

## AFTER NTPC'S DECISION TO SHELVE LNG PROJECT

# Andaman Admin Urges Rethink on Plan to Build 50-MW Gas-based Unit

UT also asks Centre to weigh interconnection with mainland through a high-voltage DC line

**Shilpa Samant**

**New Delhi:** The Andaman & Nicobar Islands administration has reached out to the union power ministry to reconsider building a 50-MW LNG-based power plant in the union territory, the plan for which was shelved by Centre-owned NTPC Ltd last year citing commercial unviability and possible low utilisation.

The union territory has also asked the Centre to look at an alternative proposal of an interconnection through a high-voltage direct current (HVDC) line from the mainland, which was suggested while shelving the plan, people familiar with the development said. The plant was to cater to the electricity requirements of Port Blair and South Andaman under a scheme to green the island.

The latest request comes after the announcement of NTPC building another LNG plant for India's big ticket Great Nicobar Islands project.

Mails sent to NTPC, power ministry and Andaman & Nicobar Islands administration did not get any response till the time of filing the report.

The dropping of the project last year led to disruption in long term availability plans and capacity building to meet the growing demand in the region, one of the persons said.

The peak of 48 MW in Port Blair and South Andaman is being met through own units, power purchase agreements with some generators, solar projects and diesel generators.

"The reliance on multiple small units leads to frequent fluctuations



and power supply interruptions," the person said.

Moreover, complete reliance on solar projects does not augur well because of the intermittent supply and expensive storage systems.

The region wants a large power plant to ensure stability and reliability in the grid, the person said.

For the alternative that entails connection with the grid in the mainland, a feasibility study is yet to be made, the person added. The Centre has already been working on ways to electrify the proposed Great Nicobar Island international container terminal and transshipment port through green energy sources and gas-based power.

India plans to develop the proposed port at Galathea Bay in Great Nicobar Island of Andaman and Nicobar Islands as an international terminal and port. For the ambition, the island is likely to be connected with green power and gas-based electricity.



## BPRL wins 1st full production concession in Abu Dhabi

**MUMBAI:** Bharat Petro-Resources Limited (BPRL), a 100% subsidiary of Bharat Petroleum Corporation Limited (BPCL) and its Exploration and Production arm along with Indian Oil Corporation Limited (IOCL) acting jointly through a 50:50 Special Purpose Vehicle viz., Urja Bharat Pte Limited (UBPL) have been awarded a production Concession by The Supreme Council for Financial and Economic Affairs (SCFEA), Abu Dhabi.

This follows the award of the exploration and production concession to UBPL in March 2019, and the successful completion of the exploration phase, during which the company invested nearly \$164 million. The concession agreement covers a total area of up to 6,162 square kilometers, offering UBPL 100% concession rights. Initial exploration efforts have yielded positive results in Onshore Block 1, specifically within the 38 square kilometer Ruwais area.

The area includes conventional undeveloped oil and gas resources, and its development will contribute to Abu Dhabi's efforts to expand its hydrocarbon sector.

MPOST



# Climate change imminent, need to focus on new areas like Green Hydrogen: PM Modi

PIONEER NEWS SERVICE ■  
NEW DELHI

Prime Minister Narendra Modi on Wednesday stressed on the need to focus on new areas of energy transition like Green Hydrogen to deal with climate change saying it is not a matter of future rather it calls for an action now.

Addressing through a video message the 2nd International Conference on Green Hydrogen India 2024, the prime minister said, "There is a growing realisation that climate change is not just a matter of the future. The impact of climate change is being felt here and now. The time for action is also here and now."

He was of the view that energy transition and sustainability have become central to global policy discourse.

He noted that Green Hydrogen is emerging as a promising addition to the world's energy landscape and it can help in decarbonizing industries that are difficult to electrify. Refineries, fertilizers, steel, heavy-duty transportation -- many such sectors will benefit, he pointed out.

Green Hydrogen can also act as a storage solution for surplus renewable energy, he opined noting that India has already launched the National Green Hydrogen Mission in 2023. The event is to further the Green Hydrogen mission for which the government had allocated Rs 19,744 crore. "We want to make India a global hub for the production, utilization and export of Green Hydrogen," Modi said. The National Green Hydrogen Mission is giving an impetus to innovation,

infrastructure, industry and investment. "We are investing in cutting-edge research and development. Partnerships between industry and academia are being formed. Startups and entrepreneurs who are working in this domain are being encouraged," he added.

There is also a great potential for a green jobs ecosystem to develop. To enable this, we are also working on skill development for our youth in this sector, he stated. Modi stated that climate change and energy transition are global concerns. "Our answers also need to be global in nature. International partnership is critical for promoting Green Hydrogen's impact on decarbonization," he said.

Scaling up production, minimising costs and building infrastructure can happen faster through cooperation, he



opined. "We also need to jointly invest in research and innovation to push technology further. In September 2023, the G20 Summit happened in India. In this Summit, there was a special focus on Green Hydrogen," he stated.

Giving food for thought to scientists, he posed questions "Can we improve the effi-

ciency of electrolysers and other components in Green Hydrogen production? Can we explore the use of sea water and municipal waste water for production? How can we enable the use of Green Hydrogen in public transport, shipping, and inland waterways?" He was of the view that exploring such topics together will greatly

help green energy transition across the world.

On Paris commitments, he said that these were fulfilled 9 years ahead of the target of 2030. India's installed non-fossil fuel capacity increased nearly 300 per cent in the last 10 years, he noted.

"But we are not resting on these achievements. We remain focused on strengthening existing solutions. We are also looking at new and innovative areas. This is where Green Hydrogen comes into the picture," he said. Speaking on the occasion, New and Renewable Energy Minister Pralhad Joshi said with a wide variety of usage across fertiliser, steel, automobile, shipping and glass industries, Green Hydrogen will have plenty of opportunities to export.

"This expanding sector will bring over Rs 8 lakh crore in

total investments and generate employment for over 6 lakh people in the country," he said. Not only this, with the Green Hydrogen Mission, we are confident of reducing imports of natural gas and ammonia, there will be a total saving of Rs 1 lakh crore, he pointed out.

The Mission also provides support for mobility projects, shipping and ports projects, and low-carbon steel projects. It will lead to averting 50 MMT Carbon Dioxide emissions by 2030, he noted.

On electrolysers manufacturing, he said there was an overwhelming response from the bidders, as bids submitted were almost double of the tendered quantity. Around 3 GW annual manufacturing capacity has been awarded to 15 companies, and will be supported for a period of 5 years, he stated. Therefore, he said

the total manufacturing capacity to be incentivised under SIGHT (Strategic Interventions for Green Hydrogen Transition) will be 15 GW.

For Green Hydrogen Production, 4.12 Lakh TPA of Green Hydrogen production capacity has been awarded to 10 companies under the first tranche, he informed. The next tender for 4.5 Lakh TPA of Green Hydrogen production is currently live, he noted. With an additional quantum of 7.39 LTPA of Green Ammonia in the process, India is awarding incentives for Green Hydrogen production to more than a million tonnes per annum capacity, he noted.

The tender for Green Ammonia floated by India is the largest such tender floated in the world today, he pointed out.

# Crude oil prices decline below \$70; petrol, diesel unlikely to get cheaper

RAKESH KUMAR @ New Delhi

EVEN as crude oil prices declined below \$70 a barrel for the first time since December 2021, analysts believe that petrol and diesel prices in India are unlikely to come down anytime soon.

They indicated that oil marketing companies (OMCs) would prefer to see a sustained trend of lower crude prices for a longer period before making any decisions on domestic fuel prices.

"Oil marketing companies would possibly like to see sustenance of the trend of lower crude prices for longer before they take a call on prices," said Prashant Vasisht, VP & co-head, corporate ratings, ICRA.

Brent Crude Future prices dropped below \$70 a barrel on Tuesday, triggered by OPEC+'s downward revision of its demand forecast. Though the prices rebounded early on



Wednesday, they fell below the \$70 mark. Brent crude futures was trading at \$69.68 a barrel and US West Texas Intermediate (WTI) crude at \$66.37 at 7.56 PM IST.

"Crude oil prices have been depressed owing to repeated instances of increasingly weak demand from China even as US production is high at over 13 million barrels a day. Additionally, OPEC+ has extended oil production cut by two months leading to fears that

there is disagreement on further production cuts leading to a bearish scenario. It is unclear whether this is a short term phenomenon as OPEC+ may after all increase cuts which could lead to increase in prices," said Vasisht.

Indian oil Marketing companies have made revision of the prices of petrol and diesel across the country in March 2024 by ₹2 per litre.

Now, the elections approaching in Haryana and Jammu & Kashmir; there is speculation that oil marketing companies might consider reducing fuel prices. Moreover, Indian oil marketing companies, including Indian Oil Corporation Ltd (IOCL), Bharat Petroleum Corporation Ltd (BPCL), and Hindustan Petroleum Corporation Ltd (HPCL), have reported significant profits in recent quarters, with a combined consolidated net profit of ₹7,371 crore in the first quarter of this fiscal.



# Domestic solar cell capacity to reach 35 GW by March '25

ARUNIMA BHARADWAJ  
New Delhi, September 11

**SOLAR CELL CAPACITY** addition, which has so far been sluggish, is likely to grow significantly in the coming years with expected government policy measures.

The government, which recently proposed guidelines to include solar cells under the Approved List of Models and Manufacturers (ALMM), is expecting the domestic capacity of solar cells to grow to 35 gigawatt (GW) by March 2025.

The ministry of new and renewable energy is also planning to finalise new rules detailing an ALMM for solar PV cells next month, renewable energy secretary Bhupinder Singh Bhalla told reporters on the sidelines of the second edition of the International Conference on Green Hydrogen.

"There is going to be significant capacity addition in the coming months. We expect 35 GW capacity by March 2025, which is way earlier than the



Union ministers Pralhad Joshi and Hardeep Singh Puri inaugurate the second edition of the International Conference on Green Hydrogen in New Delhi on Wednesday ANI

implementation date of April 1, 2026 for ALMM order (for solar cells)," Bhalla said.

ALMM is a list of the models and manufacturers from which solar project developers can buy required equipment from. At present, ALMM has been imposed for solar modules to encourage local manufacturing.

"With installed capacity of solar PV cells in the country expected to increase substantially in the next two years, it

has been proposed to issue List-II of solar PV cells under ALMM, which shall be effective from 01.04.2026," the ministry had said in its notification.

In the calendar year 2023, the country added 20.8 GW of solar module manufacturing capacity and 3.2 GW of solar cell capacity, according to a recent report by Mercom India Research. The country's cumulative module manufacturing capacity as of December 2023

stands at 64.5 GW. Solar cell manufacturing capacity reached 5.8 GW till December 2023. The report forecasts India's module manufacturing capacity to exceed 150 GW by 2026 and that of solar cells to reach 75 GW.

Talking about the green hydrogen initiatives in the country, the secretary informed that the projects with a combined capacity of 7.5 million tonne per annum have been announced against the target of 5 million tonne per annum by 2030 under the national green hydrogen mission.

Since its last edition of the conference, the country has awarded approximately 3,000 megawatt (MW) of electrolyser manufacturing capacity and 412,000 tonne per annum capacity for green hydrogen production, the government said. It has also issued tenders for 450,000 tonne per annum of green hydrogen capacity and 739,000 tonne per annum of green ammonia production.

## Engineers India eyes more orders from Middle East

### Our Bureau

New Delhi

Vartika Shukla, Chairman of the State-run Engineers India (EIL), stated on Wednesday that the engineering and project management consultancy (PMC) firm has nearly doubled its private sector business, leveraging its six decades of experience in India and abroad.

The leading project management consultancy (PMC) in the oil and gas sector has diversified its portfolio across infrastructure, crude oil storage, fertilizers, ports, LNG, coal gasification, defence, renewables and clean energy in the past few years, aiding the Navratna company to enhance revenue streams.

“In terms of order inflow, we were working at 10-12 per cent business in-flow from private sector. Today, we have 20 per cent business. With the volume of work, the business in-flow that we have is substantial in terms of absolute value.

“In FY21, from the private sector, we had an inflow of around ₹233 crore and in FY24, we had an inflow of

about ₹650 crore,” Shukla told reporters.

As of March 31, 2024, EIL’s order book stood at ₹7,823 crore. In the current fiscal year, the CPSU has already secured new business worth ₹4,681 crore.

As on August 31, its order book has expanded to around ₹11,350 crore.

### TAPPING OVERSEAS BIZ

The EIL chairman emphasised that the company is aggressively tapping business opportunities overseas.

It has secured ₹499 crore in new contracts and re-entered Algeria and Kuwait.

The company is bullish on business prospects with the UAE, which is increasingly patterning with India to enhance trade relations.

EIL’s unit in the UAE is profitable and the company is “hopeful” to secure assignments, both small and big, from ADNOC, she added.

“We had ₹32 crore business inflow from Abu Dhabi in FY22 and last year (FY24) we had a business of ₹146 crore. This year (FY25), we already have an inflow of about ₹141 crore,” Shukla said.



### **Engineers India in talks with Green Power Developers for Offshore Wind Projects**

State-run Engineers India Ltd (EIL) is exploring opportunities in the offshore wind space and is in talks with green power developers to design and develop offshore wind structures in India. Addressing the media on Wednesday, EIL's CMD Vartika Shukla said the company has revived its offshore division and expects to take up several projects within next year. EIL has extensive experience in developing offshore oil and gas projects, including Mumbai High and other fields on India's west and east coasts. EIL's CMD highlighted the company's green business portfolio, including its role in implementing one of India's largest biorefinery projects for Assam Biorefinery Private Limited (ABRPL), which is nearing completion. EIL is leading development of a pre-feasibility report for a 2G Ethanol (bamboo-based biorefinery) project for Numaligarh Refinery Ltd in Meghalaya.



# Expert panel to examine issue of compressed biogas plants

**RUCHIKA M KHANNA**  
TRIBUNE NEWS SERVICE

**CHANDIGARH, SEPTEMBER 11**

The Punjab Government has offered to form an expert committee to examine all issues related to the compressed biogas plants (CBG) that have drawn the ire of some farmer unions.

The committee will be formed in the next 10 days and will comprise experts from health, agriculture and environmental sciences. They will study the health and environmental aspects of the compressed biogas plants and come up with their findings soon, New and Renewable Energy Minister Aman Arora told *The Tribune*.

The decision to form the committee was taken at a meeting of 34 representatives of the Cancer Gas Factories Coordination Sangharsh Committee headed by its coordinator Sukhdev Singh and drug scientist BS Aulukh, with a Cabinet sub-committee today. Aulukh later told *The Tribune* that their representa-



Farmers protest against a CBG plant in a Ludhiana village. FILE PHOTO

tives would also be part of the expert committee.

Farmers and residents in areas where the plants are being set up have been opposing the move due to the fear that the chemicals released during the making of CBG could be carcinogenic and could enter the food chain, afflicting more people with cancer.

In some cases, where the press mud is used as raw material, the residents have objected to the foul smell originating due to its use, making lives of people liv-

ing in the vicinity difficult.

For the past four months, dharnas are being organised by farmers and residents outside four plants in Ludhiana and one each in Jalandhar and Hoshiarpur. While some plants are under construction, some have already become operational, but have been forced shut.

This has put on hold the government plans to move towards ex-situ stubble management ahead of the paddy harvesting, blocking investment worth hundreds of crores.



# Falling crude oil price spurs profit booking in markets

**RAVI RANJAN PRASAD**  
MUMBAI, SEPT. 11

Market saw last hour profit taking on weak global cues amid falling crude oil price stoking global economic recession fears and ahead of US inflation data release that would impact US Fed decision on interest rate next week.

Last day bidding opportunities in Bajaj Housing Finance, Kross and Tolins Tyres initial public offerings (IPOs) also seem to have triggered broad based profit booking which closed with record subscriptions (63 times).

Other IPOs of P N Gadgil Jewellers and Kross also got subscribed 7.86 times on second day and 16.72 times on first day with investors focus turning to primary market for higher returns.

Nifty-50 and Sensex fell close to half a per cent at market close. The Nifty-50 closed at 24,918.45 falling 122.65 points or 0.49 per cent while Sensex shed 398.13 points or 0.49 per cent to close at 81,523.16.

BSE mid-cap index down by 0.52 per cent and BSE small-cap index down by



0.57 per cent.

"Crude oil prices fell to their lowest levels since Nov. 2021 after OPEC slashed its global crude oil demand outlook for the second consecutive month, which is positive for India and crude-dependent sectors like OMCs, paints, aviation," said Siddhartha Khemka, head - Research, Motilal Oswal Financial Services.

Foreign portfolio investors were net buyers of equities worth ₹1,755 cr while domestic investors bought equities worth ₹230.90 crore indicating retail investors profit taking for application in IPOs.

"Market sentiment remained cautious due to the slowdown in Chinese economy. Investors await the release of US CPI and domestic inflation data," said Vinod Nair, head - Research, Geojit Financial Services.

# Govt has the leeway to cut oil prices

The ebb in oil markets is a bonanza for India, which buys over 85 per cent of its fuel from abroad



**SUSHMA RAMACHANDRAN**  
SENIOR FINANCIAL JOURNALIST

It was just about a year ago that global investment bank Goldman Sachs predicted that world crude oil prices would touch \$100 per barrel by the end of 2024. The forecast rattled emerging economies like India that are large importers. Luckily for them, the prediction has gone way off the mark. Oil prices have fallen by about 20 per cent over the past year with the benchmark Brent crude currently ruling around \$70-72 per barrel. The turnaround has taken place despite a grim geopolitical environment, with the Russia-Ukraine war and the Israel-Hamas conflict showing little signs of ending.

Oil markets have clearly factored in the fact that neither are likely to disrupt supplies even though Russia remains the third largest crude oil producer in the world. Its production is still flowing into major consumption areas despite sanctions imposed by Western countries. Many European countries, including Poland, Finland, Hungary and even Germany, continue to buy oil and petroleum products from Russia, though the amount has reduced considerably. In addition, the European Union makes sizeable purchases of products like gasoline and diesel from Indian refineries using Russian crude.

As for the West Asian conflict, it has disrupted international trade flowing through the Red Sea and Suez Canal owing to the depredations of Yemen-based Houthi rebels. Traversing these inlets has been made dangerous for merchant vessels, many of which are now taking the long



**UPBEAT:** Oil marketing companies are flush with funds, having ended the 2023-24 financial year with around Rs 81,000 crore of combined profits. TRIBUNE PHOTO

and expensive route via the Cape of Good Hope. But it has not affected availability of crude and natural gas supplies from the region, and they are continuing to reach consumers through both sea and land routes.

It is thus a variety of other factors that have led to the bearish trend in oil prices over the past year. One of the most significant is weakening global demand, especially from the world's biggest importer, China. Economic woes are continuing in that country as the manufacturing sector contracted for the fourth month in a row. Over the past year, there has been an expectation that the economy would revive and the real estate sector would come out of the doldrums. Such a scenario seems distant now and multinationals are slowly withdrawing from the second largest global economy which is now producing more than the rest of the world can absorb. China recorded a 5.2 per cent growth rate in 2023, but the World Bank has projected that it will touch only 4.8 per cent in 2024. The slowing economy has, in turn, led to a cut in oil imports.

Another factor contributing to

Prices of oil products are usually raised when global prices go up but are rarely reduced commensurately when rates fall.

softening prices has been rising output in the US, which has emerged as the world's largest crude producer. In fact, countries outside the Organisation of Oil Exporting Countries (OPEC) cartel are expected to lead output growth this year. This has largely offset the voluntary production cuts of 2.2 million barrels per day imposed by OPEC Plus since last year. These were expected to be lifted last week but with markets remaining relentlessly bearish, the cartel

decided to extend the cuts for some more time. Even this news failed to perk up prices which rose slightly and then fell again to reflect the surplus availability in the market.

The ebb in oil markets has come as a bonanza for India, which buys over 85 per cent of its fuel from abroad. Ever since the Ukraine-Russia war began in February 2022, prices have remained volatile. But India was able to get Russian crude at discounted rates which helped tide over the crisis of high prices during that year. The recent declining trend has meant that the Indian basket of crudes has fallen from \$89 per barrel in April to \$72 currently. The significance of this decline can be gauged from the rough estimate that every \$10 rise in oil prices leads to a 0.5 per cent increase in the current account deficit.

In this upbeat scenario, the government has the leeway to cut prices of petroleum products like petrol, diesel and LPG to bring some relief to the common man. With several states going to the polls later this year, it would also be a pragmatic political move. A similar measure

was taken in March prior to the General Election. But the fact is that prices of oil products are usually raised by governments when global prices go up but are rarely reduced commensurately when prices fall.

The resistance to raising prices also comes from oil marketing companies (OMCs), which have to bear the brunt when international prices go up and retail rates are kept static. The situation is different now as the OMCs are flush with funds, having ended the 2023-24 financial year with roughly Rs 81,000 crore of combined profits. These include the flagship Indian Oil Corporation, Hindustan Petroleum Corporation Limited and the Bharat Petroleum Corporation Limited.

The oil companies would undoubtedly be worried that world markets may firm up yet again and they could end up struggling yet again with under-recoveries on product sales. For the time being, however, this does not look likely. The malaise in the Chinese economy, for instance, is not expected to show any significant improvement in the near future, indicating weakness in demand will continue for some time. The output, on the other hand, especially from non-OPEC producers, is rising consistently.

As a result, global investment banks are quickly revising their price forecasts. Morgan Stanley has brought its projection for the last quarter of 2024 to \$75 a barrel, while Goldman Sachs has kept to a safe range of \$70-85. Citigroup has gone further and predicted it to fall to \$60 in 2025. In other words, the moderation in oil markets is expected to continue in the medium term as well. The only scenario in which prices could conceivably shoot up would be a full-blown war in West Asia. In this backdrop, it seems conditions are as ideal as possible for domestic oil companies to go ahead with cuts in pump prices. The geopolitical scenario remains challenging, but it is a risk worth taking.





# Green hydrogen mission aiding innovation: PM

FC CORRESPONDENT  
WITH AGENCY REPORTS  
NEW DELHI, SEPT. 11

Prime Minister Narendra Modi on Wednesday stressed on the need to focus on new areas of energy transition like green hydrogen to deal with climate change saying it is not a matter of future rather it calls for an action now.

Addressing through a video message the 2nd international conference on green hydrogen India 2024, the Prime Minister said, "There is a growing realisation that climate change is not just a matter of the future. The impact of climate change is being felt here and now. The time for action is also here and now."

Noting that green hydrogen is emerging as a promising addition to the world's energy landscape, the Prime Minister said that it can help in decarbonizing industries which are difficult to electrify. He pointed out that refineries, fertilizers, steel, heavy-duty transportation - many such sectors will benefit.

Modi also suggested that green hydrogen can be used as a storage solution for surplus renewable energy. Reflecting on the national green hydrogen mission launched in 2023, the Prime Minister outlined India's goals to make it a global hub for production, utilisation and export of green Hydrogen.

"The national green hydrogen mission is giving an impetus to innovation, infrastructure,



● **REFLECTING ON the national green hydrogen mission launched in 2023, the Prime Minister outlined India's goals to make it a global hub for production, utilisation and export of green Hydrogen.**

industry and investment," he said. The Prime Minister highlighted the investments in cutting-edge research and development, partnerships between industry and academia and encouragement for start-ups and entrepreneurs of the domain.

He mentioned that there is also a great potential for a green jobs ecosystem to develop.

Meanwhile, Narendra Modi said resilience of supply chains is critical for economy as he made a pitch to boost investments in domestic manufacturing of semiconductors - the foundation of everything from smartphones to electric vehicles and AI.

Speaking at the SEMI-CON 2024 conference, the Prime Minister said the Covid pandemic showed the importance of the supply chain and underscored the need to act to ward off any disruption.

# India's green hydrogen revolution: Paving the way for a sustainable energy future

## Green hydrogen is emerging as a powerful alternative fuel, offering a clean and versatile energy source produced through renewable means

The entire world grapples with the dire consequences of climate change and desperately searches for sustainable and clean energy sources. Green hydrogen, a powerful alternative fuel produced using renewable energy, has emerged as a viable alternative.

Now, in India, the green hydrogen revolution is gaining momentum, with the government, private sector, and start-ups playing pivotal roles in positioning the country as a global leader in this transformative technology. In recent years green hydrogen, produced through electrolysis powered by renewable energy sources like solar and wind, has gained significant attention.



ARIF **AGA**

The National Hydrogen Energy Roadmap, introduced in 2006, marked the first formal effort by the government to explore hydrogen's potential in India. Since then, technological advancements and a growing commitment to renewable energy have laid a solid foundation for the green hydrogen revolution. India faces immense pressure to decarbonize its energy systems

due to its heavy dependence on fossil fuels and huge carbon emissions. Green hydrogen can serve as a versatile energy carrier, with applications ranging from industrial processes and transportation to power generation and storage.

Unlike grey or blue hydrogen, which is produced from fossil fuels and involves carbon emissions, green hydrogen is entirely clean, thus aligning with global sustainability goals. India's vast renewable energy resources, particularly solar and wind, make it an ideal location for large-scale green hydrogen production.

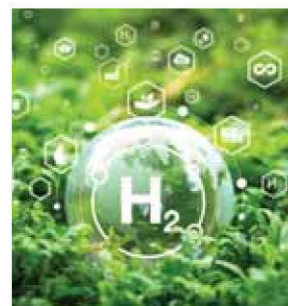
The International Energy Agency (IEA) has noted that India's renewable energy capacity could provide the

low-cost electricity needed for green hydrogen production, potentially making it one of the most cost-effective producers in the world.

Recognizing the strategic importance of green hydrogen, the Union Government has implemented a series of policy measures to promote its development and adoption.

To make the country a global hub for green hydrogen production and export, the Indian government launched its ambitious National Hydrogen Mission in 2021. The mission focuses on creating demand in various sectors, ensuring supply chain resilience, and supporting research and development in hydrogen technologies.

Key policy incentives include



subsidies and financial support for pilot projects, the development of hydrogen hubs, and mandates for industries to use green hydrogen in their operations.

This proactive approach has started giving positive results now. However, there is a need to create a robust regulatory framework to facili-

tate the use of hydrogen as a fuel in multiple sectors, including refining, fertilisers, and transportation.

India's commitment to achieving net-zero carbon emissions by 2070, as announced at the COP26 summit. Green hydrogen is expected to play a crucial role in this journey by decarbonizing hard-to-abate sectors like steel, cement, and petrochemicals.

The transition to green hydrogen could also reduce India's dependence on imported fossil fuels, enhancing energy security and providing a significant economic boost.

Indian conglomerates and big private businesses have been quick to recognize the potential of green hydrogen

and are making substantial investments in this area.

Investments are being made for setting up hydrogen production units and integrating hydrogen fuel cells into transportation. Start-ups in the energy sector are also focusing on developing and deploying electrolyzers, creating robust hydrogen storage solutions, and innovating in the transportation sector with hydrogen fuel cell technology.

International collaborations will be instrumental in bringing global best practices to India and accelerating the green hydrogen revolution. India has actively sought to collaborate with Germany, Japan, Australia, and the European Union, forging partnerships to develop joint

ventures, share technology, and build capacity.

The green hydrogen revolution in India represents a unique opportunity to transform the country's energy landscape and lead the global transition towards a sustainable future.

With strong government support, proactive efforts by the private sector, and dynamic innovation from start-ups, India embarks on a journey to become a green hydrogen powerhouse. To achieve the target of net-zero emissions, green hydrogen would play a pivotal role in shaping India's energy future and driving global sustainability efforts.

*(The writer is director, SgurrEnergy India; views are personal)*





# Modi unveils plan to make India a global green hydrogen hub

**Our Bureau**  
New Delhi

Prime Minister Narendra Modi on Wednesday said that India aims to become a global hub for the production, utilisation and export of green hydrogen.

In his virtual address at the inaugural session of the 2<sup>nd</sup> International Conference on Green Hydrogen India 2024, the Prime Minister emphasised the critical need

to work on technologies for energy transition, such as green hydrogen.

“We want to make India a global hub for the production, utilisation and export of green hydrogen. The National Green Hydrogen Mission is giving an impetus to innovation, infrastructure, industry and investment. We are investing in cutting-edge R&D,” Modi said.

Partnerships between industry and academia are being formed. Start-ups and entrepreneurs working in

this domain are being encouraged. There is also great potential for a green jobs eco-system to develop. To enable this, India is also working on skill development for our youth in this sector, he added.

## **KEY BENEFITS**

Green hydrogen can help decarbonise industries that are difficult to electrify. Refineries, fertilizers, steel, heavy-duty transportation and many other sectors will benefit. It can also act as a stor-

age solution for surplus renewable energy, he noted.

Minister of New and Renewable Energy Pralhad Joshi also emphasised that green hydrogen presents “plenty of opportunities” to export. “This expanding sector will bring over ₹8 lakh crore in total investments and generate employment for more than 6 lakh people in the country. With the Green Hydrogen Mission, we are confident of reducing imports of natural gas and ammonia, there will be a total

saving of ₹1 lakh crore,” he noted.

On electrolysers manufacturing, he said there was an overwhelming response from bidders, with bids being almost double the tendered quantity. Around 3 GW annual manufacturing capacity has been awarded to 15 companies, and will be supported for a period of 5 years, the Minister said. The total manufacturing capacity to be incentivised under Strategic Interventions for Green Hydrogen Transition will be 15

GW. Around 4.12 lakh tonnes per annum (ltpa) production capacity has been awarded to 10 firms in the first tranche. The next tender for 4.5 ltpa production is currently live.

With an additional quantum of 7.39 ltpa of green ammonia, India is awarding incentives for green hydrogen production to more than a million tonnes per annum capacity. The tender for green ammonia floated by India is the largest such tender globally, he added.

# Modi: Green hydrogen key to deal with climate change

*PM outlines govt's goal to make India global hub of green hydrogen*

**AGE CORRESPONDENT**  
NEW DELHI, SEPT. 11

Prime Minister Narendra Modi on Wednesday stressed on the need to focus on new areas of energy transition like green hydrogen to deal with climate change, calling it not a matter of future, but a call for an instant action.

Addressing the "2nd International Conference on Green Hydrogen India 2024" via video conferencing, the PM said, "There is a growing realisation that climate change is not just a matter of future. The impact of climate change is being felt here and now. The time for action is also here and now."

Noting that green hydrogen is emerging as a promising addition to the world's energy landscape,



Prime Minister Narendra Modi, Union minister of electronics and information technology Ashwini Vaishnaw and Uttar Pradesh chief minister Yogi Adityanath during the inauguration of Semicon India 2024 in Greater Noida, Uttar Pradesh, on Wednesday.

— PTI

Mr Modi said it could help in decarbonising industries that are difficult to electrify. He pointed out that refineries, fertilizers and steel, and heavy-duty transportation — many

such sectors would benefit from it. He also suggested that green hydrogen could be used as a storage solution for surplus renewable energy. Reflecting on the "National Green

Hydrogen Mission" launched in 2023, the PM outlined India's goals to make it a global hub for the production, utilization and export of green hydrogen. "The National Green Hydrogen Mission is giving an impetus to innovation, infrastructure, industry and investment," Mr Modi said.

The PM highlighted the investments in cutting-edge research and development, partnerships between industry and academia, and encouragement for start-ups and entrepreneurs of the domain.

He mentioned that there is also a great potential for a green jobs ecosystem to develop. "To enable this, we are also working on skill development for our youth in this sector," Mr Modi said.



# NCLAT Pulls Essar Oil Out of Insolvency Resolution

**Our Bureau**

**Mumbai:** The National Company Law Appellate Tribunal (NCLAT) has suspended a lower tribunal order that admitted Essar Group entity, Essar Oil and Gas Exploration and Production Ltd, under corporate insolvency resolution process (CIRP). A division bench of Justice Ashok Bhushan and technical members Barun Mitra and Arun Baroka Tuesday held that the Section 9 application has been used as a recovery mechanism,

which is not permissible under the Insolvency and Bankruptcy Code (IBC).

Section 9 of IBC allows operational creditors to initiate CIRP by filing an application with the adjudicating authority



“Appellant (Essar Oil and Gas Exploration) is a healthy company, which has a turnover of ₹800 crore and about 425 employees,” observed the appellate tribunal. “Section 9 application ought not to have been admitted by the adjudicating authority and the adjudicating authority has in the order although noticed

the settlement but has not appropriately dealt with the settlement.”

The appellate tribunal will hear the matter further on November 6.

In a statement, an Essar Group spokesperson said the appellate tribunal has noted its submissions that all the amounts under the settlement agreement have been paid. “Our commitment to honouring our financial mandates remains steadfast,” said the spokesperson. “The suspension will provide us to... focus on our core operations and ensure that our business activities continue without disruption.”

# New ₹10,900 crore subsidy scheme for EVs to skip cars

PM E-Drive, announced by the govt on Wednesday, will aim to boost adoption of e-buses

Alisha Sachdev  
alisha.sachdev@livemint.com  
NEW DELHI

**T**he Centre on Wednesday announced a ₹10,900 crore electric vehicle (EV) subsidy scheme, the PM E-Drive, marking the third phase of the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) policy that has subsidized the purchase of over 1.6 million EVs in India since 2015.

The new scheme will aim to boost adoption of electric buses, and brings the curtains down on subsidies for electric and hybrid cars. The PM E-Drive scheme will give demand incentives to deploy 14,028 electric buses, demand for which will be aggregated across nine major cities by Convergence Energy Solutions Ltd (CESL), a state-run company. With a ₹10,000 subsidy per kilowatt-hour of battery capacity for each bus at a total outlay of ₹4,391 crore, public transport buses form the largest segment of the subsidy outlay.

The E-Drive scheme will also aim to develop an extensive charging infrastructure.

Apart from electric buses, ₹2,679 crore will be set aside to subsidize 2.48 million electric two-wheelers and 316,000 electric three-wheelers.

Additionally, ₹500 crore each has been earmarked for electric trucks and hybrid ambulances, aiming to drive EV adoption in critical service sectors and the commercial vehicle segment for the first time.

“For ambulances, we are going to give incentives to hybrids because we need total reliability in the vehicles”, Ashwini Vaishnav, Union Minister for information and broadcasting said at a Cabinet briefing.

For trucks, the scheme will offer



Apart from electric buses, ₹2,679 crore will be set aside to subsidize 2.48 million electric two-wheelers and 316,000 electric three-wheelers.

incentives only to those who have a scrapping certificate from vehicle scrapping centres approved by the road ministry.

While FAME-II extended incentives for electric cabs, the Electric Mobility

likely to miss out on subsidies under the scheme.

Charging infrastructure development also receives a major push, with ₹2,000 crore to support the installation of 22,100 fast chargers for e-four-

ernment also announced a payment security mechanism fund of ₹3,435 crore for 38,000 electric buses, which will reduce financial risks for bus operators and promote the electrification of public transportation networks.

“MHI is introducing e-vouchers for EV buyers to avail demand incentives under the scheme. At the time of purchase of the EV, the scheme portal will generate an Aadhaar authenticated e-Voucher for the buyer. A link to download the e-voucher shall be sent to the registered mobile number of the buyer,” a release by the Union ministry of heavy industries said. *Mint* had reported on 8 September that the government is looking to put its mark on its EV subsidy scheme, to make the role of the central government funds in making EVs more affordable to the buyer.

“This e-voucher will be signed by the buyer and submitted to the dealer to avail demand incentives under the scheme. Thereafter, the e-Voucher will also be signed by the dealer and uploaded on the PM E-DRIVE portal. The signed e-voucher shall be sent to the buyer and dealer through an SMS.

The signed e-voucher will be essential for OEM (original equipment manufacturer) to claim reimbursement of demand incentives under the scheme”, the MHI release explained.

“This forward-thinking initiative reflects the government’s unwavering support for India’s transition to electric mobility, fostering innovation and investment within the sector. We believe this scheme will not only enhance the growth of the EV ecosystem but also strengthen India’s leadership in the global movement towards environmental sustainability,” Shailesh Chandra, president of the Society of Indian Automobile Manufacturers, said.

INCENTIVIZING SALES			
<b>THE</b> PM E-Drive scheme will give demand incentives to deploy 14,028 electric buses	<b>PUBLIC</b> transport buses form the largest segment of the new subsidy scheme’s outlay	<b>THE</b> PM E-Drive scheme will also aim to develop an extensive charging infrastructure	<b>A</b> payment security mechanism fund of ₹3,435 crore for 38,000 e-buses was also announced

Promotion Scheme (EMPS) that temporarily replaced it did not. The E-Drive scheme skips electric cars entirely, in an upset for Tata Motors Ltd, India’s largest electric car maker that had vigorously pushed for subsidizing electric cabs in the new scheme. *Mint* had reported in April that electric four-wheelers used in commercial fleets such as taxis were

wheelers, 1,800 fast chargers for e-buses and 48,400 fast chargers for e-two-wheelers and three-wheelers in select cities with high levels of EV penetration. In July, *Mint* had reported about the government’s plan to set aside ₹2,000 crore to expand charging infrastructure, critical to support the growing EV ecosystem.

In addition to the subsidies, the gov-





**OIL, OVL & KABIL sign MoU with IRH, UAE for Global cooperation in Critical Mineral supply chain: A Memorandum of Understanding (MoU) was signed between Indian entities comprising of OIL, OVL & KABIL and International Resources Holding RSC Ltd. (IRH), UAE on 10th September 2024 for global cooperation in Critical Mineral supply chain primarily with the objective of collaboration, identification, acquisition, and development of Critical Mineral projects on a global scale, including India.**

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## ONGC Videsh, OIL & KABIL sign MoU with IRH, UAE



On September 10, 2024, ONGC Videsh, a Schedule “A” Navaratna Central Public Sector Enterprise, along with Oil India Ltd. (OIL), and Khanij Bidesh India Ltd. (KABIL) signed a Memorandum of Understanding (MOU) with International Resources Holding RSC Ltd. (IRH), UAE, to collaborate globally on the critical mineral supply chain. The primary goals of this MoU are to identify, acquire, and develop Critical Mineral projects worldwide, including India. The parties aim to leverage their expertise, resources and networks to pursue mutually beneficial opportunities, achieve operational excellence, and secure a stable supply of critical energy minerals. The MoU outlines a cooperative and coordinated approach, focussing on project identification, joint due diligence, risk management, and developing a long-term offtake strategy.



## ONGC, OIL, KABIL Ink Pact with UAE Firm for Critical Minerals

New Delhi: ONGC Videsh, Oil India and Khanij Bidesh India (KABIL) have signed a preliminary pact with International Resources Holding RSC of the UAE to jointly acquire and develop critical mineral projects worldwide.

“The parties aim to leverage their expertise, resources and networks to pursue mutually beneficial opportunities, achieve operational excellence and secure a stable supply of critical energy minerals,” ONGC Videsh said in a statement.



“The agreement outlines a cooperative and coordinated approach, focusing on project identification, joint due diligence, risk management and developing a long-term offtake strategy,” it added.

India, US and many other countries have woken up to the need of developing a critical minerals supply chain that's currently dominated by China. With the rise of renewables and battery, the requirement of critical minerals has sharply grown in recent years. — **Our Bureau**

# OVL, OIL join hands with UAE's IRH

Manas Pimpalkhare  
manas.pimpalkhare@hindustantimes.com  
NEW DELHI

India's largest international oil and gas exploration company, ONGC Videsh Ltd (OVL), along with Oil India Ltd (OIL) and Khanij Bidesh India (Kabil), signed a memorandum of understanding (MoU) on Tuesday with UAE-based International Resources Holding RSC Ltd (IRH), according to a statement from Oil and Natural Gas Corp. Ltd (ONGC).

The partnership aims to collaborate on the acquisition and development of critical mineral projects globally.

The MoU focuses on identifying, acquiring, and developing critical mineral projects worldwide, including within India. This initiative comes at a time when China has secured a dominant position in the critical minerals ecosystem.

India's collaboration efforts align with its recently launched Critical Minerals Mission, which aims to boost domestic production, recycling, and overseas acquisition of these essential resources.

In June 2023, the mines ministry published a list of 30 minerals deemed critical to India's economy. These



The partnership aims to collaborate on the acquisition and development of critical mineral projects globally. BLOOMBERG

include antimony, beryllium, bismuth, cadmium, cobalt, copper, gallium, germanium, graphite, hafnium, indium, lithium, molybdenum, niobium, nickel, PGE, phosphorus, potash, rare earth elements (REE), rhenium, selenium, silicon, strontium, tantalum, tellurium, tin, titanium, tungsten, vanadium, and zirconium.

The rare earth elements listed include neodymium, praseodymium, dysprosium,

europium, yttrium, and terbium.

All Indian companies involved are state-run enterprises. OVL, a subsidiary of

**The MoU is part of India's strategy to secure critical minerals for its target of net-zero carbon emissions by 2070**

India's largest oil producer Oil and Natural Gas Corp. Ltd (ONGC), is joined by Kabil, a joint venture created in 2019 by National Aluminium Co. Ltd (NALCO), Hindustan Copper Ltd (HCL), and Mineral Exploration Co. Ltd (MECL). Kabil was established to identify and secure international critical

mineral assets to enhance India's mineral security.

The MoU outlines plans for project identification, joint due diligence, risk management, and the development of a long-term offtake strategy to establish a critical mineral supply chain, according to the statement.

This agreement is especially important as critical minerals like lithium, cobalt, and molybdenum play a pivotal role in manufacturing energy storage systems and stabilizing advanced battery cells. These minerals are also crucial for the renewable energy sector, being integral to technologies such as electric vehicles and wind turbines.

The MoU is part of a broader strategy by the Indian government to secure critical minerals for its ambition to achieve net-zero carbon emissions by 2070. For instance, India signed a similar agreement with Australia in 2020 to collaborate on the mining and processing of critical minerals. That agreement was renewed in 2022.

India is also engaging with countries rich in these minerals, including Australia and several Latin American nations.

To read an extended version of this story, go to [livemint.com](https://www.livemint.com)



# PM Modi calls for international cooperation on green hydrogen

Rituraj Baruah

rituraj.baruah@livemint.com

NEW DELHI

Prime minister Narendra Modi on Wednesday called for international cooperation on green hydrogen to scale up production, lower cost and promote research & development.

Addressing the International Conference for Green Hydrogen 2024, Modi said the G20 Summit held in New Delhi last year, under India's presidency, adopted voluntary principles for green hydrogen which would help in creating a common roadmap.

He said that given the global nature of climate change, the solutions for tackling climate change would also have to be global in approach.

He stressed the need for international partnerships to promote green hydrogen in efforts at decarbonization, adding that scaling up production, minimizing costs and building infrastructure can happen faster through cooperation.

He also called for jointly investing in research and innovation to push technology fur-



PM Modi said the solutions for tackling climate change have to be global in approach. PTI

ther. "All of us must remember—the decisions we make now will decide the lives of our future generations", he added.

Reiterating Indian plans to produce and export green hydrogen, Modi said: "We aim to position India as a global hub for the production, utilization, and export of green hydrogen. The National Green Hydrogen Mission, launched in 2023, is a critical step toward realizing this ambition. It will drive innovation, build infrastructure, stimulate industry growth, and attract investment in the green hydrogen sector."

Addressing the inaugural session of the three-day conference Union minister for new and renewable energy Pralhad Joshi said that along with the potential to generate investment opportunities worth Rs 8 trillion, the green hydrogen mission would also help in creating 600,000 jobs.

"As we move forward, our efforts will also contribute to reducing carbon emissions by 5 MMT by 2030, positioning India as a beacon of sustainable development on the global stage," the prime minister said.

Hardeep Singh Puri, the Union minister for petroleum and natural gas noted that India's commitment to achieving net-zero emission by 2070 involves a multifaceted approach, including a significant focus on green hydrogen.

"Our goal of producing 5 million metric tonnes of green hydrogen by 2030 is a critical step in decarbonizing our economy. This will require an investment of \$100 billion and the development of 125 gigawatts of new renewable energy capacity," Puri said.

*To read an extended version of this story, go to [livemint.com](https://www.livemint.com)*

## FOCUS ON GREEN HYDROGEN

# Want to Make India Global Hub for Green H<sub>2</sub>, Says PM

Our Bureau

**New Delhi:** Prime Minister Narendra Modi on Wednesday said India aims to position itself as a global hub for the production, utilization, and export of green hydrogen.

The National Green Hydrogen Mission, launched in 2023, is a critical step toward realizing this ambition, he said while addressing the International Conference on Green Hydrogen. It will drive innovation, build infrastructure, stimulate industry growth, and attract investment in the green hydrogen sector.

India is fully committed to building a cleaner, greener planet, the prime minister said, adding that the country was the first among G20 nations to meet its Paris Agreement commitments on green energy, well ahead of schedule.

"While we continue to strengthen existing solutions, we are also focused on embracing new and innovative approaches," he said. "Green hydrogen is one such breakthrough, with the potential to decarbonize hard-to-electrify sectors like refineries, fertilizers, steel, and heavy-duty transportation."

Modi emphasized on India's leadership in renewable energy development, stating its non-fossil fuel capacity has grown



nearly 300% over the last decade, and the solar energy capacity has seen a 3000% growth in the same period.

Renewable energy minister Prahlad Joshi, who also addressed the conference said the government's strategic initiatives aimed at expanding renewable energy capacity and enabling a green hydrogen development ecosystem.

The National Green Hydrogen Mission was launched in January 2023 with an aim to position India as a key player in this emerging sector, ensuring both energy self-reliance and economic growth. "This mission not only has the potential to attract ₹8 lakh crore in investments and generate 6 lakh jobs but will also significantly reduce reliance on imported natural gas and ammonia," Joshi said.



# बायो गैस प्लांट को बंद करवाने की मांग

■ फैक्टरियों की समीक्षा करने के लिए सांझी कमेटी का गठन, कमेटी 21 तक देगी रिपोर्ट

फतेहगढ़ साहिब, 11 सितम्बर (सुरेश): पंजाब भर में लग रहे बायो गैस प्लांटों के विरोध के चलते लुधियाना, जालंधर, पटियाला सहित अन्य जिलों में संघर्ष कर रही जत्थेबांदियों, संबंधित गांवों के प्रतिनिधियों, फैक्टरियों के अधिकारियों की चंडीगढ़ में पंजाब सरकार के मंत्रियों अमन अरोड़ा, गुरमीत सिंह खुड्डियां, कुलदीप सिंह धारीवाल और हरपाल सिंह चीमा के साथ विशेष मीटिंग हुई। इसमें बायो गैस प्लांट को बंद करवाने की मांग की गई।

बैठक के दौरान एक सांझी कमेटी



मीटिंग उपरांत जानकारी देते संगठन के मैनबर कंवलजीत खन्ना व अन्य। (सुरेश)

का गठन किया गया जोकि प्लांट के कामकाज की समीक्षा करके 21 सितम्बर तक रिपोर्ट सौंपेगी।

संघर्ष कमेटी के मैनबर बलवंत सिंह घुडाणी ने बताया कि उक्त फैक्टरियों को बंद करने की मांग को लेकर जो हाईवे जाम करने का फैसला लिया गया था, वह अब 21 सितम्बर तक स्थगित किया गया है।

# भारत को ग्रीन हाइड्रोजन का ग्लोबल हब बनाना है: PM

AI Image

■ विशेष संवाददाता, नई दिल्ली

प्रधानमंत्री नरेंद्र मोदी ने बुधवार को कहा कि सरकार भारत को ग्रीन हाइड्रोजन के उत्पादन, उपयोग और निर्यात के लिए वैश्विक केंद्र बनाने का लक्ष्य रखकर काम कर रही है। इंटरनैशनल कॉन्फ्रेंस ऑन ग्रीन हाइड्रोजन (ICGH 2024) का उद्घाटन करते हुए पीएम ने कहा कि भारत क्लाइमेट चेंज से निपटने के लिए प्रतिबद्ध है और इसमें ग्रीन हाइड्रोजन बहुत उपयोगी साबित होगी।

अपने विडियो संदेश में पीएम ने कहा, 'भारत धरती को ज्यादा साफ और ज्यादा हरा-भरा बनाने के लिए पूरी तरह प्रतिबद्ध है। G20 देशों में हमने ही ग्रीन एनर्जी पर पैरिस एग्रीमेंट से जुड़े कमिटमेंट सबसे पहले पूरे किए।



**ग्रीन हाइड्रोजन कॉन्फ्रेंस का PM ने उद्घाटन किया।**

यह काम तय समय से पहले कर लिया गया। हम मौजूदा समाधानों को मजबूत बना ही रहे हैं, हम इनोवेटिव तरीके भी अपना रहे हैं।'

पीएम ने कहा, 'हम भारत को ग्रीन हाइड्रोजन के उत्पादन, उपयोग और निर्यात का एक ग्लोबल हब बनाना चाहते हैं।' पीएम ने कहा कि 'पिछले एक

दशक में भारत की नॉन-फॉसिल फ्यूल कैपेसिटी लगभग 300% बढ़ी है। इसी अवधि में हमारी सोलर एनर्जी कैपेसिटी 3000% बढ़ी है।'

इस मौके पर न्यू एंड रिन्यूएबल एनर्जी मिनिस्टर प्रह्लाद जोशी ने कहा, 'नैशनल ग्रीन हाइड्रोजन मिशन में 8 लाख करोड़ रुपये का इनवेस्टमेंट आकर्षित करने की क्षमता है और इससे 6 लाख रोजगार के मौके बनेंगे। साल 2030 तक हमारे प्रयासों से कार्बन एमिशन में 50 लाख टन की



**NBT Lens**

**एनर्जी सिक्योरिटी के लिए अहम**

**समझिए खबरों के अंदर की बात**

कार्बन एमिशन घटाने में सोलर, विंड और लीथियम ऑयन बैटरी जैसी टेक्नॉलजी से बिजली उत्पादन, बिल्डिंग और हल्के भारवाहन जैसे सेक्टरों में मदद मिल रही है, लेकिन ग्रीन हाइड्रोजन से लौह अयस्क, स्टील, फर्टिलाइजर, रिफाइनरी और हेवी ट्रांसपोर्टेशन जैसे सेक्टरों में कार्बन डाई ऑक्साइड का उत्सर्जन घटाने में बड़ी सहायता मिलेगी। कूड ऑयल का उत्पादन वहीं होता है, जहां इसके भंडार हैं, लेकिन ग्रीन हाइड्रोजन का उत्पादन कहीं भी हो सकता है। यह भारत के लिए अच्छी बात है। ग्रीन हाइड्रोजन को बढ़ावा देने से एनर्जी सिक्योरिटी भी हासिल होगी।

कमी आएगी।' पेट्रोलियम एंड नेचरल गैस मिनिस्टर हरदीप सिंह पुरी ने कहा, 'हमने साल 2030 तक 50 लाख टन ग्रीन हाइड्रोजन उत्पादन का लक्ष्य रखा है। यह हमारी इकोनमी को डीकार्बनाइज करने की दिशा में बड़ा कदम है। इसके लिए 100 बिलियन डॉलर इनवेस्टमेंट और 125 गीगावाट रिन्यूएबल एनर्जी कैपेसिटी के डिवेलपमेंट की जरूरत होगी।'



## भारत-यूएई संबंध

### मोदी-नाहियान वार्ता

प्रधानमंत्री नरेन्द्र मोदी तथा संयुक्त अरब अमीरात- यूएई के राजकुमार अल नाहियान के बीच वार्ता के बाद हुए उल्लेखनीय समझौतों से भारत-यूएई संबंध नई ऊंचाइयों पर पहुंच गए हैं। भारतीय राजनय नई ऊंचाइयों पर पहुंच रही है। दुनिया भर के देश उत्साह से भारतीय बिजनेसों का स्वागत कर रणनीतिक गठबंधन बना रहे हैं। इससे भारत को वैश्विक स्तर पर अभूतपूर्व रूप से सद्भावना प्राप्त हो रही है तथा पिछले वर्षों में उसका प्रभाव बढ़ा है। हालिया यूएई-भारत ऊर्जा समझौता इस दृष्टिकोण से एक और महत्वपूर्ण कदम है। यूएई के राजकुमार शेख खालिद बिन मुहम्मद बिन जायद अल नाहियान वर्तमान समय में भारत में हैं और उनका प्रधानमंत्री मोदी के साथ सार्थक संवाद हुआ है। भारत और संयुक्त अरब अमीरात-यूएई लगातार अपनी रणनीतिक साझेदारी को मजबूत कर रहे हैं जिससे ऊर्जा क्षेत्र को काफी प्रगति मिली है। दोनों देशों ने सहयोग और बढ़ाने के लिए चार समझौतों पर हस्ताक्षर किए हैं। इन समझौतों का विस्तार प्रमुख क्षेत्रों तक है जिनमें द्रव प्राकृतिक गैस-एलएनजी व्यापार, पेट्रोलियम सप्लाई, नाभिकीय प्लांटों का संचालन तथा उत्पादन में रियायतें शामिल हैं। इस प्रकार यह द्विपक्षीय संबंधों में महत्वपूर्ण अवसर है। दोनों नेताओं ने जोर दिया है कि इन समझौतों से, खासकर नाभिकीय ऊर्जा, महत्वपूर्ण खनिजों, ग्रीन हाइड्रोजन, 'आर्टिफिशियल इंटेलिजेंस' तथा उत्कृष्ट तकनीकों जैसे उभरते क्षेत्रों में सहयोग व्यापक होगा।

एक सर्वाधिक महत्वपूर्ण घटनाक्रम के रूप में अबू धाबी नेशनल आयल कंपनी-एडनोक तथा इंडियन आयल कॉर्पोरेशन लिमिटेड-आईओसीएल के बीच हर वर्ष एक मिलियन मीट्रिक टन एलएनजी सप्लाई का समझौता हुआ



है। यह एक साल के भीतर ऐसा तीसरा समझौता है। इससे दुनिया के एक प्रमुख ऊर्जा उत्पादक देश के साथ सहयोग से भारत की ऊर्जा सुरक्षा और मजबूत हुई है। इसके साथ ही 'ऊर्जा भारत' तथा एडनोक के साथ अबू धाबी के समुद्री ब्लाक वन में उल्लेखनीय 'उत्पादन रियायत समझौते' पर हस्ताक्षर हुए हैं। यह किसी भारतीय कंपनी द्वारा यूएई में ऊर्जा उत्पादन रियायत प्राप्त करने का पहला मामला है। समान रूप से महत्वपूर्ण 'इमीराट्स न्यूक्लियर एनर्जी कंपनी'-ईएनईसी और 'न्यूक्लियर पावर कॉर्पोरेशन आफ इंडिया'-एनपीसीआईएल के बीच हुआ समझौता है। इस समझौते का उद्देश्य नाभिकीय बिजली घरों के संचालन एवं रखरखाव में सहयोग तथा सिविल नाभिकीय क्षेत्र में परस्पर निवेश बढ़ाना है। चर्चा के दौरान प्रधानमंत्री मोदी तथा राजकुमार अल नाहियान ने भारत-यूएई समग्र रणनीतिक साझेदारी में हुई तेज प्रगति को स्वीकार किया जिसकी स्थापना 2015 में प्रधानमंत्री नरेन्द्र मोदी की यूएई यात्रा के दौरान हुई थी। इस समय यूएई में सबसे ज्यादा संख्या 3.5 मिलियन अनिवासी भारतीयों की है। ऊर्जा, नाभिकीय सहयोग तथा व्यापार जैसे प्रमुख क्षेत्रों में प्रगति बढ़ते द्विपक्षीय संबंधों में मील का पत्थर है। राजकुमार नाहियान राजघाट में महात्मा गांधी की समाधि पर भी गए जहां उन्होंने एक पौधा रोपा। इस परंपरा की शुरुआत उनके बाबा ने 1992 में की थी। यूएई के राजकुमार शेख खालिद बिन मुहम्मद बिन जायद अल नाहियान की भारत यात्रा इस दौरान हुए समझौतों से आगे जाती है। इससे दोनों देशों के बीच ऐतिहासिक संबंधों को मजबूती मिली है। 'लोकल करेंसी सेटलमेंट सिस्टम'-एलसीएस के क्रियान्वयन से भारतीय रुपयों और यूएई दिरहम में सीमापार लेनदेन संभव हुआ है। यह भारत और संयुक्त अरब अमीरात-यूएई के बीच निरंतर प्रगाढ़ होते संबंधों का एक और उल्लेखनीय उदाहरण है।