GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
STARRED QUESTION NO. 24
ANSWERED ON 27/11/2024

INITIATIVES UNDER NATIONAL GREEN HYDROGEN MISSION

*24. SMT. KRITI DEVI DEBBARMAN
SHRI MANISH JAISWAL

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

(a) the specific initiatives undertaken by the Ministry to implement and achieve its goal of making India a global hub for green hydrogen production, its usage and export under the National Green Hydrogen Mission (NGHM);
(b) the key targets and milestones set under this mission and their expected timelines;
(c) the financial allocation and investment incentives offered to promote green hydrogen production and related technologies;
(d) the steps being taken to encourage private sector participation and international collaboration in green hydrogen projects;
(e) the anticipated environmental and economic benefits, including emission reduction and job creation, resulting from green production and integration into India's energy mix;
(f) whether any subsidy is provided to the beneficiaries under the said mission and if so, the details thereof along with the amount of funds spent by the Government on this mission so far along with the criteria to avail the benefits thereunder;
(g) the steps taken/proposed to be taken to enhance/promote the generation of green hydrogen in Punjab and Haryana; and
(h) whether there is any plan/scheme to set up solar power plant in Narmadapuram, Narsinhpur and Raisen districts and if so, the details thereof?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND CONSUMER AFFAIRS, & FOOD AND PUBLIC DISTRIBUTION

(SHRI PRALHAD JOSHI)

(a) to (h) A statement is laid on the Table of the House

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STATEMENT

STATEMENT REFERRED TO IN REPLY TO LOK SABHA STARRED QUESTION No. 24 for ANSWER ON 27/11/2024

(a) to (e)

The Ministry of New and Renewable Energy is implementing the National Green Hydrogen Mission, with an objective to make India a global hub of production, usage and export of Green Hydrogen and its derivatives. This Mission was approved by the Union Cabinet in January 2023 with an overall outlay of Rs. 19,744 crore. The Mission has following components :

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

The following schemes have been launched under the Mission till 15th November, 2024:

i. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component I: Incentive Scheme for Electrolyser Manufacturing" issued on 28th June 2023. Under this scheme, 8 companies have been allocated 1.5 GW per annum of electrolyser manufacturing capacity.
ii. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component II: Incentive Scheme for Green Hydrogen Production (under Mode 1)" issued on 28th June 2023. Under this scheme, 10 companies have been allocated 4,12,000 Tonnes per annum of Green Hydrogen production capacity.
iii. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component II: Incentive for Procurement of Green Ammonia Production (under Mode 2A)" issued on 16th January 2024.
iv. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component II: Incentive for Procurement of Green Hydrogen production (under Mode 2B)" issued on 16th January 2024.
v. Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the Shipping Sector issued on 1st February 2024.
vi. Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the Steel Sector issued on 2nd February 2024.
vii. Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the Transport Sector issued on 14th February 2024.

viii. Scheme Guidelines for the implementation of the Research & Development scheme issued on 15th March 2024.

ix. Scheme Guidelines for setting up Hydrogen Hubs in India issued on 15th March 2024.

x. Scheme Guidelines for scheme on skilling, up – skilling and re – skilling issued on 16th March 2024.

xi. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component I: Incentive Scheme for Electrolyser Manufacturing Tranche – II" issued on 16th March 2024. Under this scheme, 11 companies have been shortlisted for allocation of 1.5 GW per annum of electrolyser manufacturing capacity on 27th August 2024.

xii. Scheme Guidelines for implementation of "Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme – Component II: Incentive Scheme for Green Hydrogen Production (under Mode 1) – Tranche II" issued on 3rd July 2024.

xiii. Scheme Guidelines for funding of testing facilities, infrastructure, and institutional support for development of Standards and Regulatory framework issued on 4th July 2024.

xiv. The draft scheme for Green Hydrogen Certification Scheme of India (GHCI) was published on MNRE website for stakeholder comments on 4th September 2024.

xv. Scheme Guidelines for implementation of Pilot projects for production and use of Green Hydrogen using innovative methods/pathways in the Residential, Commercial, Localized Community, Decentralized/Non-Conventional, applications, including any new sector or technology not covered in previous Mission schemes, issued on 8th November 2024.

Other steps taken for promotion of Green Hydrogen production, include the following:

i. Green Hydrogen/Green Ammonia Plants commissioned on or before 31.12.2030, and which utilize renewable energy for the production of Green Hydrogen or Green Ammonia, have been granted exemption from the payment of ISTS charges for a period of 25 years, starting from the date of commissioning of the project.

ii. Standalone plants producing Green Hydrogen/Green Ammonia by way of electrolysis of water using Renewable Energy, have been exempted from requirement of prior Environmental Clearance under the provisions of the Environment Impact Assessment Notification 2006.

iii. Duty benefits under Section 26 of SEZ Act, 2005 have been allowed to the units for installation as well as O&M of renewable energy equipment exclusively for captive consumption of the unit.

iv. Exemption has been granted from ALMM and RLMM requirements for Renewable Energy plants located inside an Special Economic Zone (SEZ) or Export Oriented Unit (EOU) and supplying power exclusively for production plants of Green Hydrogen (or its derivatives), which are located inside an SEZ or set up as an EOU.

The expected outcomes of the Mission, by 2030, are as follows:

i. India's Green Hydrogen production capacity to reach approximately 5 MMT per annum, contributing to reduction in dependence on import of fossil fuels.

ii. Achievement of Mission targets is expected to reduce a cumulative ₹ 1 lakh crore worth of fossil fuel imports by 2030.
iii. This Mission is likely to leverage over ₹8 lakh crore total investments and create over 6 lakh jobs.
iv. Nearly 50 MMT per annum of CO2 emissions are expected to be averted through production and use of the targeted quantum of Green Hydrogen.

The Mission is also expected to promote multilateral engagement and collaboration with various international efforts in Hydrogen and Fuel Cells. The collaboration among Academia, universities, technical institutions, industry and research laboratories is being facilitated under bilateral and multilateral collaboration programmes in the field of Green Hydrogen for result-oriented technology development, knowledge creation and dissemination.

The Ministry (either itself or through National Institute of Solar Energy) has established cooperation frameworks in the field of Hydrogen through Memoranda of Understanding/Letters of Intent/Joint Declarations of Intent with Australia, Finland, France, Germany, Saudi Arabia, the UAE, and Uzbekistan.

In addition to the above, under the Strategic Clean Energy Partnership with United States, an India-US Hydrogen Task Force has been formed. Further, Green/Clean Hydrogen has also been identified as a focus area under the India-US New and Emerging Renewable Energy Technology Action Platform (RETAP). India-Norway Task force on Energy has also identified Green Hydrogen as an area of cooperation.

(f) The National Green Hydrogen Mission includes, the Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme, which provides financial support with an outlay of ₹ 17,490 crore. The programme consists of following two distinct financial incentive mechanisms:

1) Incentive scheme for Green Hydrogen Production:

   There are two modes for the implementation of the 'Incentive Scheme for Green Hydrogen Production,' which are as follows:
   i. Mode 1: Bidding on least incentive demanded over the three – year period, through a competitive selection process.
   ii. Mode 2: Aggregation of demand and calling of bids for production and supply of Green Hydrogen and its derivatives at the lowest cost through a competitive selection process.

2) Incentive scheme for Electrolyser Manufacturing:

   Under this scheme, selection of bidders for award of incentive is dependent on various factors including performance quotient of electrolysers and local value addition.

In addition, the Mission also provides financial support for implementing Green Hydrogen based pilot projects in steel production, shipping and road transport sectors.

(g) The Mission does not have any state specific components, but aims to develop Green Hydrogen production projects on a pan India basis. It is further informed that:

i. Punjab Energy Development Agency (PEDA) has framed draft Green Hydrogen Policy for the state of Punjab, which is under consideration and discussions.
ii. Department of New & Renewable Energy, Government of Haryana has drafted 'Haryana Green Hydrogen Policy' in January 2024 with production target of 250 kilo tonnes per annum (kTPA) Green Hydrogen by 2030, electrolyzer manufacturing capacity of 2GW and associated components driving de-carbonization across the industries, enhancing energy security and encouraging exports. Suggestions/ feedback / comments / view from General Public / stakeholders on Draft Haryana Green Hydrogen Policy-2024 have been solicited through public notice and the revised draft of the Policy is under submission to the State Government for consideration.

(h) The Ministry is extending its full support for development of solar projects in all districts through PM-Surya Ghar Muft Bijli Yojana scheme and Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PMKUSUM) scheme.

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