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Deep - Dive Workshop 2:
What does a fossil fuel free
sustainable blue economy look like?
How can we as a community support this transition?
GET STARTED

Among all the challenges that the EU maritime community must meet, one of the most ambitious is the reduction in the use of fossil fuels. Indeed, fossil fuel emissions (from burning coal, oil and gas) represent 75% of global greenhouse gas (GHG) emissions and are thus largely responsible for climate change. Especially in the maritime sectors, where the use of marine gas oil (also known as bunker fuel), associated with higher emissions, is common. Following the 2015 Paris Agreement and the European Green Deal, the EU has committed to reduce its GHG emissions by 55% by 2030 – compared to 1990 emissions – and to become climate-neutral (i.e., to produce zero net GHG emissions) by 2050. GHG emissions are mainly due to energy generation from the combustion of fossil fuels (e.g., as a means of propulsion or energy), but also in the fabrication of materials (e.g., plastic), therefore the reduction of our carbon footprint concerns all blue economy sectors.

The progressive reduction in the use of fossil fuels coupled with the energy transition, as well as the wider decarbonisation of the blue economy sectors is imperative, and a priority to meet the objectives set at European and international level.

In 2019, emissions from the Plastic Lifecycle were equivalent to the emissions released by 189 Coal Plants (0,86 Gt CO2)

77 % of the goods traded to and from the EU were traded by sea

Oil tankers are the second largest fleet under EU flag in terms of tonnage

In 2022 marine-diesel prices have more than doubled compared to the average prices in 2021

What do we do now?

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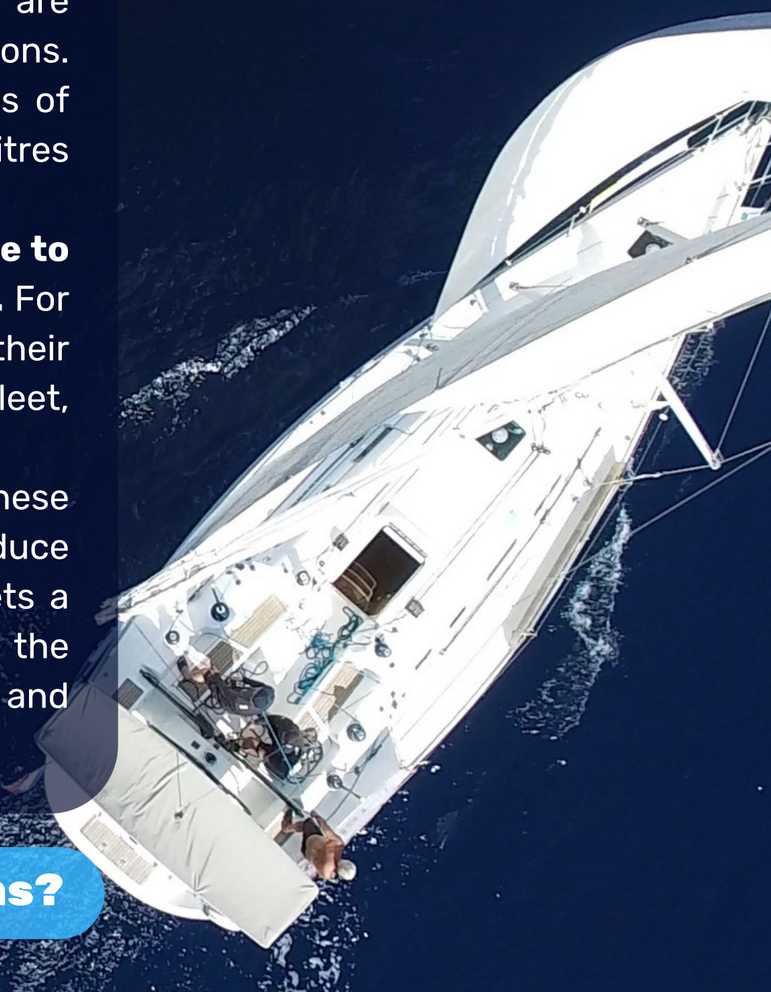
In 2023, the EU accounted for 15,074 ships navigating under EU Member States' flags, corresponding to around 230 million gross tonnage (GT). Based on a "business as usual" scenario maritime transport is expected to grow due to transport demand from world trade, which is projected to increase GHG emissions from shipping from 90% to 250% by 2050. Between and 6 and 7% of GHG emissions are generated at berth in European Economic Area ports, not to mention those linked to ports operations. Cruise ships, which are steadily increasing in size, are one of the three most polluting categories of vessels. Regarding EU fisheries, in 2020, the fleet totalled 74,000 vessels and used around 2 billion litres of marine diesel.

The dependency of maritime sectors on fossil fuels increases their economic vulnerability due to the high cost and price volatility of fuels, as recently experienced due to the war in Ukraine. For some sectors, energy is one of the major costs and can have significant consequences on their profitability. As illustrated by fisheries, under the 2022 energy price level, 40% of the small-scale fleet, 66% of the large-scale fleet and 87% of the distant-water fleet was not profitable.

At global, national and local scales, policies are progressively being implemented to address these challenges. In 2018, objectives were set by the International Maritime Organization (IMO) to reduce international shipping GHG emissions. In the EU, the 'Fit for 55' package, and FuelEU Maritime sets a number of proposals, including measures for maritime transport and ports. Also, very recently, the European Commission published a communication on the Energy Transition of the EU Fisheries and Aquaculture sector. But what is the role of public authorities?



What are the existing solutions?

Huge challenges stand ahead of us in moving towards a fossil fuel free blue economy. All the key sectors have either started or are starting to explore pathways for this transition. Progress being made focuses on three main aspects: **energy efficiency** (e.g., eco-designs for leisure boating), the use of **alternative energies** (e.g., batteries, ammonia, hydrogen, wind assisted propulsion for shipping) and **energy savings** (e.g., hull design for shipping, route optimisation, speed reduction, new net and gear designs for fisheries to reduce fuel consumption).

Whilst the shipping and fishing sectors are at the core of many of these innovations, other sectors are also contributing to the solution. The development of marine renewable energy provides an important opportunity to support the transition of blue economy sectors. And in the future, ports could also play a key role in providing multi-fuel and electrification facilities, bunkering infrastructure for new fuels, and port-to-port 'green corridors.

Is it enough?

Despite these advancements we are still very far from a fossil fuel free blue economy. Isn't the challenge as much about using less energy rather than simply replacing it?
Solutions are still long and expensive to develop. Will maritime industries be able to afford the transition? If more and more stakeholders are committed to improving their practices, financing the transition remains a critical issue. Not all sectors have the same ability to attract investment, therefore it is about making sure all sectors can access a fair and equitable transition, so small and local stakeholders are not left behind.

Few cross-sector solutions have been developed so far, and scaling up innovations remains a major challenge. Therefore, actions need to be taken simultaneously by all stakeholders of the different maritime industries, all along the value chain of each sector to make the blue economy greener;
upstream (e.g., designers) and downstream (e.g., consumers);
at sea (e.g., vessels) but also on the coast (e.g., ports) and on land (e.g., transport of maritime products).

A smaller but better Sustainable Blue Economy? Can Blue Economy support greater national and European autonomy?

Alongside technological innovation, the move towards a fossil fuel free blue economy will require a shift in our consumption model and habits. 80% of goods are transported by shipping, coming from the other side of the planet, and a large proportion of our production is exported. Reducing consumption of imported goods and relocating production will therefore most probably play a significant role in decarbonizing our economy and its blue components. In this context, our individual and collective values as society might need to change. How can we make the transition acceptable for all of us? Local initiatives to increase citizen's ownership of this transition, such as participatory energy projects or cooperative fish markets, might be a highway to get people onboard. In this context, the sharing of experiences and best practices among stakeholders will be a key driver.

Is this possible?

Current activities and technologies will need to adapt to move towards fossil fuel free and reduce their carbon emissions. New carbon neutral activities need to be developed and deployed at a large scale. For now, one large scale solution is still lacking and will most likely never exist. On the contrary, achieving a fossil free sustainable blue economy will rely on a combination of solutions, both from innovation and technical solutions, but also societal changes.

The European Blue Forum is intended to contribute to these global reflections and help all kind of stakeholders to identify solutions together through dialogue and trust. Get on board with us!

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