PARTNER SEARCH FORM

DATE: 15 December 2010

PROJECT INFORMATION

TITLE:

ACRONYM:

SUMMARY:

PROJECT IDEA

Solar photocatalytic hydrogen production using H2S from Black Sea water

The goal is the development of a technology for solar photocatalytic hydrogen production using H2S from Black Sea water and new photocatalysts active in the visible spectrum.

The photocatalytic splitting of H2S into hydrogen and sulphur using solar energy is a relatively new research field, representing a potential clean and renewable source of hydrogen fuel. By this technology the sulphur is also recovered. At the moment, the greatest challenge to the progress of visible light photocatalytic H2S splitting is the low efficiency of light utilization. Finding new photocatalytic materials with unique structure and phase is still the key to the success: if this problem is solved, we will have a relatively simple and cheap technology for solar hydrogen production. Our project proposal is in this trend, of enhancing the efficiency of photocatalytic decomposition of H2S in visible by using new materials as visible-active photocatalysts. Moreover, by this technology the toxic sulfurous wastes (H2S, SO2) will be neutralized and valued energetically. This will also have good environment protection effects.

KEYWORDS*:
Energy Technology & Conversion; Solar photocatalytic hydrogen production; Hydrogen sulfide; Environment protection.

CALL: BS-ERA.NET 2010

NAME(S) of the PARTNER(S) INVOLVED:

SCIENTIFIC AND TECHNOLOGICAL EXPERTISE OFFERED*:
The team of National Institute for Research and Development in Electrochemistry and Condensed Matter (www.incemc.ro) can offer expertise in the following fields related to the project idea:

- **Synthesis and characterization of new photocatalysts active in visible light for the solar photocatalytic production of hydrogen**
- **Design and construction of experimental installations for the study of the solar photocatalytic production of hydrogen using H2S from Black Sea water and visible active photocatalysts**
- **Experimental study and technology development (laboratory scale) for the solar photocatalytic production of hydrogen using H2S from Black Sea water and visible active photocatalysts**

PARTNER SOUGHT

SCIENTIFIC AND TECHNOLOGICAL EXPERTISE REQUESTED: We would like to be partners in a larger consortium, involved in H2S recovery from H2S rich Black Sea Water.
EXPECTE D CONTRIBUTION TO THE PROJECT:
ORGANISATION TYPE*: ☐ Higher Education ☐ Research Institute ☐ R&D Company ☐ SME ☐ Other
HOW MANY PARTNERS ARE REQUIRED?
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*** mandatory fields**