Hydrogen Europe Maritime Vision Paper – Executive Summary

The global climate agreement reached at the UN climate change conference COP 21 in Paris December 2015 ("the Paris Agreement") is seen as an historic and landmark instrument in climate action. However, the agreement is lacking emphasis on international maritime transport and the role that this sector will need to play in contributing to decarbonisation of the global economy and striving for a clean planet for all.

Hydrogen and hydrogen-based fuels (such as ammonia) and hydrogen technologies offer tremendous potential for the maritime sector and if properly harnessed, can significantly contribute to the decarbonisation and also mitigate the air pollution of the worldwide fleet. Hydrogen Europe will be the catalyst in this process.

The pathway towards hydrogen and hydrogen-based fuels for the maritime sector does not come without technological and commercial challenges let alone regulatory barriers. **Hydrogen Europe has developed a maritime policy paper aiming at highlighting the importance of an ambitious maritime EU-policy to address those challenges**. The paper contains policy requests on EU initiatives namely on the necessity to include maritime in the European Emission Trading system and targets on the demand of hydrogen and hydrogen-based fuels and explain why even that is not enough.

Why should the EU take the lead? The current state of IMO discussions on the decarbonisation strategy are progressing slowly but there is no time. Improving the energy-efficiency of the ship as a first step by 2030 only will not be enough. If the EU, in line with the European Green Deal targets, aims to reduce emissions overall by 55% in 2030 relative to 1990 and have a climate neutral economy by 2050, a shift from fossil fuels to zero-carbon fuels for shipping will be required. As the lifetime of ships is high, the introduction of zero-emission vessels needs to start now.

Hydrogen Europe will have a coordinating role at EU level by bringing all the stakeholders (shipowners, shipbuilders, classification societies, fuel producers and providers, ports, …) together to ensure the development of a coherent and robust maritime alternative fuels policy. Cooperation between all stakeholders should ultimately be coordinated at EU level, where new obligations for fuel use and infrastructure could be introduced after a certain threshold is met.

There are many potential alternative fuels for shipping, but not all such as biofuels are equally promising. Therefore, the solutions, to be stimulated by the FuelEU maritime initiative, need to be sought out among technologies that can be both sustainable and scalable. **Hydrogen Europe will encourage the development of legislation that is future-proof.**

The pace in which the maritime sector can decarbonise very much depends on how fast ports will be able to store sufficient amounts of green hydrogen and hydrogen-based fuels. **Ports will become H2 hubs or "H2 Valleys" where hydrogen can be produced or imported, stored and distributed for use in different applications.**

To ensure that the different greening and energy transition pathways for ports do not get stuck in a discussion about the chicken-and-egg dilemma, coalitions or framework agreements should be developed by key stakeholders to develop roadmaps and timelines.

In the European Green Deal Communication, the Commission affirms its focus on the production and deployment of sustainable alternative transport fuels for the different transport modes. Hydrogen Europe supports the policy initiatives of the EU aiming at decarbonising the maritime sector e.g., FuelEU Maritime. Those initiative are all connected one way or another. **Although there is no silver bullet to decarbonize the maritime sector, we cannot afford to have a patchwork of legislation and regulation and need a European regulatory framework with clear and ambitious obligations for the use of hydrogen and hydrogen-based fuels by 2025 and 2030 in the maritime sector.**

The FuelEU Maritime initiative will focus on ramping-up the production, deployment and uptake of sustainable alternative marine fuels. **The FuelEU Maritime Initiative will have direct implications for alternative fuel infrastructures and must therefore be compatible and well-aligned with existing legislation,** specifically the Alternative Fuels Infrastructure Directive as it will require targeted and effective investments in ports.

Through the FuelEU Maritime initiative specific targets regarding the share of hydrogen and hydrogen-based-fuels in the total fuel demand for maritime sector can be set leading to more certainty for producers, distributors and infrastructure providers and consumers.

Hydrogen Europe welcomes the vote in the European Parliament to include shipping in the EU ETS. Putting a price on carbon emissions of shipping thorough the EU-ETS would be a welcome first step in establishing a regulatory framework for the decarbonisation of this sector, but **only provided that the auctioning revenues flow back to the maritime sector through the Ocean fund** which can act as an important driver for necessary investments in sustainable fuels, innovative techniques and retrofitting.

An extension of the EU ETS to maritime shipping should result in CO2 reduction, limit carbon leakage, accelerate the transition towards clean fuels, and not hamper the competitive position of the EU market.

We call for the establishment of a common regulatory framework to provide for the rapid expansion of hydrogen refuelling stations network across Europe. These hydrogen refuelling stations (HRS) will be used to supply hydrogen to small ships in ports, where these ships are being developed/used, and set the seeds for dedicated hydrogen infrastructure. **There can be no chicken-and-egg dilemma: the deployment of infrastructure must occur alongside the deployment of ships.**

Hydrogen Europe believes that by 2030 hydrogen can provide auxiliary power to the majority of ocean-going vessels (build after 2025) in ports and that the EU should lay down the legislative pathway to make this possible.

The synergies between the Trans-European Transport Networks (TEN-T) and the Trans-European Networks for Energy (TEN-E) should be explored further to make a direct link between the fuel source, the optimisation of the production, use and transport of large quantities of hydrogen and the increase of hydrogen demand for the transport sector through the development of hydrogen infrastructure network. When TEN-T and TEN-E corridors are aligned geographically, the HRS network should be strengthened.

When developing legislation and proposing targets and incentives, it is important to avoid duplication of efforts; as such if specific sectoral targets for maritime are proposed within the context of Renewable Energy Directive (RED) revision, they should always be coherent with any other more specific and targeted sectoral legislative initiatives e.g., RE Fuel Maritime.

The current RED2 directive does not acknowledge green H2 imports. **In the absence of a system on guarantees of origin, the commission should provide certainty for ports on how to deal with green H2 imports**, otherwise this route to decarbonisation and new cargo will be closed. The same goes for import of hydrogen carriers.

The rules that will trigger the uptake of hydrogen must be designed in such a way that they do not dissuade ships made in the EU but rather encourages the promotion and production of “EU made zero-emission ships” for which the EU industry has a competitive advantage.

The European Commission should adopt an integrated approach in EU funding instruments to make sure that new bunkering infrastructure, as well as technology on board and vessels, can be stimulated simultaneously, preferably in the same subsidy call. Only in this way can we overcome the chicken-and-egg problem and stimulate the commercial scale up of low carbon fuels, clean energy and energy carriers.

Hydrogen Europe highlights the lessons learned from passed attempts to accelerate the uptake of alternative fuels in developing new and effective harmonized frameworks at EU level (e.g., on standardisation, harmonisation of local rules) and robust regulation on Sustainable Aviation Fuels-infrastructure (SAF) for alternative fuels where hydrogen is given a prominent role. **We encourage the IMO to start developing technical regulations for ships powered by hydrogen and hydrogen-based fuels such as ammonia.**