



April 2024

## **Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the shipping sector under the National Green Hydrogen Mission**

The Ministry of New and Renewable Energy (“**MNRE**”) issued the Scheme Guidelines for implementation of Pilot projects for use of Green Hydrogen in the shipping sector (“**Scheme**”) on February 1, 2024, under the National Green Hydrogen Mission (“**Mission**”). The Scheme is in furtherance of the Mission’s objective to decarbonize the economy, reduce dependence on fossil fuel imports, making India self-reliant and emerging as a global hub for production, usage, and export of green hydrogen. The future demand and trade of green hydrogen are heavily influenced by shipping and port operation making them the key drivers. To evaluate the potential of green hydrogen and its derivatives, the Mission called for initiating pilot projects through the Ministry of Ports, Shipping and Waterways (“**MoPSW**”).

The Mission provided 2 (two) components for supporting utilization of green hydrogen in the shipping sector. Firstly, retrofitting of existing ships to run on green hydrogen or its derivatives (“**Component A**”) and secondly, development of bunkering and refueling facilities on ports for green hydrogen-based fuels (“**Component B**”). The Scheme Implementing Agency (“**SIA**”) for Component A will be Shipping Corporation of India or its successors in case of disinvestment, and SIA for Component B will be nominated by MoPSW.

The Scheme aims to evaluate the economic viability of use of green hydrogen and its derivatives in the shipping sector. It also targets to assess effectiveness, evaluate the performance and demonstrate safe and secure operations of green hydrogen and its derivatives based propulsion system, bunkering and refueling systems.

### **Salient Features**

1. SIAs will transparently award projects by following the General Financial Rules for selection/procurement. The executing agencies (“**EA/s**”) will share knowledge and outcome of the projects *vide* completion and monitoring reports, publications, as well as best practices and lessons learned.
2. The Scheme would fund capital expenditure on the components and not expense of production. Financial assistance for projects will be based on the need, merit and feasibility.
3. A Steering Committee will oversee the Scheme and its projects, ensure their successful implementation and recommend adjustments as needed. It will also make suggestions to resolve difficulties arising in interpretation of the Scheme.
4. A Project Appraisal Committee will assess project proposals for recommending sanction of funds, monitor the projects quarterly, and advise MNRE on release of the central financial assistance.
5. SIAs will provide quarterly monitoring reports to the MoPSW and MNRE and establish a mechanism to monitor progress of the pilot projects.

6. The call for proposals will include timelines and an extension (without penalty) of 6 (six) months may be granted basis adequate reasons approved by the Steering Committee. Extension beyond 6 (six) months will require approval from the Minister of MNRE and will be subjected to penalties. EAs/ projects encountering unjustified delays or failing to adhere to objectives/provisions of the Scheme/Mission may be cancelled/short-closed by the MNRE in consonance with the Steering Committee.
7. Terms and conditions set in the award will having incorporated appropriate clauses to safeguard interests of the government should the EA fail to utilize the grant for its designated purpose or fail to complete the project.
8. As outlined within the Scheme, the MoPSW will release further guidelines to protect intellectual property rights resulted from the funded projects.

## Scope and Funding of the Components

Component A includes retrofitting of existing ocean-going vessels with methanol/green ammonia based propulsion system or green fuel based propulsion system, for those having and not having engine with electronic fuel injection system, respectively. It also includes retrofitting/development of an inland waterways vessel/ coastal waters ship with appropriate green methanol/green ammonia based propulsion system.

Under Component B, SIA will establish bunkering and refueling facilities as a pilot initiative, at a minimum of 1 (one) port along an international shipping route.

The Scheme will be executed with a total budgetary allocation of Rs 115,00,00,000 (Indian Rupees one hundred and fifteen crore) until financial year 2025-26, met from budget provisions under the Mission. An indicative, interchangeable and inter-se transferable allocation of INR 80,00,00,000 (Indian Rupees eighty crore) and INR 35,00,00,000 (Indian Rupees thirty-five crore) to Component A and B, respectively, has been made by the Scheme.

## Implementation Approach



1. **Selection of ships and ports:** For Component A, SIA will identify ships suitable for retrofitting based on factors like size, route, and existing technology. They will ensure a diverse representation to assess various scenarios, and selected ships must have sufficient remaining operational life after retrofitting. For Component B, MoPSW will choose suitable port(s) and SIAs for establishing green hydrogen bunkering and refueling facilities.
2. **Call for proposals:** Call for proposals will be issued by and submitted to the SIAs. Eligible EAs include Central Public Sector Undertakings, State Public Sector Undertakings, private sector entities, state corporations, Indian research and development institutions, academic institutions, and joint ventures or consortiums involving these entities, possessing the requisite capabilities to advance completed pilot projects towards commercialization.
3. **Evaluation and award:** Proposals will be assessed by the Project Appraisal Committee as per criteria provided in the call for proposal. The letter of award will be issued by the SIA upon approval from the MNRE.
4. **Executing and commissioning:** Projects must adhere to the approved scope of work. SIAs will strive to complete pilot projects by December 31, 2027, for Component A and by December 31, 2025, for Component B.
5. **Technical and regulatory approvals:** The EAs will be solely responsible for obtaining necessary safety, environmental, and regulatory approvals.
6. **Testing and certification:** The EAs must ensure compliance with testing and certification requirements from relevant agencies.

7. **Project completion:** Within 1 (one) month of the completion of the project, SIA will submit a project completion report to the Project Appraisal Committee, including technical components (i.e., the hardware, software, and technologies employed), challenges faced, and solutions implemented, project outcome (comprising the technical know-how generated and data collected), and suggestions for future projects based on lessons learned.

## Conclusion

Worldwide, the shipping sector contributes approximately 3% of the total CO<sub>2</sub> emissions. India's endeavour to diminish its carbon footprint will contribute to fulfilling the International Maritime Organization's objective of achieving a net-zero GHG emission by 2050.

As of March 2022, GHG emissions from maritime (excluding military operations) contribute to 1% to the overall transport sector GHG emissions i.e. approximately 2,744.34 Gg CO<sub>2</sub>e. Implementing this Scheme will lead to development of requisite infrastructure such as refuelling stations, storage, and distribution networks, thereby establishing a green hydrogen ecosystem. Increase in usage of green hydrogen in the industry will be a natural consequence of reduction in its cost of production.

It is anticipated that the pilot projects will provide valuable insights for scaling up and commercially deploying green hydrogen in the shipping sector in the future. These initiatives will assist in identifying operational obstacles and shortcomings related to technological preparedness, regulatory compliance, implementation strategies, infrastructure, and logistical networks. The Scheme provides a compact framework for implementing the pilot projects, outlining clear objectives, eligibility criteria, evaluation processes, and monitoring mechanisms. Execution of the Scheme should be carried out in a way to ensure effective project implementation.

## Clean Energy & Climate Change Practice

Our team's climate change and sustainability practise is regarded as a leading specialized practice acknowledged for its domain knowledge, multi-dimensional expertise and strengths in grappling with complex issues involving public policy, economics, technology, finance, project management besides law. The practice is handled by domain expertise-based team which has advised various stakeholders in renewable energy, electric mobility, energy efficiency, carbon markets, ESG and new and emerging low carbon technologies, including green hydrogen. The team is highly ranked by various legal ranking agencies and is credited for contributing to several landmark and precedent setting projects. This practice encompasses:

- Legislative, Regulatory and Policy reforms;
- Public Procurement;
- Compliance and Strategy;
- Transactional advice including mergers and acquisitions, project finance, structuring legal, regulatory and contractual frameworks.

**This Prism has been prepared by:**



**Vishnu Sudarsan**

Partner













**Sugandha Somani Gopal**

Partner



**Mehar Vasant**

Associate

		
<p>18 Practices and 25 Ranked Lawyers</p>	<p>13 Practices and 38 Ranked Lawyers</p>	<p>Recognised in World's 100 best competition practices of 2024</p>
		
<p>19 Practices and 19 Ranked Lawyers</p>	<p>12 Practices and 42 Ranked Partners <b>IFLR1000 APAC Rankings 2023</b> ----- Banking &amp; Finance Team of the Year ----- Fintech Team of the Year ----- Restructuring &amp; Insolvency Team of the Year</p>	<p>Among Top 7 Best Overall Law Firms in India and 9 Ranked Practices ----- 11 winning Deals in IBLJ Deals of the Year ----- 12 A List Lawyers in IBLJ Top 100 Lawyer List</p>
		
<p>Innovative Technologies Law Firm of the Year 2023 ----- Banking &amp; Financial Services Law Firm of the Year 2022 ----- Dispute Resolution Law Firm of the Year 2022 ----- Equity Market Deal of the Year (Premium) 2022 ----- Energy Law Firm of the Year 2021 ----- Employer of Choice 2021</p>	<p>7 Ranked Practices, 16 Ranked Lawyers ----- Elite – Band 1 - Corporate/ M&amp;A Practice ----- 3 Band 1 Practices ----- 4 Band 1 Lawyers, 1 Eminent Practitioner</p>	<p><b>Ranked #1</b> <b>The Vahura Best Law Firms to Work Report, 2022</b> ----- Top 10 Best Law Firms for Women in 2022</p>  <p>7 Practices and 2 Ranked Lawyers</p>

For more details, please contact [km@jsalaw.com](mailto:km@jsalaw.com)

[www.jsalaw.com](http://www.jsalaw.com)



Ahmedabad | Bengaluru | Chennai | Gurugram | Hyderabad | Mumbai | New Delhi



This prism is not an advertisement or any form of solicitation and should not be construed as such. This prism has been prepared for general information purposes only. Nothing in this prism constitutes professional advice or a legal opinion. You should obtain appropriate professional advice before making any business, legal or other decisions. JSA and the authors of this prism disclaim all and any liability to any person who takes any decision based on this publication.