



# Global Energy Solutions

For Prosperity and Climate Neutrality

Hereby you are receiving the Global Energy Solutions newsletter for the month of September 2021.

Our topics:

**An unrealistic dream: Georg Brasseur on green energy self-sufficiency in Europe**

**Australia plans gigantic plant for renewable fuels**

**H2Giga: Electrolysers for hydrogen production on an industrial scale**



Professor Georg Brasseur,  
Graz University of Technology

## **Interview: How can the energy transition succeed?**

Georg Brasseur is an engineer and a professor at Graz University of Technology. His maxim: We need a technical vision of how the global energy transition can succeed at all. Using Europe as an example, he shows with simple calculations that neither green energy self-sufficiency is possible nor a solution that relies entirely on electricity (all-electric). With his proposal, Brasseur pleads for learning from nature and imitating it. After all, nature has been experimenting and developing solutions for millions of years. He relies on transportable and storable energy carriers. For Brasseur, hydrogen is not one of these in the strict sense, but it is a crucial preliminary product that should also be used locally. Brasseur himself prefers synthetic methane that can be fed into the existing gas grids to gradually replace fossil methane. Gas power plants to stabilise the electricity grid could thus be used for a long time to come. But other synthetic

hydrocarbons are also possible. Finally, Brasseur pleads for global cooperation between North and South so that developing countries can produce "drop-in-fuels" themselves to build up their own prosperity. He sees this as an important contribution to securing peace.

[To the Interview](#)

[To the Video](#)

## **Australia plans gigantic plant for renewable fuels**

Large green hydrogen projects are planned not only in the MENA region. Now Australia is also getting on board. The announcement is not sparing with superlatives, the talk is of the world's largest energy hub for renewable energy. The *Western Green Energy Hub (WGEH)* is designed for 50 gigawatts and involves investments of 100 billion dollars. Wind and solar power plants are to be built on an area of 15,000 square kilometres. Besides hydrogen, ammonia is also one of the products to be produced. The start of production is planned for 2030. There are also plans to export green energy sources by ship.

[theguardian.com](https://www.theguardian.com)

[reneweconomy.com](https://www.reneweconomy.com)

## **H2Giga: Electrolysers for hydrogen production on an industrial scale**

H2Giga is one of the three hydrogen lead projects of the Federal Ministry of Education and Research (BMBF). The aim is to support the series production of electrolysers for worldwide use. Until now, this technology has largely been produced by hand. H2Giga has now officially started. Leading manufacturers of electrolysers are involved in the project, including Siemens Energy, Linde, MAN Energy Solutions, Thyssenkrupp and Sunfire. On the science side, RWTH Aachen University, several Fraunhofer institutes as well as institutes of the Helmholtz Association and the Max Planck Society, for example, are also involved. Within the framework of the National Hydrogen Strategy, the construction of 5 gigawatts of electrolysis capacity is planned in Germany by 2030. It is foreseeable that the demand in Germany, but also worldwide, will be considerably higher.

[wasserstoff-leitprojekte.de](https://www.wasserstoff-leitprojekte.de)

[process.vogel.de](https://www.process.vogel.de)

## Short News

The world's first offshore production facility for green hydrogen is to be built in the Netherlands. Wind farms at sea supply large amounts of electricity. This will be used to produce green hydrogen, which will be fed into an existing pipeline system. The question of the best solutions for transporting hydrogen and its downstream products is of central importance. The Dutch project Poshydron is now one step closer to this vision. For this purpose, a grant of 3.6 million euros is planned. The electrolyser is on board a platform in the North Sea off the coast of Scheweningen. The water for electrolysis comes from the sea and is demineralised.

[process.vogel.de](https://process.vogel.de)

[north2.eu](https://north2.eu)

DECHEMA has presented its third roadmap of the Copernicus project P2X: *Options for a Sustainable Energy System with Power-To-X Technologies*. The authors present detailed scenarios for the entire production chain, such as a Life Cycle Analysis (LCA) for green aviation paraffin. The aim is to "develop the technological basis for solutions with which material energy storage, energy carriers and chemical products... can be produced using renewable energy".

[dechema.de](https://dechema.de)

Germany and Namibia want to work together on the topic of hydrogen. The Federal Minister of Education and Research Anja Karliczek and the Director General of the Namibian Planning Commission Obeth M. Kandjoze signed a joint declaration of intent. According to Karliczek, Namibia has huge potentials in the generation of wind and solar power. "We therefore expect that a kilo of hydrogen from Namibia will eventually cost between 1.50 and 2 euros."

[bmbf.de](https://bmbf.de)

Worldwide facts about solar energy are compiled annually by the Fraunhofer Institute for Solar Energy Systems (ISE).

[ise.fraunhofer.de](https://ise.fraunhofer.de)

OBRIST Powertrain is showing a new prototype based on the Model Y from Tesla at the IAA Mobility (7 to 12.9.2021 in Munich). The vehicle is powered by an electric motor. However, the electricity comes from an economical and vibration-free combustion engine that is fuelled with eMethanol.

[To the Interview](#)

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