



KANDLA GREEN HYDROGEN CONCLAVE 2026

Green Ports, Green Fuels: Kandla's Hydrogen Future

Port of Kandla, Gujarat | Friday, 21 August 2026

A Working Conclave on Power, Water and Export
Infrastructure for Green Hydrogen Hubs

POST EVENT REPORT



Green Ports, Green Fuels: **Kandla's Hydrogen Future**

Convened by Deendayal Port Authority and GH2 India



Executive Summary

Deendayal Port Authority, supported by GH2 India, convened a one-day working conclave at Gandhidham and the Port of Kandla on Friday, 21 August 2026. The conclave brought together central and state government, port leadership, developers building on the Kandla estate, technology providers, development finance institutions, classification societies, diplomatic missions and research organisations. Our designation as one of India's three Green Hydrogen Hub ports under the National Green Hydrogen Mission is both a recognition of that legacy and a responsibility we take seriously.

The conclave was designed as a working session rather than a conference, structured around a single question: what stands between allotted land at Kandla and a producing, exporting green fuel asset. Four constraints were examined in turn: compliance-driven demand and price, corridors and offtake, water and desalination, and carbon supply for e-methanol.

Three outcomes are worth recording at the outset. The Chairman offered the port publicly as a test bed for technologies that reduce carbon intensity or improve energy efficiency, and two technologies were taken up for pilot on the day. The first edition of the Green Shipping Policy Handbook was released, published by GH2 India under its Green Ports and Shipping Network with Deendayal Port Authority. A tripartite Memorandum of Understanding was signed between the Port Authority, DNV and GAIL. Within twenty-four hours of the conclave closing, a delegate had written to the Chairman proposing what would be India's first co-electrolysis project for RFNBO-compliant e-methanol.



Messages from the host and organiser

“Deendayal Port Authority is offering itself as a sandbox, as a test bed. Any new technology which has the potential to improve energy efficiency, any new technology which has the potential to reduce the carbon footprint of operations at the port, directly or indirectly, we will welcome that technology and we will offer you all support to try it out at Kandla port. And if it succeeds, and if it has the potential to scale, we will also assist in scaling it up.”

Shri
Sushil Kumar Singh
(IRSME)

Chairman, Deendayal Port Authority,
Kandla, Gujarat



“Kandla's legacy and state ownership combined by the Chairman's dynamic leadership is the right catalyst and enabler for scaling green fuels and other national decarbonisation initiatives. With multiple pilots implemented, commitments from large industrial houses and a vibrant eco-system - the port is well positioned to support the Government's objectives and ambitions on green hydrogen and climate.”

Mr
Nishaanth Balashanmugam
CEO & Director, GH2 India

Event at a Glance

Event

The programme ran from 08:45 to past 21:00 across three locations.. The morning was given to the inaugural ceremony, an introduction to the port and its ecosystem, a statement of national policy, and interventions from five companies building or operating at Kandla. The middle of the day was spent on the port estate. The afternoon carried four working sessions, an open house and the closing plenary, followed by a cultural programme and dinner.



Participation

Attendance was curated and by invitation. Approximately 65 delegates registered, drawn from the Ministry of New and Renewable Energy, Deendayal Port Authority, developers holding land at Kandla, electrolyser and equipment manufacturers, desalination and water technology providers, classification societies, development finance institutions and multilateral agencies, diplomatic missions, and research organisations. Two speakers joined virtually from Europe.

The Deputy Chairman remarked in closing that the response had exceeded expectations given the port's location, noting that delegates had travelled from their homes to the port's home and, in the Chairman's phrase, come out of their comfort zones to see the work at first hand.



Inaugural Session



Shri
Sushil Kumar Singh
(IRSME)

Chairman, Deendayal Port
Authority,
Kandla, Gujarat



Mr
Erik Solheim

Former Minister of the
Environment of Norway and
President of the International
Advisory Board of GH2 India



Mr
Derek M. Shah

Chief Executive Officer and
Managing Director of L&T Energy
GreenTech



Mr
**Fredrik Bjerke
Abdelmaguid**

Deputy Consul General at the
Royal Norwegian Consulate
General in Mumbai

The Chairman, Shri Sushil Kumar Singh, IRSME, opened with a welcome address. Addresses followed from Mr Erik Solheim, former Minister of the Environment of Norway and President of the International Advisory Board of GH2 India; Mr Derek M. Shah, Chief Executive Officer and Managing Director of L&T Energy GreenTech; and Mr Fredrik Bjerke Abdelmaguid, Deputy Consul General at the Royal Norwegian Consulate General in Mumbai, who spoke to growing demand from Norwegian shipping companies for dual-fuel vessels.



Inaugural Session

Dr Nilabhra Dasgupta, IRS, Deputy Chairman, set out the port's position in detail. Kandla has commissioned a one-megawatt Make in India green hydrogen plant and has ordered a further five megawatts against a ten-megawatt target. It has contracted a twenty tonne per day biomass gasifier for biomethanol production. It is developing metal hydride hydrogen storage and, with a technology partner, induction motor based pods for bulk cargo movement. A detailed project report for a captive desalination plant has been prepared. A centre of excellence for green maritime fuels, costing approximately Rs 100 crore, has been sanctioned, with a new building to host researchers, technicians and industry under one roof. The port operates on renewable power with 20 MW installed and is expanding. Of an estate of roughly 22,000 acres, approximately 3,400 acres have been allotted to four partners for green ammonia and hydrogen production.



Dr Prasad Chaphekar, IRS, Director at the Ministry of New and Renewable Energy, addressed domestic demand and the mechanisms supporting it. He noted that India consumes roughly six million tonnes of hydrogen a year, of which some 99 per cent goes to refineries and fertiliser, leaving around 60,000 tonnes as the addressable base for demand creation elsewhere. He observed that domestic tenders had unexpectedly renewed international interest in Indian molecules, reversing the assumption that exports would lead, and cautioned developers against relying on infrequent large export tenders at the expense of fragmented domestic demand that builds cash flow, operating experience and credibility.

Inaugural Session

Industry interventions followed from TuTr Hyperloop on autonomous freight mobility and linear induction propulsion for ports; from **Thermax**, where **Dr Dev Kumar Gupta** presented the biomethanol plant in detail; and from Oswal Energies, Trika Energies and VABX. Dr Gupta's presentation set out a twenty tonne per day biomass gasifier producing five tonnes per day of methanol, making approximately 35 tonnes per day of biogenic CO₂ available at the port, and noted that integrating a 5.3 tonne per day green hydrogen unit could yield around 23 tonnes per day of e-methanol.



The conclave on the significance of the IMO Net-Zero Framework beyond its immediate climate function. She observed that the framework's importance extends past climate policy alone — its adoption would send a clear signal to investors, and stressed that India's voice at the negotiating table would have a direct bearing on how strong that signal turns out to be. Her remarks underscored the diplomatic and market-confidence dimension of the IMO negotiations, reinforcing the session's broader theme that regulatory clarity, not just technology, will determine the pace of investment into green fuel infrastructure at ports like Kandla.

Inaugural Session

The morning closed with the



To download the report scan here



Port visit

Delegates travelled by air-conditioned coach to the port estate. The route took in the OJ-7 green hydrogen plant, the North Gate and cargo jetties CJ-1 to CJ-16, with refreshments and a group photograph at CJ-16, and the Anchor Circle at WG-13. The visit was the most frequently praised element of the day in delegate feedback, and several delegates noted that seeing the plant and the waterfront changed how they read the afternoon discussion.



Afternoon Sessions

Session 1: FuelEU Maritime and the IMO Net-Zero Regime

Green ammonia (FOB)

\$650/t

vs \$560–570 via SECI tender

E-methanol (FOB India)

\$900/t

vs Kandla target of \$750

FuelEU cycle 1

Closed Jun 2026

Very few penalties paid



Mr Jesse Fahnestock, Global Maritime Forum (Remote)

Set out five proposals on the table ahead of the resumed extraordinary session on 4 December. Overcompliance from LNG voyages and pooling absorbed most deficits in the first cycle — the regulation is working as designed, but not yet generating demand for new fuels at scale.

Mr Ajay Kumar Singh, DNV

Two chemically identical molecules arriving at Kandla are commercially and regulatorily different if only one carries verified, audited life cycle documentation.

Mr Vipul Garg, S&P Global Platts

RFNBO-compliant pricing and Japanese market pricing have converged over the past six months, having been treated as distinct a year earlier due to project and capital structures.



Afternoon Sessions

Session 2: Green Shipping Corridors between India and the European Union

Corridors assessed

40

Kandla–Rotterdam led interest

Corridors announced worldwide

85

None past feasibility stage

Studies now beginning

5

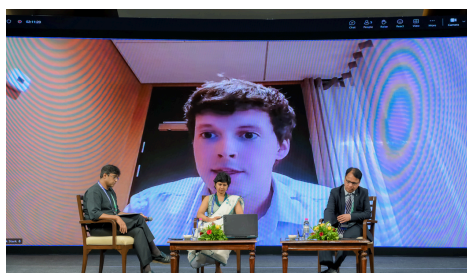
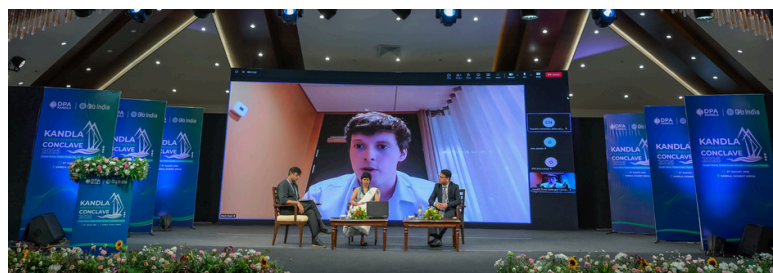
Funded by GIZ

Mr Mark Stark, Maersk Mc-Kinney Moller Center (Remote)

Kandla to Rotterdam attracted the most interest among candidate corridors. Cost, not technology, is why no announced corridor globally has passed the feasibility stage.

Ms Surbhi Goyal, World Bank

Multilateral finance de-risks first-mover investment through concessional pricing, guarantees, payment security mechanisms and flexible tenors — echoing the solar park model where public infrastructure enables private plug-and-play investment. For the next twelve months, she flagged scaling from test bed to commercial operation, sunset-clause incentives, domestic demand creation, bunkering skills, benchmarking against Rotterdam and Singapore, and corporatisation to strengthen governance for international investors.



Afternoon Sessions

Session 3: Water, Desalination and Environmental Safeguards

Capacity built for scale

70 MLD

Reference project cited by WABAG

Increment delivery time

6 vs 24 months

When built for ultimate capacity upfront



Panel consensus

A single aggregated desalination facility is preferable to individual plants: lower capital cost per unit, smaller footprint on a constrained estate, and simpler permitting with one discharge point — relevant given documented algae blooms in the Gulf of Kutch.

Mr Pawan Mehndiratta, Thermax

The commonly cited nine kilograms of water per kilogram of hydrogen understates the true requirement once raw water losses, cooling and desalination recovery are accounted for.

Mr Snehal Suryawanshi, Alfa Laval

Thermal desalination driven by electrolyser waste heat reduces cooling load, produces ultra-pure water and limits brine salinity increase. Routing brine to the salt pans rather than to sea was raised as an option meriting community and ecological consultation.



Afternoon Sessions

Session 4: Carbon Sources for E-Methanol

Mr Georg Jahnsen, GIZ India

Mr Georg Jahnsen of GIZ India presented two studies on biogenic carbon availability, one mapping sources across India and one examining a specific project in Odisha. He noted that India is among the world's richest countries for biogenic carbon, that agricultural biomass is the largest category, and that moisture content is a key practical constraint. He directed delegates to the H2 hub tool, which now carries a biogenic carbon layer.



Open House and Closing Plenary

The Chairman opened the floor rather than closing with remarks, and directed questions back to the room. Delegates raised domestic regulation in the event the IMO does not adopt, blended fuel qualification, high pressure storage above 500 bar and the associated approval barriers, training and skills, and whether the future is methanol-heavy or ammonia-heavy. The Chairman offered the port as a test bed for any technology with potential to reduce carbon intensity, and confirmed two technologies for pilot: thermal desalination using waste heat, and integrated seawater desalination and electrolysis.

Afternoon Sessions

Open House and Closing Plenary



Outcomes and Announcements

- Release of the Green Shipping Policy Handbook, first edition, published by GH2 India under the Green Ports and Shipping Network with Deendayal Port Authority.
- Signing of a tripartite Memorandum of Understanding between Deendayal Port Authority, DNV and GAIL.
- Public offer of the port as a test bed, with two technologies selected for pilot on the day.
- Confirmation that a Rs 100 crore centre of excellence for green maritime fuels has been sanctioned.
- Confirmation that a ship-to-ship methanol bunkering trial is expected within two to three months, with DNV, using a methanol-compliant bunker barge from a service provider already engaged.
- A proposal received on 22 August from H2E Power to establish a pilot producing RFNBO-compliant e-methanol by the co-electrolysis route, stated to be the first such project in India.
- Identification of Kandla to Rotterdam as the corridor drawing greatest interest at pre-feasibility, with a live opportunity to enter the feasibility programme.



The Kandla Outcome Note

The conclave was convened to surface problem statements and attach actions and owners to them. The following consolidates what emerged.

Problem statement	Action agreed or proposed	Owner
Compliance-driven demand is real but unpriced for Indian suppliers	Establish what delivered price clears the market for green ammonia and e-methanol, and communicate Kandla's position to shipping lines directly	GH2 India with S&P Global Platts
No shipping lines were represented at the conclave	Bring shipping lines and charterers into the next convening; the port's readiness is of no value if vessels do not call	GH2 India and DPA
Kandla to Rotterdam drew the most corridor interest but has no committed value chain	Assemble one fuel producer, one port, one shipping line and one cargo owner and register interest with MMMCZCS for a feasibility study	GH2 India, DPA, developers
Water demand is understated in most project plans	Proceed with a single aggregated desalination facility; take intake and outfall approvals to ultimate capacity rather than first phase	DPA
Qualifying CO2 is the binding constraint on e-methanol	Map biogenic CO2 available at and around the port, beginning with the biomethanol plant's own output	DPA with GIZ India and Thermax
Bunkering requires skills the port does not yet hold	Make training a permanent function of the Centre of Excellence and attach a training module to every pilot	DPA
Blended fuels have no clear qualification pathway	Respond to the Directorate General of Shipping consultation on biofuel blending; seek clarity on how blends are treated	GH2 India
Domestic demand around the port is unmapped	Assess demand from chemical and industrial users in Gujarat and Maharashtra to mature the supply chain ahead of export volumes	DPA with GH2 India

Photo Gallery



About the Organisers



Deendayal Port Authority (DPA), located at Kandla in Gujarat, is one of India's major ports and a key gateway for trade along the country's western coast. Spread across an estate of approximately 22,000 acres, the port has built its reputation over decades as a vital node for bulk cargo, industrial trade, and, more recently, as a frontrunner in India's transition toward green fuels and port decarbonisation. In October 2025, the Ministry of New and Renewable Energy formally designated DPA as one of three Green Hydrogen Hub ports under the National Green Hydrogen Mission, alongside V.O. Chidambaranar Port at Tuticorin and Paradip Port — a recognition that reflects Kandla's natural advantages in trade connectivity, renewable energy access, and industrial land availability.

DPA has allocated over 3,400 acres to leading developers including Reliance Industries, L&T, AM Green and Welspun for green ammonia and hydrogen production, commissioned India's first port-based green hydrogen plant, and sanctioned a centre of excellence for green maritime fuels to build long-term technical capability at the port. Guided by the leadership of Shri Sushil Kumar Singh, IRSME, Chairman, and Dr Nilabhra Dasgupta, IRS, Deputy Chairman, DPA continues to position Kandla not only as an operational port but as a working test bed for the technologies and partnerships that will shape the future of green shipping in India.



GH2 India is an industry-led, not-for-profit platform working to accelerate the development of India's green hydrogen economy. The organisation brings together project developers, technology providers, financial institutions, policymakers, research organisations and international partners to address critical sectoral priorities, including policy and regulation, standards and certification, project financing, domestic demand creation, export-market readiness and capacity building.

GH2 India also leads the Green Ports and Shipping Network (GPSN), a collaborative platform supporting the use of green hydrogen-derived fuels—particularly green ammonia and green methanol—in ports and maritime transport. The network convenes ports, shipping companies, fuel producers, regulators, technology providers and knowledge partners to advance green shipping corridors, bunkering infrastructure, safety and handling standards, fuel certification, pilot projects and international cooperation.



team@gh2.org.in | www.gh2.org.in