GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
RAJYA SABHA
UNSTARRED QUESTION NO. 1102
ANSWERED ON 12/12/2023

ROADMAP FOR NATIONAL GREEN HYDROGEN MISSION

1102. SMT. SANGEETA YADAV

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

(a) the roadmap and targets of the national green hydrogen mission;
(b) the steps taken by Government to promote the production and utilization of green hydrogen and its derivatives in various sectors;
(c) whether the Ministry is providing any financial support and incentives to the manufacturers and consumers of green hydrogen and its derivatives;
(d) if so, the details thereof and if not, the reasons therefor; and
(e) the challenges and opportunities for the country to become a global hub for green hydrogen and its exports?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) & (b) The Ministry is implementing the National Green Hydrogen Mission, approved by the Union Cabinet on 4th January 2023, with an outlay of ₹ 19,744 crore from FY 2023 – 24 to FY 2029 – 30. 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 expected outcomes of the Mission, by 2030, are as follows:

i. India's Green Hydrogen production capacity is likely to reach 5 MMT per annum, contributing to reduction in dependence on import of fossil fuels. Achievement of Mission targets is expected to reduce a cumulative ₹ 1 lakh crore worth of fossil fuel imports by 2030.
ii. This is likely to leverage over ₹8 lakh crore in total investments and create over 6 lakh jobs.
iii. Nearly 50 MMT per annum of CO2 emissions are expected to be averted through production and use of the targeted quantum of Green Hydrogen.

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.

Additionally, the following provisions have also been announced to promote the production and utilization of green hydrogen and its derivatives in various sectors:

i. Waiver of inter-state transmission charges has been granted for a period of 25 years to the producers of Green Hydrogen and Green Ammonia for the projects commissioned before 31st December 2030.
ii. The Electricity (Promoting Renewable. Energy through Green Energy Open Access) Rules, 2022, notified in June 2022 includes provisions for facilitating supply of renewable energy through Open Access for Green Hydrogen production.
iii. Ministry of Environment, Forests and Climate Change has exempted Green Ammonia plants from prior environmental clearances under Environment Impact Assessment notification 2006 vide notification dated 28th July 2023

(c) & (d) The Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme, is a major financial measure with an outlay of ₹ 17,490 crore. The programme consists of two distinct financial incentive mechanisms to support domestic manufacturing of electrolysers and production of Green Hydrogen.

Request for Selection (RfS) has been issued for Selection of Green Hydrogen Producers for Setting up Production Facilities of 450,000 tons for Green Hydrogen in India under the Strategic Interventions for Green Hydrogen Transition (SIGHT) Scheme (Mode-1-Tranche-I).

Request for Selection (RfS) has been issued for the Selection of Electrolyser Manufacturers (EM) for Setting up 1.5 GW annual Electrolyser Manufacturing Capacities under SIGHT Scheme (Tranche-I).

(e) The major challenges include the differential in the cost of Green Hydrogen as compared to Grey Hydrogen, high cost of storage and transportation, lack of established supply chains, paucity of testing infrastructure etc.

However, India possesses the following advantages which are expected to enable production of Green Hydrogen by Indian producers at competitive rates:

i. Competitive RE Tariffs, among the lowest in the world;
ii. Single integrated grid which enables transfer of RE power from RE rich zones to the production site, thereby minimizing transport and storage cost of Green Hydrogen.

Many countries/regions around the world like European Union, Singapore, South Korea, Japan among others have announced their new strategies to import Green/Clean Hydrogen and its derivatives, thereby providing an opportunity for Indian producers

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