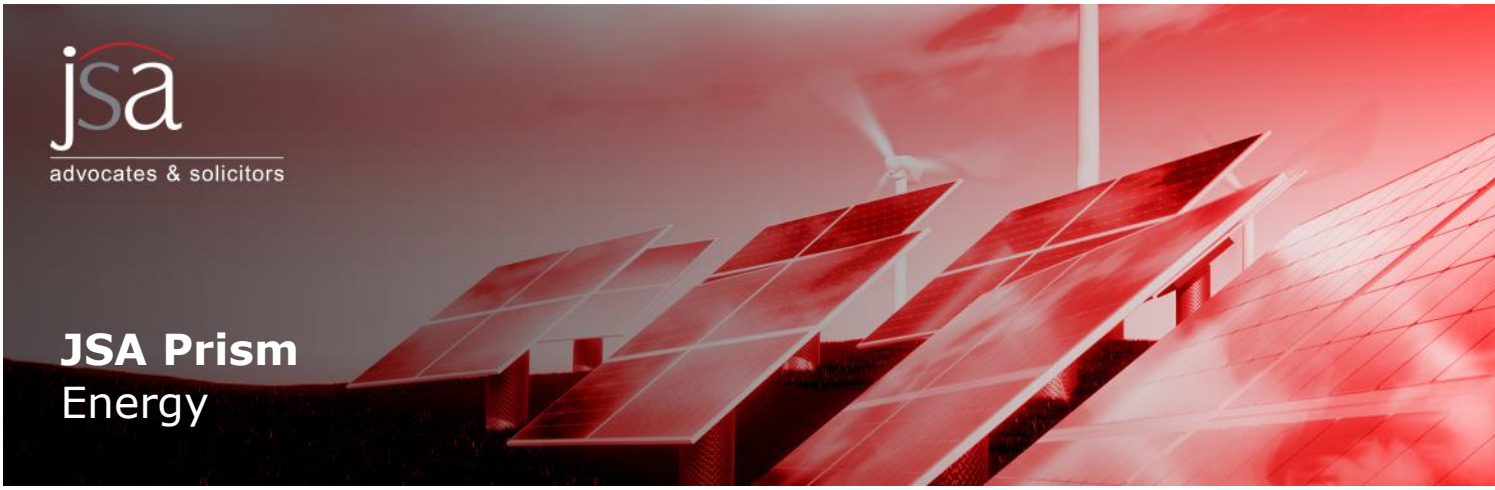

August 2023

Hydrogen transportation through natural gas pipeline network and city gas distribution networks

In the energy transition space, green hydrogen is emerging as a promising alternate fuel, with the potential to play a pivotal role in India achieving its zero carbon targets. To this end, Government of India has been taking various steps to promote production and utilization of Green Hydrogen in the country.

To this regard, Petroleum and Natural Gas Regulatory Board ("**PNGRB**") recently announced its collaboration with the World Bank to undertake a study aimed at developing technical and commercial feasibility for blending of hydrogen and developing pathways for hydrogen transmission in natural gas pipelines and city gas distribution ("**CGD**") networks.[1] The study comprises of demand supply mapping, commercial assessment of pipeline sector, identification of issues in the policy and regulatory framework and formulating a roadmap up till 2040 for implementation of hydrogen blending. On August 8, 2023, in a presentation, PNGRB emphasized on effective utilization of existing networks for the purposes of hydrogen transmission. Once the study is completed (presently estimated to be completed within 15 (fifteen) months), regulatory framework will have to be suitably amended to implement the findings.

This marks a significant milestone for India's ambition towards a greener economy. In this regard, the following may also be noted:

1. On August 15, 2021, the Prime Minister of India announced the National Hydrogen Mission with an aim to make India a global hub for production and export of green hydrogen[2]. The National Green Hydrogen Mission was approved by the Union Cabinet on January 4, 2023, with an initial outlay of INR 1,97,44,00,00,000 (Indian Rupees Nineteen Thousand seven hundred forty four crore) (including INR 14,66,00,00,000 (Indian Rupees one thousand four hundred sixty six crore) for pilot projects);[3]
2. As per the National Green Hydrogen Mission Document released by Ministry of New and Renewable Energy [4]:
    a) India aims to build capabilities for production of alteast 5 (five)million metric tonne of Green Hydrogen per annum by 2030;

[1] PNGRB takes Initiative for Hydrogen transportation in Natural Gas Pipeline Network and City Gas Distribution Networks, PNGRB, https://pngrb.gov.in/pdf/press-note/PressRelease04082023.pdf

[2] English rendering of the text of PM's address from the Red Fort on 75th Independence Day, Press Information Bureau, Government of India, https://pib.gov.in/PressReleasePage.aspx?PRID=1746062

[3] Cabinet approves National Green Hydrogen Mission, Press Information Bureau, Government of India, https://pib.gov.in/PressReleseDetailm.aspx?PRID=1888545

[4] National Green Hydrogen Mission, Ministry of New and Renewable Energy, Government of India, https://mnre.gov.in/img/documents/uploads/file_f-1673581748609.pdf

b) the mission will support replacement of fossil fuels and fossil fuel-based feedstocks with renewable fuels and feedstocks based on green hydrogen;

c) the Ministry of Petroleum and Natural Gas will facilitate uptake of green hydrogen in CGD through both public sector entities and private sector and also enable development and facilitation of regulations through PNGRB.

d) the new refineries and city gas projects will be planned to be compatible to ensure maximum possible deployment of green hydrogen.

3. In addition to the above, on February 17, 2022 the Ministry of Power issued the Green Hydrogen Policy[5] which *inter alia* provides for various benefits to stakeholders engaged in the green hydrogen sector.

4. With respect to hydrogen blending and transmission through existing pipeline networks, PNGRB has issued permissions to some CGD authorized entities for trials of hydrogen blending.

5. Additionally, the following pilot projects have been initiated to explore opportunities vis-à-vis hydrogen blending:

a) In February 2022, GAIL started its pilot project for blending hydrogen into CGD network of Indore, Madhya Pradesh (after obtaining necessary regulatory approvals)[6];

b) NTPC in its joint effort with Gujarat Gas Limited has started supply of blended hydrogen in the piped natural gas network of NTPC Kawas township, Surat;[7]

Torrent Power, which is a power utility company has also announced that it has started work on a green hydrogen pilot project for natural gas blending in CGD networks.[8]

[5] Ministry of Power notifies Green Hydrogen/ Green Ammonia Policy, Press Information Bureau, Government of India, https://pib.gov.in/PressReleasePage.aspx?PRID=1799067. The policy is available at https://powermin.gov.in/sites/default/files/Green_Hydrogen_Policy.pdf

[6] GAIL starts India's maiden project of blending hydrogen into CGD network, Ministry of Petroleum and Natural Gas, Press Information Bureau, Government of India, https://pib.gov.in/PressReleasePage.aspx?PRID=1794428#:~:text=This%20project%20marks%20the%20stepping,be%20replaced%20by%20green%20hydrogen

[7] NTPC starts India's first green hydrogen blending operation in PNG network, Ministry of Power, Press Information Bureau, Government of India, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1888334

[8] Torrent Implementing Green Hydrogen Pilot for Blending in CGD: Advancing India's Low-Carbon Future, https://www.torrentpower.com/pdf/investors/MRIntimation_20230720153842.pdf

Energy (Clean Energy & Climate Change) Practice

We are known for our specialist domain-focused Energy practice - acknowledged for strengths in grappling with complex legal issues involving public policy, market economics, technology, finance, project management. Our practice has contributed to several landmark and precedent-setting work related to legislative and policy framework governing the industry, commercial strategies for regulated industry, presenting cases before various regulatory and judicial fora in the country, advice on tariff, licensing, market development and design, de-regulation and dispute resolution.

As part of our Energy practice, we are also involved in advising clients in the renewable energy and cleantech space. Our team has been part of complex corporate transactions involving entities engaged in the renewable energy sector including solar and wind energy entities, drafting as well as advising clients on issues related to commercial agreements such as power purchase agreements, EPC contracts and O&M contracts, advising on regulatory issues being faced by clients in the renewable energy sector as well as representing such clients before various judicial and regulatory fora. Our team is leading the green hydrogen sector and are advising clients in the public and private sector in relation to some of the first green hydrogen related acquisitions in India.

This Prism has been prepared by:

Venkatesh Raman Prasad
Partner

Shivani Chugh
Partner

Sweta Singh
Senior Associate

17 Practices and
24 Ranked Lawyers

16 Practices and
11 Ranked Lawyers

7 Practices and
2 Ranked Lawyers

11 Practices and
39 Ranked Partners
IFLR1000 APAC Rankings 2022

Banking & Finance Team of the Year

Fintech Team of the Year

Restructuring & Insolvency Team of the Year

Among Top 7 Best Overall Law Firms in India and
9 Ranked Practices

---

11 winning Deals in IBLJ Deals of the Year

---

10 A List Lawyers in IBLJ Top 100 Lawyer List

Banking & 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

Ranked #1
The Vahura Best Law Firms to Work Report, 2022

Top 10 Best Law Firms for Women in 2022

For more details, please contact km@jsalaw.com

jsa
advocates & solicitors

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