H2 EXPO & CONFERENCE
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Press Release · Pressemitteilung

H2EXPO & CONFERENCE providing information about sales markets for green hydrogen

Hamburg, 07 July 2022. In order to slow down the effects of climate change as quickly as possible, greenhouse gas emissions must be reduced worldwide across all sectors. Along with this, the dwindling fossil fuels and dramatic increase in their prices is now leading to ever growing demand for renewable energies. Amongst these, green hydrogen is seen as a key energy source to enable a reliable energy supply in the future. With the H2EXPO & CONFERENCE as the face of WindEnergy Hamburg, the world's largest get together for the wind industry, Hamburg is engaging experts from the energy sector in dialogue with political decision-makers and is setting the course towards climate neutrality.

Interwoven value creation networks and new alliances are now emerging the world over when it comes to renewable or green hydrogen. From generation to transport to consumption, from direct use of the energy source to storage in pipeline-transportable derivatives (PtL - Power-to-Liquid), one thing is becoming more obvious: The urgently needed measures to achieve the ambitious climate goals can only be implemented with cross-sector national and international cooperation. The H2EXPO & CONFERENCE is the perfect platform for this.
Bernd Aufderheide, CEO of Hamburg Messe und Congress, stressed the need for such a forum to exchange knowledge about renewable energies: “In order to conquer the current economic and ecological challenges in the energy market and to achieve our climate goals, we will have to act quickly. Germany is viewed internationally as one of the leading business locations for technological innovation. Here in Hamburg, at the H2EXPO & CONFERENCE, we will empower key players and developers to engage in cross-sector exchange and enable the associated development and presentation of their projects.”

The largest emitters of greenhouse gases

To allow advanced energy solutions to be developed for different sales markets, the energy consumption and emissions patterns typical for the sector are analysed and categorised.
On 15 June 2022, the European Parliament updated the addressed infographic "Emissions from planes and ships: facts and figures" from 2019. According to this, the "Transport" sector is responsible for 28.5% of European greenhouse gas emissions. Broken down, road traffic covering cars and trucks is the largest emitter at 20.5%, followed by European merchant shipping at around 4%, and international air traffic at 3.8%.
The remaining 71.5% of emissions are attributable to electricity and heat generation, industry and commerce, as well as agriculture and forestry. The need for action exists in basically all areas of our daily life. However, a key focus is on the largest industrial consumers and emitters: globally, production of iron and steel accounts for 7.2% and the chemical and petrochemical industry for 3.6% of climate-relevant emissions, according to the head of research at Our World In Data, Hannah Ritchie, in the report “Sector by sector: where do global greenhouse gas emissions come from?”

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Status quo of hydrogen utilisation in road traffic
Hydrogen has been used as a climate-neutral energy source in local and long-distance transport since the beginning of this century. Between 2003 and 2010, the Hamburger Verkehrsverbund HVV employed four buses equipped with hydrogen-powered fuel cells to operate on scheduled bus lines. In 2011, this model series was replaced with fuel cell hybrid buses. These combine an electric motor and a fuel cell as energy converters, as well as a tank and a battery for energy storage. The buses are refuelled in Hamburg's HafenCity. If you expand the focus to the German and European supply of hydrogen filling stations for cars and heavy goods vehicles, it is becoming increasingly clear that the market ramp-up for using hydrogen technologies has gained considerable momentum since the start of this year. The website H2.live features a continuously updated map showing all European filling stations where hydrogen is available to the public at 350 and/or 700 bar.

Hydrogen as an energy source in aviation and shipping
There are around 90,000 vessels involved in civil transport and merchant shipping around the world. According to an estimate by analysts from "Flight Ascend Consultancy", almost 23,600 passenger and cargo planes were in use in 2019. Decarbonization within these areas must go hand-in-hand with the development of global supply chains for zero-emission fuels. In principle, the technologies for drive systems based on hydrogen or its derivatives already exist. As one example, the first pilot projects for hydrogen-powered fuel cell propulsion systems are being conducted for Dutch inland shipping: the converted inland container ship Maas shall be assuming a pioneering role for clean and sustainable transport between Rotterdam and Antwerp in Belgium. The conversion of this ship shall reduce greenhouse gas emissions by approximately 2000 tonnes of CO_2 per year. Similar projects are gaining momentum in Japan and South Korea.
The gradual decarbonization of aviation has already begun in Hamburg: on 22 June 2022, the Hamburg Aviation Network (Netzwerk der Hamburg Aviation e.V.) presented its "Green Fuels Hamburg" project for climate-neutral air traffic. A consortium consisting of Airbus, Uniper, Siemens Energy and Sasol ecoFT has announced that it will build a production facility in Hamburg that will produce at least 10,000 tons of synthetic fuel from renewable energies. This should cover up to 20% of the total German demand for these sustainable fuels by 2026.

Decarbonization of industrial sectors
Hydrogen has been utilised in the chemical industry since the beginning of the 20th century, e.g. for the production of nitrogen fertilizer. However, the hydrogen used here did not originate from renewable sources. The increasing and plannable availability of green hydrogen and the development of climate-friendly processes is also enabling heavy industry to convert its production processes in a forward-looking manner. One example of this is a climate-neutral steel industry. Simply by injecting hydrogen in place of coal dust as a reducing agent in blast furnaces, emissions at production sites can be significantly reduced. The impression is arising that the steel industry, one of the largest emitters right now, is now tackling climate change with so-called “green steel”.
Claus Ulrich Selbach, Head of Maritime and Technology Fairs at the Hamburg Messe und Congress, summarises: "The huge number of projects being developed on the basis of green hydrogen reflects the urgency of a climate-neutral regenerative energy industry. Nevertheless, it is now becoming clear how creative and competent the experts who are working together across industries and countries really are. I look forward very much to opening the door a little further

towards a climate-neutral future here in Hamburg during WindEnergy Hamburg and the H2EXPO & CONFERENCE with our exhibitors and first-rate speakers!”

H2EXPO & CONFERENCE - the networking event for the international hydrogen economy

The H2EXPO & CONFERENCE, which will be held from September 27th to 30th 2022, parallel to WindEnergy Hamburg (the leading global trade fair for the wind industry), will become an international meeting place for everything related to the production, distribution and utilisation of green hydrogen. An attractive networking platform shall be erected over four days in Hall A2 at the Hamburg Exhibition Centre. Here, players from business and politics shall trade information about the latest trends and the future of the international hydrogen economy in networking areas and side events. H2 technology providers from all over the world shall present their solutions, innovations and projects. Leading figures from politics, science, and business are also expected to speak on the conference stage about topics such as regulation, technologies and the future of green hydrogen. www.h2expo.de

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