INTRODUCTION

The first two articles of this news report mainly deal with the topic of GHG reduction and alternative fuels, while the second and third article provide updates on developments related to maritime security and hybrid threats.

The first article in this report, which falls in the categories of “maritime GHG reduction” and “safety”, relates to recent publications by the European Maritime Safety Agency (EMSA) on its ongoing study assessing the safety of ammonia as a marine fuel. The article outlines the three recent publications under this study and also points to an ongoing consultation on the study’s recommendations.

The second article is also related to decarbonisation and presents rules recently adopted by the European Commission on the definition of low-carbon hydrogen.

The third article reports about a call for evidence launched by the European Commission which will support the Commission’s legislative proposal to revise the rules governing the European Border and Coast Guard (Frontex). The proposal for a revision is expected in Q3 2026.

The fourth article describes how new offshore infrastructure, in particular wind farms, anticipate and mitigate the risk of hybrid threats. It also provides an update of the investigation into a hybrid attack on cable infrastructure in the Baltic Sea.

EMSA publishes additional reports on the safety of ammonia

Ammonia is one of the alternative fuels currently considered to help with meeting GHG emissions requirements for maritime transport. Consequently, it is expected to provide a contribution to meeting GHG emission reduction targets both at EU and at IMO level. As an advisory body to both the European Commission and EU Member States, the European Maritime Safety Agency (EMSA) has now released parts 3, 4, and 5 of its study series on the safety of ammonia as a marine fuel. Launched in 2023, the series assesses risks and mitigation measures for ammonia-fuelled vessels. The whole series can be accessed here[1]. Parts 1 and 2 were published in 2024. Below is an overview of the recent publications. While the publications are independent from the discussions and developments made at the IMO, there is still a link as ammonia is considered as one possible solution to meet decarbonisation targets agreed at the IMO.

Part 3: Risk Assessment of a Generic Ship Design

This report presents a hazard and operability (HAZOP) study of a generic Ammonia Fuel Supply System (AFSS), a risk assessment from ports' perspectives including simultaneous operations (SIMOPS), and consequence modelling of potential leaks. It stresses the need to fully understand ammonia's unique characteristics to develop effective safety measures.

Part 4: Risk Assessment of a Bulk Carrier Ship Design (Newcastlemax Dry Bulk Carrier)

Using a hazard identification (HAZID) approach, the study finds that ammonia bunkering during simultaneous operations (SIMOPS), especially alongside cargo operations, should be restricted or phased in gradually, especially during the early adoption phase of ammonia-fuelled vessels. Chemical compatibility between ammonia and cargo environments needs further evaluation due to potential interference with safety systems. Ship layouts and emergency preparedness must be adapted to ammonia-specific risks. The report highlights the main hazardous SIMOPS and proposes recommendations and mitigation measures including personnel training, enhanced emergency coordination, and infrastructure improvements such as larger fuel tanks to reduce bunkering frequency.

Part 5: Risk Assessment of a RORO Ship Design (Mega RoRo)

This hazard identification (HAZID) study covers design considerations, consequence modelling, and a probit analysis for toxic exposure scenarios. It highlights ammonia's toxicity, corrosivity, and flammability, calling for double barriers, short piping runs, robust detection, and redundant ventilation systems. Emergency plans should include safe havens, mustering zones, and clear escape routes. The probit analysis showed low fatality risk (<1% beyond 1 km) for a short leak, but high risk (>70% within 250 m) for a major tank rupture, underlining the role of exposure duration in hazard zone planning.

EMSA has opened a consultation as part of its ongoing series, inviting stakeholders to participate in a survey related to the study's recommendations. The consultation places the study recommendations

[1] https://emsa.europa.eu/publications/reports/item/5264-study-investigating-the-safety-of-ammonia-as-fuel-on-ships.html

within the framework of the existing IMO Interim Guidelines for the safety of ships using ammonia as fuel (MSC.1/Circ.1687). The consultation can be found here[2] and is open for feedback until 19 September.

European Commission adopts criteria defining low-carbon hydrogen

The European Commission has tabled a delegated Regulation[3] and its annex[4], introducing the exact criteria and methodology to define low-carbon hydrogen and fuels, including for maritime applications. This is a technical legislative act that further specifies certain provisions of Directive (EU) 2024/1788[5] on common rules for the internal markets for renewable gas, natural gas and hydrogen.

In an explanatory press release[6], the European Commission recalls that low-carbon fuels "*will support efforts to decarbonise sectors where electrification is currently not a viable option, such as aviation, shipping and certain industrial processes.*" The Commission press release also refers back to the overarching rule, set by the above-mentioned Directive on renewable gas, natural gas and hydrogen from which the delegated Regulation derives: "*To be considered low carbon, hydrogen and related fuels will need to reach a threshold of 70% greenhouse gas emission savings compared to the use of unabated fossil fuels. This means that low-carbon hydrogen can be produced in various ways, for instance using natural gas with carbon capture, utilisation and storage (CCUS) - a technology that prevents emissions from the process of producing hydrogen-, as well as from low-carbon electricity sources*", the European Commission writes.

The purpose of the delegated Regulation and the annex is to define how exactly a fuel can meet the low-carbon criteria. The delegated Regulation does this among others by setting different default values, depending whether hydrogen is produced from natural pipeline gas, LNG or other fossil fuels.

The delegated Regulation complements a delegated Regulation[7] on renewable hydrogen and is thus considered to be an important addition to the EU's rulebook on hydrogen, a fuel expected to contribute to the decarbonisation of hard-to abate sectors, in particular shipping and aviation. This regulatory development is not directly linked to the EU's work at IMO level, but there is still a connection, since a comprehensive regulatory environment for the production of renewable and low-

[2] https://ec.europa.eu/eusurvey/runner/EMSAAmmoniaSafetyStudy
[3] https://energy.ec.europa.eu/document/download/3d3d0214-75f4-4e79-805e-3240526e2082_en?filename=C_2025_4674_1_EN_ACT_part1_v8.pdf
[4] https://energy.ec.europa.eu/document/download/7d6e84e5-a188-4573-b0f6-2d069fd04e85_en?filename=C_2025_4674_1_EN_annexe_acte_autonome_part1_v7.pdf
[5] https://eur-lex.europa.eu/eli/dir/2024/1788/oj/eng
[6] https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1743
[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2023.157.01.0011.01.ENG&toc=OJ%3AL%3A2023%3A157%3ATOC

carbon hydrogen and its derivatives are also expected to contribute to the decarbonisation of international shipping.

The delegated Regulation will formally enter into force at the latest on 10 November 2025, provided there is no veto by the European Parliament or the Council of the EU (EU Member States). However, such a veto is a very unlikely scenario.

It can be understood as being another important piece in the EU's regulatory framework governing low-carbon hydrogen and fuels.

European Commission takes steps to revise rules governing Frontex

On 31 July, the European Commission launched a call for evidence[8] to gather input on plans to update EU rules governing the European Border and Coast Guard (Frontex[9]). The initiative aims to strengthen the EU's ability to protect its external borders, respond to evolving security challenges, and ensure the effective implementation of integrated border management across Member States.

Frontex, operating since 1 May 2005 and currently governed by Regulation (EU) 2019/1896[10], plays a central role in supporting Member States with border management, return operations, and security at the EU's external frontiers. An evaluation carried out by the European Commission in 2023 highlighted legal and operational gaps that limit the agency's effectiveness. These include unclear mandates in certain tasks, limited capacity in return operations, inconsistent training standards, and governance structures that may no longer match Frontex's expanded role. While the current Regulation does not include any obligation for the Commission to propose a revision – there is only an obligation for regular evaluations – the last evaluation report triggered the European Commission to launch a review process.

The proposed revision of rules governing Frontex hopes to address these gaps, prepare the agency for an enlarged standing corps of border guards, and enhance its technological capabilities. The reforms aim to improve cooperation with third countries, counter cross-border crime, harmonise training, and strengthen governance and oversight while upholding fundamental rights.

The Commission is inviting contributions from Member States, EU institutions, civil society, international organisations, industry, academia, and the general public. The online public consultation will run until 11 September. The contributions will feed into an impact assessment, supported by an external study due in early 2026, which will underpin the Commission's legislative proposal to revise Frontex's rules expected in Q3 2026.

[8] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/14640-European-Border-and-Coast-Guard-update-of-EU-rules_en
[9] https://www.frontex.europa.eu/
[10] https://eur-lex.europa.eu/eli/reg/2019/1896/oj/eng

The process is expected to be similar than the review of the EMSA Regulation which has recently be concluded, with the only difference that the Frontex proposal might be more politically controversial since it also includes aspects related to controversial topics like border protection and immigration.

Offshore infrastructure to help address hybrid threats

New offshore infrastructure increasingly anticipates the risk of hybrid threats as reported in an article by Euractiv[11] on offshore wind farms in Poland.

The article reports that a new wind farm that is being built off the Polish coast in the Baltic Sea will not only produce electricity, but also play a crucial role when it comes to anticipating and deterring potential hybrid attacks. According to the article, "*The 120-metre towers are set to become sentinels, tirelessly scanning the brackish waters and leaden skies for hostile activity"*. Baltic Power, the wind farm operator, will equip the new wind turbine towers with radars and sensors according to instructions from Poland's defence ministry.

Also in Belgium, wind farm developers have to commit to be ready to share data with the military and also host military hardware, if needed. Wind turbines have a long history of monitoring their surroundings, originally for the purpose of protecting birds. But with increasing geopolitical tensions, this capacity can now also be used for other purposes.

In the meantime, investigations into past hybrid attacks are advancing. According to media reports, for example by the Guardian[12], Finnish authorities have filed charges against the captain as well as the first and second officers of Eagle2, an oil tanker that is supposedly part of the Russian shadow fleet and which is suspected of having on purpose damaged undersea cables between Finland and Estonia with its anchor in December 2024.

The ship registered in the Cook Islands was carrying oil from the Russian port of Ust-Luga across the Gulf of Finland when it dragged its anchor along the seabed for about 90 km, creating damage to high-capacity electricity transmission and telecommunications cables. After a detention period of a few months, the vessel has in the meantime been allowed to leave Finland, but the three suspects now indicted have to appear for hearings in front of a Helsinki district court. Finland's deputy prosecutor general has filed charges of aggravated sabotage and interference with communications.

[11] See Euractiv: Europe's wind farm army, 11 August 2025, https://www.euractiv.com/section/defence/news/europes-wind-farm-army/

[12] See The Guardian: Finland charges tanker crew members with sabotage of undersea cables, 11 August 2025, https://www.theguardian.com/world/2025/aug/11/finland-accuses-tanker-crew-sabotage-undersea-cables-anchor