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HYDROGEN AND SUSTAINABLE ENERGY. RESEARCH FOR HYDROGEN PRODUCTION

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Abstract

Hydrogen could be considered a synthetic secondary power carrier fuel in the years to come, subsequent to the fossil fuels economy. Thus the concept " hydrogen economy" shall be defined, and it will also have a great influence in the future years.
The field of power generation (producing electric power), transports, (electric cars), chemistry (hydrogen is a major raw material) are potential users of hydrogen.
The experts support, by means of a series of economical and strategic analysis materials, the hydrogen future as fuel, emphasising the need to intensify the research in the domain of its advanced production technologies that may lead to significant costs reductions; thus they want hydrogen to become economically competitive. It is estimated that the technical difficulties related to the transition to hydrogen, as main energy source shall be solved in the next decade provided that to this domain are allocated human and technical resources and adequate materials.
All strategic analyses emphasize the need for the quick hydrogen based economy. Besides its availability, such source is characterized by a minimum impact over the environment and its enormous versatility (from the ordinary fuels to the fuel and chemical cells), giving a positive response to all the challenges of the solid development concepts "Clean-Clever-Competitive", Factor 10 etc.

Keywords: hydrogen, electrolysis, gasification

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