BLUE MINDS 4 TEACHERS

OCEAN LITERACY IN THE CONTEXT OF THE BLUE ECONOMY

a Marine Social Sciences Approach

By Evelyn Paredes Coral, PhD

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About me

I am a marine scientist and I started my career working on the conservation of sea turtles, and in the last years my research is focused on humans and their relationship with the ocean. I work on projects related to education and blue skills.

Evelyn Paredes

Learning outcomes

1. Understanding the concept of 'blue economy' and exploring its sectors

Learn about the blue economy concept, its sectors, its importance for sustainable development, and enhancement of economic opportunities related to the ocean.

2. Integrating blue economy concepts into your lessons

Learn concrete examples for incorporating blue economy topics into your lessons, across subjects like science, geography, economics, and social studies, making the learning relevant for students.

3. Promoting blue thinking and fostering ocean literacy

Provide teachers with tools to encourage students to think critically about ocean-related issues and consider the implications of human activities on marine environments.

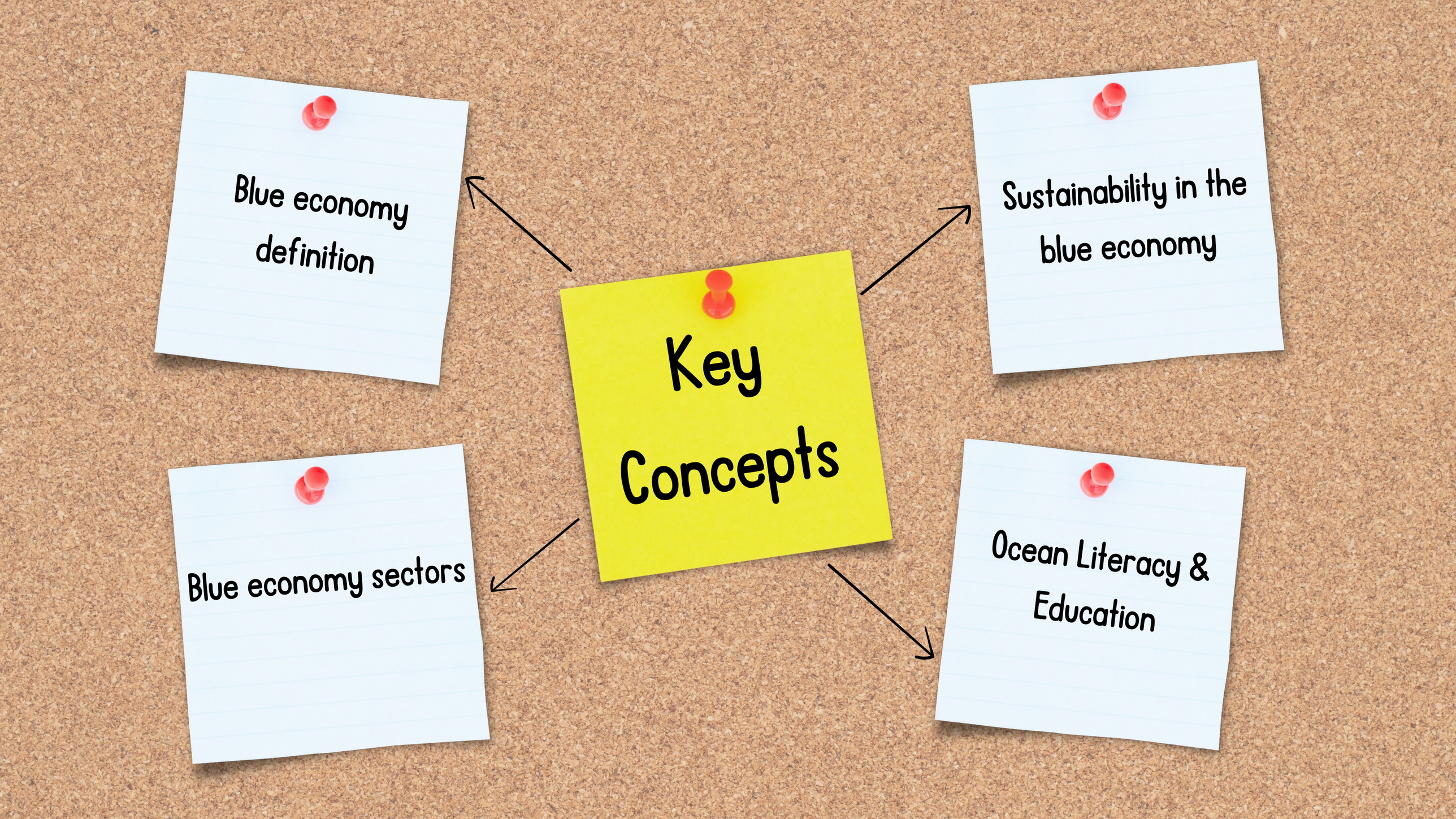
Learning outcomes

4. Engagement with experts and practitioners

Teachers will have the opportunity to hear from and engage with experts and practitioners working in the field of the Blue Economy, providing real-world insights and examples to bring back to their classrooms.

5. Resource sharing

Participants will be provided with a variety of resources, including guidelines, games and videos, which can be used to teach students about the blue economy.


Blue economy definition
Sustainability in the blue economy
Key Concepts
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European Commission

Blue economy

The blue economy refers to all the economic activities related to the ocean, seas and coasts.
It aims to be:

- socially equitable
- environmentally sustainable
- economically viable

Blue economy sectors

- Established sectors

Blue economy: Established Sectors

- Fisheries & Food processing

  - Encompasses activities related to the harvesting, processing, and distribution of marine resources.

  - Includes fishing operations, aquaculture, seafood processing, and related industries.

  - Plays a crucial role in providing food security, employment, and economic growth while also facing challenges related to overfishing and habitat destruction.

UNCTAD

Blue economy: Established Sectors

- Shipbuilding & repair

- Focus on the construction, maintenance, and renovation of ships and vessels.
- Include a wide range of activities, including building commercial and military ships, offshore structures, and maritime infrastructure.
- Play a vital role in supporting global trade, transportation, offshore energy production, and naval defense.
- Contribute significantly to the economy by generating employment, fostering innovation, and ensuring the safe and efficient operation of maritime activities.

Kenny Ingran

Blue economy: Established Sectors

- Maritime transport

- This sector involves the movement of goods, passengers, and services across oceans, seas, and other water bodies.

- It encompasses activities such as shipping, ports, shipbuilding, and maritime logistics.

- This sector plays a crucial role in global trade, connecting markets and facilitating economic growth.

Kenny Ingran

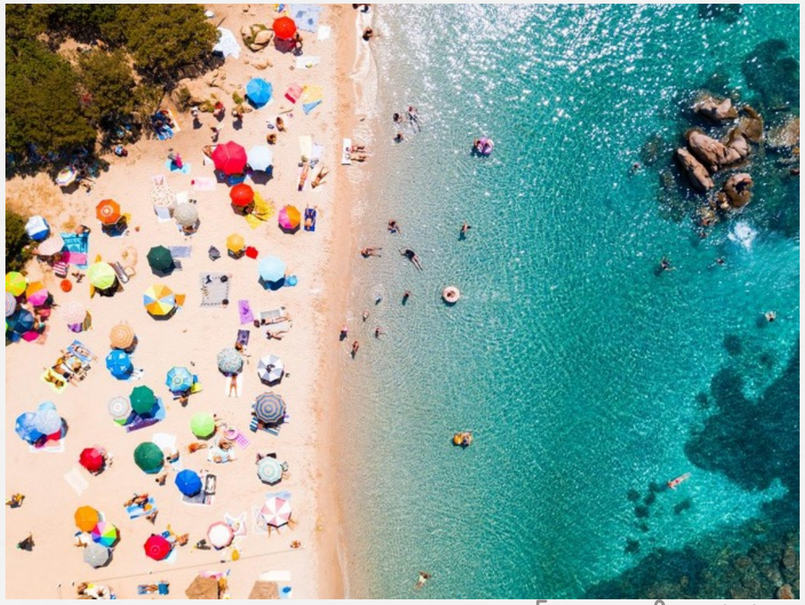
Blue economy: Established Sectors

- Coastal tourism

- All activities related to tourism in coastal areas, including beaches, marine parks, and coastal communities.

- It involves various recreational activities such as swimming, surfing, snorkeling, and diving, as well as eco-tourism initiatives like whale watching and mangrove tours.

- This sector contributes significantly to local economies through revenue generation, job creation, and infrastructure development.



European Commission

Blue economy: Established Sectors

- Offshore Wind*

- Focuses on harnessing wind power in marine environments, to generate renewable energy.
- Unlike onshore wind farms, offshore wind turbines are installed in bodies of water (on the continental shelf or floating).
- These turbines tend to be larger and more efficient due to the stronger and more consistent wind speeds available at sea.
- The development of this sector contributes to reducing carbon emissions, creating jobs, and enhancing energy security.
- It involves significant technological innovation and investment in areas such as turbine design, floating platforms for deep-water installations, and grid integration systems.

AI generated

Blue economy sectors

- Emergent sectors

Blue economy: Emergent Sectors

- Offshore aquaculture

- Involves farming marine organisms such as fish, shellfish, and seaweed in open ocean environments. This method allows for larger-scale production compared to traditional coastal aquaculture.

- It can mitigate pressure on coastal ecosystems while addressing the increasing demand for seafood worldwide.

- It also presents challenges related to environmental impact, infrastructure development, and regulatory frameworks.

InnovaSea

Blue economy: Emergent Sectors

- Ocean Energy (waves, tides, thermal, solar)
  - Includes various renewable energy sources: wave, tidal and thermal energy conversion.
  - Wave energy converters and tidal turbines harness the power of ocean waves and currents,
  - Thermal energy utilizes temperature difference between surface and deep water to generate electricity.
  - Solar energy harness the energy from the sun by installing solar panels on water surfaces.
  - These technologies hold immense potential for sustainable energy generation.

Mayuri Kathade

Blue economy: Emergent Sectors

- Marine Biotechnology

- This sector involves the exploration and utilization of marine organisms and their biochemical processes to develop new pharmaceuticals, biofuels, food additives, cosmetics, and other products.

- Plays a crucial role in environmental applications, such as bioremediation to clean up ocean pollution and the development of sustainable aquaculture technologies.

European Commission

Sustainability in the blue economy

- Promote best practices to ensure the replenishment of fish stocks.
- Implementing fishing quotas and seasons, using selective gear types that reduce bycatch, and managing fish stocks through science-based practices help ensure long-term viability of marine species.

Sustainability in the blue economy

- Adequate waste management from ships.
- The sustainable dismantling and recycling of ships, prevent environmental pollution and allow the reuse of valuable materials (circular economy).

Sustainability in the blue economy

- Sustainable marine tourism practices include the development of eco-resorts that use renewable energy sources, water-saving devices, and provide education programs for visitors.

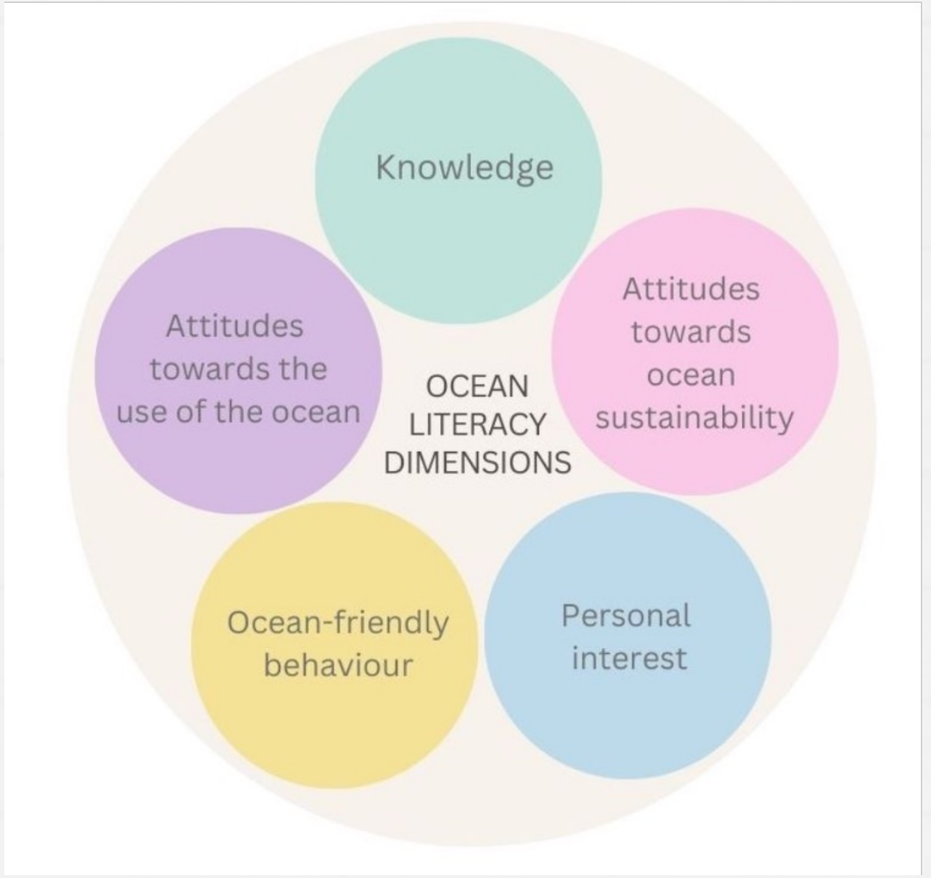
- Establishing MPAs will help to conserve marine biodiversity, manage fish stocks, and protect ecosystem services.

Sustainability in the blue economy

- Reduction of greenhouse gas emissions from maritime activities.
- Use of alternative fuels, renewable energy sources and energy optimisation.
- Wind/solar-assisted propulsion systems.

Ocean literacy & Education

Transdisciplinary approach



To increase the attractiveness of blue careers

&

To better understand the way maritime workers connect with the ocean

Case study:
Forward Looking at the Offshore Renewables Sector (ORE)

AI generated

Objective:

Foster a more skilled ORE workforce by:

- Identifying skills gaps in the workforce
- Preparing educational materials
- Promoting partnerships

FLORES
Offshore Renewable Energies partnership in the Pact for Skills

FLORES
Offshore Renewable Energies partnership in the Pact for Skills

KEY ACTIONS

LARGE-SCALE PARTNERSHIP

Promote a long-lasting partnership across Europe that will promote ORE skills within the European Pact for Skills. Pilot actions at regional level will be developed to adapt the training materials and needs to the reality of Europe's different sea basins in the Atlantic, the Baltic and the Mediterranean.

STIMULATION OF DEDICATED TRAINING OFFERS

Re-skilling and upskilling processes with innovative approaches to lifelong learning. FLORES will ease access to existing ORE training offers and materials and develop new specific and multilingual tools promoting Ocean Literacy, lifelong learning and awareness raising in the sector.

SKILLS INTELLIGENCE

Identify and prioritise the most relevant actions in the capacity-building process, covering not only the rapid and complex changes occurring in this industrial ecosystem but also forecasting those changes yet to occur, especially regarding new and emerging technologies.

CAREERS

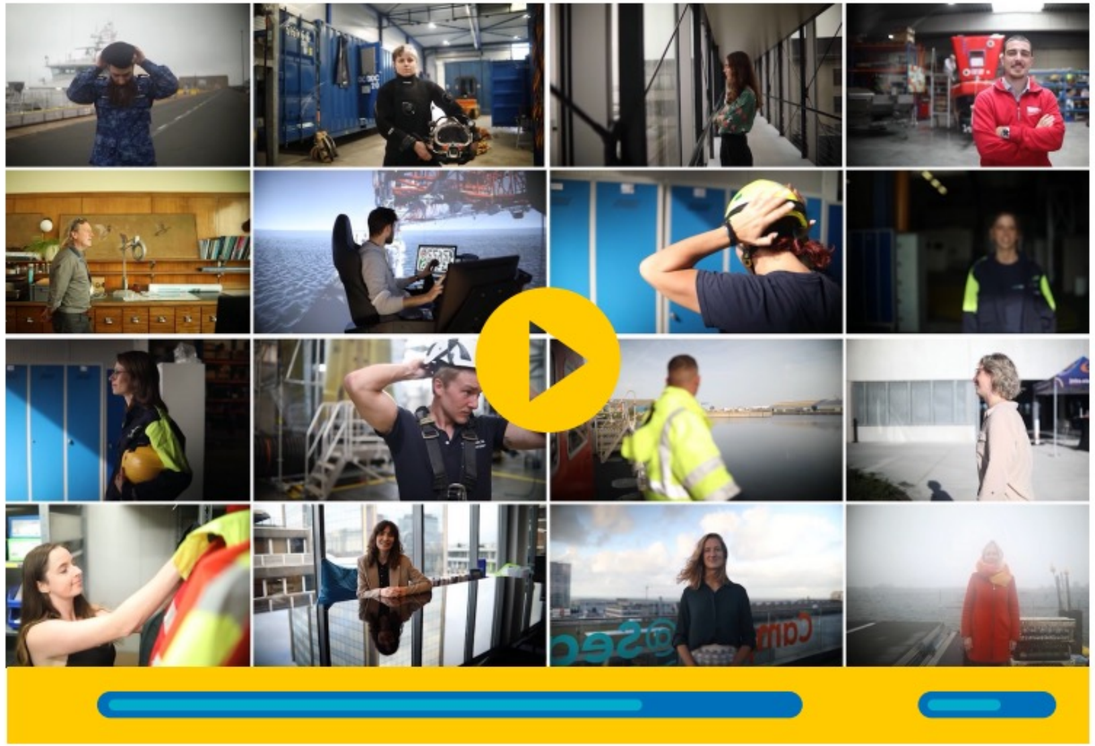
Building on industry insights, update occupational profiles in the ORE value chain, contributing to the continuous updating of the ESCO database. Materials will be developed to promote career and job opportunities in the European ORE sector, making those more attractive, especially for young people and women.

Card Game to discover Offshore Renewable Energies Job Profiles

Download it here

Available in 4 languages!

Video series on Offshore Renewable Energies Jobs



Discover all about the ORE sector and what it can offer to your professional career!

Watch our videos

Subtitled in

16 interviews with inspiring professionals

Educational materials for secondary schools

Bringing Offshore Renewable Energies to new generations

For every lesson there is a guidebook for teachers + a set of slides

Lesson topics

- Introduction
- Wind energy
- Solar energy
- Ocean currents energy
- Wave energy
- Tidal energy

Coming soon...

Educational Resources

- Informational videos on blue careers
- Card game
- Guidelines to Promote Life-Long Learning in ORE

take-home message

Empower students with ocean literacy to foster a sustainable blue economy

↓

Enabling students to unlock opportunities for innovation and responsible management of marine resources

Case study:

Next Blue Generation Project

Silja Teege

Video testimonials

Diver

Rope Access Technician

Lead Engineer

Source: FLORES Project (www.oreskills.eu)

Thank you!

and stay tuned on the project news...