

New Task Under Development

Using Radiation to Produce Hydrogen and Other Fuels

The demand for “green” energy sources is on the rise! And as countries strive to decarbonize, hydrogen is emerging as an essential commodity. However, the challenge this presents lies in the fact that 99% of hydrogen production still relies on non-renewable sources. Similarly, other fuels like methane, methanol, and ethanol face this production predicament. Plus, even if these green fuels were exclusively used for industrial purposes, freight and air transportation, the surplus electricity generated from renewable sources such as wind and photovoltaics (PV) combined with electrolyzers could adequately fulfill the demand. Therefore, it is crucial to explore alternative methods - solar energy - to generate these “green gases.” And the IEA SHC Programme is stepping up.

A new project is under development on energy sources from solar-powered reactors.

This proposed Task plans to focus on technologies that use solar radiation to produce hydrogen and other fuels via thermo-catalytic, photothermal, photocatalytic, and photo-electrochemical processes. During this Task, materials researchers and solar experts will exchange knowledge and share new possibilities and developments on reactor designs, system integrations, and potential new product segments.

This Task is in the definition phase, so if you are interested in learning more or are from an IEA SHC member country or organization and would like to join the first Task Definition Meeting, please contact the Task Organizer, Dr. Bettina Muster-Slawitsch at b.muster@aee.at.