

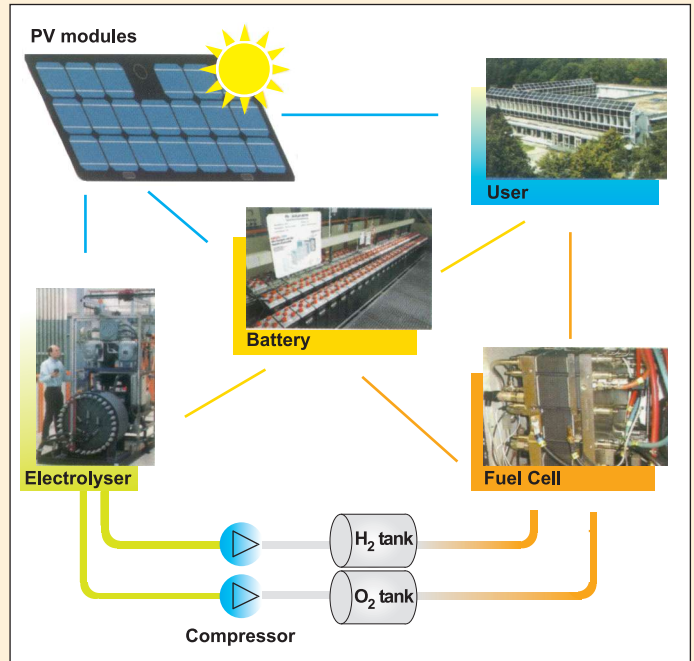
利用可再生能源制氢

Hydrogen - Produced from Renewable Energy

Energy storage is an unavoidable essential for solar electricity supply to the consumer night and day. The electrolytic production of hydrogen points to the future of storing renewable energy in appropriately sufficient large quantities and on the long term of leveling out seasonal fluctuations in demand and supply over the entire life cycle.

Within the demonstration project PHOEBUS the central library of the Research Center Jülich is continuously supplied with solar electricity - night and day, for months and seasons, without any pollutants.

尤利希研究中心的电解装置
 Electrolyser Research Center Jülich
 Photo: Research Center Jülich



PHOEBUS 在尤利希研究中心的示范电站
 The demonstration plant PHOEBUS at the Research Center Jülich
 Graph: Research Center Jülich

PHOEBUS Jülich: Solar electricity supply; day and night

PHOEBUS 在尤利希研究中心的示范电站

PHOEBUS stands for **PH**OTovoltaic, **E**lektrolyse, **B**rennstoffzelle (fuel cell) und **S**ystemtechnik as the main components of the power supply without grid connection. A total of 220 photovoltaic modules cover 312 m² of roof space, providing an electric peak power of about 30 kW. On bright days more solar electricity is generated than can be consumed directly or stored in conventional batteries. The surplus of solar electricity is being used to split water electrolytically into hydrogen and oxygen. Both gases are stored in pressure tanks, chemical energy that can be used by converting into electricity by means of fuel cells during cloud coverage or at night time or in seasons lacking sunshine.

The sophisticated energy management software of PHOEBUS fully automatically controls the complete system, guaranteeing the non-interrupted solar electricity supply of the consumers.

PHOEBUS Jülich clearly demonstrates the technical feasibility of grid-independent solar electricity supply even under the not just favouring insolation conditions of Germany.