

SECTOR SPECIFIC REPORT

(Oil, Gas & Petroleum)



Launch of Foster Fuels by Indian Oil to Promote Spirit of Atmanirbhar Bharat

1

India Addressed OPEC Crude Production Cuts Impacting Global Energy Landscape

2

Introduction of Unified Registration Portal for GOBARdhan to Streamline Process of Compressed Bio-Gas and Gas Plants Across India

3

Strategic Petroleum Reserve Programme' to Increase Storage Capacity of Crude Oil

4

Ministry of Petroleum & Natural Gas Revolutionizing e-Mobility Paradigm with India's First Green Hydrogen Fuel Cell Bus

5

Eminent's Insight

6

Launch of Foster Fuels by Indian Oil to Promote Spirit of Atmanirbhar Bharat

The Ministry of Petroleum & Natural Gas (MOP&NG), Government of India announced the **launch of Reference Fuels (Gasoline and Diesel Fuels) in India for the first time by the Indian Oil's Paradip & Panipat Refineries on 26 October 2023**. It has witnessed innovative output at the R&D centre of Indian Oil as another initiative for cultivating the PM's Atmanirbhar Bharat vision and propelling the objectives of the Make in India mission as a result of indigenous technological advancements.

Reference fuels are high-standard premium products that meet stringent industrial standards as compared to normal commercial fuels. They are used by automobile Original Equipment Manufacturers (OEMs) and companies associated with testing and certification of automobiles by calibrating and testing vehicles. **The testing agencies in India which are involved in this process are the International Centre for Automotive Technology (ICAT) and the Automotive Research Association of India (ARAI).** To match the global standards Reference Fuels has gone through three levels of certification at Refinery Lab, Indian Oil R&D Centre and a globally recognized third-party lab, where they passed successfully.



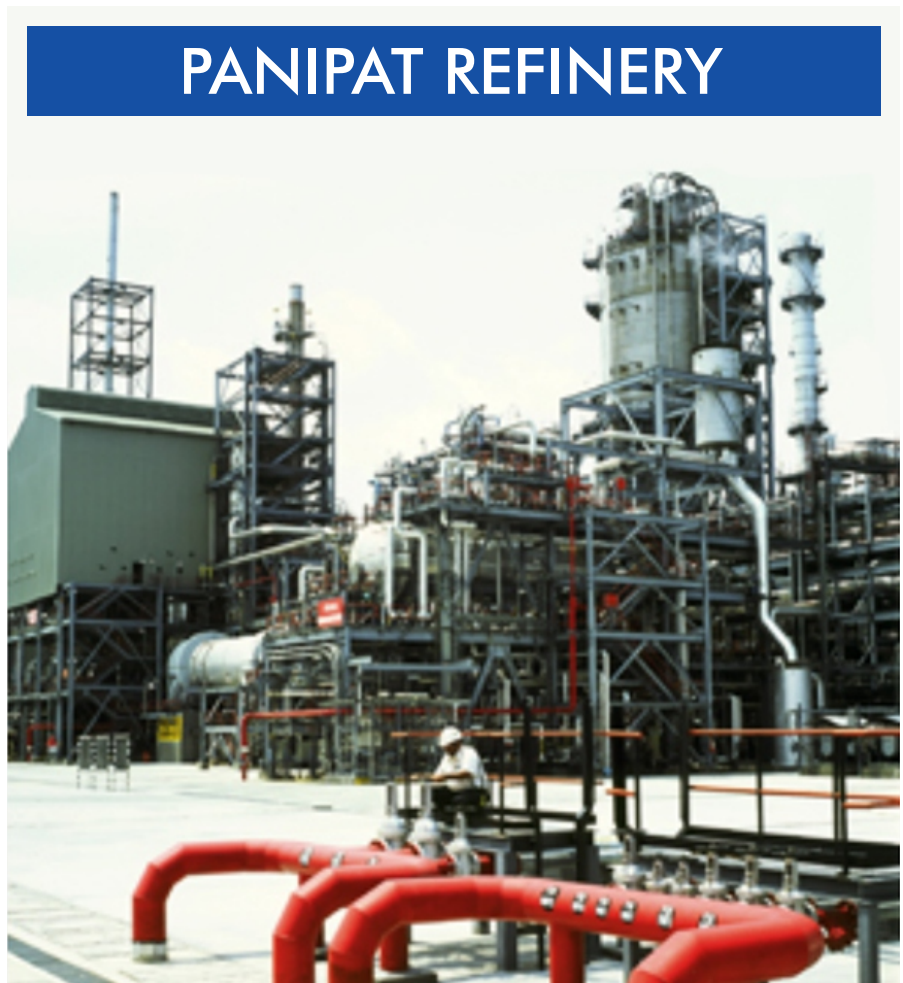
Source: <https://pib.gov.in/PressReleaseSelfframePage.aspx?PRID=1971475>

PARADIP REFINERY



Source: <https://iocl.com/our-locations>

The milestone achieved by India will decrease the dependency on fossil fuel imports. Now, it will give a competitive edge to India where it can trade off substituted fuels at convenient prices to the interested parties. The initiative will boost the growth of India's energy sector in the international market among the key players having a hold in Reference Fuels production. The newly developed product by Indian Oil is complimented by the Automotive Industry Standard (AIS) and is available at a reasonable price at a minimum cycle time. Now, **the Paradip refinery will produce Reference Gasoline fuels in versions E0, E5, E10, E20, E85, and E100 and the Panipat refinery will produce Reference diesel fuel in B7 grade.**



Source: <https://iocl.com/our-locations>

Strategies Adopted by MOP&NG for Energy Security

Diversification of energy supplies

Increasing India's exploration and Production footprint

Alternate energy sources and meeting energy transition through Gas based economy

Green Hydrogen and Evs

The launch of Reference Fuels by Indian Oil showcases the technological advancement India is reflecting to become a self-sufficient nation in the energy sector with the conducive policy formulation and implementation support by the Government of India and the R&D efforts put in the right direction.

India Addressed OPEC Crude Production Cuts Impacting Global Energy Landscape

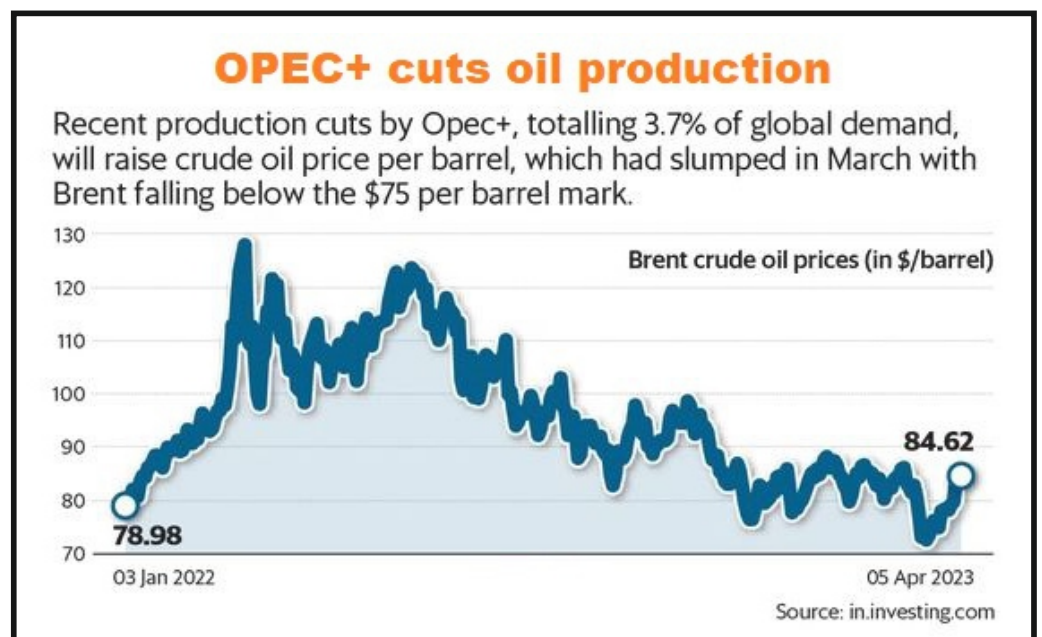
During the annual Abu Dhabi International Progressive Energy Congress (ADIPEC) 2023 on 03 October 2023, the Minister of Petroleum and Natural Gas had a mutual discussion with the Secretary-General (SG) of the Organization of the Petroleum Exporting Countries (OPEC), highlighting the impact of cutting down the crude production by OPEC at the global level



Source: https://www.opec.org/opec_web/en/

At the forum, the scenario of the energy sector at the international level was highlighted and it was mentioned that **around 60% of India's crude oil is imported from OPEC partners worth US\$ 101 billion along with additional petroleum products**. India pointed out the reduced availability of oil due to reduced production by OPEC and OPEC+ members applicable from August 2022. **This has resulted in the withdrawal of total worldwide oil obtainability from the market at around 5% witnessing a surging rise of crude oil at around 34% cent in the last 90 days** instead of the growing global demand for energy.

The prices propelled from approximately US\$ 72 per bbl in June 2023 to around US\$ 97 per bbl in September 2023 impacting the intake capacities of oil-importing countries at large. It is adding to the geopolitical calamity of 2022, which has fuelled the prevailing inflation in the global market that might lead to the risk of recession globally.



Source: <https://theiashub.com/free-resources/mains-marks-booster/global-oil-dynamics-opec-opec-and-indias-stand-for-equitable-pricing>

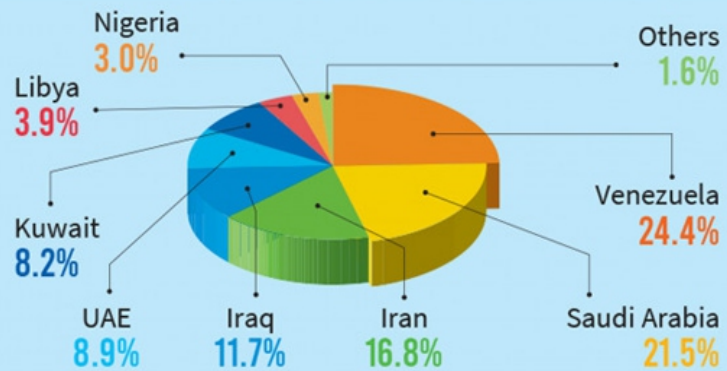
Here, India has highlighted the solutions to ensure the availability of energy at reasonable prices for economic stability and boost social status. The Indian government has played a vital role in supporting the Indian economy against rising prices in the energy sector. **In the present scenario of reduced production of oil by OPEC members around 100 million global citizens have been deprived of clean energy** and bound to use legacy fuels such as coal and firewood in the last one and a half years.

To maintain a sustainable global energy market and inflation worldwide OPEC was urged by the Indian government to evaluate its strategies for human well-being and support clean energy transition globally. The minister has also urged the oil-producing countries to reflect support in the prevailing economic situation by establishing a realistic, balanced and affordable oil market framework.

OPEC SHARE OF WORLD CRUDE OIL RESERVES, 2021

Non-OPEC
302 BIL barrels
19.6%

OPEC
1,242 BIL barrels
80.4%



Source: <https://www.tbsnews.net/sites/default/files/styles/infograph/public/images/2022/10/29/opec-share.jpg>

How AG Group Resources Can Help You

To revise your strategy with innovative solutions for the preparedness towards climate change [Click Here](#)

Introduction of Unified Registration Portal for GOBARdhan to Streamline Process of Compressed Bio-Gas and Gas Plants Across India

The Department of Drinking Water and Sanitation (DDWS) under the Ministry of Jal Shakti has announced the launch of a Unified Registration Portal to simplify the registration process of Compressed Bio-Gas (CBG) and biogas (BG) plants across the country.



Source: <https://gobardhan.co.in/>

Key Highlights

DDWS states that around 1163 biogas plants and 426 CBG plants have been registered on the portal to date, and are eligible to receive assistance through the Market Development Assistance (MDA) scheme under the DoF, MoC&F

New plants should be successfully registered on the portal and follow the guidelines of Fertilizer Control Order (FCO) for organic fertilizers essential for MDA eligibility.

The GOBARdhan initiative transforms biodegradable and organic waste into premium organic manure, biogas and CBG. It utilizes the property of bio-slurry to enrich soil condition, water retaining capacity and carbon content. When complemented with fertilizers it reduces the import of urea attaining viable agriculture and empowering farmers by minimizing dependence on expensive fertilizers.

MDA Scheme Highlights

Assistance of INR 1500/Metric tons will be given for the sale of Fermented Organic Manure (FOM)/ Liquid Fermented Organic Manure (LFOM)/ Phosphate Rich Organic Manure (PROM) created at BG and CBG plants.

Its objective is to advance production and intake of organic fertilizers from GOBARdhan plants.

MDA aims to promote broad adoption of organic manure reducing the dependency on chemical fertilizers or urea boosting savings for rurals.

MDA champions Integrated Nutrient Management, curbing chemical fertilizer overuse.

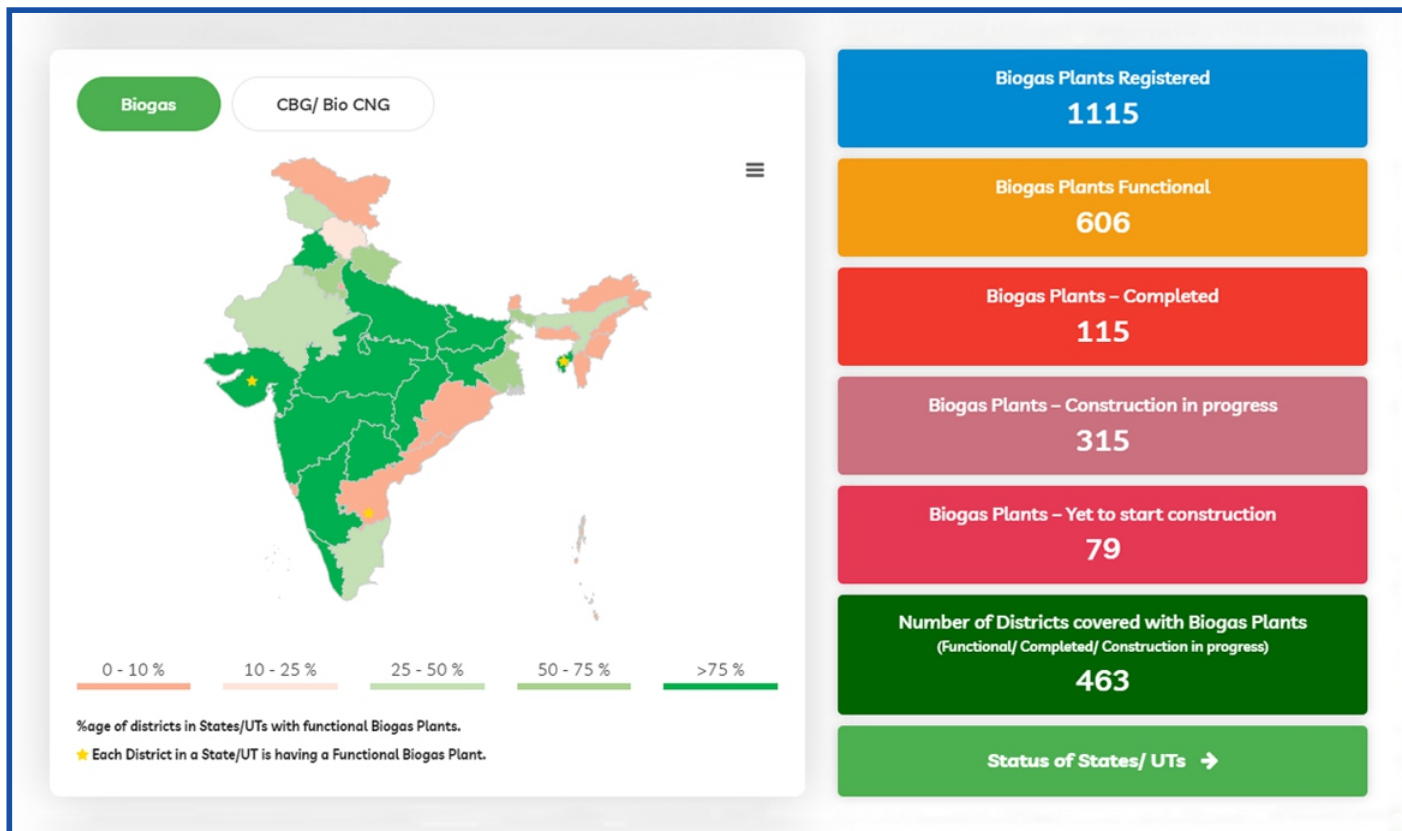
MDA scheme has a budget of INR 1451.82 Crore for three years (FY 2023-24 to FY 2025-26).

It assures financial status of the plants attracting private players for investment.

Successful marketing of organic manure will imbibe confidence in banking sector making the loan process seamless.

The registered **BG/CBG** plants via **Fertilizer Marketing Companies** can market the **by-products** such as **FOM/LFOM/PROM** either in **packed/loose/bulk** form from **October 2023 to March 2024 on an experimental basis**. The produced manure will go through stringent quality checks carried out at the government-recognized labs/ NABL-accredited private labs. Monetizing these products will boost the long-term sustainability of plants and attract new entries to the rapidly increasing **BG/CBG** industry for stakeholders and investors.

Bio Gas / Compressed Big Gas: Key highlights



Source: <https://gobardhan.co.in/>

The prevailing and upcoming policies in the **BG/CBG** ecosystem and the launch of the **Market Development Assistance (MDA)** scheme by the Government of India will witness a tremendous transformation in producing fertile land for farming, effective waste management and optimising such plants for attracting investments.



Strategic Petroleum Reserve Programme' to Increase Storage Capacity of Crude Oil

India's SPR Indian Strategic Petroleum Reserves Ltd. (ISPRL) was created in 2004 as a Special Purpose Vehicle (SPV) under the Ministry of Petroleum and Natural Gas (MOP&NG). On 3rd August 2023, the ministry disclosed the current details about India's Strategic Petroleum Reserve

(SPR) Programme. **The SPR is a large reservoir of crude oil, built underground are owned by the countries to ensure a consistent supply of crude oil during geopolitical crises or disturbed supply.** It plays a significant critical role in the development and growth of a nation by ensuring a steady supply of energy resources in times of distress.



Indian SPR Sites

The total capacity of the prevailing underground SPR sites is 5.33 million Metric Tonnes (MMT) of crude oil present in Andhra Pradesh and Karnataka states.

Mangaluru, Karnataka - 1.5 MMT capacity

Padur, Karnataka - 2.5 MMT capacity

Visakhapatnam, Andhra Pradesh - 1.33 MMT capacity

As a result of low crude oil prices in April/May 2020, India grabbed the opportunity and filled the SPR reservoir to its full capacity witnessing significant savings of nearly Rs. 5000 crores for the nation. The GoI in July 2021 announced the setting up of 2 new commercial-cum-planned SPR sites in addition to the existing ones. These new sites with a total capacity of 6.5 MMT will operate under a Public Private Partnership (PPP) mode. Once the Concession Period of sixty years ends the SPR and related infrastructure like Single Mooring Points (SPMs) and pipelines in offshore and onshore will be transferred to the Government of India. The entire setup will belong to GoI and in case of oil shortage, it will have the first right to use it.

Various global companies such as M/s Lloyd's Register, Petro China, Monnet, Hyundai, Shell, etc have shown interest in the second phase of the SPR projects in India. The SPR programme and its expansion plans will ensure energy stability for the country to withstand odd situations. It will fuel up the smooth and seamless economic and industrial operations complemented by the presence of robust petroleum reserves to sustain the uninterrupted future growth of the Indian economy.

Upcoming SPR sites in India

Chandikhol, Odisha - 4 MMT capacity

Padur, Karnataka - 2.5 MMT capacity



How AG Group Can be a Help

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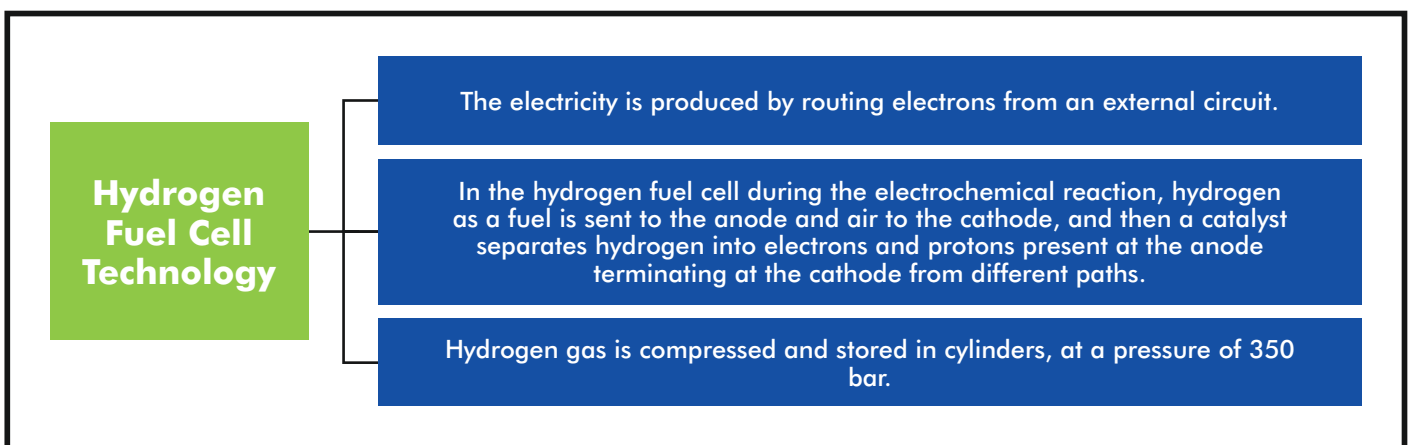
Ministry of Petroleum & Natural Gas Revolutionizing e-Mobility Paradigm with India's First Green Hydrogen Fuel Cell Bus

The Union Minister of Petroleum & Natural Gas and Housing and Urban Affairs flagged the **first Green Hydrogen Fuel Cell Bus on 25 September 2023 at Kartavya Path in Delhi to promote e-mobility towards achieving a sustainable ecosystem with the help of green energy.**



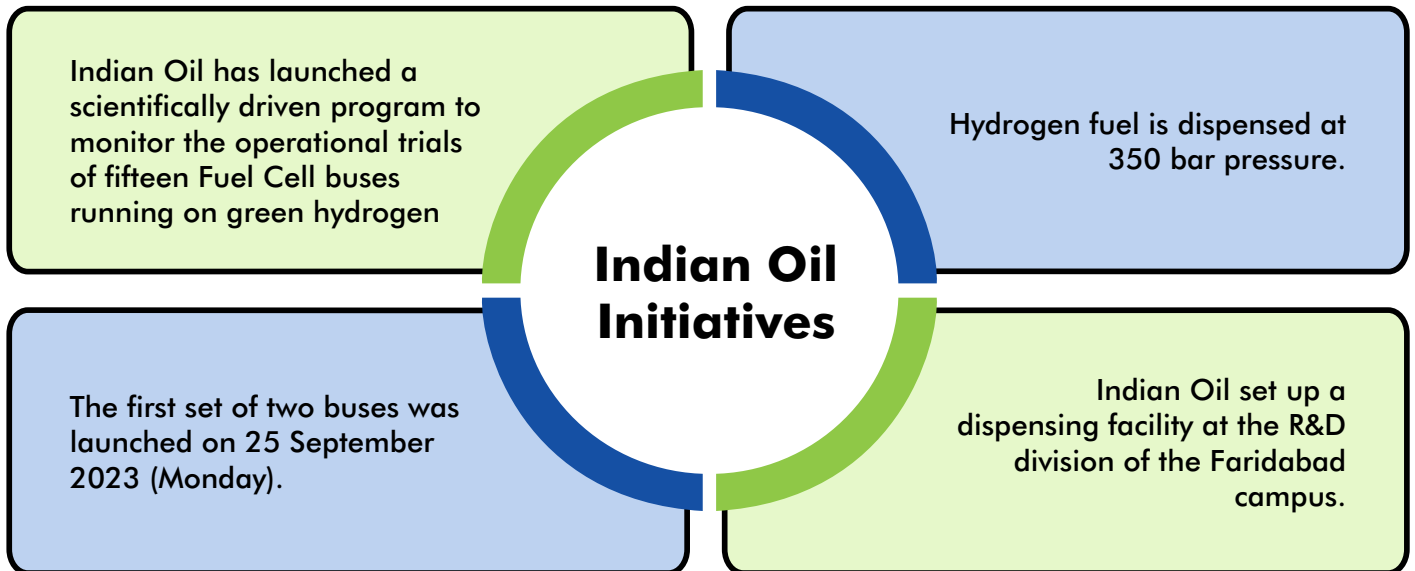
Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=1959824#:~:text=Under%20this%20program%2C%20first%20set,to%20operate%20fuel%20cell%20buses.>

Green hydrogen has the potential to play a significant role in having low-carbon and self-sufficient financial pathways. It can utilize the renewable energy resources available in the country in enormous amounts across diverse regions, sectors and seasons. It can be used directly as a fuel or raw material in the industries being used for different purposes. **It can replace fossil fuel-extracted raw material in sectors of steel manufacturing, petroleum refining, fertilizer production etc.**



In the field of e-mobility, Fuel cell technology is witnessing a rising trend. The advanced research states that Hydrogen is a valuable element that can be used as Fuel Cells. Fuel cell technology is regarded as one of the

most efficient choices available in the e-mobility sector. **Vehicles running on hydrogen fuel cells have the inbuilt advantages of higher running range and minimized refuelling time in comparison to battery-operated e-vehicles.**



The trial will study the collected data and aggregate mileage of more than three lakh km for the assessment of durability and performance in the long run to support the future of hydrogen-based zero-emission transportability in India. These cumulative data from the trials will boost India's commitment to net zero emission at the global platforms and showcase its unfailing commitment towards clean energy transition.



By adopting appropriate production methods and addressing methane leaks during production, upgrading, and supply stages, biogas can offer India a cleaner alternative to its reliance on imported natural gas. A key step will be to guarantee the off take of Compressed Bio Gas by various natural gas-using industries to expedite the achievement of decarbonization goals. The introduction of take-or-pay arrangements will be a significant move in this direction.

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