

INDUSTRY AND SCIENCE JOINTLY CALL FOR PROMOTION OF HYDROGEN TECHNOLOGIES



Fraunhofer-Institut für Umwelt-, Sicherheits- und Energietechnik UMSICHT

Climate protection is one of the major challenges of our time. It is becoming increasingly clear that a substantial transformation of industrial value chains and production processes is needed in order to meet the climate protection targets of the Paris Agreement.

Carbon-neutral hydrogen will play a decisive role in this transformation: the discussion paper published jointly by industrial stakeholders and scientists shows the crucial relevance of hydrogen for the energy transition, outlines the challenges associated with the development of the necessary infrastructure and also addresses policymakers by providing clear recommendations for action.



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IN4climate.NRW publishes its first discussion paper.

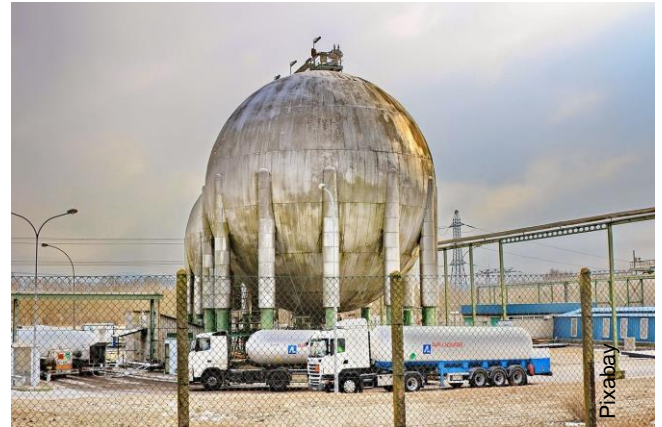
National and global energy and climate protection scenarios make it clear that carbon-neutral hydrogen will be key for energy transition in the future. Hydrogen is of vital importance for climate-neutral production in the chemical and steel industries. It can also replace fossil fuels both in industry and in the transport and mobility sectors. It is easy to transport and store, thus making a significant contribution towards sector coupling. In the future, therefore, a high demand for hydrogen is expected – according to current scenarios this could amount to more than 600 terawatt-hours per year.

“Due to its central location in Europe and the unique potential it offers in terms of industry and research, North Rhine-Westphalia is an ideal model region and starting point for developing a hydrogen economy in Germany and Europe,” explains

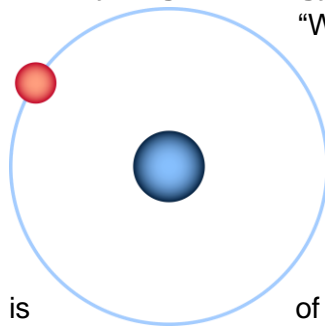
Professor Manfred Fishedick, Vice President of the Wuppertal Institute and head of the working group on hydrogen at IN4climate.NRW. Eight industrial companies (AirLiquide, Amprion, BP, Covestro, Open Grid Europe, RWE, Shell and thyssenkrupp) and four research institutes (the Wuppertal Institute, Fraunhofer UMSICHT, BfI and IW Köln) together have developed the paper. The authors see hydrogen as the key to success in terms of industrial transformation and a climate-neutral future. At the same time, hydrogen offers great opportunities for economic growth in NRW and Germany – with an estimated potential added value running into billions and a high potential for future-proof jobs.

All the companies contributing to the discussion paper are already involved in projects which promote hydrogen technologies and thus set the course for a key role for hydrogen in the future. The projects focus, for instance, on carbon-neutral steel production, the production of hydrogen on an industrial scale using electrolysis, the development of the transport infrastructure by converting nat-

ural gas pipelines, the use of green hydrogen in refineries, and the promotion of sector coupling.



New hydrogen strategy



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“We now need the necessary regulatory conditions and positive economic incentives to make climate-neutral hydrogen accessible to the whole of the industrial sector,” explains Klaus Kessler, Head of Climate Protection, CO₂, Approvals at thyssenkrupp Steel AG. “We welcome the fact that the federal government is stressing the importance of hydrogen in its 2030 climate protection programme and compiling a national hydrogen strategy; in our opinion, the creation of an efficient transport infrastructure of paramount importance to this strategy. Climate-neutral hydrogen is currently not competitive – the hydrogen strategy must address this problem. What is more, we need additional capacity for electricity generated from renewable energy sources to produce hydrogen,” Kessler goes on to explain.

The paper was written by the IN4climate.NRW working group on hydrogen. The participants of the platform develop new cross-sector ideas to promote industrial climate-friendly processes and products. The discussion paper on hydrogen is the first publication from IN4climate.NRW.

Source: Fraunhofer-Institut für Umwelt-, Sicherheits- und Energietechnik UMSICHT