

4th EU + OECD Webinar on Hydrogen Fuel Risks
Hydrogen Fuel Risks Associated with Ammonia as a Hydrogen Fuel Carrier
11 March 2025, 09:00 – 13:30 CET (Rome Time) – v1

This webinar is the 4th webinar in the [EU+OECD Webinar Series on Hydrogen Fuel Risks](#). It will focus on **risks associated with ammonia as a hydrogen fuel carrier**. It will also continue the **discussion on how dialogue between policymakers, industry and regulators can help to reduce risks and uncertainty** associated with implementation of national hydrogen fuel strategies. The EU+OECD webinar series on hydrogen fuel risks consists of a series of webinars on specific aspects of hydrogen fuel use risk. The JRC's Major Accident Hazards Bureau (MAHB), in collaboration with the OECD, has initiated an ad hoc exchange between authorities and experts to study the potential implications of the hydrogen transition on industrial risk and especially the implementation of risk management in fixed establishments governed by the Seveso III Directive (2012/18/EU) and similar legal frameworks in non-EU countries. The organization of the webinar series has been possible thanks to the advice and support of a Technical Advisory Group of EU + OECD government authorities and experts and the EU Technical Working Group for Seveso Inspections (TWG 2).

The 4th webinar in the series will feature a number of presentations from industry and experts that discuss the risk implications of using ammonia as a hydrogen fuel carrier. Ammonia has significant cost and practical advantages over hydrogen transport in production delivery of hydrogen fuel across distances to end users. However, ammonia has hazardous properties, most notably as a human and environmental toxic, and its use as a hydrogen fuel carrier will increase the presence of ammonia hazards in the geographic areas hosting ammonia, pipelines, tanks, and cracking facilities that are part of the supply chain of hydrogen fuel. Hence, the addition of new sources of ammonia risk will accompany implementation of hydrogen fuel strategy in countries where ammonia will be used as a hydrogen fuel carrier. Nonetheless, one practical advantage of transporting hydrogen via ammonia is that it relies on existing technology for managing ammonia already.

Generally speaking, process norms and equipment for current ammonia transport and storage needs, as well as ammonia cracking, require little adaptation for use in a hydrogen fuel distribution and delivery system. Techniques for assessing and managing risks associated with ammonia use and handling are also well-known and long experience with ammonia in industry has improved their effectiveness. However, the increase in volume stored and distributed, the larger presence of ammonia facilities in some geographic areas, and increased release potential at certain points in the system (e.g., loading and unloading), need to be examined in terms of their risk implications. In particular, there may be a need for new risk reduction strategies, additional accident scenarios to consider, and land-use planning considerations that require attention. Interventions and discussions during the webinar will aim to highlight risk factors of particular concern and how these may affect competent authorities for safety and permitting in carrying out their responsibilities. These exchanges will also aim to solutions, including tools and further research that may help support decision making in the authorities, as well as the role that policymakers and industry can play in reducing the risk and uncertainties.

Webinar 4 follows Webinar 1, held 15 September 2023, Webinar 2, 14 February 2024, and Webinar 3, held 13 September 2024. Webinar 1 was a scoping exercise, fostering an exchange between EU and OECD experts and authorities on the range of technologies and infrastructure that were foreseen across the various EU and OECD countries and associated risk challenges. Webinar 2 focused on practical ways that

government authorities and experts were addressing these challenges. Webinar 3 featured presentations from industry on the process safety aspects associated with the rollout of various strategies for participating in the hydrogen fuel market. The audience for both these webinars were government inspectors, and other representatives from government and research organisations. Presentations are available online for Hydrogen Fuel Risks [Webinar 1](#), [Webinar 2](#) and [Webinar 3](#).