investment in training.

• Standardisation of training

- o Implement standardised training programmes and materials to streamline certification processes and ensure accessibility across different regions and languages.
- An approach rewarding progress, poster collaboration, and networking among different players, including the **establishment of a European centre for training and certification** of teachers, are proposed actions to facilitate the transition.
- Inter-generational exchange and digital integration. Encouraging exchange between younger and older generations of fishers can foster learning and collaboration. Older fishers can impart traditional knowledge and experience, while younger generations can contribute their expertise in digital technologies. Formalising and institutionalising this exchange can enhance knowledge sharing and innovation in the sector.
- **Skilling and training focus areas**. Prioritise digitalization and energy efficiency training tailored to the existing workforce, ensuring continuous learning due to evolving technology.
- **Formalizing informal knowledge**. Recognise and formalise informal knowledge within aquaculture to enhance overall learning and skill development.

• Improved Awareness and Communication

- Enhancing visibility and communication about technological options is crucial. This
 involves providing data on the costs and payback periods of different technological
 options to aid decision-making.
- o Increase awareness and visibility of available technologies and training opportunities to stimulate demand. Making technologies accessible and known to stakeholders encourages the uptake of training initiatives.

- There is a need for raising awareness about the specific challenges and opportunities related to small-scale fisheries, involving different stakeholders, including policymakers.
 A bottom-up approach is suggested, focusing on efficiency skills and literacy, while also emphasising the connection between training and profitability. For instance, tools that track fuel consumption can help fishers understand their operational costs better.
- **Entrepreneurship training and digitalisation**. Entrepreneurship training, digitalisation, and preparing the supply chain are potential accelerators for the transition.

Funding

- There is a need for funding not only to support the transition to renewable energy but also to quantify the economic advantages of such a transition. This involves assessing the financial benefits, including reduced carbon emissions and increased sustainability, to provide stakeholders with a clearer understanding of the return on investment.
- Secure funding for ongoing training, reskilling efforts, and materials development to sustain the skilling process in the maritime sector.
- **Smart technology adoption**. Utilize smart technologies to improve efficiency, especially in monitoring and reducing fuel consumption.
- **Skills mapping**: Conduct a comprehensive mapping of skills needed in the sector to better understand future requirements.

Synergies with other sectors

- There are potential synergies with the maritime transport sector, particularly in areas such as alternative fuel usage The skills required for the crew to adapt to new solutions are believed to be similar between maritime transport and fisheries.
- Collaborate with shipping and other maritime sectors to harmonise certifications, utilise training infrastructure, and advance safety measures, while also exploring synergies with port activities and propulsion system contractors.
- One notable synergy involves downsizing technologies already utilised in the offshore energy and shipping sectors for use in smaller vessels used in fishing and aquaculture.
 Another promising synergy is the coupling of aquaculture with energy production, offering significant potential from an energy transition perspective.
- Collaboration platforms are essential for fostering synergies, along with networking among various stakeholders, including training centres, administrations, and aquaculture sectors.

Follow UP Actions

After the event, participants were encouraged to provide further feedback in writing, after "digesting" the issues discussed in the breakout session. An online form with the same questions asked during the event was made available online for sharing further food for thought.

Annex 1 - Agenda

8h30 – 9h00	Registration & Welcome coffee
9h00 – 9h30	Welcome and introduction to the day (Moderated by Stephen DAVIES (DG MARE) Delilah AL KHUDHAIRY (Director Directorate A: Maritime Policy and Blue Economy) / Sven Langedijk (Unit A4: Economic Analysis, Markets and Impact Assessment)
	Icebreaker Introduction to the challenge of research
	and innovation
	Presentations:
	 Training program to sector workers <u>Green to blue</u>
9h30 – 10h00	 Training program in eco-driving – <u>Amarree</u>
	 Training program in aquaculture - <u>BlueAquaEdu</u>
10h00 – 10h10	Coffee break
	Presentations:
	 <u>Sea-Ranger</u> perspective
	 Sustainable fisheries training - <u>Catching The Potential</u>
10h10 – 10h50	 Educational program for sustainable jobs in Blue Economy - <u>BOUTCAR</u>
	 Offshore Renewable Energies partnership in the Pact for Skills - <u>Flores</u>
10h50 – 11h	Coffee break
	Breakout session
11h00 – 12h30	Identification of current & future gaps, challenges and opportunities in skills within the sector and amongst the workforce

12h30 – 12h50	Presentations of Conclusions and Recommendations by the different groups
12h50 – 13h00	Closing, incl. Next Steps
13h00 – 14h00	Light lunch networking