

Press Release · Pressemitteilung

H2EXPO & CONFERENCE: Ground-breaking hydrogen projects for a climate-neutral future

Hamburg, 28 February 2023, The demand for leading-edge hydrogen technologies for a futureoriented energy supply is growing rapidly. With the H2EXPO & CONFERENCE, the exhibition grounds of the hydrogen metropolis of Hamburg will once again become a hub for the latest findings on various processes and applications that shall accelerate the market ramp-up of the hydrogen economy. From 28 to 29 June, the innovative industry event will provide information on international projects that are setting the course for a climate-neutral future.

Around the world, a combination of technical expertise, courage to invest, political cooperation, and government support programmes are enabling a dynamic market development. Whether on land, on water, or in the air – new project ideas for replacing fossil fuels are continually emerging. And many of the hydrogen projects that have been initiated in the meantime will soon be contributing to climate-neutral and high-performance grid availability. "What was once initiated as a collection of ambitious research projects must now be rapidly developed into market-ready technologies and applications. H2EXPO & CONFERENCE is the right platform to exchange concepts and solutions for creating a functioning hydrogen value chain through international and cross-sector interaction", says Andreas Arnheim, Project Director of H2EXPO & CONFERENCE at Hamburg Messe und Congress (HMC).

An overview: ambitious hydrogen projects from Australia to Europe

Down under: the world's largest hydrogen power plant is being built in Australia

On 9 February 2023, the US-based Prometheus Institute reported that an ambitious energy project will be realised north-west of Adelaide by 2025. The aim of the green hydrogen power plant is to balance supply and demand in the South Australian electricity grid. Currently, more than 69% of all electricity comes from solar and wind energy. The proportion of renewable energies is expected to increase to 100% by 2030. Excess green energy will soon be flowing through an electrolysis system with a capacity of 250 MW and produce green hydrogen.

The plan is to run the hydrogen through a 200 MW generator system and feed the energy back into the grid when the renewable energy yield is low. The hydrogen will be either burned in a climateneutral way in order to drive steam turbines or converted back into electricity via fuel cell stacks. This project received AUD 600 million in funding from the South Australian State Government. https://prometheus.org/2023/02/09/worlds-largest-hydrogen-power-plant-and-electrolyzer-to-openin-australia/

H2Med: the first EU hydrogen pipeline has been planned



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As early as 2030, the H2 Mediterranean Pipeline (H2Med) will connect southern Europe, France, and Germany. The first section of the pipeline is planned between Barcelona and Marseille. The sun- and wind-rich countries of Spain and Portugal have set themselves the goal of becoming the world's leading producers of renewable hydrogen. According to the Spanish government, it will be possible to export up to two million tonnes of hydrogen per year to the North by 2030, thereby accelerating the decarbonisation of European industry. H2Med will thus become an important component of the European energy infrastructure network, the European Hydrogen Backbone (EHB). https://www.environmentalleader.com/2023/01/germany-is-the-latest-country-to-join-the-hydrogen-pipeline-project/

Aviation: hydrogen fuel cells for aircraft

Clean Aviation is a research and innovation programme of the EU which aims to transform air transport for a sustainable and climate-neutral future. As a European public–private partnership (PPP), Clean Aviation is also driving aeronautics research in the field of hydrogen technologies for different aircraft sizes such as regional, short-haul, and medium-haul aircraft. Systems for different drive architectures are being further developed (e.g. hydrogen fuel cells and the use of hydrogen in gas turbines). According to Clean Aviation, hybrid-electric commuters or small regional aircraft will be able to start using hydrogen fuel cells within the next 10 years.<u>https://www.clean-aviation.eu/h2-powered-aircraft</u>

Movement of goods by sea: the Port of Hamburg is placing its trust in green hydrogen

The goal of the Clean Ports & Logistics (CPL) innovation cluster is the decarbonisation of handling and transport processes in the Port of Hamburg. Here, the process has already begun. A testing area for hydrogen-powered large-scale equipment such as empty container handlers, forklifts, terminal tractors, and trucks is currently being built in the Hanseatic city at the HHLA Container Terminal in Tollerort. Equipment manufacturers, port and logistics companies, scientific institutions, producers of renewable hydrogen, software companies, and operators or builders of filling stations are all working in consort here. The cluster carries out simulations and investigations and is developing training and education concepts. <u>https://hhla.de/innovation/wasserstoff/clean-port-logistics</u>

Logistics and transport: Berlin is getting its fifth hydrogen filling station

On 11 January 2023, the fifth and one of the largest and most powerful hydrogen filling stations in Europe (850 kg of hydrogen) was opened in Berlin. Trucks and buses can be refuelled here at 350 bar, while hydrogen powered cars and light commercial vehicles can be refuelled at 700 bar. Nationwide hydrogen availability is steadily increasing. An overview of the current network of European 350 and 700 bar hydrogen refuelling stations can be found at https://h2.live.

The pace of development in the field of hydrogen technologies is enormous. All of these approaches shall converge at the H2EXPO & CONFERENCE in Hamburg. The freely accessible conference programme shall ensure a maximum transfer of knowledge with high-profile panels and lectures.

H2EXPO & CONFERENCE is the networking event of the international hydrogen economy



The H2EXPO & CONFERENCE, the international venue for everything to do with the production, distribution, and use of hydrogen, will take place from 28 to 29 June 2023 in Hall B6 of the Hamburg Messe site. Over two days, the event will provide an appealing networking platform for stakeholders from both business and politics to exchange views on the latest trends and the future of the international hydrogen economy in networking areas and side events. Hydrogen technology providers both from Germany and abroad will be presenting their solutions, innovations, and projects. The focus of the event is a top-class conference programme during which leading figures from politics, science, and business will speak on topics such as regulation, emerging technologies, and the future of hydrogen. And just as a side note: Every two years (in even-numbered years), the H2EXPO & CONFERENCE will take place in parallel to WindEnergy Hamburg, the leading global trade fair for the wind industry. www.h2expo.de

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