

## PRESS RELEASE

### **Kick-off for EU research project HiPowAR: Ammonia as synthetic fuel without CO<sup>2</sup> emissions**

*A kick-off meeting at the Leibniz Institute for Plasma Science and Technology (INP) in Greifswald, marked the start of the EU project HiPowAR. Aim of the project is to develop a groundbreaking technology for the direct conversion of energy from renewable ammonia fuel into electricity.*

Together with their European partners Politecnico di Milano in Italy, PBS BRNO in Czech Republic and Ranotor in Sweden, the three German partners INP, ZBT Hydrogen and Fuel Cell Center and IKTS Fraunhofer Institute for Ceramic Technologies and Systems are developing a membrane reactor for the efficient energy generation from green ammonia

Compared to combustion engines and steam power plants, the new membrane reactor promises a higher efficiency in terms of energy conversion and should allow for a breakthrough in the direct conversion from ammonia into usable energy, with ammonia as an easy to store and carbon-free hydrogen carrier. The design of the membrane reactor is comparable to that of a fuel cell, however the membrane reactor is more simple and more cost-effective than, for example, a solid oxide fuel cell (SOFC) which can also be used for the direct conversion of ammonia into electricity, in the first instance in stationary power generation

The HiPowAR was formed within the CAMPFIRE alliance of the North-East region in Germany, which aims at the research and development of technologies for the decentralised production of ammonia and its use as fuel and energy carrier within the scope of generation 2.0 hydrogen technologies. The EU research project HiPowAR (Highly Efficient Power Production By Green Ammonia Total Oxidation In A Membrane Reactor) aims to advance the implementation of ammonia as an economical synthetic fuel for stationary power application but also for emission-free shipping, aviation and heavy-duty mobility.

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