EU–India Clean Hydrogen Partnerships: Building Integrated Value Chains and Addressing RFNBO Certification Gaps

SUMMARY OF HIGH-LEVEL ROUNDTABLES AT THE WORLD HYDROGEN SUMMIT 2026, ROTTERDAM

MAY, 2026

DISCLAIMER

THE ITA RECOGNISES THAT ITS ACTIVITIES MUST NOT BE A VEHICLE FOR INDIVIDUALS OR ORGANISATIONS TO REACH UNLAWFUL BUSINESS AGREEMENTS, EXCHANGE COMPETITIVELY SENSITIVE INFORMATION, OR ENGAGE IN OTHER ASPECTS OF ANTI-COMPETITIVE BEHAVIOUR. ITA'S POLICY, THEREFORE, IS TO TAKE APPROPRIATE MEASURES TO COMPLY WITH U.S. ANTITRUST LAWS AND FOREIGN COMPETITION LAWS, AND THE ITA EXPECTS THE SAME FROM ITS MEMBERS WHEN ACTING ON BEHALF OF THE ITA OR PARTICIPATING IN ITA ACTIVITIES.

Contents

At the World Hydrogen Summit 2026, the ITA convened two closed-door, senior-level roundtables on the EU–India clean hydrogen agenda, held in collaboration with Boston Consulting Group (BCG), the Green Hydrogen Organisation (GH2) India and the Green Hydrogen Organisation (GHO), with the Rocky Mountain Institute (RMI) co-hosting the second session, and supported by India's Ministry of New and Renewable Energy (MNRE). The two sessions were:

1. **Session 1 — EU–India Clean Hydrogen Industrial Partnerships: Building Integrated Value Chains for Competitive Decarbonisation.**
2. **Session 2 — High-Level Roundtable on EU–India Policy and Regulatory Alignment: Unlocking Renewable Hydrogen Trade and Investment.**

Executive Summary

Taken together, the two sessions framed EU–India clean hydrogen as a strategic industrial agenda rather than a conventional commodity trade. Europe needs diversified, cost-competitive clean hydrogen and derivatives to underpin industrial decarbonisation, energy security and resilience; India offers low-cost renewable fundamentals, a large export-oriented green ammonia and methanol pipeline, and developers ready to scale. Realising this potential now depends on resolving two interlocking challenges — regulatory and certification certainty, and the orchestration of bankable, end-to-end value chains.

On certification, participants stressed that without clear, consistent and durable interpretation of Renewable Fuel of Non-Biological Origin (RFNBO) rules, Indian developers cannot confidently progress investment, offtake or financing for EU-bound projects. The treatment of India's bidding zones — whether India can be recognised as a single bidding zone, or through an "interconnected bidding zones" interpretation — emerged as the most urgent technical question, alongside constraints on CO_2 sourcing for e-fuels. A structured clarification mechanism between voluntary schemes and the European Commission is needed to give developers and lenders bankable evidence of compliance. Left unresolved, this uncertainty risks diverting cost-competitive Indian supply toward Asia-Pacific markets.

On partnerships, the discussion underscored that the next phase must move from announcements and MoUs to a first wave of integrated, bankable transactions. Simple supplier–buyer offtake is a useful starting point but is often insufficient: risks sit across the full chain — production, infrastructure, shipping, certification and demand — and projects become bankable only when the chain is synchronised and risk is allocated to those best placed to manage it. Stable RED III/RFNBO implementation and market-making mechanisms such as H2Global-style auctions and contracts for difference are needed to create a credible demand floor and bridge the green premium, while novel models (equity-linked offtake, joint ventures and technology localisation) build mutual commitment. The Odisha–Northwest Europe corridor was seen as practical market-making architecture linking Indian supply with European demand.

Attendees

The closed-door roundtable convened senior stakeholders across the EU-India renewable hydrogen policy, certification and project-development ecosystem, including government representatives, Indian project developers, voluntary certification schemes and ecosystem organisations:

- **Indian Government Representatives** (MNRE)
- **Indian Clean Hydrogen Project Developers** (e.g., AM Green, ACME, ReNew etc.)
- **Voluntary certification schemes** (e.g., CertifHy, ISCC, REDcert)
- **European Electrolyzer Manufacturers and Infra. Companies** (e.g., thyssenkrupp nucera, John Cockerill, NordionEnergi)
- **European Industrial Offtakers and intermediaries** (e.g., Yara, RWE, SEFE, Linde, H2Global)
- **Industry Associations and Buyer Platforms** (e.g., Ammonia Energy Association)
- **Ecosystem players** (e.g., Hydrogen Council, Hydrogen Europe, Methanol Institute Zestas)

Session 1 — Deep Dive: Industrial Partnerships and Value Chains

Dr. Prasad Chaphekar (Director, MNRE) opened by underscoring India's commitment to building a green hydrogen ecosystem and the need to move from high-level collaboration to operational partnership models — with government setting clear rules, facilitating partnerships and reducing transaction friction through tools such as model agreements, while leaving large commercial players free to structure bespoke deals.

Key barriers preventing long-term agreements and value-chain integration

Participants noted that there is strong willingness to build EU–India hydrogen partnerships, but moving from interest to signed agreements requires working through complex commercial and operational questions. Simple offtake contracts may not be enough on their own, because risks sit across the full value chain.

- **Risks are embedded across the entire value chain:** Participants highlighted dependencies across production, shipping, storage, import terminals, cracking, pipelines and end-use infrastructure. Delays or underinvestment in any segment can undermine the entire transaction even when production economics are attractive.
- **Infrastructure readiness is not synchronised with project timelines:** European import, storage, cracking and pipeline infrastructure may take few years to become available. This creates a timing mismatch with Indian projects that could be developed faster, making buyers hesitant to sign commitments before downstream infrastructure is certain.
- **Regulatory uncertainty constrains demand and long-term commitments:** Several European players observed that, in the absence of clear and stable regulation, green molecules compete with cheaper grey or blue alternatives, limiting willingness to pay. Uncertainty around RFNBO implementation, potential revisions to delegated acts, equivalence between EU and Indian carbon systems, and certification treatment over the life of contracts makes it harder for developers, buyers and financiers to assess project economics, confirm compliance, and commit to long-term agreements with confidence.
- **Fixed-price exposure is hard for incumbent commodity players:** Participants noted that sectors such as fertilisers are accustomed to index-linked procurement. Locking into fixed green premiums or long-tenor contracts can create existential competitive risk if market prices move adversely.
- **Lack of mature trading markets complicates long-term commitments:** Green hydrogen derivatives do not yet have deep, liquid markets, making early contracts harder to structure. If supply fails, demand is delayed or infrastructure is not ready, parties have limited fallback options and may be left carrying significant exposure.

Interventions needed to unlock bankable transactions

Participants converged on the need for coordinated action across policy, market-making and value-chain orchestration. No single intervention is sufficient: demand certainty, infrastructure readiness, regulation, commercial structures and technical partnerships need to move together.

- **Create bankable demand and bridge the green premium:** Clearer demand-side regulation, including obligations or mandates with enforceable consequences after an appropriate transition period. These could be complemented by market-making mechanisms such as H2Global-style double auctions, contracts for difference, and demand aggregation platforms. Together, these tools can provide long-term revenue certainty to producers while allowing end-users to participate through shorter-term or more flexible structures.
- **Allocate risk through targeted public support and integrated models:** Risk should sit with those best placed to manage it, with public or intermediary mechanisms addressing price premium, demand, infrastructure and first-of-a-kind risks. Integrated models such as equity participation, joint ventures, co-development partnerships and technology-linked offtake can build mutual commitment, improve visibility across the value chain and accelerate replication if codified and shared.
- **Coordinate corridor infrastructure end-to-end:** The Odisha–Northwest Europe corridor offers a way to map and synchronise terminals, shipping, storage, cracking and pipelines; missing infrastructure must be identified before demand arrives, and European support could help fund critical midstream gaps.

Partnership models and collaboration opportunities

The discussion strongly favoured partnership models that go beyond transactional offtake. Participants noted that procurement-only approaches may work for small volumes or mature markets, but first-wave EU-India hydrogen deals require deeper alignment across capital, technology, infrastructure, offtake and policy.

- **Pure offtake and technology agreements remain useful but limited:** Easier to execute and helpful for early projects, but insufficient where delivery, infrastructure and downstream demand are uncertain.
- **Equity-linked offtake can align interests:** Buyer or technology-provider equity supports development and execution confidence, though not all buyers have the appetite or mandate.
- **Joint ventures and co-development work where strategic alignment exists:** Japan–India examples showed how government facilitation on supply and demand can create space for aligned private partnerships.
- **Technology localisation creates mutual value:** European OEMs serving India from India — through local manufacturing, training and supply-chain development — can lower costs while embedding European technology in Indian export projects.

Session 2 — Deep Dive: Policy and Regulatory Alignment

Opening the session, Dr. Prasad Chaphekar (Director, MNRE) emphasised the need for practical, clear and reliable regulatory interpretation that gives buyers and financiers confidence while remaining implementable for developers and reflective of India's renewable energy and power-market realities. Sanjay Sharma (Managing Director, SECI) reinforced this, pointing to India's rapid renewable capacity additions, strong national grid integration and very low transmission congestion as important context for assessing RFNBO requirements.

Compliance and certification bottlenecks

- **Uncertainty is directly affecting project development and offtake:** Without a clear view on RFNBO eligibility, sponsors cannot confidently progress investment, offtake contracts or financing.
- **Geographic correlation is the most urgent issue:** Developers argued that India's grid structure, national price formation and limited congestion support recognising India as a single bidding zone — or, alternatively, an interpretation that allows non-adjacent but interconnected zones to satisfy the requirement.
- **CO_2 sourcing rules constrain e-methanol and derivatives:** Biogenic CO_2 is not available at the scale needed for cost-competitive e-fuels, while uncertainty around industrial point-source CO_2, sunset clauses and carbon-pricing equivalence limits long-term bankability.
- **Scheme-by-scheme interpretation creates avoidable risk:** Developers and lenders need consistent treatment across certification schemes so that compliance does not hinge on the pathway chosen.
- **Non-binding guidance may not satisfy lenders:** Q&A documents and informal guidance help, but financiers may require stronger, durable confirmation that a compliance interpretation will hold over a project's 15–25 year life.
- **Unresolved eligibility risks diverting supply from Europe:** Indian developers may increasingly prioritise Asia-Pacific markets if EU interpretation remains unclear or costly, weakening Europe's access to competitive molecules.

Resolution pathways and governance

- **Keep the RFNBO review focused:** The accelerated review of the RFNBO Delegated Acts is an opportunity, but reopening too many issues risks prolonging uncertainty.
- **Clarify India's bidding-zone treatment through coordinated evidence:** A Ministry of Power clarification on grid structure and pricing could support either a single-bidding-zone recognition or a clarified "interconnected zones" interpretation — though schemes may still need European Commission confirmation before relying on it.

- **Create a clearer decision-making mechanism:** A formal, transparent route for schemes to seek clarification from the Commission would reduce uncertainty for India and other emerging exporters alike.
- **Build a bankable evidence base through early certifications:** Certificates issued under a consistent interpretation could establish de facto precedent and offer lenders stronger comfort than guidance alone.

Next Steps

Session 1 — Industrial Partnerships and Value Chains

- **Improve pipeline readiness:** ITA to work with developers, policymakers and ecosystem players on ecosystem-level barriers — policy alignment, buyer engagement, demand aggregation and infrastructure.
- **Deploy demand aggregation and market-making mechanisms:** Engage buyer alliances and public agencies (e.g., SECI) on demand aggregation for EU–India green ammonia, methanol and fuels.
- **Codify partnership and risk-sharing models:** Develop templates and case examples for offtake structures, JVs, equity-linked partnerships, double auctions and CfDs.
- **Map corridor infrastructure gaps:** Build a shared view of missing export, shipping, import, storage, cracking and pipeline infrastructure for priority India–Europe corridors to sequence investment ahead of demand.
- **Establish focused working groups:** ITA to convene developers, buyers, midstream players, financiers and public agencies around specific product corridors to move frontrunner projects toward bankability.

Session 2 — Policy and Regulatory Alignment

- **Engage schemes and developers on common interpretation needs:** ITA, with MNRE and GH2 India, to convene voluntary certification schemes, Indian developers and ecosystem partners on recurring RFNBO questions — bidding-zone and grid treatment and CO_2 sourcing — to reduce project-by-project interpretation and give clearer guidance to developers, offtakers and financiers.
- **Continue European Commission engagement:** Voluntary schemes to present targeted clarification requests on geographic correlation in third countries, non-biogenic CO_2 use and carbon-pricing equivalence, and potential grandfathering — positioned for the accelerated RFNBO review and updated Q&A guidance.
- **Elevate priority issues through the EU–India Green Hydrogen Task Force:** Carry forward unresolved certification and alignment issues, focused on practical decisions that unlock early trade in hydrogen and derivatives.

List of Acronyms

Acronym	Full Form
BCG	Boston Consulting Group
CfD	Contract for Difference
CO_2	Carbon Dioxide
EC	European Commission
EU	European Union
FID	Final Investment Decision
GH2	Green Hydrogen Organisation (India)
GHO	Green Hydrogen Organisation
ITA	Industrial Transition Accelerator
JV	Joint Venture
MNRE	Ministry of New and Renewable Energy
MoU	Memorandum of Understanding
OEM	Original Equipment Manufacturer
RED III	Renewable Energy Directive III
RFNBO	Renewable Fuel of Non-Biological Origin
RMI	Rocky Mountain Institute
SECI	Solar Energy Corporation of India