

Use of Magnesium as a Renewable Energy Source

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Abstract : The opportunities of use of metallic magnesium as a generator of hydrogen gas, as well as thermal and electric energy is presented in the paper. Various schemes of magnesium application are discussed and power characteristics of corresponding devices are presented. Economic estimation of hydrogen price obtained by different methods is made, including the use of magnesium as a source of hydrogen for transportation in comparison with gasoline. Details and prospects of our new inexpensive technology of magnesium production from magnesium hydroxide and magnesium bearing rocks (which are available worldwide and in Armenia) are analyzed. It is estimated the threshold cost of Mg production at which application of this metal in power engineering is economically justified.

Keywords : energy, electrodialysis, magnesium, new technology

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