

Track India

It is 2030: India and the Netherlands are jointly turning the tables on the **global energy transition**. India is the running engine of the world's energy transition with its ambitious goals for sustainable growth, green energy, and innovation. The Netherlands is internationally acclaimed for its **advanced knowledge of energy innovation**.

The West Wing, an independent think tank of the Ministry of Foreign Affairs of the Netherlands, will investigate **the un- and undertapped potential** for climate and energy cooperation between India and the Netherlands. Track India aims to establish opportunities for the Embassy of the Netherlands in India to assist by connecting Dutch expertise to India's ambitious energy goals.

We focus on supporting the export of **green hydrogen** from India to the Netherlands. This area presents significant potential for strategic cooperation. It helps India meet its sustainability targets while simultaneously sharing high-level knowledge and deepening the bilateral relationship between the Netherlands and India.

Green Hydrogen in India

With its 'National Green Hydrogen Mission' [1], the Indian Government shows its ambition to be a green hydrogen leader. Green hydrogen is essential in the energy transition due to its zero emissions and solution to energy storage challenges [2]. For India, green hydrogen offers **economic opportunities** to lead the global energy transition as a major producer of this energy carrier. India has the technological knowledge and capacity to produce green hydrogen and is eager to **upscale** this production and export green hydrogen worldwide [3]. However, finding an appropriate market to export to remains challenging, partly because of issues with **transportation and storage**. The challenges stem from the costs associated with converting hydrogen into a transportable form, along with high maintenance expenses and safety issues. While there is potential for a significant market in Europe, various **trade barriers, ambiguous regulations, and competition from other regions** – such as the hydrogen markets of China and Brazil – complicate India's market expansion efforts to Europe [5].

A Strategic India-NL Partnership

The Netherlands is developing a hydrogen network with companies like Gasunie, Vopak, and the Port of Rotterdam [6]. A potential collaboration with India could support India in becoming **a leading global hydrogen producer** and the Netherlands in developing Rotterdam as **an international hydrogen hub**. First, Rotterdam could distribute green hydrogen across Europe to expand India's market. Second, importing green hydrogen from India could anticipate the Netherlands' hydrogen demand for its energy transition [7]. Transitioning to sustainable energy sources is crucial for maintaining Rotterdam's strategic energy hub function [8]. Indo-Dutch hydrogen trade could **further consolidate partnerships** that are already in place, particularly in hydrogen [9] and sustainable water management [10], strengthening bilateral collaboration.

“How can the Embassy of the Netherlands in India facilitate and stimulate un- and under-tapped collaboration opportunities regarding the energy transition, specifically in the area of green hydrogen?”

We envision a future...

where Indo-Dutch collaboration in green energy flourishes. We aim to investigate the **potential partnership** between the Indian hydrogen industry and Dutch organisations in the hydrogen industry, including the Port of Rotterdam. This internationally recognised hydrogen hub gives India access to a large European market. We focus on broadening opportunities for private companies by investigating what is currently stopping these companies from doing so. As a next step, we will focus on **how** the Dutch Embassy in India can **facilitate cooperation between public and private organisations** to encourage the development of **strategic networks** and **high-level knowledge sharing**.

Footnotes

1. Ministry of New and Renewable Energy, “National Green Hydrogen Mission,” *Government of India*, accessed January 4, 2025, <https://mnre.gov.in/en/national-green-hydrogen-mission/>.
2. PwC Netherlands, “Hydrogen in the Energy System of the Future,” PwC Netherlands, accessed January 7, 2025, [https://www.pwc.nl/en/industries/energy-utilities/energy-transition/hydrogen-in-the-energy-system-of-the-future.html#:~:text=Hydrogen%20\(H2\)%20is%20taking,help%20balance%20our%20electricity%20system.](https://www.pwc.nl/en/industries/energy-utilities/energy-transition/hydrogen-in-the-energy-system-of-the-future.html#:~:text=Hydrogen%20(H2)%20is%20taking,help%20balance%20our%20electricity%20system.)
3. *Independent Commodity Intelligence Services*, “India Developing Port Infrastructure for Green Hydrogen Exports,” last modified October 27, 2023, <https://www.icis.com/explore/resources/news/2023/10/27/10938111/india-developing-port-infrastructure-for-green-hydrogen-exports/>.
4. ORF America, *Decoding India's Green Hydrogen Potential*, accessed January 2, 2025.
5. International Renewable Energy Agency (IRENA), *Geopolitics of the Energy Transformation: The Hydrogen Factor* (Abu Dhabi: IRENA, 2022), accessed January 6, 2025.
6. Port of Rotterdam, “Port of Rotterdam Developing Hydrogen Hub,” accessed December 29, 2024, <https://www.portofrotterdam.com/sites/default/files/2024-05/developing-europes-hydrogen-hub.pdf>.
7. Doloris de Rooij et al., *Green Hydrogen Import through the Port of Amsterdam* (Amsterdam: Invest.NL, 2024), accessed January 6, 2025, <https://www.invest-nl.nl/media/attachment/id/3453>.
8. Eric Wiebes, *Kamerbrief over Kabinetsvisie Waterstof*, Ministerie van Economische Zaken en Klimaat (2020), <https://open.overheid.nl/repository/ronl-44c87a40-bac0-42ec-ae91-eb81c87e2186/1/pdf/Brief%20kabinetsvisie%20waterstof%20.pdf>.
9. The Energy and Resources Institute (TERI), *Towards a Clean Hydrogen Ecosystem: Opportunities for Indo-Dutch Cooperation* (New Delhi: TERI, 2022), accessed January 4, 2025, <https://www.rvo.nl/files/file/2022-07/Towards%20a%20Clean%20Hydrogen%20Ecosystem%20Report.pdf>.
10. “Knowledge Flow between the Netherlands and India in a Long-Term Strategic Water Partnership,” *Dutch Water Sector*, July 31, 2024, accessed January 13, 2025, <https://www.dutchwatersector.com/news/knowledge-flow-between-the-netherlands-and-india-in-a-long-term-strategic-water-partnership>.