

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2425
ANSWERED ON 03.08.2023

COST OF GREEN HYDROGEN

2425. SHRI S. JAGATHRAKSHAKAN

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

- (a) whether the Government subscribes to the view that wind and solar energy combined with pumped storage system would be the key to lowering the cost of green hydrogen;
- (b) if so, the details of the initiatives that are proposed to be taken by the Government in this regard; and
- (c) if not, the reasons therefor?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) to (c) Green Hydrogen can be produced through electrolysis of water using renewable electricity, and from biomass through thermochemical and biochemical routes.

On 4th January 2023, the Union Cabinet approved the National Green Hydrogen Mission with an outlay of ₹ 19,744 crore. The overarching objective of the Mission is to make India a Global Hub for production, usage and export of Green Hydrogen and its derivatives.

The Mission aims to develop and scale up Green Hydrogen production technology and make it affordable and widely accessible.

The costs of the electrolysers and input renewable energy are the two major components of Green Hydrogen production cost. The costs of capital, supply and treatment of water, storage and distribution, conversion of hydrogen to suitable derivatives, and enabling infrastructure would also contribute to the final delivered cost of Green Hydrogen for any particular application. The Mission seeks to undertake the necessary steps to enable cost reduction in these aspects.

Hybrid renewable energy power plants, comprising of solar & wind energy combined with energy storage systems, enhance reliability and availability of renewable electricity supply, and is thereby likely to result in higher capacity utilisation of green hydrogen production facility lowering the production cost.

Various financial and non-financial measures have been announced under the Mission, including inter-alia, the following:-

- i. Facilitating demand creation through exports and domestic utilization;
- ii. Strategic Interventions for Green Hydrogen Transition (SIGHT) programme, which includes incentives for manufacturing of electrolysers and production of green hydrogen;
- iii. Pilot Projects for green steel, mobility, shipping, decentralized energy applications, hydrogen production from biomass, hydrogen storage, etc.;
- iv. Development of Green Hydrogen Hubs;
- v. Support for infrastructure development;
- vi. Establishing a robust framework of regulations and standards;
- vii. Research & Development programme;
- viii. Skill development programme; and
- ix. Public awareness and outreach programme.
