

KGAL Research: Green hydrogen is key for climate protection and energy independence

Grünwald, 20/09/2022 - In the white paper "Green H₂ Investments – from Buzz to Boom", KGAL, Aurora Energy, Fraunhofer ISE, Roland Berger and Watson Farley & Williams conclude that the development of a green hydrogen economy should be vigorously pursued. While global production capacity for green hydrogen is expected to reach just seven gigawatts by the end of 2022, 850 gigawatts will be needed by 2030 to meet the Paris climate targets. Just in time, the expansion of production is now picking up speed with more than 500 H₂ projects planned – and this will also result in completely new opportunities for real asset investors.

Never before have Europeans become more aware of the importance of energy transition and climate protection as drastically as in the summer of 2022. The past months were marred by the drought of the century, forest fires, energy shortages and price shocks for fossil fuels. "The expansion of renewable energies from the sun, wind and water plays a pivotal role in ensuring a clean and secure energy supply in Europe, but green electricity alone will not get us there," explains Michael Ebner, Managing Director Sustainable Infrastructure at KGAL Investment Management. "Large parts of the economy - such as the steel industry or the transport sector - need energy vectors other than electricity, such as heat or synthetic fuels. By means of electrolysis, hydrogen can first be produced from green electricity and then converted into almost any required energy carrier. Moreover, hydrogen is essential as an energy storage medium for the future." Green hydrogen therefore has the potential to play a key role in decarbonising the economy and serving as an alternative to fossil fuels. But how and when can this potential be unlocked?

Mass production is imminent

The white paper "[Green H₂ Investments - from Buzz to Boom](#)" provides answers from a macroeconomic, technological and regulatory point of view, and also includes the perspective of investors. The experts from Roland Berger emphasise that hydrogen companies are now sufficiently capitalised to move from small-scale to mass production of electrolyzers. Roland Berger anticipates a six-fold increase in electrolysis capacities by 2025. The scientists of the research institute Fraunhofer ISE state the technologies for hydrogen production are making rapid progress. They consider hydrogen to be the decisive factor in the production of sustainable, storable synthetic energy carriers or chemicals via the so-called Power-to-X path.

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The path to competitiveness

Currently, green hydrogen is even cheaper to produce than the still dominant grey, environmentally harmful hydrogen from gas, according to data from Aurora Energy Research. However, this is likely to remain the case only temporarily, as gas prices are expected to fall again, Aurora forecasts show. Nevertheless, the experts expect green hydrogen to become more competitive in a few years.

Until competitiveness is achieved, European and national support for green hydrogen is needed. The legal experts at Watson Farley & Williams (WFW) see the European Commission's new Renewable Energy Directive RED II and the GHG quota system in the German Federal Immission Control Act as important regulations to boost the demand for green hydrogen. WFW expects a positive domino effect: after these first steps towards a European legal framework, numerous countries will develop or continue to implement national hydrogen strategies until finally a European hydrogen market emerges.

Hydrogen as a future investment opportunity

The anticipated breakthrough in green hydrogen also opens up new opportunities for investors. "The situation is comparable to the rise of renewable energies after the turn of the century, in which real asset investors were able to benefit exceptionally", explains Thomas Engelmann, Head of Energy Transition at KGAL. "Now we expect a comparable development initially in the Opportunistic and Value Add investment areas, followed in two to three years by Core+. We believe the time is just right for initial exposure to the hydrogen market."

A detailed overview of green hydrogen is provided in the 52-page white paper "Green H2 Investments - from Buzz to Boom", which includes detailed figures, explanatory charts and well-founded assessments in the following chapters:

- Roland Berger: Green H2 Investments - Enabling clean energy and industry
- Fraunhofer ISE: The technological framework for the production of green hydrogen and derived products
- Aurora Energy Research: The economics of (green) hydrogen
- Watson Farley & Williams: Short overview of the regulatory situation
- KGAL: Green hydrogen opportunities for (impact) investors

[Read the white paper here.](#)

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