

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

UNSTARRED QUESTION NO:6571
ANSWERED ON:05.05.2010
CONVERSION OF CARBON DIOXIDE INTO CARBON MONO OXIDE
Sivasami Shri C.

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether a team of scientists in UK has figured out a way to turn Carbon Dioxid into Carbon Mono-oxide using visible light like sunlight;
- (b) if so, details thereof;
- (c) the sectors likely to be benefited by the use of Carbon mono-oxide; and
- (d) the action taken by the Government to use such technology for the benefit of the people of the country?

Answer

MINISTER OF THE STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF SCIENCE & TECHNOLOGY; MINISTER OF THE STATE (INDEPENDENT CHARGE) IN THE MINISTRY OF EARTH SCIENCES; MINISTER OF THE STATE IN THE PRIME MINISTER'S OFFICE; MINISTER OF THE STATE IN THE MINISTRY OF PERSONNEL, PUBLIC GRIEVANCES AND PENSIONS; AND MINSITER OF THE STATE IN THE MINISTRY PARLIAMENTARY AFFAIRS (PRITHVIRAJ CHAVAN)

- (a) Yes, Madam.
- (b) A team of scientists at U-M Medical School, UK (under a collaborative study between University of Michigan, Ann Arbor and University of Oxford) has discovered that aqueous dispersion of Carbon Monoxide dehydrogenase (enzyme) modified nanoparticles of Titanium oxide and Ruthenium photo-sensitizer catalyzes conversion of Carbon dioxide to Carbon monoxide using visible light.
- (c) Carbon Monoxide can be used to produce electricity or hydrogen. It also has significant fuel value and can be converted by known catalysts into hydro carbons or methanol for use as liquid fuel. Although Carbon monoxide serves as a source of energy and biomass for microbes, it is toxic for animals and the risk needs to be managed when it is generated or used in chemical reactions.
- (d) This is a recent research finding reported in Journal of American Chemical Society on 29th January, 2010. Government has not taken any specific action on utilization of this finding as of now.