

Principal Researcher	Kazuyuki Tohji			Number of Researchers	9	
Research Institution · Department · Title	Professor, Graduate School of Engineering, Tohoku University			Location of Institution	Sendai	
Title of Project	Novel Solar Energy Conversion System Using Water and Sulfur					
Abstract of Research Project	<p>The dream of mankind is the direct conversion of solar energy into storable energy in the form of hydrogen. We have succeeded in synthesizing a new structurally designed metal sulfide photocatalyst that could efficiently split hydrogen sulfide using sunlight to generate hydrogen. In this project, while carrying out research to improve the efficiency of the photocatalyst, we also aim at establishing a system to produce hydrogen sulfide from the sulfur clusters generated in the hydrogen evolution reaction, using hydrothermal and biological reactions. When the hydrogen sulfide recycling system, which is the salient feature of the proposal, is established, in effect, it would lead to the establishment of hydrogen evolution from water. Furthermore, in this project, we also consider the possibilities of environmental restoration/sanitation or recovery of valuable resources from industrial waste as a means of circulating the sulfur.</p>					
References	<p>Synthesis of Stratified Semiconductors for Photocatalytic Hydrogen Generation T. Arai, S. Sakima, H. Yoshimura, K. Shinoda, B. Jeyadevan, K. Tohji, A. Kasuya, Y. Nishina Proc. Int. Symp. on Cluster Assembled Mater. IPAP Conf. Series 3, 75-78 (2001)</p>					
Term of Project	Fiscal years 2002-2006. (5years)					
Budget Allocation (in thousand of yen)	FY2002	FY2003	FY2004	FY2005	FY2006	TOTAL
	26,100	20,100	16,500	10,300	10,300	83,300
Homepage Address	http://www.earth.tohoku.ac.jp/tohji/index.html					